AN IMPLEMENTATION OF MAGIC
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Smashwords Edition



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# AN IMPLEMENTATION OF MAGIC

Derek's eye was caught by the glint of light at the window of the kitchenette. Something was hanging between the opened curtains and catching the light. He stood and took a single step before catching it between thumb and forefinger. It was colourless, transparent, throwing back the light between a dozen facets.

"What's this, honey?"

"It's my new power crystal," his wife said.

"What does this one do?"

"It channels the sun's energy into positive healing rays. And if I sit and look at it steadily, it helps me meditate."

Derek snorted in derision. "Sally, how much did you pay for this thing?"

She frowned a little. "$4.95," she said.

Derek sat down again and lifted a spoonful of Kellogg's. "It could be worse. What do they say it's made of?"

"It's cut glass crystal. Made by hand. It's a long and very skilled process."

"I'll bet." He put down his spoon and rummaged in a high cupboard. A moment later he lifted down a shot-glass, still wrapped in a wisp of tissue paper. "And what's this?" he asked rhetorically. They had got the set as a wedding present, before flying out from the U.K.

"That's one of our crystal glasses; be careful!"

Derek explained that glass crystal was just a special glass used in binocular and camera lenses.

Her face showed her disappointment. Derek re-applied himself to his breakfast, his feelings divided between satisfaction at being right and a nagging shame at his wife's hurt. He leant forward and blew at the crystal, setting it moving so that flecks of coloured light moved around the walls.

"It is pretty, though," said Derek.

"You don't believe in anything, do you?" she said sulkily.

"No. Not unless it's real."

She rustled the pages of the morning paper. "Let me read your horoscope."

"Sure. Always good for a laugh." This was a daily ritual.

She read out the horoscope for Aries. Derek scoffed. "Yesterday's was dead wrong. Maybe you should have read what it said under Taurus instead; after 2000 years of precession their star charts are a whole sign out of whack." Derek rose, and pecked his wife on the cheek. "Bye, and don't buy any pyramids or sign up for any channelling while I'm gone."

Derek worked in the Briggs University research labs in their city. Funding was sometimes hard to come by. Derek sometimes said with a bitter laugh that it would be easier to get funding for Creationist studies than for real science. He hated Creationists and New Agers equally, and sometimes called them saboteurs of American science and tools of Tokyo to their faces. He wondered what had induced him to marry a woman who swallowed all the New Age guff uncritically.

"Did anything unusual happen today?" Sally asked him that evening.

"You mean the Creationists demonstrating outside the University admin block on account we don't teach Creation theory?" He stirred sugar into his coffee as though he meant to wear out the bottom of the cup.

Sally noticed. "Anything the matter?"

"You're going to love this."

"What?"

"I wandered into the parapsychology research lab. They were testing some guy for psychic powers inside a set-up that subjected him to special electric and magnetic fields. And some odd things were happening."

"Like what?"

Derek's 'wandering' had been prompted by rumours of outside funding. Inside the starkly lit parapsychology laboratory he had found a strange scene. A man with hair tied back in a ponytail sat on a cheap steel-framed chair, his head surrounded on three sides by wire coils and metal plates. On a table before him were three playing cards. As Derek watched, the psychic clapped his hands and a small hole appeared in one of the cards. Three grown men set off running about the room like kindergarten kids. "Here it is!" cried one, stepping forward with a tiny circle of paper stuck to his finger.

He looked at her. "I know you believe in this stuff all the time. But as far as we know, this is the first time it's ever happened in a lab. with four scientists watching, and no funny stuff. Hell, we saw the middle of one card blink out with our own eyes." He paused. "Funniest thing was, the guy who was doing it seemed as surprised as we were."

"So you believe in it now?" she said with a smile.

"Ha! I saw a real effect. We don't know what it is yet, but it's a real effect. I'm going to see if I can't transfer to that lab. We're losing the Navy contract; it could be a good time to move. Hey, remember when I did that conjuring, and all those kids thought I was a real magician? A magician should be able to spot any funny stuff better than those professors with PhD's."

Derek was pleased when his application for transfer was accepted. As he had told his wife, it seemed a career move the way things were going, with defence work being cut back because the Russians had folded up, and little money being spent on 'blue sky' science.

The small department was run by a Professor Boothby - assisted by young Dr McCall and research students Ted and Fritz.

Derek found the new work disturbing, though he hated to admit it. The telekinetic effect manifested rarely, and usually at the end of a long day of trials. The effect certainly seemed genuine, yet he had his suspicions about the hyperactive human subject, Chenier, who spoke a kind of French and came from the Cajun country.

They were trying to prove a weight loss when the objects or parts of objects vanished. This had been Derek's own idea.

"There must be a weight loss when the objects disappear," he explained to Boothby at the weekly seminar. "We've tried to measure how quickly they go, but we

only know they go in less than 500 nanoseconds, the gear won't detect any quicker change than that."

A few small reports of the work at Liverson got into the media, but like Sally, most of America seemed to believe this sort of thing happened all the time anyway. Sally was more interested in Chenier. "So he comes from the Bayou? That's a weird kind of place? What does he look like?"

Derek had stared at the Cajun for hours, watching his every move, wondering how he might be fiddling the results. He described him; he could see Chenier's long face and black ponytail in his sleep.

At the lab Derek helped set up and monitor experiments, as the more senior staff tried monitoring for all sorts of waves, particles and other phenomena in an effort to get a grip on what was happening. He grew to rather dislike Chenier. This longhair from the swamp country was mucking up the natural order of things.

Sometimes Chenier complained that Derek bothered him."Don't stare at me, Limey! You're staring at me all day. Why don't'cha bring in some comics to read, loosen up?"

"I'm being paid to watch you, Chenier. We have to verify the experiments. I'm under orders to watch you and see you aren't helping things along."

"You suspicious bastards. You should be convinced by now."

The team found another person, a woman, who could do the same. It became boring. Objects were placed near the person. They disappeared. Holes were zapped in sheets of test material. Derek realised, as did the others, that positive hits were becoming rarer, and the startling original demonstration was not repeated.

"It looks to me as though the more rigorous we make our checks, the less often it happens!" Derek said at a weekly meeting.

The implication was vigorously disputed by the young scientist, McCall, who had witnessed the original demonstration and was convinced that the effect was genuine. He announced his intention to develop a telekinetic machine that would work without human intervention, thus proving his thesis.

"We've only found two people who can do it. Why them and not others? We need to find out," Derek grumbled over his breakfast.

Repetitive experiments continued for months. Meanwhile Dr McCall developed his theories and presented to his colleagues arcane concepts of how an object could slip through the structure of space from one place to another. They held seminars and scribbled equations on blackboards. They invented college-boy names for their concepts of how objects could slip through the dimensions to a different location: 'Neutral bounce', 'Ping-pong', 'Inertial vortex'.

The image that made most sense to Derek was a picture of a two-dimensional universe in which a worm-like tube in the third dimension connected two holes in the surface. It looked great on McCall's computer screen.

It became clear to Derek that the team leaders backed McCall's theory about what was happening. Their experiments became more focused, and part of the measuring rig was dismantled and stowed away. They used the new TECH-NET to download pre-publication scientific papers on subatomic physics and cosmology, and made maximum use of computer analysis and hypertext to assemble the new theories

and data in meaningful patterns. Fuelled by McCall's obsession, they found a non-obvious correlation between new theory and old facts in a few weeks. By more traditional means, the discovery would have taken years of sifting papers and millions of dollars of experiment time.

With some satisfaction, Derek went home to report this news. "We think we know how it could happen. At least, we have a theory. More than one theory, actually. Some say that we could increase the uncertainty of a particle's position and then lock it into a different position. Other guys talk about wormholes."

Sally stretched back in her chair. "You're all working so hard to find an explanation. Why don't you accept that it's telekinesis? Magic."

Derek shook his head doggedly. "We *do* call it telekinesis. And if we can explain it, that's science. And if we can make it work every time, that'll be technology. Not magic at all. Hell, there are savages who think TV's magic - until they've seen a few reruns of *Dallas*."

Derek was put to work supervising technicians who were assembling a new and unfamiliar piece of equipment at the far end of the lab. It was to be connected to the output of a boson source. Bosons, massive and short-lived subatomic particles, figured largely in McCall's theory. His idea was that a boson spin wormhole could be created in space-time, and while it existed, normal matter at the ends of the hole could be flashed through it.

Some months later they built another one. The new apparatus had little in common with the first rig, and it was designed to be trolleyed up to the end of an accelerator. It looked singularly unimpressive; a sturdy aluminium frame about two feet square supported a ring of segmented vacuum chambers with EHT electrodes around the focus behind a shaped magnet coil. Stubby cylindrical detectors pointed at the focus and trailed cables to amplifier modules. Underneath was a rack of Zenith power supplies. The set-up had a small array of coils, which Derek had to tune to reproduce the readings obtained on the first rig. Before doing that he had to fix a mesh guard cage over the target area where the test objects would be, fitted out with safety switches and a little sticker symbol warning personnel to keep their hands off. It gave him a strange feeling; for the first time it came home to him that their work might be dangerous.

He tuned the rig out by adjusting dozens of screws and resistors and generator settings. It took days of work against a deadline; the slot of time McCall and Prof. Boothby had booked on the accelerator. When they were ready to test it, they took it on an air-sled to the nuclear physics building and offered it up to the end of the massive gleaming accelerator. Final checks; gigawatt pulses hummed; Derek made a few adjustments via telemotor. The new rig began to deliver near the end of their time-slot, after hours of tweaking, and the net result of several million dollars worth of kit and a large electricity bill was to move a dust of almost molecular fineness a couple of centimetres into a receiving crucible.

McCall was ecstatic. Derek could see he was almost booking his ticket for the Nobel Prize ceremony already. His colleagues were overjoyed and sent out for champagne. They had some reason to celebrate; in seeking to prove telekinesis, they had invented a matter transmitter.

A minor accident terminated the session. As McCall sat waiting for a band-aid, Ted said, "Why not aim it at enemy soldiers, and take lumps out of them?"

Then Fritz said, "Why not turn it round, put cyanide tablets in their bodies?"

"It could take tiny samples from the far focus and examine them in a mass spectrometer or some such detector," said McCall.

"You mean we make the equipment sense what it's picking at, and then work on what it finds?" Boothby replied.

"Is that useful?"

Other ideas came tumbling out, things they hadn't visualised until they could believe the process was real.

That evening Derek came home in a subdued mood. As she put his dinner in front of him, Sally asked what had happened.

He looked up slowly. "We've shown that you don't need a human being at all to make it work."

"Oh," she said. "You don't seem too happy about it."

"We'll be paying off that dopehead, Chenier." He laid down his fork, the dinner untasted. "It's just some things the guys were saying at coffee. About what we could do with the gear when we get it sorted."

"What sort of things?"

"They were just brainstorming. But they came up with amazing ideas. Things I'd never have thought of. Things you wouldn't believe."

"Such as?"

"McCall got a hole in his arm this afternoon. Stupid accident; everybody was tired. Suddenly they were all talking about using the gear to kill enemy soldiers."

"You can't do that if it's white magic. It must be black magic, evil."

"That's bullshit. The machine doesn't know what it’s pointed at. All matter's the same to it." He paused and rubbed his eyes.

"What else?"

"We could make it search for things and fetch them back. Maybe it could cut out brain tumours.""Could it look for gold?" Sally asked, eyes shining.

"It probably could," said Derek. He picked at his dinner as though it was tasteless.

"You don't seem too thrilled," said Sally.

"McCall wants to try all these things. Tomorrow, if possible."

Derek was not surprised that his next task was to make electrical interfaces to connect the telekinesis unit to the small computers they already used in the lab. A programmer wrote software to control it. Once this was done, the work of fine-tuning the system went on at a faster pace. They developed a means of moving the foci, the send and receive points, at will.

Derek designed and built a computer-controlled analyser to analyse pinhead-sized objects received at the telekinesis unit's near focus. But he was not altogether happy in his work.

He said as much during one coffee break. "Now we've connected a computer into it, it seems it isn't what we thought we had discovered this spring. This is something else. This is a machine that searches for things out of sight and does stuff

to them."

A few days after the Fourth of July, Sally was probing Derek's uneasiness about the Magic Machine, as she called it.

"It does seem as though they have something new," she admitted. "Surely you're not unhappy about possible military applications? I never thought you were a pacifist!"

Derek rubbed his stubbly chin and sipped his coffee before replying. "It's the potential of it that gives me a chilly feeling. That and the way it picks holes in steel with just a little popping noise."

"You've never explained exactly what it does. Does it send things for miles, or what?"

"You never asked me before. The furthest we've made it send is about three times the length of this trailer."

"Oh." She felt deflated. "And how big a thing does it send?"

"About the size of a sugar cube. Away from the unit the capacity falls off rapidly, then more gradually, to like the size of a pinhead."

"This toy is what you're worried about? A pinhead? So much for Beam Me Up, Scotty!"

Derek scowled. "It's hardly a toy. It does that at up to a thousand times a second."

"That's a lot?" She felt patronised.

Derek shrugged. "Eighty million a day. It just happens that our little computer won't drive it any faster. We *don't know* how fast it could work."

He put down his coffee cup. "I'm almost certain that Chenier and his girl were faking the results. If McCall hadn't believed in his powers, he would never have gone ahead and invented the Machine."

Derek learned that in the next stage of the work they would be working at probing the limits of the telekinesis equipment's range.

Slabs of tank armour were brought into the lab, hot from the heat of July, and placed around the receiving focus. The scientists had realised that because of the Earth's daily rotation, one side of the Earth was moving at up to 1000mph relative to an external reference, and the other side of the Earth was moving at 1000mph in the opposite direction. The difference, 2000mph, could manifest itself in the form of an object moving faster than an artillery shell if they received it from the equator at the far side of the Earth.

Derek was worried. Again, he was reminded that what they were doing was dangerous. The team exchanged some uneasy jokes. "Don't dial Australia," was one.

At home, Sally asked if the tank armour meant the military were getting involved. Derek denied it, but privately he wasn't so sure.

"I can't find my cherry lipstick. I wonder if all the objects that get lost for good get teleported somewhere else?" Sally said.

Three days later, Derek ate his dinner in closemouthed silence. "I'm not allowed to talk about my work any more. The new funders won't allow it. And it would be better if you don't say anything about what I've told you already."

"Are you serious? Everybody knows about it now! And when did I sign any contract?"

Soon there was new building work going on at the College. "Do you know what it's for?" Sally said one morning. "Jennifer next door says it's a new computer room for a secret project. There are cars visiting the project; I know from the names they are from computer software companies who have worked on big aerospace and weapons contracts."

"Well, I can't tell you anything," Derek muttered into his coffee.

Derek had to sign for a pile of photocopies the Project had requested from the College Library. He flipped through them and saw that they were all on the same few topics. The first he looked at, EP 426310 "Method and apparatus for verifying an image pattern" was all about scanning objects one line at a time and comparing a product label with a reference text. He discovered that the library regularly received requests for patent details.

The hardware was working, and though the team leaders had not taken him into their confidence, he was almost sure there were other units in other places. The telekinesis heads were continually being improved and made smaller. Sometimes they made improvements that didn't seem to have been designed locally. Like a smaller boson source. But it was the software where they were putting in the big effort. "It's the software that makes a modern VCR or dishwasher what it is; the hardware just spins round and round," McCall said once. "Or in the telekinesis, snaps matter from one place to another."

There was a lot of software to steer the far focus, make it able to scan and sense through the focus, and identify materials and the shapes of objects. It had four spectrographs and analysers attached to it, but they were trying to do away with them and replace them with cleverer methods and more software. Derek found the technology fascinating. They used ultrasound a lot for sensing; the machine transmitted ultrasound just by transmitting sampled puffs of gas.

Boothby explained it at the weekly seminar."When it arrives at the near focus it turns back into ultrasound. It's kind of a technical trick; like digitally coded sound is used on compact disks. Just to give you an idea how powerful the software is, it can turn it into a device for eavesdropping at a range of thousands of miles, by transmitting the air vibrations."

Sally heard that workmen were digging up the lawns to lay heavy-duty power cables from the substation direct to the Project. She asked her husband about it. "I'm not supposed to talk about it," he mumbled.

"That's stupid!" she snapped. "I can see for myself what they're doing! Everybody can!"

"We do need more power for the Project," he explained, with some embarrassment. "But I'm not allowed to tell you why."

Military secrecy or no, Derek was doing a little digging of his own. He had heard that Chenier was bragging in bars about what easy marks the project scientists had been. One lunch hour he got out the gear used to monitor the original experiments and stripped it down. Inside, as he had suspected, he found some modules disguised to look like normal components, but actually made to inject false weight signals in response to radio commands. Somebody had gone to an astonishing amount of trouble to spoof the equipment that was supposed to validate Chenier's telekinesis.

Derek found it much less unbelievable than mind-over-matter. Carefully, he put everything back as he had found it.

A few days later, Sally noticed that they had stopped the trenching work and taken the cable drums away again. Why? It seemed as busy as ever. She had little time to wonder about the reason, because of some good news of a pay rise that Derek brought home, and because of a strange incident that happened in the neighbourhood the next day.

There was a fire at a house next to the College boundary fence. Sally saw it when she drove to the shopping mall. The fire was on the shingle roof and the wall below, but the rest of the house seemed untouched. Soon the fire brigade soon put it out with hoses, but when she went past on her return trip, there was a strange burn or melt mark, very narrow, across what was left of the house, across the garden, the garden wall, the footpath and the road. Some men in military uniforms were there, trying to scuff it out with their boots. She didn't get out of the car or speak to them. Derek was very tense that evening and slept badly. He wouldn't talk.

Derek found out that one of the visitors to the Project was a big software man who also worked on the team that worked on developing the guidance for the cruise missiles used for precision attacks on Iraq. The image analysers for the guidance systems had incorporated ideas from fractal analysis and chaos theory, which sounded like science fiction to Derek.

Derek came home early on 17th September 1993. When Sally came in, he was sitting in an armchair and staring at the wall. Then he went to the cabinet and filled a glass with whisky. His hand shook and rattled the glass. "They paid me off, Sally. They sacked me. They said it was because my work was no good, that I made mistakes. Everybody makes a few small mistakes." He took a large slug of the whisky. "I guess I opened my big mouth too often and criticised the way it was going. Then I told them Chenier was a fake."

"How can you say that, and tell me your machine works?"

"He was a phoney, but they believed him and invented the real thing. It's all his fault..."

"He can't have been a fake," she said. "I don't believe it. What's happening now?"

"I'm not allowed to say. If I speak about it, I go to jail for thirty years. But I got to tell somebody. You sure you want to hear?"

She nodded, a little too eagerly.

"You want to hear? You may never be the same again."

"Yes."

"Because we gotta decide what to do .. decide what to do about it, before it's too late." He put down the glass. "A machine that can eavesdrop and sample at a range of thousands of miles is not a lab toy."

"Thousands of miles!" Sally exclaimed.

"I didn't mean to let that out, but what the hell, it *does* have a range of thousands of miles. We've got sputterings of exploded nickel-iron from the Earth's core to prove it."

She stared at him.

"Is the penny beginning to drop?" Derek asked. "It could make a whole lot of

things obsolete. It can analyse an object, get the raw materials for making another. They are developing all sorts of software modules for it. So if you want to make it do a terrible new thing, you don't need to change the Machine at all, you only have to link different software modules together."

She looked blank.

"Suppose you want to attack an enemy formation. You have a module for finding warm things. You have a module for recognising enemy uniform. You have a module for killing men. Link them together and you got dead enemy soldiers, OK?"

"Suppose they're not in uniform?"

"Then you kill the small guys carrying Kalashnikovs. If it had the data on disk, changing the program would take only a few seconds."

"So it can *kill* people?"

"Sally, almost anything it does can be adapted to kill men. You can poison them, cut them, burn them, irradiate them, whatever."

The screen door clattered. Derek had gone to the 24 hour store to buy more whisky. Looking back over what he said, Sally found it hard to believe any of it. She still didn't believe Chenier had been faking. Derek talked about doing something to stop it, but he obviously feared it might already be unstoppable. Was any of this real? Had anything happened? She opened her diary and wrote down what Derek had said and her thoughts.

Derek behaved strangely when she tried to read him his horoscope the next morning. He snatched the paper and flung it on the floor, and growled, "Don't spook me with that shit."

That morning Sally thought she saw a small green light flicking on and off on the edge of her diary, which was closed. It didn't even look sinister, just like fireflies. An hour later men in uniform came to the house and told her they were moving Derek and herself inside the nearby base. They made it clear what would happen if they didn't co- operate or tried to leave the base or communicate with anyone. She told Derek about the green fireflies. He said it must have been the machine reading her diary for the military. It must have been listening to them too. Two days later they and all their belongings were in a white clapboard house on the military base.

Derek stared out of the window. "What now? It's as if they are waiting for something. They haven't even bothered to charge us with anything."

"Why? We haven't done anything wrong." She looked at him. "Or-?"

"What I did wrong was having anything to do with telekinesis. I'll tell you some more of what they were working on. Don't worry, it won't make any difference even if we are overheard. The scientists think that parts of the Machine could be located in subspace as virtual machines to speed up the operation."

"Virtual *what*?"

"I mean, where the Machine creates something that behaves like hardware, but it's only software. We made a virtual coffee-cup that would hold boiling coffee in mid-air without any cup. Virtual machines are a whole new game with it."

Sally's lips tightened. "There are Indian Yogis who can do things like that."

"Then there are the voice commands and symbolic controls."

He waited all the way through the washing up to be asked, "Derek, what's a

symbolic control?"

"Suppose I have two pieces of yellow Lego. I stick them together; that means ON. I separate them, that tells the machine OFF."

"That's just like magic!" Sally exclaimed.

Two days after their confinement began, there was an accident at the University. Parts of a two-storey building collapsed without warning and several students were killed and injured. Next day, lorries with military escorts started moving equipment from the Project on campus, to an unknown destination. Derek and Sally did not hear about the accident till a week later.

"That's the worst accident so far," Derek remarked grimly.

"There've been others? Apart from that house fire?" she added.

"Quite a number. They happen because of faults in the program control. Usually when that happened, somebody hit the panic button, or it ran out of bounds and stopped by itself."

"What do you mean, ‘out of bounds’?"

"Like a runaway train, it's gotta stop at the end of the line, right? I expect the problem will get worse if they play around with making the equipment run many functions at once, or if they try running their virtual computers in n-space."

At Christmas, they heard that the world's major superpower was claiming to have an impregnable anti-missile defence. Terrorist activity in several friendly countries was crippled as accurate intelligence led the police to guns and explosives caches. An inconvenient dictator of a Third World country died suddenly of a brain lesion.

Time hung on their hands, for none of the military families on the base would socialise with them. They bickered with each other and watched the satellite news a lot.

Often Derek sat staring into space, his mind back in the spartan fluorescent tube lit laboratory. McCall had realised that the telekinesis machine, driven by computer instructions, could itself use its high- speed operations in a small space to represent 0's and 1's and so simulate computer-like logic functions, and that these in turn could run the control software, but at much higher speeds. It was a kind of 'virtual machine' an idea quite familiar to computer engineers. Or, in other words, the tekekinetic unit could itself be a very high-speed computer.

Prof. Boothby realised that if it could do *that*, it might be able to do it in the n-space through which it sent things, as well as in normal space. This opened up the bewildering notion of a computer- controlled telekinesis machine with no visible hardware.

The development he found hard to understand was the reduction in power input; it was linked with the solution of the rocks-from-Australia problem, an energy balance scheme to stop objects arriving with excess kinetic energy.

Derek took to spending a lot of time at the Base's transport pool, working on small mechanical devices or fixing their two ageing cars. Sally drew more into herself, spending hours every day meditating into her crystals. Patterns appeared in the long grass, and some nights there were patches of strange luminescence in the sky. She collected flowers and counted species of insect that lived in the tall grass. Despite

everything, they started a family. She claimed to have predicted the sex of each child before the birth. First was a solemn, alert-eyed girl, who followed Sally everywhere, then a boy.

Five years later everybody knew that power concurrent telekinesis systems existed. It had been a good five years for world peace, a good five years for wealthy oil and mineral prospecting corporations and a terrible five years for resistance, criminal and terrorist groups who found their supplies seized, their members killed or arrested and their hostages rescued or simply vanishing. Business confidence sagged as rumours abounded of the telekinesis systems' ability to spy and probe into anywhere, logging on as virtual terminals to isolated computer equipment, snooping inside locked filing cabinets, and copying prototypes from guarded laboratories.

In 2018, Derek and Sally were at last let out of detention. The same day the news came through, Sally moved out to a rented trailer in the town, with her two small children. The next day, their clapboard house at the base fell down. She gave no signs of having been surprised by either event. She and Derek didn't live together any more.

The number of TK systems in existence was increasing, all being in the hands of governments or large corporations and trading companies. There was little even governments could do against the owners of TK systems when illegal software was available to convert from commercial to full military use.

Derek sometimes came to the trailer hoping to be asked to stay. It was never long before he turned the conversation round to one of his obsessional subjects. "There's no work in this town," he complained. "There's a rumour that the airbase may be closing."

"Could be because so many nuclear weapons are being scrapped," she said.

He shook his head. "Probably not the tactical weapons. Anyway, if you think thermonuclear nuclear war would be bad, I can tell you that a war fought with telekinesis weapons could be worse."

"How could anything be worse than nuclear war?"

He shook his head. "I'd give a lot to know what the maximum range of the new telekinesis units is. They had several thousand miles five years ago. Now it might be 93 million. If it is, God help us all."

"Why? What possible use is the extra range?"

"It's the distance to the Sun. If they can extract matter from the core of the Sun, even a pin head sized piece of it brought back to the Earth's surface will emit enough X-rays to sterilise a city. Anyway, a military telekinesis unit might be able to make, deliver and detonate an atom bomb by itself. They could also be used for weather control and cause most countries a lot of trouble."

She was staring at one of her bookshelves, and only half-listening.

"You've certainly got a lot of books in here," he said. "You never used to read so much." He was pointing to her collection of occult and paranormal books.

Sally shrugged. She still believed in most of these things, but the topics hardly seemed important any more compared with the powers of the telekinesis machines. And she had learned far more about science in the past five years than ever before.

During the next ten years the demands of the worlds' populations for free goods

grew ever more insistent. Governments responded with telekinesis- assisted repression. It was rumoured that in some countries even uttering anti-Government slogans could lead to instant death.

On July 6, 2028 a pinstar attack was carried out against most of the cities of the United States and Europe. Derek, who fortified by several shots of Jim Beam was giving a lecture to an anti-telekinesis lobby group, perished when a blast of X-rays sluiced through his body just before the heat flash caused the building to be engulfed in fire.

In minutes hundreds of millions of people died and the economic activities of these countries were totally disrupted, though many physical structures remained intact. A rogue cubing program chewed its way across France, reducing everything in its path to 3cm. randomised cubes, while a war-damaged heater program slowly turned part of Dorset into a white-hot puddle.

At the same time, several poor and overpopulated countries were attacked; leaving them poorer but no longer quite so overpopulated. Nobody ever found out who had done it, and naturally no telekinesis unit input log retained a record of it, but the recipients of their economic migrant problem came under suspicion. Sally and her children were unhurt. By this time she had a house, and aided by her British accent made an income by selling crystals and telling fortunes. These were mystical times.

A few weeks later, a telekinesis unit created a fault line under the main Japanese island of Honshu, and then inserted pinstar material from the Sun's core into the crack. With a tremor, Honshu lifted by a centimetre and began to slip eastwards, slowly and then with increasing speed till it fell into the six-mile deep Japanese Trench, the deepest part of the Pacific Ocean. Half of Japan, including Tokyo and most of the major cities, had disappeared, leaving a new shallow sea. The resulting hundred-metre high tsunami caused terrible devastation all around the Pacific, and washed away computer factories in California.

Most of the telekinesis units were destroyed in the war, and soon others were deactivated. The latest had so much of their structure in subspace or in virtual computers that they no longer needed the physical incarnation.

Fifty years later, Sally's granddaughter struggled to memorise the words of power that would make the Gods answer her commands, and make her a sorceress. Without these words she would be poor and hungry and helpless; with them - a sorceress could make fire, or fetch useful things from afar, or coin gold, or turn enemies into piles of steaming meat cubes.

[END]

# Sample from: The Plain Girl's Earrings

Chapter 1: Spell-Hunters

*I am not here. I am a shadow. I am watching. I am gathering threads, and when I tug them, hidden forces will stir.*

*(Secret Journal of Lannaira Hajan)*

"What are you doing here, Estevan?"

Heavy drops of rain struck Starsin and made his horse twitch its ears. A uniformed rider trotted toward him, avoiding the cabbage and onion gardens outside the village. It was Rukan, a regular army officer who had supervised part of his cadet training.

"I was out riding," Starsin said. "The rain--"

Behind Rukan, the peaked straw roofs rose, struck into gold by a ray of the fugitive sun. Above them, thunder rumbled.

Starsin glimpsed movement, and with a shock saw a group of riders in the village, part hidden behind the nearer huts. At their head rode two men clad in gaudy armour, painted in primary colours. They were Virnals, the armed face of the Empire. His stomach tightened. He had no cause to like the Virnal Order or their policies.

On this, his free day, he had hoped to buy up any collectible relics turned up by the villagers, but not now. It would be prudent to leave, but helmeted heads turned to him. He had been seen.

Heart thumping, he sketched a salute, and sat his horse.

It was summer in the Empire of Satine, and the day had dawned with the sun rising red-eyed to promise another incandescent day. By noon it had stood in a dust-laden sky like burning brass, baking the Plains earth and the city and throwing up a heat that made the air tremble.

Huts of rough wood, mud and straw huddled beside a single dirt track that bisected the hamlet. Animals wandered unchecked with rain beading their coats, and corn dollies fashioned to ward off evil swung from the straw eaves in the wind.

Rukan pointed a thumb to the troop behind him. "You shouldn't be here," he told Starsin.

"Why, what's going on?"

"The Virnals are about to search the village for sorcerers." He eyed Starsin with concern. "You should leave."

The Order had a reputation for brutality,

"It's going to pour with rain. I won't cause any trouble." The heat had been enough to bake a man dry, despite the ever-present breeze of the Plains. But now black clouds roiled overhead charged with electricity and the threat of storm. He did not want a soaking, and his curiosity was piqued. With Rukan here, nothing bad should happen to him.

"Have it your own way then. But if they want you gone, then go."

Further drops of rain fell, and thunder crackled. He'd risk staying. Earlier, he had been in high spirits as he threaded his way to the village, avoiding riding on the villagers' scruffy fields.

The leading Virnal officers rode out from behind the huts, across the village vegetable gardens. One was wrinkle-faced, with straggling white hair and skin flushed by red blotches. The other had cropped hair that had been brown but was now greying and bore a scar on his left cheek.

"Who are they?" Starsin asked, nodding toward them.

"Lord Varnoth and Lord Kathan," Rukan said.

Starsin's stomach tightened. Something important must be going down, for two leaders of the Virnal Order to appear in person.

"You know what you're supposed to do?" the scar-faced and more military looking of the two Virnal leaders asked in a harsh, loud voice. Starsin guessed this was Lord Kathan, a senior military commander. Kathan was addressing a young, blond Virnal officer, whom Starsin also recognised as Lieutenant Larash.

"Yes, sir. It's on our list," Larash said.

"On your list? So what about it?" Kathan fixed Lieutenant Larash with a stare that even Starsin felt disquieting.

"This is Swampfeld, sir." Despite his aristocratic breeding, Larash's voice stumbled. "I mean, it's next on the list of locations we're checking for signs of insurgents."

Kathan gave a nod. "Proceed, then."

A few women and older men cringed in front of the nearer huts. Unlike their masters, most of the peasants were dark-haired, darker-skinned, yellow-eyed. Starsin saw no children or able-bodied men. Where were they?

"You men!" Larash ordered, pointing. "Circle round the other side." Soldiers spurred their horses away, past the huts.

The village looked inactive. Were the men working elsewhere, or hunting the vicious but edible lizards in the polluted marshes? Or were they hiding under cover? The villagers seemed afraid. Was this their normal response to the appearance of Virnals and soldiers, or were they fearful of some offence being discovered? Already Starsin was regretting his impulse to remain, but to leave now would look suspicious.

"Clear outside," shouted the corporal of Larash's squad from the other side of the double line of huts.

"Flush them out," Larash ordered.

Soldiers dismounted and banged on the doors of several huts. "Come out, you field-vermin, and greet your lords!"

A sudden movement erupted, surprising Starsin. Several men with buckets and farm tools ran furtively between two huts.

"Halt!" a soldier shouted.

Rukan caught Starsin's eye and signalled him not to move.

Doors opened and the people, cowed, came out to collect in a huddle, none wishing to be foremost. The soldiers herded them till all were gathered in sight of the high Virnal Lords and their entourage. A few soldiers remained out of sight, looking inside huts.

Larash was frowning as the peasants in front knelt on the damp ground. “Check inside the huts,” he shouted. Then the village hetman, distinguished by his felt hat, onyx badge and woollen cloak, came forward. The soldiers smirked as the peasants edged away from them, to Starsin’s disquiet.

The other high Virnal, evidently Lord Varnoth, wore an open-faced gilded helmet with upward projecting wings. He turned in his saddle with a slight scrape and clatter of metal. An expression of amusement and pleasure flitted across Varnoth’s lined features. The Virnal appeared to feast on the peasants’ terror as a mosquito feasts on human blood. In this muddy, untidy, dun-coloured village, he was as exalted as a god in his red, yellow and blue armour.

Meanwhile, the hetman prostrated himself in the rain-pocked dirt. To Starsin, the man’s pose was a cringing model of abject fear.

“How may we serve you, great Lords?” the man said.

The rain, previously a shower, increased to a downpour.

“While we shelter from this rain, we want food and drink,” said the other senior Virnal, scarred Lord Kathan. His voice was harsh. “Whatever you’ve got; don’t trouble with anything fancy.”

“Come to my house. It is dry there.” He gestured to the largest of the clay-walled dwellings.

Larash ordered his troop to dismount. The officers also dismounted and tethered their mounts to fencing. Starsin did likewise.

Larash stared in Starsin’s direction. Starsin looked around for a hut where he could shelter, away from the Virnal troop, but Rukan plucked at his sleeve.

“Stay with me.”

“Is it all right?” Starsin asked Rukan in a low voice. He wanted to stay at Rukan’s side, but as a lowly army cadet he preferred not to share a hut with any of the high Virnal leadership.

## From the first chapter of "The Witch's Box":

With excited hands, Maihara tore the layers of coloured paper wrapping that hid her birthday present. The paper was printed with bright patterns enticing to a child's eyes. The other presents sent to her room had been labelled as gifts from her father, younger brother and sister. This one bore no label to indicate the sender, yet it had found its way to her room, a fussy place of drapes, bulky padded furniture and worn red carpets, high up in the juvenile wing of the Imperial Palace at Calah.

From the inner layer of wrapping she extracted a small black box fashioned from cunningly jointed ironwood, an exotic and dense material. It had no visible lid or catch or hinge, but when she pressed at where a catch might lie it sprang open at her touch.

Inside was a slip of paper sealed with a blob of red wax, and below that several rolled and flattened scrolls. Below the scrolls a bright mirror lay in a nesting of red velveteen. She made a face and pushed the box aside. The box was weird, and she'd hoped for some jewelled ornament she could wear now that she was fourteen.

She broke the seal on the note and peered at the crabbed black handwriting.

'You are a descendant of the Vimrashan witch-queens. Guard this box with care, and learn your words of power.'

"What?" Maihara stared at the note, and at the items she had taken out of the box. Besides the mirror lay a shiny black stone and seven scrolls marked with difficult old lettering, two of them inscribed in a language she couldn't read. One of the vellum scrolls had come undone. She unrolled it and read words written in faded old-fashioned script, words that said something about the spirit of a magician.

Was this a joke? But the objects looked old and worn, not a suitable present for a princess.

People whispered that her mother had been of Vimrashan blood, and even a witch. Remarks she overheard made it clear that being a witch was disreputable, shameful, even feared. She had loved her mother. Tears dampened her eyes. This was not funny at all.

A footfall sounded in the corridor. The maids would be coming soon to fit her into her new party dress. Guard this box with care, the note said. With a shiver of fear she jerked open a dressing-table drawer and hid the dark box and scrolls under coloured silk scarves.

The door of her room flung open and her sister Sihrima bustled in. Two years younger than herself, Sihrima was skinny with freckled cheeks and with dark hair like Maihara's but less curly. Most people thought Sihrima had a prettier face.

"What's that?" Sihrima asked. "Another present?"

"Some weird thing," Maihara said, caught off guard. She folded the sheet of note-paper to discourage Sihrima from reading it.

Sihrima snatched it and frowned as she tried to read the faded script. "Vimrashan witch-queens? Maihara's a witch!"

"No I'm not." Maihara made a lunge and retrieved the note. "It's somebody's idea of a mean joke. Now clear off."

Sihrima smirked and stuck out her tongue. "Witch."

Maihara grabbed her sister, hugged her for a moment and bundled her out of the door. “Out! I have to change.”

In the darkest curtained recess of her bedroom lurked a metal-bound chest where she stored her most personal things, asides from her shelf of precious books. She crammed the scrolls back into the ironwood box and shut it, the lid seam once more invisible. Pulling out some items to make room, she thrust the box into the bottom of the chest, under discarded toys and dressing-up clothes.

The torn wrapping paper and outer box lay beside a small, battered doll she could not bring herself to throw out. It was carved from wood, painted in natural colours, with glued-on hair and tiny garments. She was a little old to play with dolls, now strange and embarrassing things were happening to her body. It was changing and filling out from that of a child to that of a young woman. She missed her mother, who would come to her bedside during her childhood illnesses and reassure her that she would recover.

*<<End of sample>>*

**ABOUT THE AUTHOR**

Kim Cowie has worked as a technician and as a technical author, and has sold articles to non-fiction magazines, as well as two short stories. Kim has always enjoyed reading and writing SF and fantasy stories. Currently he is working on a series of fantasy novels.

Kim was included in the June 2017 list of "14 Exciting New Authors to Try Over the Summer" on the SFFChronicles forum.

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