

CALVIN COBB

Radio Woodworker!

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A Novel With Measured Drawings

Roy Underhill



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CALVIN COBB: RADIO WOODWORKER!

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For Dad.

OTHER BOOKS BY THE AUTHOR

- The Woodwright's Shop: A Practical Guide to
Traditional Woodcraft*
- The Woodwright's Companion: Exploring Traditional
Woodcraft*
- The Woodwright's Workbook: Further Explorations in
Traditional Woodcraft*
- The Woodwright's Eclectic Workshop*
- The Woodwright's Apprentice: Twenty Favorite
Projects from the Woodwright's Shop*
- Khrushchev's Shoe and Other Ways to Captivate an
Audience of 1 to 1,000*
- The Woodwright's Guide: Working Wood with
Wedge and Edge*

ABBREVIATIONS

Calvin Cobb: Radio Woodworker! takes place during the spring and summer of 1937. Some help on the alphabet agencies of the New Deal may prove useful.

AAA – Agricultural Adjustment Agency

CCC – Civilian Conservation Corps

FRC – Federal Radio Commission

FSA – Farm Security Administration

GAO – General Accounting Office

WPA – Works Progress Administration



SATURDAY MORNING, JUNE 11, 1937

Fearful of Maryland cops, the cabbie dumped Calvin at the gate of the Beltsville Agricultural Experimental Station and raced back toward the D.C. line. Without the workday ant-parades of lab-coated scientists lacing between the brick buildings, the concrete paths of the station seemed cold as tombstones. Calvin stood listening. Over a background of bleating goats, an engine roar echoed from a far hill and he took off running.

The laboratories gave way to hog pens and turkey houses as he ran. He came to a rough pasture and saw at the far end a gray tractor, headlights flashing, headed straight for a herd of boys, scattering them and sending some leaping over a board fence. The tractor spun around without slowing and chased a small group, corralling them in a corner of the field as they threw up their hands in surrender. The scream of the tractor engine drowned out the cheers and taunts of the other CCC boys closing in behind it.

Seated at a card table at the edge of the field, a woman was watching the business through field glasses. Calvin came up

behind his alleged subordinate and called her name in angry voice. "Linda!"

She spun so quickly that the empty sleeve of her dress made a ghostly grab at him. "Chief!"

"So what's so special about this test that you couldn't tell me about it?" He lifted the field glasses and surveyed the action across the field. The tractor roared and the cornered boys made a sudden dash, sweat cutting pink streaks through the dust on their backs. The tractor bolted in pursuit, looping and jiggling to chase the whole sunburned herd into the field. The tractor swerved to the left to chase three mavericks, running over a dropped fatigue hat and sending it flying in a long arc. A quick reverse drove the running boys back into the pack, forcing them all into the far corner where they threw up their hands in cheering surrender. The driver of the tractor gave a few bounces on the iron seat and waved her hand in victory.

Calvin handed the field glasses back to Linda. "She's gonna kill someone!"

Linda inhaled a draft of summer morning air. "She has to keep 'em busy or they'll wander off."

A green pickup truck turned into the lane and pulled up beside them. Ellen, sitting in the passenger seat beside the pimply CCC boy at the wheel, rolled down the window as Calvin walked over to her.

"Morning Chief!" She glanced quickly at Linda and back at him. "Nice to see you." She winced, struggling against her back brace, unable to turn away from Calvin's lowered eyebrows.

Dozens of bobbing white enameled kitchen scales surrounded Ellen's wheelchair in the back of the truck. Linda pushed past him to lean in the window. "Any word from Anne?"

"She's on her way," said Ellen. "Had to take a taxi from 14th Street."

The distant tractor screamed. "Better take the scales and tally sheets out to the boys before Verdie kills 'em," said Linda.

Ellen nodded to the grinning CCC boy and they drove off toward the roaring tractor at the distant end of the field, leaving Calvin and Linda swathed in oily exhaust. The tractor engine howled and flame shot from its exhaust stack. Calvin pulled Linda's field glasses back to his eyes. "Sounds like it's going to blow." The scream from the tractor echoed off the buildings behind them. "What the hell is that thing?"

Linda waited for the roar to ease. "Some guy at Ford designed it. It's got very good steering." She pointed at the light green leaves of a distant oak grove. "I think the wind is dropping."

Calvin ignored her diversion. "But what's that whine?"

No answer came.

"Linda?"

"It's...the supercharger. It's very special and we only have it for today."

"A supercharger?"

Linda flipped through the pages on her clipboard. "This is the same way we've done our tests for years."

"No, we've never tried to pull a spreader so heavily loaded that it needs a tractor with a supercharger!"

Linda began to speak, but only inhaled and looked up at the trees.

"Oh, no!" He leaned around to face her.

"The front wheels ride way out. It's plenty stable!"

"Oh, hell no!" He slapped the field glasses on the table and started across the field. "What the hell are you thinking!"

She followed him. "It was Verdie's idea! She's had it up to sixty just fine!"

"Sixty! Who the hell needs to spread manure at sixty miles an hour?"

"We're only going up to fifty, tops!" She swung her one arm

wildly to keep her balance as she followed him across the rough ground.

“Absolutely not! We’re not going to get Verdie killed for a stupid spreader test!”

She punched his arm hard enough to make him stop and almost hit back. “We’re not testing manure spreaders! We’re testing Little Shirley! We’re testing her!”

He stood seething, rubbing his arm.

Linda pointed back toward the city. “There were stiffs in the building, Chief! Guys in monkey suits prowling around on Tuesday. Burroughs men. They’re after her!”

“Linda, this is nuts! You want Verdie to die for that stupid machine?”

“She’s not stupid!” She punched him again in the same place.

“Stop that! I can’t hit you back!”

She squared off to him. “Oh, I wish you could! Go ahead! Let’s see just what the hell you can do!”

“Oh, for crying out loud! Stop it! This is no way to run a government office.” He tried to put his hand on her shoulder but she jerked away.

“Probably not!” She fixed him with red eyes and jutting chin. “But look, she’s growing. She can do things now she could never do before! You saw what she’s been doing with your radio scripts! You need her too!”

“Not like you do.”

“Yes, we need her. So what’s wrong with that?”

From across the field, Ellen’s command voice echoed, ordering the CCC boys into line to receive their tally sheets and scales. She was speaking to the boys, but both she and the woman driving the tractor were looking back across the field at Calvin.

He saw them watching him. He shook his head, looked up at the breeze in the trees and blew a jet of air from his puffed cheeks.

“Oh, Chief, thanks!” cried Linda. She wiped at her eyes and looked up at the trees. “You can help, too. Anne’s bringing your lady friend’s little RoBot camera to get sequence shots of the plume.”

“Kathryn Harper’s in on this?”

“No, she’s not *in* on it. Anne just borrowed her camera, just to try the spring motor drive. She’d love it out here, with the grass and the horses. She’s from Kentucky, ya know.”

“Anne?”

“No, Kathryn! Whisky money! Her father moved their business to Europe during prohibition. Don’t you read *Radio Guide*?”

“Guess I’d better start,” he said, as they turned to walk back to the table.

“Well, you know you’re supposed to take an interest in other people. That makes them interested in you.”

Calvin shook his head. “How’s the rest of the manure?”

“Excellent! Mostly pig, but the moisture is dead on. They did a really nice job.”

A taxi turned into the lane and stopped by their table, Anne’s hand waving from the passenger seat. The two women briskly updated each other while Calvin extracted the heavy surveyor’s tripod from the back seat. As he stood with the tripod balanced on his shoulder, watching the women talk, a breeze swept back Anne’s long hair, momentarily revealing the moonscape of scars that passed for the left side of her face. Calvin turned away to look out at the long field, rolling ground randomly dotted with hundreds of bright aluminum cake pans.

“Morning Chief!” said Anne as she joined him to walk to their camera position at the far end of the field. “Thanks for toting the tripod.” She reached down to flip a grasshopper out of a cake pan as they passed.

“Where did you find four hundred cake pans?” he asked.

“They had ’em here,” she answered, as she skipped ahead

of Calvin. For a person just in to middle age, her step was as happy as a calf let free in bright meadow.

They set up their position at a gap in the fence at the far end of the field. Calvin stood up the heavy tripod and Anne adjusted the settings on the tiny camera. "I'm going to kick in the green filter and see if that doesn't punch up the brown."

Calvin stifled the urge to suggest that a number two filter might be more appropriate. Through the field glasses, he sighted Ellen directing the boys as they linked and safety-chained the boxy John Deere Model E Spiral Beater Spreader to the streamlined grey tractor. In the high seat, he watched Verdie pull on a gas cape, goggles, gauntlet gloves and finally a steel doughboy helmet. She dropped into her seat, almost out of view behind the engine, and the tractor's headlights flashed twice. "Verdie's ready. How you doin' there?"

"Just a minute. Give 'em the slow flash," said Anne.

He sighted through a little signal mirror and swept slowly between Verdie's and Linda's positions.

Anne stepped back behind the camera and sighted through the finder. "Okay, I'm ready."

Calvin picked up the red and white semaphore flag. "You sure?"

"Yep. Keep the stopwatch right there." She indicated a spot two feet ahead of the camera lens. "When the flag goes down over there, hit the button. Okay, give 'em the fast flag."

Calvin waved the flag rapidly back and forth overhead and then held it steady. The lights on the distant tractor flashed, a flag went down and he hit the stopwatch. A flock of blackbirds unrolled onto the edge of the field but the roar of the engine sent them flying. Viewed straight on across the field, the only noticeable motion was a slight jiggery about as the tractor and spreader accelerated. In seconds, though, the little train grew a dark peacock's tail as the manure hit the spiral beater.

The supercharger's whine grew constantly louder as the distance between them closed, quickly drowning out the clicks and whirs of the camera as Verdie climbed upward through the gears. The bouncing spreader came into view above the tractor as she reached a slight downhill section. The brown aura now spread in an arc full ten yards wide and equally high.

A sudden spurt sent the brown plume upwards in a starburst-fingered pattern. The front end of the spreader bucked frantically upwards in protest.

"Was that the harmonic?" called Calvin.

"Yes!" shouted Anne. "Yes! Oh God, it has to be! She was right! I can't believe it!"

A new sound—deeper, shaking—reached their ears. The supercharger screamed over the ten raging cylinders. Rooster tails of dirt flew from the tractor tires, cutting through the manure rainbow like brown galaxies in collision. Calvin had a half second to ponder the implications of this intersection before the bucking front end of the tractor caught his eye. He glanced at Anne, still transfixed as the roaring juggernaut bounded straight for them. Now a coarse spray reached them, stinging their faces like tiny bees.

The tractor was upon them in a brain-rattling roar. Anne stood implacable—ill-served at this moment by her proven ability to remain calm, even at the approach of a walking artillery barrage. Calvin, however, stood his ground only through slowness of reflexes, so when the steel wheels of the spreader hit the bump and the machine transformed into an exploded-parts diagram, it was actually his earlier attempt to dodge the tractor that saved them. He threw himself at Anne, carrying her and the camera below the trajectory of flying wheels and gears. A length of drive chain whipped through the air, smacking Calvin's shoulder like cannon shot.

The tractor, now pulling only a towbar, flew past them,

followed by a catalog of cast iron spreader parts plowing waves of dirt from the turf. The tires rocked hard from side to side as Verdie jumped on the brake pedals and the grey monster slowed in backfiring, whining complaint. It turned back toward them, almost tipping over and finally stopped. Verdie jumped from the seat and limped fast toward them. "Oh my God, are you all right?" she shouted. Pulling off her goggles left her eyes in white raccoon bands — the rest of her all brown.

Calvin, heart pounding, staggered to his feet, wincing from the mile-a-minute slap of the flying drive chain. He probed gingerly at his bruised shoulder. "Anne, are you okay?"

"I'm alright. That was amazing! Look at the spreader! Nothing's left!" Anne pointed at one of the spreader wheels still rolling toward a distant fence.

Verdie examined them for bleeding and breathing, shaking her head. "I couldn't brake evenly and if I'd tried to turn I would have flipped. All I could do was keep going."

"It's my fault," said Calvin. "I set us up too close to the path." He spat straw from his mouth and wiped at his face. "I didn't think how fast you'd be going."

Verdie laughed. "You look like you've been dipped in shit!"

He spat again. "You should talk!"

Anne brushed dirt from her stocking. "I've hardly got any on me. Chief, you're a regular Sir Walter." She waved to the approaching pickup truck that was now halfway across the field. A line of CCC boys fanned out on both sides of the truck, recording the weight of manure in each aluminum cake pan, dumping out the contents and tossing the empties into the truck. "I'm going to run and look at the numbers! I'm sure we got it!" she called, already jogging away.

Verdie wiped at the brown ring below her eyes. "Come on Chief. I'll give you a ride back." She rubbed at her right eye and winced.

“Are you all right?”

“I’m fine! My stump is just a little sore from jumping on the brakes.” She shook off his concern with a laugh. “Hurry up now! You gotta get cleaned up for your big date.” She wiped at the pig manure on her chin. “And we’ve got four hundred cake pans to get back to the home-economics lab.”



SIX WEEKS EARLIER

Calvin Cobb dodged through the morning stream of pedestrians on Pennsylvania Avenue, ready to spring up the gum-dotted steps of the old Post Office building. In the gleaming, Ionic-columned forest of 1937 New Deal Washington, entering this grimy castle was best done quickly — like pulling off a bandage. Today, though, he paused and glanced back at the odd behavior of the sidewalk crowd. Men and women who should have been hurrying to their own offices were, instead, holding onto their hats and squinting straight up at the clock tower high above him. In a flash, Calvin threw himself flat against the granite column framing the doorway. It took a few seconds of peering upwards into the shadows of the clock tower for him to realize that it wasn't a jumper they were looking at — it was a painter working on scaffolding suspended halfway down one of the gigantic clock faces. Calvin now shuddered with a new fear as he reasoned in Washington logic. *They're retouching the clock on the iceberg — the wrecking ball can't be far behind!*

He was still looking up at the painter when, next to his own office on the eighth floor, a window opened, sending snowflakes

of loosened paint glittering in the sunlight. A faint chattering racket echoed down into the street and he dropped his head back against the stone—the girls were already at work, and their boss was late again. He spun around and pushed at the door, but the heavy oak swung grudgingly at its own pace. He strode past the useless elevator cages and sprang up the stairs, two at a time. At the fourth floor landing, a cigar-chewing workman was piling cardboard file boxes onto a hand truck. The careful labeling of the boxes told Calvin that these were the files of the saved—another tiny tribe striking out for their new offices in the white marble city, another lifeboat pulling away.

At the sixth floor landing, Calvin swung around the newel post of the stairwell and almost collided with the south end of a northbound “Eskimo.” Too polite to race on around him, he was now forced to match the man’s slow climb. Courtesy was all he could offer. At twenty-nine with an engineering degree, Calvin could still make a fresh start—but some of these old pencil pushers had worked at the same government job since the McKinley administration. Now they’d been abandoned in the building like ancient Eskimos on the ice. When the man finally shuffled out the landing to the seventh floor, Calvin grabbed the handrail and pulled himself springing up the final steps, three at a time.

The chattering sound meant that his staff already had their cobbled-together, punch card calculator running at full tilt, so he took the long way around the atrium to his office—a counterclockwise path that avoided the pebbled glass window of the machine room. Better that the girls discover their boss in his office than see him arriving late.

The coat tree by his door wobbled under his hat and jacket. Calvin steadied it and went back out to look over the railing into the pit of the atrium, eighty feet below. The old Post Office

was an odd building, designed like an empty square box with offices in walls of the box surrounding a huge atrium that was covered by a steel-trussed skylight roof. The glass roof was now patched with tin and covered with dirt that yellowed everything beneath it. Even on the sunniest days, peering at the building's turreted clock tower through this gigantic skylight was like a view upward from the bottom of a filthy harbor.

Looking down into the pit of the atrium, Calvin stared for a moment at the prime oddity of the building—a second glass roof covering the ground-floor level, seven stories below. Now dust-gray and spotted with waste paper, this lower glass roof had a practical purpose before the Post Office moved out and the building became transient quarters for a dozen different federal agencies. It was originally intended to muffle the noise of the 1890s-vintage mail sorting equipment on the atrium floor, while still letting the postal higher-ups observe their underlings laboring below. The designers never considered that the laboring underlings could also look back up.

Calvin took a shallow breath and stared up at the narrow iron trusses of the skylight above him and imagined suddenly finding himself transported there, clinging to a thin iron spandrel high above the cavernous pit. The frightening image worked—a shivering thrill began below his ears, converged in his spine, and broke up into a million rivulets in his legs. He had charged himself with his full morning dose of adrenaline—just as the one-armed woman patted him on the back.

“Morning, Chief! Nice weekend?” Linda’s flickering smile betrayed delight in making him jump. She stuck her pencil into her massive bun of graying hair and fanned through the corners of the papers held under the stump of her left arm.

“Very nice, Linda, thanks!” He tried to smile, but the tall woman’s energetic asymmetry made him dizzy and he backed away from the railing. The clatter of the machines spilled out

of a quickly opened door as Ellen—shrunken and red-eyed in her cane-backed wheelchair—poked her head out and sneezed. She tried to speak, but squirmed and gagged and finally made a running gesture with her fingers followed by a thumbs-up. Linda returned the thumbs-up and Ellen rolled back in, struggling with a handkerchief and leaving behind the smell of ozone and soldering flux.

“We’ve got some-thing-to-show-you!” said Linda in sing-song rhythm as she motioned him to follow. She caught him rolling his eyes and changed her tone. “Now you be good. The girls have been working all weekend.”

He raised his hand in surrender and Linda opened the door to a room dominated by black machinery and bound by webs of wires. Verdie, her brown coveralls blending with her gray-flecked red hair, glanced up at them through a rising column of soldering flux smoke. She grinned, pulled off her motorcycle goggles and, using her detached prosthetic leg as a crutch, hopped to her foot. Calvin worked his way around a stack of Monroe calculators toward Ellen, who had rolled her wheelchair to sit before a motor-driven Burroughs 031 keypunch machine. Although it sounded like a street full of jackhammers, the black steel cabriole legs of the machine and the formal posture imposed by Ellen’s back brace made the scene resemble a piano recital.

As Ellen typed numbers from a notebook into the keypunch machine, Anne examined the ejected cards. Unlike the other women, who wore their hair either in modern curls or pinned up in a Gibson girl roll that was twenty years out of date, Anne wore her brown hair long. The right half of her face was strikingly attractive, and her long hair covering the left half gave her a mysterious, movie star look. At forty-one, she had a figure and graceful beauty that wrenched men’s heads around. Stomachs wrenched when her curtain of hair swung open enough to

reveal the horror-show of pink rubber band burn scars lacing the left half of her face. She turned quickly and loaded the cards into a black Burroughs 601 multiplying punch, announcing each with its title. "VELOCITY...MASS...VOLUME...IMPELLER ANGLE."

Calvin pointed to a drumming bank of machines beside the open window. "CAN WE SHUT THAT BUNCH OFF?" he shouted, holding his hands over his ears.

Verdie stuffed her goggles into the side pocket of her coveralls and shouted too loud into his ear. "IT'S THE STEPPING RELAYS. THEY'RE VERY NOISY."

He rolled his eyes and threw up his hands. "THANK YOU. YES, THEY ARE!"

Linda knuckled him on his shoulder. "WE'RE JUST GOING TO RUN A SHORT ONE FOR YOU." She patted a rack that held dozens of large semi-circular stepping relays that sparked and hammered back and forth in a spasmodic reshuffling with each punch of a key. "THE OLD TELEPHONE RELAYS FROM THE BASEMENT. THEY CONTROL THE PLUG BOARDS! THAT'S HOW SHE DOES DIFFERENTIAL EQUATIONS!"

Calvin squinted to read the nameplate on a Burroughs 405 tabulator. "Is this — NEW?"

"THIRD FLOOR," said Linda. "Agricultural Adjustment Administration LEFT IT."

Calvin shook his head. "THESE BURROUGHS MACHINES ARE ALL LEASED. SHOULDN'T YOU ASK SOMEONE BEFORE MOVING 'EM UP HERE?"

Ellen rolled back to face him. "IF WE HAVE TO SHOVEL SHIT, I THINK WE'RE ENTITLED TO COME UP WITH A BETTER SHOVEL." She turned to avoid Calvin's blush. "EXCUSE MY FRENCH."

The other women laughed and Verdie passed the cocoa tin

to receive Ellen's nickel. Verdie shook the tin to gauge its contents, but stopped when Anne suddenly held up her hand. The women glanced at each other, eyes wide, stock-still, listening. Slight movements of their hands, fingers, heads, synchronized with a rhythm emerging through the racket. *TIGA-TIGA-TIGA-THUM. TIGA-TIGA-TIGA-THUM.* Verdie closed her eyes and dropped her head. Calvin called out, "WHAT IS IT?" Linda shushed him, jerking her head to listen, pencils wiggling in her hair bun.

TIGA-TIGA-TIGA-THUM. TIGA-TIGA-TIGA-THUM.

"SHE'S IN A LOOP!" said Linda.

The rack of relays rocked with the hammering rhythm. *CACK-CACK-THUM! CACK-CACK-THUM!*

"SHE'S GONNA CRASH!" cried Anne, as two tall racks slammed against one another.

"NO!" called Ellen, rolling forward in her wheelchair too late to catch a falling clipboard of tattered papers.

All the telephone relays now marched in lockstep synchrony. *CACK!-CACK! CACK!-CACK! CACK!-CACK!* Flecks of plaster dropped from the ceiling.

"PULL THE PLUG!" called out Linda. "DAMN!"

Back at his desk, Calvin listened as the girls argued about who had said what particular cussword and how many nickels each violator owed to the cuss-pot. Linda rapped at the glass on the half-open door. "Sorry about that, Chief," she said.

"What made it do that?"

"Roaches, probably. They get caught between the relay contacts. Sometimes it sets up a looped connection that—kind of spreads—like a cold." She glanced around at the papers stacked on his office floor. "I hope you're not eating in here."

"No, of course not." He arched his eyebrows and nodded at the door.

Linda pushed it closed and perched on her accustomed corner of his desk. "Any word?"

He drew in a breath and shook his head. "Nothing good. We're not on the Beltsville list, that's for sure."

She picked up a triangular scale ruler and poked among the papers on his desk. "Moving us out to the research station *would* make too much sense, now, wouldn't it?"

Calvin nodded at the window. "So maybe it is South building, after all."

She bit at her upper lip. "I've been all over the floor plan. There's nothing labeled Broadcast Research." She grasped the stub of her left arm with her right hand.

"Well, if they don't know about us," he tapped three times on his desktop, "then they can't cut us, either."

Linda nodded up at the ceiling. "You saw the angel of doom up on the tower, didn't you?"

"Ah, they've been chipping away at the iceberg since — forever. They sure as heck won't budget to tear it down this year." He pushed the "Year of Recession or New Depression?" headline on the previous Friday's *Evening Star* into view.

Linda tugged the corner of the newspaper. "Cuts both ways, Chief. Hard times makes hungry watchdogs."

Calvin leaned forward to conceal a shiver. "I expect the GAO has bigger fish to fry than the five of us." A bang on the door brought him back upright as if a General Accounting Office auditor had been listening in.

The footrests of Ellen's wheelchair battered the door open. "Found it!" She held an envelope towards Linda. "Relay bank five."

Linda pulled the envelope from Ellen's quivering hand. "Bank five, huh? That makes sense." She passed the envelope to Calvin and stared at the window for a moment. "Bank five. Okaaay."

Calvin studied the cockroach in the envelope, punched through in its middle and burned black by the sparks. He began to pass the envelope back to Ellen, but she was frantically wiping her drool from her lace collar. He turned and pushed the envelope at Linda. "Okaay. Relay bank five." He nodded knowingly, as if the words meant something to him.

Ellen shivered and gave a sudden cry. Her wildly squirming body slid lower in the wheelchair as she struggled to push herself back up. Linda dropped the envelope and tried to steady the wheelchair for her. Calvin rose and grabbed her under her arms. "Don't touch me! Let me go!" Ellen punched out at Calvin with a spastic left hook to his throat. He fell back. Linda lost her grip on the wheelchair as Ellen spun it about and forced it banging out the door.

Calvin felt his throat and swallowed. "How long has it been?" he gasped. Ellen's moaning echoed in the atrium.

"Four days." Linda closed her eyes and took control of her breathing. "Withdrawal doesn't seem to kick in when the work is going well." She picked up the envelope from the floor and shook the cockroach into the trashcan. "We'll get her back on thirty milligrams for a while." She set the empty envelope on his desk and pounded it flat with the end of her fist.

"She was going to fall on the floor."

"I know." Linda gave him a flat smile as she backed out the door. In the hall, Anne and Verdie were already arguing softly with Ellen—the black leather roll of syringes and morphine vials perched in her lap like a demon puppy.

As the voices withdrew, Calvin sat back down, closed his eyes and rocked slowly from side to side. He pulled at the arms of his chair, working the play in the joints—there were plenty of other chairs left in the building if he wrecked this one. He leaned across his desk and probed beneath the newspaper for his box of Ritz crackers. He stuffed one in his mouth

and pulled a cloth roll of spiral auger bits to the front of his desk. The gleaming steel bits made a soft ascending *clink, clink, clink, clink, clink* as he unrolled them. He stopped chewing long enough to savor the soft chimes, but through the wall he heard Ellen's cries as the muscle spasms wrung her like a dishrag. The light morphine injections dulled Ellen's self-control before they reached her pain and she would loudly engage God in a dialogue on the ironic justice of her injuries. In her four months as an aerial photo interpreter in northern France, she had spotted where dozens of German officers were quartered by finding the circular paths left in the grass from when they exercised their horses after dark. By the time she herself was hit, she'd directed artillery fire right onto the pikelhaubes of twelve of the Kaiser's finest, and, as her CO liked to boast back then, "the horse they rode in on."

Calvin swallowed and slid the roll of auger bits back across his desk—none of them needed sharpening. A rustling in the corner of the office echoed the clatter of the bits. He sat still as little scratching sounds announced his friend's arrival up the radiator pipe. The rat, brown and white like a movie cowboy's horse, crept in fits along the asbestos-wrapped radiator pipe, sniffing and wary. Calvin pretended not to watch the rat follow the path along the ledge and onto the bookshelf, hiding in shelters made from map tubes and books. The rat's final dash through a miniature souvenir life ring and down a wide wooden ruler led to her inevitable fall into the glass Prince Albert tobacco jar.

"Now I've got you me pretty!" growled Calvin softly as he wiggled the end of his necktie at his captive.

"Oh Captain Blood, I am your captive once again!" he said, now in trembling falsetto. "Be merciful Captain!"

"I shall have mercy my fair Christina, but first you must dance for me." He joggled the jar balanced on his knee.

“Dance for you my captain?”

“Yes, me lovely! You must dance the dance of the seven whiskers!”

“Oh Captain, I shall dance, I must dance, I...”

Three knocks came on the frosted glass window of his office door.

“Curses, me proud beauty!” he rumbled quietly to his captive as he rose from his chair. “We are...interrupted.” With the jarred rat in his left hand, he opened the door.

“Hello,” said the pretty woman in the hallway. “Boy, they’ve got you way up here, don’t they? I wondered why they hadn’t moved you over to the new building, but I guess you get better reception up here.”

Calvin froze.

She glanced up and down the corridor. “I’m sorry to just drop in on you, but I thought I’d stop in and see how we’re doing. I mean if that’s possible.”

The rat skittered in the jar. Sweat dripped under his arm. “Certainly, certainly, just let me put something...papers away.” He darted away from the door, put the jar on the shelf and leaned a manila report folder against it. “Come on in.”

“I’m sorry if this is a breach of protocol for me to just drop in on you. But you know how long it can take to get any information around here. Agriculture is so big and we’re so spread out.” She held out her white-gloved hand. “We haven’t met. I’m Kathryn Dale Harper.”

“Calvin Cobb.” He jerked his hand free too soon and shoved a pile of books off a chair for her.

“Thank you.” She sat. “You are...head of Broadcast Research?”

“I’m section chief. Smallest section in the Department of Agriculture, that’s why we work so hard!” He seized a small cork board covered with polar charts, tables and grids and held

it for her to see. Her clover honey curls poured across her shoulders as she leaned forward. She squinted at the charts with eyes the color of Delft china seen through the thinnest drop of milk.

“These are all from last year,” he explained.

Relieved, she leaned back and her hair cascaded over her shoulders again. “Do you have anything from this year that I could look at?”

“Ah, sure.” He turned to his desk to search for the data on the wet weather performance of an experimental McCormick front-end manure spreader. “We’re constantly updating here at Broadcast Research. These are just raw numbers here, but we’ll have something soon.” He handed her a folder of dotted grids, punched cards, and paper tabulation tapes. “I’ve got aerial reports from last spring, too — if you’d like to see them.”

“Thanks, no, I just want to...” She thumbed through the papers in the folder, her face smiling, frowning, squinting. Calvin marveled at the mobility of her face. Her expressions stilled so rarely that her soft symmetry flashed like glimpses of a hummingbird’s scarlet. “You do break your research down into specific programs, don’t you?” she asked.

“We test programs, practices and equipment. Obviously how you use the equipment often determines its effectiveness. Then we report to the decision makers.”

She bit her upper teeth into her lower lip for an instant and leaned forward. “What do you have on *Homemaker Chats*?”

“I’m sorry, *Homemaker Chats*?”

Her eyelids flickered and she drew in a breath. “*Farm and Home Hour*...? 12:45...? Every day...?”

“Every day...?” he echoed.

Her eyes grew wide, her voice louder. “USDA Radio Service...?”

“Oh, on the radio!” He grinned. “Oh, I understand! No,

we've never had anything on the radio! But that would be great! That's swell!"

She looked at him in wide-eyed silence for a moment and then quietly asked, "This *is* the Broadcast Research Section?"

"Yes."

"Yes, so, what, exactly, does the Broadcast Research Section do?"

Grinning, he started to reach toward his desk.

"No. No. In English, please, what do you do here?"

He leaned toward her. "We study the effectiveness of broadcast seed, nutrient and amendment distribution technology and practice. And you know a really great angle? With this dust-bowl, with the floods along the Ohio, and all these hills stripped bare by mining and logging — aerial seed broadcasting of ground-cover crops is really important right now!"

She stroked her fingertips on her forehead. Recovering with a quick exhalation and shake of her head, she gestured at the graphs pinned on the corkboard. "So these reports are on... manure spreaders?"

"This one is." He shot his eyes back and forth between the charts and her growing look of amusement. "The tables are for drop spreaders and the polar charts are for rotary broadcasters."

"So you actually study what happens when the..." She arose from her chair, chuckling and shaking her head.

"Yes, when it hits the fan — our work begins." Calvin hoped to share the joke, but she turned away, pretending to take in the view out his window as she struggled to compose herself.

"I'd better let you get back to it then." She turned back to him, smiling and shaking her head, but her eyes darted away toward the scratching sound on the shelf. "Mr. Cobb?"

"Yes?"

"Did you know there is a mouse in a jar above your desk?"

"Oh yes, ahh, I think it's a rat. I mean, a stray lab rat." He

turned to take the jar. "They used to do nutrition research down on the fourth floor. I catch them, now and then." He held the jar to his side, shielding it with his body. "You're not afraid of them are you?"

"Oh please. Let me see the little cutie." She leaned forward to look in the top of the jar as he held it. "He's a little cutie!"

"I think it's a she. Named Christina."

"Christina?" She looked around the office and then at him with narrowed eyes. "I thought I heard a radio show when I was waiting outside — something about pirates."

Heat rose in Calvin's face.

"My mistake, I guess." She smiled and looked up at the water-stained ceiling. "Did you know that peanut butter makes a more effective and economical mouse bait than cheese?" She did not give him time to answer. "You would know that, if you listened to *Homemaker Chats*." She started for the door. "Thanks for your time Mr. Cobb."

"I'll sure be listening from now on." He followed after her. "When would you like to do this story on us?"

"Oh, we'll be in touch. Thank you Mr. Cobb. Good-bye Christina — me proud beauty." She winked at the rat and laughed when the rat seemed to wink back. Calvin's toes grasped at the floor.

"I'll look forward to hearing from you, then. Thanks for stopping in!" He watched her walk confidently down the hall to the elevator. "Good-bye," he said in Christina's quiet voice.

In the wake of her footsteps, heads cautiously poked out of office doors, then full bodies emerged, all looking at the receding figure. Calvin stepped to the brass railing and leaned around a column. Across the atrium, he watched her emerge from the corner and continue down the hall to the one working elevator. As she passed behind the columns of the Gothic arches, he quickly conjured the fantasy of a princess walking.

She could be in the Alhambra. The iron trusses of the gigantic skylight now became a huge Arab tent. An English lady, no—an American lady, visiting his desert palace. And he was the Sheik of Araby.

Linda came up behind him. “Who on earth was that?”

He didn’t turn. “I thought she was a GAO inspector, but she’s with the department radio service.”

“Radio service?”

“Yeah. She does *Homemaker Chats* or something.”

Linda peered at the distant figure and then burst out, “*Homemaker Chats!* Holy cow! Was that Kathryn Dale Harper?”

Anne heard her. “It’s Kathryn Dale Harper! We could have met her!” She waved into the machine room. “It’s Kathryn Dale Harper! She’s still at the elevator!”

Linda and Anne took off after her, pushing Ellen ahead of them. Verdie stayed behind, shaking her head in disgusted amusement as she adjusted the fit of her right leg. “She’s a swell pick for the voice of the American housewife.” She twisted her leg sharply clockwise. “Not even married.” She held her fingers to her mouth in mock embarrassment. “Oh, did I say housewife? I meant to say *homemaker*.”

Voices echoed across the atrium as the women shook hands. The elevator door opened and a chorus of good-byes followed Kathryn Dale Harper as she quickly stepped inside. The rat in Calvin’s jar began a furious scratching at the glass. Verdie’s eyes narrowed at the jar. “God, I hate those things!”

“Oh, you know she’s harmless,” said Calvin, holding up the jar.

“Yeah? Well, they don’t wait until you’re dead to start in on you.” She turned and clumped back into the machine room. Calvin winced at yet another reminder that while these four women were knee deep in the slaughterhouse, he was still a Boy Scout collecting tin cans.

Linda and Anne rolled Ellen back from the elevator. “Had to be a Schiaparelli!” said Linda. “Those brisk lines and all.”

“Oh no. Schiaparelli’s still doing that military look,” said Anne. “I’ve got my old uniform if anybody wants that!”

“Molyneux,” said Ellen, weakly.

Linda leaned down. “What dear?”

“Her suit. Molyneux. Classic.”

Linda patted Ellen’s shoulder and let Anne roll her back into the machine room. She joined Calvin at the railing. “I can’t believe how young she is! On the radio she sounds like the voice of experience, but she’s got to be about your age. What on earth was she doing up here?”

“She asked if Broadcast Research had ever been featured on *Homemaker Chats*.”

“You’re kidding!”

“No. I said I thought the aerial seeding program would make a great radio story.”

Linda’s expression of delight dissolved. “Well that’s not a very good way to lie low—go on the radio and tell everyone we’re here.”

Calvin leaned over the railing in hopes of one more glimpse. “They’re gonna find us sooner or later. They’re not going to put us on the radio and then dump us. So, why not tell everybody about the good work we do?”

“Not put us on the radio and then dump us? That’s like saying they’d never send painters to work on a building if they knew they were about to tear it down.” Linda rolled her eyes to look down into the atrium. “Look.” She pointed to the third floor and a line of gaping doors to empty offices, “That’s the entire inland aquaculture section—out. Gone! They’re not moving anyone anymore. Now they’re just cutting.” She reached out and plinked the jar in Calvin’s hands. “But I see you’ve already started puttin’ by food for hard times.” She waggled her head

and her eyes went wide. She threw her hand up to her hair. "Oh hell! Can you believe I had a pencil stuck in my bun! The whole time we were talking to her!"

Calvin turned to his office and motioned for her to follow. He closed the door, tipped the Prince Albert jar on the floor by the radiator pipe and watched Christina disappear down the hole. "I think this could be really good. Let's clean up the offices, get some stuff on the walls that looks really interesting, put the reports in order, maybe revise some of the old bulletins."

"Chief, the thing about radio is...you don't have to clean up." She spotted the box of Ritz crackers on his desk and picked it up in triumph.

"I might have something interesting in the tower," said Calvin, pretending not to see the bright red and yellow cracker box in her hands. "Some of the spreader models."

"The spreader models? My God, Chief, a federal agency that studies manure spreaders is a perfect target for the anti-New-Dealers." She dug in the box for a handful of crackers. "Just give us a little time and we'll have something to really impress people."

"Your machine?"

She narrowed her eyes at him. "Yes, our crazy machine." She organized the jumble of crackers in her hand into a stack. "I hope you understand what we've got next door."

"A bug killer?"

Dust dropped from the crackers in Linda's fist. "Listen chief, if we could rebuild the Fourth Division's telephone exchange in six hours, under fire, by candlelight, *while* wearing gas masks, then I *think* we can fix the cockroach problem!" She dropped a broken cracker back in the box and exchanged it for a whole one. "When we're done, we'll be able to make a mathematical model of any farm machine that you can imagine and test it on a completely mathematical field." She nibbled at a cracker.

“Any kind of manure you can imagine too!”

Calvin rubbed his fingertips together, choosing his words carefully. “Linda, I think the calculating machine may be just...a little too far from what we’re supposed to be doing.”

“Sir, as far as I can tell nobody knows we’re even here, much less what we’re *supposed* to be doing!”

“Well, Miss Kathryn Dale Harper apparently knows we’re here.”

Linda reached across her chest in a gesture that would have been crossing her arms if her left sleeve had not been empty. “Chief, if you go on the radio and talk about building better manure spreaders, the Hooverites’ll have us out on the street by rush hour.”

“So, you’d rather I say that, while we were supposed to be improving farm machines, we just happened to knock together a Buck Rogers electric brain.” He nodded his head from side to side in mock consideration. “Linda, I might as well say that we’ve invented a death ray!”

Linda glared at him. “I wish I *had* a death ray.” She sprayed her imaginary ray gun around the room, then the building, then the world, finishing on Calvin and herself. She spun around and walked out, slapping the empty sleeve of her dress against the door casing.

CACK-CACK! CACK-CACK! The machine began another of its clamorous sessions, a process as foreign to Calvin as the girls’ overheard complaints of flashes and phantom pain. The pebbled glass in his door rattled with the slamming banks of relays. The glass had SECTION CHIEF painted on the outside, but on the inside, he was a FEIHC NOITCES. He rested the back of his head lightly against the rattling glass and pondered the empty chair where perfect Kathryn Dale Harper had sat. He glanced up at the window, but she would be out of sight by now.

Banging buckets echoed down the hall from the clock

tower entrance. The painter was done for the day. The stacks of ordered papers on Calvin's desk no longer made sense, and he gathered them into a single pile.

"I'll be up in the lab," he called into Linda's office as he escaped down the hall. He drummed up the stairs to the ninth floor and walked to the door squeezed between two empty storerooms. He crouched slightly as he passed down the short corridor that led into the square base of the clock tower, but once he emerged into the room, he could stand twenty feet tall if he wanted. Four huge frosted glass clock faces crowned the upper walls of the chamber. Four shafts driving the clock hands converged overhead with bevel gears that doled out the seconds from the clockwork on the floor above. Visitors felt tiny beneath the giant clock faces — smaller than mice in a grandfather clock. But the sense of being inside something intentional, something measured and deliberate, appealed powerfully to Calvin.

Slit windows in the walls, narrow like archer's loopholes in a castle, gave views of each compass point. Calvin peered through the east window by his workbench. With the trees not fully leafed out yet, he could still see the mottos chiseled into the facade of the new Justice Department building up the street. In large letters under the window of the FBI director's office were the words "NO FREE GOVERNMENT CAN SURVIVE THAT" — a disturbing statement if you missed the subsequent "IS NOT BASED ON THE SUPREMACY OF LAW" that continued around the corner.

Those FBI men up Pennsylvania Avenue were, in part, responsible for the stack of golden-hued, white oak boards leaning against the wall beside Calvin's workbench. He had salvaged this mellow timber with growth rings as tight as a deck of cards from the demolished cabinetry on the atrium floor far below. The cabinetry had all been purpose-made in

the 1880s as specialized organs to digest the United States mail—oak cubby-hole kidneys for insufficient address, oak hopper-table livers for postage due. But after the postal operations moved out in the summer of 1934, the FBI moved in, waiting for the completion of their new building up the street. They demanded uniform desks in uniform ranks and broke up the oak woodwork in the atrium with fire axes and stacked it for the dump, exposing embarrassing rectangular outlines on the marble floors where ten thousand nightly moppings had left fossil seashores of filth. Calvin, staying late in the evenings, had rescued as many planks as he could and given them sanctuary in the tower.

He unlocked his wall-mounted tool cupboard and took a plane from the shelf. The cabinet had belonged to a European master stamp engraver and some of his old prints were still tacked to the doors; Dürer's the *Knight, Death and the Devil* on one, and on the other, an unknown eighteenth-century engraver's *Virtue Fleeing from Décolletage*, showing a young man pursued down a flight of stairs by a quartet of busty young beauties in spectacularly low-cut gowns.

This afternoon, with everyone else ready to slip from the iceberg, he lifted a plank still bearing shreds of varnish and deeply stained with purple ink, and laid it on the workbench. He took up his jack plane and went to his compulsive work. The old surfaces—stabbed by angry clerks, passed over by millions of love letters, bank orders, Christmas cards, draft notices, invitations and regrets fell in corkscrew shavings to the floor. He finished planing the long board and resumed his work on a glass-fronted wall cabinet for Linda's stacks of punched cards. He cranked his bit-brace auger, turning the center bit into the oak to rough in a mortise. "Why do you choose a center bit for this work Mr. Cobb?" he asked himself in a high and barely audible voice.

“Well, Miss Harper, for a shallow hole, a center bit actually cuts faster,” he answered himself. Tan shavings wound outward in an unbroken spiral. The central pike of the bit poked through the far side of the plank. He turned the plank over and inserted the center pike into the hole, and bored down again until the bit pushed into open space, carrying with it a speared button of oak.

He worked until the sunlight rectangles cutting through the slit-windows of the castle grew rust-red. Out the dusty west window, a deep sun fired diagonal rows of clouds into scarlet furrows that left the Washington monument in stark silhouette. A bunt of his hand knocked the shavings out of the rabbet plane and he locked it and the other tools back in the cabinet. Closing the cabinet left him facing the old engravings tacked to the door faces. He stared at one of the lusty women in *Virtue Fleeing from Décolletage*. He would find a set of colored pencils. He would color her eyes Delft blue.