

The Actuaries of Boulder Ridge

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Edwin Liut had drawn the morning watch for the third straight day. He made the usual show of cursing his run of bad luck, but the secret truth was that he actually didn't mind. There was something invigorating about the mountain air at that time of day, especially now that the heat of summer had given way to the cool of autumn.

He arrived at the lookout post shortly after dawn. Below him lay the entire length of the valley, and more importantly, the stretch of interstate that ran through the middle. Traffic was sparse this time of day. A few locals moved in and out of the sole interchange that was within his view; the rest seemed to be trying to get through this stretch of Montana as quickly as possible.

He spotted Maynard Hall rumbling along Country Road 23 in his red pickup. It had now gotten to the point where he could tell who drove most of the vehicles he saw, and could even predict what time of day they would drive by. The locals were creatures of habit. Maynard lived next door to their compound and was the ideal neighbour – he kept quiet, didn't ask too many questions, and would occasionally drop by with a few prime steaks, a rare and welcome indulgence in a world where the consumption of *any* animal products was considered barbaric.

It was interesting, Edwin noted, how the basic design of the automobile hadn't changed in the two hundred or so years since the first models rolled off of Henry Ford's assembly line. Four tires, two headlights, steering wheel. Either they had achieved perfection with that initial design, or nobody had the creative energy since then to try to improve on it. He suspected it was the latter.

He finished his coffee just as the sun began its ascent over the Boulder Ridge. As usual, he followed that with a cigarette. Being an actuary, he knew full well the impact on his life expectancy by doing so. But, given that any tobacco products had long since been banned, he saw it as just another way of rebelling against a government that was far too interested in interfering with how its citizens conducted their affairs. The same government that had driven the actuarial profession underground.

It had been a long, destructive process; one that started before Edwin was even born. There were those that surmised that the beginning of the end actually started in Europe almost a century ago – where insurers were prohibited from offering sex-distinct insurance rates, even though there was overwhelming actuarial evidence to justify the practice. It took a few years before advocates in the US started lobbying for similar changes. The actuarial profession fought hard against it, but public opinion was turning against them. The media, who hadn't paid any attention to actuaries for decades, was now referring to them as “sexist” and “discriminatory” for supporting such an antiquated practice. Equality between men and women became the overriding concern, even if it meant ignoring basic differences in life expectancy.

The actuaries lost that battle, but were thrown into the debate again several years later, when age discrimination became the issue of the day. To many, it now seemed patently unfair to charge older individuals – “those poor senior citizens” – more for their insurance. The actuaries again tried to argue that there were sound scientific reasons for doing so, but political

correctness ruled the day. Insurers were prohibited from considering age in their rate determination, and the entire insurance market was turned upside down.

The smart companies simply shut down their business; the rest soon realized that they couldn't charge enough for their products, and either saw their sales evaporate, or they went insolvent. In any case, within a few years, it was virtually impossible to purchase insurance, and vast numbers of actuaries found themselves out of a job.

But, at that point in time, the country had bigger issues to deal with. By then, the national debt reached seven quadrillion dollars, and politicians in both parties started to realize that something needed to be done. Faced with few other viable options, the Treasury simply started printing money as quickly as it could. That triggered a massive devaluation of the American dollar, rampant inflation, and started what would turn out to be the second world-wide Great Depression, lasting more than two decades. The biggest holders of American bonds – the Chinese government being the most prominent – went bankrupt, and countries that avoided purchasing American debt – like most of Eastern Europe – became the new superpowers. But, at the end of it all, America emerged debt-free and started to slowly build their economy on a more prudent basis.

With the economic worries out of the way, the government turned its attention to other issues. The newly formed Federal Department of Human Rights and Equality was determined to stamp out discrimination once and for all, and declared that any organizations promoting "hatred and inequality" would be disbanded by government order. The Society of Actuaries was one of those groups. Rather than fold under government pressure, they packed up and moved to Montana, where they could still continue operations, far away from the prying eyes of the government. They had been there a number of years when Edwin joined them, as a bright, young – and rebellious – mathematician, looking for some way to make his mark on the world.

The SOA still did research, daring to write reports that defied what everyone wanted to be the conventional wisdom. Their models had become even more sophisticated, and established countless new factors that contributed to human mortality. Thanks to an internet that now made communications completely untraceable, they were able to circulate their reports worldwide as soon as they were finished. Their opinions irritated a lot of people, many of them in important places, but they didn't care. The SOA was determined to get the truth out there.

And so, every day, a member of the Society would stand watch, just in case the government finally decided to come and shut them down once and for all. It was deathly boring work, but each member knew the importance of vigilance.

Edwin passed the time this particular morning by watching a movie on his phone. (Why they called them "phones" was a mystery to him, but he assumed there was a good historical reason.) Today's selection was the classic *Pee Wee's Big Adventure*. Old movies were all they had now, since Hollywood folded up operations several years previously. It had gotten to the point that a studio would spend hundreds of millions on a feature film, only to see it instantly available on the internet within moments of being released, sometimes even before. With the ability to download several terabytes from anyplace on the planet in a couple of seconds, it soon became a losing battle, and the movie industry simply shut itself down, rather than invest

millions into a product that offered no returns. Progress is not always a good thing, Edwin mused, but there wasn't much you could do about it most of the time.

It had been a completely routine day until about nine o'clock, when Edwin sensed something was out of place. He scanned the valley below, wondering what triggered that feeling of worry in his mind. A moment later, he saw it. It was a single car, a plain black sedan, heading eastward on the highway. It was moving noticeably slower than the rest of the traffic, almost as if the driver was trying to find an unfamiliar location. Edwin focused his attention on the car, as it shifted into the right lane and headed for the off-ramp.

Edwin activated the video GPS locator on his phone, and aimed it at the car. Under normal circumstances, he would be able to see a perfectly clear view of the occupants through the windshield. Instead, all he saw was a pixelated jumble.

That clinched it. They were jamming his signal. They had to be Feds.

They had rehearsed the process countless times, but this would be the first instance where it was being implemented for real. Edwin sent a quick coded message back to the compound, which would immediately set in place a sequence of events. First, their entire library of research – now numbering several exabytes – would be flashed onto a microscopic chip, which would be swallowed by that day's designated member. (Unknown to Edwin, that fortunate individual would be David Myre, who would have the unpleasant task of retrieving it a couple of days later.) The disk drives would then be destroyed, incinerated with a built-in self-destruct system. The message would also prompt everyone to get the firearms out of storage and loaded.

Edwin himself picked up his rifle and carefully positioned it in front of him. He scanned the horizon, expecting to see assault helicopters, or at least a convoy of military vehicles coming down the interstate. But there was none of that. He wondered why.

The sedan was now on Country Road 23, but was slowing to a stop on the shoulder. The occupants seemed to be in no hurry. Edwin was puzzled. It was hard to see from this distance, but they seemed to be getting out. Were they armed? Edwin tried to focus his eyes, but it didn't appear so.

Just then, his phone started to buzz. He picked up it, and saw the images of the two men from the vehicle below, clear and undistorted. Somehow, they had located him and were making contact. What was going on? Edwin stared into the screen, trying to keep a neutral expression on his face.

One of the men spoke. "Mr. Liut?" Obviously they had done their homework.

"That's me," Edwin responded.

"We're here from the federal government. We'd like to have a word with you. We need your assistance."

A meeting was hastily convened in the main conference hall of the compound, which doubled as a communal dining room most days. The breakfast dishes were quickly swept away, as were the rifles that were brought out moments after Edwin's alert. After some brief and intense discussions, it was decided that the SOA would agree to sit down and talk. There were some members that were naturally suspicious, but Society President Kensington Resch had the

final word. "If they intended to get us, we'd already be dead," he declared gruffly, and the meeting was on.

The two agents – it was since discovered that their names were Johnstone and Cheevers – sat on one side of the table, looking decidedly businesslike. On the other side, Edwin joined Kensington, along with senior research fellow Daniel Low. Kensington had engineered the attendance carefully – don't overwhelm them, but at least let them know they were outnumbered. For what was always imagined to be a tense confrontation, the mood in the room was surprisingly relaxed. Kensington, though, retained a stern expression. Edwin had rarely seen him smile – but their guests didn't need to know that.

Kensington spoke first. "Let's get down to business, shall we?" His rich baritone and overflowing beard signalled to everyone who was in charge of the meeting. "I believe you have a proposal for us?" He was never big on niceties, Edwin mused.

It was Johnstone that replied. "Yes, actually. It has to do with a project that the federal government wishes to undertake. We have come to the conclusion that we need actuarial talent to do it."

Edwin shot a glance over at Daniel. It was Daniel who had fantasized about this day, when the government – in his mind – would come crawling back begging for forgiveness. He had a diatribe prepared and had rehearsed it for years. Edwin could see that he was itching to let everyone hear it, but so did Kensington. He looked over, and held out his hand, palm up, as if to say *Keep it to yourself. Don't ruin this*. Daniel got the message, and kept his mouth shut.

"And what do you know about actuaries?" asked Kensington. It was a brilliant question – perfectly rational, but with an obvious hint of condescension.

"We've been studying your work for some time now." *The government read our reports?* Edwin thought. "We're well-versed in what expertise you can provide to us."

Cheevers piped in for the first time. "We would like to start re-establishing an insurance market in the US. And we don't think we can do it without your help."

It was obviously crafted to appeal to their ego, but Kensington wasn't buying it – at least not visibly so. "What's in it for us?" he asked bluntly. He then glanced at his watch. It might have been an unintentional gesture, but Edwin doubted that.

"We would be willing to consider full reinstatement of your profession. No penalties or repercussions. You would be legitimate again."

Daniel was bristling. Edwin knew what he wanted to say. *Are we supposed to trust you now? After you almost destroyed this profession? What do you take us for?* But another steely glance from Kensington stopped him before he could get started. It was obvious that Daniel would not be saying anything during this meeting.

Johnstone spoke again. "We would need a couple of you to travel to Washington to discuss the concept."

"As soon as possible," Cheevers added.

Kensington paused, just long enough to make the agents uncomfortable. If they were serious, they would start to show signs of unease. Sure enough, Edwin saw one of them shift in his seat. The other awkwardly reached behind his head to scratch a phantom itch. Kensington got the reaction he wanted.

"We are certainly willing to have an initial conversation," he declared bluntly. He wouldn't have much more to say on the subject. The arrangements would be left to others.

Later that evening, as a fire roared in the hearth of the living room, Edwin and Kensington sat quietly, each enjoying a scotch on the rocks. Alcohol had been long banned officially, ever since the second Prohibition, but the use was still so widespread that the government, for the most part, refused to enforce the law. Kensington has always viewed that as a sign of weakness.

Edwin felt optimistic about their prospects. "This could mean the revival of our profession. Do you realize that, Ken?"

Kensington stared into the fire. "We take things one step at a time," he declared. "We don't know what the expectations or the conditions are yet. We can't assess this proposition until we have all the facts."

"OK, I'll grant you that. But doesn't the idea at least intrigue you?"

"You can only be intrigued by something if you don't know all the facts about it," he responded. "I'll have an opinion when I feel I'm adequately informed."

Edwin knew he couldn't win this debate, so he didn't even try. Kensington was the right leader in this situation, moving forward will all the caution required. But at the same time, Edwin couldn't help but feel a tinge of real excitement. They might become a legitimate profession after all.

The flight from Billings, Montana from Washington, DC only took ten minutes aboard the newest Boeing 887, but it still took an hour and half to clear security at both ends. As soon as they landed, Edwin and Kensington were escorted into a plain black government vehicle, and sped off towards the city.

He had never been to the nation's capital, so Edwin was anxious to see everything in person. As much as they all claimed to despise everything the government stood for, Edwin suspected that more than a few SOA members were jealous of him. To his right, he spotted the famous Lincoln Memorial, nestled between the Carter Memorial on one side, and the Van Buren Memorial on the other. Every president now had a memorial along the Mall, which gave it a distinctly crowded look. As they crossed the bridge over the Potomac, Edwin spotted the twin towers of the Washington Monument and the Nixon Monument. Then, as they proceeded along Constitution Avenue, Edwin saw the fifty-seven story White House, which had been expanded to house several government agencies. It was an impressive piece of architecture.

Kensington didn't seem the least bit interested. Edwin wondered if it was all an act.

Moments later, they disappeared into an underground tunnel, and after a series of confusing turns, ended up outside a nondescript set of sliding doors. From there, they were escorted through a series of retinal and body scans, before arriving at an elevator that proceeded to take them to one of the upper floors of the building.

The doors opened onto an impressive panorama of the city. Unfortunately, they didn't have a lot of time to take it in, as they were quickly ushered into a large, windowless boardroom. When he settled into one of the upholstered chairs, it was obvious that they were being taken seriously. They wouldn't be using this facility for a routine gathering.

There were several people seated at the other side of the cherrywood table that spanned the room. Edwin actually recognized a couple of them; the dark-haired fellow with the glasses was Elliot Hextall, Secretary of Health and Human Services. And the woman next to him

was Sandra Palmateer. He forgot what her title was, but he knew she was some sort of advisor to the president.

Edwin glanced at Kensington and raised his eyebrows, as if to say *This is serious stuff*. Kensington responded by nodding confidently. Evidently, he was ready for whatever they wanted to talk about.

It was an articulate young fellow named Roger Wakely that got the meeting started. "We're very glad you were able to join us," he said, before introducing the others in the room. The ones Edwin hadn't recognized were senior policy advisors in HHS; their titles were too long to remember, so he tried his best to memorize their first names. "I'll let Dr. Rutherford take things from here," he said.

Dr. Brian Rutherford looked up and smiled at Edwin and Kensington, as if to say *You're going to love what I'm about to tell you*. "I imagine you're very curious about what we are proposing."

"Wouldn't be here if we weren't," deadpanned Kensington.

The doctor nodded, not sure if that response was meant to be facetious. "The government is very interested in creating and operating an insurance enterprise. Our goal, over the next couple of years, initially, is to begin issuing and selling a critical illness coverage."

"You are familiar with critical illness insurance?" asked Wakely.

"We may have written the odd paper on it," Kensington replied. Edwin knew that they had written dozens of reports in the last few years alone. Kensington was playing his cards close.

"What we are looking for," the doctor continued, "is for you to provide the pricing and valuation expertise. We don't feel confident that we could take on that responsibility ourselves without your assistance."

Kensington turned to Edwin. "I think we have sufficient data at our disposal to do something, do we not?"

Edwin nodded confidently. "Absolutely." He felt a twinge of excitement. This looked promising.

"Well, you may not need to rely too heavily on your own research," Wakely interjected. "We've been working on something that you might find very useful."

"Yes," added Rutherford. "we have recently completed development of a comprehensive genetic test. It basically identifies every potential disease marker within an individual's genetic code. With a very high degree of accuracy, it predicts the occurrence, timing, and severity of illnesses such as cancer and heart disease. We've studied close to half a million individual subjects, and have been accurate over 95% of the time."

Edwin was stunned. He had no idea that the science had evolved that far. "This test isn't in the public domain, is it?" he asked. He already knew the answer. All of the SOA's research indicated that existing genetic tests still had limited predictive powers when it came to most diseases. Evidently, this had been a government project they had wanted to keep to themselves.

"I trust you'll let us review the results?" Kensington asked.

"Yes, you will have full access to the study, along with all the test results. That is, of course, provided that you agree to work with us."

Edwin would have agreed to that condition right then and there. Was there any need to debate it? But he knew to defer to Kensington, who still appeared to be contemplating the offer. "So will this test be mandatory for applicants?" he asked.

"We think that needs to be a necessary requirement," replied the doctor.

"Let me ask you a few more questions." And for the next half hour, Kensington launched into an incredibly detailed examination of the test results. Edwin interjected with the occasional inquiry, but every piece of evidence was enough to personally convince him. Assuming the data was accurate – and he had no reason to believe that it wasn't – they seemed to have found a very reliable means of predicting the occurrence of a wide range of diseases.

This could work, he told himself. His dream of having actuaries back in business seemed to be closer to reality.

But Kensington still seemed to be skeptical.

"Will there be restrictions on the differentiation of rates by age and sex?"

"No. In fact, we expect to underwrite and rate each case individually."

"And the Society of Actuaries will be restored to its previous status as a legal association?"

"Definitely. No questions asked."

Edwin started to feel a certain amount of anxiety. He wanted Kensington to close the deal, to let them get started on some *real* work for the first time in his life. He didn't care that they would become government employees; this would just be the start. He knew this would lead to more opportunities for actuaries, and a chance to be relevant again. Couldn't Kensington see this?

When the questions finally stopped, Kensington paused to contemplate the offer. It was now up to him to make the agreement. Edwin didn't feel a need to be consulted; his feelings were well known all along.

Finally, Kensington spoke. "I'm afraid we will have to decline."

Edwin felt his stomach drop. *What? How could he do this?* He almost felt compelled to stand up and defy Kensington, but his better instincts prevented him.

Kensington kept speaking. "What you have created here is a no-risk proposition. Anyone who purchases this insurance would be compelled to undergo a test that almost exactly predicts if and when they will be diagnosed with the disease we're insuring against. And that means there is no sharing of risk. No insurance per se. We would be forced to charge them a premium that is essentially just the present value of the amount they are insured for, discounted back from the date they are predicted to be diagnosed. Plus your margin, of course. So it becomes too expensive for the individuals that need it, and virtually free for those that will never claim. What purpose does that serve?"

And on he went, decimating their plan point by point. As Kensington spoke, Edwin could see some of the officials discreetly tapping messages into their phones. Obviously, they were caught unaware, and had to put an alternate plan in play. So he wasn't surprised when the door to the room opened and more individuals began to filter in.

What did surprise him was who with them. It was the President, George T. Bush, the fourth president by that name, and a distant relative of the three others. Kensington stopped talking, and casually nodded to the president as if he was an old friend. "Mr. President," he said, seemingly unfazed.

“Gentlemen, could I have a few moments alone with our guests?” No one was about to defy the chief executive, and they quickly dispersed from the room. President Bush took a seat across from them, and smiled. But it wasn’t a friendly smile; it clearly indicated that he had something to discuss.

Edwin wondered if they could stand up to this amount of political pressure.

“So what seems to be your concern?” the President asked.

“You’ve asked us to design and price an insurance program that doesn’t insure a damn thing,” Kensington responded. Edwin was taken aback by his bluntness, but didn’t try to interrupt. “Anyone who purchases this insurance, knowing what they know from these tests, would be wasting their money. It would just be a money grab for the government.”

The president nodded, and looked directly at the two of them. “I tried to tell them as much,” he said. His voice was lowered, as if he was sharing a secret with a couple of close friends. “But they all insisted that this was a worthwhile venture, that it was foolproof because we could predict things so accurately. I think they got caught up in the notion that they were doing something good, without actually confirming that they were. Happens all the time around here.” He rolled his eyes to emphasize that last point.

Kensington nodded. He didn’t need to press his point any further. But Edwin couldn’t help but ask one more question. “Is there any chance we could talk about reinstatement?”

“I’d like to,” the president replied. “But realistically, I can’t. It has to be a give and take, right? If you had signed up – and I think you made the right decision not to – it would be easy. But I don’t think I could sell this one politically. Do you see what I mean?”

Edwin nodded. He tried to hide his own disappointment, but he knew this was the right decision.

“I appreciate that you were able to give us your professional opinion,” the president said. “Maybe someday in the future we can try to do business again.”

The flight back didn’t give them much time to talk. But Kensington still managed to offer a few words.

“I know you’re disappointed,” he said. “But we couldn’t look like idiots.”

“I hear you,” Edwin replied. “It was the right thing. But would it have been so bad to play along, just for that one chance to be legitimate again?”

“I don’t care about anyone else,” Kensington replied. “But we can’t look like idiots to ourselves.”

The evening watch was the worst in the wintertime. It was picturesque when there was a full moon, but most of the other evenings were unbearably drab. And it was a delicate balance trying to gauge the temperature. Too little clothing, and your extremities started to go numb. Too much, and it made you perspire.

Edwin sipped his coffee, which kept him both warm and awake. He didn’t know why they still kept watch out here. He would have to have a serious discussion with the rest of the Society about this. Old habits were hard to break.

Instead, he turned his thoughts to heading back to the compound after his shift. He expected that he would fall asleep almost immediately, and with a little luck, have a dream

where he would put on a suit, head into an actual office building, and do the work he was trained to do.

That would be good. Maybe someday.