

Special Section **MH**

PART 3

# THE MEN WHO LIVE FOREVER

*In the hills of Mexico, a tribe of Indians carries an ancient secret: a diet and fitness regimen that has allowed them to outrun death and disease. We set out to discover how the rest of us can catch up.*

BY CHRISTOPHER McDONALD



ALVADOR, OUR AMATEUR GUIDE AND SEMIPRO MARIACHI

singer, is thrashing something about a bra-full of bad news named Maria when the song suddenly dies in his mouth. His eyes are fixed on a big, red Dodge pickup with smoked-black glass that just burst through the dust ahead on this dirt gully of a road. "¡Narcotraficantes," he mutters. "¡Drug runners. Salvador edges our truck as close as he can to the crumbly edge of the cliff on our right and stops, granting the red pickup every bit of road he can spare. *No trouble here* is the message he's trying to send. *Just minding our own, non-drug-related business. Just don't stop.* . . . Because what would we say if they cut us off and came piling out, demanding we speak slowly and clearly into the barrels of their assault rifles, while we explained just what the hell we're doing out here in the badlands of Mexican marijuana country?

We're not *federales*, we'd have to stammer, or undercover DEA. We're not searching for drugs, but for a people who are guarding something far more valuable: the secret of perpetual health and happiness. The phantom Tarahumara Indians are said to have found a way to party all their lives and never pay the consequences, living on a diet of carbs and beer but still being able to hop up and run more than 100 miles at a time, *even in their 60s.* . . .

I'm still rehearsing this speech when I notice that the truck has rumbled past, its crew invisible behind sealed black windows. Salvador watches in the rearview till the Dodge is again swallowed by dust, then slaps the steering wheel. "¡Bueno!" he shouts. "¡Andale pues, a más aventuras!" Excellent! On to more adventures!

Gradually, parts of me that have clenched tight enough to crack walnuts start to loosen, but I suspect it won't be for long. We set out yesterday from Chihuahua, driving all night across the desert and deep into the Sierra Madre, heading toward the upper rim of the Barrancas del Cobre—Mexico's Copper Canyons, a maze of twisting gorges that run wider than the Grand Canyon. There are no roads where we're headed, or even mapped trails, which is just the way the Tarahumara like it.

Either you know where you're going, in other words, or you aren't getting there. And a few hours after our encounter with the deathmobile, that seems to sum up our situation. We went off-road long ago and are now crunching over a bed of pine needles, winding deeper and deeper into a darkening forest with no sign that any human has passed this way before. Salvador, however, is still belting out tunes, making turns based on trees he thinks look familiar.

We're screwed, I'm thinking.

And then, just as the sun sets, we run out of planet. We emerge from the woods to find an ocean of empty space ahead—a crack in the earth so vast that the far side could be in a different time zone. And in a way, it is—because standing nearby are three Stone Age men in togas, motionless as the mountains, as if they've been there forever.

ing to one of the few outsiders to witness a *tesguinada*—a full-on Tarahumara rave—women were ripping the tops off each other in a bare-breasted wrestling match, while their husbands watched in glassy-eyed, drunken paralysis. Tarahumara men love sports, booze, and gambling so much, they'll stay up all night to watch a game, down enough beer in a year to spend every third day buzzed or recovering, and support their teams by literally betting the shirts on their backs.

Sound familiar? But here's where American and Tarahumara men part company: Many of us will be killed by heart disease, stroke, and gastrointestinal cancers. Almost none of them will.

None.

When it comes to the top 10 health risks facing American men, the Tarahumara are practically immortal: Their incidence rate is at or near zero in just about every category, including diabetes, vascular disease, and colorectal cancer. Age seems to have no effect on them, either: The Tarahumara runner who won the 1993 Leadville ultramarathon was *55 years old*. Plus, their supernatural invulnerability isn't just limited to their bodies; the

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This tribe may be one of the most ancient cultures on the planet, but, as I discovered in my pre-expedition research, its members actually have a lot in common with the average American guy.

Tarahumara men have a taste for corn snacks and beer, for instance. They're hard workers, but come downtime, they party like a rap star's roadies. Accord-

**The Tarahumara are practically immortal: Their incidence of disease is just about zero in every category.**



Tarahumara secret of happiness as benignly world free of violence, and crime.

So how do we, in a technologically advanced Earth, can we learn from the Tarahumara? What have we forgotten?

That's the question brought me to the Tarahumara. Many of us will be killed by heart disease, stroke, and gastrointestinal cancers. Almost none of them will.

Built by the Tarahumara when the

Photograph by CHRISTOPHER McDOUGALL; next page, photograph by KATHLEEN M. FIKES

Tarahumara have mastered the secret of happiness as well, living as benignly as bodhisattvas in a world free of theft, murder, suicide, and cruelty.

So how do they do it? How is it that we, in one of the most technologically advanced nations on Earth, can devote armies of scientists and terabytes of data to improving our lives, yet keep getting fatter, sicker, and sadder, while the Tarahumara, who haven't changed a thing in 2,000 years, don't just survive, but thrive? What have they remembered that we've forgotten?

That's the mystery that brought me here, to the deep Mexican outback, for this impromptu sunset encounter with three ambassadors from the past. Salvador eases the truck to a stop, and we slowly slide out. The three men facing us are dressed in white toga skirts and bright, billowing blouses that look like pirate shirts. Their faces are hard and angular, and their jet black hair is chopped

low over their eyes in bowl cuts. On their feet are thin sandals lashed high around their calves with leather thongs, the kind you'd wear to a Halloween party if you were playing Julius Caesar.

"Cuira," Salvador greets them.

"Cuiraga," one of the men replies.

This "Hi/Hi to you" exchange pretty much exhausts Salvador's Tarahumara vocabulary. The Tarahumara speak an ancient, pre-Aztec language so obscure, it ended up accidentally changing their name. They really call themselves Raramuri, or "The Running People," which was misunderstood by the conquistadors who invaded in the 16th century.

Luckily, we all know enough Spanish to make ourselves understood. Once they learn that we're not members of the murderous Fontes drug cartel, which has been terrorizing the canyons, one of the men—Alejandro—agrees to guide us by foot to his village, somewhere far below.

"If we leave in the morning, we should make it by dark," Alejandro says, then takes a second look at my all-too-American body. "If we leave *very* early."

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**Y DAWN, OUR SLEEPING** bags are stowed, and we're ready to set out. The descent is so steep that every step is

like doing a one-legged squat, but that doesn't bother 52-year-old Alejandro. Even though I have running shoes and a Camelbak and he's in open-toed sandals with a 3-gallon jug of tequila on his shoulder, he blows right past me. I find him standing by a tricky twist in the trail, smoking a hand-rolled cigarette while waiting to make sure I'm not lost. Then he's off, *paddy-pat-patting* his feet as fast as a double-Dutch rope skipper. This time, though, I'm on him; I stay hard on Alejandro's bare heels, sliding around switchbacks until I realize... he's gone.

This cat-and-mouse chase goes on all day until finally, just as the sun is dipping below the canyon walls and I'm ready to drop along with it, we reach a flat clearing near a river. Alejandro leads us behind a cluster of cacti, where we find a tiny, three-sided hut, with nothing else in sight in any direction. As far as Tarahumara settlements go, this is about as bustling as it gets; the Tarahumara are even reclusive with each other, keeping their homes concealed and a holler's distance apart. "The Tarahumara are so bashful, even between husbands and wives, that if they didn't get drunk, they might not be able to perpetuate the race," one anthropologist notes.

But despite their extreme shyness and distrust of "white devils," the Tarahumara are warm and extremely hospitable. The owner of the hut, Avelado, invites

## BE THE FAST MAN STANDING

*How the world's best runners avoid injuries and increase speed*

**W**hen exercise physiologist Ken Mierke set out to find a way to spare his elite runners and triathletes from impact injuries, he took a commonsense approach: Study top Olympic marathoners. Mierke discovered that these gold-medal greats share traits with the Tarahumara, such as always landing on the balls of their feet instead of their heels. Below are four more legend-tested strategies for running faster, longer, and injury-free.

**SHIFT SMARTER.** American runners at the Leadville ultramarathon still joke about the "Tarahumara stretch," which consists of stretching out on the sidewalk for a nap. Come race time, the Tarahumara start running with short, easy strides, progressively adding intensity as their muscles warm up, instead of trying to extend a cold, resisting muscle.

**RECRUIT YOUR ABS.** Don't tense your legs while running; let them feel as if they're hanging loose and spinning from pivot points in your hips. This way, instead of moving yourself with your easily exhaustible quads, you'll let your abs and lower back propel you. If you sense tension in your glutes, rather than your quads or hamstrings, you're doing it right.


**STAY GROUNDED.** When skiing moguls, the more time you spend in the air, the slower you go. Same with running. Never try to lengthen your stride with big, lunging gallops—they only slow you down and increase your risk of injuries. Instead, take smaller, quicker steps and focus on keeping your body low to the ground.

**KICK SOME BUTT.** Know that kickback sprinters use, when their feet nearly touch their own butts? That's not just for final plunges toward the tape; it's a good way for any runner to "cycle" his legs around for the next stride, using free centrifugal force instead of drawing down his energy.

C.M.

*Built by the conquistadors in the 1600s, this stone road was traversed by Tarahumara slaves carrying gold. Later, it would symbolize freedom when the Tarahumara used it to escape and disappear into the canyons.*





*In the backwoods of Pennsylvania, the author trains with techniques imported from the past.*

us to scoop from the family's *pinole* bucket, a plastic tub half-filled with a soupy mix of water and ground corn. It's surprisingly tasty, with the texture of instant oatmeal and the aroma of movie popcorn. *Pinole* to the Tarahumara is like rice to Asians; it's the major component of every meal, occasionally topped off with pinto beans, a little squash, sometimes mice or a chunk of rabbit. Most of the time, Avelado says, he just sips it by the cupful throughout the day.

We'd have caught an amazing party if we'd only been here a few months ago. Avelado mentions as we relax against the cool brick walls of his hut. He and his brothers had represented their village in a *rarajipari*—a Tarahumara ball race—against another village from across the canyon. It was wild, Avelado says; they drank all night, talking trash and laying down bets, then started the race at sunup. Each team had to move a hand-carved wooden ball along the trail as they ran, passing it from runner to runner by foot; it's like an endless soccer fast-break drill, except on a rocky trail, with exposed toes and a rounded lump of hardwood.

"How long was the race?"

I ask.

Avelado raises a single finger.

"One mile? One hour?"

Avelado shakes his head.

"One day."

I don't understand it: How come they're not hobbled by overuse injuries? How do they get away with pounding beers and all that carb-loaded *pinole*? And I have no idea what any of this has to do with cancer, suicide, and stroke: Even if there is a magical, bulletproofing benefit to being in amazing shape, how are the Tarahumara pulling it off with a diet and training worse than mine?

Then, the Tarahumara tell me about a stranger named White Horse. Alone runner of the High Sierra, "Caballo Blanco" often visits the village during his long, rambling journeys through the

**Barely 8 weeks into the program, I'm already running more miles per week—at a much faster pace—than I've ever have in my life.**

## THE SECRET TO LONG LIFE?

Unlocking the mystery of the Tarahumara botanical bounty

If you were to ask a Tarahumara Indian how he beats disease and prolongs life, he might shrug—or he might point to a plant. For centuries, the Tarahumara have relied on *Geranium niveum*, a.k.a. wild geranium, as an all-purpose antidote to a range of ailments. Sure, it's a folk remedy, but one supported by science: Geraniums are packed with proanthocyanidins, powerful flavonoids shown to be anti-everything—anti-inflammatory, antiviral, antibacterial, and antioxidant. In fact, a recent study in the *Journal of Agricultural and Food Chemistry* found the extract to be as effective as resveratrol—the flavonoid in red wine—at neutralizing disease-causing free radicals. Want to try it? Keith DeOrio, M.D., *Men's Health's* alternative-medicine advisor, recommends drinking a daily cup of warm water spiked with 15 drops of Eclectic Institute's geranium extract (\$7, [herbsmd.com](http://herbsmd.com)). "Liquid geranium extract has great bioactivity," he says. "Just a few drops can enhance your immune system."

BRIAN McCLINTOCK

mountains. When I track Caballo down, he turns out to be an American named Micah True. Ten years ago, True met a Tarahumara runner at an ultramarathon in Colorado, and it changed his life forever. Shortly after the race, he left behind his life in America to move down here, slowly turning himself into the world's only gringo Tarahumara.

Tall and lean, with sun-bleached scraggles of hair jutting out from under his straw farmer's hat, Caballo opens up with surprising eloquence, verve, and wisdom.

"I saw a 95-year-old Tarahumara man walking across these mountains," Caballo begins. "Know why he could do it? Because no one told him he couldn't. If you put your body into a situation, it will figure out what to do." So that's what Caballo did; instead of trying to decipher the Tarahumara miracle, he went after it swimmin'-hole style—by leaping in and figuring he'd either pick it up quickly or go down trying.

Even though he'd been nagged for years by ankle problems, he ditched his running shoes and mimicked the Tarahumara by hitting the trails in sandals. He began eating pinole for breakfast and carrying it with him in a hip bag during his 30-mile runs over the mountains. During these epic, all-day treks through the badlands, Caballo lives by the Tarahumara culture of *kórima*—the power of unconditional living. He depends on people volunteering water, the food he'll need to get home, shelter if he's caught out overnight, and help if he falls.

The result: He's now healthier, stronger, and freer of injuries than he's ever been. As proof, he describes a run he likes to do between two canyon towns: Horseback riders do it in 3 days;

Caballo does it in 7 hours. He's not sure how it all came together, what proportions of sandals and pinole and *kórima*, but he's convinced it will work for just about anyone.

"You can do it, too," Caballo assures me. Maybe—but does it mean I have to live in a hut and consume corn mash, or is there a more American-friendly version of the Tarahumara method? There's one way to find out: In 1 year, Caballo is holding a 47-mile race against the Tarahumara down here in the canyons. At this point, I'm 20 pounds overweight and can't run more than 5 miles a day without injury, let alone 30 miles across the mountains in sandals.

So why don't I go home, Caballo suggests, try leaping into the pool, then see what happens on race day?

Thus begins My Year of Living Tarahumarically.

THE WHOLE EXPERIMENT will live or die by cartilage. If I can't find a way to ramp up my running miles without being leveled by injuries, then this race is over long before the starting line. So I call Eric Orton, an ultrasport coach in Jackson Hole, Wyoming, who specializes in the long stuff, like the Ultraman (a double Ironman) and Desert RATS (Race Across the Sands) 6-day footrace. Orton is also fascinated by the Tarahumara's legendary endurance and grills me for details of my trip. He then echoes Caballo's advice: Lose the shoes.

Orton is part of a growing movement of Free Your Feet rebels, who believe it's not running that causes injuries, but running form and

economy of training. One of the more vocal—and surprising—members of this group is Gerard Hartmann, Ph.D., an exercise physiologist who works with the world's greatest marathoners and also consults for Nike. According to Hartmann, the vast majority of running-related foot injuries are a result of too much foam-injected pampering. Running shoes have become so supercushioned and motion-controlling, they allow our foot muscles to atrophy and our tendons to shorten and stiffen. Without strength and flexibility, injuries are inevitable.

"The deconditioned musculature of the foot is the greatest issue leading to injury," Hartmann explains. "If I give you a collar to wear around your neck, in 4 to 6 weeks, we'll find 40 to 60 percent atrophy of musculature. That's why this emphasis on cushioning and motion control makes no sense."

One of Hartmann's star clients, marathon world-record holder Paula Radcliffe, has been training in the Nike Free, a new, minimalist slipper designed to mimic the range of motion of a naked foot. Alan Webb, America's best miler, also works out in the Free. Webb had been hobbled by foot injuries early in his career, but after he started barefoot exercises, his injuries disappeared, and his shoe size shrank, from a 12 to a 9. "My foot muscles became so strong, they pulled my arches up," says



The author in Urique, a village in Tarahumara country hidden by sheer canyon walls on all sides. He arrived by the most direct route: 30 miles on foot across the Sierra Madre.

Webb. "Wearing too much shoe prevents you from tapping into the natural gait you have when landing on the ground."

Perhaps this was what I had witnessed while trying to keep up with Alejandro. Watching him run, I was surprised to find that instead of the long, galloping stride I'd expected, he never stretched out his legs at all. He kept his knees bent and his forefeet padding down directly under his body, as if he were riding an invisible unicycle.

"Exactly!" says Ken Mierke, an exercise physiologist and the creator of the barefoot-modeled Evolution Running technique. "That's why they don't get hurt." Mierke believes there is a perfect, Tarahumara-like footstrike that can guarantee you will run longer and faster, and drastically reduce your chances of injury. The key is to stay off your heel and to use your leg as a pistonlike shock absorber.

"You wouldn't jump off a ladder and land on your heels, right?" Mierke asks. "Same with running. If you land on your heel, your leg is straight, and the impact is smashing into one

"You can't run uphill powerfully with poor biomechanics," Orton says. "Just doesn't work. If you try landing on your heel with a straight leg, you'll tip over backward."

But for a technique that's supposed to be natural, I find barefoot-style running awkward. Orton lets me ease into it by keeping the distance light for the first few weeks and assigning me hill repeats and speedwork, plus some core-conditioning exercises to make my lower back, instead of my quads, support my weight.

By month 2, though, he's sending me off on 2-hour weekend runs and adding a long mid-week run. Barely 8 weeks into his program, I'm already running more miles per week—at a much faster pace—than I ever have in my life. I keep waiting for all the old ghosts of the past to come roaring out—the screaming Achilles, the ripped hamstring, the planar fasciitis. I start carrying my cell phone on the longer runs, convinced that any day now, I'll end up a limping mess by the side of the road.

Whenever I feel a twinge, I run through my diagnostics: *Back straight? Check.*

*Knees bent and driving forward? Check.*  
*Feet landing under the hips? ... There's your problem, rock-head.* Once I make the adjustment, the

hot spot eases and disappears. By the time Eric bumps me up to 5-hour runs, the ghosts and the cell phone are forgotten.

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Last year, a 32-year-old Seattle physical therapist named Scott Jurek pulled off a stunt that was, by conventional thinking, just this side of impossible. First, he won the Western States 100, the most prestigious and hotly contested ultramarathon in the world. Two weeks later, Jurek descended from the freezing mountains to Death Valley, one of the hottest places on the planet, and not only won the Badwater Ultra, but broke the record, racing 135 miles in just over 24 straight hours in temps that were north of 120°F.

Judging by Olympic marathoners, who take at least 4 months between races, or pro football players, who get a week's rest for 16 minutes of on-field time, there is no way Jurek's wasted muscles should have been able to rebuild that fast. But they did—and without a speck of animal protein to help. Since he went vegan 8 years ago, Jurek has won Western States an astounding 7 years in a row.

"I used to eat at fast-food joints three times a week," says Jurek. "I went vegan before I won Western States the first time, and I was worried I'd be too weak. But I found that I actually feel better, because I'm eating foods with more high-quality nutrients."

If any runner in the world shares the Tarahumara's ultra-running ability, it's Jurek. And he believes it's no coincidence that he also shares their approach to eating: By basing his diet on fruits, vegetables, and whole grains, Jurek says, he's deriving maximum nutrition from the lowest possible number of calories, so his body isn't forced to carry or process any useless bulk. And because carbohydrates clear the stomach faster than protein, it's easier to jam a lot of workout time into his day, since he doesn't have to sit around waiting for a meatball sub to settle.

It actually isn't surprising that

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## INVISIBLE SHOES

Slip on them, and you're in bare feet.



**BITE XTENSION 2** Unlike most running sandals, it has a rock guard for your toes, and support for your arch. \$80 **BEST FOR:** Runners who've mastered the forefoot landing



**VIBRAM FIVEFINGERS** Looks skimpy, but a wedge of rubber protects your heel and the push-off pad of your midfoot. \$70 **BEST FOR:** Barefoot-running enthusiasts



**BROOKS CASCADIA II** A fluid-filled chamber dampens shock, while dual heel posts center your foot. \$90 **BEST FOR:** Long runs on gnarly trails



**NIKE FREE TRAIL** Equipped with knobby treads and slightly more cushioning than the original Free. \$85 **BEST FOR:** Shorter runs on dirt roads and groomed single-track



**PUMA TRAILFOX** Ultra-runners love it for the way its snug upper blocks trail grit, and its ultra-flexible sole lets feet pivot. \$100 **BEST FOR:** Runners looking for a shoe-sandal compromise

C.M.

**I'd begun to feel the logic of the Tarahumara secret before I understood it. I was sleeping great, feeling relaxed, and watching my resting heart rate drop.**

joint after the other. If you land on your forefoot, however, with the leg bent, it absorbs shock using elastic tissues instead of bone."

Orton, the ultrasport coach, uses unconscious instinct and visualization for proper form, and three easy steps to perfect it.

"Imagine your kid is running into the street and you have to sprint after her in bare feet," he says. That's the visual: "You'd automatically lock into perfect form—you'd be up on your forefeet, with your back erect, head steady, arms high, elbows driving, and feet touching down quickly on the forefoot and kicking back toward your butt." And then, to build the strength and balance to maintain that form over long distances, use the heel, hips, and hills principle:

1. Wear the most neutral, low-heeled running shoe that feels comfortable.
2. Keep your hips dead under your shoulders and dead above your feet.
3. Use big hills to iron out the rest of the wrinkles.

hasn't suffered muscle loss or recovery problems, since vegetables, grains, and fruits—of the right variety and quantity—contain all the amino acids necessary to build muscle from scratch. "Plant sources can be as useful as meat sources," says Nancy Clark, R.D., a nutritionist and the author of *Clark's Sports Nutrition Guidebook*. She points out that meat does provide more absorbable zinc and iron, which are crucial for moving oxygen from your lungs to your muscles and healing your immune system. You can remedy that by downing a little bit of germ, or an enriched breakfast cereal, total.

Do you think horses and elephants worry about not having any animal protein in their diet? says Ruth Heidrich, Ph.D., a six-time triathlete and a vegan for the past years. "Elephants are bigger than you, bigger than you, and—guess what—they'll probably outlive you, too."

Heidrich may be pushing the point with inter-species comparisons, but she's onto something important when she touts the benefits of the Tarahumara table. While everyone knows the protective powers of fruits and vegetables, according to a number of recent studies, whole grains are also edible medicine.

Researchers at the University of Minnesota School of public health, for instance, conducted a review of 17 studies and found that consuming whole grains on a regular basis can reduce risk of diabetes and heart disease by as much as 40 percent. Likewise, a University of Utah study showed that going whole grain lowers the odds of rectal cancer by 31 percent. It's also worth noting that when Cornell University researchers analyzed wheat, oats, rice, and rice, corn, the source of pinole, had the highest content of phenols, powerful disease-fighting plant chemicals.

I buy the notion that pinole is stone-ground magic dust, but can't I get enough of the benefits without going whole hog? Just a bit of the hog is all I need: unlike vegans, I only don't mind eating things with fat—but I'll eat the faces themselves, if they're found up and batter dipped into corn dogs. Whatever compromise I settle on, it's critical to make some kind of change to my diet: Balancing my body weight with my core muscles makes a 5-mile run feel like an afternoon of sit-ups and crunches, and Orton's hill workouts make me puking gorditas.

"Have you ever had salad for breakfast?" Heidrich asks.

"Not sober."

"You should try it," she urges. Because a monster salad is loaded with nutrient-rich fruits and low in fat, I could stuff myself in the morning and not feel hungry—or queasy—when it came time to work out. Plus, greens are packed with water, so they're great for

rehydrating after a night's sleep. And what better way to down your five vegetables a day than forking them all down at once?

Next morning, I give it a stab. I wander around the kitchen with a mixing bowl, throwing in my daughter's half-eaten apple, some kidney beans of questionable vintage, a bunch of raw spinach, and a ton of broccoli, which I chop into splinters, hoping to make it more like coleslaw. Heidrich fancies up her salads with blackstrap molasses, but I figure I've earned the extra fat and sugar, so I go upscale, dousing mine with gourmet poppy-seed dressing.

After two bites, I'm a convert. A breakfast salad, I'm happy to find, is also a sweet-topping delivery system, just like pancakes and syrup. It's far more refreshing than frozen waffles, and, best of all, I can cram myself till my eyes are green and still shoot out the door for a workout an hour later.

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Twelve months have come and gone, and only now—at mile 42 of a race I never really thought I'd be able to run—I make my big mistake when I allow another guy to drink my water instead of his own urine.

Seven American runners have turned up for Caballo's crazy ultramarathon—including Scott Jurek and "Barefoot Ted" McDonald, heir to his family's carousel business and such an advocate of shoelessness that he's run several marathons unshod. Fourteen Tarahumara are running with us, and to be sure they're challenged, Caballo has mapped a brutal course. He has us fording rivers, climbing 2,000-foot hills, and scrambling up scree-covered trails that are so shark-toothed, even Barefoot has made the concession of wearing a pair of Vibram FiveFingers, which look like rubber foot gloves.

After nearly 12 hours in the sun, I'm baked and exhausted, but I'm almost at the turnaround for the last 5 miles to the finish. That's where I cross paths with a frantic-looking Barefoot. He's run out of water and is so thirsty, he's filled one of his bottles with hot urine and is about to drink it. "Here you go," I say, offering my last water bottle, since I figure I can refill at the turnaround ahead. Only after I arrive there does it finally penetrate why Barefoot was dry in the first place: All the water is gone.

Damn it. Until this moment, my Tarahumara training has been paying off beautifully. I've stuck to the heel-off-the-ground, barefoot-style running technique, and even though it initially cramped the hell out of my calves, I've now run an entire year without injury for the first time. I worked my way down from the supercushioned spectrum of running shoes, later experimenting with sandals

and the barely-there Free before settling on the neutral, low-heeled Nike Pegasus.

Surprising the hell out of myself, I even hewed hard to my breakfast-salad diet and found that the more difficult my workouts grew, the less grease and garbage I craved. While rooting around in my desk for my wedding ring, I realized that the crap stash of emergency Oreos and spicy Slim Jims that I usually keep in my middle drawer had been empty for months. And when I found my ring and tried slipping it on my finger, what d'ya know—after 5 years of choking my circulation, it's now too loose. Maybe I wasn't Tarahumara-slim yet, but I was 20 pounds closer.

Like Caballo, I'd begun to feel the logic of the Tarahumara secret before I understood it. Because I was eating lighter and hadn't been laid up once by injury, I was able to run more; because I was running more, I was sleeping great, feeling relaxed, and watching my resting heart rate drop. My personality had even changed: The grouchiness and temper I'd considered part of my Irish-Italian DNA had ebbed so much that my wife remarked, "Hey, if this comes from ultra running, I'll tie your shoes for you." I knew aerobic exercise is a powerful antidepressant, but I hadn't realized it could be so profoundly mood stabilizing and—I hate to use the word—meditative. If you don't have answers to your problems after a 4-hour run, you ain't getting them.

But none of that wisdom has prepared me for this. Eric warned me that running low on water during a 12-hour run in 85° heat would be crucial, and now, with my pee the color of convenience-store coffee, I know I'm too dehydrated to finish.

"So much for kórima," I mutter to myself as I slump down on a rock. "I give something away, and what do I get? Screwed."

As I sit, defeated, my heavy breathing from the hard climb slows enough for me to become aware of another sound—a weird, warbling whistle that's coming closer and closer. I pull myself up for a look, and there, heading up this lost hill, is Bob Francis, a 60-something buddy of Caballo's who came down for the race.

"Hey, amigo," Bob calls, fishing two cans of mango juice out of his shoulder bag and shaking them over his head. "Thought you could use a drink."

I'm stunned. *Old Bob would hike 5 miles in 85° heat in his flip-flops to bring me juice?* But then I remember: A few days ago, Bob had admired my Victorinox knife, a memento from expeditions in Africa. Without even thinking about it, I'd given it to him.

Maybe Bob's miracle delivery is just a lucky coincidence, but as I gulp the juice and get ready to run to the finish, I can't help feeling that the last piece of the Tarahumara puzzle has just snapped into place. ■