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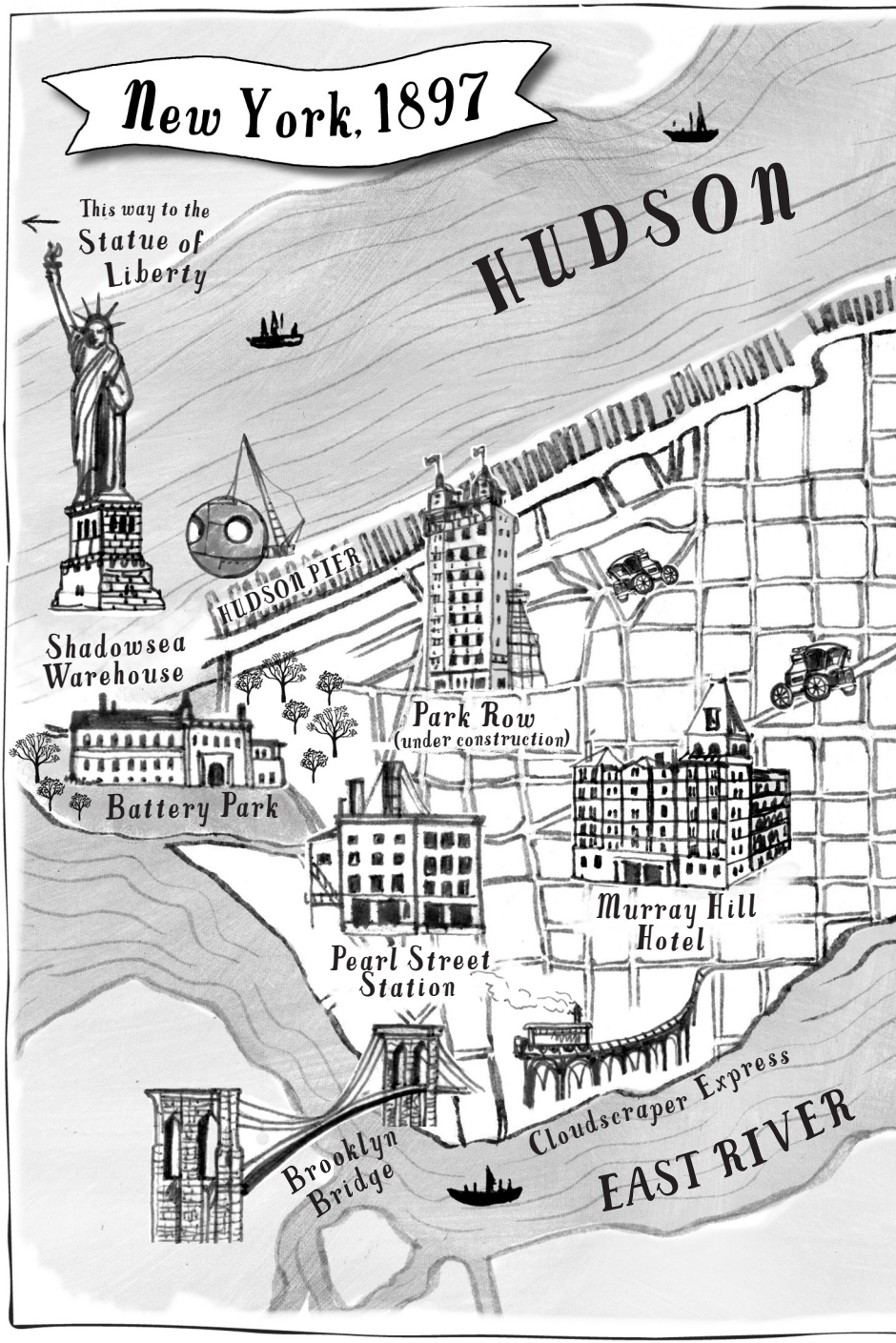
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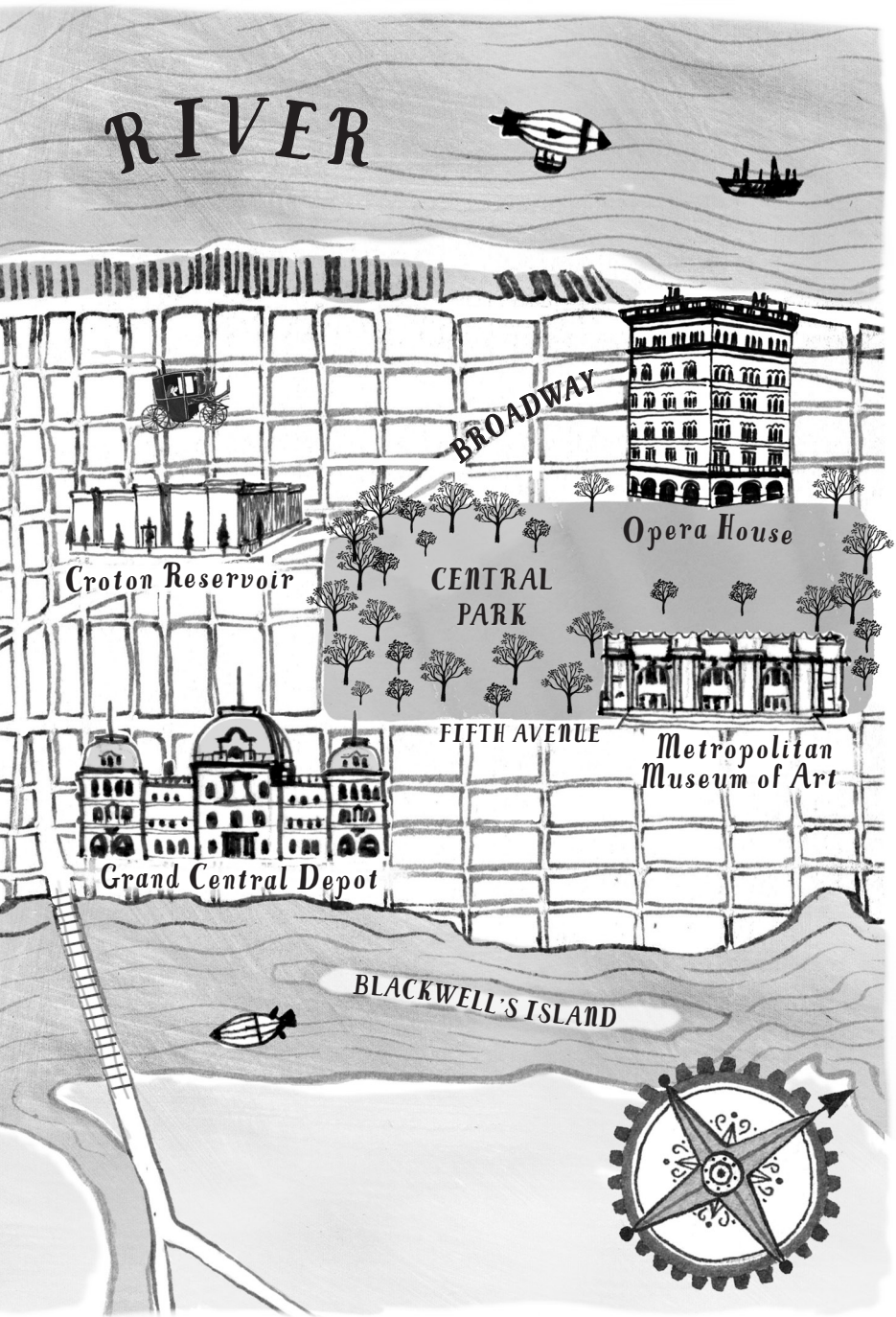
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HUDSON PIER
Shadowsea Warehouse
Park Row (under construction)
Battery Park
Murray Hill Hotel
Pearl Street Station
Cloudscraper Express
Brooklyn Bridge
EAST RIVER


RIVER
BROADWAY
Opera House
CENTRAL PARK
Croton Reservoir
FIFTH AVENUE
Metropolitan Museum of Art
Grand Central Depot
BLACKWELL'S ISLAND

For Lyra and Avery

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SHADOWSEA



PETER BUNZL





First there was darkness.

Then patches of watery green light.

Then fish, whole schools of them.

With luminous fins bright as knives, glowing scales that shimmered like armour.

They swam past the shadow of a submarine base that clung to a cliff edge beside a fathomless trench, which stretched like a scar across the ocean floor.

The base was the shape of a giant rusted wheel, with spokes that ran from the exterior to its centre. Parts of it were unfinished – the ties that bound it to the seabed still under construction. Fixed with rope and cable in place of iron trusses, the base bobbed slightly in the

current. Rising from the hub was a tower with a turbine at the top, turning slowly.

Through the tower's only porthole, a blond boy of thirteen with bright, inquisitive eyes could be seen sitting on the cabin floor. The boy was humming a tune to himself – a tune that matched the buzzing in the walls – as he worked on a miniature wagon. Jam-jar lids made up the wagon's wheels, flattened cans its carriage. It had pencils for axles and wire for its yoke.

When he was done, the boy plucked a white mouse from his pocket and tied it to the wagon. He placed the mouse on the floor and geed it along like a long-whiskered, pink-snouted pony. The mouse tottered forward on tiny red paws, pulling the wagon behind it.

After a moment it broke into a run, skittering beneath a table, where two adults, a man and a woman with the same blond hair and inquisitive eyes as the boy, sat working.

The boy chased the mouse under the table and followed it out the door.

Hot on its heels, he ran down the passageway.

The mouse crossed grates and vents and wove beneath pipes, sticking close to the walls. It clattered its cart past damp bulbous diving suits that stank of the sea, tumbled across galleys and mess halls where crew members sat eating.

Still the boy chased it.

Finally it ran through a crack where a door stood slightly ajar.

In the room beyond, row upon row of mice scrabbled about in cages.

The white mouse stopped in the centre of the spotless floor.

The boy crouched, mouth half-open, stretching out a hand to pick it up.

A *swish* of a skirt.

A shiny leather shoe stepped across his path.

The boy glanced up. "Hey, Aunt Matilda!"

A gaunt-faced woman with short slicked-back hair, wearing a white lab coat and goggles pushed back on her head, was putting on a pair of rubber gloves. "That's Professor Milksop to you."

Professor Milksop scooped up the mouse and dropped the cart unceremoniously on the floor. "This rodent's valuable. You should never have taken it from the lab."

"He looked sad," the boy said. "I named him Spook, on account of his colouring. He looks like a Spook, don't ya think?"

The boy glanced at the mouse, scrabbling in the professor's hand.

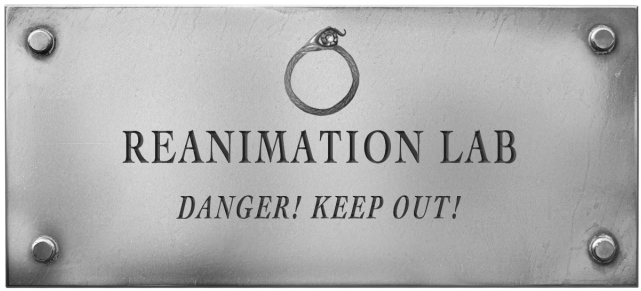
It squeaked softly.

"Don't be naming them," the professor said. "Name a thing and you start to have feelings for it." She turned away and made a sharp, jerking motion with her hands.

The squeaking stopped.

"Go back to your quarters now, Dane. You shouldn't be here. Could be bad for your health."

The professor kicked aside the cart and headed for a second, lead-lined door at the far end of the room. A door marked:



Above these words was a picture of a snake curled in a circle, eating its own tail.

Dane rubbed away a stinging tear as he watched his aunt go.

Then he narrowed his eyes and stared at the door.

"No," he said softly. "I won't."

He stepped forward and gently pushed against the sign, peering round the door's edge.

In the room beyond, a large white laboratory, a mechanical nurse with a red cross on her chest was adjusting a square metal machine on a table. A phonograph on a wheeled stand in the corner played ghostly opera music from a wax cylinder.

"Ready to wake the dead, Miss Buckle?" Professor Milksop joined the mechanical at the table and examined the four glass lenses arranged on the front of the square machine.

Miss Buckle frowned as she checked a tangle of copper wires that emerged from the rear of the machine. They stretched out to a control box and socket inside a lead-lined observation booth on the far side of the room. "Is that one of your jokes, Professor?" she asked. "I can never quite tell. My clockwork doesn't easily compute humour…"

"Forget about it." Professor Milksop laid Spook in a tray on the table in front of the machine and adjusted a blue glinting shard of diamond inside its workings. Then, when she was satisfied all was ready, she pulled down her goggles and stepped away from the machine into the lead-lined booth. Miss Buckle followed her.

Dane peeked further round the door, watching Professor Milksop through the observation booth's porthole window as she shut herself and Miss Buckle in.

Then the professor pressed a series of buttons on a control box.

Soon, the machine on the table hummed to life as a tidal wave of electricity buzzed through it.

Miss Buckle peered out through the porthole and saw Dane sneaking into the lab.

"STOP!" she shouted, half at him, half at her mistress.

But it was too late…

Crackling strands of blue lightning were already shooting from the four lenses of the machine. They waved around the lab like a tangled ball of angry, energetic snakes. Their lightning strands latched onto Spook's body, engulfing it.

The little mouse writhed and jerked in rhythm, then opened its eyes, wiggled its whiskers and crawled back onto its feet like a newborn.

Soon the lightning found Dane…

Winding round him like a nest of vipers…

Biting electrically into his skin.

His body spasmed.

His feet danced a random rhythm.

Silver scales burned his eyes.

His limbs scissored and jiggled.

He fell to his knees…

Keeled over on the floor…

And was still.

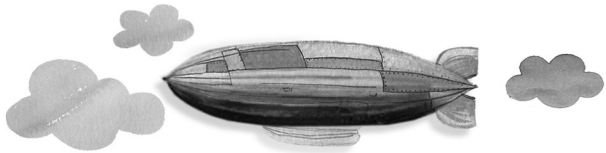
The arms of lightning crackled onwards, through the open door, arcing along the passageways of the base… slipping serpent-like around each crew member in turn and dancing them to the same jerky death.

Soon there was only darkness once more. And two last shadows: Professor Milksop and Miss Buckle, who ran from the open doorway of the observation booth and kneeled down beside Dane.

Sparks flew off Miss Buckle's metal body as she shook Dane by his shoulders. "Master Milksop!" she called, her mechanical voice wavering. "Wake up!"

Professor Milksop kept her distance. She didn't want to get an electric shock.

"Dane," she asked. "Are you still in there? You still alive?"



CHAPTER 1

Lily woke on Christmas morning to find herself not at home, as she had been dreaming, but on a top bunk in the cabin of a sleeper zep that was crossing the Atlantic Ocean.

She blinked her green eyes and rubbed her freckled face until she felt entirely awake. Then, with her fingers, she began combing out the worst of the knots in her tangled fire-red hair.

Under the thrum of the airship's purring engines she could hear the beat of her Cogheart: a mechanical heart of cogs and springs that her papa had given her. It sat ticking in her chest like an overwound carriage clock. Because it was a perpetual motion machine, the Cogheart

might go on for ever. Lily didn't quite understand what that meant, but she knew one thing: without it she would not be alive today. Nor would she be taking this trip.

Papa, whose name was Professor John Hartman, was lying in the middle bunk beneath her. He wore a nightgown and nightcap and snored softly in his sleep. His feet stuck out the end of the bed, for he was quite tall, even lying down.

Robert Townsend, Lily's best friend in the whole wide world, comrade in arms, first-class clockmaker and her co-conspirator in all things adventuresome, was asleep on the bottom bunk wearing blue-striped pyjamas. A coal-black cowlick of hair curved over his forehead like an upside-down question mark.

Malkin, Lily's pet mechanimal fox, most trusted confidant and a red furry-faced know-it-all, lay next to Robert, curled up beside his pillow. Lily was only relieved he wasn't sleeping on Robert's head, which he sometimes did.

Malkin, of course, was frozen still. That was how mechanicals looked at night, when they were run down, before you took their winding key and wound them up again in the morning.

Christmas Eve had been most diverting. The three friends and Papa had set out from Liverpool Airstation

on the *Firefly* airship, for what promised to be a once-in-a-lifetime adventure: a four-day flight to New York.

The *Firefly* was the grandest ship in her class and had all the modern conveniences of the most up-to-date sleeper zep in the Royal Dirigible Company's Transatlantic Fleet. There was a control room where the captain and navigation crew worked. A radio room where they sent and received telegrams. An officers' mess where the crew relaxed. A galley kitchen that serviced a dining room where two mechanical waiters in white silk jackets served breakfast, lunch, dinner and afternoon tea, with two different types of cake and sandwiches with the crusts cut off. A port and aft side promenade for exercising. A writing room. A thirty-four-foot passenger lounge, which had extra-light tubular-metal cushioned chairs and a duralumin grand piano.

And nestled on top of the zep was a magnificent viewing platform called the Crow's Nest, which was accessed via a spiral staircase that wound through the centre of the balloon.

It was rather like travelling in a floating hotel. And Lily loved it.

In New York they would be staying in a real hotel, which she hoped would be just as good. They were due to arrive on the twenty-eighth of December. Robert's

mother and sister, Selena and Caddy Townsend, would join them at the airstation.

Since June, when Selena and Caddy had last seen Robert, the pair had been travelling across the states with their vaudeville act. Selena had written to her son and then to Lily's papa to invite Robert and the Hartmans to meet them in New York for New Year's Eve.

Luckily, Papa had been planning a trip to America himself. He'd been invited to speak at the Annual American Conference of Mechanists and Electricians in January at Hardwood University, near Boston. Or was that Aardvark University…? Something like that, anyway. To be honest, Lily hadn't been listening to that part. Papa took his speech with him everywhere he went. Every few hours, in between his holiday reading, which was a hefty book on Shakespeare, he'd been practising snippets of his speech on Lily and Robert and Malkin. Just the thought of it was enough to make Lily feel like falling back to sleep.

She finished combing her hair and crawled down to the end of her bed. There was a stuffed stocking that she hadn't noticed before, beneath her thrown-aside blanket. It must've mysteriously arrived in the night.

She eagerly examined the stocking, then climbed down the cabin's wooden ladder to shake Robert awake.

"What is it?" he asked her, sleepily rubbing his eyes and crawling out of bed.

"Santa Claus has been!" Lily whispered. "We have stockings!"

She took Malkin's key from round his neck and began winding him with it. The fox's gears and cogs clicked into action and he shook himself awake.

They glanced up to find that Papa was yawning and wide awake too. "It's rather early for gifts, isn't it?" he asked.

"We're in the middle of the ocean," Lily said. "We are neither on British Time nor American. So it is neither early nor late. In my opinion, that is *exactly* the right time for presents!"

"All right then," Papa said, getting up and putting on his dressing gown. "I suppose you can open them."

Gleefully, Robert and Lily fell upon their stockings to see what Santa had stuffed them with.

There was an orange and three whole walnuts in each. Plus a brightly-striped twist of paper that contained a handful of lemon drops, barley sugars, chocolate drops, caramel creams and humbugs. Lily hated eating humbugs, especially on airships, but she would be able to swap them with Robert later.

"There's more." Papa reached up into the luggage rack

and, from inside his suitcase, produced three finely-wrapped presents – one for each of them.

Lily opened hers first. It was a real magnifying glass, like the kind used by her favourite detective: Sherlock Holmes.

"To help you solve mysteries," Papa explained.

She tried out the lens by examining the patterns of the carpet. Every minute detail blew up magnificently, even the worn-away threadbare parts.

"It's perfect. Thank you." She put the magnifying glass away in her pocket.

Robert opened his present next. Papa had got him a beautiful compass in a gold case. "So you always know where you are," Papa explained as Robert examined it. "I found it in a second-hand shop in the village. I think it was made by your father."

"It was. Thank you." Robert ran his thumb over the maker's mark on the side of the device: *T.T.* for Thaddeus Townsend.

Tears pricked at his eyes. This was only the second Christmas without his da, but it was the time of year when he missed him most of all.

Last but not least was Malkin. He tore the wrapping from his present with his teeth to reveal a bright green jacket, knitted by Mrs Rust, their clockwork cook and

housekeeper back home. Mrs Rust was a legendarily awful knitter, but she didn't look to have made such a bad job of this. Lily wrestled the jacket onto Malkin, with relatively little complaining and gnashing of teeth on his part.

"There," she said when she was done, imagining the look of pride on Mrs Rust's face. This was the first Christmas they'd spent apart since Papa made Rusty. Lily missed her so much, and the three other mechanicals Papa had built and created to look after her – Captain Springer, Mr Wingnut and Miss Tock. The four clockwork servants were like family and Christmas didn't feel the same without them.

At least she had Malkin and Robert and Papa.

The fox grizzled at the jacket, pulling it this way and that until it sat comfortably across his back. "How do I look?" he asked.

"Rather smart," Robert replied.

The scruffy tail part that sat over Malkin's backside was a bit of a mess – it tangled with his wagging brush. But on the whole, the jacket gave him a raffish air.

"Unfortunately, I don't have gifts for any of you," the fox announced. "But I shall give you each a lick on the cheek and hopefully that shall suffice."

This he promptly did and they laughed at him warmly.

They spent the rest of the morning playing charades in the cabin, before dressing excitedly for the lavish Christmas feast, which was to be served to all the guests in the airship's dining room.

"Lead on, Macduff!" Papa said when they were ready.

"I think you'll find it's 'Lay on, Macduff'." Malkin hopped into a little picnic-style basket with handles, which Lily rushed to pick up.

"What are you doing?" Papa asked.

"Joining you for dinner," the fox said.

"Mechanimals aren't allowed on deck, you know that."

This was true, unfortunately. It was a rule on public airships that all mechanimals were to be stowed away in travel trunks in the hold for the whole duration of the journey. But Malkin couldn't abide such treatment, and neither could Lily.

The fox fidgeted in the basket, getting comfortable. "It's Christmas Day. A time of goodwill to all creatures great and small. You can at least allow me this little indiscretion."

"Fine," Papa relented. "So long as you stay hidden."

They closed the cabin door and followed Papa along the passage. Lily couldn't wait to eat Christmas dinner with her two best friends, and the thought of doing so on

an airship made a bubble of joy rise inside her, higher than the zep's balloon itself.



In the dining room, the two mechanical waiters were busily showing the other passengers to their seats. A clockwork concert pianist sat at the duralumin grand piano, playing Christmas carols to welcome everyone to dinner.

Each table was set with bone china and silver cutlery, starched white napkins and red-and-gold crackers. There were even specially designed seasonal menus with sprigs of holly printed around their edges.

Lily put the basket down by her feet and checked to see how Malkin was doing. He'd dozed off already. Mechanical foxes, she found, did not take Christmas half as seriously as humans.

She fidgeted about in her seat to get comfortable. She intended to enjoy the festivities, yet she couldn't help notice that everyone else was staring at her. Lily bit her lip and held the menu in front of her face, pretending to study it.

"What's wrong?" Robert asked.

"Every time I come in here, people gawk at me as if I'm some kind of medical anomaly!"

"Nonsense!" Papa said.

"Cream of artichoke!" One of the mechanical waiters placed a gold-rimmed soup dish in front of each of them.

"I don't see anyone staring." Papa adjusted his napkin on his lap, while Robert tried to work out which of the diverse denizens of the dining room was gawking the most at Lily.

"That's because you don't pay attention, Papa," Lily admonished. "You're so lost in your own head, reading your patents and papers, practising your important speeches or inventing things, that you barely see what's in front of your nose."

"I don't know what to say…" Papa stopped eating and reached up to clutch his nose comically, as if that was the culprit.

"You don't have to say anything." Lily dipped some bread in her soup. "But know that since we've been on this airship – in fact, even before that, at Liverpool Airstation – people were pointing me out to each other and whispering about me behind their hands."

"Is this true?" Papa asked Robert.

Robert nodded. He had been having trouble deciding on which of the many different-shaped silver spoons to use, but had finally settled on the biggest one, which, it turned out, barely fitted in his mouth.

"Lily's famous now," he gargled through a sloppy spoonful of soup.

"Infamous, more like," Malkin said, poking his head from under the table. "Thanks to that clanking article Anna wrote."

"I knew no good would come of that," Papa cried exasperatedly as the waiters swapped the barely-finished soups for a main course of roast turkey with the full trimmings. "Curse Anna and all her pals on Fleet Street."

Anna was one of Lily and Robert's closest friends – a journalist. She'd written an article about Lily two months ago in which she'd revealed the secret of Lily's clockwork heart and, since then, people had become interested in Lily, often seeking her out.

Life at Brackenbridge Manor – the country house where she lived with Papa, Robert, Malkin, Mrs Rust, Captain Springer, Mr Wingnut and Miss Tock – had changed in many small ways. When journalists and other interested parties would knock on the front door in hope of an interview, Mr Wingnut, the mechanical butler, or Miss Tock, the mechanical maid, would send them packing. And if they sneaked round the back, then the indomitable Mrs Rust would threaten them with her meat-cleaver arm-attachment and shout, "COGS AND CHRONOMETERS! BE OFF, BEFORE I CALL THE

CONSTABULARY!" Even Captain Springer, who was normally so calm and collected, had taken to chasing off any visiting reprobates with his rake.

All of which was lucky, as, oftentimes, Lily had no idea what to say to these people. She felt like she was an imposter and unworthy of their attention. But still, every week, dozens of letters arrived asking if Anna's article was true, whether she really did have a clockwork heart, and how it felt to be the only one in the world with such a thing.

Of course, these were questions Lily didn't know how to answer.

Anyway, they weren't really about her. They were about Papa's machine.

No one ever asked how she'd rescued Papa when he was kidnapped, or how she'd survived being almost drowned in the Thames by notorious criminal Jack Door. Nor what it felt like to meet Queen Victoria and ride on the back of her mechanical elephant. They never asked Lily about being held prisoner in the Skycircus, or enquired about how, along with the other acts, she'd fought for hybrid rights.

Things would be different, Lily thought, when she wrote her own story. Then she would explain what it was like to live through such adventures. She'd made a start

already in her journal. It was slow going because writing was hard, but the important thing to stress was that being a hybrid was not dissimilar to being anyone else. It was how you lived your life that mattered; that made you who you were. Not whether you possessed a flesh-and-blood heart or a mechanical one.

"TELEGRAM FOR TOWNSEND! IMPORTANT TELEGRAM FOR MASTER TOWNSEND!" a voice called out, interrupting her thoughts and everyone else's Christmas dinner.

Lily's Cogheart tick-tocked wildly. That was Robert's name. She looked up to see a mechanical porter in the blue uniform of the Royal Dirigible Fleet trundling across the floor on his wheeled feet, carrying a silver tray.

"Quick, hide!" Lily told Malkin.

Grumbling to himself, the mech fox clambered back into his basket beneath the table. Lily tucked him away and studied Robert's nervous face. Who could possibly be sending him a telegram at Christmas dinner?