



The Ultimate Cycling Computer

Imagine the most powerful computer on Earth. Square it's processor by 10. It will be able to read numbers faster than you. It will be able to make smarter moves than you in chess. It will track the trajectory of stars in other solar systems better than you. It will not be able to keep track of your bodies systems better than you. No computer on Earth will be better suited to processing data that it receives from your various bodily systems, while riding a bike, than the one inside your skull. Cyclist's spend thousands of dollars annually trying to gather and process data around their riding. It goes like this:

"I just bought this new SRM. Got a deal on it. It was only \$5,900. Got a new laptop, too."

"How much was that?"

"\$2,200. All in, I'm only at \$8,100."

"Sweet. So what happened in last weeks race?"

"Oh. Man. I was maintaining 292 watts, just like normal. Knew I shouldn't do more on that final climb, so I had to let the group go. Finished 19th."

Say what? Putting more stock in an \$8,100 system than in the priceless system that you already have makes little sense. How many riders pony their cash for systems like that when they are currently using just a fraction of the processing power they already own? SRM's and the like are fine tools. At the right time, for the right athlete, they can make sense. For 99% of riders, tools like these would be better off seen as 'down the road' investments. I would hasten to add other tools to that list, but that's not what this is about. The challenge is building your own processing power. Enhancing your personal ability to deal with your internal data flow.

It's said that during our lives we use just a sliver of the brain's potential. That's the average person taking care of daily food and shelter requirements, dealing with their job and relationships. Humans less frequently tap into the more primal abilities of our senses. People don't need to function the same in the outdoors as they used to. Now they use different skill sets. Massive amounts of calories are available on grocery store shelves and the typical American body reflects it. Enter the cyclist. Consciously or not, the brain of a cyclist has taken steps toward deeper exploration. At first, the idea of riding a bike might only be for transportation. From point A to point B, the brain can't help but begin to use it's processing powers. The data flow begins before a rider goes outside. Primal senses are re-activated. The eyes are looking at what the weather is doing. The skin is trying to sense humidity levels. The stomach is sending fuel level readings. Do any of these things matter to a car commuter? It's the cyclist's brain that is being flexed harder. When the two-wheeler rolls out of the garage, the flow of data to the brain will nearly overwhelm them.

The racing cyclist's brain is used to this flow of information. Spacial data from the eyes, wind noise in the ears and the feel of that air against the skin stream into the brain and are

accounted for with very little processing power. These three data feeds, enough to consume nearly all the processing power of the beginning rider, are taken care of instantly and without conscious thought by the racing cyclist. Like random access memory in a computer, no spooling is required. So what happens after those senses are accounted for? That's where the larger question looms. How does a racing cyclist learn to use more of the nearly limitless potential of their brain? The number of ways is so much longer than a list of training exercises for the body. The answer is as deep as the wells of the brain itself. The ability to process more data from different sources, and then send commands back to those body systems is what I'm talking about.

For examples sake, imagine that every part of your body has it's own little team of operators. Sort of like a military command force, with one guy on the big Motorola handset yelling information back to Mission Control. Mission Control, of course, is housed inside your skull, fortified by your helmet. There is a lot to listen to. The banter during a heated battle on the bike might sound something like this:

"Eyes to Control! We're maintaining our speed. We can see the summit! It's still about 400 meters ahead."

"Ears to Control: We're breathing loudly but unobstructed. There is wheezing from some opponents. The skinny climber guy in green is having trouble with his derrailleur again."

"This is Skin! Do you read? It's boiling out there! We need reinforcements! We're passing a lot of fluid. Not sure how much more we can take out here. Can we get some support?"

"This is Right Quad to Control. We're doing ok, we're at 86% and we've got plenty of ammo for a major offensive."

"Left Quad! this is Left Quad! We're picking up a bit of a wobble. The gage reads 92% but this wobble came out of nowhere. Better not be a cramp."

"Heart to Control, come in Control. We're at 182 beats per minute. We're Ok for now. You can take us up three beats without too much trouble. At least for a while. We think."

"This is Crotch. We're not getting any word whatsoever from the forward assembly. We think they've gone numb. If you can move left about 3 millimeters it would take a lot of pressure off the tender area.

"Eyes to Control - we have an emergency! Someone's attacking, there's a 10 foot gap opening about eight riders ahead of us. We need to move!"

This flow of data to "Control", the brain, is endlessly constant. What you do with it will make you a better cyclist. In order to do something, your control center needs to be able to hear it, first. If any of this information is ignored, small problems can become big problems. For the beginning rider, much of this information can't be processed. The experienced racer, on the other hand, processes all of it using minimal energy. Transmissions like the above can all happen in the same second. More incredibly, Mission Control is able to respond with precise instructions like this:

"Control to Eyes, we read, thank you. Doing something about it right now."

"Control to Left Quad: Ignore the wobble because we need 98%. NOW."

"Control to Right Quad: Add 12% power immediately."

"Control to Crotch: We're gonna stand up, soon. Don't worry about it, we told you."

"Control to Heart: We need more legs and more air. Start dialing it up. We need 190 beats from you for a while."

"Control to Skin: We just took a drink. There's a feed zone in six miles. We'll dump some water on you, then."

As is always the case in hard situations, creative compromise is often the answer. No computer you can put on a bike can tell you how to come up with 3% more power when things are bleak. It won't be able to sense that by adding just a hair more hamstring, one

percent of butt muscle, and a twitch of calf, the extra strength is there. No computer will sense that by moving one more degree to the side of the rider in front of you that you could survive with the group to the summit in that barely noticeable crosswind. You won't get the little reminders to eat and drink consistently. It will not know when you have seven more beats per minute in your heart at any given moment.

When you can listen to your body, instead of waiting for a screen to tell you something, you will not only know what you have but you will be able to use what you have better. You will be able to look at a stretch of road and know exactly how you can ride it, based on everything your body is telling you. You will find solutions to problems. You will become more resourceful within your own body and mind. One of the greatest discoveries of racing a bicycle is learning to come up with these solutions 'on the fly'. Those experiences are stored for future use. Your Mission Control remembers. It has all the folders and files from previous battles stored and ready to be accessed if necessary. It remembers the day that you threw up before the start and had to march on with no fuel. That time you survived four hours of freezing rain, legs you couldn't feel and hands that could barely shift or brake. All those mountains where you had to call on what seemed like every cell in your entire body to make it over without getting dropped. Your brain will find the solution.

To find the best solution, your brain needs the real-time data to respond, and then it needs to give the best orders. Eventually, most of these data feeds are handled on a near subconscious level. Thoughts and actions become one. Your body and bicycle simply 'do'. They do the best they possibly can at every given moment, creating the most effective union of human and machine on the planet. There is nothing in the World quite like a cyclist. Everyone who rides a bike is tapping into the most powerful super computer they will know in their entire existence. It can be frustrating at times, like any computer, and it can be explosively beautiful. For the racing cyclist, it's the only computer that you really need to work with to improve your riding.

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