

Chapter Twenty One

Twenty minutes ticked by on Carl's watch. He feared he might be on the window ledge for hours yet. He dared a few times to steal a look down into the main room. Hayhurst was pacing nervously on the stage. His bald pate was red and shined under the light. Carl hoped he was seriously sweating. Newton's book lay on the front desk and Carl could see his own mobile phone and wallet next to it. Not much use to him down there.

Suddenly a door crashed open somewhere beneath the balcony. Geoffrey Montford strode in purposefully and crossed to where Hayhurst waited.

"You're an idiot Cyril! Luke was a bad idea." Hayhurst squirmed an apology. "Is this the book?" Montford flicked through a few pages but then pushed it away. "Not worth battering one of my staff over," he commented icily. "So he's hiding here somewhere is he?" Hayhurst nodded and both he and Montford surveyed the room. Carl leant back into his corner sharpish. "Right, leave me the book and get out of here Cyril. I'll try to sort this out... and I'll talk to you later." The latter was definitely threatening. So was Geoffrey part of the scheme to steal the book or not? Carl wasn't sure whether to trust him. The door slammed again below. That would be Hayhurst leaving or was this all a good crook, bad crook routine to make him show himself?

"Carl, are you here?" Montford called in a loud voice that echoed round the room. "Whatever Cyril and Luke were doing, it's over. If you come out we can talk and try to find a sensible resolution to this mess." Carl couldn't bring himself to reply. Montford seemed genuine but to reveal himself and be shot at this juncture would be, well, not good.

"I'm just going to walk round in case you're trapped somewhere where I can't hear you," said Montford. He proceeded to slowly circle the room below then progressed up the stairs onto the balcony. Carl reflected he was going to have to trust someone if he was going to get help getting down. If he passed over this offer and spent three days up here he'd look foolish.

"OK, so you're well hidden. I guess intelligence is what I pay you for! I think I'm going to leave you on your own – the doors will be open so you can get out. The book and your things are down here on the desk. I'm writing my mobile number here too. If you want to phone the police that would be understandable. We could maybe sort this out better if we talk though. Your choice."

Montford looked round the room one more time and started to head for the door. The sight of a familiar face leaving was too much for Carl. Maybe he'd regret this but he didn't want to be left up on this ledge.

"Geoffrey, I'm up here!" he shouted down, leaning over the window ledge. Montford stopped and looked up.

“There you are!” he gave a friendly smile. “How did you get out there?” he probably couldn’t see the rim Carl had edged along and instead seemed to be imagining him swinging on the chandeliers.

“I just scrambled it – God knows how I made it. Being shot at by Cyril Hayhurst spurs you on, I guess.”

“Cyril was party to that then, was he? Let’s get you down and then discuss his penance. How are we going to get you down?” Carl held his arms out and shrugged. Looking back along the wall he didn’t even fancy hanging from the ledge never mind walking it.

“I think there’s a ladder they use for cleaning the windows. Stay put and I’ll be back.”

Carl swung his legs out over the drop and let out a huge sigh of relief.

As soon as Carl was grounded, Geoffrey Montford had insisted upon a medical check up. With Geoffrey a multi-millionaire, this did not involve the night time casualty at the NHS hospital but, instead, an exclusive private clinic in the Hampshire countryside. They raced out of the city in Geoffrey’s red Ferrari. He did a pretty good impression of an ambulance in an emergency, though he just seemed to be enjoying the quiet night roads. Carl gave in to the urge to let down his guard and trust he was safe. His head lolled back against the head rest as they rushed along narrow lanes.

The clinic was highly secluded in its own forest. Within a minute of entering a doctor and a nurse had appeared in gleaming white coats whose cleanliness matched the surrounding polished beech wood furniture and crisp pastel walls. Carl was most impressed by their, at least feigned, lack of interest in where he had got his injuries from. They simply dealt with the symptoms. On reflection he wondered if that meant they were more used to serving millionaire drug dealers and their gun shot wounds. He wasn’t going to complain tonight, though.

The doctor took his blood pressure and temperature. A sharp light was shone deep into his eyes. The nurse applied something that stung with buds of cotton wool, first to his head wound and then his leg gouge. The doctor peered over at his cleaned scalp and ordered five stitches. When he had been sewn up they declared him fit, barring a night’s sleep. A private room was made available to him.

The room was not just a bedroom but had a sitting area too, with satellite TV and a games console. There was a large patio window that gave access to a wood-board terrace. The sun was just starting to rise and beginning to reveal a stunning view over a grass lawn leading down to a river. How the other half live, he thought!

Geoffrey knocked on his door just as he was wondering if he could collapse asleep.

“Do you want to rest or should we decide what to do now?” he asked.

“I suppose after coming here it would look a little strange to phone the police. Was that the intention?” Carl asked. Geoffrey put on a serious expression,

“The problem with court justice is that you need evidence,” he explained, “if you say Cyril was trying to kill you and he says he wasn’t, there’s not much further to go since he didn’t. I’m afraid I’m not really keen on standing up in public to support you either – it would not do me, the Phi or the Historical Society any favours.”

“So I just have to lump it then?” Carl was a bit annoyed by the sudden shift in attitude. How much was Geoffrey involved after all? Geoffrey smiled knowingly,

“On the contrary! Knowing how to publicly humiliate Cyril gives us a hefty bargaining chip I think. Let’s work out what to do with him!” He paused surveying the surroundings. “Shall we sit outside and watch the sunrise?”

They moved outside and sat on cushioned chairs around a wooden garden table. It was pleasantly fresh and Carl felt a little revived after all that had gone before.

“Let’s start with what’s going on,” Carl proposed. Geoffrey nodded and indicated for him to continue. Carl set about recounting the night’s events, back tracking to include Cyril’s none so subtle prompt after the Cathedral service. Geoffrey produced Newton’s work at the appropriate point and they both looked through it with reverence. When Carl had concluded his story he handed the baton to Geoffrey,

“What did you know of all this?” Geoffrey frowned, recollecting his memories,

“Well, I knew that Andreas had offered an old Newtonian text to Jonathan Sinclair. When Andreas died Jonathan thought the manuscripts were real, so I assumed there would be more found by the police. I had talked to Cyril about the Phi and the Historical Society trying to acquire them.” Carl assimilated the link to Sinclair he hadn’t previously heard, then queried,

“So that place I was holed up in is Winchester Historical Society, not the Masons then?”

“It’s an old Masonic building but we’re not... well, I’m not a Mason. I wouldn’t put anything past Cyril after tonight.” After a pause he continued, “When the police were reporting finding forgeries I began to wonder. That it was all apparently a hoax was confirmed yesterday morning when Jonathan dumped the news on me that he had been conned, along with his resignation unfortunately. Cyril was convinced all along there was an original text and apparently had Luke watching the Green to see if anyone found it. Luke works, well, past tense now, I’ll make sure, as the janitor of the Historical Society. He’s an ex-remand prisoner we took on to show our good will to society. More fool us! Anyway Cyril swore blind it wasn’t Luke who attacked you the first time, though I rather doubt that now. It looks like Cyril worked out a way to prompt you to search harder for

the book and that the plan was then to steal it from you and kill you.” They digested the story. “All that remains is for us to teach him a lesson. He’s worth several million, made from arms sales after the second world war I think - would you like some of it?”

Carl considered extorting a fortune for himself and was tempted. Somehow they ought to do something that was right if they were going outside the law, he felt.

“It’s Andreas and his family that have suffered,” Carl concluded out loud. “The book should be their’s really. That doesn’t really punish Hayhurst though.”

“OK, how about we tell Andreas’ parents we’ve found the book but that we offer them the market price for it, care of Cyril’s bank account, if they’ll let it stay in the Phi collection? It’ll be their choice.” Geoffrey proposed.

“Yeah, that sounds alright. Can you really make him pay?”

“We can dump the whole story in the press if he doesn’t and I’ll even tell him I’ll testify against him. He’s basically a coward so I bet he’ll pay anything. I think you should get at least a five percent finders fee though!” Carl’s righteousness was used up,

“Well OK, I won’t refuse it!”

The cordon-bleu breakfast that the clinic served provided a new burst of energy and Carl suddenly remembered that Sasha was due into Winchester at 10am that morning. To cap everything he now had to face her without a night’s sleep. Geoffrey offered him a lift back to the Phi, and after checking out of the clinic, they careered off through the rush hour traffic in his sports car.

Geoffrey dumped Carl on the drive and drove off to impose his will on Cyril Hayhurst. As the engine’s roar faded away and the gravel finished ricocheting around, the Phi returned to its usual quiet. Carl thought he should check his e-mail just in case Sasha had been delayed. It was just before nine, so he didn’t expect to be waylaid. He had, of course, forgotten about WPC Thatcher who was roaming the corridors looking for him.

“Are you OK? You look rather pale,” she commented. Carl experienced yet more guilt at keeping the night’s events from her.

“I didn’t get much sleep last night,” he muttered. It looked like she was considering pressing the matter but decided against. “Are you up to a few more quick physics questions?” she asked. It was hard to say no.

“What do you need to know?”

“Basically, I want to know what Andreas was working on - something to do with gravity, extra spatial dimensions and the Higgs, I think. But everyone tells me gravity is so feeble it can't even play a role in the weak nuclear force.”

“Yes, that's right. What you have to do is make gravity stronger! One reason it's weak is that as you go away from, say a planet, the energy in the gravitational field has to spread out. You can think of it being on the surface of a ball with the planet at the middle. As you make the ball bigger the surface area grows and the force gets weaker.”

“I remember that from university,” said the WPC, “the area of the sphere is given by the square of the radius of the ball so the force falls off like an inverse square. That's Newton's work right?”

“Yep! Now imagine if there were more than three spatial dimensions, you'd have to draw a higher dimensional equivalent of a ball around the planet. Its surface grows more rapidly than in three dimensions because there are more directions to expand into. So the force falls off more quickly.” He paused to let her assimilate the idea. “Well it turns out it's possible to have these things called compact dimensions that only appear at very short distances.”

“Oh yes, I read about those the other day,” the WPC chipped in. Carl raised his eyebrows in surprise.

“Right, good. So if at some length scale you found there were actually more dimensions than our normal three, you'd realize you had miscalculated how strong gravity is. It would appear much weaker to us than it is because at short distances it was falling off much faster than an inverse square. In a world like that, if you went down to short distances, extra dimensions would open up and gravity might be much stronger than you expected.”

“How big would these dimensions have to be?”

“Well quite large. As much as a millimetre across would be nice,” he could see the WPCs disbelief so carried on quickly, “You have to do something clever to explain why people don't live in more than three dimensions but gravity does! String theory has provided a mathematically allowed answer to that. It's possible to have theories with entire groups of particles forced to live only in some of the dimensions. It's like they exist only on a sheet spread through the space, a sort of membrane. String theory has ten dimensions so there are bigger - so called branes - that have three or four or higher dimensional surfaces. It's possible that we are all made of stuff that is stuck to a three dimensional brane – the world we see – but gravity lives in a larger number of dimensions.”

“Is this likely?” the WPC had encountered yet another idea these people thought about that was completely outside her ken. Carl paused at that question as if unsure how to answer,

“Well, it’s possible. I don’t know if that makes it likely. Probably not.”

“Do I dare ask how this all ties into the Higgs?” she fearfully asked.

“The problem with the Higgs was that it likes to get as heavy as it can. We’ve always believed there was a very high energy scale, called the Planck scale, in physics – an electron would have to have this vast amount of energy for its gravitational interactions to become as strong as its other interactions. So why shouldn’t the Higgs be as heavy as that? Well, if you make gravity much stronger than we previously thought, this huge energy falls and you can cook things so that it’s the same as the mass of the Higgs, which we needed to correctly describe the weak force. It’s very radical because it’s a theory that says that when we can create a Higgs we have reached the highest important energy scale there is. The ultimate theory of everything would have to live at that scale and we’d have solved everything!” The WPC looked sceptical. “Well, yes, of course, that is the problem – we don’t have a theory of everything, so we don’t know if it’s possible.”

“Andreas was having fun thinking about how to construct such a complete theory though. If gravity suddenly becomes strong you can do all sorts of fun things like make tiny black holes in particle accelerators.”

“Would they swallow us up?”

“No, they explode. Well maybe. We don’t actually have a theory of them so we don’t really know. Remember that cosmic rays have already done everything we might do though, so it won’t be a catastrophe!” he paused and glanced at his watch. “I need to go and meet my girlfriend off a train. Was that enough?”

“More than!” she declared. As Carl disappeared off, she decided that this case was closed and she was going to try to write her report. She wished herself luck.