

Mechanics of Injury

By Russell Wangersky

I don't fight fires any more. My heart still judders in my chest when I hear the trucks coming, and I look out the windows at the front of the house when the big pumpers rumble by, siren tearing the air like cloth ripped into rags. Sometimes the driver looks up at the house, sees me and pulls the horn chain, and the twin air horns - a jagged half-octave apart on purpose to jar the ears - rip and echo across the valley with a transient greeting I like to believe is half a salute.

It would be simpler if I had been permanently burned - and I have been burned, once in a diesel explosion that cost me my eyebrows and all the hair inside my nose, leaving a ragged red pattern of angry third-degree burns across my forehead. If I had been seriously hurt, then there would be a visible reason, a badge that wore like an honourable discharge. But nothing is simple.

In fact, some things become so complex, they verge on science.

You're supposed to think like a physicist when you get to an accident, when a pickup truck and a mini-van are joined nose-to-chin at an intersection. You're supposed to think - not about people and the fragments the moment will make out of their lives - but about the mechanics of the accident, about things as esoteric as the angles of incidence and reflection, about the complex equations of force drawn on the pavement in tire rubber, and the directions of expended energy in the sprayed diamonds of broken safety glass, all in an effort to make sense of what may have happened to the people inside the cars. Where they were seated and where their seatbelts webbed across their bodies, where they might be injured inside, far from your eyes or your touch. As if, by some precise attention to physics or mathematics, you can determine everything that happened in an instant, explosive equation.

They call it the "mechanics of injury," the way they call putting two pieces of broken bone together "reducing the fracture." And perhaps terms like that exist to put some distance between you and the injured, the way you're trained to say "casualties," because "victims" makes it sound like they might already be dead.

Sometimes, the mechanics are crucial.

Once, after a black Volkswagen Rabbit with a jack-o'-lantern sticker in the back window pitch-poled four times - rolling end over end, not just side to side - down the darkened straightaway of an empty road in the Newfoundland town of St. Philip's, I watched the paramedics come back after dropping off their cargo, just to take notes for the hospital on how

many times the passengers had been flung into the windshield. Eggs thrown around in a crate, a driver and passenger with no seatbelts who were tossed from the car when the driver's door was torn off. Walking along the wet and shining pavement, it was startling to see how much destruction it wore: 50 yards of car parts, fenders, mirrors, broken glass and plastic trim, along with every scrap of detritus that piles up in people's cars. Cassette tapes, an ice scraper, the jack and jack handle, broken beer bottles and, jarringly, a radio-controlled car, a child's toy, torn apart by its own pantomime of the accident that had surrounded it. It looked as if you should pry open its plastic doors to search for more - but tiny - passengers.

The equation for the driver was exceedingly complex, with pieces that were almost impossible to concretely outline. Somewhere in the four long flips - each of which had left a clearly defined mark on the road - he had left the car, sailed through the air and struck a concrete culvert with the back of his head. Faced with the human jigsaw, the doctors wanted to know how all the pieces might have shifted apart. But all of it was barely inspired guesswork - knowing only where he had ended up, and where the driver's door lay in the road, you could draw several different trajectories for how he had been thrown clear, and never really know how long he had stayed inside the relative safety of the inside of the car.

Down in the ditch, I had held his legs, listening to the rattling uneven wetness of his breathing, but I could look across in the dark and see the shining hollow eyes of another firefighter who was holding the driver's battered head. The ditch was deep enough that it had its own solemn privacy; a breath, a breath, silence. Then, a laboured start to that same equation all over again.

Other times, the mechanics are inconsequential.

On a winding road near the Annapolis Valley town of Wolfville, we searched for half an hour along a ditch, looking for a black motorcycle that the driver of a passing car had seen go off the road at twilight. The ditch was high and brown with fall thistle and the nested canes of blackberry bushes, leaves gently turning red and, behind the ditch, rows of apple trees sat hunkered down and heavy, Spys and Paula Reds full and bright and pulling the branches almost to the ground. Pastoral and silent, the whole landscape waited, holding its breath, and firefighters walked ahead of the truck, listening.

The captain in Pumper #3 found the first variable in the equation, though not where it was expected.

Most of a telephone pole was still hanging upright from the taut wires above, with a two-foot piece gapped out in the middle where the engine of the motorcycle had hit it flush and at high speed. It was just one in a long line of poles bending around a curve in the road, but the only one missing a section out of its middle. Starlings were roiling in their fall flocks, huge numbers rushing and turning in the sky as if the birds were one single rushing entity. When the firetrucks were stopped, a flock turned, swooped up and spread itself evenly along the telephone wires, formal black observers stepped precisely apart and chattering.

This time, there were just victims; no need for the distance of “casualties.” The arc of the curve, the speed of the motorcycle, the short apostrophe of rubber where he braked too late, and the single sharp addition of the telephone pole itself - it was still possible to read the equation, it just didn't add up to anything anymore.

The motorcycle was on its side, still warm: the driver and passenger were, too. It's strange how, almost 20 years later, I can draw that hard tableau from memory, while I can't remember the faces of the firefighters who rode the truck with me.

Other things spring out, late at night when the wind is working the bottoms of the bedroom curtains and the noise of the trees keeps you at the very edge of sleep. A set fire in an empty house, a house slated to be torn down - and in what had been the living room, a 40-gallon diesel drum, open across the top. And even though it was foolish, I didn't have the mask of my breathing gear on yet; there was no real sign of a fire, making it hard to dispel the lingering belief that nothing was going to happen.

Fuel fires are funny things. They sometimes wander and flicker and don't smoke at all, while whatever's actually going to ignite the fuel is looking for the right mixture of diesel and air. Hard to light sometimes, but once started, fuel fires make their own combinations, and the result is astounding in its speed.

I saw the flames first when they were coming out over the top of the barrel like liquid: great mounded, roiling masses of dark orange and plum-purple flame, boiling up over my gloves and the sleeves of my fire jacket, all around me like mist blown in quickly off a cold ocean. The flames lick silently, and you don't feel them at first.

The first thing I noticed, strangely, was the smell of burning hair, as intense as when the sleeve of a wool sweater gets too close to a candle, a smell that seemed almost disorientingly out of place. The second thing I noticed was that it was coming from me.

The shock was something I didn't expect; I remember walking away from the fire and sitting down on the stairs to the second floor. Outside, other firefighters had seen the windows light up with the fuel flashing over, and had heard the familiar hollow, box-filled-with-cotton-wool thump of the explosion. They were shouting at me to come out of the house. I remember being both oddly startled and overwhelmingly tired. After the first flash, the fire went dark quickly, and thick, sooty black smoke ran across the ceiling, filling the space as evenly as if it had been carpet laid on the floor. It moved down the walls until it got to the doorframes, and then lipped underneath and rushed up the stairs behind me. Outside, it was a brilliantly sunny day and, looking out through the rectangle of the front door, I can remember how the green grass and the bushes stood out bright against the dark inside, like a floor-to-ceiling painting of the outdoors. Then the smoke started flowing out that door, too; even then, I remember an incredible lassitude, as if my arms were hugely heavy, as if there were no way I could ever lever my way to my feet. It wasn't until the other firefighters started rushing through the door that I thought it would be possible to move.

Outside, I sat alone on the tailgate of the rescue truck, feeling the comforting, familiar rumble of its engine through my back, and watched the crew rush to put out the fire. I touched my forehead gently, feeling the rising row of blisters, looking at the delicate white tissue of burned skin that came away on my fingers, feeling the first salty sting of the burns. Most of my eyebrows fluttered down, sooty black strands that broke away into powder between my fingertips. For a few moments, I could feel everything, like my senses were overrun. The incredible brightness of the sun, the depth of the noise around me, the astounding weight of the trees and grass on my eyes. Then, like the lead edge of a wave rolling past, all of that was gone, and as the pain really started, the whole world seems to redden and dull, and time - which had been moving so slowly - suddenly leapt forwards, and minutes, then hours, accorded in on themselves.

But burns heal. Even if no one - no one - really forgets.

One of the pump operators, Ray, a big man who hardly ever said anything, would sometimes sidle up to me conspiratorially and whisper, with a lopsided grin, "You blowed up good."

Burns heal, but other things linger. Sometimes, they are as simple as a subtle shift in perspective, other times, more jarringly, they are things that warp the way you see.

Going to an autumn fire in White Rock, back when we still could ride on the tailgate of the pumper as it raced along the narrow Nova Scotian back roads, I remember watching the high grass whip by, the siren filling in the air around me, the houses flickering by like slides on a slide

projector, without ever knowing what was in front of the truck, without ever knowing what was coming. Hanging on, hearing the air brakes muscle on, feeling the truck tilt down in the front end and your shoulder pressing into the back of the truck, the hose nozzles dangling down and banging the metal plate - you'd never know if the pumper was about to plow into something, like the pictures that crop up in firefighting magazines, pumpers in spectacular wrecks after someone doesn't hear the sirens and horns and backs their car out into the road.

All like falling into a hole, propelled blindly forward with hardly a hint of what was coming.

The house in White Rock was burning fast; I could tell that from the pillar of dirty yellow-black smoke I could see when the truck was at the crossroads a mile or so away. A big thumb-smudge of smoke, an exclamation point against the blue of the sky, the kind of smoke that makes one of your hands check all the d-clip fasteners on the front of your fire coat and mentally walk through the steps of putting on breathing apparatus and pulling hose. In my head, my left arm was already through the loops that hang from the end of the hose that's called the attack line, always the first hose off the truck, and my body was bending away at an angle with that first tug that will start the hose sliding. Pulling those loops in my imagination long before the truck stopped, spilling the flat yellow coils across the grass, waiting for the pump operator to pull the lever on the pump panel and fill the line with water, snapping the flat hose round and popping the kinks into curves.

The house was an older two-storey, white with a black shingled roof that came down over the sides of the second floor, a television antenna half-broken away from the chimney and leaning awkwardly. A fan-trellis on the side of the house, with a tangle of climbing clematis, but only a few late, deep purple flowers. A clothesline, hung limp with laundry, ran out diagonally from the back corner of the house. There was furniture out on the lawn, the front door wide, windows broken and pouring smoke upstairs. A red car with both doors open on the passenger side, photo albums piled on the seats in the front and back. The pieces you pick up in your head are scattered and arbitrary, accidental snapshots that wind up fixed in place and then define everything later, after the hose has been loaded again and the trucks driven away. And maybe, just maybe, you don't ever have another call that takes you past that property again.

Inside, the house was like many serious fires. Downstairs, the walls had a reverse tideline of smoke stains, soot-black near the ceiling and getting lighter as the smoke had crept down the walls, although the air was almost clear by then. The room had a kind of toppled, windswept disorder; things knocked crooked or tipped over, the couch at an awkward angle with its legs

bunching the carpet, and some light-shadowed spaces on the wall where pictures had briefly blocked some of the smoke before falling from the heat. Shelves where the top row of books had burned, but, lower down, others sat untouched. Something plastic on the very top shelf had turned to soup, and then reconstituted itself as a sooty and black-specked blob, its original definition gone.

The stairs had a red patterned runner up the center - the edges of the steps were white, and I could see the yellow of the hose clearly, feel each heavy, wood-denting thump as the hose moved up and the brass coupling between hose lengths struck the wood through the runner. Hotter upstairs, oven-hot and steam-wet, so that sweat blossomed on your skin under your fire jacket. So quickly in a fire, you feel the sweat gathering into a thick runnel and streaming down the hollow of your spine, soaking the back of your shirt and sticking the cloth to your skin. At first, it's a gentle, body-warming heat, but with each upwards step, it becomes closer to a claustrophobic baking, a stultifying, strength-sapping heat that makes every step difficult, especially with 40 pounds of fire gear and air tanks. On top of that, the awkward struggle to turn the single-minded, water-filled hose in directions it never wants to go, around the corners that it fills from edge to edge, while the couplings catch on newel posts and doorframes and always take an extra, draining tug to move.

By then the fire was in the back two bedrooms, and there were already other firefighters from different departments working downstairs, from Aylesford and New Minas. Out front, the big, slow water tankers from Kentville and Port Williams were pulling up. Another young firefighter and I moved along the hall and knocked down the fire in the back, sweeping water from the hose across the burning, charcoaled two-by-fours where the wallboard had burned away.

As the fire got darker, so did the room, and the combination of steam and smoke filled in down to the floor, claustrophobic and hot. Moving around by touch, wrapped tight in the dark. In some fire departments, breathing-apparatus training includes the absolutely terrifying experience of having black garbage bags tied over your face and mask. It's one way to find out if you'll be able to stand the closeness of the smoke, the inability to see even inches in front of you - yet some find it oddly comforting. I feel both isolated and cocooned; it's a strange peace, that, and not to everybody's liking.

Afterwards, the fire out and the smoke lifting to a thin haze, we moved slowly, overhauling the hot spots and salvaging what we could. I looked out through the bubble of my mask with a kind of absent detachment, set apart somehow, as if the fire and the damage couldn't affect me. In a fire, no part of your body, not even your eyes, are in direct contact with anything;

your face is inside the mask, a fireproof hood covers your head and ears under your helmet, your fire jacket and bunker pants cover you from your neck to your heavy rubber boots.

It's not your house, so the rooms are strange, but it's more than that. Often, the rooms are completely foreign when the smoke has lifted. Before that, they are set in memory in a sort of shorthand braille, described by the number of steps or the length of time spent crawling along one wall. The topography changes dramatically once there are visual clues: awkward-shaped parts of rooms become closets crawled into and back out of, and angled, unusual spaces become simple square rooms filled with furniture. Ropes that wind around legs are as simple as soot-stained blankets tugged off mattresses and twisted on the floor

Walking back down the upstairs hall in the house in White Rock, after almost all the smoke was gone, I became entranced by the intricate pattern of the carpet; it seemed incredibly involved, a bright pattern of cream and brown. Then the yellow dome of a firefighter's helmet passed right through the pattern, and I realized that I was looking down through a hole in the floor, that the ceiling of the kitchen had burned away entirely, taking some of the hall carpet with it. What had been a different pattern resolved itself into the kitchen floor and part of the cabinets. Except for the distraction of the pattern, I would have stepped through and fallen eight or ten feet straight down. Some things are just in the way you look at them.

Nineteen years after White Rock, I remember seeing the skirt of a lime-green dress, spread out like a pleated fan across the floor of a Newfoundland legion hall and, in the middle of the fan, the mound of an unconscious woman. Perhaps it's best to just call her Rita - some privacy in an otherwise too-public final circumstance. This equation is strangely reduced in my memory to geometry: the curve of her stomach, the triangle of her skirt, the oval of people standing around her, looking down.

She was lying flat on her back, mouth open, staring fixedly at the ceiling. Around her, the crowd of a 50th anniversary party was circled at an arm's length, leaving her in a small, semi-private pool of parquet flooring.

Maybe 70 years old, maybe a little less, and there were two firefighters doing CPR, one already sweating heavily and leaning hard into her chest by the time my truck arrived and we came in with the gear, the extra gloves and the ventilator. No ambulance yet, still miles away, not even the piercing top notes of its siren notching the heavy summer air in the valley by the hall. The deep July belly of summer, all the legion hall's windows open, the curve-backed chairs all hung with discarded suit coats. Men with slackened neckties - limp shirts losing their pressed

definition - standing around and unconsciously pushing up their sleeves as if they had something they were about to start doing. Others sitting, wearing the distracted look of people thinking they had only barely dodged this particular lottery.

The innate obscenity of it, firefighters, their hands on a woman who, if conscious, would have been embarrassed by their rough touch. CPR is so hard that you sometimes feel ribs give and break under your hands, the kind of flesh-quietened pop you hear when you're cutting up raw chicken, when you're twisting the joints backwards to separate them. A pop you feel as much as you hear, and it happens so easily that you find yourself absently counting a person's ribs as they give.

The music was still on. All of the kitchen staff had come out from the back, gathered together in a tight, white-aproned group with their hands up to their mouths, hairnets still covering their heads. Everyone standing or sitting, unable, as if by unwritten convention, to move.

Except for one man, short and lightly-built, wearing grey flannel trousers and narrow suspenders, his face brown and weathered, his feet constantly moving, circling the woman and the firefighters warily, talking all the time, like a commentator giving the play-by-play.

"She's alive. Throwing up - gotta be alive to throw up," he said, standing in too close above the working firefighters, unwilling to be pushed back away. "Might be breathing now. Might be breathing. Colour's good, real good."

In reality, though, time was running away. No reaction to suggest the light might come back to her eyes, no movement, except for that deep, raspy and frightening stomach-muscle breath that speaks of failing bodies and engines winding down.

And there was an air of hopelessness in the room, hanging just above the windows, a palpable sense of the resigned. This audience wasn't waiting for Lazarus, not expecting Rita to sit up and cough, or maybe attempt a feeble wave as the stretcher was loaded into the ambulance. These were people too old to trust in miracles, experienced enough to recognize the steps of the dance that has collapsed into the mere practice of rehearsal. The ambulance was near then, coming down the long valley, howling. By the time the stretcher was in the hall, everything was running by rote. Decisions had been made without ever being spoken, steps not taken, and it was as if everything and everyone were just waiting for that thin line of someone else's authority to bring it to a close.

It's a funny thing: if you get close enough to someone who doesn't blink, someone who will never blink again, you will see your own face reflected back at you and distorted slightly in the gentle curve of the iris of their eye.

Sometimes, you can't wear enough equipment to stay detached. Trying to find the injuries under the skin, even through latex gloves, I know you can feel the stubble of an unconscious man's cheek, know the fleeting warmth of someone else's skin.

Mechanics of injury, indeed.

I don't ride the trucks any more. Not right now.