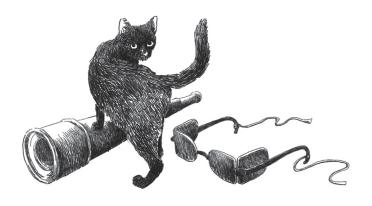
## The CRS

## The CALCS

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## Something Out There

Reuben tore along the dark corridor with his satchel bumping against his hip. Moonlight flooded in through a series of tall arched windows on the south of the observatory casting thick white stripes across the stone floor.

'Hurry!' he cried and crashed into a cabinet of books, knocking his glasses askew. Alarm flashed through him and he pushed them tight to his face. He had never taken his glasses off before. It was too risky. He secured the strap behind his head before hurtling off around the dark corner of the first floor. He slid down the handrail of the

staircase into the middle of the grand entrance hall as the grandfather clock chimed eight.

'Made it in time!' Reuben raised his arms in the air triumphantly. He stood on the third stair and cast his eye around the huge echoey room, as if he were about to address an audience. Stone pillars stood around the outside of the circular foyer, but there were no people. The moon's glow pooled on the tiled floor illuminating the huge brass solar system model. The orrery's orbit rings were wider than Reuben was tall, and the planets shimmered with bronze, silver and gold.

'Ladies and gentlemen!' He tipped an imaginary top hat and bowed. 'I'm pleased to announce that our expedition was a success,' he called out to his imaginary crowd. 'We've explored deep into the Amazonian rainforest. Trodden where no human has ever gone. We've braved piranha-infested swamps, and battled poisonous spiders as big as your head.' He smiled as the audience applauded.

'Thank you.' He bowed. 'And I must thank my faithful travelling companion, Inky.'

Inky slunk down the staircase and stalked across the entrance hall. He stopped between two pillars in a square of moonlight. The black cat sat like an elegant statue, his paws neatly together.

'I'll now take questions.' Reuben gazed around the entrance hall and imagined everyone looking at him, but their faces were blurry and vague. He had only ever seen Grandma's face in real life, and some black and white photographs of middle-aged men in books in the observatory library.

Reuben cupped his hand to his ear, pretending to take a question from the back.

'Where will we explore next? A good question, sir.' He put his finger to his cheek thoughtfully, like the men in the photographs. There were so many exciting places in the world, but he would never get to see them. He had never even been to the village across the fields, and instead had to settle for glimpses through his telescope.

As his mind wandered, the audience faded and he found himself alone in the cold, empty entrance hall. He huffed out a breath and plodded down the stairs to the window. Wild, overgrown gardens surrounded the observatory, with dark shrubs tumbling down the gentle hillside to the iron fence on the boundary. Beyond the observatory grounds, the fields stretched off into the darkness, laced with wispy sheets of mist floating over them.

Reuben pressed his hand to the cold glass and a deep longing stirred inside him. He had never been beyond the fence, nor through the tall gates. Sometimes the world beyond the observatory lured him so powerfully he couldn't stand it.

He gazed over to the west where the fields met the clifftops, and the velvet-black sea sparkled with flecks of moonlight. He sighed. What would it be like to walk on the beach or splash in the waves?

He looked northwards to the village where the clutter of cottages trailed smoke from their chimneys.

'I can see a cart, Inky. Down there on the lane. See the lanternlight?' He took his binoculars from his satchel and looked through them. 'I wonder what it would be like to actually meet someone. A child, maybe. What would I say?'

Inky jumped onto the windowsill and nudged Reuben's elbow, cracking the binoculars against his glasses.

'Careful, Inky!' He adjusted them, hoping they weren't damaged. Grandma had had his glasses made especially for him when he was little. The dark glass covered his eyes entirely and wrapped around the sides to ensure no light ever touched them. He knew the slightest bit of light would damage his irises and leave him permanently blind. And so he stayed within the safety of the observatory where no one could accidentally knock his glasses.

'REUBEN!' His grandma's shout echoed down through the observatory.

Startled, he looked round. It sounded like she was way up in the observation room, like usual. But Grandma never shouted. A cold feeling of dread lifted the hairs on his arms.

'Grandma?' His voice echoed around the entrance hall. Silence.

He dashed up the wide staircase, the chill air rushing in his face. He hared along the first-floor corridor, dodging around the dark outlines of hefty bookcases and a wooden chest piled with more books. He skidded to a stop at the bottom of a spiral staircase leading up to the second floor.

'Grandma, are you up there?' He pushed his glasses tight to his face.

Silence met him.

He flew up the spiral staircase, his footfalls clanging on the metal treads. The temperature plummeted as he reached the top. The air was so fresh it was like stepping outside. The observation room's domed roof towered above him. Moonlight washed in through the huge rectangular opening in the dome, revealing a night sky glittering with stars.

'Grandma?' Reuben glanced around the large room.

The mighty brass telescope gleamed in the centre, its eight-foot shaft slanting up towards the roof opening like a rocket aimed at the stars. Grandma's chair had gone from the foot of the telescope.

He glanced around the jumble of shelves, cubbyholes and work benches that filled the circular walls. They were stuffed with notebooks, telescope parts, cogs, bolts and strange instruments. A candle flickered on the workbench, making shadows jerk across the walls.

There was no sign of Grandma.

He ran around the telescope, crunching over some matches scattered on the floor. As he reached the roof opening, he heard a scuffling on the domed roof.

'Grandma, where are you?' he said between quick snatches of breath.

Something white fluttered in the breeze above him. He looked up to see Grandma crouching on the rooftop, her nightdress rippling at her ankles. She rose to a stand, her bare feet balanced on the opening's narrow ledge.

'Grandma, get down!' Reuben yelled.

Grandma lifted her arms above her head, holding up two burning torches. The bright orange flames danced and clawed at the night sky as she waved them back and forth.



Her black hair was scraped into a bun, with streaks of white curling from each temple.

'GRANDMA!' He scrambled onto the chair she had left beneath the opening, and grabbed for the roof ledge.

Grandma looked down at him, the firelight dancing in her wild eyes.

'There you are!' She smiled excitedly. 'It's happened! It's finally happened. Monitor my machine for me, Reuben. Quickly!'

'What's happened?' A tingle of alarm slithered down the back of Reuben's neck.

'What do you think!' Grandma let out a loud, triumphant laugh. 'Ten long years I've waited. All those hundreds of signals I've sent up into the universe.' She looked up at the sky and waved the torches back and forth above her head. Drips of hot wax splashed down. 'I told you my machine would work. Finally, I've had a response!'

'Really?' He blinked at her.

'Isn't it incredible!' Grandma's voice trembled with excitement. 'Now hurry, Reuben. Get to the machine. We mustn't miss a moment!'

Reuben glanced to the far side of the observation room. The machine was lit by candlelight, a wooden box

cluttered with brass dials, wheels and switches, with a metal bar sticking up, poised over a striking plate.

There was silence, except for the whoomp of torch flames above.

'I don't hear anything, Grandma, and I'm not leaving you up there.' He stood on the chair's back so his head and shoulders poked out through the opening. The chill night air pricked his skin and stole his breath.

He glanced down the steep slope of the domed roof. It was a dizzying drop to the ground. He gripped the ledge, his throat seizing up. If she slipped, she wouldn't survive the fall.

'Grandma, keep very still.' He reached out and grasped her ankles. Her skin was as cold as ice.

She looked down at him.

'Didn't you hear me, Reuben? Monitor the machine.'

'Grandma, you'll fall and kill yourself.'

'We've had a signal from up there. Isn't it wonderful!' She pointed a flaming torch upwards and tilted back her head. 'They're coming, Reuben.'

His chest tightened with unease. Grandma had spent years sending out signals and waiting at the machine for a response, or staring up through the telescope. It was all she ever did. But he'd never imagined she would get a signal back.

He looked at the machine, now silent, the candlelight pulsing over the brass buttons and dials. He looked up at Grandma swiping the flaming torches from left to right, rising onto her toes. He gripped her ankles tightly and gulped back his nerves.

'Don't move, Grandma. I'm coming up to get you.'

'No, Reuben!' She turned sharply and a hot drip of wax splashed her foot. She yelped and slipped from the ledge.

With a violent jolt, her ankle wrenched from his grasp. She thumped onto the roof and began to slide down the dome's steep slope. He grabbed for her wrist, jarring her to a stop, and she hung there from his strained grasp.