



Parachutes

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I.

Memory

When it came time to harvest the pecans we'd always get out the parachutes. This was an amateur operation, just a dozen trees around the house and no fancy tree shakers or tractor harvesters. We'd gather nuts by hand and bucket and parachute in order to sell them around Alamogordo for a few bucks a bag. Granddaddy built the adobe house in 1953. He planted the trees soon after, one of his many side ventures. Mostly they were a prayer for shade during the long scorch that drags from winter to winter in Southern New Mexico. By the time I came around, three decades later, he and Grandmommy had moved up the street and my family had moved into the adobe house and me and my folks and my sisters were in charge of the pecan trees that had managed to slurp enough rain to grow into bona-fide monsters. They shaded for sure but they also shed a ton of nuts and hulls. Like any answered prayer, they were a nuisance if you were not industrious about upkeep.

Granddaddy had developed an ingenious system for streamlining the harvest. In October or November, before the nuts really started falling, we'd pull out a couple of huge parachutes he'd smuggled home from his job at the White Sands Missile Range, spread them out under a tree; those massive, white, nylon canopies covering all the gravel and sand and concrete, all the rock gardens Momma installed when the pecans sucked up all the water and conspired with droughts to kill any chance at lawn. The apex vent of a parachute, it turns out, fits right around a pecan trunk. The canopy spreads into a thirty-foot circle, getting under the most far-reaching branches. Our trees seemed ripped from the surface of a faraway planet when the parachutes were deployed, like they'd been flung through the universe and floated down amidst their billowing skirts until they stuck finally in our earth, our backyard. Pops and Granddaddy would climb a tree with a couple of broom sticks and shake the branches and jump on the branches and use the sticks to bang on the branches they couldn't get to by climbing. They would pull out the twenty-foot A-frame ladder that was so rickety and patched with amateur welds that a crowd of neighbors would gather anytime it was in use. Part of being human is not wanting to miss out on a tragedy. Part of tragedy is that it illuminates our humanity. So, Ms. Smith and Mr. Stumpf and the whole extended Gutierrez family would gather at a distance, wait and watch, sort of hoping to witness something awful and dumb and senseless that they could stuff into the goop of collective unconscious, thereby edifying our species' understanding of itself. Pops and Granddaddy climbed and teetered and slipped and hollered and climbed and swung. The nuts rained down. Over the years there were a few falls, but nothing fatal, and the neighbors always eventually wandered back inside. When the branches were finally bare, everyone in the family grabbed an edge of the chute and walked toward the tree, gathering nylon in our arms and kicking at the chute so the nuts rolled toward the center, the circumference of the chute shrinking until we were all practically hugging around the trunk, holding one big pouch full of pecans that we could fairly easily pour into boxes. Mostly the harvest was always a real pain in the ass: a thousand pounds of nuts needing to be hulled by hand and shelled by hand and bagged and dragged around the neighborhood in a little red wagon that me and my sisters knew infused our sales pitch with pathos of the nostalgic variety, thereby expediting the term our commerce obligations: like, here we are, children from the

idealized past of your youth—see our dusty dimples? our Radio Flyer?—and one taste of our pecans will transport you posthaste to the Good Ol' Days ...but be sure to buy a pound or two so you never have to come back. Why do we get suckered by the past like that? I guess it is not about time, but innocence, which is also a notion for suckers. The months of hulling and shelling and selling were always a drag but those first few days of harvest every October or November, when the yards around our house were covered in parachutes, that was a kind of fantasy. That sounds saccharine but I don't know another way to explain it. I'm trying to avoid saying *It was a more innocent time*.

We rarely got snow in Alamogordo. The pecan harvest was the one time of year us kids ever saw the landscape change in a real appreciable way. Desert life is about getting intimate with microshifts in shades of brown and yellow but in one fell swoop of the chutes we had ourselves a winter wonderland. I guess a lot of boys would hanker to climb the trees with Pops and Granddaddy, get involved in the jumping and shaking and knocking, but I found staying grounded really helped my imagination soar. I loved playing on the parachutes and in the parachutes and under the parachutes. Me and my sisters would gather up a little edge of the chute, each our own edge and hold it around our waists and pretend we were all together wearing the world's biggest, most beautiful wedding dress. We'd play hooky from the harvest and get out Momma's costume jewelry and have a big wedding party in our parachute wedding dress. We'd make a little fort in the space where the parachute draped over a cactus or oleander and stay in there for hours playing house or, if I ever got to overrule my sisters and choose the game for the day, spaceship or submarine or ice cave full of cannibal Neanderthals. The neighborhood kids would come over, ostensibly to pitch in on the harvest, but end up always on the parachutes doing snow angels, which we called nut angels. Whatever our reverie it was made more resplendent by the silky nylon of the chute filtering the hot sun into the most calming kind of chiffon or alabaster and even though there was all the dirt and grit of the nuts covering us and stirred up everywhere, that dust glowed like the exact sepia of nostalgia and felt like the air giving hugs all the way to the underbellies of our lungs. I guess tangled in those giant, filthy parachutes every harvest is one way I honed my daydreaming, how I knew for sure magic was the stuff at the root of everything.

II.

A Photograph

Her hand just barely touches it, the wing, not even all of her fingers but just the ring and the pinky, lightly on the steel. She's not propping herself up. This is more like a caress. And the word DRONE printed just like that, right above her hand on the wing of the sleek beast. She's on a runway with the drone behind her and behind it is a control tower and rows of pressurized explosives containers. This is the 1950s so everything is labeled simply and therefore also a bit perplexingly.

DO NOT DROP say the bombs.

DRONE says the drone.

She's beautiful with her dark hair clipped to the right of her face and her nose thin and sharp and the way her posture is not so stiff even though her long, plaid skirt is pulled up very high on her waist, in the way they always wore them back then. She is relaxed. She slouches, even. She caresses the drone. I call her Eleanor because I do not know her name and because Eleanor seems a name of sophistication with a dash of abandon and a bed of mothballs holding it over from a previous era of glamour and manners. It was a more innocent time. Her eyes are closed and her mouth is just slightly open and one of the reasons she is so attractive is that she has that look of quiet pleasure. Think of a bikini model in the hot rod magazines but put a bunch more clothes on the model, put all the clothes on the model until she looks like a schoolmarm and do not pose her in any way suggestive of anything sexual except just where she touches the hot rod as she stands by it instead of sprawled humpingly on its hood and also replace the hot rod with a Q-2A Firebee, a little blunt nosed remotely piloted aircraft about the size of a big hot rod but it is not a hot rod, it is the earliest generation of American military drone. The Firebee. And Eleanor. This photograph (let's christen it *Eleanor and the Firebee*¹) contains the suggestion of bikini-model-on-a-hot-rod—flesh and steel, woman and machine, nature and technology, sensuality and mechanized force finding common ground and proclaiming this is the alliance that will fuck up the world—but it is so much less conspicuous than that and therefore somehow more troubling. Eleanor is just a regular girl getting a little wholesome pleasure from her war machine. I can almost feel it in my spine as I look at the photograph, her pleasure, as it gathers in the small

of her back and causes her to slouch and close her eyes just before it crawls up into her shoulders and makes her shiver, just slightly open her mouth. The photograph is only erotic if one stares at it long enough. I have stared at it long enough.

Roland Barthes has trained me to look for the punctum in photographs, the small detail through which a viewer personally connects with a photograph, finding not the meaning intended by the photographer or manufactured by the culture but the thing that is there just for you—the spectator—the maybe almost invisible detail that makes your heart stick in your throat when it jumps like it does on the occasion of any revelation, however joyful or sorrowful. Barthes' word *punctum* translates literally to point but really what he means is *piercing*, really he means *wound*. At what point does *Eleanor and the Firebee* wound me? I can't tell if Eleanor is acting or modeling, just pretending pleasure or if this was really how people felt in the decade after our Second World War, that our killing machines were something to snuggle up to, to touch—sense the power of the steel beast and give yourself over to the strange vivification of industrial warfare. Her expression is my wound. The one strand of her hair caught up in the wind is my wound. The flash of the camera bouncing back off the nose of the drone is my wound. The whole photograph is my wound, Mister Roland Barthes, and what am I supposed to do now with such a serious injury? I guess if I had to choose the biggest wound, I'd say it's the way her skirt billows like a parachute or how just below the wing I can barely see that she is wearing high heels or how even though I can't see her legs at all I know she's wearing slick nylon hose.

I find the photograph in Granddaddy's closet shortly after he dies, among a dozen boxes of photographs he squirreled away behind thirty pairs of identical white briefs in three identical stacks. I did not know that briefs could be folded so precisely. For a lifetime, I have wadded mine. But Granddaddy was a better man than me. I'd always understood that after he retired his Navy pilot wings, after the Korean War, after building our adobe house and planting our pecan trees, he'd settled into three decades as some kind of manager, a boring desk job, a cog in the machine for the aeronautics titan Ryan Air over at the White Sands Missile Range that controls so much of the land down in Southern New Mexico, a military installation whose classified work causes so much of the bottom of our state to get grayed out on maps.

You've heard about this place. We blew up our first atom bomb here. And lots of missiles. And now, this is where we train remote pilots of Reaper drones.

Granddaddy talked mostly about the Patriot missile and when my folks were asked what he did, they said he tested the Patriot missile. That, like most things, is partly true. But armed with *Eleanor and the Firebee*, I start asking more questions and buying a lot of military history books about unmanned aerial vehicles and clipping lots of news stories about drones called Reapers and Predators, drones that these days kill thousands of terrorists and civilians in the Middle East. I confirm that Granddaddy did work on the Patriot missile. Or, Granddaddy worked *with* the Patriot missile. He managed the flights of test targets for the Patriot, and other missiles and fighter planes, as far back as 1951. The test targets were towed behind an aircraft using a hundred feet of cable called an *umbilical cord*. Granddaddy flew the aircraft that towed these targets. He flew them not from a cockpit, but from inside a little steel shed on the ground, his hand on a joystick, surrounded by a bunch of giant boxes of knobs and blinking lights, staring at images on the screen at least as intently as I've been staring at *Eleanor and the Firebee*. So then this is why Granddaddy kept the photograph stuffed in a box: the biggest chunk of his working life after the war was spent cultivating Firebees. He was a manager of the unmanned aerial vehicle project at the White Sands Missile Range, tweaking and flying the machine that Eleanor caresses—our first drone. I guess he stuffed this photograph in a box not as a secret, but a humble keepsake. When people asked him what he did with his life after the Navy he'd say *I goaded our great missile into perfection* and if they cared to know more he'd talk about the Patriot and maybe only briefly mention the Firebee. Until recently, nobody much cared to hear about a grown man flying remote controlled airplanes. And yet, I discover many hundreds of these Firebee photographs in Granddaddy's closet after he dies—6x8s of the drones in flight or crashed in the desert or dragged through Alamogordo's streets on parade or all carted up with dozens of others in a hangar or crawling with the hairy arms of sweaty men and their wrenches.

I hoard the photographs without asking permission from anyone or really even understanding why I need them. Inheritance. Isn't it funny how that word sounds real similar to *innocence* yet they mean nearly opposite things? I hang on the wall, in tasteful yet bold frames, the ones I cannot stop staring at, not the action shots of the Firebees

in flight or crashed in the scrub but the real sleek professional shots with beautiful women posed around the drones. There is a whole series of these: Eleanor and a few other women equally schoolmarmish and quietly erotic in their gentle strokes of the Firebee. I do not love them. I just cannot make sense of them and so I spend hours staring. Are they meant to be some kind of marketing campaign? A pinup for the missile range lounge as the boys sit around with Budweisers and Camels and shoot the shit and gawk after a long day on the joystick? Is Eleanor someone's wife or secretary or daughter and they just stuck her in frame at the last moment, sensing something was off about the photo, that it needed the human touch? Or was the missile range in the '50s not the stereotypical sausage fest of that age but maybe included a whole brigade of women engineers who liked to pose with their creations? Or is this a kind of subversive art, some government contract photographer looking to get out from under her oppressive employer or get back at her oppressive employer with a couple of dainty/hardcore/subliminal photographic critiques of their fascist bullshit?

I dig through boxes of photographs and through archives at the White Sands Missile Range Museum and through the digital archives of the San Diego Air and Space Museum, looking for clues. I want to know exactly what Granddaddy did with those drones. I want to find Eleanor's real name or find Eleanor, know if she is meant to be a pinup or a commercial or an insurrectionist. I want to know if Eleanor would say: *It was a more innocent time.* I get mixed up in the head and believe if I can just talk to Eleanor, maybe I can understand something about my dead granddaddy, something about how we humans ended up at drones. So, I consult experts. I transcribe their conclusions about Eleanor, all of which are in the same vein and in composite read like this: *Likely some kind of marketing campaign. It was not always so easy to sell the American government on drones. A pretty lady never hurts.*

She wounds.

In the SDASM archives there are many hundreds of hours of film of these early drones, declassified training films and assembly films and marketing films of the early Firebees in the '50s and '60s. The narrator always has that nasally tone of old newsreel announcers. The scores are always a patriotic big band blaring unsteady in the wobbly way of antique celluloid. So much technical jargon and zooms on bolts and welds and transmitters but I'm searching the films for human signs, for glimpses

of Granddaddy and Eleanor, looking to see if she is somewhere at the edges of frames or if that is maybe his hand installing a camera in a drone for the first time in history, if that is hat or if that wrist has a watch on it with a turquoise band like the one Granddaddy wore until it was slipped off over his stiff fingers just before the first shovelful of dirt hit his coffin. I want more than the specs of the fuel cell or the close-ups of the gyroscopes or recitations of procedures for how to jettison the umbilical cord. Why in the world do we ever jettison the umbilical cord—blow up our first and last real human connection? And then there he is. Bald head and big teeth and pearl snaps. There is his hat. His turquoise watch ticks away. His sleeves rolled up as he tends to the Firebees: Granddaddy. Why does the past seem more real when it's on film? Why does our obsession with photographing the present make it feel so artificial? Having a visual record stabilizes the recorded thing in that moment but also makes it more distant because it is now mediated. This is the exact conundrum of drone warfare, that it gives us a sense of stability—confidence—about killing, while simultaneously distancing us from the morality of the action. Eleanor, I realize, battles against this conundrum, however unintentionally. She reaches out from the photograph, burrows into my gut. Granddaddy too. I see them and feel the umbilical cord running out of me, straight into the tail of the Firebee.

Granddaddy didn't work out at the missile range alone. Drones were a community affair, a family affair, even. Early every morning for decades he'd fire up the '52 Chevy Townsman and pick up a guy from church and pick a guy from the nearby village of Tularosa and pick up his brother-in-law who was trying to keep the family ranch afloat by working days cranking a wrench on Firebees, working mornings and nights and weekends with a branding iron. They were not engineers, just blue-collar vets of our Second World War, now on the civilian side, carpooling to the range because military operations had gobbled up nearly all the land and made it tough for a cattle operation to succeed.

In 1948, the first iterations of the Firebee took to American skies. There would soon be many variants leading to many convoluted designations like Teledyne Ryan Q-2/KDA/xQM-34/BGM-34. But they were all, at first, the Firebee. By 1954, Popular Mechanics was on the story: *Tiger-toothed, fire-engine-red "fish" soaring over New Mexico's sand dunes rarely get a second glance now. They are Firebee pilotless-jet*

target drones being flight tested by the Air Force. These early drones were painted bright red because they didn't need to hide, painted for fun with teeth to give the blunt nose more of a bite. The Popular Mechanics' article² was published a few months after Granddaddy came back from the Korean War and built our adobe house and planted the pecan trees and began work at the missile range. Those were his tiger-toothed, fire-engine-red fish in the sky. On January 9, 1959, Granddaddy was part of a ceremony to *land a jet-propelled Q-2 target vehicle atop the Alamogordo Chamber of Commerce.* The landing was not really a landing but just the use of a crane to raise and place a model of the red fish like a poorly sculpted gargoyle overlooking the eaves of our single-story Chamber of Commerce. The Firebee drone had become such a part of the fabric of our region that, in the early '60s, it surpassed even the atomic bomb as SNM's most historic military endeavor: *The Firebee symbolizes Alamogordo's claim to the "Rocket City" title and represents the teamwork between the Army Test Center and Air Force Missile Development Center neighbors of Alamogordo.*³

In 1960, military experiments began fitting these drones with surveillance equipment, even though tests showed that pilots viewing the battlefield on a screen *identified 5 times as many false targets as those who viewed with the naked eye.*⁴ But this didn't stop the military from developing surveillance Firebees (eventually renamed Lightning Bug) at WSMR and toying with deploying them during the Cuban Missile Crises and Vietnam. In 1964, Ryan Aeronautical was the first company to test an armed drone. In the highly secretive Project CeeBee, they teamed up with the Army at WSMR to fit a Firebee with two 250 lb bombs. The results were less than stellar and kept top-secret out of shame more than anything else. But CeeBee was the seed of a paradigm shift planted by Ryan's Firebee crew at Alamogordo, and it grew. Over in San Diego in 1971 they fired a Maverick missile from a Firebee, completing the first ever missile launch and direct target hit from a drone. But the weaponizing of drones remained for decades more or less a hobby of the military industrial complex. Most of Granddaddy's work with Ryan Air, until his retirement in the '80s, was towing targets with Firebees, getting a plastic bogey in the sky for the Patriot Missile to pulverize, proof that the backbone of our defense system could shoot out of the air any enemy plane or warhead hurtling our direction. In 1993, General Atomics built on the long tradition of Firebees,

changed the game when they designed the Predator drone and finally had some good cameras to saddle it with. They succeeded in weaponizing the Predator with Hellfire missiles in February of 2001, just in time to avenge the attack on the World Trade Center that would happen seven months later. The first Predator drone strike was in Afghanistan, in November of 2001, and the rest is history, more or less still classified: Predator drones and Reaper drones carrying out attacks all over the Middle East, killing with precision lots of people it is increasingly clear we haven't bothered to identify with precision. Soaring over New Mexico's sand dunes these days are not Granddaddy's tiger-toothed fire-engine-red fish, but their progeny: those grey many-winged penis-looking birds known as the Reaper. They have evolved eyes like Firebee never had. They have evolved Hellfire. And they are forcing us to evolve too. The men and women who now have Granddaddy's job, they come to the Applebee's in their flight suits with patches for the 29th Attack Squadron; they eat and drink beer just like the rest of us, but they spent the day hovering over Waziristan, waiting for a command that will make the little figures on the screen they've been staring at disappear in static and a white flash.

For all the decades at the missile range and thousands of Firebee flights credited to Granddaddy and Uncle GB and the Ryan Air crew, they never landed a single one. Drones made the big jump from target to weapon not (only) because of the Hellfires but because they evolved the ability to land. Back when Granddaddy was at the controls, they weren't sensitive enough, the drones were too heavy and awkward. Back then their drones' eyes didn't exist or didn't see clear enough for complex maneuvers—the operators had only one screen and it was the boxy tube type. Back then the drones could only crash. Back then the Firebee had to deploy a parachute and come down with a thud in the sand when it was done with the sky. And so this is what I've been trying to tell you: in the picture from the 1954 *Popular Mechanics* article and in all of the hundreds of hours of films in the SDASM archives and in so many of the photographs of the Firebee I find alongside Eleanor, there it is: a giant nylon parachute spread out behind the drone, covering the sand like the world's biggest, most beautiful wedding dress or an instant winter wonderland.

III.

A History

Remember the first flight of your youth, the 747 cruising at 30,000 feet and Pops pulling you onto his lap so you can peer out the window, him pointing to where the land is tamed and untamed and the collision of the two which is really more of a blur from way up here, the grids of civilization fading in and out around deserts and ranges and rivers and it is hard to tell exactly where civilization begins. He laughs when you ask to roll down the window for a better view. Know now that you only have that view, share that laughter, see the grin on his face because people in planes at cruising altitude don't need oxygen masks, because the cabin is pressurized, because in our Second World War we needed the men in our B-29s to move around freely as they prepared to drop our tens of thousands of 500 lb cluster bombs full of napalm on Tokyo.⁵ You are now free to move about the cabin because first we needed to move back and forth from the cockpit to the turrets to the bombs below. And remember playing handyman with Pops, fixing doors and pipes and roofs which means mostly biting strips of duct tape from the roll. Know now that you can fix anything like Pops because the bullets of the infantrymen in our Second World War kept getting wet, the steel ammo cases with too many cracks and crevices, the tape created as a temporary shepherd through the storm for so many rounds that would never be pulled from tens of millions of corpses. And remember the silly putty that first made newspapers interesting, how you could pancake it over the print and have an exact copy of the news, of the facts of the day except now you could stretch them and twist them and make them look more like how they made you feel. Know now that silly putty was meant to help tires on Jeeps roll effortlessly, more dexterously, through the mud and over corpses riddled with bullets that stayed dry until they hit flesh and never got pulled from guts. Remember your first ride in a Jeep, cloth top off on the highway and sunglasses and wind in your hair. Remember sunglasses. Remember the slinky you hated because you grew up in a house with no stairs. Know now it was meant to stabilize the sensitive instruments of a Navy aircraft carrier launching Corsairs to preside over the burning of Tokyo. Remember your first wristwatch. Remember the Swiss army knife and super glue. Remember your first sip of instant coffee

around the campfire, the freeze-dried bitterness that only tastes right when you are in the wild. Know now that your bread is sliced and your TV dinners hot and your condiments convenient in their little packages because no soldier likes to kill on an empty stomach. Or every soldier needs a little taste of something like home before he dies. Remember the unnatural color of your fingers after digging into a can of Cheese Balls, the way your grin was dusted with the dehydrated orange of impossible cheese while you watched cartoons of Transformers and GI Joes but know now that the first orange fingers and dusted grins were those of real soldiers in a real war, our Second World War, young men who would soon be covered in nothing but red. And the necktie you wore to church to give your first sermon and to weddings and to dances where schoolgirls giggled and tried to unclip the tie but it was tied like a real tie by Pops like he always tied his ties, like the ties were first tied around the necks of the best warriors in the 3rd century BCE because China's first emperor wanted everyone to recognize without fail the men who shed the most blood on his behalf. And so he invented the necktie: the sure sign of a great warrior. Remember the schoolgirls giggling and pulling at your tie and hobbling unsteadily on their high heels, their legs not yet accustomed to the strain of being sexy but why is it so sexy, the high heel that rose up out of 15th century Persia as a way for soldiers tearing ass on horseback to steady themselves in stirrups as they stood and took aim and fired arrows into the little space of throat between the chest plate and helmet of a charging Ottoman. Remember the internet and GPS. Remember the drone. The fabric of our lives is wrought from gore. Remember nylon pantyhose. Remember the parachute and pecan harvests. So then of course Granddaddy dragged those parachutes home from work at the missile range, from work on the American military's first drone. There's no way to know exactly which Firebee your harvest parachutes came from, no way to know if you played house in the canopy of top secret Project CeeBee's first ever weaponized drone, no way to know if you wore as a wedding dress the chute of the drone that teased the Patriot missiles into perfection. But now you know the real story of the chutes of your youth: they were the tails of an evolving Reaper. And the chiffon or alabaster glow of those harvest memories turns a little crimson. Or is it the other way around, that despite all the awfulness and savagery of our

species and all the stuff we create to enable our savagery, we can still do some reclamation, can make from a monster in our times a toy, a source of joy for the next generation, can somehow make innocuous, sustaining even, the fruits of our savagery? Remember the slinky. Remember the silly putty. Remember the necktie and the pressurized cabin and the duct tape and the sliced bread. Let's call them all parachutes—from the Greek *para* meaning *against* and the French *chute* meaning *fall*—and say they are our reclamation of murderous things. These are our things against falling in the Biblical sense. Parachutes to save our souls. The equation is simple, really: the things that cause joy must outpace the things that cause sorrow. So when the time comes to harvest pecans, you and your sisters put on Momma's high heels and pantyhose and wrap the corners of the parachute around your waists like the world's biggest wedding dress and smile through the orange mask of all that impossibly dehydrated cheese and laugh through vows about forever and ever until death do us part. We are the sum of our savagery over all time. But hike up your hose and strap up your heels. We are the sum of something else too. I want to say: there can still be a more innocent time.

¹ We are programmed to be captivated by images and programmed to be fearful of confusion, so look at *Eleanor and the Firebee* to kickstart those programs into firing at peak simultaneity throughout the gooiest parts of your grey matter:



² Just to give a sense of where we were with more domestic technologies, the headline following this Firebee article advertises an innovation in camping: LAVATORY COMPLETE WITH RUNNING WATER ATTACHES TO SIDE OF CAR. Or maybe the magazine's pairing of the Firebee article with this absurd camping innovation, which appears to be little more than a bucket on the car's roof, suggests how innocuous military drones seemed way back in '54, a novelty on par with a bucket you attach to your station wagon for face-dipping on Girl Scout weekends at the state park.

³ The local paper prints a photo of this ceremonial landing right above an AP story called MAN DESTINED TO UNLOCK MYSTERIES OF OUTER SPACE in which a scientist predicts a near future of daily space travel. In this year, 1959, America was on the cusp of its moonshot, the beginning of the Apollo program, and big, manned rockets were all the rage. We have always been so brazen with prophecies about our mandate to inhabit the greater universe while the things that may really come to define us, may really come to define the reason we need to inhabit the greater universe, sit quietly on the roof of a desert Chamber of Commerce waiting to evolve from fish to Hellfire.

⁴ Quoted from a study in *Kill Chain: The Rise of the High-Tech Assassins* by Andrew Cockburn, a smart history of the evolution of American drone warfare that doesn't quite look back as far as the Firebee, unfortunately. But maybe it's for the best because no one really wants their granddaddy to show up in a book with that particular title.

⁵ Likely cabin pressurization would have come about eventually anyway. One could argue cabin pressurization exists only because airplanes exist and airplanes were not born of wartime and savagery but of tinkers and the human spirit of grandiosity which describes not just the Wright brothers at Kitty Hawk but goes as far back as the wooden wings of a monk named Eilmer who strapped them on and jumped off his Abbey in the 11th century, CE. That's an argument I'd buy as far as old Eilmer is concerned. However, the first man to die in an airplane crash was an Army sergeant along for a flight with Orville Wright. Orville brought the sergeant along because he was trying to convince the military to buy his fledgling invention. So, in a way, the military industrial complex pervades that origin story too.

* Another Eleanor in heels. Here, the wound is the old drone's shadow, how familiar it has become these days. And another picture: my granddaddy at the controls of the Reaper's granddaddy.

