

The Days of Ovaltine and Judo Chops (RR-5)

Wouldn't it be a better Olympics if all the competitors in all the equipment-intensive competitions had to use the same equipment? Ted Costantino (two n's, not three) wrote about this in the 1994 Bstone catalogue, and the topic still bugs me. Anything less than equal technology turns the event into a competition between gearmakers, and the only reason you might want a competition between gearmakers, as Pooh might say, is if you are a gear maker. Another thing: Recently in China, Kent (the cigarette folks) sponsored a bike race, and U.S. racers competed. What do you think about that? I'm not sure what I think about it. What would somebody have to pay you to wear that sort of shirt or bicycle jersey on a day's ride? How about for a week, a month, a year?

I'd do it to save a child's life immediately. In the case of the racers—well, nobody's threatening to kill a child if they don't wear the jersey or race the race. But they're uncooperative they might lose their contract and be finished forever in the sport of competitive cycling, and if that's all they know and love and they have more than half of their lives in cycling, well, that's a big price to pay. It's not like you or I refusing to wear a tobacco company jersey.

It's easier and more appropriate to be mad at the organization or federation for blessing the event; it's always easier

and better to be mad at a governing body, rather than a flesh and blood one.

When teams approach potential sponsors, part of the pitch is the commercial value of sponsorship. Are they lying when they say "we can help you sell stuff?" or are they okay with helping to sell American cigarettes in China? According to recent reports in respectable newspapers, tobacco companies in China are targeting young women, the ones who've already slipped through the cracks; because most women don't smoke, so the potential is fantastic. I'm trying not to be judgmental about this. It doesn't matter what I think about this, and I don't know what I think about it, anyway. What do you think about it?

Inside the RR-5:

- Your chance to win some merchandise in the Rivendell Membership Drive contest
- Marc Muller writes about the Schwinn Varsity
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THE RIVENDELL READER

1547 Palos Verdes #402
Walnut Creek, CA 94596
Phone (510) 933-7304
Fax (510) 933-7305
Email Rivbici@aol.com

Editor **Grant Petersen**

Staff **Maggi
Spencer
Gary (stationed
at Waterford)**

Sometimes we accept freelance work, but the pay is minimal and I generally edit it like a madman. Thick-skinned writers may submit manuscripts on Mac disk (Word 5.0 pref) or double-spaced and typed. If you have to handwrite, that's okay, too.

Every Customer and Every Order Counts

If you like this approach to bikes—whatever you think it is, whatever you call it, then please know that every order you send us by phone, fax, real mail or e-mail not only garners you good gear, but also keeps us and it alive. As a small mail order business and one that does not and cannot afford to do the kinds of mass mailings that the big ones so depend on, we have to count on you to remember us and give us a crack at whatever you're needing in the way of bike stuff—provided we have it, and there's the rub. If this is your first issue or you're borrowing this from a friend, consider joining. Or subscribing. It's the same thing, here. For \$20 you get 6 issues per year of advertising-free bike noise

and access to hard-to-find and some normal bike parts at fair prices. As a member, you can use the coupons in this issue (and future issues), and if you buy enough, they'll more than pay for your membership. We try hard to ship everything within 24 hours, and are constantly trying to improve our on-hand inventory and service. We do very little advertising, we sponsor nobody, and we keep our overhead as low as possible to bring you the best goods at the best prices. Also, when we buy something ourselves, whether it's an inner tube or a frame, we pay the same price as you do.

—Maggi, Spencer, Grant, & Gary

PROGRESS REPORT

(note: this is a personal journal, it is written so I can have a record of this journey—or-whatever-it-is; I tend to use it to vent frustration or as therapy, and therefore the entries are rather downbeat; I've been advised to cut the whining, but that misses the aforementioned point; so read at your own risk, and I'll print this in extra small type so nobody accidentally reads anything depressing. Also, it is not taking away from anything else; it is in addition to.)

DEC 8. The road and all-rounder crowns came in today, five hundred of each, enough to last until Beatrice Foods buys us out, and they're perfect (the crowns, not Beatrice). What a relief. The samples were tested, they're fine, and so we're ready to go. We've shipped maybe twelve frames already, and now that we have the crowns we can ship another eight or nine next week, and up to ten the week after. All-Rounders start to ship late December.

We need to ship because we're down in money. Sales are still very good, but it's cash flow that's bad. All the books and smart people tell you "nothing will kill you faster than bad cash flow," and I can believe it without actually experiencing the worst of it. I am not the kind who can bounce back after a failure and just try again—this has got to work.

We're working on a parts catalogue and a frame brochure with real pictures. Carradice is doing some custom things for us. The woman who said she'd sew goatherd shorts has had the shorts for about three months now. It's a hassle getting cloisonne badges. Magnets are the biggest seller. Work is overwhelming. Our members are terrific. I need to ride more. I want to ride more, but I also need to. Yuck.

I need a business manager who can work for \$10 per hour in cramped quarters AND who knows bikes a little (we can pick up some slack), agrees with the direction, and can talk on the phone, pick and ship orders, and do anything else that needs doing. Good luck! Everyone I know who's qualified makes too much money already. Trisha would be perfect, but she's in Tennessee. Sometimes I feel as though I'm going to run Rivendell into the ground. I'm just at a low point, I'll get over it.

JAN 2. We finished the year with \$360 thousand in sales, more than expected, but expenses were much higher, too. I think it is a testimony to our customer's loyalty, and thank goodness for that. The frames are finally being built and shipped regularly, at least the road and all-rounder. The mountain frame still has a way to go, but I think we'll be ready with it by mid-February.

I'm concerned about our bills. We seem to owe one distributor about \$9,000, but I can't figure out what for. That must sound stupid. I know we've done some big orders, but \$9K sounds too high. (Eric, it's not you guys that I'm talking about, if you read this.)

Rob has been a big help. I hope he can keep it up for the P & A catalogue and the frame brochure, too. Gary is doing great. Spencer is stalwart as always, Maggi is comfortable, I'm doing a worse job than ever. I think I need a break, and it's not because I don't like the work. I just need a break from it. I want to go on a two-week tour.

Back to the money: I'm not sure we made any. If you value our inventory, we probably did, but we still have just \$7,500 in the checking account, and every payroll we take a big hit.

I'd like to move Rivendell to the north bay next year, but that would mean moving Kate away from her friends, and that would be hard. I'm not sure we could sell the house, either.

JAN 4. Slow sales, bad days. Not by the old standard, but now our overhead is higher, and I'm afraid we won't be able to keep up. We got just seven orders in the mail today, and five were for new members. That's good—the new member part, but we've got to sell stuff, too. I bought lots of SunTour XC Pro derailleurs, since we're running out of Simplexes. I probably shouldn't have bought so many (more than 100), but we can sell them relatively cheap and still make money. I'm also collecting too many frames around here, frames that are brazed perfectly but have details that aren't quite standard, and I'm going to have to sell these off soon, probably through a flyer. But the last time we tried that we got calls for a month asking about frames we sold the second day.

We've made reservations to attend some consumer shows, in Chicago, Portland, and Seattle. I hope new memberships from those shows can at least pay for the expenses of getting there. Rivendell is getting too big for my comfort and my control level. I don't like owing money, I don't like having lots of big bills due in two, four, and six months.

I want Mary to work here, at least part time. We need someone to do the stuff I don't do well and nobody else has time to do, and it would be good for lots of reasons. Working with one's wife is not supposed to be a good idea, but we get along. Maggi is cutting back her hours to maybe 12 per week because she's tutoring more (and that pays much more), so Mary can take some of that and more. That means Mary will have to quit her current 20-hour a week job, but it'll also mean less stress, more Anna-time, and less commuting.

I'm concerned about those SunTour derailleurs. I don't want to go down the tubes with the biggest collection of XC Pro derailleurs on earth. I don't know how to price them. Peter offered good advice: Don't price things on margin, price things for what they're worth. I'll do some of both. Fifty dollars is a killer deal, and a lot of people will couponate them and get them for \$42, and I can't afford to go any lower than that. We survived 1995 largely because we got good deals on some parts and were able to make good money on them—but it sure hurt cash flow, buying all that stuff at once. I don't want Rivendell to get a reputation for "deals on blowout stuff," because I don't want to attract the bargain-hunter. I can never compete with Nashbar, and I don't want to try. I want Rivendell to stand for good, sensible, not trendy bike gear, not just killer deals on stuff somebody lost a lot of money on somewhere.

I have thought about offering frame buyers special deals on certain items, but I don't want to divide our customers into privileged and regular. If someone buys a frame I can offer a seat post at a good price, maybe, but I don't want it to go any farther than that.

...Yesterday I got an angry letter, but I think things are okay now.

JAN 4. Damn, I forgot to take out the wool jersey wire transfer money from the account, so I thought we

had \$7,500 in the account, but actually we're overdrawn \$1,600. We have two savings accounts (one for mad money, one for savings and long term projects), and they have \$5,000 each, but I've got to dip into them both to cover this. Damn. What a drag. I can't stand it. The RR4 is out now, but orders are slowing. We need a good week or two, or a month to turn this around. I hate it. I've got to run to the bank now and take money out to cover, and I feel so dumb.

On a lighter note, I opened a savings account at Union Bank a little over a year ago, because they wouldn't process our PlasticCards unless I had a personal savings account. They said "Just do the minimum—\$100," so I did, and I haven't touched the money ever since. Looking at my last statement, I see that \$32 remains. This is normal or this is criminal? I mean, a savings account. Aren't we supposed to tell our children to put their money in a bank, to develop the bank habit early on? Service fees for \$68 in fourteen months? What about the interest? This is a bad money day.

I just returned from the bank, where I transferred \$3K from a savings to the checking, and then asked for a balance, and he told me it was \$18,500. Now I know not if the checks have cleared, but what's going on? I need a bookkeeper. Mary can do it.

We're down to \$1,740 in the checking account, with \$2K in one savings and \$5K in another, but we owe almost \$7k by the end of the month. Rob said he could stock up hours and be paid whenever we're able, or maybe we can work out a trade. Spencer may be good for more of that, too. I think I will have to ask Maggi to not come in as much, but she is tutoring more, so that may not be traumatic.

I need a low-interest loan, around 7 percent. A bank loan or a credit card, not a personal loan. I'm already personal-loaned up to my ears. Maybe it's time to sell off more prototypes, but how? If I put them in a flyer we'll get too many calls after we've sold them.

Bicycle Guide may test a frame within a few months, and that will help sales (if they like it; if they don't—waaaaaaaaaaaaaaaaahhhhh!) Bicycling told me long long ago that they'd like to be the first to test a frame, but the last time I proposed it they weren't ready to do it, and Bicycle Guide was ready, and I hope Bicycling doesn't get mad if BG gets one first now. Bicycling can test an All-Rounder first. I don't know about sending a mountain frame/bike to the mountain mags. MBA would probably hate it. I think Zap would like it, and Dan. Bike magazine might. I don't know—it just seems as though the readership is wrong, but maybe I'm wrong about that.

Somehow we have to get membership up to 5,000. At least 3,500. We can advertise in bike club newsletters, maybe that'll help. How to get lists?

JAN. 10. Just paid UPS another \$1250 for last month's shipping. At \$5 per order we're barely breaking even, but that's the point, isn't it? Still, it hurts to cut a check for that when there's only \$4K in the account and in a week we owe \$2970 plus \$3,200. Gary says we'll be shipping lots of frame next week, but looking at the list, I see most have already been paid for. Shahram has been working on a decal for us, another kind of decal, and he's doing it for nothing, good guy.

I remember the days when I thought under \$20K in the bank was broke. I've got the Brooks order due soon (\$2,700), another Carradice order (\$3,500), the Nitto

order (\$3,900), about 8K owed Avitar, 9K owed J & B. I don't know how it's all going to happen. I wish I could borrow maybe \$12K at 6% interest. Today we did \$895, and I'm trying to keep it over \$1K every day. I owe about \$2,400 myself, and it's time to take out the credit cards to pay I'm building up my final road bike now and can't even afford a Simplex rear, so I'll go with a Shimano L, and a \$5 Simplex front. I don't know where my older Simplexes are — I sold a couple a few months ago when we sold all those bikes. I'm splurging on a Nitto Frog post, I've got to have a Brooks, and the cheapest cranks I've got now are the SunTours, and they're good. We're out of waxed chains, and I sort of don't want to wax any more, but I want one for myself so maybe I'll just take a couple of hours and go at it. I'll wax DID's this time, even though they're black.

Rob's been working on the catalogue. I'm almost finished with the descriptions, and am working on a story or column or something about fitting frames. I think I'm on the verge of a new way to do it that makes so much sense and is much simpler than the others, but maybe it's just me talking too much to myself. At the least, it's irrefutable. It works, it works perfectly and every time, and it's pretty foolproof. I don't feel like going public with it, but if I could sell a column to *Bicycling* or *Bicycle Guide*...no, it would just anger someone and the next issue a bunch of famous experts would refute it, and I don't want to get into it.

JAN 11. I think a cash advance on my personal credit card is the way to go, but I don't want to get to the point where I can't see any way out. What if frame sales slow down? Gary's job sort of relies on frame sales, since he schedules production and makes sure all the details are taken care of.

JAN. 15. A good day - a plasticard batch of \$1,950, and we did a deposit for another \$1,350, and so I paid a lot of bills, and we still have \$5,000 or so in there. Wheels are a pain — Mavic is out of the 217 rims we use for the mtb and a/r wheels, and they're getting more in soon, but "they're all spoken for," and meanwhile we have back orders. So I looked at Sun and Ritchey, and nobody has anything perfect in the catalogue. Neither of the Ritcheys or Suns I want (Ritcheys are made by Sun) come in 28-hole, but Sun said they could do some for us in the model I want, so we're going ahead with those. I still wish we could get the Mavics, but I know Suns are good, and I just hope people will take to them. It's an eyeleted rim, 450g, with tall braking surface, thick walls, reinforced box, and we can get it in shiny silver, which looks cheap and works the best and costs the least, so is definitely the way to go.

Ted is making progress on his Willow chainrings. I sent Long Shen the new crown drawing, so they can at least quote on it, and we can get things moving. I'd like to have a cyclocross frame in the fall, but I'm not sure this will be the crown for it. It might work, but it's pretty much a normal road crown, except for the blade shape thing.

I got a nasty email a few days ago, very depressing. He called the Reader toilet paper and said I was tricking people into buying stuff they didn't need, so I offered to buy back all he bought and his membership. That kind of comment wipes out a whole mess of good ones. I am not good at sloughing it off, that's for sure. I just realized that we did not hold a BOD meeting in 1995, and I believe the bylaws state that we must, and I'm not sure of the consequences. I will choose to ignore it for now, but I'll reread the bylaws and maybe ask our lawyer.

JAN 31. This has been a great month saleswise, but we've never been deeper in debt. I'm trying to refinance our house and that's turning out to be a problem because I've used \$9,000 on personal credit cards to pay

Rivendell bills, and we still owe about \$20K more. Thank goodness sales have been good. Frames are doing well — they're turning out perfect, people are happy, no problems, what a relief. We're recasting the seat stay plug because the current one takes way too much grinding and filing to shape, and since there are two on each frame, they both have to match. Most of the time they're seemingly perfect, but it's a pain. Also, we're looking into getting new upper road head lugs, with the 15mm extension cast in, so they don't have to braze it on. We'll still use the others as backups or when someone wants a pure standard head tube length, but in the meantime we're going to a lot of extra work for no real benefit. The rear dropouts, too — we need to get some made that have the eyelets forged right in, so no more brazing on of those. It's not a lazy thing and there's no aesthetic price to pay — it's just practical.

I've been talking to Richard and Marc about another line of frames. Wford and Riv might combine our efforts on this one, so it would be neither a Rivendell nor a Waterford. They'd be less expensive, the non-road frames would be tig'd, the road frames we aren't sure how they'll be made, but I'd have a hard time holding my head high if I signed off on a tig road frame. People have begged me never to do it, and I don't want to. But tig others, not a problem and plenty cheaper. I wouldn't want them to hurt Rivendell sales, but I don't think they would. I don't know — it's too much to think about now. I'm overwhelmed again. The debt thing, the lack of storage, the office is a mess, I'm too inactive, it's 1:am now and here I still am. We need a bookkeeper, and Rob, who just a month ago said he and his wife were going to move back east, has now indicated they might stay, and if we could afford to pay him... I know I need it, but we also need to rent a real warehouse we can work out of, instead of this puny office with offsite storage.

Bicycle Guide is getting a road bike next week, and Bicycling is getting an All-Rounder. Gary's building them up with Rivendellish parts, including trepidation-inspiring friction shifters. Both bikes will get leather saddles, of course. I know how they'll ride, but I wonder what they'll weigh.

Today in the mail we got the thing from the Board of Equalization. I need to learn how to fill that out so Andy doesn't have to do it every time. We owe them the sales tax we've collected for January, and since we'll be pushing \$50K in sales for the month, that'll be a whopper bill. We have \$7K in the account now.

FEB. 2. January was good, \$50K in sales, which is way more than a typical bike shop, so that's a good thing. Cash flow is still bad, and from what I hear, everybody has bad cash flow. I used to hear Tad and Andy talk about it at Bstone, and I remember thinking how ridiculous it was to blow things out at below cost so early in the year. It makes sense now, although I still can't do that. We're shipping frames now, so that helps a little, but in some cases the buyers have already paid off the frames, and we've spent the money already. Our Waterford bill is pushing \$20K, we have \$7K in savings, \$13,650 in checking. We owe Avitar another \$2.5K in two weeks, then we kick over the hump there. Most of our J&B bills are coming due later this spring and summer. I'm going to try for longer terms with Phil. I've got to send Persons more money. Carradice is coming up. I'm self-conscious about this, after the scolding I got about whining. I'm happy! This is but fun! There is nothing I'd rather be doing that I can earn a living at.

(Later that night). Damn, I feel so stupid. Ted bought the wool for us and was selling to us at a low, low margin, basically nothing, and we were to pay him back his cost plus his small margin. That's the only way we could order the jerseys and tights. So what did I do? I sent him a check for sales through January, but the

check was only for his margin, not his cost. That's like borrowing 100 dollars from somebody at 3% interest, and paying them back \$3 at the end of a year. Yikes. We don't even have enough to pay him back for what we owe, but we'll make installments and dig into the never-to-be-touched savings.

Nicholas Jasper sent in a couple articles, really good ones. I can't wait to see them in RR-5 or 6, whatever.

FEB 3. Saturday, just putzing around and I got a call from a new customer (PJ) who was nice and understanding as he told me we accidentally charged his card \$1,400 rather than \$140. Darn — so I fixed it and that's \$1,000 less than I thought we had in the account. I just sent Ted a check for \$1,000, so we owe him just another \$1,500 or so. We're sitting on a lot of inventory, but everything seems to be selling, and I don't want to blow anything out.

Sometimes I wonder how we'd do if we sold ONLY frames. It sure would make things simpler around here. Then sometimes I wonder how we could do with no frames at all, but that would be depressing, frames being the real only unique Rivendell thing. I've been talking with Wford about some other frame things, for the future. Maybe tig, but not a tig road frame. Maybe some machine-brazed lugged bikes, but the machinery is \$40,000 or so, and none of us in a position to do that. A Japanese company wanted me to design frames and bikes and sell them here under any name I wanted, by mail or dealers, and even the warehousing and shipping was going to be taken care of, but I think I'll stick with Waterford and controlled growth and sanity maintenance, at least for now. It would be fun to design a line of sub-\$1,000 complete bikes, though, and they could be a good outlet for Willow parts, too. The maker (I am consciously not naming them because I realize this will be read by many and I don't want to divulge things I shouldn't) wanted to sell between 300 and 2000 frame or complete bikes, and agreed right off the bat to lose money or do whatever it took to make the bikes sell. We could have very nice MB-3 quality bikes for \$700, maybe even \$600. They'll find someone to do it.

We're going to move in a month or so to a place with more storage. I'm kind of concerned about the rent increase, and it's beginning to seem like a high overhead deal we have here, but this place is a mess. In the new place we can have bikes on display and even sell direct, over the counter. It's a retail-legal location, but with no walkby traffic — perfect for us right now.

Peter has been coming by and volunteering his time. He'd like to work here. I know about nine people who want to work here and five others who might like to, but nobody's in a position to take a risk, and that's what it takes. And they have to be able to live on \$20K maximum, plus maybe some profit sharing (but that may not be an issue) and I want them to buy shares...so it's hard to find that person. A good bookkeeper who knows bikes, is already in tune with this approach, doesn't try to please me in a way that makes me feel awkward, can talk on the phone and generally communicates well, and wouldn't it be nice if they knew Pagemaker or Quark well, too? Rob would be perfect, but he wants to freelance. E, S, A, R, or how about J.C.? Everyone already has something going that they can't drop, and I don't blame them, but that doesn't mean I don't want them.

FEB 9. It was an interesting day. Maggi thought I'd forgotten to deduct the last two payrolls from the checking account, and I didn't recall doing that, so I panicked, went through the stubs and found one, not the other. Then Spencer saved the day by finding it — I'd listed in deposits, because there wasn't room on the stub anywhere else (busy stub) — but I did subtract it, so all was well. Then the credit managers from Quality Bike

Parts and Mavic both called me to tell me I'd double payed invoices, so they were returning my checks for a total of nearly \$800. Then I got an envelope from Customs, and I figured "great—I underpaid on some past shipment and owe a few hundred," but no—it was a check for 5250, no note or anything. Then we found, hidden away, about 16 wheels we thought we'd sold, so we can call off an order we have coming up, saving a few hundred more. We're out of beadbadge screws, those tiny little things only one place in the world has 72 tpi #1, about 1/8-inch long. We're out of decals, too, and our supplier may not get us any in time for the Seattle consumer show, not to mention next week's bikes. We've done a few custom frames, and they're going very well. I've got a good, simple, pretty foolproof way of fitting bikes now, and I think the custom customers will be very happy. I've got to charge more for customs, at least \$200, maybe even \$250. A fitting can take a good 2-3 hours, plus Waterford charges me a lot (cause it costs them a lot), and even if I can't fit the person in person, there's plenty of phone time and letters back and forth. Anyway, we'll see.

We've been talking about a few other frame projects. We haven't ruled out TIG, but we have ruled out tig road bikes. I'm not eager to grow, to expand, to make it any more work than it already is. Frame sales continue to be pretty good, and I hope they continue because what would Gary do if sales dropped off all of a sudden?

Spencer built up his 52 road frame today, and it looks great. It's silver, with Simplex derailleurs, a Pearl stem, #155 bars, Mavic crank, Nuovo Record downtube shifters, Superbe brakes and non-aero levers, Nitto Frog post, MKS pedals. We've got to get the early frame customers their Rivendell forks now. Next week, maybe. I've got to call and confirm a few details.

So far this has been a good month, but today sales were just \$745—the worst day of the year, by far. I hate to go into the weekend this way. Bicycle Guide has a road bike, Bicycling will soon have an All-Rounder. A good review will help a lot, but I don't know what to expect. Garrett recently bought a custom Serotta. Jim Langley hasn't ridden an All-Rounder or an XO-1, I don't think. Maybe he has. Anyway, it's a different feeling, submitting a Rivendell. It makes me more nervous than submitting a Bstone.

Peter Weigle's wife gave birth to Lisa yesterday. I got a nice note today. He sure seems excited, and I'm flattered that he sent me a note. I used to worry about starting Rivendell, that the pressure would be so much that I'd end up being grumpy and a lousy dad, but on my hardest days Kate and Anna make things better. Anna is so oblivious, and all she wants to do is hug and kiss and run and read. Kate started crying the other day when she found out we were going to move to a real office, but it's close, and we need more space.

I've got to hire a bookkeeper. Peter, maybe, or Jim.

FEB 12. Two lousy sales days in a row—\$345 and \$750 or so—and I'm worried. Why can't I be more resistant to worry? We're almost caught up with the back ordered frames and need to sell more, and maybe the bike shows will help. We need more members, and I hope to sign up a hundred or so at the show—that's 50 a day x 2. We've got to cover our expenses at least, and this show's costing us almost \$2000. What can we do, though? We've got to go.

FEB 13. Just \$435 in sales today, and I paid \$3,900 in bills, so we're down to \$2200 in the checking. Not good, I hope we sign up lots of people at the Seattle show. We did get a frame order today, for a 55.5 A/R. And a nice note from Noel, who is testing the 50 road and loves it. And Randy sent a wonderful note about his frame/bike, too. So, good things can

make up for measly money.

We got samples of MKS NJS-approved pedals today. Gorgeous pedals, but not in the normal way. You sort of have to have a history with MKS to appreciate them. It's funny, back in the '70s and '80s they were middle of the road pedals, Japanese Campy copies, you bought them if you were tasteless or just inhumanly untouched by the Campy mystique. Now all the prestige pedals from Europe are gone, and the big name pedals from Japan have disappeared or gone hitek, and these have been chugging along and now find themselves as the best pedals made anywhere. I was looking at the MKS Unique Custom model, which as a Campy track pedal copy is hardly unique, and as a long standing pedal in the MKS line is certainly not custom, and jumped (psychically) when I saw that the backside spindle cup was reverse spiral threaded, just like the old Campys—the most costly, hidden feature ever to go on a pedal, one they could easily delete, and here they are still doing it! Wow. I'd like to put these in the catalogue, and I suppose I will, but I don't think we'll be selling many.

The Campionato del Mondos arrived today, and the freight and duty amounted to five whopping bucks per tire, times a hundred. How do I get into these things? I need a business manager, and I can afford to pay \$5 per hour. I think this is the kind of stuff Brett T. hates, but maybe he won't read it.

FEB 14. Slow. I was hoping the mail was piling up, but no. You know it's slow when twenty five percent of the day's orders are a membership renewal from your father-in-law. Man. Here comes a fax, maybe an order. Nope—Spencer's flight information for the Chicago show. I forgot to buy tax two weeks ago so we're paying the high rate, and so I may stay here. I might be able to make the company money if I went (that's the idea), but it's hard to spend it now. I've got to go buy some valentine's presents.

(Later) On the way back, in downtown traffic, I was cut off as I was crossing the entrance to the freeway. I was sprinting, and a blue some kind of sports car accelerated around me and cut over. I heard the guys cackling (the psycho cacklers!) as they nipped my front wheel. I wobbled like mad but stayed up and got off on the sidewalk, the front wheel too wobbly to move. As I was wobbling I looked at the license plate, though, and I think I got it— (apologies to the owners of this if it is not a dark blue hatchback-style Japanese sort of mini muscle car with those black vent things over the rear window). Another car witnessed it, stopped, offered me a ride back, which I took, and offered to be a witness if I need one. It was nice of them to stop, a young couple with a 2-year old girl in the back seat. I wanna get the bum...

I just batched today's credit card charges, and we have \$3,522 in the bank, with payroll coming up tomorrow. Normal payroll is around 54,500 including taxes, which we should set aside so we don't get whaloped when they're due, but we can't afford to now. I could borrow from the savings account, but Spencer and I have agreed to pretend it's not there. It'll be an interesting next couple of weeks. I hope the next flyer helps a lot—there are some great deals there. Also, we're owed almost \$6K from frame buyers who have their frames and just need to finish paying them off. I'm not worried about getting paid; I just wish it could be sooner than it will be. We have a new system now: Send a postcard a week before the frame is finished, telling how much it's owed and requesting the balance. Then we get it, then we ship, then we happy.

I saw my first real Willow chainrings today, and they're the prettiest rings I've seen, ever. At least in aluminum. They don't have Dan Cupid shooting arrows, or Great Blue Herons grabbing fishes, but the simple W's

look nice, and they'll at least make an attempt to look nice.

FER 15. Crap. Well, I filed an official report on the hit and run, and told the officer what I thought the license plate was, and it turned out I was correct exactly, he was amazed. But I did lock onto it as I was wobbling. So I thought we had 'em, but no. It was two girls, the officer said they said they didn't see me or know they hit me, and there was nothing I could do about it but turn in the wheel to my insurance company and hope the driver's insurance would pay for it. (Open4 CD, Mavic hub, butted spokes. An MA-2 would've withstood the car's bumper.) Then I rented a truck to move a bunch of inventory to a storage locker, and tonight I went to fill the truck with gas, turned into what I thought was a gas station, it wasn't (it was a liquor store) so I continued through the lot and nipped the freaking robf with the side of the container. Naturally I declined the insurance, even made a dumb joke ("If anything happen's I'll pay the \$15 insurance, Ha Ha"). I leave early tomorrow morning for Seattle (the bike show) and will have this on my mind the whole time. I think it is times like this when you have to sit back and say "I didn't kill anybody, I am not paralyzed from the neck down (a2...), my family still loves me." But dang! I want the last half hour to do all over again. I hate can, and I hate rental trucks even more.

I just called Mary (who is out of town) and told her what happened, and she told me she's reading a book in which a mother and daughter are renting a truck, driving it across country, and she just read a part where they're in the truck reading a warning sign that says trucks are bigger than cars, and most rental truck accidents occur in gas stations. What about liquor stores that you think are gas stations?

(three hours later). I've had a revelation. This morning there was no way I believe that girl (she was in high school) who hit me could NOT have seen me, but how is it that I could not have seen that liquor store roborner? Maybe she's telling the truth after all. I sort of doubt it, but maybe... I hope nobody's trying to teach me a lesson. I'm not sure I believe in nobody, anyway (a2...)

FER 19. I just got back from the Seattle show, and man, it's a different experience when all the freight and transportation and lodging and food and all that are your own (although Ted paid for a good amount of it, as RONA). Still, it cost us close to \$3K, which is almost our checking account balance. We brought some nice old prints up there, and three were stolen. We signed up 36 new members and I was hoping for 100 and expecting at least 75. We raffled off a frame to one of the new members, and the money we made from memberships won't even pay for it. Tim Rutledge from SBS helped a lot—he was a good part of the trip. We met lots of members, and that was great. We'll do it again, but it sure takes a bit hit out of the pot. Next week is Chicago, and we've already got tickets. The personal credit cards are filling up fast and I'm getting overwhelmed. I need a day to recover physically and mentally, but I can't afford to take a day off financially.

I'm really bummed about only 36 new memberships from the show. We handed out a lot of readers and a flyer 'splainin the benefits of joining, so maybe there will be a good batch of new members next week, or this. It was hard to read people there; you never know what someone's history with bikes is. We had Gary's road bike and a mountain and all-rounder frame on display, and some people would stop short when they saw the lugs and zero in for further examination; others would just amble by, stop, read the information about them, and just when you thought "if they've read that far, there must be some interest," they'd amble away completely unmoved.

I'm not looking forward to Chicago this coming weekend or Portland next month, but I'd feel different if we had just **\$12K** in the checking. My first message when I got back was marked URGENT—phone Avitar. It was about the final **\$2.5K** payment—they tried to run it through on the same card as last time, it was all booked up, so I used another card. That's it, then. We need to do a mailing, have to get some money coming in here. I need someone full time, maybe Peter maybe Jim, but we can't afford to pay them. Rob is making some kind of progress on the catalogue, and once that's out we'll do better for a while. If Bicycle Guide likes the bike, that'll help, too, and if we can ever get the All-Rounder off to Bicycling, that may help a whole lot.

It's pouring down rain and gloomy, the office is so packed with bikes and luggage that there's no room to unpack, I'm just having a terrible day. Sometimes I think there's a male equivalent of PMS, because I get this way for a day or so every few months, when the pressure gets to me.

FEB 20. A good day that started bad. Raining again, the office too packed to breathe, can't find stuff, need to do a mailing, Maggi came and I just went away to put labels on the flyer, brainless therapy, and it helped to get out four or five hundred of them. But we deducted payroll and payroll taxes, and are down to **\$1,300** in the checking, and I was about to tell Maggi not to come in for a day or two, and maybe cut her hours just so we can survive, and then I got the mail, and we got about five good orders and two frame orders today, fantastic, and that helped a lot. I got a call from a fellow who said he'd order a frame, and he sounded definite. I didn't get his name (Peter was talking to him before I did, so he had it), and I hung up feeling good about that. Then I immediately called the winner of the drawing at the Seattle show to tell him he'd won a free frame, and it was the guy who I just said bye to! I hope he buys a few parts from us, anyway.

We put in the **36** new members today, and our sales, including that, were **\$2,050**; best in two weeks at least. We're up to **\$23K** this month, and we did just **\$15K** in all of last February, so that's good. We have more expenses, but still, it's good.

FEB 22. I won't be going to the Chicago show, because Anna is sick and it's a two-parent job to take care of her; but I'll make it to Waterford for a meeting Monday. Spencer's leaving for the show tomorrow, it'll be fine, but I'll miss him here. I still haven't decided what to do about moving, and I have until Monday to sign the lease or not. Nobody else is looking, but they could, any day, and I don't want to lose this place because it's perfect. We're just too broke right now.

Eric and J&B sent me a sample shift lever today, a SunTour Sprint from 1987 or so. It's pure Power Ratchet, not even an index option, and very nice, of course. I look at it, feel the mechanism, and simultaneously shake my head and say "my god..." (a2a&c)—it should cost **\$200** and people should be lining up to buy them. It's so crazy. We're collecting downtube shifters, which the futurists will say is stupid or just pathetic, and maybe they're right, but we've got some good ones, and each of them is good for **20-30** years of constant use, and if you haven't learned to shift in friction after a couple hundred shifts, well, that's okay too. Anyway, I'm glad we're getting these. We should be saving our cash, but I don't want these to fly away to the Philippines for some ridiculous price, so we've got to get them. Eric always looks out for us and knows our taste.

Rob called today and said RR-5 would take about a week to put together, but he doesn't know how long it's turning out to be. I like the Schwinn Varsity stuff the most; it makes me want to get one (again).

Peter came by to load QuickBooks. He's still unsure

about working here, entirely due to money issues. He's willing to cut his salary in half to work here, but I can't afford that, even. And Jim will do it for what I think we can afford, but he'd be moving from out of state, and I'd feel really pressured to keep him on no matter what, and I'm not sure we're in a position to. We just need a cushion of **\$20K**, with half our current debt.

I've got to get out on my bike tomorrow. I'll leave a message on the machine.

FEB 23. I didn't ride today, but I ran five miles tonite, late. It was fine, I needed to get out. I think we sold a couple more frames today, but the lowlight was getting back a broken Frog seat post, which I've boasted so much about being the strongest in the world—and a 140lb rider broke it. The upper clamp broke, just cracked. Damn, I hate that. Why'd I have to shoot off my mouth like that? I'll send it to Nitto and they'll be surprised, and I'll suggest either more metal there, or steel. The weight would be worth it. I feel like paying for the forging die myself—I would if we had the money. The design is so excellent. Maybe this is an freak, I don't know. Damn.

Spencer was out today, so after Maggi left at one it was only me, and I didn't get any shipments out. The flyer is getting some response. Our batch was small, our check deposit was okay, about **\$900**.

MARCH 1. Good response to the flyer, thank goodness. We'll make payroll easily. Ted looked over the new lease for me, and I'm nervous about it, so I wrote the realtor a letter asking him to calm my fears—kinda thing, and I hope it works. Kate told her teacher there were some unrecorded but genuine verses to *This Land Is Your Land* (Woody Guthrie), and her teacher wanted to know the words, so I wrote them down. These are the last three verses, which you never hear:

*As I went walking, I saw a sign there
And on the sign it said "No Trespassing."
But on the other side, it didn't say nothin'
That side was made for you and me.*

*One bright sunny morning by the shadow
& the steeple
By the relief office, I saw my people
As they stood there hungry, I stood there
whistling
"This land was made for you and me."*

*Nobody living can ever stop me
As I go walking my freedom highway
Nobody living can make me turn back
This land was made for you and me.*

If you listen to the version Woody Guthrie recorded, you'll notice that the end is chopped off, as though somebody, presumably not Woody himself, didn't want these verses on the record. I do think that reintroducing these verses might make it harder for this to become our national anthem (as many think it ought to be).

MARCH 12. We signed a lease a few days ago and we move in by April 1. It'll be fine. Rent's just **\$725** a month, and we won't have to rent storage space anymore, so that'll bring it down to \$500 a month. Jim C. came here to help out for a few weeks, but I think he'll be gone by move-in day, darn. Sales are good, but we're out of Brooks saddles and won't be getting any in for a month or so. I hate being out of those. Bank account is at **\$6,200** and we've got three more days before payroll. I want to have \$5,000 in the bank AFTER payroll, that would be good. We're paying off Waterford slowly but surely. Not that slowly, actually—last week we sent them **\$9,000**, but we were past due. Frame prices have

to go up, and it scares me that frame orders, which have already slowed, will come to a screeching halt. We're barely breaking even on the frames, all things considered, and we have Gary up there now, and he's absolutely necessary, but we need to keep him busy. Prices will go from **\$900** to **\$1,050** for a single color frame and fork. It's a steal, still, but it's still a nervous-making thing.

The stem lugs are in the hands of the casters now, all designed. The new crown is looking good, but it'll be a late Summer thing. Then we just need two more lugs and we'll be all set.

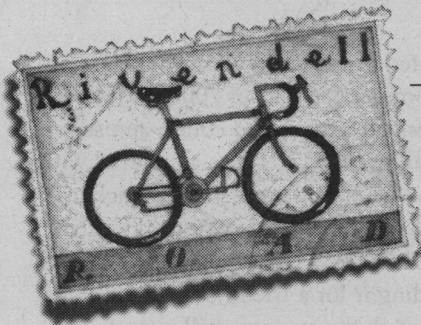
MARCH 14. We had a huge day yesterday—our batch was **\$4600**, and we deposited another **\$1,750** in checks. I paid Carradice **\$4,800**, so I'm glad we had a record day. What a relief. We have more Carradice stuff on the way now. Today, on the other hand, is slow. Our invoices are down around \$900, which used to be good but now is bad. I don't know what our batch will be, probably around \$600. I'll check now. **\$1,294.50**. That's good. We're pretty much caught up with shipping, and now have a long list of backorders—Brooks, Carradice, wheels. We're having a membership contest, and I just made up the rules, so that'll go in this RR. Wouldn't it be nice if it actually worked? I figure if we get just 300 members to sign up just 10 members each, that'll more than double our size and give us all the cash we need to get out of the hole. I hope the contest isn't an administrative headache, and I hope we don't lose money on it.

MARCH 22. Things have started to slow down—yesterday we did about, well, it was under **\$900**, and it's been like that for a while. Today the RR-5—this thing—should be finished, and I'm hoping to get most of the typos out of it. It'll be interesting to see how the membership contest works out. They never seem to work out, but we've jacked up the prizes and we've got to try one more time, at least.

We move the office this weekend and next, and I'm concerned about hooking up the computers and moving the copy machine upstairs. It's so heavy and cheap, it can hardly support its own weight, and yet it's an expensive gadget and we use it all the time, so we've got to take care of it. We paid bills two days ago and our checking account went from **\$12K** to **\$4K**, and that's after borrowing from our savings. I think we have just about a thousand left in savings. At least we have the first month's rent paid at the new place, and if we have a few good weeks we'll be okay. The J&B bill is a big one, and Waterford, always. We're chipping away at the J&B, taking discounts for bills due in June-July-August. The accountant told me his bill would be **\$1,400** or so, and I don't know how much we'll get back, or even if we'll have to pay. In my ignorance I've bought so much inventory, and it's counted as an asset, so our profit-loss might make us look richer than we are. It seems if we're taxed on inventory, we ought to be able to pay in inventory, but I don't think they'll allow it.

We're out of silver head badges, need to order more, and we're getting 10% on the gold ones, too. We've spent an embarrassing amount on decals, ninety percent of which we won't even use, but finally we're all set.

When the next project starts, I'm going to keep it simple. Those are the H bikes, and that's another story.



LETTERS

A GOOD OBSERVATION!

An observation on the term "Rushmore Bound". Since I'm a national park ranger maybe I have a skewed perspective, but Mt. Rushmore has always been a place that I've harbored negative feelings for. We desecrate an area that is held in high esteem by the local native Americans, and pat ourselves on the back for our "improvements". Don't get me wrong - I'm certainly not offended by your use of the term, its just that it seems to go against the Rivendell ideal (irreverent, intelligent, practical, appreciation of the good, etc). I hope I'm not making to big a deal out of this - and I'd like to offer another term for consideration. How about "Denali Bound"? Even though we (Euro-settlers) named the mountain McKinley, we also had the respect to name the park Denali (and amongst my mountaineering buddies - you'd never hear one of us call it McKinley). Denali means "great one" in the native tongue. Oh well - its all in how you look at it.

—ALAN CLINE

Alan, that's a good point, darn. From now on it'll be Rushmore-worthy, with the understanding that a simple plaque would be sufficient, as it ought to have been for the four Presidents. Grant

THE BEST BICYCLE IN THE WORLD

Many people have their favorite bicycle, may it be a shiny black Kestrel racer or a cool grey Merlin mountain bike. Mine is a red-and white Mercian

touring bike. "King of Mercia", they call it, and it looks the part with its cut-out lugs and fancy gothic script. The parts are a mixture of old and (relatively) new - Brooks Pro seat, Campy Rally rear and Simplex front derailleur, C-Record high flange hubs, but Shimano cantis and Ritchey triple cranks. I even changed over to Speedplay SPD-style pedals.

I had the frame built for me to tour for a summer in the Colorado Rockies. It was an unforgettable trip. Even got married along the way! Back home, the bike converted into a commuter, a role it filled easily. Two years later, I was traveling, and decided to enter a triathlon. So the Mercian placed 6th in a triathlon in Texas. Without racks it only weighed about 23 lbs (or maybe 24), the 40 spoke wheels don't seem to be much slower than others, and the aero bars I used when touring into a headwind came in handy as well. So it was more my lack of swimming skills and not the bike that precluded a better placing. When I started my field work as a geologist, I found a bicycle the perfect vehicle on the logging roads in the Pacific Northwest. Equipped with 35 mm knobbies, it covered about 400 miles on logging roads over the course of a long summer, without a complaint. Much less conspicuous than a car, and I could carry it over washouts and closed gates. On very steep sections I had to walk (so did the few mountain bikers I encountered), and its length was a bit of a problem on single track, but otherwise it covered a lot of terrain rapidly and efficiently.

That fall I crashed it during a commute and bent its top tube into a "V".

Sent it back to Mercian, and by the time my broken ribs had healed, I had my bike back. The cost was much less than a new frame, and most of it was for the two-color paint with contrasting and lined lugs. Lately it is back to its original touring use, we just returned from a great trip to the Canadian Gulf Islands. So what is the secret? Take a nice-riding, good-looking, perfect-fitting frame with eyelets and lots of tire clearance, put on some reasonably lightweight, but strong parts, and you have a bike that will do it all. The perfect machine. No need to get another bike ever. Does that mean that I only own one bike? Well, I have to admit: I have 6. Don't even ask.

P.S.: The Rivendell All-rounder seems like a great starting point for a similar project. The 26" wheels should be even stronger than my 40-hole 700c's, and result in a lighter bike as well.

—JAN HEINE

EDITORS: HELPING OUT AT HOME

Having (sic-see The George Flegg Story," RR 3, para. 5) submitted a number of articles to the Rivendell Reader and elsewhere, it's always with cautious excitement that I open and read what I have written if and when it finally gets published. After all, you submit this thing you toiled over to the often smarter-than-you-are editor, and you hope for snipping but know in your heart that the instrument of choice will be an axe.

To be fair, though, a good editor will often tidy up grammar, eliminate unnecessary verbiage, and add pertinent information that the author is unaware of or does not have access to.



So it was with a confused but open mind that I read and re-read, “Raise Dat Stem,” in RR 4. Case in point: Page 28, paragraph 2, first sentence. “But like many other concepts recreational riders adopt, the low back originated in the professional ranks.. .” Is this an anthropological fact? I went scurrying to my library in anticipation—this could set evolutionary theory on its proverbial ear. Unfortunately, after a quick literature review, I cannot confirm this as true. Adam and Eve, maybe. From apes, possibly. Professional cyclists, no.

Paragraph 6, another zinger: “I like a stem height and length that puts your back about 50 degrees from horizontal, while your arms and legs bend slightly at the elbows.. .” My God—what had I taught those kids at the university? Again, a mad dash to my texts revealed the following: only the arms bend at the elbows.

Finally, back to the article on George Flegg, paragraph 6. “...mostly he’s on the floor with his hands into something, either fitting a new frame for a 36 year old top hat that just came in, or working up a prototype model from the design department at Sturmey Archer.” A man of many talents, to be sure, but millinery expertise as well? A call to England confirmed my suspicion—never a pillbox, beret, bowler or derby has he once refurbished.

A plea: Please proof-read the

Reader before it’s printed. My mother, who reads all my work, called to ask if I slept through anatomy and physiology in school. Save me.

—BOB GORDON,
M.S., P.T., M. ED.

Bob, we sent off a perfect disc to the printer, and maybe it got jostled around a bit too much and something happened to the chips. Sorry. Sorry also about changing your gammer” to “gramma,” and “library” to “library,” but the the first was sort of an even trade (as a mad dash to the dictionary will prove). Thanks for writing. I haven’t laughed that hard in five years., but your point is well taken, though — Grant

Note to readers: The “top hat” was supposed to be “top that (just came in)” referring to the top of a saddle; although now that I think about it, it makes more sense that a 36-year old saddle would need a new (leather) top than a new (steel) frame. At best we know the frame can last at least another 36 years, but what of the top? I’d give it ten at most; maybe long enough, depending on the rider.) So my guess is that Bob meant to say “. . . a new top for a 36-year old frame.” Bob?

THE CLINCHER CONSPIRACY

Handmade tubular tires, or “sew-ups”, are a dying breed. Almost all new bikes are shod with clinchers, even though they compromise performance.

A tubular wheelset is lighter, more durable, and rolls better than its clincher counterpart. So why the decline? The industry is conspiring to eliminate the demand for a low-volume product requiring skilled labor, leaving us with no alternative but their mass-produced, higher-margin stuff. They promote the conspiracy with three myths: clinchers cost less, perform as well or better, and are easier to maintain.

Does the clincher cost less? I inves-

tigated prices at my local shop. Dylan recommended pair of 700x23c foldables, latex tubes and cotton rim strips, retailing for \$136. Jose countered with two UFO’s and a tube of red stickum for \$112. Low cost option? Hardly.

Checking a mail-order catalog (just holding it for a friend), I saw the trend reversed; the sew-ups ~~run~~ you a paltry \$6 more.

Tubulars are supposed to be hard to put on, with all that stretching and gluing. And it used to be that they’d explode unexpectedly. But early high-pressure clinchers were real good at blowing up, too, when the bead climbed off the rim. As the manufacturers made the beads tighter and rim diameters more consistent, clinchers stayed on better but got harder to install.

Meanwhile, tubular manufacturers weren’t just sitting around while clinchers improved. Casings became more weatherproof, and some can handle a zillion psi before blowing. They all got more, way more, resistant to punctures. Even the glue got better. And the sew-up was always nearly immune to pinch flats. So, while putting them on isn’t easier, the newer tubulars stay on a lot longer.

A cornerstone in the high-performance myth is that some pros now ride clinchers. Be sure of this much — those guys ride what they are paid to ride, and someone else makes sure everything works. Check out the working stiff Cat. 2 racers — folks who buy their own stuff and keep it rolling. I bet 90% of them ride tubulars. So do most of the pros — still.

Even the clincher guys go back to sew-ups in the rain.

The ride of a good tubular is a revelation. Try swapping your present rubber for a set of Vittoria CX’s. Wow. Listen to the tires sing, the gentle hum as they roll along, the airy *zhoosh zhoosh* as you stand on the pedals. These sublime sounds translate to a

softer ride and surer cornering, especially on less-than-perfect pavement.

Tire guys tell me the casing's fully round profile gives them that ride, that sound. So, is the compromise — easier installation versus superior ride and cornering — really worth it, or is this just the conspiracy talking?

It's the conspiracy, remember? The clincher is not a better product, it's just marketed more aggressively. The high margin for manufacturers, middlemen, and retailers, along with the bonus of selling each of you an inner tube a month, is making the handmade tubular tire an endangered species.

—TODD HOLLAND

HAPPY YET!

You guys! The XL Ale toeclips are only the second pair I've ever seen that were long enough for my feet—the XL KKTs that I got in 1973 or so have been on my track bike for the past five years (luckily I went clipless on the road in time to free 'em up for my later return to the track) and I've had no idea how I'd replace them if one or both got busted. Bless you all for finding these things. I'll probably order another pair pretty soon. And the straps are nice too. Man, they smell good—like the kind of shoe store I can't afford to shop in.

—HOWARD RUNYON

THE EQUALIZER

Had a couple of great rides this weekend, both satisfying in their own unique way. Sat. my wife Sue and I toiled around town pseudo Christmas shopping while the masses were stuck in their cages. It was great skirting-long lines of queded cars and not having parking problems. We sat outside at Bruegger's chomping bagels while harried shoppers did their harried thing. The weather was unseasonably fabulous. On Sun we did a typical weekend 28 mile training ride through rolling farm land. I mount a magnetic

resistance device on my rear wheel to equalize **us**. With this setup, I pretty much have to sit in her slipstream on flats and peddle my guts out to stay in on decents where she can take it easy. I generally have the upper hand on ascents, although she can often take the starch out of my legs prior to a climb (here we have short, fairly steep hills).

Our ride, which is a pseudo race (we have smell the roses zones and attack zones but then always wait for the other if one of us gets dropped), is quite competitive and very tactical. She had better legs this day and was able to relatively easily neutralize any attacks I made on climbs. She made me suffer most of the way.

The last .7 mile to our home is half downhill, then a finishing uphill. She attacked on the downhill, got a decent

gap, and was just able to hold me off by about 3 bike lengths at the finish line, a Share the Road sign.

After an around the neighborhood cool down, we ran inside and ate a bag of Fig Newtons. She has bragging rights for a week. But wait until next weekend. I'm going to get her then.

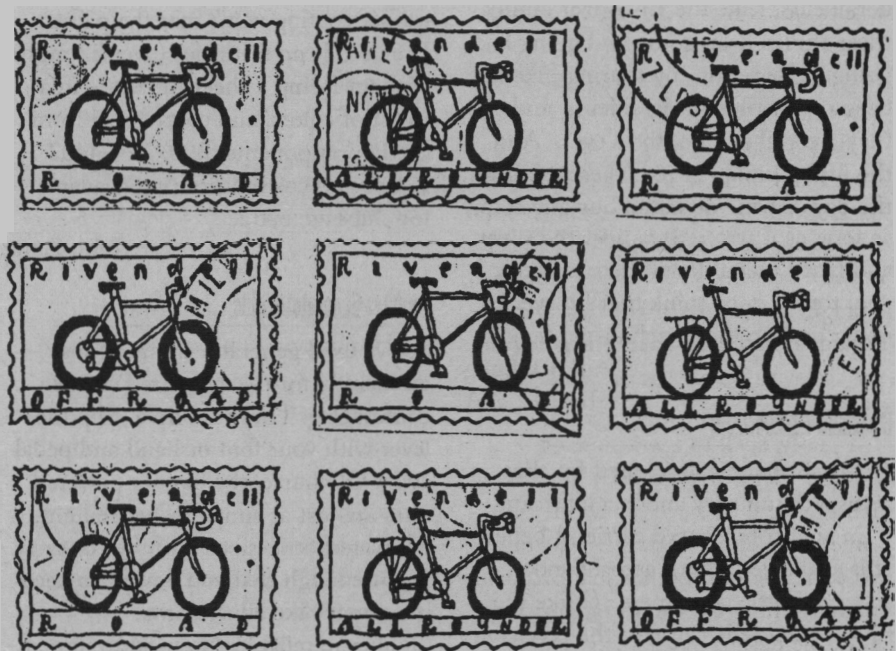
—WAYNE

Wayne, what's a "queded car"?—Grant

PROTECTING GUM HOODS

Is there any way that any of you out there in the ether know of to make gum rubber hoods last longer once they start looking dry and slightly crackly? I have a set of NOS Modolo levers that I want to use, but the hoods are kind of iffy. I would appreciate any advice. Thanks.

—PETER MOORE



We welcome your comments. Address correspondence to us at 1547 Palos Verdes, #402, Walnut Creek, CA 94596. Or send E-Mail to Rivbici@aol.com. If you send something that for some reason you don't want printed here, please say so. Don't let fear-of-publication stop you from saying what you want to say.

The Happy Rider

If you've found something you love unequivocally, write it up and send it in so the rest of us know about it, too. It needn't be a "Rivendellian" sort of thing, either. If you've discovered the best pedal in the world and it happens to be a new Thermoplastic clipless model with digital something or other, that's just fine, we'll put it in here. When possible and not obvious, try to list a source and approximate price. Send by fax 510 933-7305 or email Rivbici@aol.com or regular mail. The only stipulation is that you must find the widget you submit to be perfect in every way for its intended use.

Bullseye Derailleur Pulleys

Over the years, I've run them on Campy, Shimano and Suntour derailleur. Like the Energizer bunny, these things keep going and going and going. The set on my touring bike has been on 3 different derailleurs, and they are still as smooth as ever. And the little twinkle of red (these are from the days when you could buy any color, so long as it was red) amidst the silver and black metal down there is pretty cool too! I don't think that I'll ever be going back to those techno-plastic jobs.

—Ray Chong
Seattle, WA

Boeshield T-9 Lubricant

Boeshield was developed for the aerospace industry and is a lubricant in an alcohol-based carrier, I believe. It is available in both aerosol and squeeze bottle containers. (I like the squeeze bottle because of the precision with which I can apply the stuff.) When applied, Boeshield is very runny, but it dries to a waxy film. I use it on my chains and in numerous other spots. Application on the chain is quite simple—apply, let dry and wipe off excess. The stuff has held up well in the wet, and it doesn't attract a lot

of dirt. Other places I use Boeshield are in the stem binder bolt head, brake mounting bolt heads, and all other places where water could collect. Unlike other popular lubricants, the waxy layer never washes out with each application of rain. ;-)

—Ray Chong
Seattle, WA

The Ultimate Map Clip

Being a heavy perspirer, my cue sheets always took a beating in my jersey pocket. Recently I found this map holder which is simply a serrated jaw that holds up to 1/4-inch of maps or cue sheets. Attaches to any handlebar, stem, or frame tube up to two inches in diameter, requires no tools, and its rubber coating won't mar the paint. I've used it on fast rides (over 22 mph) without losing a sheet. It comes in a variety of colors, and costs \$6.95 from SMP Components (800) 724-4402. Logos and custom printing available for clubs are extra.

—John Zung

Soubitez Generator Lights

I've used generator lights almost exclusively for the 13 years I've been commuting. They're simple. Flip the lever with your foot or hand and pedal away. Of course, the battery powered ones are just as simple. They're light. No waterbottle-sized batteries to carry. Light enough that you'll want to keep it on your bike all the time.

They're reliable. No need to remember "Gee, is my battery charged?" If your legs are turning, your light is lighting, and anything over walking speed is full output.

They're maintenance-free. You don't have to perform the ritualistic plugging in of the battery to the charger, then wait. And wait. And wait.

They're ample. Maybe not for off road, but fine for pavement. Some brands even offer halogen bulbs.

There's a taillight. Some of the battery powered lights offer them only as an option. And if you ask me, I'm more worried about my back at night than my front.

They're green. I'm not paying the electric company to fuel my light; I'm putting some of my horsepower to good use with no noticeable decrease in speed.

My favorite brand is Soubitez. Durable and quiet. I prefer the bottom bracket model; they are difficult to find. They sell a rim drive model but nobody is importing it now, and if you can find one, you're lucky. If you buy one you are smart.

—Peter Polack

Zefal Full Fenders

For your road bike, unless you use your mountain bike on the road. The first time you get caught in the rain, fenders will have paid for themselves and boy, will you feel fat and happy! No more will you avoid riding for fear of precip. Your bike will stay cleaner and your butt will stay drier. I understand Zefal makes its fenders in three widths, so you are sure to find something that fits. You'll just have to keep nagging your local bike shop, to order them, because they probably don't stock them in road wheels sizes. Made of light plastic, they mount solidly, so there will be no rattling over bumps. And the rear fender provides a large piece of real estate to plaster with reflective tape.

—Peter Polack II (also)

Felco Cable Cutters (They're Swiss!)

Ask any gardener what their preferred cutting and pruning tools are

and you will undoubtedly receive “Felco” as an answer. Wife Jami, a

professional gardener and landscape designer, owns around a dozen of their various products. The \$60.00 price tag on the C7 Cable

Cutter daunted me for years; and I bought various inferior products only to watch them become cable mashers and frayers, and housing was out of the question. It was only after an incident at a large volume local bike shop (Seattle REI) during which I was informed that the same set of cable cutters had been the preferred tool for ten years. I used the obviously well-worn set to cut through oversize brake housing and Accushift housing with no problems at all. I bought a set the next day. Specs suggest that they are rated to cut through steel wire of the same gauge as spokes. Highly recommended, a wonderful tool that will last a lifetime of constant use.

—David Crispin

Union Fork-Mounted Generator

(Unfortunately this is no longer made and the company is now called Marwi (that is unfortunate-ed.) But you may be able to find them.)

It's there at the flip of a switch, the bulb burns forever, I don't have to worry about changing it and I don't have to limit my riding in the dark because of a short burn time. It houses a special diode which regulates voltage at higher speeds so the bulb isn't overtaxed. Replacement bulbs are widely available. It throws a broad, bright light easily seen by oncoming traffic as well as allowing you to see the road well ahead.

There is so much about bicycling all its accessories that I love, I think I must be the happiest rider out there. One more thing: I subscribe to the Wire Donkey, as mentioned in RR4 and have already received several issues. Thanks so much for this tip. It's so nice to discover other “happy riders.”

—Cathy Dion

Three from Paul

Uno: “Helical Bundling Wrap” as a chainstay protector. It's a black, thick (2mm x 3/8-inch) polyethylene strip material which is preshaped into a helical coil. It applies easily to chainstays, and will stay on without adhesives, although a wrap of electrical tape at each end makes for a neater finish. Even then it is a snap to remove or replace. Protection is total for chain-slap damage, top and bottom. And adequately protects against chainsuck damage, too. All this, and it's cheap! 50 feet (enough for 15-20 chainstay applications) costs less than \$10. McMaster-Carr has it (Cat #7432K22, ph. 908 329-6666.

Dos: Dupont Teflon Drivetrain Lube has more than doubled my useful chainlife. Now I replace chains when the side plates begin to round off and shifting begins to suffer (at 2,500 miles or so, mixed road and trail). Chain stretch is barely measurable at this point. Expensive, but worth it.

Tres: Honorable mentions go to: Mirrycycle mirrors, Brooks B.17 saddles, ODI non-adhesive bar wrap, and “Grease Guard” hubs, bottom brackets, headset. All things I'd rather not ride without.

—Paul Dixon

Giro Bottles

I'm diabetic, so I have to control sugar and liquids; on a century or loaded tour, it's really important. While prepping for last summer's ride to Gramma's house, I hit on the idea of marking my translucent Giro bottles. I measure 8oz of water, poured it into the bottles, drew a line with a laundry pen...one graduated, tough plastic beaker, useable for diluting powdered energy drinks or freeze dried dinners.

Wool T-Shirt

My favorite piece of winter clothing is a big wool t-shirt which I boiled to shrink. It's too small to wear as an

outer garment, but I wear it under another jersey, and it keeps me warm riding in the 30-degree weather south of Nashville. It would be nice if someone offered these, but in the meantime we can boil our old moth-eaten or crashed woolies.

—John K.

Clement “Paris Roubaix” sew-ups.

I run a kevlar model in back and a regular up front. Here at Pinnacles Nat'l Monument where I live and work Star thistles, cone shards from Grey Pine's, and they provide a good test for any tires durability - I've had auto tires puncture after hitting a Grey Pine cone, before I knew better. These tires sing over the chip seal, smoothing out the vibrations. I get good, happy feelings every time I hit the pavement with these wonderful tires. I've never had a flat (Knock on wood) - Now If I just had the clearance for the “Mondo's”!

—Alan Cline

Camera wars

The Yashica T4 and Kodak Ektapress Professional film.

Although I have, once or twice, hauled my hefty all-mechanical, manual focus, manual exposure Canon F-1 SLR camera on a bike ride, it is far from convenient to do so. Pocket point-n-shoots are ideal for use while cycling, and the Yashica T4 is among the best. It is compact enough to fit in a small jersey pocket, musette, or even the side pocket of a ‘dice bag (w/ room for an extra roll of film), but it carries one of the best lenses available on a pocket camera: a Carl Zeiss 35mm f3.5 Tessar T* (not a footnote, it's pronounced “tee-star” and indicates Zeiss' top o' the line lens coating). The lens alone, if made to fit an SLR, would easily cost as much as the whole T4, \$150 or so. There are cheaper pocket cameras, but none with a lens this good - the only other two Zeiss-lens equipped pocket cameras cost well over

\$700. The lens is easily as good as the lenses for my Canon, and it's built into a pretty good little camera too. Yes, its auto-focus gives me more focus errors than my manual focus F-1, but it focuses quicker for snap shots, and the auto-exposure works pretty well too. If you're not too familiar with cameras, the "f3.5" means it works quite well in low light. It also has a much greater range of shutter speeds than most pocket cameras. It has just the right number of features for a small camera, without any really annoying ones. The flash is adequate and can be shut off if you want (it has a tripod mount for those long exposures). The newest version is even weatherproof, making it even more suitable for sweaty jersey-pocket duty. You'll probably want to shoot color prints while riding, and you'll need a fairly high speed film to do so. ISO 400 film gives you the film speed you need to get both good depth of field (things both close and far are in focus) and short shutter speeds to stop action so you can shoot while moving and not get blurred shots, but ISO 400 film is often quite grainy, and may have washed out colors. Kodak Ektapress Professional 400 (they make 100, 200 and 1600 Ektapress too) is now my film of choice for all color print work. It's designed for photo journalists, so it survives temperature extremes much better than most professional or amateur films. It has good, natural looking colors, and really fine grain for a film of that speed. It can even be rated at ISO 800 or 1600 with only moderate loss of picture quality (but you probably can't override film speed on pocket cameras, can't on the T4 at least). Best of all, it's actually cheaper than the Gold 400 "amateur" film that you usually find in stores. Why? They only make 36-exposure rolls, and only sell it in boxes of 5 or 50, and they don't advertise it. Still, split a 5-roll box with a friend or three and you'll likely be quite happy.

—Drew W. Saunders

Olympus 35mm Stylus Camera

I've been an enthusiastic amateur photographer since the age of 9, and I own nearly that many cameras. My collection spans the range from a Minox "Spy Camera" to an old manual Kodak, to a modern Nikon SLR with multiple lenses, but the camera I use most is the Olympus Stylus. It's compact. Not quite as compact as the Minox, but it fits easily into the breast pocket of a jacket (for men anyway), or the back of a jersey. It's the spy camera of the 90's.

It's well designed and attractive - the epitome of form-follows-function. It has a built in lens guard and fits right in the palm of your hand. It has all of the features that you need with none of the extraneous gizmos that confuse beginners, namely: Auto focus; Self timer; Fill in flash; and Flash-off mode. My advice is to get the model with the silver buttons, and skip the more expensive model that has gold buttons and a time/date stamp. It just confuses people. Skip the zoom model too. It adds enough bulk to the camera to make it awkward. You can simulate zoom by moving closer or further from you subject. And get the soft velour zippered pouch instead of the bigger vinyl case for the same reason. Why buy a small camera, and then make it unnecessarily large with a large case? It's inexpensive. Most stores sell it for less than \$150. If you look around, you can find it for \$130. Finally, it takes great pictures. The pictures from my Stylus are indistinguishable from those of cameras costing four times as much. I carry my Stylus on rides, sailing, skiing, hiking, and it has never let me down. It lets me get all those action shots I would normally miss. Just put it in a plastic baggy to keep the sweat/water out.

—Michael G. Hering

S&S Frame Couplers

I would not hesitate to say that S&S couplers did more for our marriage

than all of our bicycle-related possessions. My wife, Katie and I started riding a tandem in 1991. Since we moved to NYC in 1993, we pretty much stopped riding together because it is such a hassle to get out of the city for a nice ride without a car. We often encountered disappointments because we just couldn't bring the tandem on our trips, so we got a custom builder to build a frame with S&S couplers. The result was a tandem that packs into two pieces of luggage which can be checked with airlines without a surcharge. I can now pack the tandem in about 10 minutes (more if racks are attached) and reassemble it in less than half an hour. This convenience also allows us to mix various modes of transportation in a day's ride.

The couplers never caused any problems so far. The precision to which they are made surpasses anything else on the tandem, and even a day of hard off-road riding in Jim Thorpe, PA didn't loosen the couplers at all. I just tighten them when I assemble the tandem, and totally forget about them until the time comes to disassemble. We have more opportunities to ride and our relationship definitely improved!!! Even though the couplers add several hundred dollars, they are still cheaper than a marriage counselor, or even a divorce,

—Ken Iisaka

Clement Campionato Del Mondo tubulars

I've been riding on my new Clement Campionato Del Mondo tubulars for a few days, and I am impressed. These babies have a genuine 28mm cross section, which means they are considerably fatter than most 28mm clinchers, which are consistently mislabeled. When you combine that big air pillow with the resilience, compliance, and light weight of a hand-formed tubular you get a fantastic ride—very smooth and still fast. I use them on my mid '70s Masrerati which I have converted to city bike usage with a fixed gear,

Campy BMX crankset, and Brooks mountain bike saddle (the one with the copper rivets and the big, stiff yellow springs), but I still haven't replaced the original Martano rims. I guess it is rather self-indulgent to ride such fancy tires on rough city streets, but life is too short to ride crappy tires. And the high profile has reduced pedal scrape in turns (a fixed gear hazard).

If these tires last anywhere near as long as the Clement criteriums that originally came on the bike, I will have thought it was money well spent. Any one still riding tubulars, other than in races, should consider giving Del Mondos a try.

—Benjamin Lyons
New Orleans

Harris Tweed Sportcoats

Spun dyed and woven in the Outer Hebrides. I alternate a couple on an almost daily three season basis since 1983. Warrior business wear. Can take off to go Quail hunting or fly fishing at the slightest inclination, never have but could. Thick weave blocks the wind yet still comfortably breathes. They last. Wearable art.

—Name lost on line, SORRY

live Chai

Wonderful Indian Tea right from the box or recipe mix to add milk. Good in the morning or at night. Much calmer than coffee on those days when creativity and sense of well-being plays better than anxiety and dread. How often is that? From Live Chai, Inc.

—Eric Boysen

Continental Top Touring tires

I've been using the 700x37-tires for commuting and some loaded touring. These are big, fat, easy rolling tires with a sensible, deep tread and wire bead. They ride superbly, they handle sandy or wet patches with aplomb, they resist flats, and at 80 psi they soak up the bumps like crazy. No, I haven't

weighed them, but with **all** this going for them who cares? I haven't tried, but I'll bet these tires would do fine off road.

—Charlie Davis

Jotul wood-burning stoves

We shopped for wood-burning stoves exhaustively, as we do for all things, before buying. Even so, I confess I'm seldom fully pleased with a purchase, and find myself still looking around, haunted by the quest for the Perfect Thing, weeks or months later.

Not so with our Jotul wood-burning stove. (Okay, it's not bicycle-related, but you didn't limit us, Grant.) My wife first saw it while I was still pondering Vermont American and Buck and a half dozen other stoves. It's perfect. Every fitting is true, every design element clearly thought-out. It works; it heats our home at least half the time these days. I look at it and feel good. It's hard to imagine now that people actually buy any other kind of stove, or that other stove manufacturers don't just throw up their hands, despairing that they could ever make something equally excellent.

The kids frequently ask if they can sleep near it instead of in their beds. What more could I ask of a wood-burning stove?

—Geoffrey Creighton

SIDI shoes.

Sure they come in odd colors, but these are great shoes. The only way you could not like them is if you don't like the soles on the mountain bike shoes or the cleats on the road shoes. Wierd ski buckle and all, these are the most comfortable things my feet have ever known.

The Performance nylon front/fleece back jacket

Keeps you warm without making you hot. Very comfy.

—Pete

N-Gear JumpStop.

The best improvement for front derailleurs since, well, front derailleurs. A much, much better version than the Third Eye Chainwatcher. Prevents derailments in both directions, and enables you to over-adjust the low screw for awesome downshifts in even the most obnoxious circumstances. Call Nick at 1-800-659-4607 and he'll send you one on spec -- if you like it, then you pay him. (name lost)

Take-A-Look mirror.

Mounts on your glasses or helmet. Adjusts easily, and doesn't slip out of adjustment. Made of metal so it won't break if you do something stupid. Recommended 8 to 1 by people on the hpv list, and they oughta know. (NL)

Sachs 3x7hub.

Upgrade to 63 speeds (3x7x3) for monster gearing, or lose your front derailleur like I did **on** my road/city bike for a net weight gain of 100 grams and a lot more fun shifting. The best part is that you can shift while stopped (like at an unexpected red light). Reports from bike manufacturers indicate no troubles with the hub in years of heavy use, even on tandems. (N. Lost)

Specialized Armadillo road tires.

I've ridden through all sorts of nasty stuff on these tires, stopped and picked big hunks of metal and glass out of the tread, and have not yet had a flat. The secret is a kevlar belt. Nice herringbone tread, and available in three widths. Most popular road tire for tandems in an informal survey of the tandem@hobbes list on the Internet last year. (Name L.)

Park spoke wrenches.

All the bike shops use 'em. If that wasn't enough, I've yet to mangle a nipple with one. Carry one on your bike -- sure beats the horrible little notch on a multitool. (see above)

INSIDE THE VARSITY



Story by Marc S. Muller

Illustrated by Chris Fiorini

Many baby boomers grew up on, or dreamed of owning a Schwinn bicycle. Shrewd marketing aimed at kids through Captain Kangaroo, Boys Life and various comic books left us craving a steady stream of Schwinn design breakthroughs including balloon tire 26" cruisers, 20" Sting Rays, and multi-speed 27" Varsities and Continentals. But instead of Schwinn's magic rolling on into the bike boom of the early seventies, their unique "electro-forged" (E/F) frames—the basis of our earlier favorites—were suddenly perceived as heavy, and fell from grace with maturing young riders. The steady infiltration of European and high quality Japanese lightweight lugged frames doomed the E/F frames that made Schwinn famous. Never mind some of the new "lightweight" lugged frames weighed as much as a Schwinn; it was trendy to own a bicycle with a foreign name and a lugged frame.

Schwinn's fall from favor was both ironic and financially devastating. In the late sixties Schwinn invested heavily in the EF machinery—machinery vastly more expensive to build and operate than required by lug frame fabricators. During the bike boom years Schwinn was building more than a million EF frames and bicycles every year. At the same time, though, Schwinn revived one of their old trade names and began to import the "World" line of lugged frame bicycles from National and Bridgestone of Japan rather than build them in their own Chicago plant. (Between 1971 and 1979, Bridgestone built almost 1 million bikes for Schwinn—about 4.5 times the number of bikes Bridgestone-Japan built in during the Bridgestone years of 1984-1994—Grant). This, or course, only enhanced the reputation of the lugged frame and speeded the demise of the EF frame. Schwinn didn't start making their own lugged frames until the late seventies. Brazing with lugs wasn't new to them—they had been producing the handbuilt Paramount line of racing and touring

machines, with elegantly carved and hand brazed joints, since 1938, and these frames were regarded as among the best built anywhere in the world. But the lugged technology never moved into mass production.

In the value conscious 90's, collectors, hobbyists, and nostalgia buffs are rediscovering the uniqueness and enduring quality of the Schwinn built EF frame. Grant and I thought it might be an interesting time to pause (before we all forget) and review its unique technology in depth. What follows is a detailed description of the Schwinn EF frame building process.

In today's bicycle manufacturing climate it is easy to forget just how unique Schwinn's production facility and frames were. Now a frame manufacturer buys tubing from one source, frame fittings from others, then fabricates a frame. Sometimes even frame subassemblies and paint work are sourced out. But Schwinn performed virtually all the operations to produce a frame in house. They made the tubing, they made the frame fittings, they joined the tubes and fittings into a frame and they painted it. The only products they bought were coils of 1010 steel strip.

Before the EF frames, Schwinn was fillet-brazing and welding joints by hand, then grinding and polishing them until the frame seemed carved from a block of steel. The EF frame sought to mimic a handbuilt, fillet-brazed frame while dramatically reducing manufacturing costs. To achieve this look Schwinn engineers actually moved the "joints" from their typical locations at the ends of the mitered tubes to a circumferential butt joint around the tube about 1 1/2" from the typical joint locations: the "head tube" actually extends out to the joint on the top tube and down tube.

To produce a typical EF frame joint, the ends of two tubular frame components were held nearly together and clamped in copper jaws, which acted as anodes and cath-

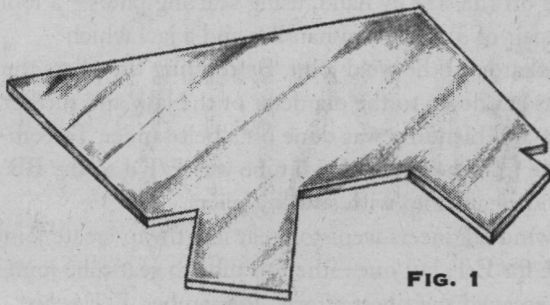


FIG. 1

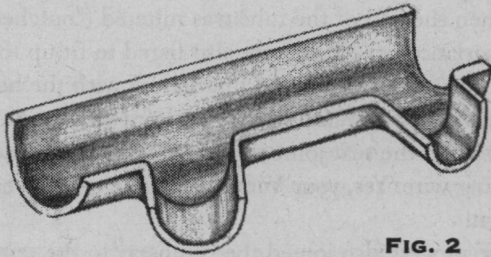


FIG. 2

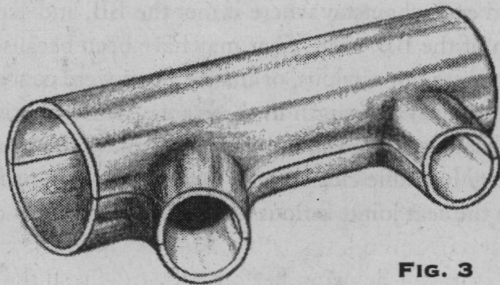


FIG. 3

odes. The edges of the adjacent parts served as electrodes and filler material. The edges had to be closely aligned to assure a strong joint and to avoid undercutting when they were polished afterward. Then a high electric current was applied across the two parts, jumping the small gap between them. The relatively thin edges of the tubes became molten and the two parts were pushed together by hydraulic rams, amid a shower of sparks. This left heavy slag around the joint, but that was removed by belt sanders, lathes or scarfing pliers. During the joining process nearly 3/16" of adjoining material was burned away! The actual welding took only a few seconds compared to several minutes to weld or braze each conventional joint. With potential cost savings such as this coming into view it must have been exciting times at the Schwinn factory!

The head tube, BB assemblies, and wheel rims were made by EF, too. The head tube began as coiled strip stock, wide enough to accommodate the top tube and downtube extensions. The strip steel was stamped to form head tube halves which were joined by EF to form the head tube, complete with tube extensions. (Figures 1-3)

In a similar way, the BB shell began as steel strip and in its finished form extended out along the downtube, seat mast and chainstays. These extensions were punched on the strip in the eventual locations for the downtube seat mast and chainstays joints. The still flat shell was then rolled and the two adjoining edges were E/F'd together. (Figures 4-5)

Schwinn also used coil strips of steel to produce its own tubing. The strips were fed through a series of rollers which shaped and sized them and prepared them for the final rollers, which passed an electric current to the edges. This was a continuous process, so immediately after welding, the bulk tubing was cut to the appropriate lengths. Having the capacity to make tubing was crucial to the viability of E/F frames, as the savings over buying pre-made tubing were enormous. Material handling, transportation and scrap costs were slashed to the bone by bringing this operation in house. (Figure 6)

The chainstay and seat stay to dropout joint posed a unique challenge to Schwinn engineers. A typical chainstay-seatstay-dropout joint requires slotting the tube ends

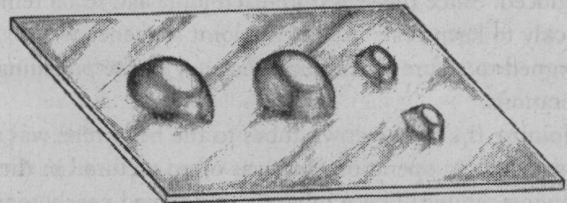


FIG. 4

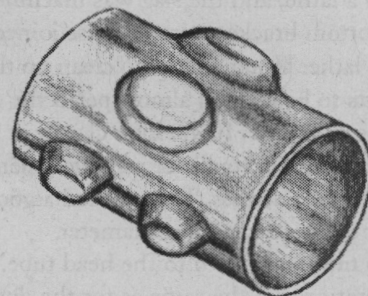


FIG. 5

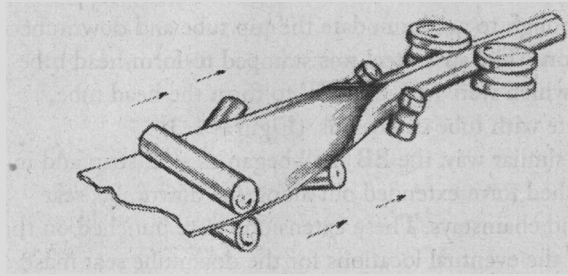


FIG. 6

and inserting the ends of a dropout into the tube and brazing them together. This process had to be greatly speeded up. Since the E/F process works on edge to edge contact, Schwinn engineers had to create edges on the seat and chainstays. To do that, one end of the tube was stamped into a crescent shape. The dropout, again formed from coil strip stock, had its end tabs formed into the same crescent shape. The resultant matchup of the formed dropout tabs and tube ends made E/F possible on this otherwise labor intensive joint. (Figure 7)

After all these processes, the head tube, BB tubes and rear end subassemblies were ready to be joined into an E/F frame. The processes just described produced the building blocks and potential cost savings for the frames, but just as important to the ultimate success was the sequence of joints produced. Since the slag from each joint had to be removed quickly to keep costs in line, the joint sequence was designed to assure maximum efficiency in the polishing operations.

Joining the top or down tubes to the head tube was the most dramatic operation, and was often pictured in the Schwinn catalog. These tubes were clamped nearly together in copper jaws, and once the electric arc was struck the down tube was pushed into the head tube. Nearly 3/16" of steel from the head and down tube was burned away, leaving a circumferential ring of slag. Then this new subassembly was put into a lathe, and the slag was machined off. The seat mast and bottom bracket were likewise joined and cleaned up on a lathe. Using a lathe to clean up these joints required the parts to be aligned almost perfectly.

An interesting side note: If you look closely at the upper end of a Varsity seat tube, you'll see a subtle tapering of the 1" O.D. on the top 4-6 inches. This assured a good fit up with the unique Schwinn seat post diameter.

Next, the top tube was E/F'd to the head tube. While the welding operation was the same as for the down tube, the clean up operation was not. Instead, the workers

cleaned off the slag by hand, using scarfing pliers—a tool with a pair of 3' long steel handles and a jaw which wrapped around the weld joint. By rotating the pliers the slag was cut down to the diameter of the jaw, and further cleanup and blending was done on a belt sander. To complete the front harp, the down tube was E/F'd to the BB shell and cleaned up with scarfing pliers.

Schwinn engineers went to great lengths to create joints suitable for E/F, but one—the top tube to seat tube joint—always escaped their best efforts. Remember, E/F is an edge-to-edge process, and this joint had only one edge, on the end of the top tube. For years this joint was hand brazed and polished, but finally an economical solution was found. When the end of the tube was mitered ("notched" in Schwinn parlance) its edges were also flared to fit up to the seat tube. The frame was placed in a fixture with the head pointing upward. Surrounding the seat joint were induction coils that heated the seat joint rapidly, melting a preplaced silver brazing wire. Yes, your Varsity had a lugged, silver brazed joint!

The E/F process also joined the chainstay to the remaining two protrusions on the bottom bracket, but those joints and the seam on the BB shell itself were never cleaned up as much as the other joints. There was always visible slag ring around each chainstay where it met the BB, and across the bottom of the BB shell. That may have been because these joints were not obvious, or maybe there were concerns about compromising strength in these areas with excessive cleanup. Whatever the case, the slag ring around the chainstays is the only visible clue to how the frames were made.

Just like the seat joint, various methods were used to cre-

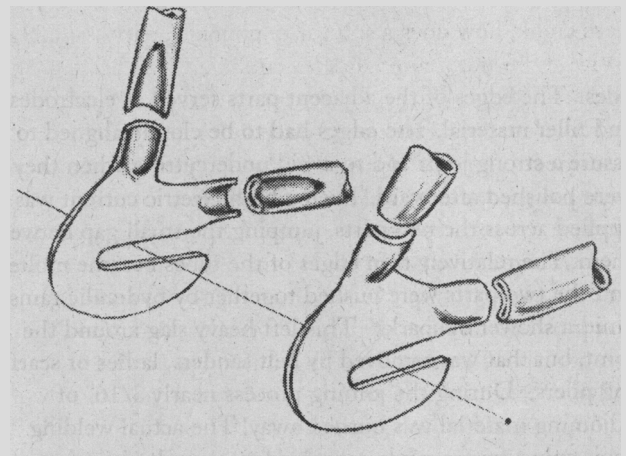


FIG. 7

ate the final seat stay to seat mast joint, which, over the years, had been either welded or hand brazed. The final solution was a simple form of projection welding, using the small tangent of the seat tube to the seat stay to pass a high electric current which actually caused the tubes to melt together. The same method attached rear bridges, cable stops and the famous Schwinn kickstand housing.

It may seem like these frames were very time consuming, but many of the operations took no longer than the stroke of a punch press or an electric jolt of just a few seconds—a small fraction of the time needed to produce even an automatically brazed frame. The time savings explained the Schwinn economic miracle.

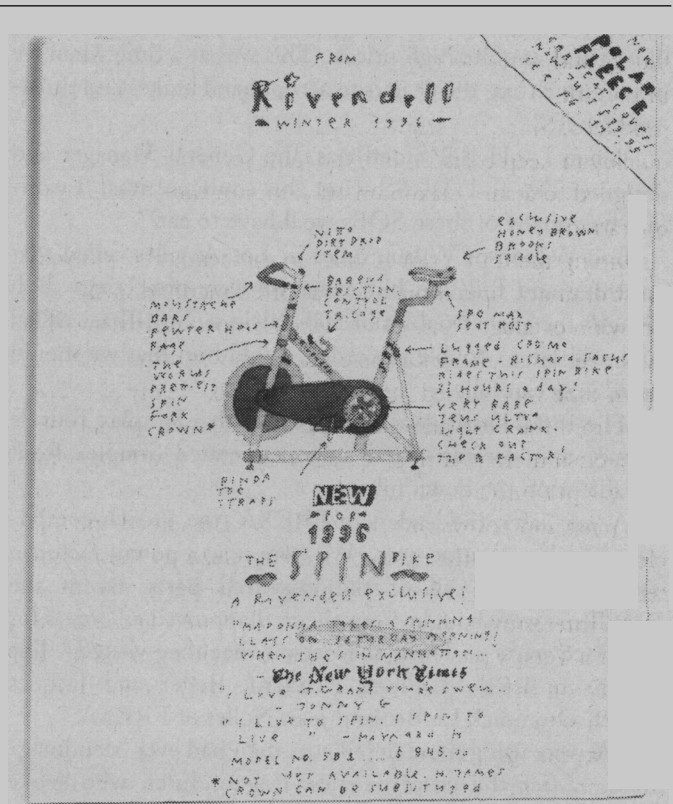
I am often asked if the E/F frames could have been updated and continued in production. Marketing issues aside, I believe great advances could have been made, but the necessary metallurgical advances, namely the **HSLA** (high strength, low alloy; Nivachrome is an example) family of steels, came too late. These steels emerged from the auto industry in the late 1970's as car makers tried to reduce weight and increase strength to comply with federal mileage, emission, and safety standards. **HSLA** steels combine properties that before had been seemingly mutually exclusive. They're far stronger than the 1010 grade steels used in E/F frames, and they maintain their high elongation (meaning, they don't become brittle), so they're ideal for stampings, while their low enough carbon content assures excellent weldability. The unique combination of high strength, high elongation, and excellent weldability would have allowed the stamping operations of the head and bottom bracket shells, and been well suited for E/F. The result would have been truly significant weight savings. Combined with an built in aluminum kickstand, (which was a project under consideration at Schwinn) and a three piece crank, how does a sub thirty pound Varsity sound? (With more aluminum parts it could have weighed twenty four.)

These changes were not to be, however. The E/F machinery is gone, and the people who knew how to operate it have scattered. When the factory was torn down many of the fixtures were scrapped. The welding equipment was sold; no doubt being used to make some sort of tubular product. A very unique bicycle manufacturing process, one that provided millions of bicycles ridden and still being ridden perhaps billions of fun filled miles, has slipped into oblivion. Since the process will never be revived, all we can do is look back and preserve the process in our minds, so those wonderful, and still plentiful, bicycles and the visionary engineers who created them retain their rightful place in bicycle history.

John Segal

My thanks to Frank Brilando former Senior Vice President of Engineering at Schwinn for his incredible contributions to the Schwinn Bicycle Co. and bicycle design. We all owe him so much, and his many insights helped me write this article.

Marc started a custom frame building business (Phydeaux) in 1974, and then joined Schwinn five years later, in 1979. At the time he had no connection with nor interest in the Paramount division—his interest in Schwinn was to learn new things, including all about production building and the workings of a large factory. But his building skills were well-known, so he was called upon to build some custom frames for a few celebrities, and "got sucked into it." He later became Paramount Program manager, and that led to his position as manager of the Bicycle Products Division. When Schwinn closed its Greenville, TN factory in 1991, Marc and Richard Schwinn worked on a plan to rejuvenate and expand the Paramount division—which was already off by itself in Waterford, Wisconsin. Then Schwinn filed for bankruptcy and went up for sale. An investment group (Zell-Chilmark) bought Schwinn, but they didn't want the Paramount division so Richard and Debra Schwinn and Marc bought it, and all's well.



Keith Kingbay and the Schwinn Varsity

By Frank Berto

Keith Kingbay died in January, 1995. He was an executive of Schwinn in the glory days and a major force in the rebirth of the League of American Bicyclists. In 1994, as part of the research for my book on derailleur bicycles, I had a long telephone conversation with Keith about the birth of the Schwinn Varsity. I asked Keith to write a letter confirming what he had told me. This is the story in Keith's own words. FJB

The Varsity was totally my baby. In 1959, I worked up a parts list and built a prototype and sold the old man (Frank W. Schwinn) on it. We agreed to show me that I was wrong. Schwinn had made several unsuccessful attempts at derailleur bicycles previously, including a two-speed on a New Departure coaster brake.

The bike was developed to offset the small numbers of foreign derailleur bikes coming in, mainly through the West Coast and at quite high prices. This was at a time when we were just getting the dealers to accept hand brakes and three-speed hubs.

When I told Bill Stoeffhaas, the General Manager and Number Two to F. W. Schwinn., his comment was, "I wonder how many of these SOBs we'll have to eat?"

Bob Wilson of Wilson Sales in Los Angeles called that morning and Bill told him what we were projecting. Bob bought the entire trial lot of 500 Varsitys. Stoeffhaas called and told me to double the order. I told him that we should tread very carefully.

The 1960* Varsity was an 8-speed with a Simplex Tour de France rear derailleur and a lever-operated Simplex front derailleur on the down tube.

A year later, the leaders of FREXA (the French component combine), came over. We were now a potent factor in the market and all of the imported parts except the derailleurs were bought from them. I approved all orders for imported parts so I was the person that they visited. The group consisted of Pierre Maillard, Roger and Jacques Huret, Dominick Le Bec and Jean Nollet of FREXA.

We were using more derailleurs than had ever been imagined. After the usual niceties, Roger Huret, who spoke impeccable English, asked me why we did not use his Huret

Allvit derailleur. I answered because it cost \$1.37 more than the Simplex derailleur that we were using.

That night, I entertained the group at the Famous Stockyard Inn, a truly American restaurant where steak was king. I suggested that they select the wine but was told that we should have an American meal with American drinks. I order dry Beefeater martinis on the rocks for everyone. After the third drink, Roger Huret leaned over and said, "Mr. Kingbay, we will equal Simplex's price."

The Varsity was designed for the average unknowledgeable young cyclist accustomed to a balloon tire bike.

When I told the old man, he insisted that I confirm the deal when everyone was sober. That was Schwinn's policy. The next morning, I went to lunch with the Huret brothers and we worked out the arrangements. That agreement was the breakthrough for Huret in America and Lucian Juy of Simplex never forgave me.

The Varsity was designed for the average unknowledgeable young cyclist accustomed to a balloon tire bike. It allowed them to get acquainted with true cycling. The bicycling business can not survive on elitist cyclists. There were only a few elitists in the pre-Varsity days.

**I'm not sure if the first Varsity came out in 1959 or 1960. Does anybody know for sure? FJB*

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- (4) The more you submit, the better your chances. If you and somebody else tie for first with 20 memberships, we'll draw straws,

and if you lose the drawing, Nobody with fewer sign-ups can beat you. Include **all** the information, so we don't have to follow up.

- (5) If there are other local, national, or international laws we must follow--in other words, even though it's our contest, if there **are** laws stipulating that contest organizers must do this, that, or something else, and we don't know what those things are, we **will** follow them if and when we find out.

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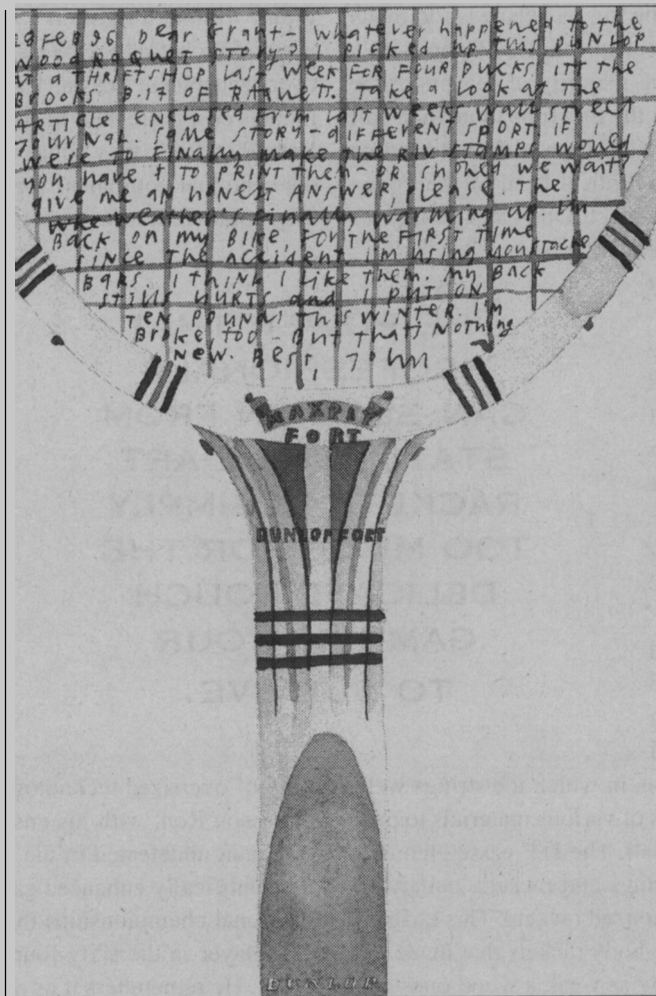
THE FEEL OF WOOD

by Marshall Fisher

In late June of 1994 the Sesuit Tennis Center, on Cape Cod, looked like 1974. White shirts, white shorts, and short white tennis dresses adorned the green hard courts, along with white caps and floppy white “Aussie” hats. The tennis balls were white too. Most striking of all, looking thin and frail hanging from the arms of the players, were the wood rackets: Dunlop Maxply Fort, Wilson Jack Kramer Autograph, Chris Evert Autograph.

Looking around as I walked to the base line to serve, I felt as if I were back at the Kendalltown Tennis Club, in suburban Miami, twenty years earlier. The only thing missing was the once-popular Wilson T2000—steel scepter of the brat king, Jimmy Connors. For this was the First Annual Woody Tournament of Cape Cod, the local exemplar of a recent nationwide phenomenon. No steel, aluminum, graphite, titanium, or composite need apply. If it didn’t come from a tree, leave it at home.

To some, the premise of the tournament may have been a novelty; my first-round opponent had never before played with wood. To others, it meant merely the resurfacing of a quaint memory—“Can you believe we actually played with these things?” But to me—and to many others, I soon discovered—it was something much more.



In the week before the tournament, as I practiced with my old Kramers (last used in 1982, my first year of college tennis), I was visited by a long-forgotten pleasure: the feel of wood. Sure, it was harder to find the sweet spot on the smaller head; and even when I did, there was none of the space-age power of today’s launch pads. It required a lot more skill to hit any particular shot. At the net I really had to volley, with the correct half-swing form; I couldn’t just stick out my shield and rely on its innate power. Fundamental technique, remembered deep in the muscles, became critical again. The game was also more fun.

In the early 1970s, when racket manufacturers were experimenting with new metal designs, a bread-and-butter advertising campaign bragged of “the power of metal, with the feel of wood.” Every kid learning

the game quickly came to know that steel was for power and wood for control. The consensus, though, was that the strength you got with metal was not enough to make up for the loss of touch. Connors swore by his T2000 (customized with lead tape to weight the head), but for the most part wood held its ground.

Then, in 1976, Howard Head stepped in and changed tennis forever. Having given the world the metal ski and the composite tennis racket, Head had retired from his namesake

company and was wishing that he could get more power into his tennis game. The result was the first big-head racket, and a new company, Prince. At first the comical green giant of a racket that was the Prince prototype met with general resistance. Older women on the courts were suddenly volleying much better, but the main reaction to the Prince Classic was laughter. The company's next model, the sleek black Prince Pro, helped win over some male players, but for a few years the oversized racket remained an object of scorn. However, by 1981, although Bjorn Borg and John McEnroe were still winning championships with wood, most junior players had made the switch. The power of the big rackets was too much to forswear. In 1982 Chris Evert won the U.S. Open with a conventional-sized racket, but the majority of players at the Open wielded big rackets, and for the first time more than half of all rackets sold were oversized. That was the year Martina Navratilova switched to the big elliptical head of the Yonex R-7 just three weeks before the French Open and won it for the first time. Navratilova became the first player to win a major tournament with a big-head racket (Mats Wilander became the second the following day), and helped to make 1982 the Year of the Switch. "When big rackets first came out," she said at the time, "I thought they should have been outlawed. But since they weren't, why shouldn't I use one too?"

In 1980 the International Tennis Federation had convened to discuss its options regarding oversized racket and "spaghetti strings," another 1970s innovation, in which the strings were kept loose and wrapped with coils of various materials to produce unprecedented spin on the ball. The ITF passed tennis's first official specifications for strings and rackets, outlawing spaghetti strings but allowing oversized rackets. This enabled the introduction, in 1987, of wide-body rackets that made the normal oversized rackets relatively as weak a wood ones had been. And now we have monstrosities like the new Prince Vortex, which uses "a **graphite-fiber-reinforced** thermoplastic viscoelastic polymer" to create variable flexibility. Fifteen years after the ITF's anemic regulations were enacted, most tennis fans lament the state of the professional men's game, in which a typical point consists of an ace, or perhaps one or two cannonball shots after the serve. The power that professionals can summon from state-of-the-art rackets is simply too much for the delicate touch game of yore to survive. A player like Goran Ivanesevich, who has a Herculean serve and not much

more (by professional standards), can reach the finals at Wimbledon.

Revisionist proposals for improving the game have surfaced from time to time: make the balls heavier; make the court larger; take away the second serve. But this is like curing halitosis by distributing nose plugs. Is the solution too simple to see? Bring back wood.

Major-league baseball requires wood bats for a similar reason—so that players don't start hitting a hundred homers a season, and 12-10 doesn't become a routine score. But tennis-racket companies are making too much money to let wood return without a fight: in 1975 the Dunlop Maxply—as good a wood racket as then existed—cost \$25; by 1980 a decent oversized racket cost at least \$100, and now many popular models cost more than \$150. If the players and fans had made a stand in 1980, they could have persuaded the ITF to require conventional equipment for the pros, as in baseball. In fact, they could do it now without impinging on the racket companies' wealth, because most amateurs would still buy oversized rackets, just as softball players and amateur baseball players (even in the NCAA) use aluminum bats. But fifteen years' worth of big-head professional tennis will be difficult to overcome. My brother and I were among the last defenders of wood rackets. As college teammates—his senior year, 1982, was my freshman year—we stood alone with our toothpicks against an approaching

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army of oversized technological wonders. Through the regular season Ron, with his enviable speed and touch, managed to remain undefeated in the No. 1 position, against a barrage of scientifically enhanced cannonball serves. At the Division 3 national championships in Kalamazoo he was virtually the only player in the sixty-four-man draw using a conventional racket. He remembers it as an immense psychological (not to mention physical) disadvantage—like fighting against rifles with bows and arrows. In the first round he lost a close match to the No. 2 seed.

That fall I showed up at school with two new midsized aluminum Yonex R-1s. Having to compete against the new rackets, I decided there was no point in clinging to wood—it just made me feel weak and small. But at the woody tournament last year, I saw all over again how the ineluctable march of technology had degraded tennis. It's a better sport with wood.

In April of 1991 Bjorn Borg reappeared on the profession-

al tennis circuit after a mysterious nine-year absence—mysterious because when he retired, at the end of 1981, he was twenty-six years old, in the best physical shape a human being can be in, and had won five of the past six Wimbledon, not to mention the past four French Opens.

Borg had said he was simply sick of tennis. But perhaps he was also sick of what he saw tennis becoming. Although he and McEnroe fought their historic battles with wood in their hands, big-head Huns were visible on the horizon. How were these aging touch-and-speed players supposed to hold their ground?

Sure enough, by 1983 McEnroe was wielding a mid-sized graphite Dunlop. Connors was still standing by his stash of old T2000s, but after that year he would never win another major tournament. And Borg was gone with the wood.

When he resurfaced after ten years, he looked like one of King Arthur's knights on a Connecticut Yankee's backyard court. Young, powerful paladins battled one another on the red clay of Monte Carlo, blasting serves with the latest generation of oversized, wide-body rackets. And there was Borg stepping onto the clay, pigeon-toed as ever, dangling from his right hand a black wood anachronism, custom-made by Gray's of Cambridge to replicate his old Donnay model.

He never had a chance. Although he was still in top physical condition, his shots looked ludicrously soft, floating lazily across the net before taking a beating from Jordi Arrese's oversized racket. Six-two, six-three, and the comeback was over for now. Borg quietly canceled his plans to enter the French Open.

The next summer he was back, resigned to the times, swinging a bright-orange big-head racket. At the U.S. Pro Championships, a nontour event at the Longwood Cricket Club, near Boston, he strode to the court through a tunnel of admirers befitting a rock star, his sharp Viking features humbly tilted to the ground. And he almost pulled it off, winning his first match before losing in the quarter finals to Alexander Volkov, the twenty-second-ranked player in the world, 7-5 in the deciding third set. It would be his last gasp. A few months later the comeback was over for good, and Borg moved to the Master's circuit with his old nemesis Connors, who now also sported a flashy new oversized racket.

After playing in the Cape Cod tournament I became obsessed with wood rackets. I had feverish dreams: wander-

ing through sporting-goods stores, finding Maxplys and Kramers on the racks selling for thousands of dollars. Or playing matches with wood rackets that fell to pieces as I hit the ball. I dreamed of wood rackets the way others dream of childhood—as belonging to a better, more innocent world, a paradise lost. I set out on a mission: to acquire at least one Dunlop Maxply in playing condition. Although my Jack Kramer was certainly a classic model, the Maxply was my idea of the consummate wood racket. Of medium stiffness, it was just right for a balanced mixture of serve-and-volley and base-line play. And its spartan design emphasized its sylvan origins: it really looked like a piece of wood. Introduced in 1931, by the 1960s and early 1970s it had become the most popular racket in the world, and it still brought to my mind images of the great players who had used it, from Lew Hoad to Rod Laver to McEnroe.

But where would I find one? All summer I scoured tag sales in vain. Surely there had to be some wood rackets in a

basement somewhere, waiting to be exhumed and sold off with the LPs, eight-tracks, and typewriters. The closest I came to success, however, was at the local public courts, where I spotted a ten-year-old boy knocking a ball against the battered backboard with an actual Dunlop Maxply, circa 1976. As the boy and his father walked off the court, I approached and asked if they were interested in selling the relic. But I must have betrayed my zeal; for the father's eyes

**AND THEN THERE
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lit up. "This baby?" he said. "Sorry, I love these old rackets." He probably thought from my enthusiasm that he had a collector's item on his hands. But as far as I knew, I was the only market for old Maxplys, and I had just a few dollars to offer. As it turned out, though, I was not alone. I began to hear about other woody tournaments around the country. "They're cropping up everywhere," a Dunlop product manager told me. The Waltham Racket Club, an indoor club outside Boston, had had one the previous winter. A Dunlop sales representative I got in touch with had played in one in Maine the previous summer. An invitation-only tournament took place in Los Angeles in the fall.

And then, this March, I received a faxed announcement with the automated sender information "From: WOODY H.Q. Wood is Good!" A drawing underneath depicted a 1920s tennis player in long white pants. The ornate announcement made my mouth water. "The Woody Tennis

Championships,” it read. “A Gentlemen’s Grass Court Event.” Grass courts!—the one ingredient missing from the Cape Cod tournament. What wood is to graphite, grass is to asphalt. One is natural, bucolic, reminiscent of the game’s origins on lush country lawns; the other is synthetic, modern, with the ambiance of a strip mall. And although the play at Wimbledon (the only major tournament still played on grass) might suggest that grass exacerbates the trouble with today’s game—power shots skid away even faster, lessening the potential for long rallies—it is the perfect surface for wood-racket tennis. One needn’t hit a 120 mph serve to have a chance; the quickness of grass allows a serve that is well placed to set up a winning volley. Yet the pace remains slow enough with wood that one needs, and has a chance to use, every shot in the book. The chip return, the slice approach shot, the defensive underspin lob, all find their strategic moment. And the feel of grass underfoot complements the feel of wood in the hand: these are the conditions for which the game was designed. Although I grew up playing mainly on hard courts, tennis with big rackets on asphalt sometimes seems as much an abomination as baseball indoors on AstroTurf.

This attitude is not just nostalgia. You’ll never find a downhill race restricted to wood skis, or a rage for tackle football played with leather helmets and no facemasks. Woody tournaments are burgeoning because of a growing conviction that tennis is a better sport when played with conventional rackets. Recently, influential tennis personalities such as Bud Collins and Martina Navratilova (finally) have urged the ITF to consider returning to wood. If the racket companies look back to the great tennis boom of the early 1970s, when the wood racket reigned, and if woody tournaments continue to spread, then who knows?

Such hopeful visions resurfaced as I gazed at the grass courts of the PGAWest Tennis Club, in La Quinta, California. Four rectangles of chalk embroidered a level green basin carved out of an elegant lawn and framed by a 180-degree vista of snow-peaked desert mountains. In my bag rested two aged Maxplys, rescued from Boston thrift shops.

Granville Swope, the man behind the Woody H.Q. fax and a codirector of the Woody Tennis Championships, had invited me to come out and play in the tournament. I could hard-

ly decline. Since the age of ten I have dreamed of playing on grass, and in these dreams, even in recent years, the rackets have always been made of wood.

The reality was no disappointment. The grass, fastidiously manicured for the pleasure of the wealthy, played true. My painful shin splints dissolved on the soft putting-green surface. An impressive gathering of players—teaching pros, former Division 1 college players, some veterans of pro tournaments—knocked around white balls with the wood rackets they’d grown up with, showing little difficulty in the transition. Although some players still served at speeds over 100 mph, most serves were returnable, and long rallies were common. Touch volleys won out where brutal overhead smashes, deadened by the grass, were often lobbed back with ease.

On the day of the finals (which I was not in) I practiced on a back court in bare feet. I was running along a field with a stick in my hand, chasing a flash of white.

These days, when I play tennis, it’s almost always with one friend or another who has far less experience than I have on a tennis court, and I use a wood Maxply. At that level wood isn’t even a disadvantage—I wouldn’t want to utilize the full Dower of a big racket. We’re playing just for fun, and it’s more fun with the wood: I can feel the ball with my muscles as I hit, and I can place it instead of pulverizing it. When I play a competitive match, I resort to

my modern oversized racket—the joy of wood is lost if I spend the whole match fighting uphill against superior power.

The most fun, however, is when my brother and I find time to go to the deserted public clay courts we discovered out in the country. We bring our wood rackets. Long baseline rallies, carefully planned approach shots, and volleys that need to be crisp and angled to win the point: we can almost imagine that big-head rackets went the way of spaghetti strings, and that tennis is still the game it should be.

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Cats, Cranks, and Moments

By *Nicholas Jasper*

I want to get two things clear right from the beginning:

1. Structural engineering cannot be fully understood using only a brick, a string and a broom handle. You also need a 2" stack of yard sticks, a pencil and a weenie. (*Hold onto your bats. He's talking about the frankfurter kind—Ed..*)

2. Being an engineer is not a genetic disorder.

I am a Civil-Structural Engineer and a bicyclist. I think a lot about the structure of bicycles, and every year I participate in a program sponsored by the National Society of Professional Engineers called Discover E, a scheme to trick unsuspecting school children into studying engineering when they go to college. One of the props I use is an old orange bike with misshapen handlebars. I talk with the high schools students about various engineering concepts that are involved with the design of this bicycle—the frame, the wheels, the computer. But all that talking about bike frames and components got me to thinking about bikes and has generated some interesting questions. Such as:

Why do crank arms increment in such SMALL amounts? They really only come in three sizes 170 mm, 172.5 mm and 175 mm—a total range of less than 1/4". Why bother?

Lets talk about moments. A moment is defined as a force multiplied by a length. Haul out that broom handle, that string and that brick. Make a loop on one end of the string and tie the brick to the other end. Stick the broom handle through the loop and let the brick dangle above the floor. The clos-

er the loop is to your grasp, the easier the whole assembly is for you to hold up. As the loop slides out to the end of the broom handle it becomes more difficult to hold; the moment is greater because the moment arm is longer.

Now, the only thing a crankarm can do is produce a moment. The force that one of your legs produces is the force and the length of the crank arm is the length. Lets keep your leg force equal and vary the length by 1/4". Lets say you can exert a force of 100 pounds with one leg. One hundred pounds is a LOT of force for one leg, lets see how much the moment is changed by changing the length by 1/4":

Change in moment = change in length X force

Change in moment = 1/4" X 100 #

Change in moment = 25 # " (inchpounds)

This is about the same moment you resist with your shoulder when you hold a large apple out at arms length. And a quarter of an inch is more than the difference between a 170mm and a 175mm crank. If we were to make a crank say 200 mm long we would be able to see some difference. Watch:

Change in moment = change in length X force

Change in moment = (200mm- 170mm) X 100 lb.

Change in moment = 1.2" X 10016.

Change in moment = 120 inchpounds

Or about the same moment as when you hold a large cat out at arms length. Where does it go, this moment, when it leave the crank arms?

Think about it. One component of it of it goes into the chainwheel and makes the bicycle go. This is called "in plane bending". This moment is resisted by the bicycle frame from front to

rear. The frame resists moment in this direction the same way it resists the moment caused by your own weight. The bicycle frame is strong in this direction.

The other component of the moment is that out of plane bending, the force exerted by your leg across the bottom bracket, and the stuff that is supposed to cause frame flex. We already know the force (100 lb.) - what is the moment arm length? It's part of the Qfactor - the distance BETWEEN the pedals.

Lets look at a common Qfactor - 164 mm. On a bike set up with equal left and right crankarm offset (Q), we'll need to halve the Qfactor to get the moment arm (82 mm = 3.25"). The total moment is:

Moment = length X force

Moment = 3.25 mm X 100 lb.

Moment = 325 inch-pounds

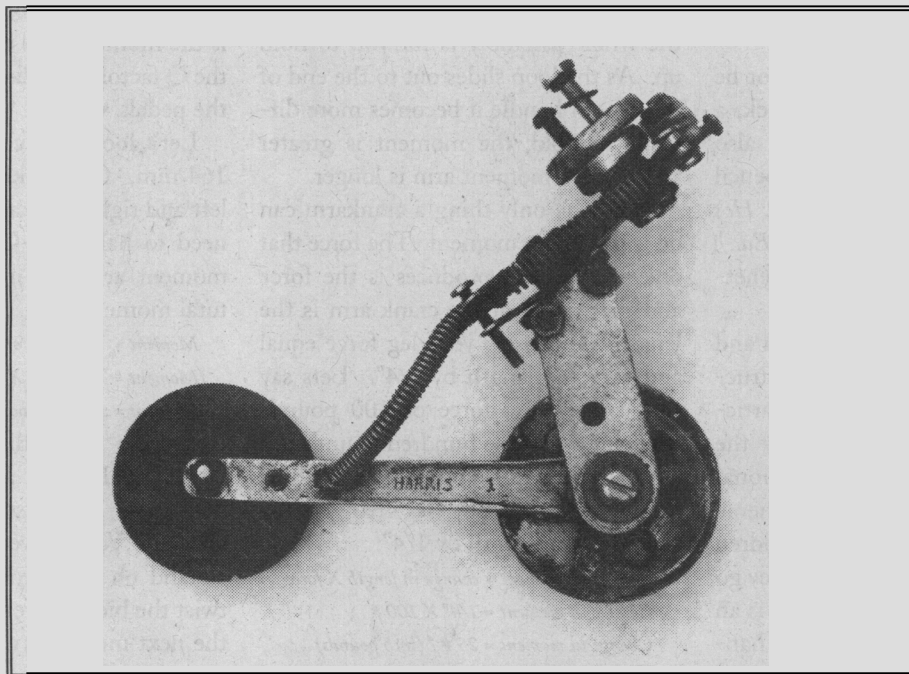
This is much like holding a large bowling ball out at arms length. What does it do? It flexes the bike. Think about it. You got your feet on the pedals and on one stroke you're trying to twist the bicycle over to the right and in the next moment you're trying to twist it over to the left - why doesn't the whole contraption just fall over to one side? Because you balance that moment that you produce with your legs by another moment that you produce with your arms. And because your arms are not as strong as your legs - the handlebars must be wider than the Q (the width between the pedals.

Now the weenie and the pencil. Much like your handle bars and your frame. The handle bars are not only smaller in diameter than the bike tubes, they are made from a material that is only 1/3 as rigid as the steel in the frame tubes. In a bending contest who would YOU bet on - a small diameter weenie or a large diameter pencil?

Ok so how DO you reduce frame flex (if it exists which I tend to doubt). Reduce the Q-factor.

Chuck Harris and the First American Derailleur

by Sheldon Brown



One of Chuck's personal derailleurs, pulled from his bike and shipped to Rivendell so we could photograph it.

It wasn't Paul (but we like Paul—he's a member, by the way) and it wasn't Joe. And it wasn't the gorilla. It may have been Chuck Harris. And he's been riding it for more than 23 years. Here Sheldon Brown tells a story of Chuck and the First.

In 1945, World War II ended, and with it, gas and tire rationing. To further the war effort on the home front, many Americans had been reduced to using bicycles for transportation. With the end of rationing, a joyful nation, its sacrifices done with, put the bicycle in the back of the garage, and

got back into the drivers seat.

The period between 1945 and 1970 was a dark age for American cycling. The bicycle had been a key means of transportation during the war. In the postwar era, it was once again considered to be a child's toy, an image reinforced by the predominant bicycle of the time, the balloon-tire bike now known as a "cruiser."

Despite the nostalgia associated with this type of bike as the precursor to the mountain bike, these heavy balooners were dogs on the road, more suitable as a toy than as transportation.

During this dark age, there were a

few independent-minded adult bicycle lovers who kept the flame alive. Braving the disdain of general society, viewed as kooks and cranks by all "right-thinking" people, these bicycle enthusiasts rode and raced and toured around the country in a fashion more in keeping with the European cycling tradition than the American one.

Chuck Harris was one of these "Keepers of the Flame". In the late '40's and '50's, Chuck was highly active in the touring scene, and worked for American Youth Hostels, the only touring organization at the time. He worked at the Boston AYH office,

which was near Charlie Hamburger's bike shop, one of the few in this hemisphere to carry exotic European touring and racing bikes.

Chuck was a teenager when he grafted together a Hercules and a Rudge solo frame into his first tandem, the "Herculodge." After logging many miles with his sister on this, he acquired a tandem, built by a then-noted frame builder named Jerry Marsh. This was later superseded by a gorgeous French Dilecta tandem, which he still rides. He was an early pioneer of kidback tandems, and he and his daughters were a fixture at LAW rallies in the '60s and '70s.

Chuck was and is a classic American tinkerer, full of the "can-do" spirit. As dissatisfied as he was with the clunky ironmongery that the shrunken remnants of the American bicycle industry was producing, Chuck found little more satisfaction with the state-of-the-art European equipment he had access to. His dissatisfaction increased after he moved to the top of Beech Hill, in southern New Hampshire. Having to face a very long, steep climb at the end of each ride, with his daughter on the kidback, he developed a taste for low gears. Since he liked to go fast on the way down, he also had a fondness for high gears.

When he couldn't find sprockets or chainwheels in the sizes he wanted, he made his own out of sheet aluminum of the appropriate thickness.

He began by drilling a series of holes in the sheet, representing the "valleys" between the teeth. Then, by running a hacksaw between the holes, he would produce a rough blank. The final finishing stage was to mount the new chainwheel on an arbor, hook it up to another sprocket mounted on an electric motor, and set the chain running, with appropriate abrasives until the new chainwheel was correct. Chuck's likes a **13-17-26-34-42** clus-

ter, with **26-48-60** chainwheels, and since **1960's** derailleurs were not capable of handling such a range, Chuck modifying existing derailleurs with longer cages and stronger springs. Finally, he had to build his own. As far as I know, Chuck Harris was the very first American derailleur manufacturer. He has made more than forty "Beech Hill" derailleurs.

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The Beech Hill mounts on the underside of the chainstay, a couple of inches forward of the cluster. This mounting location provides more chain wrap around the freewheel cogs.

The clever parallelogram design eliminates the usual loop of cable housing running around the back of the rear axle by routing the bare cable along the chainstay leads directly to the relevant part of the horizontal parallelogram. The Beech Hill is a low-normal design, i.e. loosening the cable by moving the lever forward shifts to

the larger sprockets, the opposite of all other rear derailleurs made since the early '60s. This improves downshifting, which is more important to the touring cyclist than snappy upshifts.

These days Chuck is best known for his rearview mirrors. The eyeglass-mounted mirror was invented by Dr. Eugene Gaston in the early '60s, using modified dental mirrors. Chuck was the first to turn this into a commercial product, and he still sells eyeglass- and helmet-mount mirrors from his company "Ultralight Touring Equipment" (Box 363 Gambier Ohio, 43022.)

The mirror arms are made from recycled bicycle spokes, and aluminum beer can stock harvested from the roadside makes the mirror back. He finished the mirrors with a pedal powered grinding wheel. Since he can generate more power than the grinder needs, he also has a generator hooked up to it to recharge his nicad batteries. Chuck also makes lights, fenders, and helmet visors, primarily from recycled plastic bottles, and mows his lawn with the pedal-powered lawnmower he designed and built.

Another product of Chuck's artistry and technical skill is bicycle jewelry, which must be seen to be believed. Chuck's miniature (**1/48** scale) solos and tandems have working cranks, headsets and wheels.

They have perfectly detailed spoked wheels, usually **36 x 3**, about half-an-inch in diameter. The spokes are made from **.003** silver wire, straight gauge.

Chuck remains an avid cyclist, a familiar feature on many of the **AYH**-sponsored rides in the midwest.

First we Copyright 1995 by Sheldon C. Brown, with thanks to Michael J. Mana for his kind assistance.

Note: Sheldon prefers an American phonetic spelling for what you and I usually call the derailleur, and out of respect I left it unchanged

THE U FACTOR

You know how, when a unicycle rider pedals, the front wheel flops from side to side? I think it's the same way with a two-wheeler—the shorter the chainstays, the greater the effect each stroke of the pedal has on steering. I say “think” because I don't know; but it sure seems to be taht way.

Back in 1980 or something there was a bike called the Rigi, it came from Italy, and its chainstays were something like 14 1/2-inches (36.83cm), nearly two inches shorter than normal. The rear wheel fit only because the seat tube was two skinny tubes, which the wheel fit between. (The front derailleur was a Gian Robert (ro-bair), made especially for the funny seat tube.) The Polish National team rode the Rigi in competition, and a *Bicycling* review claimed that “when you take your hand off the bar to shift, you'll do a u-turn.”

A local shop had a Rigi, and the owner let me ride it for a week or so, and even though I didn't do any unplanned U-turns, the difference was obvious, and each pedal stroke, even relatively low-pressure ones, made the bike lunge, jump, jerk. It was clear that this was not just a case of the frame's lack-o'-flex propelling me forward with each stroke, since it happened with relatively low pedal pressure.

Pino Morroni frames have 45cm chainstays, which he says make the bike go faster, and don't even try to argue the point. “When you push on the pedals,” he says, “it don' MOVE!” It took me a while to understand just what he meant (and with Pino, you don't get clarifica-

tion by asking him to please explain). What he means is that the bike's front end stays aimed straight ahead, even under hard accelerations. So instead of wrestling the bike as your pedal strokes redirect it, you just go forward, straighter, smoother.

Jobst Brandt, who works for Hewlett Packard, consults or at least used to consult for Avocet, rides a bike a lot, invented the term “snakebite flat,” wrote the definitive book on The

“When you
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MOVE!”

Bicycle Wheel, about whom Tom Ritchey has said “he's the only person I listen to,” and best of all, tours the unpaved mountain passes of Europe with a Carradice saddlebag likes his chainstays as long as he can get them. Or that's what he told me about five years ago in a phone conversation. I forget how the topic came up, but it got to the point where I asked “so—how long are the chainstays on your bike?”

He said “I don't know, I just told the builder to not cut any off when he built the frame.” Chainstays come raw in 42-44cm lengths, and when you add the dropout and half the diameter of the bottom bracket shell, you're up there pretty high.

There are lots of ways to describe the effect of longer chainstays, but some things are better experienced first hand. I like the effect. The bike doesn't jerk as you accelerate. The rear end doesn't hop. Sometimes when the rear end hops, the rider thinks it's an unweighting issue. I think more often than not the hop is due to too-short chainstays and a lousy chain angle—the chain is reaching too far to the right, and jerking the wheel, a common phenomenon in these days of sub-40cm chainstays with 130mm rear dropout spacing.

Super short chainstays on mountain bikes create their own problems. They put more of your weight over the rear wheel, and so when you're sitting down and pedaling, the front wheel lifts off the ground. The only way to keep from doing a wheelie is to stand up and pedal. And then, on the way down, you feel the bumps more because you're more directly over the rear axle.

If the purpose of a really stubby chainstay on a mountain bike is to increase stiffness, well that's just silly. Most mountain bike frames are plenty stiff enough, and the pedaling-induced flex affects the tire sidewalls and thin handlebars more than it does the frame. With mountain bike spacing out at 135mm, it makes some kind of sense to keep the chainstays a bit longer than on other frames, so the chain angle isn't so crazy. If tire treads have improved as much as we've been lead to believe, a little extra chainstay length shouldn't hurt traction a single bit; I think. END

Why Not Drive?

By Howard Runyon

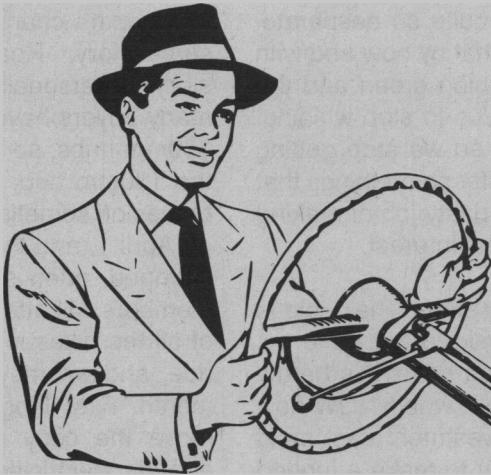
Consider a lone commuter—a woman, say—driving a car that contains nothing but her own clothed self and a briefcase. Just for fun, add to the scene a video of Henry & June that's due back at Blockbuster, and a bag lunch that wouldn't fit in the briefcase. Or maybe it would have fit, but there's a mango in there that the woman didn't want to find squished at lunchtime.

The radio is tuned to AM station SLAM or BAM or whatever, for the every-10-minutes traffic report. The car is a relatively small one; it weighs about 2400 pounds. The woman is a relatively big one; she weighs 160 pounds. While she drives she thinks about her child's trouble with reading, and about where to find a roofer who's cheap and reliable, and about the pastry and the cup of coffee that she'll buy when she gets to the office. The coffee is always tepid. She hates tepid coffee.

What's happening in this picture? A person is going to work by means of a mechanical conveyance. The main event, we might say, is the woman's movement toward her workplace.

But we're seeing through human-centric eyes. Suppose we look, instead, through the eyes—or other sensors—of a being that sees the world simply as a collection of thermodynamic events. What do we see now? First, a big machine moving along; then, inside it, a much smaller organism directing the machine's movement. In order to propel itself the machine has to release an enormous amount of heat, while the organism inside it releases just a little. (The machine outweighs the organism fifteen to one, and the organism isn't propelling itself—it's just existing and making little gestures.) The machine's heat comes from a contained fire. The fire takes in an enormous amount of oxygen and gives back a like amount of poisonous gas.

What's achieved is this: The machine transports itself, plus the relatively light and thermally insignificant organism, from one place to another. The main thermodynamic event is the movement of the 2400-pound machine from here to there. The event is vastly out of proportion to the human purpose: to



move the 160-pound organism.

Now let's turn our thermo-eyes toward a commuter on a bicycle. What do we see? An organism like the one inside the big machine, but moving on its own. It's slower than the big machine but much faster than most other organisms. How so? It uses a mechanical tool to amplify its speed. It outweighs the tool about *six* to one. The organism releases a small amount of heat; the heat coming *off* the tool is hardly measurable. The organism is like the big machine in a way: Its energy comes from a sort of contained fire that converts oxygen into another

gas. But here the oxygen consumed is a tiny fraction of what we saw before, and the exhaust gas is mainly carbon dioxide, which living plants can re-convert to oxygen.

What's achieved here? The organism transports itself, plus the relatively light and thermally insignificant mechanical tool, from here to there. The main thermodynamic event is the organism's movement. This event is exactly proportional to—in fact, identical with—the human purpose.

Get the point? Next time you find yourself reaching for the car keys, stop and ask yourself if you really need to engage in heavy-equipment transporting; because that's the main thing you accomplish in any car trip. If none of these things is true—

- * You have to haul a lot of groceries
- You have to haul at least one person who can't get around in any other way
- You have to haul something as big as a big breadbox
- It's under 25°F, or raining hard
- You have more than 10 miles to travel, each way
- You're off to dine with the queen and it just won't do to show up with your *tux* or gown even a little bit rumpled and sweaty

—then put those keys back where you found them. You don't need your self-propelled heavy machine for this one. It doesn't need to spend the day waiting outside your workplace. It doesn't need to go anywhere, unless it's due for an oil change. You need to go places. I need to go places. Let's do a better job of bringing appropriate means to bear.

APRIL FLYER



THANKS to your support we're out of the woods, over the hump, doing much better, not quite so desperate. It's still a struggle, but we all know that by now and with spring in the air and the grass turning green and the fenders coming off, it's time for me/us to stop whining. It's also time for an updated flyer, so we stop getting orders for things we're out of, and offer some things that didn't fit last time. Before we get to nasty job of making a living, here's some news of general interest.

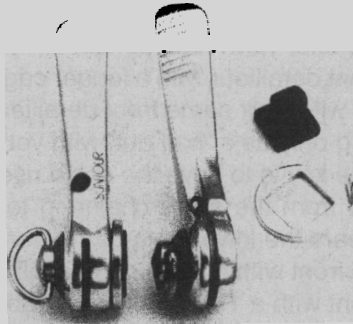
Our lugged stem project is moving along. The designs are final, the tooling hasn't been paid for yet (and no, I'm not going to whine about tooling costs. It's hardly necessary to an astute bunch as ya'll, who KNOW how devastating the cost of a single investment cast mold can be, let alone the two necessary to make a lugged stem, the likes-o'-which haven't been seen since the early forties in France, and this one will be prettier than any of them, and stronger, and lighter. Not that we're turning into weight fanatics, not at all. We still like a hefty stem as much as the next guy; by the way, where is that next guy?) Anyway, we hope to have lugged stems with 73.5 degree angles and 160mm quills by July 30, just in time for your August double centuries.....You know the Nitto Frog/Jag stem I boasted about so shamelessly in the last Flyer? One broke. A 140lb rider who claims, and our members don't lie, that he wadn't doin' nothin' stupid with it, broke it. Dang. It broke just to the right of the frog's left eye, and Nitto is investigating. This is a surprise, since NJS standards are much higher than other standards, and it did pass **NJS** standards, with the highest marks of any post ever tested, and only the strongest posts even get tested. So I feel dumb and I feel as though I've mislead you. Our motto here is simple, practical, proven, and two of three isn't good enough. But I still trust Nitto more than any other company, and this just proves they're human after all. Nitto is responsible and conscientious, and I'll report their findings.....Future Brooks saddles will not have the George Flegg signature underneath, if that's okay. He's gone now.....An upcoming issue of Bicycle Guide will have a review of the road frame.....and sometime this summer Bicycling should be reviewing the All-Rounder.....the Mountain frame crown is NOT a unicrown-style with a cast lug after all; it was too hard

to bend the blades, so we're going with the same fork crown as the All-Rounder has; about half of the Mtn frame orderers wanted a flat crown, anyway.....I'm considering not offering a standard flat-bar style mountain frame. Most of the buyers are getting the drop-bar style anyway (and it can be used with flat bars—you just can't get the bars as low). The head tube angle on the mtn frame is now 72.5 degrees. The prototype rides so well, there's not much reason to change.....Mtn bike frame spacing is 135, but you can have it what you want for no extra charge. All-Rounders are spaced 133, but same story. Road bikes are spaced 129, but same story. I personally prefer 128mm for the road, but so many buyers have mentioned that they might be using 130mm hubs, so I added a mm. If you plan to use only the 130mm hub, we build it at 131.....I get my lower braces off sometime in April.....we move to a new office on April 1, and that's no joke. Our current office is tiny, cramped, often standing room only, as some visiting members will attest. By June we hope to have samples of all the bikes in all the models built up, ready to test ride, and we may open it up for retail sales a day a month. First thing we have to do is move the inventory, move the copy machine, and make sure we have enough electricity to run the computers. I wish I knew something about that. We'll see how it goes. Right now work is so all-consuming that it's hard to imagine that.....Women's frames? Should we do them? A fair number of women already fit our standard frames, but we have designed a few custom frames for women who needed them, and the idea has a certain appeal. They would not be Terry knock-offs; I have a different approach, and it works well.....Willow chainrings may not be called Willow chainrings. There may be a Willow something else.....Our Carradice daysac project is moving slowly. We have a good idea for it, and it will not be weird.....There is some confusion surrounding the price of Superbe Pro bottom brackets, and S. Pro bb's in general. This is all you need to know: The remaining spindles on the complete BB sets are 109mm—long enough for a Superve pro crank, but not for many others. New Campy or Shirmano? Maybe—no guarantees, but it works with Superbe Pro cranks. The cost is \$30. If you want the cups, you have to buy the whole BB PLUS another spindle, for \$18—for a total cost of \$48, and you end up with a 109 spindle of questionable use. If you buy a crank and a BB at the same time, you pay \$120 for the crank and \$20 for the BB.....this confusion is our/my fault, and this is my attempt to rectify it.....FRAME PRICES will have to go up soon. We're barely breaking even on them at best, and we've sold many at a loss, and now it's time to price them realistically. I hope you don't think we're turning big and bad; it's not that at all, and I wish we could give them away.

But there are mouths to feed, etc....so starting April 30, the price for a single color frame and fork will be \$1050. Two-color, \$1150. Add \$220 for custom...if you are on the layaway plan already, the price holds. Bicycle Guide will be reviewing a bike soon, and the price there will be the same, \$1050. Non-members, by the way, pay \$1400.

SunTour Sprint Friction Shifters— \$25 (braze-on)

The best deal ever. SunTour Power Ratchet shifters, no index option, slim and phenomenal. Silver. Made in 1986, I think. No cables, no gift pack, just the levers ready to be mounted.



The PowerRatchet mechanism is SunTour's answer to the French (Simplex) retrofriction; and there are many who say it works even better. We are well past the time when a company so smart, so experienced, so dedicated will put so much money into making something this good. If you have never shifted with a Power Ratchet you're missing the very best shifting mechanism in all of bike-dom, and one that will never be made again. Should you rush out to buy these? No, that's not necessary, as we're well stocked. But the price will be higher later, so you decide. (We also have Superbe Pro downtube shifters with Power Ratchet AND a 6-speed index option. These are \$30. We also have SunTour Superbe Pro LAT downtube shifters, which have a Power Ratchet left and a 7-speed index w/both soft click and pure friction right. They're \$30, as well. Rivendell may be the last place on earth where you can buy SunTour power ratchet shifters, and we have plenty to choose from. From which to choose. Whatever, we have them, and they're great shifters.

SunTour XC Comp Cantilevers—Black—\$10

What a deal. That's per BIKE.

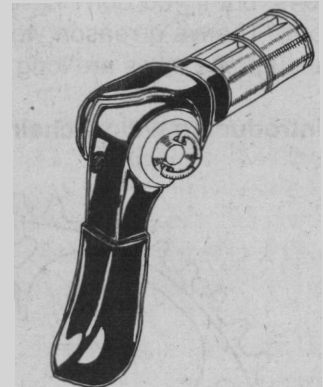
SunTour XC-9000 32H front Q/R hubs, sans q/r— \$18

Last made in 1989 or so. XC 9000 was the predecessor to SunTour XC Pro, and every bit as good. Sealed cartridge bearings, easily serviced (with the right tools, and they're available, but no we don't have them yet). Same bearing size as Phil, Bullseye, most others (28 x 12). Silver, shiny, and we've got plenty. I've had one of these on a wheel for ten years, and it's still smooth. From now on these are the hubs on the Rivendell front

wheels. Bullseye rear, SunTour 32H fronts. (Not that there's anything wrong with Bullseyes; as I said, we got a good deal on these.) These will be \$25, and a steal at that, when the catalogue comes out. If you think you will ever again be in need of a 32H front hub, this is a good time to buy.

SunTour ACCUSHIFT 6-Sp Bar-End Shifters—\$37

Oh these are good. The left is a very fine Power Ratchet (finer than the old SunTours); the right indexes six cogs and has a pure friction option (no "shadow click"). But listen: The right barrel has a deeper groove than the left, so it doesn't pull as much cable as the left, and sometimes, not all the time, it won't get seven gears. Anyway, the best



thing to do in any case and a sure fire solution is to use the left (Power Ratchet) shifter on the right, and the right on the left. Although the housings are shaped to be left and right, it doesn't make any difference. These come with cables and housing.. They're black, though, but sandpaper can fix that, or you can put a Campy shifter cover over them. Not that there's anything wrong with black.

SunTour's Best Road Cables, Housing (pr)— \$5

The model name for these is "hardliner," which don't mean nothin' 'round here, but as cables go they're as nice as any I've seen. Medium greyish housing, looks good on all bikes. Comes with housing caps. Plenty long. I don't even know what cables and housing cost these days, but these are worth \$5 easy. It's good to have a spare set around. Keep them under the couch.

SunTour "Lite" Front Derailleur— \$ 6

with plastic shim/sleeve to make it work on normal frames

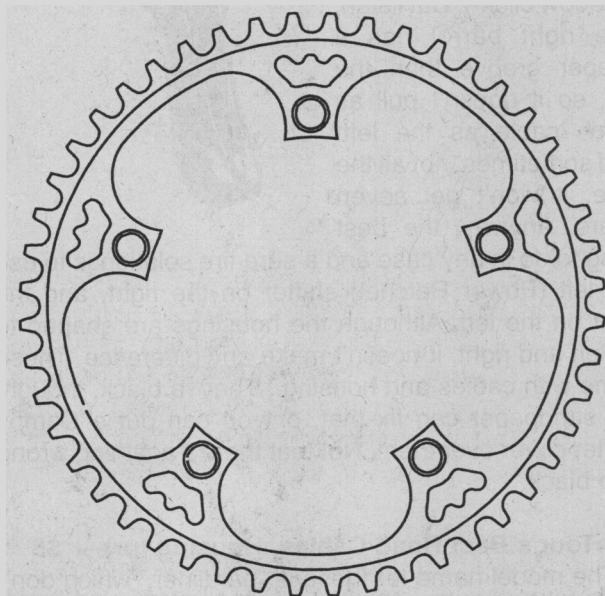
We got these SunTour "Lite" models, which I'd never heard of, but later found out they're the same as the famous "Blaze" model, which we product managers meanly used to pronounce as though it were French. Anyway, the bad about these derailleurs is that they're made to fit an oversized seat tube, so you need, and we supply, a plastic shim to step them down. Cloth tape ought to work, as well. The clamps are sized for 31.8mm seat tubes (instead of 28.6) and we have used these successfully with the plastic shims. However: Climatic conditions may vary, and you may be called

upon to be more resourceful. If you want a cheap front derailleur that shifts great and are willing to work with it, you can get these for just \$6, and they're great front derailleurs. If you aren't an "I'll **MAKE** it work" type, better hold off. If you are that type, buy several.

1992, 1994 Bstone Catalogues—\$7

We're getting really low on the '92s, doing fine on the '94s, but if you don't have either, why not check them out? There's a reason we continue to sell these, even though the bikes are long gone. Find out!

Introducing Willow chainrings



Machine-cut 7075 T6, same as all the best ones. They're made in Florida, same as most of the US-made aftermarket ones. There are no ramps or hooks on these; they're just normal chainrings made for riders who already know how to shift. They come in silver and apple juice (a2 vintners), and they both look good. The larger rings have nice **W**s cut out of the webs, and they're kind of pretty. The following rings are the only ones we have now. We're going after sizes and styles not easily available already.

Willow Triplizer Chainrings— \$40

Available late May

Do you have a double road crank that you'd like to convert to a triple? First, determine the bolt circle diameter you need. If the distance from one bolt to the next is 84.6mm, then it's a 144 bolt circle diameter (old Campy style), and we can help you. If it's 79.5mm, then it's a new Campy style, and we can help you there, too. If it's

76.4, then it's a 130 (like Shimano road crank), and we've got you covered there, as well.

We have 130 x 39T, 135 x 39T, and 1434 x 42T. To these rings you can bolt another, smaller chainring with a 74mm bolt circle diameter—a standard mountain granny, in other words. We have those, listed next, with some other non-triplizer rings.

NOTE: A successful conversion may require any or all of the following: Longer chain, longer bottom bracket spindle; new rear derailleur with a longer cage, new front derailleur with a longer cage. You can generally get by with your same front derailleur IF you use your small ring only as a "bail out" with your largest two rear cogs. The key is to have the chain rise high enough as it travels from the small chainring to the rear cog **so** that it clears the lower gate of the front derailleur. A 52 x 42 x 24 front with a 12 x 21 rear will not work; a 49 x 39 x 29 front with a 13 x 28 rear probably will (since the 29 isn't too small and the 28 is pretty big, **so** the chain won't ride **so** low).

Rear derailleur-wise: Even though your rear derailleur may have the capacity for, say 26 teeth, you'll probably need a long cage rear (with capacity 28t to 34t) if you plan to triplize your bike. That's because, when you go to the small front ring, something needs to take up the slack in the chain, and that something is a longer rear derailleur cage. So you can't be a cool guy with your Campy-or-Simplex-or-Shimano racing derailleur and still ride a triple. No, you'll have to cross the line and flaunt that long cage, no way around it. (The SunTour XC Pro short cage will work with many triples, but it is not a short short cage. It's really a mid-sized cage.)

Spindle length: A rule of thumb is to add 6mm to 9mm to the spindle when going from a double to a triple. It's not a published, accepted **rule** of thumb, but it generally works. If you just plop on a third ring without changing the spindle, then the third ring will rub the chainstay, increasing friction and noise, decreasing paint, primer, and metal. Smaller chainrings clear the chainstays sooner than do large ones, because they pass the chainstay at a point where the chainstays don't stick out as far. There's a lot to be learned by experimenting with your bike—stuff neither we nor any book can tell you. But we're **always** here to offer advice, **so** don't hesitate to call.

Willow 74mm bolt circle chainrings— \$17

25T or 29T. Specify silver or apple juice.

Willow 110mm bolt circle chainrings — \$21

34 - 37 - 39 - 49 - 50 - 51 - 53T Specify silver or apple juice.

Willow 130mm bolt circle chainrings — \$30

48 or 51T. Specify silver or apple juice.

NITTO RANDONNEUR HANDLEBARS— \$25

We had three requests one week, so I ordered ten. 42cm wide, 26mm clamp area, very fine Nitto quality, with a nice emblem on the sleeve and everything. I don't suppose we'll sell any to riders unfamiliar with the bend, but basically it's a shallow drop bar with a flare at the ends and a hump on the shoulders. The French invented it, no doubt. A favorite with tourists, as it provides comfortable positions. Hard to find these days, particularly with a 26mm clamp.

French Cycling Prints— 8 x 10 = \$30; 11 x 14 = \$45

You know how, in the last flyer, these were \$20 to \$30? Too low! Wrong price! We honored the price, but it was a mistake. So here they are again at prices we can live with. We've narrowed the selection to our twelve favorites—four cyclocross and eight or nine road scenes. The latter are from the Tour de France in the 1930s; the former are old guys, too, French no doubt. They've got that look. Trust our selection, but specify road or cross.

Sugino 48T and 54T x144mm black Chainrings— \$9

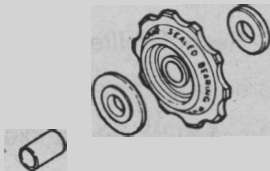
Sugino Mighty and Mighty Compe (drilled). Superbe quality and drilled for to lose some weight. The 54's are good for road riding with 26-inch wheels. The smaller wheels reduce the gear, the larger rings get some of it back. The 48's are good for everything else. They're black. That's okay. We don't have tons, and this price is hard to match.

Sugino 51T x144mm silver Chainrings— \$12

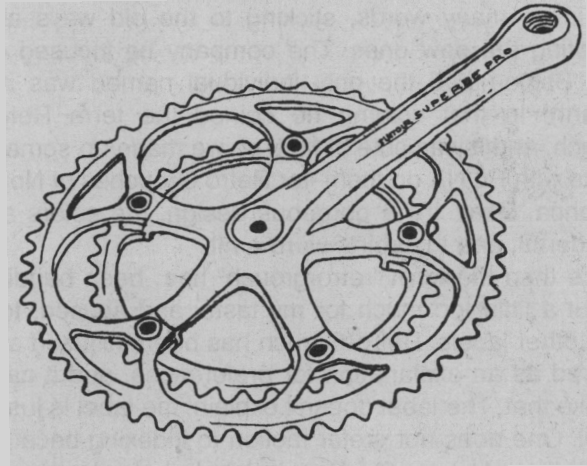
When I read one time that Bernard Hinault (apologies to Greg) was riding a 51 in a time trial, I thought well, if it won't slow him down, it won't slow me down, either. So I switched and immediately did better on my everyday TT section on my commute to work. As you know, the smaller big ring lets you stay in your big ring over rolling hills, so you don't have to double shift. Very pleasant shifting, too—since the closer the rings are together, the faster the shifts. Try one and you won't go back. Some are drilled, some are Super Record style, some are N.R. style—no choice, they all fit, they all work.

SunTour Sealed Bearing Derailleur Pulleys— \$12

Sealed, deluxe, and they work with all derailleurs. This is cheap.

**Blackburn Custom Eyelets—\$8**

A smart way to add eyelets to dropouts without them, or add a second one to a single-eyelet dropout. But your dropouts need to have one of those triangular windows, otherwise forget it, they just won't work.

SunTour Superbe Cranks— \$125

The 172.5s come with 53 x 39; the 175s are 52 x 42. We're getting low on 175s, and there will be no more. No chainring subs at this price. If you gotta have the 53 x 39 with the 175s, Big Boy, then the cost is \$140 and you bolt them together (we'll supply the bolts). We have a small staff and this project is better accomplished by you at home at leisure, than by us here at stress.

SunTour Superbe BB— \$35

Running low! These are super quality, as good as any and better than 95% of the "pro quality" bb's out there. 109mm spindle, works perfectly with the Superbe Pro doubles. If you want a triple, you'll need a longer spindle, about 115mm—which costs \$18 without the cups. We have them. On an All-Rounder with a triple, you'll need a 122.5 spindle.

Specialized Cup-and-Cone BB—\$35

Specialized's best quality, as good as Superbe, etc. English only, with your choice of spindles: 109, 112, 115, 122.5, 125.5. This is a ball and cone bb, classic style. English works on American and Japanese frames. (And Taiwan and Chinese, mostly).

Specialized Transition Armadillo tires, 700x26—\$24

If you can handle a 340g tire, and it's not that heavy and you can always use a light tube in it, then these are terrific. They actually measure 26mm wide, so they're wider than Ritchey and Conti 28s, which measure 24 and 25 respectively. The "Armadillo" name comes from the strong casing. It's a flat monofilament nylon that runs from bead to bead, and gives this the toughest

casing available, we hear. The tread is a nice combination file, and they ride great. Flat resistant. Wire bead. A no nonsense, everyday, great riding road tire.

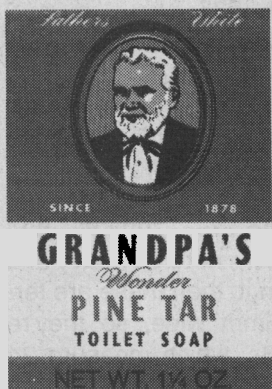
RONA T-shirts, \$12; MockTs—\$21

Here's the story, the qualifier, and the connection: About four years ago Bicycling's Fred Z. wrote a column in which he chastized certain companies and people for, in so many words, sticking to the old ways and doubting the new ones. The company he focused on was Bstone and the only individual named was me (Grant). In that column he coined the term Retro-grouch, and it was cute at first, so we made up some T-shirts with RONA on them—for Retro Grouches of North America. Okay. It's a gorgeous design, the colors are wonderful, and the shirts were a hit.

Since then the term "retro-grouch" has been bandied about a little too much for my taste; and abused, too. Like other labels, Retro-Grouch has been misused and offered as an explanation for preferences, and it can't be like that. The label doesn't explain; the label is just a label. One does not prefer friction to indexing because one is a retro-grouch. One is labeled a retro-grouch because one prefers indexing to friction. The label is not the explanation! Okay.....the shirts are wonderful anyway, and they do make the statement about preferences, and it's not directed only toward bikes. If you prefer wood-handled knives to plastic handles, or leather shoes and belts to plastic ones, or wool to Polartech, or long bows to compound bows, or cane fly rods to graphite ones, or cotton t-shirts to friggin' polyester ones, then you can feel comfortable with this shirt. Ted Durant's Rona (mixed case) company had these printed up for us. Mostly gray, maybe some white.

NEW SOAPS AND PRICES

Pine Tar soap is now \$3 for a 4-oz bar, down a buck. It was priced too high before, for which I can offer no explanation except the same bug-in-brain that made me price the French prints too low. I'll offer rebates or coupons to anybody who paid \$4, but you've got to ask. Anyway, it's \$3 from now on, same 4-ounce bar, not to be confused with the small sample bars we sometimes throw in gratis with orders. Great soap, isn't it? Now, for the ladies who hate pine tar soap but still want to get in on the new-old soap thing, we've got Grandma's



Luxury soap. It smells a bit like oranges and jasmine, and is light in the hand for easy lifting after a long hard day (I better stop here). Price: \$3. Also, we have a few Witch Hazel soaps. We got about four requests, so what the heck. \$3 per bar, as well.

Five Bros. Hickory Shirts— \$25

Hickory shirts are those all-cotton shirts with thin blue and white vertical stripes, Pal Jeff, who is an ironworker and is hard on clothes, says these are the longest-wearing hickories of them all. The Ben Davis ones wear well, too, but they're half polyester, so the grit from rebar sneaks through, and the next thing you know your shoulder's dirty, even after you shower. Five Bros. has been making these for more than 60 years. Two button flap pockets, cut full, fine for cycling, really. Order your regular shirt size, unless you want the super baggy thing to be happening there.

OUT OF STOCK!

Here's a list of items that are currently out of stock. The chart explains when we might be receiving that item again:

OUT OF STOCK ITEM	UNTIL
3TTT bars	forever
Simplex fancy double F. der	forever
Shimano L long rear der	forever
Shimano Dura Ace br lever	forever
Mavic triple adapter	we may make one
Carradice UPLIFT	forever
SunTour Ultra-6 freewheels	forever
Simplex 6600 GT rear der	forever
Sachs SC-40 chain	forever
Superbe Pro callipers	forever
Dura Ace chainrings	forever
SunTour AERO brake levers	forever
C-Record shifters	forever
Brooks B-17 saddles	April 20?
Brooks Finesse saddles	?

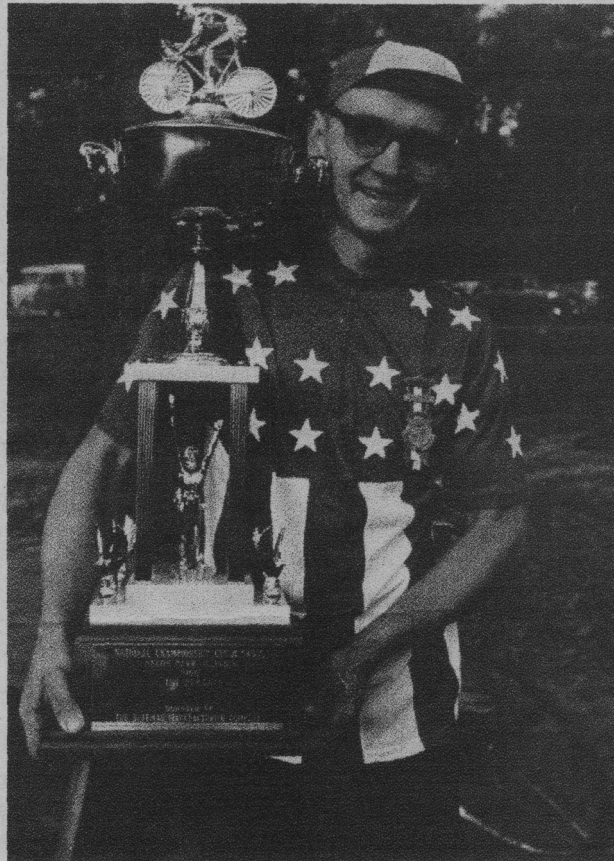
The Tyger

By Gabe Konrad

October 20th, 1963. A crisp autumn Sunday with nearly 80 cyclists careening, lap after lap, over the 14-mile course. Like a parade of champions, most of the top road and track racers from the Midwest and East Coast were rolling by, including Olaf Moetus, the national road champ, and several Olympic cycling team members. It was the first National Cyclo-Cross Championships, organized by the South Chicago Wheelmen and sanctioned by the Amateur Bicycle League of America - the organization that transformed into the United States Cycling Federation in 1975. Head referee Mac Wm. Botema, the Illinois state representative of the A.B.L. of A., was heavily influenced by the British cyclo-cross scene, and was responsible for bringing 'cross nationals to the U.S.

With all the talent at Palos Park, Illinois that day, no one really expected rider number 13, 23-year old Leroy "Tyger" Johnson, to leap off the front, taking obstacles in stride, and win by two minutes. Johnson, a Rockford Illinois native, became one of the three recognized national cycling champs and earned a huge trophy, a medal and a mention in Sports Illustrated - an honor few cyclists have enjoyed. Dick Broscovak, president of the Windy City Wheelmen for which Leroy rode, was beaming with pride at having another champion in his ranks. He already had the multi-time national track champ Jim Rossi.

Leroy Johnson was born in Greenwood Wisconsin on January 16th, 1940. His parents were dairy workers who made the rounds of Wisconsin's small cheese factories until Leroy was 8-years old and they moved to Rockford, Illinois. Johnson has the sort of selective memory that most of us do about our childhoods, but biking always stood out. Like seeing the shiny new



tricycle he got for his second birthday and racing it around his Westfield Wisconsin home while staring up at his towering mother cooking at the stove. He didn't learn to ride a two-wheeler until he was nine. Rockford just wasn't a hotbed of cycling activity and small bikes were scarce, he ended up learning on a late '30s/early '40s clunker.

At 16, Johnson had left his mark on the bowling world by beating 14,500 contestants from 44 states to become the American Junior Bowling Congress singles champion. While he still plays once or twice a year, smoking allergies keep him from competition. Leroy began dreaming of bike touring, but this didn't become a reality until he bought his first 10-speed at the age of 21. Daily commuting to his dairy job became the norm along with several trips, including a 1,300 mile, 13-day jaunt to Arkansas.

However, in August of 1962 everything would change for Leroy Johnson. On a trip into Chicago, Johnson stopped at Oscar Wastyn Cycles. Oscar used to build Schwinn Paramounts at his shop in the fifties and had two big ovens where he would bake the enamel onto the frames. The walls were covered with photos of racing cyclists, and that's what did it for Leroy - he caught the racing bug. Later that winter he bought a Raleigh, a stout machine with heavy steel cranks, and put some racing wheels on it. He also picked up an old used Paramount track bike on a visit to Kenosha Wisconsin. He had yet to see a race, so Leroy joined the Windy City Wheelmen and became, as far as he knew, the only racer in Illinois with an official license outside of the Chicago area.

Johnson's first race was on April 30th, 1963. While he had the heart and legs for the job he lacked the technical skills. After leading the last lap, he realized he had no strength left for the

sprint and he dropped back to 11th out of twenty-five. In his second race the same thing happened. After fifty miles he was leading the pack to the line, but about twenty cyclists crossed it before him. He started to see the benefits of strategy and pace-lines and on his next racing attempt he came in third.

During the year, Johnson, ecstatic over his new sport, wrote to the president of the Windy City Wheelmen and told him how excited he was about the upcoming Chicago to Elgin race that they stage every year. He said he felt like a tiger - and the name stuck. When Leroy "Tyger" Johnson won the first 'cross nationals, a mere *six* months after he began racing, he roared to the forefront of American champions.

In 1964 Tyger stopped racing in July and only began to train for the 'cross nationals two weeks prior to the event. It was then when he started using the Paramount road bike fitted with wide profile tubulars that he would race with for the next eleven years. During the race, Tyger was leading when Chicago's Herman Kron caught his tail. On a downhill run, Tyger tripped and hit his head on Kron's front wheel causing both of them to end up in a pile. They both agreed they were *ail* right and Kron took the lead. Tyger, a little stunned and dizzy, took second.

Tyger didn't ride in the nationals in '65 because he had broken his collar bone and then, *six* weeks later, took a hard fall on his back - an injury that haunts him to this day. He started training vigorously in the parks and forest preserves of his new hometown of Rockford, Illinois. He would race along several trails, incorporating stairs, paved roads and dirt trails. Since he did this training alone, he timed himself to trace improvements. During one of these training sessions, Tyger ran down an embankment, remounted on the pavement and powered back to speed just as a squirrel, running across the path, smacked into his wheel. Tyger didn't use a lot of glue back in those days and the tubular was peeled from the rim and became tangled in the fork, sending him flying over the bars. During those few amazing moments of clarity that most cyclists experience during a crash, Tyger relaxed in flight and summersaulted to a stop. Getting back to his feet, Leroy rolled the tire back on its rim, reset the stopwatch and continued training. The uninjured squirrel, probably safe in his home, was not seen again.

At a 'cross race in Macomb, Illinois, the first obstacle after the gun was, of all things, a picnic table - a barricade better suited to the likes of Hans Rey. Racers were falling to one side and the other, one rider even ended up under the table. But Tyger, as usual, took it in stride to win the race. This mastery of obstacles also led him to victory in the '66 'cross nationals where, in addition to a trophy and medal, Tyger was awarded the coveted stars and stripes jersey that wasn't given out in earlier years.

In 1967 Tyger took second in his first try at the Illinois State Road Championships. Then, hot from a 'cross win in Yellow Springs, Ohio, he once again took gold in the National Cyclo-Cross Championships. The course was a brute, described by Johnson's hometown paper, the Rockford Labor News, as "a dilly - down a long bumpy bank; around slippery, muddy corners; up a hilly road for two-tenths of a mile so steep it was necessary to use the lowest possible gear to make it to the top; through the

woods; around hairpin turns; jumping over small logs; and running down a 100-ft. long ditch. The final 400-ft. of each lap with so difficult a climb that riders were forced to walk or run, pushing or carrying their bikes to the top. Johnson said he used all methods." Early in the race Herman Kron broke his frame, but he still managed to climb back for a second placing.

The following year Tyger again left his mark in the record books by winning the state road championships, and taking silver in the state 4,000 meter track pursuit. But a nasty stomach flu saw him to only third in the 'cross nationals. It was about this time that music began to creep into Tyger's life. During his childhood, Johnson's mother encouraged him to get involved with music and bought him a harmonica - which he gave *up* after a couple of half-hearted attempts. Ten years later, and with the same harmonica, Tyger was filling time between towns in his Nabisco cookie delivery truck by teaching himself how to play. Over the years this talent grew to include 25 instruments that he could play - and his one-man band was born. First he taught himself to play the harmonica and dobro together, then the harmonica and auto-harp. He then went on to the harmonica, auto-harp, and keyboards fitted with velcro strips and wooden blocks to be played by the right foot, while working the tambourine with his left ankle - among other combinations. Medleys include such instruments as a violin-uke, that can be bowed or strummed, tin cans, which are a crown favorite, the gourd-tar, a 35-year old gourd a friend grew and Tyger adapted into a guitar and, of late, some bicycle handlebars fitted with five horns and a bell. Now he commonly groups all the instruments together and plays at business expositions, nursing homes, 4th of July festivals, hospitals, and lodges - about 150 shows a year. He gives a lot of credit for his talent to the fact that his family hasn't had a television set to distract them from living full lives for the past 17 years. "Life is too short to sit around and watch the world go by on T.V. and videos!"

During the cross nationals in 1969, the lead racers shamefully rode around several of the unsupervised obstacles. Afraid of being disqualified, Tyger was probably the only rider who dismounted to leap the barriers and was left with a third place finish. It was the same sorry story in the 1976 championships in central Oregon, now sanctioned by the U.S.C.F. One of the favorites to win the contest, Mark Pringle, deviated from the course to avoid dismounting for a ditch. One of Johnson's Midwest fans rolled up a huge rock to block the newfound path, but, outnumbered by Pringle supporters, the boulder was removed by the time "Supersonic Seattle" came around again. But whether Pringle was breaking the rules or being tactical, the new cross strongman, Laurence Malone won the race - his 3rd of five national victories.

Tyger took gold in the Illinois state road championships in 1971 and bronze in '72, but while there were no National Cyclo-Cross Championships held from 1970 to 1974, Tyger had bigger fish to fry. In December of '74, he was off to Rockland Lake Park, New York for two days of trials to compete for a berth on the national team. Tyger was chosen for the team along with Laurence Malone, Fritz Liedl, Jeff Saunder, and Chuck Canepa

who was an alternate and traveled entirely at his own expense.

It was off to Switzerland and, for the first time, they would have an opportunity to participate in a two-week 'cross series as the guests of Swiss promoter Edi Hans. Racing in Europe was unlike anything the Americans had ever experienced. They were competing against heavily-backed professionals and amateurs, who only raced separately during the world championship, and found 2,000 to 5,000 paying spectators at each event, showers, changing rooms, award banquets, and even some indoor tracks. After a half-century of cyclo-crossing, the Europeans had made it a science. While the U.S. riders had a couple of weeks to train for the World's, the Europeans had been racing several times a week for months. The skills of the American team improved with each event however, and Laurence Malone, America's best hope for a placing, even managed 18th in one 'cross. Prior to the World's, however, Malone packed it in and returned home, a victim of homesickness and deep in debt - since the racers, while given a stipend, still had to pay for much of the trip themselves.

On the day of the 1974/75 season World Cyclo-Cross Championships the mud was six inches deep in some spots. It had rained the entire day before and, as some riders claimed half-jokingly, it felt like it was mixed with glue. This sticky mess had caused some problems with Tyger's previously-injured back, but he still pulled off America's highest finish to that date, 46th. While Johnson, who was then riding for the Blackhawk Bicycle Club, didn't expect the team to finish at the front of the pack, the Americans were only lapped once and they all finished. They could go home with their heads held high. Tyger celebrated his 35th birthday while in Switzerland and during one of the events he gave himself a great present at the expense of a famous Euro-pro: "One of the exciting things was when we raced with Poulidor and Thevenet. I had big mud problems with my front wheel locking up. During my problems of starting and stopping again I passed Poulidor three times and finished about two minutes ahead of him. Thevenet was one place ahead of me. The Day We Trounced Pou-Pou!"

In the winter of '75/'76 someone called Tyger explaining that he had just purchased a house and found a bunch of bikes underneath it. Scratching his head, Leroy thought he could at least take a look and went to find a pile of frames and wheels that made him cringe. But when the seller set the price at 610.00, Tyger jumped at the buy. He didn't know it then, but he was about to take his first steps towards the business end of bikes. As he dug into the heap he found that the wheels matched the frames. He had five coaster clunkers and a small girls bike. The girls bike was fixed up for his daughter, but the coaster-brake models were put out for sale on Tyger's lawn. They sold quickly and, excited about the prospect of a new business, Tyger began doing repair work and buying and selling used bikes. Within a couple of years he began to deal with new rigs also. First came Beacon Bicycles, then Quentin, Motobecane, Univega, and now B.C.A. and recumbents. The shop is still small, the way he likes it - a couple of rooms behind Tyger's house and an upstairs parts and frame area - and has gone on to sell small instruments and parts also.

At a cyclo-cross race later that year, Tyger was approached by Tom Teasdale, a West Branch, Iowa framebuilder, and asked if he would ride a Teasdale frame if one was built for him. Tyger was still using the old Paramount and accepted the offer right away. Teasdale, in his over twenty years of experience, has not only built under his own name, but done work for Fisher also. To this day Tyger still uses Teasdale's bikes. His daughter Naomi uses the first one that was built for her father in 1976. One of Tyger's most depressing race memories came that winter when he and Scott Dickson, the multiple Paris-Best-Paris winner, drove to Bend, Oregon for the 'cross nationals. Johnson had a good lead during the first half until he folded his rear wheel. After struggling to make it back to the lead riders, he didn't quite clear an obstacle and collapsed another rim. Tyger came in fourth, one spot ahead of Gary Fisher.

After nearly one and a half decades, Tyger had etched his name in the annals of American cycling history. But he didn't sit back on his laurels. He continues racing to this day, racking up dozens of wins including four gold medals in the Illinois vet class road championships and two bronze and a silver in the 45+ class. In 1980 alone he won 23 road races and criteriums and six 'cross races. In 1985 he won the 40+ class at the Chequamegon 40, the Midwest Off-Road Championships, by 12 minutes on a 34-pound Taiwanese mountain bike. Many of these victories, Tyger feels, are due to having Jane Johnson, his super-supportive and understanding wife of thirty years, at his side.

Tyger's children, Joel and Naomi, are into cycling, and when Naomi wanted to give 'cross a try, Johnson trained with her. He ended up winning the 45+ class at the Illinois state 'cross championships in 1993 and taking 4th in the vet division at the 1994 Nationals in Yosemite National Park at the age of 54 - giving Tyger about 80 cross victories! But his new love is recumbents.

Since his fall in 1965 Tyger's back pain has gradually gotten worse, luckily Jane is a nurse. The pain made long rides unbearable and in 1982 he decided to try a Hypercycle recumbent. These early, heavy, lumbering models didn't quite click with Tyger, so he sold it. But about ten years later he gave it another try. Now he sells five different brands of recumbents in his store and has started to race the International Human Powered Vehicle Association circuit. In his first competition, Johnson, at 55, beat 20-year old Matt Stonich in the stock class 10 miler on his Lightning P-38. While Tyger says that 1995 was probably his last year for cyclo-cross, he might as well be twenty years old himself - full of power, he's found a new career in recumbent racing. He's proven that there's no reason to grow old in a rocking chair, reliving old memories, when you can spend your entire life making history.

*Gabe Konrad has his own newsletter, **Aeoleus Butterfly**. It's about old bikes and parts and people, and if you enjoyed this story, you've got to subscribe to AB. Subs cost \$12 per year. Mail to Gabe Konrad/Aeoleus Butterfly, 13028 Cypress Avenue, Sand Lake, MI 49343. Back issues (there are seven) cost \$2 each.*

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