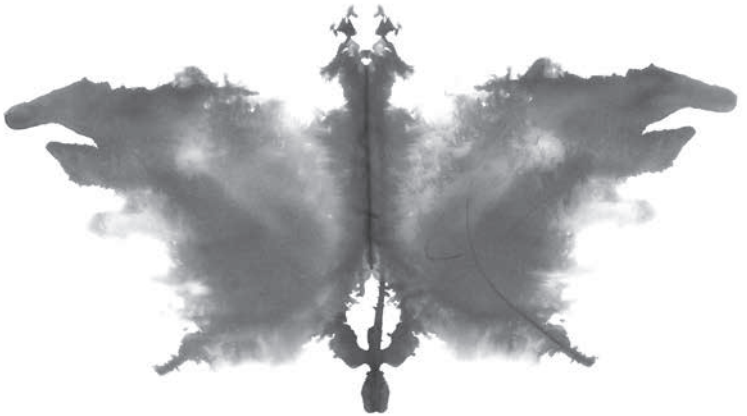


Dear Reader,

If you are reading this you are already a time traveller, because this is the year 1894 and Queen Victoria is on the throne.

And if you are reading this you must be a friend, so I feel all right about sharing with you the secrets of The Butterfly Club.

Let me begin at the beginning. My name is Luna and I suppose you would call me a time-thief. I live in a rather smart part of London with my Aunt Grace, who's been looking after me ever since my father disappeared. One Thursday Aunt Grace took me with her to her secret society, The Butterfly Club.

The Butterfly Club meets every Thursday afternoon in Greenwich, at the famous Royal Observatory, which is the Home of Time. It's called that because there is a long brass line running through the courtyard of the observatory called the Prime Meridien, the point from which all time is measured.

Deep in the belly of the observatory is the Butterfly Room, a twelve-sided secret chamber where the Butterfly Club meet. It's called the Butterfly Room because there are butterflies on the walls – those dead ones pinned to little cards – in all the colours of the rainbow. The members of the Butterfly Club are the finest minds of Victorian society – people you might have heard of even in your time, people like Charles Dickens, Charles Darwin and Florence Nightingale.

And that's where I met my fellow time thieves. You see, there are three of us.

Konstantin is from Prussia, he has loads of brothers who are all soldiers, and his father, Dr Tanius Kass, is a very clever inventor. Konstantin loves everything military, but because he was so ill when he was little, he couldn't be a soldier himself. But Konstantin is

special in his own way, because he has a mechanical heart. His own heart didn't work so his father replaced it with a clockwork one.

The third time-thief is Aidan. Aidan is Irish, and he is a navigational engineer (or 'navvy') who's been working on the railways ever since he was ten. Aidan knows everything there is to know about machines, and sometimes I think he loves them better than people. And, like Konstantin, Aidan has a secret too; which he also keeps his very close to his chest.

The three of us are called time-thieves because we've been travelling in time, carrying out missions for the Butterfly Club. We use a contraption called the Time Train, which was designed by HG Wells, one of the club's members. We travel forward in time to collect inventions and treasures from the future. We never go backwards. The whole point is to bring back things which our age doesn't have yet, to speed up progress. Aunt Grace says our thieving is for 'the betterment of society'. I hope she's right. The Butterfly Club certainly seem to get a lot of money and prizes out of it.

Well, dear reader, Aidan, Konstantin and me have had quite a few journeys through the decades since the day we met, and faced many dangers, and you can read all about them.

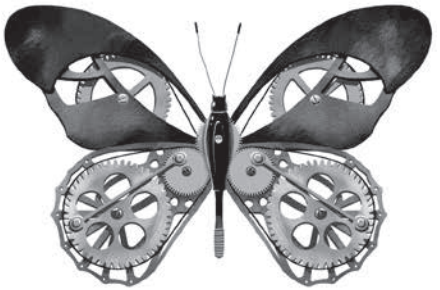
I hope you enjoy our adventures!

Yours until the end of time,
Luna Goodhart x

PS: I'll write again, but always look out for the ink butterfly (above) when I do. It's called a Rorschach blot, every one is different, and that's how you'll know the letter is from me.

LONDON

14 FEBRUARY 1894



14 FEBRUARY 1894

11 p.m.

On Valentine's night 1894, Konstantin Kass found it impossible to sleep.

He thought it pretty ironic that on a day when the whole nation was concerned with matters of the heart, he too could think about nothing but the little engine ticking inside his own chest. But he wasn't pining for some young *fräulein*, or wondering why he hadn't received one of the sickly cards the shops were suddenly full of, featuring lovesick shepherds or doves or cherubs. His worries were a little more serious, a little more life and death-y.

For Konstantin was genuinely concerned that his heart would stop.

He lay on his back, as he'd lain awake for hours now, just as he had last night. And the night before. And the

night before that. In fact, ever since his clockwork heart had failed on the bank of the Arno river, by the Buriano Bridge, that night in 1914, he had been waiting for the inevitable. Arthur John Priest's prophecy that Konstantin's heart would one day stop, delivered in a vicious whisper back at the Butterfly Club, had entered his system like poison and now infected every minute of his day. Konstantin laid his hand on his chest. The clockwork ticking was unmistakably fainter, more irregular. At times it seemed to miss a beat, and Konstantin would have to wait for a sickening second, which seemed like a lifetime, before the clockwork started again. But he knew that one day, it would not.

He wished that Aidan were here. Aidan would know what to do. Konstantin had never seen anyone understand machines like Aidan. He remembered those nights in Tuscany, sitting on a barn beam with Luna, watching Aidan recreate Leonardo da Vinci's diving suit in a miracle of engineering. Suddenly, ridiculously, he wondered if Luna had sent Aidan a Valentine's card.

'I need help,' he groaned aloud, then turned over and reached for the tinderbox.

He struck a light and touched it to the wick of the oil lamp at his bedside. As the match flared he caught sight of the butterfly tattoo on his wrist. Barely a week old, it had

just about stopped hurting. It made him proud: proud to be a time traveller, proud to be part of something. He just wished Luna had got one too. There was a Butterfly Club meeting tomorrow, on 15 February, but he had to assume she wouldn't be there. She'd vowed never to travel in time again. The thought made him sad, but he couldn't think about Luna now. His heart wouldn't let him – it ticked with more urgent matters.

Konstantin got up and, wearing just his nightshirt, padded downstairs. The big house was as quiet as the grave. His father and the servants were asleep, and through the windows Konstantin could see that the big dark square of Horseguards Parade was empty. No prancing cavalry, no marching infantry. Only a lone soldier stood awake and upright in his sentry box, keeping guard.

Holding the oil lamp high, Konstantin went down one flight of stairs, then another, then a third right down into the cellars. He took a key from a hiding place well known to him, and turned it in the door of a place he wasn't usually allowed to go.

It was the workshop of his father, Dr Tanius Kass.

14 FEBRUARY 1894

11.15 p.m.

It was a wonderful room with a wonderful Prussian name: a *Wunderkammer*, a Cabinet of Wonders. Whenever Konstantin had come down here to snoop, he had always enjoyed the experience, for the room was stuffed with his father's incredible inventions – automata, timepieces and clockwork devices. Brass cogs and springs lay around in little heaps like dragon treasure. Today, though, he was too troubled to fiddle with the mechanisms or admire the workmanship. He was looking for something – anything – that would indicate that his father had the necessary equipment to upgrade his failing heart.

That heart nearly leapt out of his chest when he heard the door creak open behind him. His father, in a nightshirt and nightcap and also carrying an oil lamp, entered the

room and shut the door behind him. He studied his son, but his eyes were troubled, not angry.

'Konstantin? Are you all right, *lieber Sohn*? What is the matter?'

Konstantin set down his own oil lamp on the workbench. The little brass mechanisms gleamed in the light. 'It's my heart, Father. I think it's beginning to break.'

Dr Kass set down his lamp too, and sighed. 'I knew this day would come. Machines, like people, fail in time. Fortunately, a machine can be improved and finessed.'

Konstantin looked around him at all the machinery. 'Is that something you can do?'

His father shook his head. 'No. I have a certain mechanical skill, which I inherited from your grandfather. He was a watchmaker in Königsberg, did you know that?'

Now Konstantin shook his head, mirroring his father. 'No, I didn't know.'

'Your grandfather taught me what he knew about mechanics and clockwork, and then I became more interested in the workings of human beings. That's when I trained as a doctor.' He dropped a fond hand on his son's shoulder. 'I found the heart that ticks in your chest. But I did not make it.'

'Who did?'

'A very clever man called Otis Boykin. He invented a tiny machine called a pacemaker. It is implanted in the body and stimulates the heart using electrical pulses – the same force that illuminates Mr Edison's electric lightbulb.'

Konstantin was lost. 'But… how is such a thing possible?'

'Now it would not be, of course,' said his father. 'But I met Mr Boykin in 1969.'

Konstantin was not at all surprised. He had suspected for a long time that his father had travelled far forward in time to save his son's life. Now Konstantin knew what he must do. 'Father. I think I have to go and see him.'

Dr Kass sighed again. 'I knew you were going to say that. But it is very dangerous to go so far into the future.'

'More dangerous than waiting to die?'

For a moment his father didn't reply. Then he said, 'We would have to convince the Butterfly Club to allow you to go on a special mission. There's a meeting tomorrow.'

'You could do that,' urged Konstantin. 'Luna's Aunt Grace – she would do anything for you.'

Dr Kass studied his son with interest. 'What makes you say that?'

'Well, she's… she's your… *Valentine*, isn't she?' The foolish word had lodged in his head – because of the date, because of his heart.

His father smiled a little. 'Yes. Yes, I suppose she is.'

'Well, then.'

'Would you take Luna and Aidan with you? I'd be happier if you did.'

Konstantin remembered that morning in the tattoo parlour at Camden Lock. 'Aidan, yes. Luna has sworn that she won't time travel again.'

His father looked interested. 'Why?'

This was awkward. Konstantin could hardly say that Luna had her doubts about the motives of the Butterfly Club, and that she suspected they were only interested in making money. Since she'd made her vow, and refused to get the butterfly tattoo, he and Aidan had tried and tried to persuade her to change her mind. But she had the Goodhart stubborn streak, and had refused. 'I just think she's had enough.'

Dr Kass studied Konstantin closely. 'You like Luna, don't you?'

'Very much,' Konstantin admitted.

'Well, that is good,' said his father. 'Because there may come a day when she means more to you than just a friend.'

Konstantin blushed. Had his father guessed that his clockwork heart belonged to Luna? Was he suggesting that some day, far into the future, they would be Valentines too?

'I mean that she may in time become your sister.'

That wasn't what Konstantin had expected at all, and he wasn't sure how he felt about it. If Father married Luna's aunt, they would presumably all live in the same house, as a family, and that made him very happy. But at the same time he felt a funny misgiving in his clockwork heart. Your sort-of sister could never be your Valentine, could she? He put that thought to one side. There was no point thinking about things that might happen far into the future, if he had no future at all. He had to concentrate on the next Butterfly Mission – a personal mission of his own, to get a new heart. 'This inventor. This Otis Boykin. Where does he live?'

'In America. In the United States.'

'And did he…' Konstantin struggled to form the question. 'Has he improved his design since?'

'I don't know. What I do know is that 1960s America was an extraordinary time of innovation and technology. When I was there, they were on the cusp of sending a man to the moon.'

Despite his worry, Konstantin let out a little shout of laughter. 'Are you joking?'

His father's face was totally serious. 'No. When I met Otis Boykin they were just about ready to launch their rocket. *Apollo 11*, it was called.'

But Konstantin wasn't interested in moon rockets. He only had one question in his mind. 'We just need to know if Mr Boykin made his pacemaker better.'

'That I cannot tell you. But I know someone who can.' Dr Kass walked to a nearby shelf and took down a familiar figure. A cuckoo automaton, made of bright brass filigree and featuring two bright ruby eyes.

'Chronos!' exclaimed Konstantin, who felt as if he was reuniting with an old friend. 'I thought he lived in the Time Train all the time.'

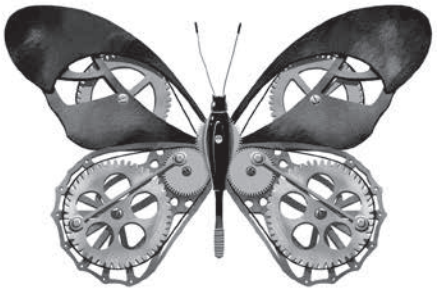
'Only when it is in use,' said Dr Kass. 'As he is my invention – perhaps my finest – I keep him here for just the reasons we said. I am constantly finessing him, making him better.'

'All right,' said Konstantin. 'Let's ask him about that pacemaker.' He prepared to turn the key anti-clockwise.

'Ah, that he will not know,' said his father, 'for it was invented far into the future. I was not talking of asking Chronos. I was talking of the professor.'

Dr Kass turned the key clockwise, for the future, and in the dim *Wunderkammer* the professor's image sprang into life. But this was quite a different professor to the usual one. The whitish blue hologram was not still and stable, but switching back and forth, glitching and fizzing. Far in the future, Professor Edward Norton Lorenz was pacing distractedly. When Dr Kass greeted him, he stopped pacing and faced them.

'Thank God,' he exclaimed. 'I've been so hoping you guys would check in. Listen.' His pleasant face was contorted with worry, and his slightly bulbous eyes stared in consternation. 'You've asked me for help in the past, and I've been happy to assist you. But now…' He pointed his forefinger into the past. 'You guys have gotta help *me*.'



15 FEBRUARY 1894

8.15 a.m.

It was Luna herself who opened the door of Aunt Grace's Kensington house. She'd just finished breakfast and had been sitting in the window seat, from where she loved to watch the world go by, so she'd seen her two favourite people coming up the steps before the maid had even had a chance to straighten her cap.

'*No*,' she said, before Konstantin and Aidan could get a word out. 'I've told you a million times. I'm not going back to the Butterfly Club, and I'm not going to travel in time. For me it's 1894 all the way.'

'Hear us out,' said Konstantin, who'd been up at the crack of dawn to collect Aidan from Kilburn and convince him to come in a hansom cab to Luna's house. 'Can we

go somewhere private? And dark? We've got something to show you.'

Puzzled, Luna led them down the black and white tiled passageway. The boys filed past the bright butterflies pinned to cards and imprisoned in their little frames. Konstantin noticed that Luna's silken gown, which trailed ahead of them, whispering on the tiles, was the exact sky blue of an Adonis butterfly. She led them into the larder and shut the door. The room was cold and dark, but the delicious smells coming from the foods stored on the slate shelves made Aidan's stomach rumble.

'What's up?' said Luna.

Konstantin took Chronos from under his greatcoat, set him on a shelf between a dozen eggs and a slab of butter, and turned his brass key clockwise for the future. The professor's hologram flickered into being and he stood before them, seeming even bigger in the enclosed space.

'Professor,' said Konstantin. 'Aidan and Luna are here. Could you tell them what you told my father and me last night?'

The professor looked considerably calmer than he'd looked a few hours earlier in the Kasses' house. Now he just looked incredibly sad.

'This is a dark day for a scientist such as myself, kids,' he said soberly.

'Why?' said Luna, appalled by the change in the jolly, bubbly professor.

The professor pressed a hand over his eyes, as if he was trying to hold back tears. 'Mankind just failed in his greatest ever scientific endeavour – to send a man to the moon.'

'But… but… surely that's impossible anyway,' said Luna.

'No, it isn't,' said Aidan, who had ultimate faith in machines.

'Just listen,' urged Konstantin, who, of course, knew from his father that scientists had been building moon rockets in 1969.

'Well, I thought the same as you, Aidan,' said Professor Lorenz. 'But now it seems I must agree with Luna. It was impossible after all.' He looked at them in turn. 'We lost three of the bravest, best men – Neil Armstrong, Buzz Aldrin and Michael Collins. They were astronauts.'

'Astronauts,' said Aidan, sampling the funny word. 'What are they?'

'Literally, "astronaut" means "star sailor",' said the professor. 'Someone who goes into space on a voyage, as a sailor might go to sea. These guys reached the moon all right, but they never made it… home.' His final word was so soft and sad they could hardly hear it.

'Why not?' asked Konstantin.

'Their rocket, *Apollo 11*, exploded as it reached the moon's orbit.'

'And?' Aidan could barely speak.

'There's no coming back from that, kid. They all died.'

The time-thieves were silent. This was terrible. Those three men going so bravely into the unknown and never coming back was one of the worst things they'd ever heard.

'So I've got something to ask of you kids,' said the professor into the silence. 'I need you to go to 1969, back to before the launch. To make things right.'

'You mean, to stop the launch taking place?' asked Luna, who still thought it a mad idea.

'No, honey. You can't stop progress,' said the professor. 'And, as you learned on the *Titanic*, you can't change *big* things. You couldn't stop that ship from sinking. But you could save the people on it. Now, as then, I want you to change one *small* thing, one crucial thing, that will trigger the Butterfly Effect and make the mission a success.'

'Change what, though?' asked Aidan.

'Well, that's just it, sport,' said the hologram. 'I don't know.'

Just then, as he always did at the crucial moment, Chronos ran down and the professor disappeared. The time-thieves let out a collective groan. Konstantin looked

at the others. 'It's the first time the professor's asked us for help,' he said. 'We *have* to take Chronos to the Butterfly Club and persuade them to let us go to 1969.'

'I can't,' said Luna, setting her lips in a firm line.

For once the calm and collected Konstantin lost his temper. 'Is this because of that stupid vow you made in the tattoo parlour? Luna, *no one cares* if you go back on your word. There are lives at stake.'

'It's not that,' said Luna heatedly. 'It's not only that. It's just…' She looked up at the boys, her eyes suddenly very green. 'Today is the 15th of February. My father made me promise I'd be nowhere near the observatory on this day.'

Of course, Konstantin was instantly sorry. He knew how much Luna's father meant to her, and his word was law. Something bad was going to happen at the observatory that day, and Daniel Goodhart had given Luna multiple warnings. But then Konstantin remembered something else. 'He didn't say the *whole* of the 15th February. He said at four forty-five.'

'What?' snapped Luna.

'He said at four forty-five,' repeated Konstantin. 'Remember, four forty-five is the hero time of all our journeys. It keeps cropping up. It's the time on the grandfather clock door that lets you into the Butterfly Room. It's the time of the stopped watch in Arthur John Priest's eye. It's the time that you have to move pointers of the Time Train's clock to release Chronos. Four forty-five.'

'So?' Luna was still a bit sulky.

'So. If we go to the Butterfly Club for the meeting at noon, and we go to 1969, our journey will take no time at all,' said Konstantin. 'It never does. We'll be well away from the observatory by four forty-five. That's when your father told you to be gone by.'

Luna had to admit this was true. 'But it's a big risk to take for three men we don't even know,' she said.

'Yes,' agreed Konstantin. 'But it's not just their lives at stake.' He told Luna and Aidan what he'd learned that morning about Mr Otis Boykin, the pacemaker, and the crucial upgrade to his clockwork heart which could save his life. 'If you won't go to 1969 for the astronauts,' he pleaded, 'couldn't you go for me?'

Luna thought for a long, long moment. Then she reached out and took Konstantin's hand. 'Come on, then.' She smiled. 'We better get going if we are to get to Greenwich by noon.'