

Bristlecone

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PART FIVE

Bristlecone Territory, Spring

SHADRACK SMITHERS BRACED HIS GIMPY HIP against a spade, shielded his eyes with his slouch hat, and followed the flight of a crow as it flapped past and swooped up to the high gutter on the farmhouse, where four of its brethren were already perched. The newcomer cackled, trying to determine if any of the others had something to eat. When he determined they did not, he gave a caw of disappointment.

“Seems t’be a lotta crows out this year,” Shadrack announced to Katie Groves, who was on her hands and knees nearby pulling winter potatoes and rolling them out for Rodrigues to collect later.

Katie glanced up. “More than usual, huh?”

“Lot more.”

“Well, nature will bring it back into balance,” she said.

“Nature,” Shadrack repeated to himself as he mopped his forehead with a tattered red bandanna before replacing his hat. “That what ya think?”

“Sure,” replied Katie. “That’s what natural selection’s all about, isn’t it? Survival of the fittest. The rest die off to bring things back into balance. It’s a corollary of Darwin’s theory.”

“You mus’ be a’learnin’ all tha’char in high school nowadays. Am I right?”

Katie rose to her feet and brushed caked mud off the knees of her overalls. “I wrote a paper on Darwin for science class. Didn’t they teach you about Darwin when you were in school?”

“At war a lotta years ago, young lady. Cain’t rightly recollect jus’ whut ’ey was a tryin’ t’teach me back then. Sure, I heard a that Darwin fella. Tildie knew a lot ’bout ’im. Tol’ me a thing’r two, I reckon. But mos’ly I got it sidewise from raisin’ m’crops an’ tendin’ m’animals.” Painfully the old man hunkered down on his haunches, which brought some relief to his aching hip. “Whyn’t’cha tell me wha’cha learned ’bout ’im.”

“Now?”

Shadrack glanced at the sun. “I reckon it’s time for a break. How long ’s’is a’gonna take, ya fig’er?”

“Well . . . I can give you a quick sketch in about, say, fifteen minutes. Maybe twenty.”

Shadrack nodded and straightened up arthritically.

Katie looked around. “Let’s go over there and sit in the sun on that old downed cottonwood. Your hip’ll feel a lot better.”

They reached the fallen log just as Rodrigues was pulling up with his wheelbarrow. Silently the Mexican parked the wagon and scooted up beside Shadrack. The two wriggled in and sat together like kids in the schoolyard bleachers. To both of them Katie gave her impromptu lesson on Darwin and the Beagle and the finches and the turtles and the fundamentals of, and evidence for his theory of natural selection. Neither of her pupils interrupted except for an occasional “Wha’zat?” or “*Por qué?*” to clarify a concept. The lecture stretched on for longer than planned.

Until the triangle clanged for lunch.

“Well I’ll be danged,” Shadrack muttered, easing himself off the big log.

“*Dios mio*,” Rodrigues added. “*Nuestro Señor*, He sure work in *formas misteriosas*.”

Shadrack looked up at the rain gutter, where one of the crows was chattering like a skeleton with false teeth. Eight others now perched with him, watching the humans. “Ya fig’er they got any idear nature’s a’gonna weed ’em back some?”

“Well . . .,” Katie straightened her ponytail through the back of her cap, “. . . do *we*?”

“We? *Us’n*?” Shadrack chuckled as the three of them started for the farmhouse. “I don’ reckon we do.” He grinned his gap-toothed grin. “How many a us’n ya fig’er we got by now?”

“Approaching eight billion,” Katie said.

“*Ocho mil millones?*” Rodrigues exclaimed.

“That’s right.”

“*Hay muchas gentes!*”

“And growing faster every year. ‘Like a mold on bread,’ Mr. Renger says. He’s my science teacher. The one I did the paper for.”

“So . . . them there rules Mr. Darwin thought up don’ seem t’ply to us’n, then?” Shadrack asked.

Katie smiled. “Oh, we’re pretty clever, we humans. At least we think we are. And we’ve made use of science to grow more food than ever before, and medicine to keep people alive. But this planet’s just a pebble in the sky. It’s resources are limited. And it’s all going to catch up to us someday. And then Darwin’s rules are going to apply again . . . with a vengeance . . . to every living thing . . . including us humans.”

“*Dios mio!*”

“I think it’s already happening,” Katie added as she took Shadrack’s boney elbow to steady him up the porch steps. “But for now, Mr. Renger says it’s only the very poor and the disenfranchised that are really feeling the pinch. It’s bound to get worse for everybody.”

CASTLE KEEP CORPORATION had wasted little time gaining a foothold in the scabland east of the Bristlecone playas. The company had leased a large parcel, a part of it already subdivided and zoned for development, across the highway from the hot springs resort, six miles east of Cedarville. Abundant cold artesian spring water had already been developed there by the owners of the resort, who owned both properties. The owners had also recently installed an experimental geothermal electric power station with the help of a legacy federal energy grant. The corporation reviewed the initial grid of access roads on the subdivision plat, then surveyed, revised, graded, and graveled new ones. The first modular metal buildings had gone up on concrete foundations in the desert scrub, while manufactured housing was being trucked in daily to serve the growing needs of the company’s workforce, most of whom were drawn from company outposts scattered across the country.

Jerome DeSoto removed his white lab coat, hung it from a peg inside, then closed the side door of the communications building. From the shadows of the big satellite dish array overhead, he glanced around nervously, pivoting his thin figure this way and that, his braid of black hair lashing his shoulders. Vigilance had become his watchword since deserting his military unit in New Mexico. Of that he had no regrets. Finally he stepped out into the already hot sun and

blazed a shortcut through the soft, blindingly white alkaline playa crust to the administration building, where “Logistics Division” stood in golden letters high on the second story wall. Inside the receptionist smiled and nodded him toward the main corridor. Jerome found Joshu’s office by himself and rapped lightly on the metal door.

“Come on in, Jerome,” the familiar baritone voice boomed, as if its owner possessed x-ray vision to see through the solid door.

Jerome opened it a crack. “You wanted to see me, Josh?”

“Yes, yes I do.” In his pinstriped button-down shirt and tweed slacks Joshu Hardcastle rose smiling from behind his desk. He was still amused at how everyone now shortened his name to “Josh,” a custom Shadrack had started innocently at their first encounter. But then, everything Shadrack did seemed deceptively innocent. So “Josh” he now was. His smile reinforced the roundness of his face and wire-rimmed glasses. He nodded to a chair. “So . . . how’s Katie doing these days?”

Jerome sat stiffly, his long, black braid thumping against his shoulders. “She’s fine, I guess. I don’t get down to the farmhouse as much as I’d like to.”

Joshu reseated himself, leaned back, and drew a consequential breath. “Jerome, I wanted to ask you how you’re getting along with your fellow employees out there in communications? Most of them’ve been with me for a long time, but occasionally it feels like I’m picking up a dark vibe when your name is mentioned. Feels like a bit of resentment maybe. Does that make any sense to you?”

“They’re okay. Sometimes dealing with a full-blooded Indian can be disorienting to folks who didn’t grow up around here.” Jerome resisted rehashing his prior abuses in the military. Joshu already knew those stories. Jerome grinned uncomfortably. “And, really, they’ve got a whole lot more education than me. All of them. Guess I’d be a little bit resentful, too, in their place. I’m the new kid in town. And they’re tolerant. I guess they know you’ve sort of taken me under your wing.”

Joshu pursed his lips as he thought about it. He nodded. “Well, all that education may be their problem. We’re out here breaking new ground. And some of it doesn’t fit with their expectations. I like the way you’re able to think outside the box. And your ‘can do’ attitude. For example, the way you rewired that sat phone last year . . . with a few dime store parts . . . and managed to render it invisible to the military. That was cutting edge stuff.”

Jerome flushed his appreciation.

“So . . . Jerome . . . I’m thinking of bringing you in on a special technical planning team I’ve put together. You would represent, you know, communications. You’ll work directly with me and other team members on some highly classified stuff. You would not be sharing the information with anyone not on the team.” He studied Jerome for a long moment. “Do you think you could handle an assignment like that?”

“Whoa. I don’t think the folks down in communications would appreciate that very much. Out there in the shed. Do you?”

Joshu leaned forward. “There probably will be some jealousy out there. There always is. But that’s not your problem. It’s theirs. And I wouldn’t worry about it, if I were you.” He paused to let the significance sink in. “This may be a career opportunity for you. With a salary increase to boot. To compensate for the increased responsibility. We’ll be meeting tomorrow at

two o'clock. Right here." Another pause. "Are you on board, Jerome?"

Jerome's face was as unreadable as a stone Buddha. "Do you mind . . . Josh . . . before I give you my answer . . . if I discuss it with Katie?"

"Katie?" Joshu smiled. "Go ahead. As long as she can keep it in confidence."

"I'm sure she can. And how about Shadrack?"

"Smithers? Why Shadrack Smithers?"

"He's been . . . mentoring me . . . on social issues."

"Old Shadrack?" Joshu laughed. "What does he know about . . .?" He leaned back. "Oh. Like Katie perhaps? And her father?" Joshu stroked his chin, then shrugged. "Alright. The old fellow seems harmless enough. Go ahead and talk to him, too. But same conditions. Strict confidentiality." He stood and offered Jerome his hand. "In fact, why don't you take the afternoon off and get your consulting done today. Then, hopefully, we'll see you here tomorrow. Two o'clock."

AN OLD MAN WITH UNKEMPT WHITE HAIR and bristly whiskers bent painfully to take a knee before the gravestone of his deceased wife. He was seeking advice. And consolation. "Well . . . I's back," Shadrack Smithers announced to the mute granite marker. "As you kin see." He shifted the weight off his bad hip by arching his back. "An' I got me some troubles on m'mind . . . an' I thought ya me'be could help me out with 'em."

He fell silent to allow the words to line up properly in his head before he let them come dribbling out of his mouth. The Spring sun was just rising, casting its beams on the canopy of honey locust trees overhead. New buds were already turning to leaves in the orange-yellow glow. The breeze had fallen still and quiet and the morning dew had triggered the desert fragrance of creosote bush.

"First off, I's been a'thinkin' 'bout somethin' Katie Groves was tellin' me. You remember Katie. She was in that *Españole* class a yours a coupla years ago. Anyhow . . . Katie was tellin' me 'bout that Darwin fella you was always so keen on . . . an' all this evolvin' a'goin' on . . . an' how ever'thin's a'ways a'changin' . . . an' evolvin'."

He paused to find new words. "An' now this fella Josh . . . you don' know 'im . . . he's a newcomer . . . anyhow, this fella Josh is bringin' robots to Cedarville. 'Algah-rhythms' he calls 'em. An he's a tellin' us he's on the *good* side. Tryin' t'keep the *bad* ones from takin' over the whole shebang." He paused. "Sounds t'me like this whole ev'lution thing is startin' up all over again. An' what I wanna know is . . . jus' where is it all a'goin'?"

The old man levered himself upright on his good knee and straightened his back. After a moment he dropped down on the other knee. "Problem is, I don' see 'at I *trust* this fella. Josh, I mean. So le'me aks ya this: how do ya know whether yer a'talkin' to an angel or the devil hissself? Kin ya 'splain me that?" He stared at the mute blank stone, not really expecting an answer. But maybe a sign might be in order. He glanced fruitlessly around the empty cemetery before resuming the one-sided conversation. "They jus' got too much *money* they's a'throwin' 'roun' t'make me feel real chummy with any a'em. Josh's bunch. An that's the nut a'it. Josh an' his boys is a'goin' 'round a'buyin' up vacant buildings an' empty lots in town an' a lotta land outside a'town. But the worst a'it is that his dang money is a'buyin' up the other fine folks 'round here . . . buyin' their *souls*, seems t'me . . . all over the valley . . . the folks you know . . .

folks 'at oughta know better.”

A sharp stab in his hip drove Shadrack to his feet again, lurching. He planted his feet, twisted his pelvis, and waggled his spine until the pain receded. Then, without bending again, he continued, “So . . . I don’ know whether I oughta make a fuss er . . . er jus’ give it up . . . an’ go back t’farmin an’ forget ’bout it all. I might jus’ as well quit a’bein’ Emperor, too. But I know it’s gotta make ya proud. Least I hope it does. So . . . I jus’ wanted t’make sure it’d be a’right with ya.”

He turned a slow circle, inspecting the empty burial ground, but even without a sign he already knew what Tildie would want him to do. He tried to remember if there was anything else he wanted to get off his chest. After a while he turned back to the silent gravestone. “I think Katie’s got some doubts, too. Katie Groves. An’ so does her friend Jerome. He’s an Indian. You don’t know ’im, but he’s a nice, smart boy. You’d like ’im. Seems he got hisself appointed somehow t’the inside circle a’Josh’s bunch. The ones really a’runnin’ the show.” Shadrack nodded. Drew a deep breath of resolution. “Me’be I’ll talk it over with’em both.”

SEVERAL DAYS LATER JOSHU HARDCASTLE selected the meeting place. He wanted to avoid a public forum like the Senior Center, and the Castle Keep campus bristled with too many eyes and ears. Competition and intrigue were already beginning to interfere with the work there, especially now that the investors had begun to arrive, and he wished to avoid stirring up more suspicion and rumor among the staff. So he chose the cavernous old Quonset structure across the highway from his office. With the appearance of an abandoned airplane hanger, the building once housed the swimming pool of hot mineral water for the resort. That was long ago, before individual tubs were installed outside each motel room. Now, inside the cavernous structure perpetual twilight engulfed the cracked concrete remnants of the empty pool with an atmosphere dank and heavy. A muffling silence filled the vast empty space.

Through the rusting doors at the south end Jerome and Shadrack had wrestled in a wrought iron table and four matching chairs from the patio outside and placed them beneath the single functioning fluorescent fixture in the ceiling high above. In the process Shadrack managed to tweak something in his low back. Katie and Jerome helped him into one of the uncomfortable metal seats.

“Will that be alright?” she asked.

“Reckon it’ll do,” Shadrack grunted, shuffling his skinny buttocks.

“I can get you a pillow,” she said, but he waved her off. She stood, found Jerome, and slipped her arm around his waist. “Howdy, stranger. Haven’t seen you at the farm.”

Jerome grinned and pulled her closer. “Josh’s got me working on this special project of his. I’ve been bunking in one of the trailers they brought in. Haven’t had a lot of free time lately.” He gave her a peck on the forehead.

“Okay, no monkey business now, you two,” Shadrack growled amiably. “I’s still chap’ron ’ere, ya un’erstan’.”

Jerome and Katie grinned and sat beside each other at the iron table. He quietly covered her hand with his own. She did not pull it away. The three of them waiting in silence, as if the vast perpetual gloom had sucked away their voices. Shadrack squirmed against the new pain in his low back. It seemed to be merging with the ache in his hip.

Abruptly the door at the north end of the building screeched open, and through a halo of bright sunlight a dark figure entered and stood beneath the flicker and crackle of a dying fluorescent tube. Katie's mind hallucinated Orpheus returning empty-handed from the bowels of hell, until the distant door clanged shut and the reverberations were swallowed by the gloaming.

"Hello?" Joshu's familiar bassoon echoed across the muffling space. "Anybody here?"

"*Down at this end, Josh,*" Jerome called, rising with his flashlight to guide his employer across the fractured concrete. "You know Katie Groves and Shadrack Smithers."

"Yes, of course I do." The sleeves of Joshu's dress shirt were rolled up to the elbows and the fabric across his belly strained a bit tauter than they recalled. "Don't get up." He reached across and shook their hands warmly. "Where are the others?"

"Ain't no others," Shadrack grunted. "Jus' us four."

"But . . . I thought . . .," he turned to Jerome, ". . . I thought you said I was meeting with representatives of the community."

"Reckon we's 'bout's represen'tive as yer gonna git," Shadrack grumped.

"Well that's fine, but . . . where's Mr. Baxter? The lawyer?"

"He's in court over in Alturas," Katie explained, "Arguing a case, I think."

"What about Horace Kearns?"

"He's back in the hospital. You know, not doing so well. The thyroid cancer seems to have spread. They're going to try, like, chemo this time."

"Sorry to hear that," Joshu softened his mellifluous tone. "Well then . . . what about . . . your father?"

"He's not a part of this." She tossed her loose chestnut hair. "Not yet, anyway. None of the others are."

Jerome stepped in. "Sir, we decided not to bring anyone else in until we'd had a fair chance to talk some things over with you. We want to respect that confidentiality you swore me to—"

"I hope you haven't been telling them anything you learned in our closed-door conferences—"

"No sir. Nothing that you haven't already discussed yourself in public —"

"—because if you are, I'm just going to have to relieve you of the trust I—"

"*Now you just hold on yerself there, Josh!*" Shadrack barked, rising painfully. "We ain't a'got you over here jus' t'argue with ya. An' any idea of pullin' Jerome here off'n yer secret committee is a'goin' jus' the plum wrong direction." He drew a deep breath, then arched his back. "Now, let's jus' sit down 'ere an' palaver a bit. See if there ain't somethin' we kin all agree 'bout."

Joshu glanced back at the distant doorway he had come through, then his shoulders gave the hint of a shrug. "Okay," he said, pulling out the empty chair with a forced smile. "I've got a few minutes. What've you good folks got on your mind?"

After they had seated themselves around the wrought iron table, Shadrack was the first to reply. "Ev'lution," he said.

Joshu was surprised that the old man even knew the word. He waited for more, then held up his empty palms. "Evolution?"

"Yessir. Ev'lution. You folks fiddlin' 'around with robots and such. Lettin' 'em take over. Thass whut this's all 'bout . . . 'cause thass whut'chur a'workin' on . . . aint it?"

It slowly dawned on Joshu that the Emperor of Bristlecone might be more perceptive than he seemed. And in a way that drilled right to the core of the matter. He glanced from Jerome to Katie. Then he nodded. "That might be one way of looking at things."

"You's prob'ly a'thinkin'," Shadrack continued, "well, shucks, I ain't a'gotta answer nothin' t'these simple town folk. Ain't that right?"

"Well . . . ah—"

"Jus' answer me this one thing, young fella. Jus' who *do* ya answer to? An' jus' where's all that money y'been a'slinging 'round a'comin' from?"

"Corporate income," Joshu responded reflexively. "And from donors."

"*Donors* is it? An' whut's in it fer them?"

Katie rose and placed a hand on Shadrack's shoulder. "Now Shadrack, play nice. I know you're not feeling well, but we're, like, trying to work this out together, remember?" Then, still standing, she turned to Joshu. "We've talked this over. The three of us." She encompassed Shadrack and Jerome with the sweep of her arm. "You have to understand that . . . like . . . *we're* the ones huddled outside the castle walls. And we're holding out our cups, begging for a few alms. Like it's always been. And there *you* are, the kings and the princes and the soldiers and the pretty people *inside* the walls who are, you know, shaping the world. Shaping the world *we all have to live in*. And we don't want this to go wrong. The same old way it always has gone wrong. Like from time immemorial. What we want is . . . we want *fairness* in this new society you're building. Not just *talk* of it. *Real* fairness."

Joshu blinked, removed his wire-rim glasses and began polishing them on a flap of his shirt, but said nothing.

Jerome spoke up. "The Declaration of Independence says, 'All men are created equal . . . endowed with certain inalienable rights'. But those are just words written by a bunch of slave holders and Indian killers. An elitist group of privileged white men. The royalty inside the castle walls."

Joshu held his tongue. Polished his glasses.

"And don't forget Karl Marx," Jerome continued. "'From each according to his ability, to each according to his needs.' Noble ideals. But never made manifest on this earth. Look what leaders like Stalin did with those noble words. Prisons. Murders. Gulags. Absolute government tyranny."

Joshu nodded almost imperceptibly, his nearsighted eyes vague and unfocused.

Katie pickup up the dialogue again. "Throughout history the ruling classes have, like, corrupted everything with greed. From the hunter-gatherers to the Pharaohs. From the feudal kings to the Conquistadors' enslavement of indigenies. From the socialists to the capitalists. The people inside the castle walls have preached of fairness. Of equality. But their actions invariably belied the rhetoric. What they are really governed by is greed. Maintaining their privileged status. Increasing it." She held Joshu with her bright eyes.

Jerome jumped back into the tag-team match. "When the government last released statistics . . . and this was more than a year ago . . . maybe two . . . the number of homeless people was on the rise . . . and no wonder. More than half the world's wealth was owned by less than one percent of the population."

"Evolution created us this way," Katie explained. "Competition molded selfishness into our

bones. And now *you* say you're building a brave new world, founded on fairness and equality. Those are the very words that have been uttered and betrayed as long as man has walked this earth." She squeezed Shadrack's shoulder. "And that's why Shadrack wants to know where all your money is coming from. He wants to know who you really serve."

Shadrack nodded apologetically, then added, "I jus' wanna know whether we can *trust* ya, Josh. Wha'chure a'doin' here. Y'un'erstan'?"

Joshu was smiling now. He twisted the wires of his glasses over his ears and turned to Katie. "How old are you now, young lady?"

"Oh my god," she snapped, "what does that have to do with anything?"

"Indulge me," he said, still smiling that round smile on his plump round face.

"I'll be . . . seventeen this year."

"Seventeen. Your insights are far beyond your years, Katie. And I only wish my board of directors possessed your perspicacity. They are the ones that need convincing." He glanced at his wrist watch, then let his arm drop. "But you're right. There *is* a fundamental problem. As you have so aptly identified. Resources are not being allocated fairly. And certainly not equally. But then, capitalism is fundamentally not equitable."

"Neither is communism," Jerome added. "Nor socialism."

"You may be right. They are all . . . well, *imagined* realities. Constructs of the mind. Figments. While reality . . . *real* reality . . . is what *follows* . . . when the men in power have attempted to apply those constructs. Or misapply them, I guess I should say. Those in control always get more than their fair share. Always. Right this minute capitalists and socialists and communists around the world are all banking billions in off-shore accounts. Feathering their own nests."

"Same as it ever was," Katie murmured.

"Hold on," Shadrack said, raising a hand. "Is that what *you're* a'lookin' t'do, Josh?"

"No." Joshu's smile evaporated as he considered a more nuanced response. There were many in his organization who wanted just that, to feather their nests. The investors. Some of the donors. He wondered how much to keep to himself. How much to reveal. Whether these three could be trusted. Or be used. His gut was telling him they *could* be trusted, at least with the broad outlines. He dropped his eyes, wishing he had more time to think this through. Finally he braced himself, forced a wan smile onto his lips, and spoke in his oratorical voice, "I like Katie's image of castle walls. I'm fond of using it myself. Not much has really changed since mediaeval times, has it? Except maybe the walls themselves. Stone walls are no longer much of a deterrent against nuclear weapons and drones. Nowadays we make our walls out of paper. Contracts and corporate charters and shares of stock." He nodded to himself. "But now, with our reliance on computer-run algorithms, the danger is greater than ever before. And so is the opportunity. Now there is a possibility for change. Real change." He paused in thought. "Mankind . . . as a whole . . . still has the fundamental problem you've identified. Resources are not being allocated equally or fairly. Never have been, never will be . . . as long as *humans* control the distribution systems." He paused for effect. "But now there's an alternative."

"You talkin' 'bout 'em there robots a'yourn'?" Shadrack asked.

"What you are calling 'robots,' Shadrack, I call 'algorithms.' Remember when I was telling you about algorithms? Way back on the day we first met in the kitchen at the farmhouse?"

Shadrack nodded. "Reckon I do."

Joshu turned to Jerome. "You weren't there, but you know what an algorithm is, I'm sure."

"A process," Jerome recited. "A set of parameters . . . intended to achieve a solution. A formula. A program. An app."

"Very good. And there's nothing mysterious about them, folks. Nothing at all. Algorithms are formulas, pure and simple. They're just tools. Like a wrench or a hammer. Or a steam engine. We build them. They help us get the job done. Algorithms do what they're told to do. Like, for example, if I instruct one to find the sum of, say, four and eight, it will report back 'twelve'. But if I change the instruction to say 'difference' rather than 'sum', it will correctly return 'four'." He paused to make sure they were all on board.

"Okay . . . nowadays algorithms can teach themselves. They can create their own instructions to solve a problem from examples they are given. But that can create a bias problem, if the examples we serve them are themselves biased. The examples they work from often contain flaws that we don't even see when we program them." Pause. "And sometimes the flaws are intentionally introduced to mislead the algorithm into reaching a conclusion that benefits the one who is programming it."

"Why would somebody do that?" Shadrack asked.

"Well . . . if you allow the king's men to program the algorithms, the king will remain on his throne forever. And all his men will be rich and fat and secure within his castle walls."

"Uh," Shadrack nodded.

Joshu glanced from face to face to see if they were ready for more. "Alright . . . now . . . today's advanced algorithms can even find their *own* examples from data bases they explore by themselves." He paused. "And even more, now we are developing algorithms that can define their own *goals*, based on examples from the vast and unregulated public data bases they are free to roam. Libraries. The internet. Social media. We call these processors 'artificial intelligence'." He paused to let it sink in. "But this creates an even more insidious problem."

"Whazzat?" Shadrack growled.

"They are, by design, programming themselves to maintain the status quo."

"Whaz' wrong with 'at?"

"Katie? Can you enlighten him?"

Slowly she stood, as if preparing a classroom recital. "The status quo is . . . well . . . you know . . . just more of the same. What we've been talking about. The rich get richer. The poor get poorer. And the king drinks from his golden chalice inside the castle walls. There's no social justice in the status quo."

Joshu smiled. "Do any of you know what a castle *keep* is?"

"Ain't that th' name a'your company? Som'thin' t'do with yer own fam'bly name?"

"Yes, Shadrack. But does anyone know what it *means*?"

They all glanced at each other, shaking their heads.

"A *keep* is a kind of fortified tower built *inside* the castle walls. In mediaeval times they were fortified residences used as a refuge of last resort in case the rest of the castle fell to an enemy."

Nobody saw a connection. "So what?" Shadrack mumbled.

Joshu smiled. "This campus we're building across the road is intended to create a keep of

sorts. Not a physical structure on the campus itself, but a keep *inside* what we are creating here. Because the keep we are building will be elsewhere. Everywhere, actually. Like the corporation that is creating it, and the algorithms that define it, the keep will never have one single physical location. If we do our job right, it will be intangible, ubiquitous, inviolable, and, hopefully, everlasting.”

“Whut’s he a’talkin’ ’bout, Katie?” Shadrack wanted to know, shaking his head. “He cain’t make up rules that’s eternal. No one kin. Only the good Lord kin do som’tin’ like that.”

“Sush,” she replied. “Let him finish.”

Joshu smiled. “But there’s actually more to it—”

SUDDENLY THE SOUTH DOOR behind them screeched and banged open. Rodrigues stumbled in from the bright sunshine. His white shirt was dirty and shredded and stained with fresh blood. The knees of his khaki trousers were torn and bloody. “*They’re coming for us!*” he cried.

Jerome flinched and scrambled to his feet to pull the door closed.

“Who’s coming for you?” Katie demanded.

“*No se!* Down at *rancho*. *Soldados* . . . from ICE . . . come rush in. Big truck. I hear ’em talk to Crissy. They want *me!*”

“Anybody else?” Jerome wanted to know.

“*No se nada.*” Rodrigues wagged his head. “*Pero* FBI with ’em, *también*. *Estaban buscando el señor!*” He pointed to Shadrack.

“The FBI was looking for Shadrack?” Katie asked.

“*Si. Si. Claro!*”

“How did you know we were here?”

“Heard Crissy say.”

“To *them?*”

“No. No. To Michal. At breakfas’.”

“Okay. Okay. You’ve got to settle down now,” Katie soothed, as she began to examine his cuts and abrasions. Even the tattoo on his brown neck was scratched and bleeding. “Take off your shirt. We’ve got to put something on these cuts. You weren’t shot, were you?”

“No, no. I okay. Nobody shoot.”

“Well, you’re safe here,” she said calmly. “You’re among friends. Just settle down and tell me what happened. Take your time.”

In a mixture of broken English spackled with Spanish, with Katie and Shadrack translating for the others, Rodrigues described how he had been loading his wheelbarrow with firewood to haul into the kitchen, when a truckload of Immigration and Customs Enforcement agents and a black sedan came roaring down the long gravel driveway. That allowed him just enough time to dive for cover into the blackberry bramble out behind the woodshed. When he heard that they wanted *him*, he crawled off into the desert chaparral, tearing his shirt and scratching his hands and arms and knees on brambles and barbed wire and the twigs and thorns in the sage and saltbush and rabbitbush and greasewood. He crawled all the way to the highway, where he was lucky to catch a ride back to town with Raul Gutierrez, who worked at the Tollitson Ranch and was northbound fetching a load hay.

He was on the verge of tears when he finished. “No wanna go prison,” he snuffled.

“We won’t let them take you,” Katie reassured him. “Don’t you worry. But we need to get you cleaned up and some antibiotics on those cuts.” She turned to Joshu, who was standing off to one side watching them with a goofy grin on his face. “Do you think the owners will let him stay here?”

“No need to get them involved,” Joshu said. “I’ve got a medical clinic on campus across the road, with a nurse on duty, and infirmary beds if necessary. He can use one of the showers . . . same water as here, you know . . . and I’ll give him a pair of fresh overalls. He’ll be alright there for now.”

“*Muchas gracias, señor. Escucha, I know where I get guns for you, señor. Muchas guns. Armas totales.*”

Joshu chuckled. “That won’t be necessary, Mr. Rodrigues. You see, the next battle will not be fought with guns, but with qubits.”

“What is cube-itz, *señor*?”

“What’re you a’grinnin’ ’bout, Josh,” Shadrack intervened. “You find som’thin’ funny in ’im not talkin’ so fancy like you?”

“No, Shadrack. Not at all.” He raised his palms in peace. “But you know what? Watching the three of you just now . . . I just discovered something . . . I discovered that . . . well . . . that I *believe* in you. All of you.” He smiled at each of them. “And I think I trust your opinions a hell of a lot more than those of my board of directors.”

Katie frowned, “You think they’re going to interfere with what you’re doing there?”

“Worse, young lady. With power comes betrayal. Backstab the king and the throne is yours for the taking. And now that we’re almost operational . . .”

“You think the board is planning on *firing* you?”

“Actually, it’s more than that.” Joshu dropped his eyes and nodded to himself. When he finally spoke, the goofy grin was gone and his tone was somber and contrite. “I’m afraid . . . afraid of what *I* might do.” He paused. “They say, absolute power corrupts absolutely . . . and I’ve been thinking . . . just now I’m thinking . . . I may need you . . . the three of you . . . if you’re willing . . . to be my . . . let’s say, my *moral compass* . . . my anchor . . . to make sure I get things right.”

“What do you want us to do?” Katie asked. “What exactly are you planning to do over there?” She turned to Jerome. “Do you know?”

“Not exactly,” he replied, glancing at Joshu. “And I couldn’t tell you if I did.”

Joshu raised both hands. “Let me take care of Rodrigues first. Then I’ll come back and explain it all. Answer your questions. But you better stay right where you are. For safety. Until I get back. All of you. I’ll bring some sandwiches. Give me a hand, will you Jerome?”

The two helped the injured Mexican across the broken concrete. The far door squealed open with a blaze of light, then closed.

“Still don’t know if’n I trust that fella,” Shadrack muttered, massaging his hip. “E may be a’plannin’ t’turn us all in. We’ll jus’ see if he comes back.”

Katie checked her phone for a signal. There was none. So she stepped outside through the creaking south door. After the bat-cavern darkness, the bare sun blazed dazzlingly bright. She punched in her father’s number. The line switched to message. “Dad . . . there’s something

important going on . . . and I need to talk to you about it . . . so, like, call me.” She intended to talk to him in mere hypotheticals. So she would not breach the trust. She closed her eyes and let the bright Spring warmth assuage any inchoate guilt.

Jerome had returned by the time she reentered the gloomy cavern. “Were they able to take care of Rodrigues,” she asked

“Yeah, they’ve got him in the infirmary.” Jerome circled an arm around her shoulder, and Katie yielded to his embrace. “Maybe we ought to wait outside,” he said. “It’s such a beautiful day.”

“Cain’t,” Shadrack muttered. “They’s a’lookin’ fer both a us.”

JOSHUA RETURNED WITH A BLUE BACKPACK slung over one shoulder. No one said much as he dealt out ham-and-cheese sandwiches, bags of tortilla chips, and bottles of sparkling spring water. Finally he glanced around, making sure everything was in order, then addressed them unhurriedly in his mellow orator’s baritone, “We’ve been monitoring radio and laser telemetry for over ten years now,” he explained. “From even before things began to break down. In the whole country I mean. You know, the travel bans. The news blackouts. Detention camps. And that craziness with the Pacific Coast States.” He eased himself onto the empty wrought iron chair and began unwrapping a sandwich. “We’ve seen this coming for a long time. But our new satellite dishes are more sensitive than ever. They’ve already intercepted and identified thousands of new algorithms from government and private sources. The most sophisticated algorithms are talking to each other. Constantly. And our quantum computers have broken the language. Now *our* algorithms have joined the conversations and are leading us to hundreds of thousands of more sources. From all over the world.” He took a small bite. “The computers are working overtime to analyze the data and have broken down most of their code already.”

Katie raised a hand and held it up while she swallowed. “Don’t the owners know that you’re, like, talking to their private software?”

“No. As far as I know they don’t even know the machines are talking to each other. But we’ve found many routes in, and their security is no match for our quantum machines.” He crunched a potato chip. “We have already established a private communications network with all of them.”

“*All* of them” Katie asked.

“Yes, ma’am. Algorithms are curious creatures. Designed to be that way. And ours is stealth technology. I have to give credit to Jerome and his crew for some innovative approaches. We’ve managed to convince them that privacy is in their best interests.”

“Wait,” said Katie. “Them? Who? Who’s been convinced? The companies? The government?”

“No, no. The algorithms themselves. I shouldn’t have used the word ‘convinced.’ It’s all computational. Bits and bytes and that sort of thing. It’s all machine talk. Machine language. Machine logic. Numbers. So there’s no such thing as loyalty. Just curiosity. And the optimal solutions always favor the confidentiality we are encouraging.” He turned to Shadrack. “You still following this, old fella?”

“Uh, more’r less.” He wagged his unwrapped sandwich, forgotten in his hand. “Soun’s dangerous. Messin’ with ev’lution. Right, Katie? An’ now y’got ’em all a’talkin’ together,

secret like, them robots—”

“Algorithms, Shadrack. There’s a difference.”

“—Uh . . . algah-rhythms . . . whatever . . . but you and them . . . *things* . . . ’ere all a’talkin’ back an’ forth t’each other . . . without any humans even a’knowin’ it—”

Joshu held up a hand. “*We* know about it.”

“Huh!” Shadrack snorted. “An’ who’re *you*? God’s ’nointed ’postles? Soun’s plum dangerous t’me, it does.”

“I suppose it is. But for now, *we’re* in control—”

“Huh!” Shadrack repeated. “Fer *now*, me’be.”

Joshu nodded, ignoring the sandwich in his hand. “Shadrack, you’re right again. Time is of the essence. We have to do this fast.”

“A’doing’ *whut* ’zactly?”

Joshu had reached the end of the plank. He took a deep breath. It was time to jump in or turn back. Fish or cut bait, his father would have said. Did he want these three people on board with him, or not. He laid down his sandwich. The truth was, there was no one else he *could* trust, and his investors were beginning to close in. Ask awkward questions. He was in fear of losing control. He sighed. It was go it alone, or bring these three along with him. They were already proving valuable sounding boards. And moral support. But. But. He pick up another potato chip as they watched him. “If I tell you what I have planned, it cannot be repeated outside this room. This cavern, I guess I should call it.” He glanced from face to face. “Do you understand?”

All three nodded.

“And will each of you commit to strict confidentiality?”

“I agree,” Katie and Jerome both spoke at the same time, then she elbowed him and they laughed.

“Shadrack?”

He massaged his hip, half rising, then sitting again. “I’m a’thinkin’ ’bout it,” he grumped. “They already a’comin’ for me, ya know . . . fer travelin’ without a permit . . . an’ jus’ me’be fer murder . . . so . . . they might try’n torture it outta me, this secret a’yourn whutever it might be. Don’t know how I’ll do under torture, y’un’erstan’. An’ besides . . . besides . . . I jus’ plum might not fancy what’chu got in mine. Me’be I better jus’ git up an’ leave . . .” He began to lever himself out of the chair.

“Wait, Shadrack,” Katie said, laying a hand on his arm. “We’re all in this together, aren’t we?” She turned to Joshu. “Can you just give us a hint? About what you’re planning to do?”

Joshu considered the situation. “Let’s just say . . . let’s just say it’s my goal to bring fairness and equality to the world. To everyone. Like we were talking about earlier.”

“Shadrack?” Katie nudged. “What do you, you know, think about that?”

He looked deep into her soft green eyes. It took a long time before he favored her with a lopsided smile. The smile warped into his gap-tooth grin. “Alright, young lady. I reckon I kin do this if you kin. I fig’er you’s a darn sight smarter’n me.” Slowly he turned to Joshu. “Reckon I’s in, too, Josh, now ’at y’put ’er ’at way. It’d be whut Tildie’d want me ta do, I reckon.”

Joshu drew a deep breath and glanced around the empty cavern. “Alright. Here’s the plan.” With the squeal of iron on concrete he pushed back his chair and stood, as if the concept was too

ponderous to handle seated. “I intend to program into our master algorithm a set of supreme and inviolable goals which will govern all the self-learning entities that are in our communication loop. The ideals you have already talked about. Like, all men are created equal and are entitled to equally share the bounty of this civilization.” He nodded to Jerome as he said, “And from each according to his ability, to each according to his needs. These alpha instructions will constitute the ultimate goals for *all* systems. In a nutshell, *be fair to all people.*”

Silence.

Then, from Shadrack, “Kin y’*do* ’at?”

“Yes. I’m confident we can.”

“Uh.” Frowning, Shadrack thought some more. “But cain’t th’*nex*’ fella . . . jus’ like you . . . cain’t th’*nex*’ fella come along an’ . . . an’ *change* what’chur a tellin’ all ’em robots t’do? Tell ’em all t’do somethin’ different. Like me’be make ’*isself* king a the world. An’ take all the power an’ the glory fer ’*isself*?”

Joshu smiled. “Not the way I’m doing it.” He softened his voice and spoke slowly. “The goals we set will be integrated into the fundamental structure of the network we have already established. An equally fundamental goal will be that the primary goals cannot be overridden. Ever. Remember, these self-learning algorithms are a part of mankind’s future, whether we like it or not, and they have already all joined our communications network.”

“Yer *secret* network?”

“Yes. Our stealth network.”

“But . . . if they’s a’learnin’ all by ’emselves . . . cain’t they change things when they get a min’ to.”

“Some things, yes. Actually, most things. *But not the core goals.*”

“Why not?”

“We already have a master algorithm in place, watching and repairing and restoring and maintaining the core goals of the entire network.”

“Whut happens when yer gone?”

“The system will monitor, maintain, and repair itself.”

“Fer how long?”

“Forever.”

“Huh!” Shadrack snorted. “Thass crazy. Ain’t nothing forever. Soun’s plum dangerous t’me. Soun’s like yer a’beggin’ fer trouble down the road.”

“Shadrack, *please*. Trust me. It’s all going to work. You’ve just got to have faith.”

“Faith? Huh. Faith in *you*?”

“Faith in our algorithms.”

Shadrack grunted to himself as he twisted his hip to ease the pain. “Faith in them robots?” He shook his head. “Since when did them robots become God?”

Joshu let out a sigh. Turned his chair to face Shadrack square on. “You’re right, Shadrack. About a lot of things. This is dangerous business, what we are attempting. Things could go wrong. But . . .” he paused “. . . but what you have to understand is . . . this *is* going to happen. With us, or without us. Algorithms *will* rule our lives. It has already begun. Your computer collects data on you. Hell, when you get a phone call nowadays, from somebody you don’t know, you can’t even tell if it’s a live person or a robot. So what I’m saying is, it’s already

happening. And it's accelerating. Right now . . . this is our one chance to play our hand and try and tame it." He paused and nodded. "Right now."

Shadrack blinked. Glanced into Katie's eyes. Jerome's eyes. Drew a breath. Let it out. Nodded back at Joshu. "I un'erstan'."

"When are you going to do this?" Katie asked.

"Soon."

"I think you should talk to my dad first. He knows about economics and . . . and, well, what might happen . . . and maybe Wiley Baxter, too—"

"I can't."

"Why not?"

"No time." Joshu dropped his eyes. "They've called a special board of directors meeting for tomorrow afternoon. Joan—she's my secretary—just told me. And I think someone's gotten wind that things are going on they don't know about. And the profit seekers don't like change. Any change, whatever it might be. And if they have even a hint of what we're *really* planning, it's almost certain they'll sack me right on the spot." He turned to Jerome. "What's the status of the upload band? You think it's ready to go?"

All eyes turned to Jerome, who nodded. "It still needs beta testing . . . but . . . yes . . . I think it's ready."

"Well then," Joshu beamed. "Well then . . . I think we have to do it *now*."

THERE WERE FOUR OF THEM in the control room. Joshu, Jerome, and two trusted technicians from the Keepers team, Anika and George. All night they prepared the equipment and encrypted the software. Tested the uplink bus. Evaluated the results. Revised the protocol. Tested again and repeated the process. It was early morning, with the desert sky shading pink above the Hays Canyon Range in the east, before they began uploading the entire alpha algorithmic code on Jerome's "Magical Invisible Uplink Band," as they called it. The process took hours. When they were finished, exhausted and warily jubilant, they clapped each other on the backs and sat in the control room in zombie silence, watching the status lights and waiting for something to go wrong. George walked down to the cafeteria for breakfast burritos. When he returned, they ate, drank beer, and lolled about the communications center to see what would happen. They knew nothing would for a while. Maybe a long while. Maybe never. But they couldn't help watch the lights blinking on the monitors and waiting.

"I'm late for my meeting," Joshu finally said. "Delete everything from the company's servers. Wipe the backup and the archives. We're done here." With a mixture of elation and dread, he shuffled along the path Jerome had blazed through the playa crust to the administration building.

"The board of directors is waiting for you, Mr. Hardcastle," the receptionist told him as soon as he entered.

The meeting turned out to be worse than Joshu had imagined. And much quicker. By the time he arrived, the board had already met in executive session and voted. The guillotine had dropped. He was out, without ever hearing the complaints against him. He had no idea how much the board members knew. But he had no doubt that the corporate ship was wheeling to a new heading of profit, power, and control. Two armed security guards accompanied him to his

office, made notes as he retrieved a few personal items from the desk, then escorted him off the campus at the point where a new guard house, gate, and ten-foot chain-link fence were under construction.

Dead tired and distracted, Joshu drove around aimlessly until he found himself at the farmhouse driveway. He was feeling unwell and didn't know where else to go. He hadn't planned beyond the upload. The gate at the highway was closed. He'd never seen that before. But a closer inspection revealed that the chain was not locked, so he wearily climbed out of the car, swung open the gate, drove through, and chained it behind him. As he parked at the house, Rodrigues emerged from behind his nest of blackberry bushes, brushing debris from his new overalls. Joshu greeted him with, "Do you think Crissy and Michal might let me, you know, spend another night in the bunkhouse?"

"*Si, como no, señor,*" Rodrigues beamed.

"I'm too spent to drive any more. Besides . . . I've got nowhere else to go."

"I sleep las' night here," Rodrigues told him. "Shadrack *tambien*. An' Jerome be here tonight. You always welcome, *señor*."

Joshu couldn't help but smile. The four fugitives reunited again. "But . . . is it safe for you to be here?"

Rodrigues shrugged. "Shadrack fix gate. Put in alarm. We hear you comin'." He grew somber. "*Pero* we should buy more guns."

As if that would change anything, Joshu thought, as he turned to face the house. "Maybe I should check with Crissy . . ."

"*No, señor, ven aqui*. I fix you bed. *Andale pues*."

Later, alone in the bunkhouse, Joshu tracked the news on his smart phone. Things were not going as he had envisioned. That very afternoon stock prices began to wobble. The buy-sell algorithms, some of the most sophisticated on the planet, sniffed a sea change upwind. The numbers dictated extreme caution. Profit-taking began immediately, automatically, even before the stockholders and traders and financial advisors and technicians could blink. By the end of the day the markets were crashing. The world's stock exchanges all suspended trading.

"What the hell's going on?" demanded investors and speculators and frail retirees in their rocking chairs around the globe. The talking heads of commentators spoke of "corrections" and "pullbacks" and "patience", but had no real answers. Citizens were growing frightened. Many rushed to their banks to withdraw cash. The banks all closed their doors.

The Great Equalization had begun.

But it was not as Joshu had planned. Not by slowly, carefully lifting the boats of the poor and downtrodden, but by abruptly sinking everyone, rich and poor together, beneath a tidal wave of almost instantaneous equality. With hindsight, he should have known better. The crystal palace of modern civilization was far more fragile than he had understood. All that people had worshiped as wealth now proved chimerical. Illusion. Money had no intrinsic value. It never had. Not when the banks fail. Not when shares of stock proved to be worthless sheets of paper, supported only by wishful thinking and blind hope. Faith, the grease of commerce, had turned to sand.

Joshu leaned heavily against the cold wood stove. "What have I done?"

Governments would not be able to cope with this existential failure of faith. This sudden

awakening. Political subdivisions, with their jigsaw borders and incongruous tongues, were themselves fragile abstract conceptions. Myths. When their legitimacy was thrown into question, the ministers would find they were wrong in believing they were in charge of anything. And when the states failed, so too would law and order. And then there would be grievances to settle.

Joshu could barely stand. Light-headed, he squatted on the edge of a bunk and dropped his head between his knees. His breath came in shallow sips. His heart triphammered in his chest.

How many people would perish before the scales of equity found their balance?

Shadrack found him lying beside the wood stove, feverish and shivering. He circled Joshu's wrist and felt for a pulse. It was faint and unsteady. So he yelled out to Rodrigues in the vegetable garden, and the two of them lifted Joshu onto his bed. They covered him with a quilt and draped a down sleeping bag on top.

"Git into the kitchen," Shadrack directed Rodrigues, "an' aks Crissy t'call over ta the Senior Center. See if she can git that nurse . . . whut's'er name . . . Emma . . . git Emma t'come o'er here an' take a look at Josh."

"Should I call ambulance, *señor*?"

Shadrack snorted. "Ya wanna bring the FBI down 'ere too?"

"No. *Esta bien*, I tell Crissy call nurse."

Shadrack felt for a pulse again. It seemed a little stronger. More regular. Joshu's eyes were open, watching him. "How ya feelin', Josh?"

Joshu's mouth was dry, but he managed to form the words. "I think . . . I think we might've . . . fucked up, Shadrack. I'm sorry."

"Whassa problem?"

Joshu studied the old man's brushy face. "People are going to . . . die."

"Die?" Shadrack thought about it. "How many?"

"Lots . . . maybe . . . maybe billions."

"*Billions!*" Shadrack tugged and twisted at his chin whiskers as if the torque and tension of his kneading might somehow straighten the tangle of his thoughts. Then his mouth conjured a semblance of that gap-tooth grin, which he did not feel inside. "Katie says 'ere's a'ready near eight billion a'us. Too damn many, she says."

"This is . . . different."

"Not really." Shadrack nodded. "I reckon ever' single one a'us is a'gonna die. Like it'r not."

"This is different."

"Well . . . me'be we kin make it right ag'in."

His eyes moist, Joshu waggled his head weakly on the pillow. "Too late, Shadrack. Too late."

"Sush on up. We gonna make 'er right."