

Chapter Two

The senior investigating officer never arrived to interview Carl. Instead, shortly after 9pm a subordinate police officer appeared to take Carl's statement. WPC Thatcher was rather younger than Carl had been expecting, which was perhaps a hint that the police's interest was already waning. He estimated her to be in her mid-twenties, although the harsh uniform, severely tied back blond hair and absence of make up served to provide her with the authority required. A radio buzzed intermittently on her belt as she escorted Carl to a plain room with a cheap Formica-covered table, and chair. She produced a set of papers and talked Carl through the boxes requesting names, addresses and phone numbers quickly and dispassionately. A number of sheets of paper were provided for his statement and he was left with a biro.

Carl filled in the information requested and then stared at a blank piece of paper. He wrote his name, Carl Vester, and that he was a postdoctoral research worker employed by the Phi Institute. He supposed they wouldn't want to know what he had worked on that day – it had been that digression about extra dimensions which he was still floundering with, so best not owned up to in writing. He had been working in his office on the first floor of the Institute since 3pm when he'd had coffee in the lounge downstairs with most of the other staff. Andreas had not been there though. Should he list who was? He wasn't precisely sure who had been on reflection, so thought he'd leave the Police to ask him to clarify should they need. Then he'd got up to go home a few minutes after 6pm and left the building without seeing anyone. He'd found the body on the verge of the drive. There was no one about nor, come to think of it, did he have any recollection of anything other than that it was Andreas and that he was dead. Carl was starting to feel a little embarrassed about his evidence; so much for his sharp intellectual capabilities. He took a deep breath and wrote that he had run back to the Institute (it sounded better than fled) and called for help. Morris Trant, a permanent member of staff whose office was on the ground floor, had thankfully been working late and taken control. Carl had pretty much sat on the sofa in the foyer after that, until the police arrived. It came to nine lines in his scrawled handwriting. He furrowed his brow and tried to imagine how he might elaborate.

The WPC returned and scrutinized Carl's paper work. Carl felt his cheeks begin to flush when she came to the statement.

"Erm, it's a bit short..." he muttered.

"To the point," the WPC proposed. She reached into a jacket pocket and withdrew a scrap of paper on which was drawn an heraldic shield. There was an inverted V shape separating three flowers in the lower part of the shield and across the top, a lion. The WPC had sketched this earlier off a shabby leather book mark the corpse had grasped in its fist. "Do you recognise this?" she asked.

"I don't think so." Carl couldn't imagine the connection.

The WPC returned to reading the statement, as if even she was unconvinced her question had been important.

“This will do, it doesn’t seem like there were suspicious circumstances, so it was probably a heart attack or some such. Well, we won’t know for sure until the autopsy. Thank you for reporting this to us, I don’t think we need take any more of your time.”

Carl absorbed this information. This was a minor matter then.

“Right,” was all he could think to say. The WPC suddenly seemed to have a switch thrown within and her face softened as she actually focused on Carl for the first time.

“I’m sorry, this must have been hard for you. You knew him?” she took in Carl’s nod with real sympathy, “Are you OK? We can provide the number of a free counsellor if you want.”

Carl had heard that people who received counselling after a trauma had been systematically shown to recover slower than those who went home and talked to their families, or, as he suspected, got blind drunk. Presumably the police still had to offer though or appear callous.

“No, it’s fine, I just need to wind down. So is that it as far as you’re concerned?”

This produced a wry smile from the WPC as she thought of the days of paper work ahead of her.

“No, I shall be up at the Institute taking statements tomorrow, just to be sure. I expect I’ll see you then. Let me at least run you home.”

Home for Carl was a one bedroom flat in the roof of a modern apartment block in the centre of town just off the high street. It was one of those blocks that had been springing up all over the country since the mid-nineties to house the new generation of unmarried professionals. Magnolia paint sales must have rocketed even past their 1980s high!

The ornate iron clock on the high street had read 10pm when Carl had passed it. He had realized then that his girlfriend, Sasha, who was a junior medic on a fracture ward at a hospital in Birmingham, would be 25 hours into shift and wouldn’t want to hear from him even in these circumstances. They had met up as undergraduates and been together since. That they both were determined to commit to anti-social careers seemed to act as a bond, since blame was equally distributed for absences. They had agreed to “see how it goes” while she worked her way through the NHS sleep deprivation endurance course to surgeon and he anticipated short term physics positions across the globe until something more permanent was possible.

To Carl's pleased surprise they hadn't split up yet in spite of a steady stream of friends on both sides that one might have predicted would interfere. Maybe it was just the huge pool of people you meet at University that meant it was relatively unlikely that after you'd left you would find someone better. More depressingly, it might be that once they had taken on careers they had had to grow up and falling madly in love would never be the jubilant affair of youth again. Carl's main mechanism for the defeat of on-setting middle age depressions such as these and, as of today, coping with the death of friends was Amber and a bottle of good wine.

Amber lived on the floor below Carl and their friendship went back to the dextrous use of a magnet on a string to pick her key up from the window sill below. In fact Amber locked herself out rather regularly and had taken to deliberately leaving a spare key on the sill. She was an American from Seattle who was in Winchester to study at the School of Fine Arts. Carl would have been forced to describe her as pleasantly detached from reality. Her early paintings were, she had assured him, representations of people she had seen energised by the cosmic flux from ley lines crossing the North American continent. Carl had always found it hard to identify the people precisely, although the flows of energy were a little more apparent. Carl would normally have had no time for such talk but Amber was so clearly being honest to her own perception of reality that it was hard to hold it against her. The pictures were pretty good too.

When he knocked on the white, pseudo wood, plastic door of her flat she answered almost instantly.

"There you are sweetie! I've been knocking on your door all night." Amber was her usual seductive self with curling shoulder length black hair and large brown eyes in the centre of a beaming round face. She was tall and thin and dressed in a revealing black dress. "You look like your day has really sucked Carl, sugar!".

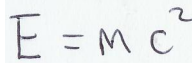
A few minutes later Carl was settling back on the sofa, his head on Amber's soft bosom with a glass of Chablis in his hand to explain just how much his day had in fact sucked. While she expressed her horror, he relaxed back enjoying the faint smell of her perfume over the top of the stronger smell of acrylic paints that permeated the flat. This was a pleasingly intricate relationship which offered up all the allure of an affair whilst in fact being perfectly moral and safe. Amber was attached to a graphic designer, Trevor, who worked in Reading fifty miles north of Winchester. Carl had Sasha. Both of these relationships were solid. In any case Carl and Amber's friendship was a mixing of opposites. The idea that they might make a serious go of a fling was entirely ludicrous to both of them. Carl had occasionally for fun tried to estimate how long it would take for some irreconcilable difference to escalate between them – certainly less than a day! On the other hand, safe flirtation was precisely what they needed to cope with the separation in their respective relationships.

Amber was lamenting the self destructive urge inherent in the human condition. She was expounding a theory that everyone deliberately rebels in some small part of their life just to prove their independence. In the US this accounted for the excessive eating of

hamburgers, in the UK for bad teeth and across Europe for smoking. In this particular instance her theory had Andreas ignoring chest pains to his own eventual demise. Carl clocked it up as the first theory, if unsubstantiated. His attention though was more taken by the canvas across the room, on which Amber had been painting that day.

The one bedroom flat was excessively cluttered with art. The living area was stacked six paintings deep along the walls and they overflowed into the kitchen and hall. The paintings were in a range of styles and a variety of media but typically contained the bold use of coloured streaks that apparently flowed forth from Amber's psyche. As you moved down the hall towards the front door the pictures began to compete with credit card slips, bills and parking tickets. The latter were Amber's small rebellion. In the US she would frequently amass parking tickets outside her own state, since liability was limited state by state. That Reading was in the same judicial region as the rest of the UK would surely come back to haunt her one day.

Today's canvas was a break from Amber's norm. The background was a moody purple and grey cloudscape whilst centre stage was a rather famous equation in bold black:

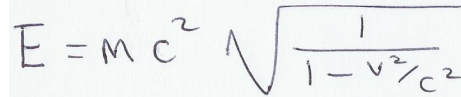

$$E = mc^2$$

“Am I starting to get to you Amber?” Carl queried pointing over at the canvas, “Or are you humouring me?”

Amber stared at the work in progress with a frustrated pout. “We have a visiting Fellow who's into bridging the science-art divide. He gave us all an equation to evoke an interplay. I started doing an explosion, you know nuclear energy and all that, but it's a bit obvious. What does it mean to you? Inspire me!”

The science-art divide - Carl had almost never met a scientist who didn't listen to music, like pictures or read fiction voraciously. The divide seemed a little one sided – it was artists who didn't understand science. Perhaps it was the striking of the muse he wasn't supposed to get, for example when Amber would come to a dead halt on the high street oblivious to all but some new image. Plenty of theoretical physicists, though, seemed to spend their day staring intently at a board full of equations in much the same way, seeking the mathematical spark to complete a proof (or as more often happened to find a minus sign that had gone astray three pages back in the computation!). Was it so different? But Amber's artistic flights of fancy were something definitely lacking from his life - as his presence here proved.

“Well, that's only part of the equation really,” Carl clambered from the couch and awkwardly wielded the paint brush on the easel to add some extra symbols at the end. It now read


$$E = mc^2 \sqrt{\frac{1}{1 - v^2/c^2}}$$

“Eeek!” cried Amber, “help!”.

“The crucial thing in Relativity is that the speed of light is the same for everyone.”

Amber was eyeing him and the equation inscrutably from behind her wine glass with her legs up on the coffee table. Carl had a pleasant view quite a way up her skirt.

“OK”

“No! You should think that’s stupid!” Amber batted her eyes at him in amusement.

“Imagine you throw a ball, and then get in a car moving in the direction you threw, and throw another one with the same strength. The second one has the added speed from you and it being in the moving car so it’ll go much further and faster than the first one. But light doesn’t. It just goes at the same speed wherever it’s emitted from.”

“Really?”

“Really! You don’t notice in normal life because light goes so hugely fast you think it takes no time to travel, so you wouldn’t see small differences in its speed.”

“And that’s something to do with my poor equation you’ve mangled?”

“Yes,... if the speed of light is always the same then you can’t travel at the speed of light. If you did you’d be moving with the light and it would look stationary to you. Einstein had to change our understanding of the laws of physics so that you couldn’t ever go that fast. This is the equation that turns out to do that properly. If the speed of the particle, v , was to become equal to the speed of light, c , then there would be a zero on the bottom of the equation. Anything divided by zero is an infinitely big number. So you’d have to put in an infinitely large amount of energy to get something to go that fast! Which is why you can’t.”

“The squiggle thing is a square root?”

“Yeah, so you find the number that when you multiply by itself gives the thing inside the squiggle. It doesn’t matter here though, because the square root of infinity is infinite too.”

“Right, ish”

“Well, so that was what Einstein wanted. But then he saw that if you set the speed, that’s v , to zero then the square root is just one and you get the equation you had first. Remember, m is the object’s mass, and c , the speed of light, is just a constant number, so we find mass is just a form of energy. It just falls out.” Carl looked delighted at the conclusion.

“Erm... energy is what exactly?” She was pleased to see that that one made Carl pause.

“Gosh, well it’s sort of the dynamic stuff of nature. It’s heat and what you give more of to something when you throw it faster. The amazing thing is that there’s a fixed amount of it, it just changes form. So our equation says you can destroy stuff and its mass, or weight, turns into the heat and light of an explosion. That’s what makes the sun burn.”

“More wine?”

“More wine.”