

Voice of Steel

by Sean McMullen

The Tynedal Journal ended with the sharp, shocking finality of an executioner's blade. Edward and William Tynedale had died in 1406 when the two-man culverin that they were testing exploded. That information was not an entry, it was on a photocopy that had been inserted by Sir Steven Chester. Up until 1404, most of the journal had been about gunpowder mixtures and alloys for gun castings. The remainder consisted of notes and observations on optics, astronomy, birdflight, and even the design of ships. Then, on the 4th of April, 1404, William noted that he had bought a singing sword from some stallholder in a market, and that he intended to keep it under observation until it sang for him. The sword was Spanish in general style, and he referred to it as the Don Alverin sword.

The sword did not exactly sing for William, but it did speak. To William it must have been incomprehensible, but like a good scientific observer, he noted down what he had heard as best he could. Being a scholar of early English, I managed to translate the words into what had actually been said by the sword, as opposed to what William had written down. Part of the reason that thirteen words had taken over an hour was my own disbelief at what I was hearing.

"Cor toop onter London orbetalle, steefee," was very hard to explain. "Wante some thing ater soopr marte?" was also a serious problem.

I read the two sentences aloud several times. The faster I read, the more they sounded like "Caught up on the London Orbital, Steffy" and "Want something from the supermart?" The words had obviously been spoken in English, but transcribed by someone unused to English as we spoke it, and relying on phonetics very heavily. Either of the Tynedale Brothers might have transcribed the original sentences like that.

"Of course I intend to have the journal checked for authenticity," Sir Steven Chester told me as I first read the words that simply could not have existed, but nevertheless did.

The Tynedale Journal and the Don Alverin Sword were lying on the desk before me. It was 2004, and I was in a country house near Chesterforth, north of London. Sir Steven had discovered the sword and journal sealed up in a grave while the ancestral crypt was being renovated as some sort of tourist attraction. Although he knew little about early English, he had recognised William Tynedale's version of "supermarket" for what it was.

"Have you any idea how it could have happened?" I asked.

"You are the expert, Michelle, I had hoped you would have all the theories."

I had *no* theories. Sir Steven had found my name on the Internet when he had done a search on Edward and William Tynedale. Although I am a schoolteacher rather than an academic, the Tynedales had been almost an obsession of mine since my university undergraduate years. The few surviving records concerning them hinted that they had been quite brilliant scientific observers and innovators, at least peers of Da Vinci or Galileo. I had copies of everything known about them, and even a few scraps of paper with their writing. I even had a print of the only known picture of William Tynedale hanging in my unit.

My dream was to find evidence that they had invented something important, such as a microscope, but that the evidence had been lost after the accident that killed them.

"I cannot provide any theories about why a sword would say 'supermarket' in 1404," I admitted. "As for the Tynedale brothers, I thought I knew everything about them, but this journal is new to me. Do you have a family connection—like an ancestor of yours that was their patron?"

"Not that I know of. What can you tell me about them?"

"They were gunsmiths, although Edward was an alchemist as well. William had been apprenticed to a jeweler as a boy, then he went on to make several crown-wheel escapement clocks. He had also experimented with lenses, and constructed what he called a compound machine for drawing objects large. If that machine was a telescope, then it was two centuries before the first telescope was supposed to have been invented. If it was a compound lens microscope, well, they were still a long way ahead of everyone else."

"So William was the brains of the family?"

"They were both bright, but William was the dreamer, while Edward did more of the management and merchandising. They were brilliant, successful, and comfortably wealthy when that culverin exploded and killed them. Had they even lived to their thirties, they might have revolutionised English science and industry. This journal proves it beyond doubt. Notes on a working telescope, along with observations of lunar craters and the moons of Jupiter. The design for an iron foundry, even the suggestion for an 'unsinkable' iron ship."

From my reading of the Tynedale Journal, I could imagine the consequences of the Tynedales living another three or four decades and transforming English industry. The industrial revolution would have taken place in the late 1500s rather than the late 1700s, for example, and William would have transformed astronomy and physics two hundred years before Galileo. Where would humanity be by now? A single, stylised portrait of William had survived, and I now opened a folder and showed a colour print of it to Sir Steven. William had a dreamy look about him, yet he was well dressed and seemed quite dynamic as well. I actually fancied him in an odd sort of way, and I had even dated a string of men who resembled him. I did not let Sir Steven know any of that, however.

"This journal could be one of the greatest finds in the scientific history," I said as I gazed sadly at the page open before me, shaking my head as I spoke.

"Could?" asked Sir Steven, who saw it as first rate publicity material to draw tourists to his estate.

"This word is definitely 'could', rather than 'is'. All that material on the Tynedale telescopes and iron foundry designs is in the same journal as the words 'supermarket' and 'London Orbital'. Those words brand the entire thing to be a fake."

"But we could get it dated. Don't they use carbon or something?"

"Yes, but even if the paper and ink was dated to around 1400, people would just say it was a clever fake."

"And an obvious fake. I mean my wife radios me from her car nearly every day about supermarket shopping or turning the oven on."

"Radio? As in cell phone?"

"No, it's a pair of rather old-fashioned radio transceivers. It's actually cheaper to use them than run cell

phone accounts. You know, belt tightening while we get the estate's finances back on an even keel."

"Well, that would explain a lot if it had been you who had heard the sword speak in 2004. The question is who would be talking about supermarkets and the London Orbital six hundred years ago? In fact, how could the sword speak at all ..."

My voice trailed away as I recalled something from a yacht race, years earlier. I had been a member of the university yacht club. The club owned no yacht, but members volunteered to crew the yachts of people who could afford them, and the memory of one such vessel returned to me now. Through some freakish accident in its manufacture, the metal mast acted like a crystal set and picked up one of the coastal radio stations. Crystal sets work on the power of the radio signals themselves, they need no batteries. If a mast could do it, why not a sword?

"You were saying?" he asked.

"There are documented cases of odd objects like false teeth and stoves picking up radio transmissions. I once heard music coming from the mast of a yacht."

"So it could be possible with a sword?"

"Why not try testing it? Do you have one of those radio units handy?"

He fetched his transceiver. It was a large, solidly built, handheld unit from before the days of cell phones.

"Now that I think of it, Ellen did take the Don Alverin sword to London about a fortnight ago. It was something to do with an insurance assessment."

"So it would have been in the car with her if she called you with her radio?"

"Well, yes. But she would have heard the sword picking up her words."

"Not if it was in the boot or on the back seat, buried under shopping. Take the sword into another room and put it on a table. I'll try transmitting something to you."

Sir Steven left with the sword. I waited a minutes, then I turned on the radio unit and spoke my test message. Presently I heard footsteps approaching.

"That was a naughty thing for Mary's father to do," he laughed.

"What? So the sword really did act as a sort of crystal set?"

"Not very loud, but it was quite clear. What a thought! This could be quite a good tourist attraction for the estate."

"But we still have a problem. Radio transmitters are very sophisticated, and need a power source. Nobody could have built one in the early fifteenth century."

"I suppose supermarkets were pretty thin on the ground too."

"Not to mention the London Orbital. Anyway, I should get out my laptop and handheld scanner. Are you sure you have no problems with me copying the Tynedale Journal?"

"Copy all you like. Try to publish it, and you will find me on your doorstep waving the Copyright Act."

He left me with the journal, and I began to unpack my laptop and handheld scanner. The actual idea of

communicating with the past had an achingly strong allure. To save my life I could not estimate how many times I had played through the fantasy of stepping into the streets of late fourteenth century London, visiting the Tynedales' shop and introducing myself as a foreign student from some very distant land. I would be dressed as a boy, and I would gain the confidence of William by my great scholarship. I would suggest inventions to him, and convince him that all guns should be tested from behind a heavy safety barrier. That would save the brothers in 1406, and they would go on to great and fantastic things. Tynedale's theory of gravitation, Tynedale's laws of planetary motion, the Tynedale reflecting telescope, and the Tynedale methods of differential and integral calculus. It was at this point that the fantasies always broke down. I would reveal myself to be a girl, and William would fall in love with me. Then what? Live as wife in the fifteenth century, where I would not fit? Bring William to the twenty-first century, where he would face a lifetime of being a curiosity at the very best? What else could there be?

In a way it was better to leave my fantasies as fantasies . . . yet it would be such a fine and splendid thing to save the brilliant Tynedale Brothers from their sad and untimely death in 1406. Still, nothing could go back in time, and the past was as dead as the Tynedales. I taught this sort of thing to my classes of teenagers year after year. Nothing could go faster than light, nothing could go backwards in time. Suddenly I paused, hands poised above the keys of the laptop. Entangled particles. The memory of an article in some science journal stirred somewhere on the edge of my awareness. An experiment had been conducted, and entangled particles had been shown to communicate faster than the speed of light. Several orders of magnitude faster than light. If the lightspeed barrier was nothing of the sort, perhaps there was hope for travel into the past. Even communication with the past would be enough to save the Tynedales.

Entanglement. The word had a new, exotic feel to it, full of potential. Might objects be entangled in time as well as space? I stared at the words on the screen, then checked back at the original page.

Marry hat er litel lamb
Hir father short y dead
And now she takes hir lamb tisk oorl
Bitweane two bittes off bret

The style certainly did not belong to the early fifteenth century. No more than the London Orbital or supermarkets. I had recited those very words to test the Don Alverin sword as a radio receiver. They had been written as a fifteenth-century listener might have heard modern words—especially quickly spoken, ill-perceived modern words. Had they existed on the page a few minutes ago? Now I remembered using them because they were on the page, but . . . my head began to spin.

William Tynedale had heard my words, and had written them down in 1404. Some veterans of the Battle of Poitiers would have been alive, Joan of Arc had not yet been born. *William Tynedale* had heard my words! Without another thought I pressed the transmission key of the radio transceiver. I knew the English of the Tynedales reasonably well, so although I spoke in a contemporary style, I tried to speak slowly and to phrase and pronounce everything with an early fifteenth-century audience in mind.

"William Tynedale of London, I am speaking from six hundred years in your future. It is very hard to explain. Our philosophical scholarship is very advanced compared with yours. Think of it as dreaming about building a big and splendid house in ten years. The house exists in the future, but as yet there is nothing to see or touch. William, in two years you will die while testing a new culverin. It will explode, killing you and Edward. Please, please, test all your new culverins from behind a mound of earth."

I paused, the handheld radio before my lips. What next? I had warned him. He might not die young. He might turn out to be England's Galileo. I could hardly ask him for a date. Even under the best of circumstances he would die over five centuries before I would be born. Think of it like an Internet

romance, I told myself.

"William, I am a female scholar, and I greatly admire you and your work. We can never meet, yet I would like to give you a few little tokens of my esteem for you. Some principles of motion that govern the movement of the planets, a device using lenses and a large, concave mirror to magnify distant objects, an engine powered by steam that is more powerful than horses, and a flintlock that can discharge your culverins in an instant without the need for a smouldering fuse."

Being a science teacher, I knew the basic principles of a great many inventions. I was also quite skilled at teaching scientific principles and laws to classes full of teenagers who would rather be doing nearly anything else. What sort of pupil would William Tynedale be? He was brilliant, but he had been born and educated in the fourteenth century. I tried to gain his confidence with advice about corning gunpowder to improve its quality, rifling the barrels of his culverins, and of course quite detailed instructions on building a flintlock striker. I went on to describe the pendulum clock, several types of telescope, the microscope, hot air balloons, the principle of the blast furnace, and finally the steam engine. The steam engine might have been a mistake, as it took about half as long as everything else put together. I gave him several stern warnings about taking precautions against exploding boilers, then went on to describe the steam powered ship, and the use of steam engines in factories.

A light began to wink on my handheld transmitter. The batteries were running down.

"William, for now I must bid you farewell," I concluded. "I hope with all my heart that my gifts to you are pleasing. Even more fervently, I hope that you adopt my advice on testing your culverins, and that you live to a great age. My heart and my words of scholarship are all that I may give you, but perhaps they will cause you to prosper and be honoured."

I put the transmitter down, but dared not look at the journal. Had he heard? Had my words affected history? Drop a stone into a river, and the ripples are soon lost. Build a dam across the river and everything downstream will be changed. I stared at the transmitter, its battery indicator light glowing steadily, beckoning to me. Had I changed the past before? Did I dare to do it again? Could I ever notice?

Steven came in, followed by a servant carrying a coffee service on a silver tray. He was wearing an earpiece, and was paying me little attention.

"The *Voltaire* is safely down on Europa," he said aloud, but I had the impression that he would have said it whether I had been there or not.

"A hundred years since Shackleton landed on the moon," I sighed. "Who would have thought it would take so long?"

"So long?" he suddenly exclaimed loudly, seeming to notice me for the first time.

"The moon in 1902, Mars in 1957, and now the Jovian system," I explained.

"Yes, yes, quite so Michelle. You are not one who likes to wait for the future, are you—just a minute. They can see ice ... and more ice ... everywhere there is ice ... liquid water beneath the engines ... turning back to ice ... glorious moment for France ... they're opening the champagne—that's it! I can't take any more."

He removed the earplug and came around the table to look down at the journal. There were still thirty pages of text, all of it quite basic science, plus a lot of the principles behind various inventions.

"Nothing more than Baker's three laws of motion and some practical advice for building a steam engine," he said, sounding as disappointed as I was.

"There is still the reference near the start, the bit about an enchanted sword speaking the wisdom to them. Also some words of endearment to the brave and clever lady speaking with the sword's voice."

"Hah! Nothing more than twaddle. Edward and William Tynedale were two of the greatest theoretical physicists and inventors of all time, and they were *Brittanic!* This *has* to be a hoax by the French."

"But why? The paper is genuine, and so is the ink. It was found in your library, after all."

"It may be an old hoax to denigrate Brittanic science. We led the world for five hundred years, then the French came along and used our industrial achievements to reach into space. They want to pretend that the Brittanic people were never great."

"As conspiracy theories go, this lacks—"

"The technology to fake a journal like this has been around since the 1850s. You know, use early fifteenth-century blank paper and contemporary ink, then use a molecular penetrating agent to accelerate absorption. Leave it for a century or so to simulate real aging, then have someone slip it into my library—what is so funny?"

I managed to stop myself laughing with some effort.

"As conspiracy theories go, that takes a lot of beating. A French plot to disparage the finest of Brittanic science of six hundred years ago, except that it was four hundred and fifty years ago when it started."

"Brittania did not exist six hundred years ago."

"You know what I mean. If this journal was to become public, why the Tynedale Dissertations on Nature would be proved to be a hoax."

"A hoax?" I laughed. "Darling, the earliest published copy of the Dissertations in the Brittanic Library of Congress is dated 1412."

"You know what I mean. They owned this sword," he said. "That sword in the next room still receives radio transmissions, it is a sort of accidental crystal set. It could have received back in 1404. It has been known to be a receiver for over a century."

"Who could have had a radio transmitter back in 1404? Lavoisier did not make the first transatlantic transmission until 1799, and even that was only in Watt code."

"Some people would say aliens."

"Steven if it was aliens who provided the Tynedale brothers with all their inventions and laws of physics, it would cause a sensation."

"Ah, and that's it. Alien contact is the bait to lure us into questioning the Tynedales."

The trouble with my husband was that his eccentricity merged into his sense of humour. At some point, the worst of nonsense shared common ground with what he considered to be a real possibility.

"Steven, as a professor of theoretical physics I can give you any number of other explanations. As a person with a lot more common sense than you I can make quite a few suggestions too."

"Name one—as a person," he said, folding his arms and pouting theatrically.

"The Tynedale brothers did this hoax themselves, as some sort of joke," I suggested.

This was a little too plausible for my husband.

"All right then, name another, but this time as a professor of physics."

"Temporal entanglement."

"What? You mean like the quantum entanglement radios the astronauts are using on Europa to communicate instantly with Earth."

"Faster than light, not instantly," I said automatically. "It's spatial entanglement, but just suppose there could be temporal entanglement too. This sword could be entangled with itself, but in an earlier century. Whatever radio transmissions it picks up in 2004 are also picked up by the sword in 1404."

"Preposterous."

"Oh yes, just like your alien theory."

"My *alien hoax conspiracy theory*, let us be precise about this."

"Well we have a way of testing it. The brothers would have been paying the sword very close attention if it had suddenly spoken. I shall prepare a little tutorial in thermodynamics, throw in Galvani's technique for measuring the speed of light, and then give an explanation of Faraday's Law of Relativity. Actually, I ought to include some mathematics as well, or they will not be able to make anything of it. I could give them the technology to make a primitive battery, and even instructions for an electric motor. Perhaps instructions for building a simple spark gap radio transmitter, too."

"All right, all right, for once you have out-weirded even me. What is the point?"

"All of that will appear in their writings, and in this journal."

"But history will have been changed. What will have been proved?"

"Plenty. I shall have read out my own name during the transmission. It should show up in this journal. If it does, no French conspiracy."

Steven leafed through the pages, smirking. Whoever had made the transmission that William had transcribed had been besotted with him. She had described herself as a scholar, and later as a teacher of youths and girls. Much of her transmission was embarrassingly personal and mawkishly sentimental, yet I had a curious sympathy for her. I had decided to become a scientist after reading his biography at the age of twelve. I drew curious satisfaction from the fact that he had never married, and as a teenager I often fantasised that he had been saving himself for me. I dreamed of inventing a time machine and travelling back to the early fifteenth century to meet him. When I married Steven I almost felt as if I was betraying William Tynedale, and that his spirit would be watching sadly as I forsook him for someone else.

"But if the Tynedales really did get all their science from the future, well, Britannic science and engineering would be discredited anyway," said Steven, sounding almost serious.

"Ah, but we don't have to publish," I pointed out.

The Don Alverin sword was known to be a crystal, and Steven kept a radio transmitter in the manor house to demonstrate it to guests at dinner parties. It took me an hour or so to gather together some

notes and draw up a programme for the transmission. William Tynedale's face stared out from a six-hundred-year-old portrait on the wall. His good looks showed through, in spite of the rather primitive late-medieval style of the artist. Steven was asleep by now, with a half-empty decanter or port on the coffee table beside his chair. I switched on the little radio transmitter.

"William Tynedale, this is a message for you from six hundred years in the future. My name is Michelle Evelene Watson, and I am six hundred years in your future. As I sit here, I see your portrait on the wall, and your books are piled high around me. I know you so well that I have fallen in love with you, yet you do not know me at all. I have auburn hair, reaching to my shoulders, I am about your height, and I am thirty-five years of age as I sit here, speaking to you. Strange, is it not? I am thirty-five, yet I am not yet born, I am dead and long buried, and a gawky adolescent, all in your future. I wish to add to the principles spoken to you and your brother ..."

I hesitated. Who had done the earlier transmissions in the journal. Perhaps an alternative me? A Michelle Watson who no longer existed? Certainly the man had shaped my life. In a way he meant more to me than Steven.

"First, I declare it true that the true speed of light is sufficient to cover one hundred and eighty-six thousand miles in the interval between two heartbeats of a man at rest. The speed of sound is much slower, being about thirty times more than a fit man might run ..."

The transmission took some time. I had to speak slowly so that William might copy everything down correctly, and I had to be very careful to phrase everything so that an educated person in the fifteenth century could understand what I was saying if he thought about it for long enough. Finally I finished my strangely primitive dissertation on modern science, thumbed the transmitter off, stretched, then picked up the journal. It certainly was a contradiction of scholarship, yet my name appeared there. Not my rank, however. That made me suspicious. I would never give my name without my rank. My rank defined my position in the fleet, in a way my rank defined my existence. Still, there was my name between two detailed dissertations on science ... yet some of it was science such as had never existed. Faraday's Law of Relativity? Lord Isaac Newton had discovered his Principle of Relativity in the seventeenth century.

The door opened, and I immediately stood up and saluted. Baron Steven Chester entered, with my fleet's war-master and two women in civilian clothes.

"Baron, I should like to introduce Commander Michelle Evelene Watson," said my war-master.

The baron smiled and gave a greeting flourish, the women stood in the background. They were certainly scientists, and probably from some unit so secret that its name was not even public knowledge.

"You have a good record, and come from a long line of military heroes," said the baron. "There was a Watson aboard the *Invincible* when the fleets of Sir William Magnus and Don Miguel clashed off the orbit of the moon in 1793."

"Yes sir."

"They traded broadsides for eleven hours, flaying each other with cannon shot. It was quite a fight."

"Quite so, sir."

"Then again, a voidfarer named Lady Geraldine MacGregor was deputy commander of the third landing on Mars, in 1818."

"Quite so, sir."

"Robert the Third of Scotlandia was captain, as I recall. What do you say to that?"

"I am a loyal officer of the Caledonian Empire of—"

"Commander, please, be at ease," he laughed. "Your loyalty to Brittoria is beyond question. As is your bravery. Why you were the first woman to set foot on Centaurus Skye, were you not? Following in Lady Geraldine's first-footsteps, ha ha."

"Quite so, sir. But I was only a Science Technician First Class on that expedition. "

"But getting back to this journal, it was discovered while your phase induction starship was still a year from its triumphant return with the relics from that dead alien civilization. Your name is mentioned, and you are described with considerable accuracy."

"I cannot account for any of this, sir."

That was true, I was quite confused. I had never seen the Journal, yet my full name certainly was Michelle Evelene Watson, I was about the height that William Tynedale had been, and my auburn hair reached to my shoulders on the rare occasions when it was brushed out. The baron now asked my war-master to take over. He introduced a woman named Dr. Becker. Becker was a tense, nervy person. She spoke very quickly, and continually moved her hands in little circles

"You have a very ... how shall I put it?" she began. "Your background is very solidly based on a broad range of scientific fields. If anyone was going to dictate those two passages to William and Edward Tynedale, it could not have been anyone better qualified than you."

"With permission, Madame Doctor, it was certainly not me," I declared.

"Oh, and we all believe that, but things are not always what they seem. My colleague Doctor Cassin and I have done a lot of work on the mathematics of temporal paradoxes and probability fields. We think it is possible to have a past that ceases to exist, yet can be detected. A person, possibly in Tynedale's future, helped him to change the future. In that future, she did not write all these pages, yet she still exists. Possibly she is you. Yet the words have been written. How is that?"

"With permission, Madame Doctor, I cannot say."

"The question was merely rhetorical, commander. Were you able to give the answer, you would not be the mere commander of a patrol cruiser. You would be the head of—well, the head of a very important research facility. Getting back to the problem, however, we have hypothesised the idea of multiple pasts, like tributaries of a river. One past will supersede another, but there will always be a single present. These pages were possibly written in two or three alternative pasts that combined to make up our present. The mathematics—"

"If you please, we should come to the point," interjected Dr. Cassin. "We have developed a computational model to show that you can travel back in time, murder your father, and still exist. Much of that model's mathematics is based on records found amid the ruins at Centaurus Skye."

We had found an entire civilization, cut down in its very prime. There had also been outposts and colonies on nine of the other bodies in the Centaurus system. All had been destroyed with almost surgical precision in some very ancient conflict. There was evidence that it had been a widespread, interplanetary nuclear war, yet the ruins displayed very little evidence of radiation. Only a nuclear war millions of years in the past would have allowed enough time for the radiation to have died away to such an extent. The Centaurus Skye civilization had been considerably more advanced than ours. Our weapons technology

had always lagged our ability to build and power our spacecraft. The earliest of our space wars were actually fought with gunpowder weapons.

"The Centaurians were destroyed by outsiders," Cassin continued. "Sooner or later we shall meet the descendants of the victors, and when we do ..."

She shrugged her shoulders, then turned to the war-master.

"Commander Watson, both the weapons and weapon designs found on that dead, defeated world were centuries ahead of what we can build today, yet they were still annihilated," he explained. "Our war laboratories have reverse engineered what your expedition brought back, yet even these are the weapons of a defeated race, as well as being over a million years old. We have been thinking that if we can, ah, engineer a different past, then we can be far more advanced in our weaponry by this year, 2004. We can also warn those in our new future not to make the radio broadcasts that could alert the victorious race about our presence."

"That is where you come in," said the baron.

"Your pardon, sir, but I do not follow," I confessed, almost reeling with the strangeness that was battering me.

"Did you read the margin notes in the Tynedale Journal?"

"Ah, I only had time for the main text, sir."

"It seems that William was very fond of you—or the alternative you, that is. Your 'image' from an alternate past was in love with him as well, that is just as obvious. To come straight to the point, we need you to read a dissertation on advanced physics, chemistry, weaponry, and electronics to the Tynedales. Oh, and a warning about the race that ashed the Centaurian civilization as well."

I agreed. There was no word other than *yes* when it came to orders. Again I was left alone with the portrait of William Tynedale and his journal. 'My' words were on the pages. My words as transcribed by him. Then there was my declaration of love for a man who had died in 1465, who was then eighty-eight years old. Somehow he was twenty-two for me, however, and the year was 1404.

William Tynedale had changed the world with his theories, along with the inventions of his brother. They were the first of modern scientists. I was about to ask him to foresake the credit for so much scientific brilliance. Could he do it? Would he and his contemporaries even understand the warning about never using radios, because of the danger from the Overmen? For all of my life I had worked to live up to the standards of my ancestors. Now I had done it, and where was there to go? Produce heirs with the aid of a suitable partner—or be impregnated with the seed of someone famous and brilliant. A suitable partner had been chosen by my baronial sponsor house, a fleet admiral's son. I had nothing more to do, I merely had to lie back and reproduce.

Another book was on the table, this one a bound printout of a carefully selected suite of science and technology lessons. It had been tailored to skirt superseded theories and inventions, and the experts hoped that it would advance the English kingdom to powered flight and machine guns by 1500, and laser cannons a half century after that. Some educational theorists felt that they would have a working stardrive by the end of that century, but to me that seemed rather too ambitious.

And what of me? Since I had been a little girl I had fantasised about building a time machine into a spacecraft, plucking William Tynedale out of fifteenth-century London, and spending the rest of our lives touring the worlds of the solar system. He and his brother were the twin pillars on which the human

interstellar empire were founded, they were the wellsprings of the torrent of science and invention that had taken humanity out into space in 1761. They were giants, and we were all standing on their shoulders, yet for me there was something more personal. William Tynedale never married, although Edward had fathered eleven children. While at school I had written a story in which William had invented a teletemporal viewer, looked into the future and fallen in love with me. That little piece had earned me a credit, but brought so much derision from my classmates that I never again mentioned my true feelings for the younger of the Tynedale brothers.

I was to read from a carefully prepared text, but there were cue areas where I was allowed to interpolate personal messages. The experts felt that I should continue to show the affection for the first and greatest of modern scientists that the earlier, alternative Michelle Watsons had expressed. I had an audience of four, however, and that was not at all conducive to expressions of affection. Flicking the switch to the transmitter, I began the transmission.

"William Tynedale, I am your fond and constant admirer from the distant future, Michelle. I am about to give you yet more principles of natural philosophy that are true in all guise, and inventions within your wit and skill to construct. Other inventions and principles will be for those who follow you, however, for they will be very advanced, and for a time when the scholarship of your world has advanced quite considerably. This may be hard to comprehend, but try to believe what I now say. By my messages to you, your brother and you keep changing the future. Once I read to you as a tutor of children, but in this future I command a mighty vessel that flies between worlds. If laid upon London it would reach from Moorgate to the Thames, and the smallest of its bombards could have wiped out both armies at the Battle of Poitiers with a single shot. In spite of having such immense power under my direction, my heart is yours, and I yearn to please you and help you to advance."

The baron smirked as I spoke these words. I fought down a pang of annoyance. Had he known that I meant everything that I was saying, it would have been considerably worse.

"William, even the most brilliant of scholars of my time do not understand the Don Alverin sword. Some say it is a freak of nature, others think it might be a strange gift from a people millions of years more advanced than humans. Whatever the truth, it allows me to speak with you. Each time the future changes, and each time I change, yet what is between us can never change. Through the sword's voice of steel I have spoken to you for the first time on three occasions. This is the fourth. Will I love you next time, after you change the future? It seems so. It has happened every other time. I am now going to give you some more principles of what you call natural philosophies. The more basic of them are Earthly in origin. The rest were discovered in ruined cities on a world unimaginably distant from where you stand. Now listen carefully and write quickly, my brave and brilliant soulmate."

As I read I wondered if William Tynedale was going to be able to transcribe such advanced learning with any sort of precision. True, the authors had repeated the key ideas in a number of different ways, as a sort of fail-safe precaution, but I still had my doubts. When I had finished, I picked up the Tynedale Journal to check the six-hundred-year-old version of what I had just read. Bishop Chester sat glowering at me. Without doubt this was because I had removed my veil, but I knew that he had little choice other than to humour me. He was frightened. Everyone was frightened.

Far out in space, humanity's headlong expansion had suddenly gone terribly wrong. There were rumours, but nothing more.

"Can you not read faster than that?" the bishop muttered. "Any man could read twice as fast."

"I am reading each page four times," I pointed out, without looking up.

"You have no need for comprehension, Sister Michelle."

"Oh, but I do, Bishop Chester. I strongly suspect that you have tried using other readers to send messages to the Tynedales, and that William and his brother have ignored them. They probably did too much preaching about hellfire and their duty as Christians to obey absolutely, however. The Tynedales appear to have been men of free thought and refreshingly liberal attitudes."

"They were filthy atheists, destined for eternal damnation. Your sympathy for them puts your immortal soul in peril."

"Atheists or not, they are the key to something that you want. I need to know what it is."

"You need? You *need*? A *woman*, and you presume to *tell* me what you need? I the shepherd charged by God to guide you to eternal salvation!"

My life had been a never ending series of outbursts along those lines. This particular one was nothing special. A nun who has actually been tied to the target frame of a thermonuclear induction laser is hard to intimidate. Death had rested his hand upon my shoulder, then decided not to bother with me just then. That had been just a month ago, too. The charges of heresy and sentence of the Grand Brittanic Inquisitor had actually been read out. Through the observation screen I had seen the executioner's hand reaching for the ceremonial black lever ...

I had not closed my eyes. In theory, being burned at the stake took a micro-millisecond or so. It was a humane way to be executed, pain was out of the question. I had seen a man in a gaudily embroidered uniform enter the observation room and shoot the executioner with a resonance pistol. The executioner had fallen neatly in two pieces. Only someone very senior in the papal admiralty could have had the authority and nerve to do that.

"I have finished reading," I announced to the bishop. "Now I need to know why William Tynedale is to be given the technology to wipe out entire planetary civilizations."

"You will be told nothing!"

"Then I shall read nothing."

"You will obey my order!" he screamed, surging out of his chair and striding over.

"Another beating, to stimulate your erotic fantasies?" I managed, sitting still with my arms folded, even though I had a fair idea of what was to come.

Without another word, he seized me by the penitent's cowl and hair beneath it, then began slamming my face into the desk. Bright blue stars of pain flashed before my eyes each time, then a brilliant green nova of light swamped everything else.

I looked up and around. The horrified bishop was staring at an arm severed at the elbow. The same man who had killed the executioner stood holding a gold resonance pistol. Heat shimmered around the barrel vanes, and the impellers were whining softly.

"Get out!" he ordered, his voice was a hoarse whisper.

"Y-yes, Battle-Maestro," Bishop Chester whimpered, then he sidled away toward the door.

Battle-maestro. There were only three of them, and they were answerable only to the pope. In some matters even the pope could not command them, and they made decisions as a war council. The

battle-maestro spoke to some device woven into the sleeve of his jacket. Two orderlies hurried into the room. One snatched up the bishop's severed arm and hurried out, the other swabbed my face with something intensely cold that eased the pain. He then scanned me with a diagnostat.

"Your assessment?" asked the battle-maestro.

"General bruising, three loosened teeth," the orderly replied as he inserted a probe up my left nostril. There was a brief hiss, and the tang of burning meat. "That will stop the bleeding, sister. Luckily for you the cartilage was not broken."

"Luckily for Bishop Chester, you mean," said the battle-maestro. "Leave us."

The battle-maestro slowly walked to stand about ten feet in front of me, his arms folded and his head bowed. I had not known that people existed who could treat a bishop in that way.

"Doubtless you think me a monster," he said, suddenly looking up, "yet I did show the bishop mercy. I *could* have split him from the head to the penis. As it is, well, his arm is doubtless being attached even as I speak. I do apologise for letting your bashing go so far. I was watching you read on a monitor two rooms away, and it took some moments to run here."

"Lordship, who are you?" I asked, with a boldness that surprised even me.

"I am Battle-Maestro Rodrigarian, Principian of the Papal War Council of Three ... but that is unimportant."

I blinked. Unimportant? The second-most important man in the Papal Supradiom and the most powerful man alive?

"How can I serve the Supradiom?" I asked, spreading my hands in the formal gesture of deference.

"Humanity has encountered the massively superior race mentioned in the Tynedale Journal, Sister Michelle."

The shock on my face must have been plain. Even though I had spent most of my life defying stupidity wearing the garments of authority, this was beyond what even I could imagine. I said nothing. The battle-maestro continued.

"Our missionary zeal has taken us two hundred light years into space. So far we have encountered sixteen species of reasonably intelligent apes on four worlds. We have established missions to educate them, and begun to convert them to the word of the gospel. We have also conquered two more sentient species whose ancestors were writing books on philosophy while ours were learning to make Earth's first spears. You must know all, this however."

"Yes, Lordship. Our inquisitors are currently on their worlds, destroying alien temples and religious datacrystals, and burning heretics. We also bombed another world down to the bedrock when they defied our missionaries. I wrote a tract against it—but you probably know all that."

"Indeed. Now ... now there is something else. It is highly advanced, and controls power that defies belief. A missionary cruiser encountered them, whatever they are. It transmitted back some scans from extreme range, then declared that it had activated its weapons and was closing to declare the mercy of the gospels. The next ship in that area of space found a cloud of molecules of the same mass as the cruiser. Drone monitors registered no energy spike had been registered in that sector, however. Something vaporised the cruiser without using energy."

"But—that could not be possible. How could that be done?"

"Who can say? However, it is clear that we might very quickly have our entire Papal Space Fleet reduced to gas with no more fuss or bother than the candles on an altar being extinguished after mass. Should that happen, the might that backs up the spiritual authority of the church will be gone. There will be unrest, rebellion, schisms. *You* may even lead one."

"Your lordship, I would never—"

"Do not disappoint me, Sister Michelle. You have immense talent and drive, I have studied your file in detail. We need you, to put it bluntly. We need to advance the power and technology of our fleets and defences, and very, very quickly. As it stands, we can only guess how advanced this new species might be. It could be thousands of years ahead of us, or even more. The scans of its ship show only a twisted warp in space, and motion. Their first gunpowder weapons may be embedded in sandstone that is millions of years old. The question is, do we stand a chance?"

"With respect, lordship, the question is do we deserve a chance?"

Instead of flying into a rage, the battle-maestro laughed.

"Probably not, Sister Michelle, but there is yet another and more important question: will we be annihilated for what we have already done? Studies done on the Centaurus worlds have shown evidence of vaporisation without energy blasts."

"As with our missionary cruiser?"

"Yes. Surviving records indicate that they were a proselytising species, just like we are. Steps have been taken to redress our centuries of religious bullying and bigotry. The pope will die later today, along with selected cardinals. Heretics will be blamed, but a far more liberal set of replacements has been arranged. Already an edict has been sent out to all worlds for everyone with 'Inquisitor' in his title to be executed at once, and for all Christian missions to be abandoned and destroyed, but I fear that none of this will be enough. Five drones have suddenly gone silent, and at least a dozen missionary ships have ceased to report back to their parish stations. We are going to have to fight. What I want to know is, do we have a chance?"

The supreme commander of the armed forces of an interstellar empire was asking me if we had a chance against a super-civilization millions of years old. Convent education was not geared to cope with matters like this, but I had a long history of studying forbidden truths and theories.

"Wasps have had a fairly advanced social structure, and have been building quite elaborate honeycomb nests for millions of years, yet they did not go on to invent laser cannons and starships. Just think about it, they had advanced organisation, communication and their versions of cities long before humans evolved—"

I caught myself before uttering the heresy that humans were descended from apes, but Battle-Maestro Rodrigarian just smiled and nodded.

"What you are saying is that a society that was at our level millions of years ago may not have advanced so very far in all the time since. Yes, that is a possibility. Blind chance may also be on our side."

"I do not follow, Lordship."

"The Earth-Luna system is the only one known in three thousand worlds that provides a perfect solar eclipse. That is blind chance. Perhaps the Don Alverin sword is a similar act of blind chance. Perhaps no

scientist of any species on any world in the history of the galaxy has ever been able to build a transmitter of temporally entangled matter—including those who fly the twist-warp ships. We may have something truly unique."

"So, we may have an advantage that even the aliens of the twist-warp ship do not. We can advance ourselves time and again, and develop better and better weapons between the years 1404 and 2004."

"Your reported powers of comprehension are no exaggeration, sister. I am truly gratified. Well now, do I have your cooperation? Will you read our tracts on weapons technology to William Tynedale?"

There was a pause in our dialogue, but it was not for dramatic effect. This might be a monstrous hoax. No order to destroy the missions might have gone out, and no conspiracy to kill the pope might exist. I glanced at his hands. He wore no ring.

"I agree, Battle-Maestro, but under one condition," I announced.

"Name it. The entire industrial might and wealth of the empire is at my command."

"You will marry me and declare me to be your personal strategic advisor."

This time it was the battle-maestro's turn to pause and contemplate his reply.

"I could have your vows annulled within a quarter hour, then arrange your appointment to my personal staff . . . but is marriage really necessary? I am a career eunuch after all, and I would have to sign a solemn oath to have a testicular transplant from cloned tissue before the church would sanction any marriage."

"I have an interest in neither children nor consummation, Lordship. If the truth be known, I love the dead William Tynedale more than I could ever love you."

"Then why?"

"As a gesture of good faith. Look on the positive side, Lordship. This way you will have the only person who can influence the Tynedale Brothers by your side and totally within your control for as long as we both shall live."

The ceremony took place within that very hour. Fifty seconds after concluding my vows, I was sitting with a radio transmitter in my hand and a prepared tract on weapons science and technology in front of me. My husband was sitting by my side.

"I had never imagined myself married," the battle-maestro admitted, perhaps a trifle unhappily.

"Do not fret, Lordship. After I have broadcast this to my true love nothing will be the same. Look at the Journal. I have been a teacher, scientist, explorer, and now a nun."

"Ex-nun."

"Ah, indeed. In a few minutes I may be a pope, while you become a scientist."

"Do you really love William Tynedale? He has been dead for over five centuries."

"Yet when I press this transmission key he will be alive and listening, in his shop near Dowgate wharf in London. It will be 1404, he will be twenty-two."

"So, you fancy younger men, yet you marry me?"

"Ah, but he is thirty-five, just as I am, and he is eighty-three and on his deathbed. I have always admired him, and thought his portraits quite enchanting. Not a very seemly thing for a woman of the cloth to do, but then I am hardly the ideal template for the Scholastic Brides of Christ."

"You had best begin the transmission, my dear. Will you declare as much affection as your other, alternative selves?"

"I shall speak with my heart. William knows the sound of its voice, after all."

I picked up the little RF transmission unit and clicked it on.

"William, it is Michelle once again. Please heed my words, for this time our world is in great peril from a terrible enemy. I have even more advanced principles for you to pass on to the generations who will follow you, and who will have developed the more advanced scholarship required to understand them. William, in this future . . . no, you would not believe my fate in this one future of many. How I wish that I could hold you in my arms and be yours alone. Still, at least you can hear my voice and I may read your words in the Tynedale Journal, which seems always to have been rediscovered in 2001. William, we have love, and how many others who have each other in flesh truly have love? Listen now to these principles, and write with great care."

William always wrote with great care. Reviewing the journal, I could not see any mistakes of importance in the many dozens of pages. I had been reading aloud, trying to imagine myself as myself of the earlier, alternative futures.

"It is quite surreal to hear you read the words of your other self, your majesty," said Professor Chester as I put the Tynedale Journal down on the table. It was still open at the last page.

The floor of the impact shelter shuddered beneath our feet as yet another near-light-speed impactor slipped past our defences and detonated. We had countered the molecular disruption weapon of the twist-warp ships, yet it was only one of many. Although none of their weapons were absolutely invincible, they seemed to outnumber us by many orders of magnitude. Earth and humanity were running out of sheer resources.

"I wonder why they bother," I said, thinking aloud. "Most of our industry and all of our weapons systems are in space, and carefully dispersed."

"Then why do we pour resources into defending the place?" Chester asked, as sharp as ever. "There must be a reason."

"Very soon we shall not, my loyal and trusted friend. The fabrication asteroids can be defended, and even moved, as can the hatcheries and maintenance ships. Then even your university will be doomed."

"Surely not, your majesty. We are nine miles deep."

"A direct hit overhead would destroy the access shafts. Even if you survived the shockwaves, you would be marooned down here forever. As the most senior surviving member of the imperial family, I cannot allow that. The university staff and data lattice libraries will be dispersed to our factory strongholds. Then Earth will be left to its fate."

There was no reply that was quite appropriate to a pronouncement like that. Chester sat in silence, looking glum and lost in his thoughts. I picked up the textpad with the latest transmission to the Tynedale Brothers and began to read.

"Be it known that her royal highness, Princess Michelle of the House of Watson has found just and

well-founded cause—"

"Ah, technically that should be 'majesty', not 'highness'. You are now the ruling monarch."

"True, but the date on the header is eleven days ago, before my brother was killed. Back then I was a highness, not a majesty."

"Most unfortunate, but he died bravely."

"Steven, I cannot read this. In all my other selves' transmissions I have just been a clever girl, telling a boy that she rather fancies him, and expressing her regrets that she cannot ask him for a date. William Tynedale knows *those* Michelles, he does not know me."

"You may say what you will, your majesty. You are the empress now, you answer to nobody under the rule of the Solarian Empire."

I sat down at the desk and put a sensor against my forehead, then thought a few new lines of text into the pad. The room shook as another NLS impactor detonated, and the lights dimmed for a moment. As I looked up, Chester was already on his feet, and staring nervously at a long crack in the ceiling.

"Do you really think this will do any good?" I asked as I put the sensor aside.

"We have managed to gain an advantage, that is why they are bombarding us now. They never suspected that we would put our entire battle fleet into capturing one of their twist-warp ships intact. Now we have reverse-engineered some of their basic technology, and they want to annihilate us before we can fabricate a twist-warp fleet."

"That operation was a near thing. The twist-warp ship was just a scout, yet it took three of our heavy cruisers with it. Even then I suspect that we only disabled it with a lucky shot."

"Lucky or not, we know a little of their technology now—and a little of their physiology as well. Our weapons are the equal of theirs, it is only in their phase-hysteresis shields and space distortion cloaking technology that they are seriously ahead. Transmit the principles back to William Tynedale, and the physics will be folklore by the time humanity reaches the next version of 2004."

I had no doubt of that. Apart from the introduction, the text had been prepared by our very finest educators. In theory the Tynedale Brothers would be able to construct a crude resonance pistol, and perhaps even a gravity induction unit capable of propelling one of their wooden warships through the air and even into space. Warnings about flying too high and not being able to breathe had been included, of course. With the knowledge in my hands England might have conquered the entire world by the next 1470. Even a lunar landing might not be out of the question within the Tynedale Brother's lifetime. But then what, and why? I glanced at Chester. Manic, headlong progress had been his entire existence. The word "why" was reserved only for experimental results that did not quite match expectations.

"In that 2004 we shall have met with the twist-warp ships on an equal footing, or better, your majesty."

"So everyone tells me, but it is my place to ask why."

"Why, your majesty?"

"Why, Chester. What if the twist-warp ships are only one of several dozens, hundreds, or even thousands of levels of response?"

"I am not sure that I follow."

"Take this example. A wasp stings you. You swat it. Its nest-mates swarm after you. You retaliate with insecticide. They breed immunity into their warriors. You resort to a flamethrower. They then start to breed prodigiously, and hide their nests in places that you cannot afford to burn. You blanket the continent with thermonuclear warheads. They learn to build ocean-going nests. Need I continue?"

"You say that the twist-warp ships may be only the swatter layer, your majesty?"

"Perhaps. They may well have had hundreds of millions of years to develop their weapons, Chester, and it does not seem likely they will be armed with only swatters. Perhaps we can counter their swatters, perhaps we can even tell William Tynedale about their insecticides and flame throwers, but where does it end? Perhaps when one of them decides that we are too advanced, and bypasses several layers of defence to the anti-wasp thermonuclear bomb."

"It ... ah, I disagree. It seems to me that they will always go layer by layer, and that we shall always keep learning from them. We have the Tynedale Journal and the Don Alverin Sword itself. The aliens in the twist-warp ships do not. Our temporal entanglement link is our only advantage, but it is a massive advantage."

"I wonder. Analysis of the Journal indicates that we have advanced our technology by an estimated thousand years since my first words to William Tynedale, yet where has it taken us?"

"It has taken us a long, long way. We are like mice challenging tigers, yet we are holding our ground."

"Holding our ground? The surface of the Earth has been reduced to gravel by the NLS impactors. We do not even know the location of the aliens' home planet, or even if they have such a place. We have damaged a dozen of their ships, destroyed three and captured one in the five years since the war began. They have disintegrated seven thousand of ours."

"The war was inevitable. They attacked our ships first. It was completely unprovoked, our commanders, captains and admirals have been under absolutely binding orders to approach the twist-warp ships with their weapons powered down. Ninety ships were vaporised while approaching them in friendship before we began to fight back."

"Was it possible to be friendly? Since Prince Isambard Brunel commissioned the Solarian Interstellar Battle Fleet in 1851, it has grown to ninety five thousand ships. We Solarians *look* dangerous. The twist-warp ships may be piloted by shepherds, who protect their peaceful client worlds. We must seem like wolves, all ready to prey on anything weak with our warships."

"Without the battle fleet we would already have been annihilated."

"The twist-ship aliens have not harmed the Esgrr, Volderrii, or Sgort, and they have civilizations tens of thousands of years old."

"They are spineless philosophers. They are no threat, they do not even have starships. *We* are different, and we are not beaten. Now it is time to strike back. It is within your power alone, your majesty. William Tynedale listens to you. That gives you unimaginable power."

"What do you mean? What are you proposing?"

"The Tynedales hid their Journal, and the sword itself, they only released the scientific principles and inventions. The physical journal and sword were only discovered months ago, when the Chesters' crypt was opened. Why had they been hidden? Hidden they certainly were. The sword and journal were sealed into the lead coffin of Sir Percy Chester, a man who had nothing to do with the Tynedales. That

grave is always discovered in 2001. You are always born, and you are always a great admirer of William Tynedale. You are what the physicists call a temporal immutable."

"I know, I know. The pasts are unchanging, but can be added to. I have a general idea of the theoretical principles, even if I do not follow all the mathematics."

"Yes, and this is how we can *accelerate* the sciences of humanity by many orders of magnitude. Tell the Tynedales not to hide the sword. That way we can continuously communicate our advances to those who follow them, we can have a constant feedback. In six hundred years we could advance ten million years, even a hundred million! By the time we are standing here in 2004, humanity could be the master race of the galaxy, or even the entire Proximate Cluster of galaxies."

"This is just conjecture, professor."

"Not so. A committee of the finest minds in the Solarian Empire was commissioned to study this very proposition. Their computer models are the basis of what I say to you now."

All of this was new to me, and I found it alarming.

"Why was I not told?"

"There has not been time, you have been Empress and Supreme Commander of the Solarian Empire for only eleven days. Even your coronation has not yet taken place, you are technically still a princess, not an empress."

"I am aware of the intricacies of imperial law and protocol, professor," I replied coldly. "There has not yet been time for a formal coronation."

"Or for this briefing, until now," he said with a forced smile. "Your majesty, there is no conspiracy. All this was put in a queue behind matters of higher strategic priority. The NLS impactors, most obviously."

"So what must I do, under this new plan?"

"Read your personal introduction, read the summaries of the most advanced sciences that humanity knows of, then instruct William and Edward Tynedale not to conceal the sword after they die, rather to leave it to their heirs as a treasure, as the salvation of humanity. It is entangled with itself, six hundred years in the past, it can pour the learning of the present into the past, spawning an infinite number of increasingly advanced pasts to lift us to unimaginable heights. The decision is yours, your majesty, and it holds the only means to fight a race a hundred million years more advanced than our own. What do you say?"

My mind was already made up, but I had been embroiled in court intrigues and politics ever since I had been able to hold a coherent conversation. I allowed a suitable dramatic pause, frowning and nibbling at my lower lip all the while.

"I agree to your plan," I said abruptly, and was gratified to see expressions of baffled astonishment flickering over his face. "Seal the door and shut down all communicators. I want no interruptions while I am transmitting to my long-dead friend."

Chester called guards and lackeys, gave orders, then sent them away. He applied a seal card to the door, then bowed deeply to me.

"Your wishes have been carried out, your majesty," he announced.

"Splendid. Now you may sit and listen to the show, but please refrain from wry expressions or silly giggles while I speak of intimate matters to my most platonic of friends."

"I would not dream of it, your majesty."

I lay the pad before me and began to read.

"William Tynedale of London, I know that you are listening, because I know that you had this sword within earshot every day of your life—after my first transmission, that is. For the fifth time, it is your most admiring Michelle, speaking to you from six hundred years in your future. This time you find me as Empress Michelle the Fourth, of the Solarian Empire. We find ourselves under attack, and pressed dangerously and desperately hard by very, very hostile and mighty alien enemies. They are described in my previous communication. For all our military strength we cannot even hold our ground. Five years ago, a star cruiser captained by Duke Mandroniter fired on and shattered a small alien ship. Since then all of humanity has found itself at war with a race far older than you could ever imagine. Certain principles and devices employed by the enemy must now be communicated to the philosophers and artisans of your time, in order to give us an advantage in this war that is to begin six hundred years in your future."

I read on, detailing the principles of the very best of our weapons. Professor Chester had not yet realised that I had spoken no endearments to my soul mate and true love in medieval London. All was going well as far as Chester was concerned, all was according to plan. What had not been factored in was the tradition that the supreme commander of the Solarian Imperial War Force had to go armed at all times. To be more precise, he thought he had everything under control. Unfortunately the inhibition block that he had placed in the software of my antique ceremonial resonance pistol had shown up in a programming scan that I had conducted in secret. My father had taught me paranoia, even though he had managed to see very little of me before his death. All of my technical gentlemen in waiting had assured me that the weapon was fully functional and ready for use—thus I knew that I could trust nobody.

My mother had taught me optronics, and by means of seventeen carefully placed optical fibres I had bypassed the control and regulation unit of my ceremonial weapon. It would not function as a resonance pistol, but the powerful initiation laser in the charge cell could cut through a half inch of steel. To an external software scan, my weapon looked harmless, but had I a need for a weapon, and it *was* still a weapon. I had thought an assassination attempt was being planned, but now I knew better.

"... and thus my technical missive is at an end, yet not my words to you William Tynedale, my true love, so far in my past," I read as I approached my conclusion. "Please note that the greatest of my time's natural philosophers have determined that you must leave the Don Alverin Sword to your heirs, along with your Tynedale Journal. They wish to use it to continually advance the past from the future—but *they are wrong!* For the sake of humanity, publish *none* of this and hide the sword," I cried, completely without warning, drawing my weapon as I spoke the words.

Chester was already in the act of drawing his own resonance pistol, but my laser cut diagonally across his body, messily slicing him and his chair apart. Next I fired at a spot beside the door which concealed the power coil that operated the door, jamming it. My third shot destroyed the monitor bubble. Those outside retaliated by cutting the power to the lights and flooding anaesthetic gas into the room, but by now I had activated the targetry lamp on my pistol and hurried across to Chester's body. In a coat pocket I found an oxygen bulb and mask. I took a deep breath, then continued my plea to William Tynedale.

"William, they are trying to stop me, and I have only moments to live. Hide the sword, destroy your journal, forget all of this and forget me!" I shouted at the RF communicator on the desk, then took another breath from the oxygen bulb. "The sword and the journal are a keyhole to the future that has

been giving you *only* natural philosophy and weapons designs. Our modern world is a huge, medieval kingdom." Another breath, and I could hear scrabbling as someone began attaching a power jack to the door. "The three alien civilizations that we have contacted have developed moral codes alongside their studies of natural philosophies. As a result they have lived in peace for tens of thousands of years, but *we* have had practically no advances in moral teachings since your own time."

I breathed from the bulb, then aimed my targetry lamp at the door and fired the laser. There was a scream of pain, and a metallic clang as the power jack was dropped.

"William, the only way to stop the war with the enemy aliens is to make this future never happen." A breath. The sound of more feet approaching. I turned the radio off. "I have the Don Alverin Sword, you traitorous vermin!" I shouted, then took another breath. "I'm wearing it. Fire a resonance gun at me and you destroy your only link with the past." I turned the radio on again. "Sorry William, trying to buy time."

I breathed again, straining my ears to catch anything at all, but hearing nothing. They were probably conferring outside, deciding on any of a dozen ways to break in.

"William, I think you are the greatest philosopher ever to live, but please, please, destroy this future. Never reveal any of what I have told you. Any moment now, my own courtiers will blast the door open. I am going to turn my gun on the sword and destroy our entanglement link with your time." One last breath. "I love you, William Tynedale, goodbye, and never forget me!"

"It just stops there," said Sir Steven as I turned a few of the blank pages that followed the last entry.

I closed the book and stared at the words embossed on the cover. Tynedale Journal. I stared at the sword. I stared at Sir Steven.

"I am a science journalist, not a science fiction editor," was all that I felt inclined to say.

"It is no hoax," he insisted.

"Steve, if you want to impress me with your writing, this is not the way to do it. What's the hidden agenda, getting me all the way out here? If you want to have an affair, the answer is no. I may be divorced, but—"

"This is serious!" he shouted suddenly, slamming his fist down on the edge of the table.

Sir Steven was normally mild mannered at best, and controlled at worst.

"Look, I don't understand what you are trying to do."

"I had a fragment from a page analysed. The paper is genuine, the ink is genuine, and the ink shows all the right signs of slow chemical reaction with the paper over six hundred years. This is real."

"Temporal entanglement?" I laughed, my nerve returning. "The very idea! What sort of fool do you take me for? I might only keep up with leading edge physics by reading *Nature*, but I still do it."

"And what about your feelings for William Tynedale?"

That was the part that had me uneasy. As an undergraduate I had seen his only surviving portrait at an exhibition in the National Portrait Gallery in London. I could not describe it as love at first sight, but I had bought a print and had it framed. I had also studied what little was known of the brilliant gunsmith and his brother. The references to them had continued until 1418, then they died when their house had burned after a gunpowder explosion.

"I admire them, and I think William was pretty cute."

"Just like in all the other alternate futures that William and you created."

"Steve, this is taking a clever joke too far."

"This is no joke," insisted Sir Steven. "Look back through the journal. We have the most fantastic technology laid out in a couple of hundred pages of text and diagrams. Michelle, if you will not take this seriously, I can and will go elsewhere."

There was an awkward silence. I leafed through some of the middle pages of the journal. Some of the physics looked plausible, and could easily be checked experimentally. I began to feel uneasy. It was a chart for science without experiment. Only the true paths were chronicled, none of the blind alleys or pitfalls. The latest of my selves—the empress—had been right about moral codes and ethics as well. All of that was entirely absent.

"Listen Steve, just say all this really is genuine. What then? "

"The physics and tech in this journal could take us half a millennium in ten years, that's what! They could have us on Mars in a few months, and at Alpha Centauri in a decade."

"And armed with weapons that could sterilise an entire planet between breakfast and morning coffee. We could look like Attila the Hun armed with thermonuclear weapons to any older, more advanced species out there. Check some of the designs. Some reasonably bright nut case could level a city block with his one, for example—the resonance culverin. You can buy most of the bits in any supermarket, and do the assembly in a garden shed."

"So? It only means that access to what is in the Tynedale Journal must be restricted. Michelle, you have had your chance. Sorry, but we are talking about mankind's destiny here. I am going to take these to London right now. Some really serious work needs to be done on the science in these pages. See Thomson on your way out, he will write out a cheque for your expenses."

With that he picked up the sword and journal, then walked from the room. I was left with my thoughts. The Chesters in the alternate worlds of 2004 generally had a bad record when offered temptation. Upon feeling the hand on their shoulder, they did not look down to check for a cloven hoof. I had an odd feeling of loss as well. Of all the Michelle Watsons, only I had not spoken to William Tynedale through the Don Alverin Sword, I realised, feeling vaguely jealous. There was a sound like a dull, distant thud somewhere. I heard footsteps outside. Thomson with my cheque, I guessed.

William Tynedale entered. He was wearing a red cloak and tunic over olive green trousers, and a sword hung from the belt at his waist.

"My lady, I am heer," he said, spreading his arms and giving a bow. "What is youre wille?"

Part of my brain seemed to shut down. I found myself only noticing that his speech and pronunciation of modern English was relatively sophisticated for someone from the London of 1418. This was probably because he had made an effort to learn to speak as I had. He had had several hours of my transmissions as tutorials, along with fourteen years to practise ... this was William Tynedale! The words suddenly screamed within my head. Tynedale, a man born in the fourteenth century. My brain nearly shut down again, the shock was almost too much.

"I—William?" I gasped, thankful that I was sitting down.

"Yes, William, I am," he replied, smiling shyly. "I am youre owne love."

I stood up slowly, then walked around the desk and took his hand. When I could manage to speak I replied "And I am yours, no less. But—but I must explain—"

"All as was spak, I did attend," he assured me, a finger to his lips.

He had been listening to everything Sir Steven and I had said. We left the room, hand in hand. I was not particularly surprised to find Thomson bound and gagged in the parlour. We walked from the house, and across the lawns to the visitors' car park. The Tynedale's craft was there, not far from the burning remains of Sir Steven's Range Rover. Sir Steven stood beside it, his hands held high. Behind him was a man bearing some similarity to William

"This is Edward," William explained, and Edward gave me a little nod. "He hath no voice, yet he hath ways of speaking."

William gestured to Sir Steven, the burning car, and to a thing in Edward's hands. It was an object that Dali might have painted had he been locked in an alchemist's workshop, given an near-overdose of some hallucinogen, and told to paint something interesting. It was all spiral tubes, frosty glass globes, ivory, obsidian, and crystal. The wooden stock might have originally belonged to an early gun, and a pearly glow was coming from within the complex. What was quite possibly a barrel was pointed at Sir Steven. On the ground beside him were the Tynedale Journal and Don Alverin Sword. Edward bowed curtly to me, but kept what I guessed was the makeshift resonance culverin pointed at Sir Steven.

The Tynedale Brothers had taken my warning and published nothing. In private, however they had studied and worked like men possessed, and by 1418 they had completed a starship.

The craft was about the size of a delivery van, but shaped a little like a pair of onions joined at their bases and resting on a lattice of satay sticks. It was all iron bands, barrel slats, copper sheathing, and oakwood rails. It had several arrowslit-style windows of quartz crystal, and by the smell of it the whole thing had been made airtight with bitumen. William gave me a tour of the interior. It was heated and powered by technology that could have won me the Nobel Prize for Physics every year for at least a decade, yet all of it had been built using materials and tools from fifteenth-century London. Carbon dioxide was split into oxygen and graphite by something mounted in a wooden washtub bolted to the roof. The drive was what had been described in the Tynedale Journal as an asymptotic boundary, generated by squeezing quartz crystals in an electrom collar at a precise frequency by ... even now I cannot quite understand precisely how it works. The Tynedales did not either, they just followed the designs that I had given them as a different self. In this thing they had used relativistic time dilation to travel six hundred years in a few months, perhaps making the trip over seventy times, and stopping to take on fresh air and provisions each time.

All for William to be with me.

I cannot say how long we stood in each others' arms, then we returned outside to where Sir Steven was waiting with Edward.

"He knows enough of the Journal's secrets to be dangerous," I warned the Tynedales.

Edward motioned him into the craft's hatch with his weapon, then William and I were alone.

"We shall set him safe with a wise and goode star folk, to have out his lyf in a temple," said William.

"You—you have met aliens?"

"We have walked their lande, and had council with their elders."

"And me?" I asked. "What of me? I have seen some secrets of your journal. They are in my memory."

"As you will, you must do," he said very softly, as if fearful of my answer.

He did not trust Sir Steven, but he trusted me. He was also giving me a choice, as the knight had done with his bride in *The Tale of the Wyf of Bathe*.

"If you go, my heart will go with you," I said sincerely, "and I must go wherever my heart goes."

We stood outside for a few minutes more, farewelling the Earth of 2004 by the light of the burning Range Rover. Presently we heard sirens in the distance, and saw the spotlight of an approaching helicopter. That seemed like a good cue to pick up the *Tynedale Journal* and *Don Alverin Sword*, and climb into the craft. Then we vanished.

The End