

When fire started up out of the canyon, they were already dead. Still, for minutes, they kept cutting fireline, Forest Service hotshots and smokejumpers working a half-ass fire in the scrub oak and piñon country of north-central Colorado. They cut as though there were a future. But when fire boiled out of the canyon up Storm King Mountain at twenty miles per hour, fast enough to catch birds in flight, there was only the present. And then not that. It came with 250-foot flame lengths and the 1,800 degree heat of a crematorium.

In spikes, on a springy track, a world-class sprinter can reach twenty miles per hour in ideal conditions over one hundred yards. Sapped from hours of cutting line, churning uphill in boots and fire gear over rough ground at 7,000 feet, one hundred yards from the sanctuary of the ridgeline, it was not a winnable race for the premier firefighters the Forest Service puts on the line in the West every summer.

Forty years ago, on a fire called Schoolhouse in the San Bernardino National Forest of California, I peeled back with the rest of the Dalton Hotshots into the black—hot ash and brush embers—as fire came up the ridge like a freight train, incinerating all carbon-based life where we had been cutting line moments before.

Back when lots of folks thought the Corvair and Vietnam were good ideas, I worked my way through college on the

Dalton Hotshots, a Forest Service interregional fire crew based in California's Angeles National Forest. Like much of the West, the Angeles is built to burn: heavy fuel loads, biblical droughts, perpendicular country, big wind, and lots of citizens building cabins, wrecking cars, pitching cigarettes, and walking away from campfires or bad luck with speed labs. I put out some of those fires.

Turns out, I was doing almost exactly the wrong thing. Putting those fires out was, at best, beside the point. What we did was exchange a temporary fix for a guaranteed apocalypse in the historically fire-rich chaparral brushscape.

What has changed in forty years has changed for the worse: massive fuel load accumulation, a metastatic spread of the wildland/urban interface, and the accelerating consequences of global warming. The West has always burned, will always burn. But it burns now more ferociously: faster, hotter, longer, larger. Addressing the root causes would cost a lot of money and require changes that would make politicians and those who elect them less comfortable. So the crews go out, summer after summer, the shock and awe of high tech gear and machinery not finally amounting to much, boots on the ground how the war on fire has always been fought.

What has changed, as well, is a gathering perception among crews and outliers in the press and public that what is undertaken on the fireline is less a defense of our national patrimony than an extreme sport like climbing

solo in the Tetons, running the class five rapids on Clarks Fork of the Yellowstone, cave diving past the gated entry of Jacob's Well in the limestone Hill County of Texas, protecting indefensible wildland, inexcusable woodsy households.

On the far side of middle age, I follow my old crew and others every summer through old media and new. Too often, the news is not good.

Fourteen firefighters died at the South Canyon Fire on Storm King. Nine were Prineville Hotshots, a Forest Service crew based in Oregon dispatched to fires throughout the country. Three of the dead were smokejumpers from Montana and Idaho, the paratroopers of firefighting.

Every fire generation has its Dien Bien Phu, its Pickett's Charge, its Custer. For the U. S. Forest Service, the iconic immolations are Mann Gulch, Montana, 1949; Loop, California, 1966; South Canyon, Colorado, 1994; Yarnell Hill, Arizona, 2013. Thirteen Missoula smokejumpers died at Mann Gulch; twelve El Cariso Hotshots died at Loop. Fourteen shots, jumpers, and helitac crewmen at South Canyon, while the entire Granite Mountain hotshot crew, nineteen men, died at Yarnell Hill.

Of course, there were investigations, findings, recommendations, policy changes. The government's South Canyon Fire Investigation Report runs to 220 pages with narratives, charts, color photos, timelines, and a blank space beneath the name of the team member who refused to sign the document. In bureaucracies, failure has a thousand fathers: mistakes were made. At South Canyon, weather, communications, command structure, allocated resources, drought, fuel type, terrain, and on-ground decisions were cited as contributing factors. Issues such as shot/jumper rivalry, women on crews,

and old, out-of-shape jumpers were too incendiary to be addressed.

But at South Canyon, as at Mann Gulch, Loop, and Yarnell, finally only one thing mattered: the fire got under them. The principle is not even physics 101; we learn it as children. Light a match: hold your finger below, to the side, above.

Under ideal conditions—weather, terrain, fuel, crew, fire behavior in your favor—with a prayer to the fire gods you can cut line downhill toward a fire. If you do, three things can happen: two of them bad, one of them fatal.

Driven by Santa Ana winds, the Loop Fire torched off from a downed power line serving a Nike missile site in the Angeles National Forest. Dalton was there, though I was not, back in college by then reading Melville: "Wonder ye then at the fiery hunt?" Dalton's superintendent refused to cut line downhill toward the fire. It blew up a chute, covering more than 2000 feet in less than a minute. When I came back the next fire season, there was a crew to come back to.

Mann Gulch, Loop, South Canyon, Yarnell Hill—scrubby little fires that hardly budge the statistical meter: 4,500 acres, 2,028 acres, 2,115 acres, 8,400 acres. Every year, fires in the West routinely top 100,000 acres, 134 of them since 2000. Over the past ten years, more than 6,600,000 acres have burned annually in the United States. South Canyon was so unimpressive it was let burn two days before crews were dispatched. The fire on the flank of Storm King Mountain, initially misplaced in an adjacent drainage, remained in the official record as a geographical mistake.

The fire itself made no mistakes. While the Secretary of the Interior lauded the dead as professionals, they

were mostly seasoned amateurs, the best the Forest Service can put on the ground every summer. The real professional here was fire, honing its licks for 400,000,000 years since it turned up in the Paleozoic. Four hundred million years of perfect fidelity to a strict choreography of temperature, fuel type, density, and moisture content, wind speed and direction, oxygen availability, relative humidity, slope. The iron determinacy of combustion; the vagaries of human capacity and choice. When it goes wrong, the embrace a dance of death.

This is not to say that there is not burning at the extreme margin of the natural world, pillars and spheres of fire out of the Old Testament, Boschian firescapes from the Mills of Hell. Our third shift on Schoolhouse, Dalton watched from across the canyon as a fire whirl engorged, swelling into a fire spout funneling hundreds of feet above the ground fire. It spun up the ridge, a pulse of white at its center, lateral sheets of flame drawn to its base, burning shards hurled into the brushfield. It sounded like a jet lifting off, and we could feel the heat at half a mile. I have never seen—though there are those alive who have—globes of magenta gasses spinning ahead of the firefront, vapors streaming behind, catching a pocket of oxygen, detonating. Few die, however, in such extremities. Most die when fire is going about its ordinary business.

Death itself is often but not always quick. At Mann Gulch, two jumpers so badly burned they felt no pain, nerve ends charred, lasted until the next day when their kidneys failed. At Loop, three hotshots died en route to the hospital, two more in the days following. At South Canyon and Yarnell Hill, everyone died on the line.

The physiology of death by fire often has little to do with flame's embrace of the combustible body. Burns

beyond imagining are survivable. On Loop, the El Cariso superintendent, hit by a blast of flame, reached to retrieve his hard hat and saw melted wax hanging off his arm. As his skin dripped away, a second fire surge struck him head on, and his forehead ran down over his eyes, clouding his vision. Then he burned some more. Next year, he was back at work. Flame is often a latecomer. The body, seeking oxygen, draws fire down its airways like a drowning man sucks water. Superheated toxic gasses and smoke fill the lungs, searing the throat which closes like a fist. Combustion bats cleanup, but often there is no one to bring home to death. Still, at temperatures where metal melts, fire's bodywork insures that there are no open casket funerals.

No one, of course, believes he will die. We understand that we will, but few fully feel it. On the fireline, hotshots and jumpers—schooled, fit, tough, smart, led—wade right into it with statistical and experiential confidence. And at the end, when death seems first possible and then certain, the desperate secular “not me, not now” morphs into “God, please, no.”

Working construction on the Feather River Project in California, I took a pickup end-over-end into the canyon. The first rotation, I thought how I was going to be fired. The second rotation, before I hit a pine that saved me another six hundred feet, I thought how I had bigger trouble than my job. On the John Day River in Oregon, high and cold from spring run-off, I flipped my raft just past Clarno Rapids, cracking my head with the oar and coming up under the raft, buoyed up by my lifejacket into hypothermic darkness, gulps of water and guesses at air, held in place by the bulging tubes.

Both times, I was going to die, and then I didn't.

On the line, mostly I never knew. Chuck Hartley,

Dalton's Superintendent, pulled us back from death on Schoolhouse, as he held Dalton back from death on Loop. Staggering at the end of a 14-hour shift, sucking smoke and veering around beds of coals with a teasing scrim of ash, I was miserable and pissed off. Minutes later, I was alive.

I never thought I would die by fire. Not when I had to shield my face with my hardhat, the canvas pack of the hotshot beside me on the line starting to smoke. Not when Dalton slept on the line roped off to trees on the vertical Monkey Fire, fire spotty all around, rocks hurtling down out of the darkness like cannonballs. Not when I had to burn off a steep, logged ridge in Oregon at night, two of us with diesel/gasoline drip torches struggling back and forth through waist-deep logging slash, too old for it, so whipped at the bottom I had to crawl most of the way back up.

The closest I came was not on a wildfire but in my house in Port Orford on the Oregon coast. I had been fiddling with a balky furnace in the basement when oil and flame spilled out like a magic trick. Hands burned, I got my wife and child into the yard as the power went out. The manuscript of my novel was on a desk upstairs. I sucked in a great lungful of air and started up in the dark. At the top of the stairs I needed a breath. *Now* said my lungs. *No* said my brain. I stumbled back down, gasping and puking, and stood out front as the volunteer fire department rattled up the road while our house burned down.

I have feared, though, that I might lead others to death. In charge of two and three-man smokechasing teams, tracking down lightning fires on Oregon's Willamette National Forest. Or running a crew. One night I was called out to lead the initial attack on a fire on an adjacent ranger district. Our district fire crew had been

dispatched elsewhere, so I got a grab-bag, whoever could be rounded up: men, and women, from timber, recreation, even the front office. I'd never run a crew before. The fire turned out to be a pissant, five acres maybe. But it was night, of course, and steep, of course. I knew enough to know I would not prove watchful enough, resourceful enough, decisive enough, physical enough to keep my crew safe if things went south. So I ran around and made a lot of noise. By morning, we'd lined the fire and were headed home, my only reckoning a summer of bad dreams.

I thought about that night years later when I walked the ground on Storm King Mountain. Paul Gleason had told me what to look for. He had been my squad boss at Dalton and gone on to become a legendary hotshot superintendent. I had gotten back in touch with Paul who was rounding out his career directing the reintroduction of fire into the national parks. There wasn't much about South Canyon he didn't know.

Paul had long been regarded as a national leader in promoting fireline safety. His passion for safety was not only professional but personal. In his last season as a superintendent, on the Dude Fire in Arizona, Paul had gone back into Walk Moore Canyon as others bailed out for a safety zone, helping save a member of an inmate fire crew that had been overrun. Then he went back into the canyon again and wept as he came on body after body: five inmates and a supervisor.

To reach the death site on Storm King, you have to climb five hundred vertical feet up an adjacent ridge, drop three hundred feet into a canyon, and climb again eight hundred feet on slopes so steep I could often touch the ground above me hardly bending at the waist. I was decades out of hotshot shape, not even in hiking shape

really. Coming down the last ridge on the way out, I had to crabwalk the sketchy trail, hobbling sideways, calves and thighs knotted.

Five years after South Canyon burned the ridge wholly to char and ash, beneath a few skeletal spars green was coming in, Gambel's Oak surging back from the roots, the ridge a chest-high thicket bisected by 1,957 feet of fire line brushed back every year in tribute, fresh cuts the color of flesh. I walked the fireline where hotshots and jumpers died, climbed the last three hundred feet to the ridgeline whose crest would have saved them, and went back to the granite crosses standing where each firefighter had fallen. Every cross had become a shrine: boots, gloves, fire tools, tins of Copenhagen and Skoal, emblems from dozens of fire crews, notes, flags, and full beers, the older tributes dissolving in the weather, a rich compost of remembering.

The chaos of those last moments has been clinically reconstructed in the South Canyon Fire Investigation Report. Most experts think we know what happened, how it happened, and why. A crucial element of the forensics is a catalog of objects found with the bodies, their condition a register of the heat of the firefront. In a supplement to the report, the catalog runs page after heartbreaking page:

*Hardhat: mostly charred and melted (300-500°)*

*Jeans and Shirt, fire resistant Aramid: no clothing remains (800-1,000°)*

*Fire Shelter: melted foil and glass (1,200-1,600°)*

*Ground Articles: boot soles; 2 Copenhagen lids; large melted aluminum carabiner; key with two key rings and*

*plate: "KJC" on one side and "Love Mom and Dad 1991" on back side; 4 pennies, one with silver blue metal melted to it; 1 hook, small (bra); boot nails, studs, and eyelets*

*Skin: severe charring over most of body*

*Body Position: kneeling facing uphill, with feet, knees, hands and forehead touching the ground . . . victim had chain saw handle still in hand*

The Prineville Hotshots averaged twenty-five years of age, the smokejumpers thirty-six. I left a Dalton patch at the cross of a hotshot whose father and I had worked on the same ranger district.

At sixty-eight, I'm well on my way to being old. If I still played basketball, fifty-year-olds would blow past me to the hoop. My wilderness pack tops out at thirty-five pounds these days, and the Husqvarna saw I run in Texas has a sixteen-inch bar, a risible length in the Oregon woods. When I burn brush piles on my property, I wear an old fire shirt I can no longer button and poke around with a fire shovel I once cut two-inch saplings with. I use water now to keep things under control, a luxury rarely available to hotshots. I feel at once old and young, burning the brush, the fire not quite feral yet more than domestic.

Fire will have me in the end, as it will have our planet when the sun novas in a few billion years. I will be cremated and the ashes spread where I choose. Some of those ashes will be scattered in the mountains of the West where fire might have had me decades sooner. Where it will have others in decades to come. 