

Chapter 1 – At the United Nations

Although a Manchurian, and therefore taller than most of his countrymen, even Su Li felt somewhat intimidated by the tsunami of eyes that returned his gaze, as he stood behind the central podium to start this latest session of the United Nations General Assembly. It was not just the sea of more than a thousand faces, banked tier upon tier that gave him pause for thought, but the fact that what he was about to announce could define his time in office; and possibly change the course of mankind itself. A great opera fan, the notion sprang unbidden into Mr Su's mind that even the greatest singers must experience a similar frisson of fear when faced with so many expectant faces in the circles and dress circles of the great opera houses of the world. He was particularly a fan of the lyric tenor voice; indeed, of all western music ... but now was not the time to lose focus on the task in hand.

The ancient air conditioning system in the General Assembly Hall was making heavy weather of keeping up with the ever mounting challenges heaped on it by the never-ending rise in temperatures brought on by seemingly irreversible global-warming. It was uncomfortably hot. Since the room had first been used in 1952, several additional tiers of seating had been installed as mezzanine floors, in order to accommodate the increased level of representation, giving the impression of facing a wall of humanity, for whoever spoke from the podium.

The latest in a long line of UN Secretaries General, but perhaps the most powerful to date, Mr Su addressed the democratic representatives of the peoples of Earth once again. The selection of delegates these days was something of a departure from earlier times, when the chamber had been filled by the appointees of member state governments; now, each delegate was voted for by the citizens of his or her country in direct elections to the UN Assembly.

“Honoured Representatives;” he said, using the formula expected of everyone addressing this august body, even himself. “In the decades since our colony on Mars began questioning the rule of this chamber without direct representation in it, we have found it increasingly difficult to reconcile our need for room in which residents of Earth can expand, with the growing refusal of Mars to accept further immigration from here.” Suddenly, the usually boisterous UN Assembly Hall had become very quiet indeed; this was something that everyone knew, so why was the Secretary General raising the subject? Something momentous must be about to transpire.

The United Nations had long ago transformed itself from a – usually ineffective – talking shop into a real and effective formal world government. The gradual transition, starting in the first half of the twenty-first century, had resulted from the need to create an effective response to the ever-growing threat from terrorists; some freelance, but many state-sponsored. Creating a permanent militia – although that had not been the intention when, in 2035, the UN had finally agreed to the establishment of an armed police force under its own direct control – had enforced greater and greater international co-operation, until a united world government effectively evolved from the United Nations. That the UN had not changed its name was, perhaps, a reflection of the sensitivities of many of the older nations which liked to pretend – at least to themselves and their electorates – that they retained some degree of autonomy. In practice, that had been gradually disappearing since the global financial crisis of 2008, which forced governments to work together to prevent multi-national banks and other financial institutions from ever again edging the world to the very brink of economic ruin.

The development of what was effectively a world government had proved surprisingly successful and the newly formed United Nations Space Agency (UNSA) – created on the building blocks of NASA, the European Space Agency and their equivalents in Russia, China, Europe and India – had succeeded in planting a modest colony on Mars by 2050.

By the end of the twenty first century, more than 50,000 people had emigrated to the ‘red planet’, although terraforming would someday make that epithet redundant; but it was far from self-sufficient. It also wanted to be completely self-governing and, while no tea had actually been thrown into a harbour, the echoes of ‘no taxation without representation’ had resonated with its inhabitants. The distance between these near neighbours – at least in astronomical terms – made it impractical for Mars to send representatives to Earth who could maintain easy communications with their constituents – just as had been the case with eighteenth century North America, in its relationship with the then embryonic British Empire. The refusal of the UN to consider such representation in any event resulted in Mars making it increasingly difficult for those living on Earth to move there.

An impasse had built up. Yet Earth faced a problem, with its growing population. Where to send them?

“What we need, continued Secretary General Su, “is a new strategy that allows us to bypass Mars altogether and move the human race forwards in a new direction.

“I am pleased to be able to tell you that we now have the technology to consider doing just that and I would like to introduce Dr Rebecca Nairn from Cambridge University, in England, to outline the plan that we wish you to consider approving.”

A hush, deeper than anything that had preceded it, fell over the usually murmuring gathering. “This could be something really worth listening to – for a change,” thought Charles Windsor, the Representative from Wales.

Rebecca Nairn, a tall dark-haired, hazel-eyed woman of about thirty, perhaps looked an unlikely person to offer a solution to what was becoming an increasingly vexatious challenge for the peoples of the world. Yet her air of quiet confidence and authority, as she took possession of the podium, had an electrifying effect on the gathered Representatives and press. It helped that she was strikingly attractive; the sort of woman who other women wanted to be – and men wanted to be with. Even her hair, swept back in a severe pony tail, did nothing to hide her beauty; perhaps it even enhanced it, although nothing could have been further from the thoughts of this serious minded academic.

“Honoured Representatives,” her gentle Scottish lilt was soothing to the ear. “The prospect of deep space exploration has long been a cherished dream for humanity. Unfortunately, realising the aspirations of science fiction writers has always faced three major inhibitors; time, distance and money.” Rebecca looked round the gathered faces and wondered how long it would be before the spell broke and someone asked what was the relevance of deep space, since everyone knew that the nearest star was four light years away, and nobody could travel at even a thousandth of light speed. A four thousand year journey could hardly help anyone with today’s problems.

For the moment, nobody broke the spell she was weaving and she was able to continue. “Deep space does not simply mean reaching out towards the farther reaches of the Solar System and occupying the moons of a gas giant. Perhaps we could do that, but the probability of being able to make colonies in such areas self-sufficient is remote. Instead, we need to think in terms of identifying existing earth-like planets that can be colonised in order to take advantage of their own resources, much as man has always done here; but perhaps with greater sensitivity to the question of sustainability.” As Rebecca had expected, pandemonium

finally erupted; what she was suggesting was pure fantasy, surely? It took a few minutes for Secretary General Su to regain control of the assembly and invite Rebecca to continue.

“Thank you, Mr Secretary General,” she started, as soon as she regained control of the podium. “Honoured Representatives, I can readily understand your consternation at my opening remarks, but ask that I be granted a few more minutes of your time to outline the remarkable strategy that has been developed by scientists from all over the world. If there is no further interest, then we can let the matter drop; but I am confident that, given what I am about to tell you, such an option will not be necessary.

“As you will all be aware, the search for potentially habitable – often called M-Class – planets has been going on since the start of the twenty-first century. Many have been discovered since then, but none within what might be considered reasonable distance of Earth. What you may *not* know is that scientists have recently discovered that our nearest neighbour, Alpha Centauri, does after all have one. In fact, as long ago as 2012, one planet was observed just outside the star’s “habitable zone” – that is the area between where the star’s proximity generates too much heat to allow life to evolve and where its remoteness is such that the cold would similarly prevent evolution of all but the most rudimentary organisms.” The assembly members were now becoming interested in what Rebecca had to say.

“The newly discovered planet revolves around Proxima Centauri which is part of a three-star system including the brighter stars Alpha Centauri A and B. This object is similar to our own sun and we are confident that the planet will sustain life – in fact, it may already do so.” Again the room erupted with noise, but this time of a decidedly less negative nature.

“Even so,” continued Rebecca, “the questions of time, distance and money remain. How can we reduce the journey to a manageable timescale, when even at a tenth of the speed of light, the journey would take forty years and the cost of the expedition would be literally astronomical? How could we ask a crew to dedicate the rest of their lives to a one way trip, even if we could reach such vast speeds? And how could we ever afford it?”

“It may surprise you to know that scientist now have the answers to all these questions.” After an initial collective intake of breath, a deep silence fell over the chamber. Rebecca continued. “We now have the technology to build, in near Earth orbit, a massive spacecraft capable of achieving ten percent of the speed of light, carrying a crew in suspended animation for an indefinite period, with a 98% chance of revival of that crew at the end of the journey.” Rebecca had said enough for general consumption; politicians’ attention spans are short enough where they are not directly interested in an issue – that is there were votes involved at the next election – and there was no point in giving away too much to the press.

“There will be a detailed briefing for those interested in the plan immediately after this session has ended and my colleagues and I will be pleased to take questions then,” she concluded

Secretary General Su called for an immediate vote on the motion that the UNSA should be authorised to produce a detailed plan for presentation to the Security Council of the UN within one year. He then terminated the meeting and left the central stage with Rebecca.

“That went rather better than I had expected, Doctor Nairn” he said, as soon as they were alone. “You had better get along to the briefing to outline the plan to those who are interested. I will watch from my office over a video link; it is better that I am not too closely associated with the plan, in case I need to appear impartial later on – to support you, of course.” This, Rebecca took to mean that the politician would be able to distance himself

from the plan should it fail to gain popularity amongst the Representatives. Nobody could have reached Mr Su's position of power without being a supreme tactician and he was known to be a master manipulator. She wondered how far he could be trusted and suspected that it would be just as far as his interests were not compromised.

The briefing took place in a small conference room; too small it quickly proved, because the hundred and fifty or so Representatives who wanted to hear what Rebecca had to say were cramped into a space sufficient only for one hundred people. Such was the level of concern over the population issue that a significant proportion of the 1,050 elected representatives – an average of five per member state – wanted to see what (probably harebrained) scheme the scientists had cooked up now!

Rebecca was not alone on the platform; she was joined by her colleague, and mentor, Professor Sir Julian Crighton. A distinguished looking septuagenarian and holder of the Cambridge Chair in Theoretical Physics, Julian was responsible for the initiative that had brought together the output of a wide range of scientific disciplines resulting in the current proposal. Julian was man of middle height; but his habit of stooping slightly as he walked that made those undergraduates attending his lectures – and even his PhD students – imagine him to be smaller than he actually was. In planning for this day, he had felt that their proposal would have greater chance of acceptance were it to be 'fronted' by his very able – and media friendly – protégée and assistant, Rebecca. It was therefore she who took the lead, although his presence was deemed to add gravitas to the proceedings, which he opened.

Professor Crighton rose to his feet, his credentials illuminated on a screen behind him against the backdrop of a picture of the Solar System and its neighbouring star systems. "Ladies and gentlemen, welcome to this briefing on what we call The Ozymandias Programme – named for Shelley's 'King of Kings', whose works were lost in the mists of time. Our hope is that our proposals will create a lasting legacy for mankind, of the nature that has so far eluded us in our initial forage into extra-terrestrial planetary settlement." The allusion to Mars was not lost on his audience, but a written report would not appear critical of the settlers. "What we have to announce to you today is something that mankind has desired for more than a century, but which has not hitherto been possible, because of practical difficulties. What Dr Nairn will outline to you today is the culmination of many years' work, in which the Ozymandias Project stands on the shoulders of giants in order to achieve significant breakthroughs in many areas. Not least of these have been the physicists who have – finally, I might add – developed a *usable* form of nuclear fusion power; biologists, who have succeeded in making suspended animation – and recovery from it – a practical option for long term travel. In some respects, most important of all have been the astrophysicists, whose development of long-range scanning has allowed us not only to identify potentially habitable planets, but also to analyse the likely chemical make up of those worlds. I should explain, before handing over to Dr Nairn to fill in some of the details for you, that while we have long been able to tell quite a lot about the gas giants that circle distant stars, it is only recently that we have been able to apply the same spectrometry techniques to rock-based planets. Rebecca."

Rebecca took a deep breath to steady her nerves, which were even more edgy than for the presentation to the main assembly; small presentations sometimes had that effect on her, because she no longer had the relative anonymity granted by being faced by a large audience. "Thank you Professor," she started her detailed presentation. "What you see on the screen is an image of the new planet; we call it Proxima Home – we felt that Proxima Centauri 3 sounded a little impersonal." Rebecca hoped that the modest joke would help relax the

audience for what was to come. “The image is, of course very small, even with the highest-magnification space telescopes to which we have access. However, mass spectrometry has revealed that there is plenty of nitrogen, hydrogen and oxygen present. More importantly, we can deduce with a very high level of accuracy that there must be vast quantities of liquid surface water. This is based on the spectrography of the atmosphere and what we can deduce about the probable climate.” The image on the screen behind Rebecca changed to show a series of graphs which the Representatives would not understand, but looked impressive. “We will let you have copies of these graphs and the underlying data for you and your advisors to consider at your leisure,” well their advisors, anyway, she thought.

“Perhaps of greater interest, in terms of practical value to us, is that we have been able to analyse the geological composition of the planet, which includes a generous supply of the heavy metals and carbon derivatives that would be essential to a colony becoming self-sustaining – and even supporting further outward exploration.” Rebecca paused to allow the implications of that last sentence to imprint itself on the minds of vote-hungry Representatives. If they were involved in something that might eventually lead to an Earth-led galactic empire – however far into the future – there could be instant benefits in terms of popular support. At least this should be sufficient to help offset the likely adverse impact of the costs that would inevitably be involved in the early stages, with no prospect of immediate pay-back in the short term. After all, Earth had impoverished itself to cover the cost of colonising Mars, which had recently become overtly ungrateful for the favour; it would not be long before resentment here started to backfire on legislators.

“All this would be of little consequence were it not for the development of a new form of propulsion for inter-planetary travel,” Rebecca broke into the almost discernible thought processes of her audience. It took a little time to sink in that she had made a momentous announcement and nobody had really noticed. “I am pleased to be able to announce to you – with the permission of all the hundreds of scientist involved – that we have finally reconciled all the issues relating to nuclear fusion and that this is now no longer a theoretical possibility, but a practical fact.” Again the image behind her changed, this time into an image of an easily recognisable nuclear fission reactor and then, slowly, morphed into a very much smaller electric-battery-shaped building visibly appearing to radiate a hundred times as much power. “The ability to generate massive amounts of clean power with minimal input, which has hitherto been impossible, is now a reality. No longer will mankind be reliant on fossil fuels, or relatively expensive wind and wave power, or solar power.” Again a brief pause for the Representatives to calculate the impact on elections that such an announcement might have; but not too long, now for the killer blow. “This means that the research undertaken so far has already created the possibility of an immediate pay-back for the peoples of the world.

“But how does this affect Project Ozymandias?” she asked, rhetorically, eyeing her audience to ensure that they were following her train of argument. “The answer is that it allows us to generate sufficient energy to take a space craft to 30,000 kph – a tenth of the speed of light and to do so *relatively quickly*.

“Sorry, that is something of a physicists ‘in’ joke,” Rebecca apologised, “because relativity theory tells us that the time will pass more slowly for those involved in the journey than for the rest of us left back on Earth.” A famous picture of Albert Einstein appeared on the screen behind her head, gradually appearing to become younger until the image was of a baby. Rebecca and Julian had agreed that inserting modest humour into the briefing would help reinforce some of the important messages it contained; she was rewarded by a ripple of laughter, as the Representatives caught on. Rebecca smiled and relaxed a little.

“It will be therefore possible for us to build the spacecraft in near-Earth orbit of sufficient size to carry the project team and all the equipment they could possibly require and then direct it towards its objective, Proxima Home. And we can do this within a very few years. Allowing for the distance, as well as time for acceleration at this end and deceleration at our destination, the total journey time would be 50 years. Honoured Representatives, we could be on a planet circling another star *before the end of this century.*” There were appreciative gasps from some parts of the audience, an element of disbelief amongst others, but few in the room were left unmoved.

“Of course,” she continued, “nobody would wish to spend their entire working lives on a space flight, only to arrive either too old to participate in the settlement process; or even to die of old age during the journey. That is why the recent development of a practical form of suspended animation – with a very high probability of successful resuscitation in each case – was the final part of the matrix that stands behind Project Ozymandias. Bodily functions will continue during suspension, but at an incredibly slow rate. Only a very small part of the crew will be required to spend the 50 year flight awake, and even then, not for the entire period, or they would face many issues including the need to keep occupied – and even to reproduce – during the long trip. Robots will be utilised to undertake many of the day-to-day functions necessary to make a safe Earth/Proxima Home transit, but there will always be a group of humans in command; the envisaged robotic contingent will be constantly monitored by them.” The audience was clearly impressed with the proposal; but Rebecca knew that there would be many hurdles to overcome, before the initial project approval given an hour earlier would turn into a final green light. It was time for an extra push.

“There will, of course, be many forms of short-term payback from a project of this nature. Even at the start of the space programme in the 1950s and 1960s, developing the technology to get into space and then to the moon resulted in incremental improvements to the lives of every woman, man and child on the planet. The rapid development of computing power is just one example of this; today even the most basic communications device contains more computing power than the guidance systems of the first moon shots. It is inevitable that this will happen again. In addition, the work generated by Project Ozymandias will certainly provide a boost to the economy so that the cost to government will partly be offset by increased tax revenues as the world economy grows.” Argue against that, thought Rebecca.

There were a few detailed questions, but Rebecca and Professor Crichton were easily able to field these and the meeting broke up in a highly positive mood.

“Hello, Dr Nairn, my name is Charles Windsor, Representative for Wales.”

“Yes, Your Royal Highness, I know who you are; I saw you in the audience,” replied the slightly nonplussed scientist, to the six foot three, brown eyed man who confronted her. Of course she had noticed him in the room; his features were hardly something that any young woman – even a serious minded scientist – could miss. He was well known from the newspapers as a highly eligible bachelor; wealthy with the inherited good looks that his twentieth century ancestor, Princess Diana, had injected into the British Royal Family. But she was not about to be over-awed by this tall and handsome scion of a family that could trace its ancestry all the way back to the eleventh century, albeit sometimes rather indirectly.

“Well, I haven’t heard that title for a very long time,” he replied. “Since Britain became a Republic, we have tended to ignore such things – except when booking a table at a restaurant,” said the descendant of the last King, William VI. “Speaking of which, how about

joining me for dinner? Your presentation has made me realise that I am hungry; I imagine you must be as well.”

Before realising that she had abandoned a rather amused Professor Crichton – and ignored a flustered attendant of Secretary General Su, who had been dispatched to extend a similar dinner invitation to her on his behalf, Rebecca found herself being driven off to dine in a very pleasant restaurant in the heart of Manhattan.

They made a striking couple, sitting in a secluded corner of the discreetly expensive eatery to which Charles had effortlessly whisked her; but not so secluded a table that they did not draw the eyes of many of their fellow diners. However, they failed to register the interest that their arrival had excited, being rather more interested in each other and their conversation. Rebecca was surprised to register the level of his interest in and understanding of their objectives; but he did have a reputation as something of an adventurer, prior to his entry into politics, she recalled, so who knew where his interests really lay?

Charles was the perfect host; he allowed Rebecca time to select her meal without imposing his own choices on her – something that she had frequently had to endure from other men taking her out for a first ‘date’ – not that this was one, she told herself. He did, however, encourage her to try something new when the time came to choose between a favourite and something she had never tasted before. “If you are going to the stars,” he teased her, “you may want to accustom your palate to the unfamiliar.” She did not notice that he had assumed she would be part of the team travelling to Proxima Home. At the time, it seemed natural enough to both of them; and there was plenty else to think about.

Surrounded by exquisite décor and serenaded by quiet music to mask the sound of individual conversations, they ate their way through four delicious courses, accompanied by a good – but not too expensive – champagne, talking over a wide range of topics. Rebecca knew, of course, that like so many of his ancestors, Charles was a capable pilot; he was licensed to fly fixed-wing aircraft as well as helicopters. She did not know, however, that he was also a qualified space pilot. That had been kept out of the news; or perhaps, it had simply not interested the press, at a time when the antics of his younger brother were attracting greater coverage. “Actually, the news stories about Philip,” he half apologised, “were not entirely fair. Like all younger sons he has had to create a role for himself and he is doing an excellent job – he’s just a little high spirited at times. Of course, it is not as if I were due to take over the titular leadership of the country, as would once have been the case; but the role of Prince of Wales that father still occupies is far from being a sinecure. I, of course, have been expected to train up for it, but Philip has no such burden of expectations placed on him. It is rather a pity, actually, because he has far more interest in such matters than I do – running a massive estate and so on. My preference is for politics ... and adventure.”

“It is rumoured,” said Rebecca, trying to avoid sounding sycophantic, “that you are a very able politician and administrator.”

“That sounds almost like an insult,” joked Charles, “but I know what you mean. Being able to organise things is a learned skill and one that I have had the application – and interest – to acquire. One of the reasons I agreed to stand as Representative – sorry, Honoured Representative – for Wales, was that having studied for an MBA at Harvard, after reading economics at the LSE in London – and a spell in the army – I felt it important to graft some practical experience onto the theory that I had been crammed full of, so far.”

Something made Rebecca feel that they were approaching the reason for her dinner invitation; in her, admittedly limited, experience wealthy people do not generally take time to wine and dine lowly academics unless there is an ulterior motive.