



Uploaded to the VFC Website

▶▶ August 2013 ◀◀

This Document has been provided to you courtesy of Veterans-For-Change!

Feel free to pass to any veteran who might be able to use this information!

For thousands more files like this and hundreds of links to useful information, and hundreds of "Frequently Asked Questions, please go to:

[Veterans-For-Change](http://www.veteransforchange.org)

*Veterans-For-Change is a A 501(c)(3) Non-Profit Organization
Tax ID #27-3820181
CA Incorporation ID #3340400
CA Dept. of Charities ID #: CT-0190794*

If Veterans don't help Veterans, who will?

We appreciate all donations to continue to provide information and services to Veterans and their families.

https://www.paypal.com/cgi-bin/webscr?cmd=_s-xclick&hosted_button_id=WGT2M5UTB9A78

Note:

VFC is not liable for source information in this document, it is merely provided as a courtesy to our members & subscribers.



Agent Orange: A Chapter from History That Just Won't End

The Boneyard

BY BEN QUICK

Published in the March/April 2008 issue of
Orion magazine



Photo: Ben Quick

THE FIRST THINGS I SEE are the tails of the planes. They jut like hundreds of dorsal fins rising from prehistoric fish that have been lined up by a butcher on a massive table of thin brown grass. It is a surreal sight, and I allow my eyes to settle into the rhythm of motion—not quite focused, not quite gone—watching the rows of sharp metal ridges whirl past at fifty miles per hour.

As I crest a small rise, the bodies of the craft come into full view: rows and rows of warplanes, all shapes and sizes, stretching on forever, it seems. I force myself back to the task at hand, navigating the approach to the Aerospace Maintenance and Regeneration Center (AMARC) on the southeast side of Tucson, Arizona. I turn right at the traffic light on Kolb Road into a small parking lot and find a space.

Ten minutes later, I'm riding shotgun in a black van with government plates. My driver, head of public relations at AMARC, is Terry. Middle-aged, handsome, and soft in her talk and manners, Terry asks me what I want to see. I hesitate—not because I don't know, but because I'm not sure how to tell her that I've come to bear witness to American folly, to rest my eyes on the flying machines that flattened the forests of Southeast Asia, poisoned its people, and changed my life.

"The C-123s," I say.

She looks at me quizzically, pushes her index finger to her lower lip. I'm nervous to begin with, having never been on an air base, having very little in the way of credentials, and having tried, however awkwardly, to obscure the true reason for my visit. I'd told her I was doing a piece on Vietnam-era warplanes for graduate school when we talked on the phone.

I mutter these words—*My father is a veteran*—and I'm suddenly taken by the irrational fear that I may have given the impression of an apologist looking to take some photos for a nostalgic slide show. My fear is compounded by the fact that today is September 11, the anniversary of the day some folks, especially those in the military, have come to view as off-limits for dissent. That I find myself moderately attracted to Terry only complicates matters. I'd expected a formal woman in military garb, spit-shined boots, and the works, but AMARC employees are civilian contractors. And the loose-fitting sundress, designer shades, and casual tone of the woman beside me have caught me off guard. I'm entirely unsure of myself and my purpose.

"The C-123s? I'm not sure if we have any of them. They might have one in the museum."

"Well I saw one in this book." I reach down between my legs, flip open my bag, and produce the picture book I'd found at the public library. Glossy and oversized, *The Desert Boneyard* by Philip Chinnery is filled with aerial photos of AMARC, snatches of aviation history, and nostalgic recollections of past commanders and famous aircraft. An honest appraisal of the Air Force arsenal and its capacity for destruction it is not, but like many seemingly frivolous research tools, it has served a vital purpose. It has shown me that AMARC—known affectionately as The Boneyard—had, at one point in time, housed the airplanes I came here to find.

"Oh, you got you a book. Let's see..." Resting the book on the cup holders in the space between the seats, I turn to page seventy-five. I can feel beads of sweat on my forehead.

"Oh. Those. Oh sure, we have two of them on the west side, but the rest are fenced off. You can't get to 'em. Nobody goes in there."

"Why?"

"Well, the toxin."

JANUARY 20, 1961: Eight inches of snow fall on Washington DC, initiating one of the worst traffic jams ever in the nation's capital as John F. Kennedy takes his inaugural vows. Up to this point, American involvement in the turmoil of Southeast Asia has been secondary, mainly involving the grudging flow of money and arms to the fragile Diem regime in South Vietnam. But conservatives in the capital are calling for more than a half-hearted attempt to fill the vacuum left by France's withdrawal from the region. And the new American president is young and Irish-Catholic, a suspect combination in midcentury American politics. He is worried that Republicans will paint him pink if he doesn't hold the South from Communist guerrillas. So he sets out to do so, and to do it with gusto,

expanding U.S. military operations in a manner later described by Noam Chomsky as a move “from terror to aggression.”

The word *counterinsurgency* begins to appear more and more frequently in the speeches of American politicians. A long and awkward utterance, it is a word that depends on the existence of the root word *insurgency*, defined by *Webster's* as “a condition of revolt against a government that is less than an organized revolution and that is not recognized as belligerency.” In the case of Vietnam, the people charged with perpetuating the state of revolt—the insurgents—are a loose but growing number of Communist soldiers recently given the tacit approval of the Hanoi government in North Vietnam. They have begun conducting night raids on military posts and villages in the South under the name National Liberation Front and have become known condescendingly to Diem supporters as the Viet Cong.

In Vietnam, countering these insurgents means denying the Viet Cong and their allies in the countryside and hills the apparatus of survival: food and forest. Before long, the primary method of denial becomes the aerial application of a variety of defoliants. In 1961, accepting a joint recommendation from the State and Defense departments, President Kennedy signs a resolution accelerating the program. Spraying will intensify in three distinct plant communities: the dense broadleaf vegetation that blankets the Vietnam outback and turns roads and supply routes into ambush zones, the mangroves that line swamps and provide habitat for the catfish and shrimp that are staples of the Vietnamese diet, and the fields of foodstuffs—rice, manioc, and sweet potatoes.

Before 1961 is up, Kennedy sends scientist James Brown to the newly established United States/Vietnamese Combat Development and Test Center (CDTC) in Saigon to explore the effectiveness of a variety of herbicides for use as counterinsurgency tools. The results of Brown's work are a cluster of compounds that come to be known as the “rainbow agents” for the colors of the identification bands that encircle barrels of the herbicides. Agents White, Purple, and Blue will all see use in the jungles of Southeast Asia, but the most intensively employed by far will be Agent Orange, a fifty-fifty mix of the n-butyl esters 2,4-dichlorophenoxyacetic acid (2,4-D) and 2,4,5-trichlorophenoxyacetic acid (2,4,5-T).

The origins of Agent Orange lie in an obscure laboratory at the University of Chicago where, during World War II, the chairman of the school's biology department, E. J. Kraus, discovered that direct doses of 2,4-D can kill certain broadleaf vegetation by causing the plants to experience sudden, uncontrolled growth not unlike that of cancer cells in the human body. Kraus, thinking his findings might be of use to the Army, informed the War Department, which initiated testing of its own but found no use for the stew of hormones prior to the end of the war. But experiments with 2,4-D and 2,4,5-T continued through the 1950s.

Late in 1961, Brown and the technicians at the CDTC decide the time is right, the testing complete, the dispersal methods sound. On January 13, 1962, three Air Force C-123s—twin-propellered short-range assault transport planes—lift off from Tan Son Nhut airfield in South Vietnam, each loaded

down with more than a thousand gallons of Agent Orange. The planes fly low over the canals and deltas of the Ca Mau Peninsula—the claw-shaped tip of the nation—occasionally taking fire from the swaths of jungle below. When they finally reach the prescribed site, the chemical cargo is sprayed continuously from three groups of high-pressure nozzles jutting from internal dispensers, the entire load dropped in minutes. A mist can be seen settling over mangroves as the planes turn back toward Saigon. Operation Ranch Hand is underway.

Fifteen thousand gallons of herbicide will be sprayed over the forests and fields of Vietnam that first year. By 1966, the annual application will have increased to 2.28 million gallons. In retrospect, the ecological and human consequences of the spraying program will seem catastrophic. But in 1962, in the thick of an increasingly desperate conflict with a silent enemy hiding in the bush, the extermination of mangroves and rice crops, the destruction of hundreds of thousands of acres of forest canopy, and the desertification of land adjacent to supply routes are embraced as steps toward creating the conditions for winning the war, conditions that nevertheless seem to be slipping farther and farther away from American military strategists in Washington and Saigon.

The kerosene stench of chemical rain that falls on American troops as they slink through the hinterlands in search of Viet Cong is seen as a bearable nuisance. The lethality of the fog that settles on the farms of South Vietnamese peasants and the convoys of American soldiers, like so many war costs, will remain hidden.

MY FATHER RETURNED to the Midwest after his tour in the jungles of Vietnam accompanied by a dehumanizing terror. But along with the images and the guilt was something more tangible, a rash that covered his back, raised hivelike splotches that didn't go away for five years—until I was nearly three. The name for this rash is chloracne; its cause, prolonged exposure to herbicides.

I entered this world on a muggy July evening in 1974, the sun beginning to sink down into the hardwoods that separate the town of Morrison, Illinois, from miles upon miles of cornfields—fields that would have been at least six feet tall by then, ripening with line upon line of fat yellow ears sheathed in green. The delivery went without complication. There was my mother's low moaning, the usual frenzy of female nurses, and the old doctor reaching his latexed hands to cradle my small wet head as it emerged from the birth canal. There was much crying and celebration, the ceremonial cutting of the cord by the father, the grandparents waiting anxiously in the hallway, aunts and uncles, friends. But there was something else as well, something curious: although in every other way I fit the normal profile of a baby boy, my left hand was almost round, and at first glance, fingerless. Looking closer, one could see that there were indeed fingers in the flat bell of flesh and bone, but no space between them, and the bones were either misshapen or missing altogether. Instead of clutching at nipples and breasts, it flew from side to side like the club on the tail of a prehistoric beast. My grandmother was horrified.

Despite my evident uniqueness, I ran through the first half of my childhood like any other midwestern boy, playing soccer and baseball, fishing, running around the neighborhood with other

children in packs. I played war games in the local woods, snuck off to the candy store with my younger brother, dug up earthworms in the big garden between rows of tomatoes and hot peppers, watching with delight as aphids and sow bugs crawled over my hands. Although I endured a number of surgeries in a prolonged attempt to separate fingers, and although I was forced to wear a series of uncomfortable bracelike contraptions to bed—sterile plaster meant to force the bones to bend into a more functional formation—these were happy times for me. Too young to feel self-conscious, stubborn and creative enough to circumnavigate any limitations, I didn't really stop to think that I was different from other children. I climbed trees, played catcher in Little League, kept goal for my soccer team, won sprints in swim meets.

Still, I have to believe an awareness was growing. There must have been innocuous comments from neighborhood boys, partially hidden conversations, questions. And parents, even kind and well-meaning parents, can fumble with answers.

I must have been close to ten years old the day my mother and I ambled through the automatic door of Eagle's Supermarket and across the chipped green and white checkers of tile. We came for just a few items, the only memorable one being the ice cream. We were gliding across that tile, headed straight for the open freezers of the dairy section, me in my shorts and t-shirt, my mother in her gardening clothes. We were moving fast, were so close to the freezers that I could almost feel the chill, could almost see the dense coating of hoarfrost on the inner chambers, when she ran her eyes from my face to my shorts and asked with impatience: "Why do you keep your hand in your pocket? Don't you think people know?" Hiding my flaw was beginning to become second nature, an act of instinct rather than will.

TERRY'S BEEN AT THE BONEYARD for eighteen years. She shoots down the gravel road like a person who's done it a thousand times before, pointing out an array of aircraft, telling me stories as we bounce through the past. Here sit the Grumman Tomcats. There, in the tall grass, the Rockwell B-1Bs. And over there, on the near side of the wash, the Lockheed Hercules, the Huey transporters, the Cobra gunships. This F-14 bombed one of Saddam's bunkers in the second Gulf War. That 119 was Westmoreland's ride. Airplanes, helicopters, and missile casings, all in different shapes, sizes, ages, and states of dismemberment, are lined up like trinkets in a jewelry booth at a country fair—the earrings in this quadrant, the bracelets in that, the bolos over here, the brass buckles over there. Three thousand acres' worth.

Some are stripped for parts. As evidence I see the glint of naked metal on exposed engines and radiators and, in big black drums beside hoodless frames, the jumbled masses of fuel pumps and belts. Some will be called back to service with the Air Force or Navy, maintained and flown away to bases in Utah and Nevada. Others, especially the historic planes, are destined for museums. And still others will end up in the hands of foreign armies, sold to the highest—and often most unsavory—bidder or shipped off, at discount rates, to allies in Tel Aviv or Seoul.

Through this broad yard of history we roll, the faded marks of the military all around us. Terry gradually slows down and comes to a stop. On one side is a row of unarmed nuclear warheads; on the other, the noses of two green and tan cargo planes.

"Here we are."

Stepping down from the van, I tear my disposable camera from its foil package, unpack my tape recorder, and walk toward the aircraft.

"So these were not part of Ranch Hand?"

"No. I think these guys were just transporters."

"Just transporters."

They look like smiling whales, these two transporters. Smiling whales with propellered wings. Like all the planes in The Boneyard, the windows, air ducts, and doors of the 123s are covered in thick white latex. Spraylat, it is called, and it keeps the interiors of the planes cool. Without the Spraylat, temperatures in the cargo holds and cockpits can rise to two hundred degrees Fahrenheit, baking everything inside. The white coating makes the planes look like ghost ships, mummies in an aviation graveyard. But I came to see the other planes, the ones that devastated a vast and peopled landscape, the ones that maimed me before I was born.

OPERATION RANCH HAND dissolved in 1970 under intense pressure fueled by increasing awareness of the dangers of Agent Orange. By then, one-seventh of Vietnam's total land area had been sprayed with herbicides, one-fifth of its forest flattened. Studies would eventually show that the spray missions flown by the men of Ranch Hand had little or no effect on the path of the war, that the millions of gallons of herbicide dropped on nipa palm and mangrove, on tropical rainforest, on trails and swamps and roads, on military barracks and rice paddies, saved few American lives. Studies would also show that the substance held in the striped barrels was more dangerous than its handlers had realized, and that American military leaders had known this for a long time.

Peter Schuck, author of *Agent Orange on Trial*, notes that, "as early as 1952, Army officials had been informed by Monsanto Chemical Company, later a major manufacturer of Agent Orange, that 2,4,5-T was contaminated by a toxic substance." The substance he refers to is dioxin, a chemical that the Environmental Protection Agency has described as "one of the most perplexing and potentially dangerous chemicals ever to pollute the environment." Lab tests in the 1940s had shown that even the tiniest amounts of dioxin, concentrations as small as 4 parts per trillion—an amount equivalent to one drop in 4 million gallons of water—induced cancer in rats. In slightly larger doses, the substance brought on virulent symptoms leading to quick death. When barrels of Agent Orange were shown to contain dioxin concentrations as high as 140 parts per million, questions about the effects of human exposure began to swell.

By the 1970s, for Vietnamese living and working in spray zones, the answers to these questions had already started to become clear and painful: babies born with massive birth defects, some with skeletons that bended and twisted as they grew, some with organs on the wrong side of skulls and ribs, some with conditions so bad they survived only days. Even though American servicemen came into contact with the toxin over the course of months rather than years, soldiers—particularly those serving at the apex of Ranch Hand, men dropping on knees to fill canteens with odd-looking water pooled in bomb craters, men walking with handheld weed sprayers around the flanks of base camps, men sleeping on naked ground—still ran the risk of lethal exposure. The risk was so real, in fact, that as Yale biologist Arthur Galston put it, all soldiers “who worked with Agent Orange or saw duty in the heavily defoliated zones of Vietnam have a legitimate basis for asking the government to look into the state of their health.”

Concern about long-term effects on the people and ecology of Vietnam and the health of American G.I.s prompted groups of critical American scientists to publicly denounce the use of Agent Orange and other herbicides as early as the mid-1960s. In 1966 and 1967, a coalition led by the well-respected American Association for the Advancement of Science sent petitions to the Johnson White House calling for an end to all chemical and biological warfare. At the same time, international anxiety was growing. In 1969, after three years of failed attempts, the United Nations succeeded in passing—despite sustained and often menacing opposition from the U.S.—a resolution declaring Operation Ranch Hand a violation of the 1925 Geneva Convention Protocol limiting the use of chemical weapons. Still, the spraying continued.

Finally, evidence showed up that was too damning to be stonewalled or intimidated away. In late 1969, Matthew Meselson, a broad-shouldered Harvard scientist fond of bow ties and no friend of war boosters, obtained a copy of a National Cancer Institute report confirming the teratogenicity—the ability of a compound to cause embryonic or fetal malformation—of 2,4,5-T in rats and mice. Meselson convinced Lee DuBridge, his former colleague at the California Institute of Technology and science advisor to the then newly elected Richard Nixon, to convene meetings to discuss the implications of the findings. In spite of the continued reluctance of many in the Pentagon to acknowledge the seriousness of the data, administration officials could read the changing tea leaves of public tolerance, and on April 15, 1970, application of Agent Orange and most other defoliants was suspended indefinitely.

Years later, a sad and fitting epitaph for the Agent Orange saga would come from James Clary, an Air Force scientist and author of the official history of Operation Ranch Hand, in a statement to Senator Tom Daschle: “When we initiated the herbicide program in the 1960s we were well aware of the potential for damage due to dioxin contamination in the herbicide. We were even aware that the military formulation had a higher dioxin concentration than the civilian version, due to the lower cost and the speed of manufacture. However, because the material was to be used on the enemy, none of us were overly concerned.”

BY THE TIME I reached adolescence, there was no longer any doubt as to whether I was like other young men. I was different, less than, not quite whole. Instead of attempting to come to terms with what I have now come to realize is a minor glitch in DNA, instead of facing up to my own uniqueness, the shape of my particular handprint, I tried hard to deny it, to prove to myself that I was in no way distinct from the two hundred boys and girls I entered Dixon High School with in 1988. On the surface, I succeeded. I joined sports teams and—I'm sure this was a conscious act of rebellion—put myself in positions that required the use of both hands in order to succeed. I wrestled and won matches as a freshman, earned four varsity letters as a soccer goalkeeper, brought home trophies and plaques. What's more, I had awkward sex with teenage girls, drank beer and smoked pot, grew my hair long, hung out with the right crowd, took a cheerleader to the prom.

Inside, I was a wreck. I recall the summer between my junior and senior year and a girl named Krista, younger than I, brown hair, green eyes, slender, carrying always the smell of Elizabeth Taylor Passion. Krista was the first girl I spent more than one or two nights with, and I fell for her hard. Along with my friend Josh and his girlfriend Billy, we spent the better part of the summer together. It was a hot summer, hot in the manner that all midwestern summers are, so thick with vapor that even the loosest clothing sticks to skin, and sunglasses slide down noses. That whole summer, when I was in the company of Krista—which was most of the time—I wore long sleeves. I would rush into my bedroom to change clothes each time she came to my house. There was a particular red cotton shirt a friend had loaned to me that I must have worn three times a week. I wore it in the water when we swam in the moonlight at the abandoned rock quarry; I wore it during sex on the gravelly shore; I wore it when to do so must have been agonizing. I thought the sleeves would hide my hand.

And the long-sleeved t-shirt was not the only mechanism employed for hiding the truth of who I was. I took to wearing thick goalkeeper's gloves that kept the shape of their fingers against gravity when I shook hands with players from opposing teams after soccer games (in retrospect, I wonder if the gloves weren't part of the appeal of the position). I would bury both hands deep in the pockets of my letterman's jacket as I flirted with girls from other schools at track meets or wrestling matches. I became skilled at striking a variety of postures to keep my dreaded deformity out of sight, turning this way or that, sitting down just so. I learned to live in a state of contortion.

It would be comforting to look back and to sense some kind of turning point, some theatrical beginning of a healing process, a link between the discord of those years and the relative stillness of the present. The truth is this: like most authentic change, most real letting go, mine has happened gradually, and beneath the surface of things. A decade and a half of life—of marriage and divorce, of fatherhood and graduate school, of love affairs and rafting swift rivers, of university teaching and Buddhist meditation—have swept away much of the hidden shyness and dread. But still, at the age of thirty-three, I'm finding that old habits die hard. If I've lost myself momentarily while driving, reading a book, or engaging in some other task that requires a chunk of my brain, I sometimes find

that, without intending to, I have tucked my left hand gently behind my right elbow. Lying in bed at night before sleep takes hold, I'll notice my left hand resting underneath the ruffles of the blanket while my right hand sits bare and comfortable on top. Or I'll think about a class I've taught on a particular morning, coming to a sudden realization that all the gesturing and hand-waving was done with one arm. I will pause for a moment and make a mental note. Sometimes, I will curse.

TERRY PUMPS THE BREAKS to keep from skidding, drags the gearshift into park, and points out the driver's-side window. From behind a chain-link fence, I stare at a fleet of seventeen C-123s beached on the desert playa. A two-foot square of aluminum, white with red block letters, clasped to the fence at shoulder height, reads AUTHORIZED PERSONNEL ONLY, meaning Air Force specialists wearing hazmat suits. I must make do with the view from the fence line, which is fine with me, since the nearest contaminated aircraft are less than fifty feet away.

I climb out of the van and gawk. Forty years before, these olive planes, arranged before me now like neglected toys on the top shelf in a child's bedroom, unloaded over 10 million gallons of dioxin-laden herbicide on a countryside halfway across the world, the same countryside my father tromped through with a gun at his side for one full year at the peak of the spraying. And now, on the edge of the desert metropolis, beneath wisps of cloud shifting and breaking in the morning sky, in the checkered shadow of the chain-link fence, as much as I would like to deny it, I find myself looking for catharsis—a burst of emotion that will finally and emphatically wash it all away.

I know how lucky I am—that things could be much worse. I've seen the pictures of the Vietnamese tending the earth after the fire. The parents who cut and burned the trunks of leafless trees to keep their children warm in winter. The beautiful young girls with jet black hair and loose blouses trimming grass for baskets. The peasants planting saplings in barren ground.

And I've seen the photos of jars filled with the stillborn at the Tu Du hospital in Ho Chi Minh City. Babies born with two faces and three ears. Dead babies with limbs like ropes, long, slender, twisted like pale pretzels in formaldehyde. Siamese twins with melting heads, gathered in a lovers' tangle, the lips of one pressed to the neck of the other in the softest kiss. Shelves full of pickle jars holding the rawest fruit.

And the living, the children of the damned. Children with eyes like marbles, huge and rolling and blank. Children with skin like birch bark, skin that peels and flakes in small squares, covering their bodies in checkerboards of dying flesh, pushing up from scalps like duff on a forest floor. Children with alien heads, their skulls ten times the size of their jaws. I've seen the feet turned in on themselves, the blackened arms, the hands like clamps.

I look down at my hand in its present state, nearly three decades after the last surgery, after I finally said no more—no more casts, no more stitches, no more IV needles, no more Darth Vader masks spewing anesthesia into my lungs. I look down at the rumpled flesh, the grafts sewn between the spaces opened up to give me fingers, grafts of crotch skin, grafts that grow hair, and the lines of

scars from the stitching, and the two tiny inner digits, and the middle knuckle that bears no crop, and the pinky that juts straight out, and the short, thick thumb, and I am glad that at six years of age I finally said no. They wanted to do more surgeries, wanted to cut a little more here, tweak the bone structure a little more there. And I said no.

A gust of wind rakes an old Pepsi can along the base of the fence. It rattles to a stop on the crown of an anthill, teeters for a moment, and rolls to my feet like an empty shell. Out here on the scabland of memory where scorpions scurry under B-52s, jackrabbits bound over chopper blades in tufts of never-green grass, and the sun burns through everything, there are no epiphanies. There are only dirt and space, dreams and loneliness, and—I realize with a start—confrontations with the past that will never quite fill the gaps. Taken with an incredible urge to urinate, I snap one last photo and hop in the van, trying hard not to look back.