

BILL CAPOSSERE

BLACK HOLES

Can I get you something to drink?
Or was it “How about something to drink?”
It could have been “Are you thirsty?” Though looking at it on the page, that seems too brusque. Too clipped. Too lacking in the desire to please. So.

“Can I get you something to drink?”

How many times then? Three? Four? How many could it have been?

“Can I get you something to drink?”

Enough to be noticed. Enough to be unnerving even. But not scary. Not yet. So three, maybe four. Possibly five. No more than five. Though even five would have been scary. Wouldn't it? I would have remembered five, I think. The number. Round. Neat. Solid. One of those numbers you count by, reliably: ones and twos and fives and tens. Five would have been memorable. Five would have been scary.

“Can I get you something to drink?”

So not five. And probably not three. Three would have been funny. Quirky even. When did it go past funny? Not long. Long would have been OK. Only a short window of opportunity to become strange, unnerving. Four or five times over a few hours is polite. Is fine. Four or five times in thirty or forty minutes is not. So how long to lose control, spin off the road, crash into funny then quirky then odd then unnerving, till it ended in a pileup, a mess that took awhile to untangle so you couldn't tell yet whether anyone was hurt, though it looked bad. It did look bad.

“Can I get you something to drink?”

The idea of a heavenly body so massive that light itself would be held captive was first broached in the eighteenth century, when light was seen as being made up wholly of particles—tiny pebbles of solid luminescence. People knew well at the time that



gravity pulled everything downward—a stone tossed into the air will go only so high before falling back earthward. They also knew that if one could increase the stone’s speed enough by throwing it with greater force, it could overcome gravity’s pull and escape the earth altogether into the cold dark of space. This “escape velocity” could be calculated for any body of known size and density: 11 km/sec on Earth, 2.4 km/sec on the moon, and 620 km/sec for the sun.

In 1783, the English geologist John Michell applied the concept of escape velocity to light, which he assumed would be acted upon by gravity as was any particle, any stone, any pebble. He calculated that a star roughly five hundred times the size of our own would have an escape velocity greater than the speed of light and that “all light emitted from such a body would be made to return towards it by its own proper gravity.” In other words, the light would be unable to escape, making such a sun invisible to our eyes. Thirteen years later, Pierre-Simon LaPlace, a French astronomer, independently arrived at the same conclusion, calling such stars “dark bodies” and postulating they may be “perhaps as numerous as the stars themselves . . . the largest luminous bodies in the Universe may . . . be invisible.”

Michell’s and LaPlace’s theories soon became invisible themselves, ignored as the prevailing theory of light shifted from viewing light as entirely a particle to the currently accepted one of light’s dual nature—both particle and wave. It would be more than a hundred years before LaPlace’s “dark bodies” were reconsidered, and another half century after that before they would get their current name: black holes.

My aunt Mary is my mother’s older sister. Or at least she would be if my mother were still alive. Or does my mother’s death thirty years ago make my aunt even more so the “older” sister? The gap between them increasing year by year, the two of them no longer marching lockstep, one a set number of paces behind the other down time’s parade route. My mother pulled out of the procession at thirty-nine, the rest of her family moving forward without her, though one by one each of them—first older brother, then mother, then father—quit as well, lay down their instruments, their funny hats, their weary smiles, leaving only my aunt to carry on, baton girl at the head, furiously twirling





and all too aware of the growing quiet behind her. When it went completely silent, she must have wondered how she had mislaid them all, wondered what wrong turn she had taken, what route she could retrace to find them all again.

Where were the parade markers, the waving banners, the street signs, the ball of thread, the trail of bread crumbs that would lead her back? Back to before she held her father's hand as he slipped away in the hospital—the final death in a decade's run of loss. Back to before she stood at the foot of her mother's bed in the hospice, unrecognized, unconsolated. Back to before one cancer slowly robbed her of her older brother, to before another equally slowly stole her little sister.

She had only to wait; it turned out the way back was not behind her, but ahead. The parade cadence would break, the forward linear march wander to a halt. The procession, the very route itself would melt away, dissolve around her—become, like past pebbles of light, unsolid—until she floated, freed of movement, of direction, surrounded by nothing, surrounded by everything, surrounded by all she had lost and eventually won back, drawn down through the darkness by memory's mass.

The majority of black holes (“ordinary” black holes, if such a term can be used to describe such a strange phenomenon) form from the spectacular deaths of massive stars. From their beginning, stars are precariously balanced between two opposing forces. The gravitational force of its own mass is constantly collapsing the star in on itself, while the star's internal nuclear reaction, converting hydrogen to helium, continually explodes it outward. Depending on the star's mass, these two forces can remain in this state of stellar stalemate for millions or billions of years.

Eventually, though, the star will run out of hydrogen. As it shifts to burning the helium it had converted from hydrogen in its first phase, gravity contracts the core further, making the sun even hotter and forcing its shell to billow gloriously outward, forming a red giant, hundreds of times larger than the star's original size.

This cosmic light show is all a façade, however. The shift to burning helium is actually the beginning of the end (though it will *be* the end for us as the Sun will fry the Earth to a crisp



when its outer shell expands to Jupiter's current orbit). Like the hydrogen before it, the helium will eventually be exhausted as it is converted to carbon; stars with a mass no larger than 1.4 times the size (known as the Chandrasekhar limit) of our own sun will cool and collapse into white dwarfs.

More massive stars, though, will continue the nuclear fusion cycle beyond helium, turning to other elements to forestall complete collapse, beginning with burning carbon and moving on through oxygen, silicon, and sulfur, among others. But the star can only postpone its end. Ultimately, the substituted fuels are burned off one by one, and the star is left with only an iron core. Up to this point, the fusion conversions of one element into another heavier one had freed enough energy to balance out the gravitational force. But there are no such reactions that can release energy from iron, the most stable of nuclei. For the star, it is the end of the long nuclear road. And that road leads over the cliff edge—the fusion that has been holding the gravitational force in check is gone, and in a fraction of a second the star (if it was originally massive enough) collapses in on itself in a massive explosion—a supernova.

Most of the star's mass is lost in this explosion, blown outward into the universe, seeding its region of space with the heavy metals necessary for future stars, planets, and even humans (without some long-past supernova blasting carbon out into space, you wouldn't be reading this). But some of the star's mass remains, bound by gravity, whose unchecked force now shrinks the mass ever smaller. If the remnant core is between 1.4 and 3 times the size of our own sun, it will contract into a neutron star, typically about 10 to 15 kilometers in radius. Because the neutron star doesn't lose any mass as it shrinks, it grows ever more dense, so that a single teaspoon of such a star would weigh a billion tons on Earth.

But if the remnant is larger than three times the size of our sun, it will shrink even further: to smaller than a soccer ball, a pea, smaller than the eye of a flea, all the way down to a single point—a "singularity"—of infinite density, so massively dense that its gravity warps space and time and allows nothing, not even light, to escape.

Who recalls first meeting our aunts or uncles, unless they've been estranged for some reason from the family and only re-



cently let back into the fold? Or they live so far away that visits occur every few years, the first such encounter happening within the scope of memory. But the others, those who live in near proximity, they've just always been there. There within a day or two of your birth probably. There, certainly, during your unexamined infancy and toddler years—you have the pictures to prove it: one of them cradles you in his arms, trying not to let ashes from the cigarette dangling from his mouth fall into your eyes; another holds one of your arms high above your head as you take faltering steps, careful not to spill whatever drink she's grasping. By the time you're old enough to have a memory, they've become part of the blurred background of your life, so that recalling your first clear memory of them is like trying to recall your first memory of fingers, of food.

What you're left with are impressions: images and sounds floating across a small canvas of years whose precise dimensions you can't quite nail down—indistinct, a bit out of focus, but enough to gradually coalesce into a sense of vague personality. When I move back past the sharply realistic remembrances of my aunt—specific things she did, words she actually said, clothes she actually wore—when I strip away the photograph-like details almost to the blank edge of memory, what is left is a single, representative sound: laughter.

Nobody enjoyed a laugh more, nobody drew one out longer, nobody's was more frequent, nobody's was louder or more contagious. Though to be honest, calling it a "laugh" is somewhat generous; it bordered, one has to say, on a cackle—high, sharp, more pleasing to the heart than the ears. But it wasn't how it sounded that was important; it was the irrepressible quality it expressed. Like a river breaching a levee, a green stem forcing its way through concrete, it would not be contained. It spilled out, bubbled up, defied acoustical aesthetics, a sense of decorum. It exploded outward, defied gravity, defied darkness, the way it rose up out of her and just kept going, achieving whatever escape velocity life has.

When Subrahmanyan Chandrasekhar calculated in 1930 what would happen to a star below the Chandrasekhar limit once it had exhausted all its fuel, scientists who happily accepted his equations had a much harder time believing the further implications—that stars above that size had no limiting factor to how





far they could shrink; they could theoretically contract all the way down to a single point. Albert Einstein flatly rejected the idea, writing in a 1939 paper that “singularities’ do not exist in physical reality.” Chandrasekhar’s teacher, the prominent physicist/astronomer Sir Arthur Eddington (whose response to a journalist telling him that he’d heard that only three people in the world understood general relativity was “I am trying to think of who the third person is”), also thought the idea impossible and was so publicly hostile to it that Chandrasekhar gave up his studies of black holes and moved on to other areas of research.

But in 1939, the same year Einstein rejected the concept of singularities, Robert Oppenheimer, using Einstein’s own theory of relativity, published the first description of a collapsing star that exceeded the Chandrasekhar limit. As one might expect for a theory based on relativity, Oppenheimer argued that what one witnessed in such a collapse depended on one’s observation point.

An observer far enough away from the star so as not to be affected by its collapse, watching a fellow astronaut riding the star’s collapsing edge while sending back blinks of light, would see the light gradually shift to the red end of the spectrum as the gravitational field of the collapsing star bends the light rays inward. The lights get ever dimmer, ever more red, and then seem to disappear altogether. At a certain radius around the singularity, referred to as the event horizon, the rays are so bent by gravity that they cannot escape. What lies beyond the event horizon is a black hole.

But the outside observer never sees his companion actually cross the event horizon and fall into the black hole. Because the black hole’s massive gravitational field affects time as well as space, to the outside observer, the time between blinks of light grows larger and larger, approaching infinity. The traveler riding the surface of the star does cross the event horizon into the black hole, but that last blink of light never reaches the outside observer (by the outside observer’s time reference).

For the traveler on the surface of the collapsing star, though, things are quite different. From his perspective, he passes right through the event horizon as if it weren’t even there, falling to the center of the singularity in normal time as measured by his





watch. Or rather, he would, except that the gravitational forces exerted on his body—greater on his feet than on his head—would tear him apart, in a process that goes by the cuter-than-it-actually-is title of spaghettification—a descriptive term that I, with my Italian heritage, find eminently enjoyable. As would my aunt.

It's always hard to judge family dynamics when you're a child. Everyone says kids are "sensitive," that they "pick things up," but the usual context of such talk is kids growing up in a house with an impending divorce, where constant day-to-day, even moment-to-moment interactions reinforce that not-so-necessary "sensitivity." But outside of such circumstances, what do we, as children, really know about what goes on between our parents? We catch neither the slyly sexy innuendo nor the stiletto-thin insult. We don't see them on their own time—say, after seven or eight, when we head off to bed. Is this when their playful side comes out, when they share a single cushion on the couch and laugh at the day's events or whatever is on TV, or is it when they both slide into exhaustion and enjoy their earned, separate silences?

And if we know so little about the family we live with, what about the family we do not? The aunts and uncles and cousins we see so much less of? Oh, we know their relationship to us—this one's the aunt who slips you candy; this one's the funny uncle who tells jokes your parents wish he didn't, let's not go over there; he's the sternly cold one. But what about their relationships to each other? What do we really know of them beyond the familial labels—sister, brother?

This was never an issue with my father, who was an only child with a deceased father and a mother who lived with a sprinkling of aunts and uncles 350 miles away, cause for only a single week's visit once every summer. My mother's family, however, was a constant presence in our life. Her parents and brother, my uncle Tom, lived within a few blocks of each other, only a ten-minute drive from our house. My aunt Mary lived even closer, only one suburb over from us, a three-mile drive through mostly residential streets.

With proximity came regularity. My grandparents we saw faithfully once a week, almost always at their house for Sunday



pasta. Sometimes we'd see my uncle and his family there as well for dinner. Otherwise we'd visit them separately on Friday or Saturday night, or sometimes during the day Saturday, especially after he installed the above-ground pool.

My aunt we also saw some Sundays at my grandparents', or some Friday and Saturday nights at my uncle's. But she lived so close we would often just pop over, sometimes for dinner or a cookout on the patio in back, but mostly just to visit for a little while, a time for my mom and her sister to catch up, let the kids play together so the mothers could catch a break.

What did they talk about, these two sisters sitting in the kitchen or backyard during the late sixties and early seventies? Parenting, I'm sure—my aunt with her three children and my mother with her three, then four. None of us particularly bad, not yet; of course, none of us consistently good.

Their husbands probably. Fondly at first. Less so as time went on. My grandmother most likely, a fierce, dominant woman who engendered strong feelings of all kinds from her children.

Politics? How could they not, with the civil rights movement, King's and RFK's assassinations, race riots downtown, Watergate. The war, of course. It would have been impossible to avoid—on TV every night during dinner, lists of KIA and MIA printed in the daily newspaper, their children walking around wearing POW bracelets, and then, my aunt's oldest daughter seeing her high school sweetheart and eventual husband ship off for a year's tour of duty.

Certainly they would have talked about my mother's diagnosis of terminal Hodgkin's Disease when it occurred; the problems that came soon afterward between my parents, which led to their eventual separation; the few men my mother dated after my father's death of a heart attack a year later.

But all of this is conjecture. The truth is I have no memories at all of my mother and aunt's conversations. I remember being fascinated with the pocket doors in my aunt's house, I remember a huge teddy bear in one of my cousin's rooms, and I recall listening to the song "Downtown" by Petula Clark while sitting at the table in my aunt's kitchen. But I have no idea what my aunt and mother spoke of or even what they were interested in, individually or together.



Certainly they got along. The frequency of their visits to each other indicates at least that much, as does the laughter I recall the two of them often sharing. They must have had their differences, their fights. One of the only vivid statements I can precisely recall my mother making about my aunt Mary was a bitten-off “she thinks their shit doesn’t stink”—a line as startling for its uncommon vulgarity as for its unusual bitterness. What the context of the description was I have no idea, or to whom she was speaking (it couldn’t have been us kids, could it?). But it is the only unkind thing I can remember my mother saying about her sister.

The counterbalancing memory comes not from my mother, but from my aunt, during the time of my parents’ separation, which happened after my mother’s diagnosis of cancer. My father had come to drop us kids off after a visit. I’m not sure where my mother was, since it was my aunt who was waiting for us. It’s possible my mother simply hadn’t wanted to see him and had remained at my aunt’s house. Maybe she was at the hospital receiving radiation therapy.

What I do remember is my aunt stone-facedly bustling us to the car as my father watched from our small porch. Then, with us safely inside and watching through the car windows, she walked all the way back from the driveway to the porch and spit in my father’s face. Spit. If either of them said anything, I didn’t hear it or don’t remember it. Nor do I recall my father’s reaction. But what will never leave my mind is that image of my aunt—so angry in defense of her little sister, so fierce, like an animal in the wild, circling, spitting, hissing, protecting a wounded cub or mate.

Were they close, my mother and my aunt? Did they tell each other everything? Did they commiserate over the failings of their husbands, neither of whom would stay, or exhort each other to ignore them and focus on cheerier things? Did my mother allow herself with my aunt the sorrow and bitterness that she never, or almost never, showed with us children as she stared at death approaching her like one of those earth-destroying asteroids in a science fiction movie?

I do not know. When my mother was alive, I was too young to pay any attention to two middle-aged suburban mothers sitting on lawn chairs, shielding their eyes against the sun, waving





their hands in the air as they spoke of matters that I thought didn't concern me. Now, of course, one of those women is gone, has been gone for nearly as long now as she was ever here. And just my aunt remains, the only one left who could tell me what they spoke of, how they felt about their world, their family, their younger selves, about me, about each other.

Could, but can't. That chance has passed. And all that might have been said is lost. Lost in the dark forever.

If that traveler riding the surface of the collapsing star could survive the gravitational forces, could avoid spaghettification and fall freely and undisturbed through the singularity at the black hole's center, where would he end up? Some physicists imagine that he might in fact travel in time.

Kip Thorne of Caltech, a leading expert on black holes and relativity, first investigated the possibility of space travel, not time travel, through a black hole in the early 1980s, when his friend Carl Sagan asked if such a thing were possible. Sagan was working on a novel, *Contact*, and wanted to use this method to get one of his characters from Earth to the Vega star system twenty-six light years away. According to Sagan, Thorne sent him fifty lines of detailed equations explaining why such travel was possible (Thorne actually advised Sagan to use a wormhole—a sort of theoretical tube connecting different parts of space—rather than a black hole, but as some theories place wormholes within black holes there may be little to no difference).

Then, as Thorne describes in his book *Black Holes and Time Warps*, a year after *Contact* was published, somebody pointed out to him at a symposium in Chicago that nothing precluded movement through time as well as space via the same method. Soon a surprisingly large number of physicists were talking seriously about and publishing articles in professional journals such as *Physical Review Letters* on the theoretical possibilities of time travel.

One reason scientists can even discuss theories of time travel is the massive effect a black hole's gravitational field has on the fabric of space-time. The most popular analogy used is to imagine space-time like a bedsheet pulled taut and suspended in air. If one places a marble (akin to a moon or planet) somewhere





on the sheet, there's little noticeable effect. But if one places a softball (akin to a star) on the sheet, the flat sheet is distorted into a curve; gravity is bending or curving space-time. Place the softball close enough to the marble, and the marble will roll toward the softball because of that gravitational effect.

Now imagine dropping a bowling ball (a black hole) onto the sheet. The space-time warping is magnified accordingly; the "gravity well" is extremely deep, pulling anything nearby into it. If one were to look at the underside of the sheet—the "universe"—one would see the ball protruding, or possibly even tearing through the fabric of time and space, into another area of the known universe, into another time, or maybe even, according to some scientists, into another universe entirely, one "pinched off" or "bubbled up" from our own.

That intrepid traveler who somehow survived his fall into the black hole may find himself hundreds or thousands of light years away in space. Or hundreds or thousands of years into the future (for reasons too complex to go into here—a euphemism for "too complex for *me* to fully understand"—most physicists believe that travel into the past is either not possible or is severely constrained). Or in an entirely different universe altogether, one that may or may not share our physical laws.

Imagine the disorientation of such a leap from the familiar. How lost one would feel. So far in space from home. So far in time from those one loves—long, long dead now. Or imagine the utter loneliness of a universe to oneself.

Unless maybe one did not simply travel to such a universe, but formed it. Some physicists wonder if falling through a black hole might not "pinch off" another universe from our own, one born of the traveler's arrival—his mass of atoms and the energy they contain the catalyst for another Big Bang, a new universe created from his elemental self, the traveler the bowstring that knocks the arrow of time.

The first time I noticed something strange about my aunt was four years ago, when my wife and I, along with our two-year-old son, were visiting her at the condominium she had been living in for some time and had shared with my grandfather until his death a few years back.

As always, our visit began with the requisite cooing over our



son, followed by the inevitable request by my aunt if she could get us something to eat and then, when that was refused, to drink. There was nothing odd about this, of course—just simple hospitality at work.

Nor was there anything odd when she asked again just a short while after. Pressing food and drink on visitors is a time-honored tradition in our family. And when my family pressed food, they meant food. “Can I get you something to eat” didn’t translate into “Would you like a snack bar” or “How about an apple?” Oh, they might eventually work their way down to such small fry, but when my aunt asked if she could get us something to eat, what she meant was she had a pound of pasta and sauce in the fridge and should she start ladling some into a bowl or two? Or if she didn’t actually have any pasta in the fridge, “Can I get you something to eat” meant “Why don’t you sit here and chat while I go in and cook some pasta and sauce for you?”

Or sometimes, in my particular case, it meant “I do have some pasta and sauce in the fridge, but as usual I cooked it with meat, so since you don’t eat meat anymore, why don’t you sit here and talk while I make up some special vegetarian pasta just for you?” She had, after all, been cooking my “special” pasta separately for several years now at family gatherings, an act of doting generosity that never failed to garner looks of disbelief and disgust from my cousins, none of whom were vegetarian but each of whom might have suspected they may not have received such special treatment even if they were vegetarian, though (or maybe *because*) they were her own children. It was the same sort of look my cousin who lived in Michigan once flashed me when I walked into my aunt’s seventieth birthday party, having driven all of six miles to be there, approximately 320 miles fewer than my cousin had, and my aunt turned from my cousin and gleefully exclaimed, without a hint of irony or sarcasm, “Bill, you came!”

In short, I was a favorite of hers. The knowledge of which I think I’d carried with me ever since she’d been the one to find me the day I ran away from home, tracking me two blocks to the front stoop of my primary school, where I sat with a jar of peanut butter, a half a loaf of bread, and a sense of righteous indignation. She talked me down from whatever precipice my six-year-old mind had walked me along, then bundled me up and took me home, where she promptly made me a sandwich.



So when she asked a second time that day if she could get me something to drink, I thought nothing of it. But when she asked a third time, only a few minutes later and in a tone that somehow suggested she had forgotten the first two requests, it was disquieting. And even more so when she asked yet again, in that same tone and the same words. “Can I get you something to drink?”

Or at least, I think that is what she asked. I don’t recall the exact words for sure. Nor for sure that it was four times she asked. It could have been three; it could have been five or six. It was enough.

What I do recall vividly is walking out to the car with a sense of anxiety. It felt like walking down the stairs in the middle of the night in pitch black, edging the front of my foot over the lip of the steps near the bottom, something feeling not quite right—the diagonal step more narrow than it should be, a book or some papers or one of my son’s plastic bugs changing the normal lay of the land, the last step coming up sooner than I’d expected—my foot hovering over space turned strange, a sense of perpetual descent.

The progression was fast. From a few worried questions among my cousins and others to doctor appointments to pills in plastic containers with individual compartments for each day labeled in big capital letters to assisted living, all within the span of a year or so.

And it continued at the same rapid pace. The first few months in the assisted-living center, she’d remember who I was but not that I’d been there the week before. Then one day she noticed me looking at a photograph of my mother on one of her tables, and she explained that it was a picture of her sister, but that she’d died a while ago. And then she forgot even that, that her little sister was dead.

If the fact that she no longer knew who I was broke my heart, her inability to remember my mother’s death mended it somewhat. It’s no great insight to point out that the tragedy of Alzheimer’s almost always falls more heavily on the victim’s loved ones. My aunt’s decline was so fast as to skip over much of the frustration Alzheimer’s patients suffer during the window of self-awareness when they feel themselves slipping farther from who they are.

When she spoke now of my mother, or my uncle Tom, or her





mother and father, the pall of death had been lifted from their memories. When she envisioned them they were finally free of disease, unencumbered by the tangle of IVs, the press of nurse blues, the weight of imminent mortality.

Even better, she was no longer the sole survivor. Her family had been restored to her, whole and hale. Perpetually young, smooth-skinned, filled with laughter unwracked by cough or gasp of sudden pain, they resided in her mind as the rest of us could no longer see them. Not fully so.

Her mind had turned on her. But time—whether out of some neurochemical reaction, a synaptic short-out, pity, or self-defense—had turned not on her but *for* her, winding itself backward, unspooling the track of her life to its happiest era.

If my aunt, then, is that traveler passing through the event horizon, falling through the center of the black hole and emerging in a different time—or even, as some physicists conjecture, into a whole other universe, one peopled by her loved ones once lost—then what about the rest of us? What about those of us observing from outside the horizon?

When scientists say light cannot escape a black hole, what they are really saying is that nothing at all can escape, since modern physics believes nothing travels faster than the speed of light. The traveler who falls past the event horizon will learn all about what is on the other side, but that information will never be transmitted back to us.

No probe launched into a black hole, no telescope aimed into its depth will ever lay bare the secrets that lie within. The event horizon completely cuts off the interior from the rest of the universe.

Oh, physicists and astronomers can tell us a few things about a given black hole. By observing its effect on nearby objects, they can estimate its size and spin velocity (its rate of rotation on its axis), along with how much electric charge the hole has. But that's pretty much it.

You can't, for example, tell what the black hole was made out of originally. Or what matter has fallen into the event horizon that you hadn't directly observed. It could have been another star that fell into the hole, or even another black hole. It could have been a planet. Or a comet. It could have been a pair of





lawn chairs. A black hole formed from one would be indistinguishable from one formed by the other. Outside of the aforementioned trio of facts—size, rotation, charge—learned by their effect on nearby bodies, nothing else can be determined. Any information about the matter that went into the black hole is completely lost. As Oppenheimer writes, “the star . . . tends to close itself off from any communication with a distant observer.”

And so it is with my aunt and me. She holds inside of her the only surviving memories of my grandparents as young parents. Of my uncle as a boy. Of my mother as a child. Of how the two of them moved through childhood, if not together, successively. Of how they got along. Of what they shared between them. Of what they spoke about as they sat across from each other at my aunt’s kitchen table, or next to each other on a pair of lawn chairs set to face the sun.

For some time after my mother’s death, it was too hard for either of us to talk about. And then for a time after that, too many other deaths made so many reminiscences painful—my uncle Tom, my grandmother, then my grandfather.

After that final death, there was a time to ask, to hear, to learn. But there would always be time, it seemed. After all, my aunt was still young, relatively, actuarially speaking. She was healthy. And her laugh still was a force of nature—loud, raucous, frightening to my two-year-old child but oh so cheering to me.

Who knew then that its riotous billowing from her body was the warning before the sudden collapse? That I would only sit and observe, helplessly watching her forever recede, taking with her so much that was life and light.

