

Chapter Thirteen

The next morning was Saturday and Carl couldn't find the will power to get out of bed. His eyes, as the night before, traced the curves of the ceiling plaster. He really did need to sort his life out. He needed a plan. Did he want to stay with Sasha? This was a hard question because he was rapidly losing the ability to recall the time he'd spent with her. Most of the last two years were obscured by a tightness in his stomach as if he'd swallowed a large stone, and a primal screaming from his subconscious. He was going to have to assume that this meant he cared a great deal for her. OK. Could he suppress his infidelity and just get on with the relationship with Sasha? He thought about running his hands along Mrs Montford's bare thigh. No. Amber was right, he was going to have to tell Sasha. He should make up with Amber too. And suppress visions of her naked. He groaned and buried his head in a pillow.

Try again. He needed a way to really show Sasha how much he cared and was committed to her. She had to be so impressed that everything else would slip away. He contemplated for the first time in his life buying a ring. He could feel the blood drain to his feet and was even closer to being physically sick. Marriage was something other people did, or so he'd thought. Whatever part of his brain was pursuing this line of attack kept relentlessly on – he could transfer his savings between accounts on the computer today and buy the ring tomorrow. He could propose when Sasha arrived Tuesday morning. There has to be a flaw in this plan, begged his traumatised instincts. The ceiling whirled above him. The knot in his stomach relaxed a little. For the first time he had a plan to cling to and that seemed to help. He had a day to adjust to it. Or was it a hollow fantasy to appease his mind for a few hours?

Amber was a simpler case to resolve surely, a practice match. He had some chocolate fudge cakes he knew she adored that might act as a peace offering. So phone her and see if she would bite. He tried her number but there was no answer – she probably hadn't reconnected the phone yet. Up and at it then! He showered and dressed and padded downstairs to Amber's door, fudge cake in hand. No answer, however hard he knocked. It was eleven o'clock by this stage he noted, so she must be up. Well perhaps she was out or even gone to Reading to patch things up with Trevor. Good for her.

The "ring plan" was definitely providing comfort and purpose. He couldn't, after all, think of any greater act of redemptive sacrifice to offer Sasha. If she threw it back in his face he would at least know he'd tried his hardest to atone. He almost wished that he could phone Sasha now and confess and propose over the phone, but of course she was on ward duty. Would he actually have done it if she were free, he wondered? Yes, he thought he would.

A long weekend anticipating the meeting with Sasha on Tuesday now faced Carl. He padded his living room with the pent up energy of delayed resolve. He needed a diversion. Andreas' death remained an issue, although not really one for him to solve. He

ought to think more about the code but he had had no more inspiration. There were only a limited number of possible permutations of the array of letters but he couldn't face writing them all down and using trial and error.

Where had Andreas' fascination with alchemy arisen, he wondered? Middle ages' magicians turning lead to gold? Or was there more to it? Here was a distraction - he could research the subject on the web. He moved across to his desk and twitched the mouse by his PC to clear the fishy screensaver. A dissolute, flat fish swam lazily off the side of the screen to reveal his desktop. The web browser filled the screen with the logout page from his bank account. A minor tremor of fear travelled up his back at the thought of buying that ring. That was tomorrow he chastised himself. Now alchemy.

Carl flitted between alchemical web pages for several hours. There were very many entries and most of questionable academic worth. As far as he could tell the historical field originated from a fascination with heating the compound called cinnabar which was a red powder, now classified as mercuric sulphide. Apparently when warmed the mercury emerges. Well that must be quite impressive to see a powder produce the only room temperature liquid metal. He could understand the puzzle it must have presented a few thousand years ago. Adding sulphur back to the mercury could reverse the process too apparently.

The authenticity of the web's content on the origin of alchemical studies worried Carl. Many pages were rather keen to link to ancient China and India and then quickly on to Taoism, and Tantric philosophy. This line of reasoning, all too often, ended up at sex and drugs. Fair enough for the modern lay reader who was more interested in such recreations Carl concluded, but was there really a basis in fact? There did seem to be court rulings from both civilizations against plagues of wandering charlatans offering to produce gold at the drop of a hat. The Chinese had entertaining book titles too such as *The Yellow Canon of the Nine Vessel Spiritual Elixir*. The guiding quotes were a little bizarre as well; "*Take the solid yang from water and with it restore the broken yin of fire to leave heaven*". Possibly.

Some of the more serious pages pointed out the trade links between China and India along the silk road. The cultures shared ideas about elements, (water, fire, air and so forth) being the constituents of all things. Maybe this flow of ideas was for real then.

The next port of call, in what was turning out to be a global tour, was Egypt. This origin looked pretty solid since the word alchemy derives from the ancient name of Egypt, Al-Kemia – the black land. Word supposedly passed from India, and into the rather wide ancient Egyptian magical tradition. The boom time for alchemy was in Alexandria under the Greek-derived pharaohs who had assumed the throne following Alexander the Great's invasion. The royal family seemed to consist of long lines of Ptolemys, Cleopatras and Berenices. Not very imaginative.

The famous library had acted as a magnet for the great philosophers from near and far. To confirm the speculation there was actually a papyrus manuscript now kept in Leiden

which consisted of 101 recipes for faking silver and gold effects. This was a reputable chemistry manual for fraudsters.

Physika kai Mystika on the other hand seemed to be a document of a more esoteric nature from the same era. The alchemical philosophy had a strong metaphysical aspect; the conversion of base matter into gold was a symbol for realizing a Nirvana like oneness with the Universe. There were several quotes about transmutation of the soul that did hint strongly at influence from eastern religions. Interesting. Distressingly, there were rather a lot of links on this page to modern day astrologers' web pages though.

The basic alchemical goal was loosely defined in terms of three stages. A base metal was first "broken down", then "whitened" with the addition of arsenic or mercury, before some final fermentation to leave gold. Possibly the final product was the Philosophers stone which could transform more lead to gold at later convenience. The master of all this was one Hermes "Thrice Great" who was possibly a confusion with the God Thoth. Carl had always liked the God of intellectual study being an Ibis with it's funny stick head! OK so much for Egypt.

The baton was passed next to the Medieval Islamic empire. They invaded Alexandria in the seventh century and started busily copying the books into Arabic before adding their own contributions. The Empire stretched at its peak from Spain to the far eastern islands and, with a shared language, academic progress was fast. At least lots of scholars were busily distilling and sublimating, and designing modern sounding chemistry gear such as flasks and alembics. Given alchemy was off on the wrong track it wasn't clear to Carl that the real discoveries could be put down to anything other than over enthusiasm.

One Al Razi developed the notion that different metals are simply mercury with variant amounts of added sulphur. Quaint, but wrong! Elements differ because of the number of electrons in the atoms, that number in turn being determined by the electrical charge of the atomic nucleus. The other big performer was called Jabir who tried to link in geometry and numerology. His name has been passed on to us through the word "gibberish"! It was at this time the Jewish scholars got in on the game and added in Kabbalistic ideas too.

Finally alchemy infected the European continent when the Moorish empire in Spain and the Sicilian Arabs were defeated by the crusading Europeans. The texts were translated once more but now mixed with a healthy dose of the bible. The stages of the ideal transformation could now be described as birth, crucifixion, and resurrection. Predictably, Carl was finding web pages that linked in the Knights Templar, Moses and finally the Rosicrucians. Alchemy seemed to be a unique combination of every piece of mystical claptrap and conspiracy the entire world had ever produced. Carl was tiring, although there was more information on the European phase than all the rest put together.

He encountered, for perhaps the tenth time in his search, a site commenting on how the ideas of alchemy had been shown to be true with the discovery of atomic fusion and fission. He let out a small scream. Alchemists were mixing materials at basically every

day temperatures. This was chemistry. Chemistry is the study of how the electrons in different atoms interact or are shared by neighbouring atoms. There is no way using these interactions to change lead into gold. To do that, we now know, you must penetrate the nucleus of the atoms. It has turned out that the nuclei of atoms are collections of protons and neutrons and you can turn one element into another by ripping out or adding in extra particles. To do this takes energies thousands of times greater than alchemists could conjure in their furnaces. They had never observed anything that was evidence for fusion and so, it seemed to Carl, their ideas could in no way be linked to the discoveries that followed – it could all have turned out very different for all they knew. He lent back in his chair frustrated at the stupidity of human kind.

The afternoon had almost passed by and he suddenly realized he had an evening meeting with WPC Thatcher to explore the drug scene in Southampton. He'd better eat.

WPC Thatcher's Saturday had been more mundane. She had fed the ducks at the local pond with her daughter, then been round the supermarket. Her husband had provided lunch but the feeding and wiping child duties had again fallen to her. She had finally managed a little peace and quiet when her husband had brandished the foot pump and an uninflated play pool. her family were now out in the garden. She slumped on the slightly sagging sofa and tiredly eyed the wood effect floors that covered the ground floor of their semi. With some imagination she could believe they wouldn't need cleaning until the following weekend.

Closing her eyes, she let her mind wander. She really hadn't managed to find out what this Andreas had been working on at all. String theory. What was that? Perhaps their encyclopaedia could provide a nugget of clarity to bolster her chances in the interviews to come. There was a small (bless them) entry:

***String theory:** is a hypothesised description of the elementary particles of nature. The fundamental objects of the theory are not point particles but strings extended in one spatial dimension. Different oscillations of the strings generate the different properties and masses of the particles seen in experiment. In particular the strings can describe gravitons, the particles which are responsible for the gravitational force. String theory is therefore a leading candidate to unify Einstein's General Theory of Relativity and Quantum Theory.*

The strings of the theory are predicted to have a length so short that the theory can not be tested at the present time. The theory is also required to have nine spatial dimensions. It is conjectured that the six dimensions we do not see are curled up (or compactified) so that they are too small to see. Again this aspect of the theory is not open to current experimental test. String theory therefore is only a promising conjecture within science.

Well, that was reasonably clear if a little bizarre, the WPC concluded. She was considering addressing the boxed add-on piece entitled *Compactification* when a cry came from the garden.

“Love, could you get a towel? This one’s been dunked.”

Time to be back on Mum duty, at least until the evening.