



School Journal

November
2020



TITLE	READING YEAR LEVEL
No Girls Allowed	5
Trouble in the Foodlands	6
News for You	5
The Coprolite Hunters	6
All As One	5
Huia	6
An Interesting Situation	6

This Journal supports learning across the New Zealand Curriculum at level 3. It supports literacy learning by providing opportunities for students to develop the knowledge and skills they need to meet the reading demands of the curriculum at this level. Each text has been carefully levelled in relation to these demands; its reading year level is indicated above.

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No Girls Allowed

by Victor Rodger



Riley pulled her hair into a tight ponytail as she jogged onto the field. She was always the first one to turn up to training, and today was no different. It was a week until the inter-school tournament. Riley hadn't competed before, although she'd pictured herself scoring the winning try lots of times. Last year, her school had come second.

She was warming up when their coach, Callum, arrived. He did not look happy. "Bad news, mate," he said, coming straight to the point. "You can't play with us in the tournament. I'm really sorry."

Riley's mouth dropped open. She had no idea what she'd been expecting her coach to say, but it was nothing like that. "How come?" she asked.

"It's for your own protection apparently."

Her heart sank. She could guess the rest. "Because I'm the only girl in the first fifteen," she said.

Callum nodded. "You got it. They did say you could play in the girls' seven-a-side ..."

Riley couldn't think of anything worse.

"I know I'm the smallest," she said, "but I'm your best halfback. You need me." It was true. Zac was slow. And he always dropped the ball as though it was covered in butter.

"I went in to bat for you. I really did," Callum said sadly. "But the organisers have made their decision."

"It's not fair," Riley said.

"I know. It's rough. You must be really disappointed."

Riley wasn't just disappointed. She was mad! Her family lived for rugby. Her dad had played professionally. So had Auntie Tiff. Her brothers Cashel and Archie were keen halfbacks, and Riley had been in mixed teams since she was five, playing with boys twice her size. She could take care of herself. One day, she was going to coach in New York like Auntie Tiff. As her team-mates gathered on the field, Riley wondered how she'd ever manage New York if she couldn't even play in a local school event.



When the whole team was there, Callum looked at Riley. “Do you want to tell them or shall I?”

“Tell us what?” said Zac.

So Riley explained that she wasn’t allowed to play in the tournament, including the reason why. The news was met with a long silence.

“I still don’t get it,” Zac said finally.

“It’s because I’m a girl,” Riley said. “I told you.”

But the boys’ faces remained blank. Why were they confused? Riley wondered. Because it wasn’t so hard – no girls allowed. She wished one of them would say something. It was getting awkward. But then, she thought, what could they say? They were boys. How could they understand?

“What are we thinking, team?” Callum asked.

“That it sucks,” said Jody.

“Hard out,” agreed Zac.

The others mumbled and nodded.

“So what should we do?” Callum’s face was neutral while he waited for an answer.

“We should tell the organisers that if Riley can’t play ... with us ... then we won’t play either,” Jody said.

There was a rumble of agreement. It made Riley feel happy. They’d only been a team for a few months. It felt good to know the others had her back, but it would mean they’d give away their chance of winning. She couldn’t let them do it.

“It’s OK,” Riley said. “Honest. It’s just one dumb tournament.” She was trying to hide her disappointment, but everyone could still see it.

Riley hung back during practice so Zac had a good run as halfback. He still dropped the ball. She was glad when Mum turned up. They left straight away.



Riley told her dad the news that night. He almost choked on his dinner. “You’re joking,” he said through a mouthful of sapaui. “Who are these people, not letting my girl play? I’ll give them a call, tell them what I think.”

“Don’t, Dad. Please,” Riley said. She didn’t want any fuss.

A silence fell over the table. “Well you can still play seven-a-side with the girls,” said Mum. She was always positive.

Dad frowned. “Why should she?”

“Yeah. They’re not her team,” Archie agreed.

“She wants to play with her own team,” said Dad.

Riley shrugged, but he was right.

Later that night, she talked to Aunty Tiff in New York. Her aunty was sitting up in bed, squinting through sleepy eyes. “Riley! It’s four o’clock in the morning!”

“Sorry,” Riley said. “I needed to talk.”

Aunty Tiff managed a smile. “That’s OK. It’s nice to see your face, girl. What’s going on?”

Riley told her about the tournament. Aunty Tiff shook her head with disgust. “You must be gutted,” she said.

Riley nodded, although even gutted felt like an understatement.

“I would be, too. Want some advice? Let your team-mates side with you.”

“I feel too stink,” Riley mumbled.

“Don’t,” said Aunty Tiff. “It’s awesome they want to help. It’s not like anyone’s making them.”

This was true, Riley thought. But still, the price of sticking together was so high. She’d seen the disappointment on her team-mates’ faces.

“Chin up,” said Aunty Tiff. “You’ve got this. All of you.”



But the next morning, as Riley walked to school, she felt lousy. There was no way she would score that winning try. It was just a stupid fantasy.

She was surprised to see Jody and Zac waiting outside her class. Jody had a pleased look on his face. "Guess what?"

Riley shrugged. She wasn't in the mood for guessing.

"We talked again last night, and we're sticking with the plan. If you can't play in the tournament, then none of us will play."

"That's really nice of you," said Riley, "but it's a bad idea."

"No way," said Zac. "All for one and one for all." He suddenly looked shy. "Or something like that," he mumbled.

"Callum's talking to the organisers right now," said Jody.

When they found Callum, his face was grim. "Well, they weren't impressed," he said, "but I pushed back, and they finally agreed Riley could play with us."

"Sweet!" said Jody. He thumped Riley on the back.

Callum shook his head. "There's a catch. If we score any points, they won't count."

"What? That's crazy!" said Riley. "It means we'll have no chance of winning the tournament."

Callum shrugged. "The best I could do, sorry. They called it a compromise."

"Fine," said Jody. "We'll do it."

"It's *not* fine," said Riley. "It's stupid."

"Hang on," said Callum. "I think you should let the team decide that."

"Yeah," said Jody. "Let us decide."

They had a final practice that night, and Callum didn't waste any time.

"Right," he said, turning to the others.

"Hands up who thinks Riley shouldn't play in the tournament and we go ahead and try to win this thing."

No hands went up.

"So who thinks we should play in the tournament with Riley even though it means we can't win it?"

This time, every hand went up.

Riley felt her cheeks burn, but she wasn't mad. She was the exact opposite.



The following Tuesday, Riley ran onto the field with her team. Her parents and Cashel and Archie were on the sideline. Even Aunty Tiff was there, watching from Dad's phone. While Riley waited for the first match to begin, she checked out the spectators. Which ones were the organisers? she wondered. She hoped they were paying attention.

From the very beginning, things didn't go their way. They couldn't connect with the ball. Time after time, Riley watched the opposition cross the try line while her team struggled. They lost three of their games and only just managed to win their fourth when Riley scored a

late try in the second half. Not that it mattered – their points didn't count.

Riley hated being beaten – especially today. She joined her family, mumbling hello. Then she heard Aunty Tiff on the phone.

"Oi, you. Get that chin up! You got a hiding. So what? You still smashed it! You deserved to be out there today. You really showed them!"

"Totally," agreed Dad.

Zac and Jody came over. "Can't win 'em all," said Zac.

"Hey! We won one," said Jody with a laugh. "And there's always next year, eh?" Riley smiled. "Yeah. Next year."

illustrations by Daron Parton



The Coprolite Hunters

by Neil Silverwood

Ancient fossilised poo. It's not the most obvious thing to study – but people do. A few years ago, I was in the Euphrates cave, near Karamea, on the west coast of the South Island, photographing a team of scientists from Manaaki Whenua – Landcare Research. They were hunting for coprolites. These treasures from the past, which range in size from a grain of rice to a box of matches, are as scarce as gold. That's why the scientists I was with were willing to go almost anywhere to find them ...







Beneath a Plateau

The Euphrates cave is part of a tunnel network that runs beneath the Garibaldi Plateau in the Kahurangi National Park. It's a remote place. Getting there on foot takes three days, so we've flown in by helicopter. The plateau is covered in tussock and ringed by limestone cliffs – a reminder that we're in **karst** country. Hundreds of shafts drop down to the tunnels below, which stretch for almost 3 kilometres like the tangled arms of an octopus. I'm glad we know exactly where we're headed.

A strong cold wind blows through the Euphrates, but it's dry. The cave would have been the perfect place for birds to nest, safe from aerial predators like the pouākai/ Haast's eagle. Alex Boast, the team leader, is the first to make a find: a small pile of coprolites hidden beneath a rock. He changes into protective gear to avoid contaminating the samples, and with help, slowly places each piece into a specimen container.

karst: a barren area, usually with a lot of caves, sinkholes, and underground rivers





Alex thinks the coprolites are from a kākāpō. He's happy about this. "We know a huge amount about moa," he says, "but much less about our critically endangered native parrot. We don't know where they lived on the mainland or even how many there were." The coprolites can help to answer these questions because they contain the bird's **DNA**. Finding this genetic material is like finding an important piece in a puzzle.

The coprolites also have traces of plant DNA. This will help with another question:

what did kākāpō eat before introduced species began eating plants and changing the landscape? Scientists like Alex can use this information to decide whether an area could support kākāpō again. In 2017, the takahē was reintroduced in another part of the national park; maybe one day, the kākāpō could return to the Garibaldi Plateau.

A further search reveals more treasure: the skull of a takahē and what's probably a moa feather. Both have been there for hundreds – even thousands – of years. Back at camp, Alex tells me about the plateau. "This place was once home to all kinds of birds," he says, "but many are now extinct. Others survive in small populations on off-shore islands, and their future is uncertain. We need to keep learning so we can protect them."

I look around the broad sweep of the plateau. It's easy to imagine this peaceful place teeming with birds, their chorus like nothing we've ever heard.



DNA: the genetic material that contains all the information for how a living thing will look and function



High-country Station

After the Garibaldi Plateau trip, I head out on a second expedition with scientists from Manaaki Whenua – Landcare Research. This time, we're off to a remote, high-country station near Lake Wakatipu in Otago.

The team is led by Janet Wilmshurst and Jamie Wood. Instead of looking for coprolites in caves, we're searching for them under rock overhangs. These overhangs were carved out of the **schist** by water millions of years ago, when the level of the lake was a lot higher.

We camp in a woolshed near the lake. On our first day, Jamie squeezes through a hole at the back of an overhang. It's tight. The passage is no wider than a coathanger. Jamie has a tiny camera that he pushes in front so he can see what the space might contain. He's back after a few minutes with a precious find: a tiny fragment of bone.



schist: a hard rock that has many layers



The bone is from a Polynesian rat (*Rattus exulans*), also known as kiore. “Kiore came here around eight hundred years ago,” Jamie says, “and they spread through the country quickly.” Although small, the invasive species hunted birds. New Zealand’s flightless species were especially vulnerable. With few ways to protect themselves, their populations were decimated. “Birds were also hunted by people, but kiore played a big role in their extinction. The rats could travel anywhere, including into small holes like the one I just squeezed through!”

Janet makes the next discovery when she digs through a thin layer of dirt and pulls out a moa coprolite. “It’s in perfect condition,” she exclaims. She takes a closer look at the coprolite, then puts it in a small plastic bag that won’t be opened until it reaches the ancient DNA lab near Christchurch.



When Birds Ruled

Before the arrival of people, the land mass known as Zealandia (the whole of New Zealand, including the undersea portion and our off-shore islands) contained almost two hundred species of birds. With no mammals other than bats, birds were at the top of the food chain. Each species evolved in different ways, resulting in diverse shapes and sizes – with some unique results.

Some birds lost the ability to fly, like the moa. One moa species, the South Island giant moa (*Dinornis robustus*), weighed up to 230 kilograms (one of the heaviest birds in the world). It could reach tree branches 3.6 metres off the ground. And can you imagine a predatory bird with talons like tiger claws and wings that spanned almost 3 metres? This was the enormous Haast's eagle, which Māori in the South Island called pouākai (Māori in the North Island used other names, including hōkioi). They told stories about the giant bird and drew its image on cave walls.

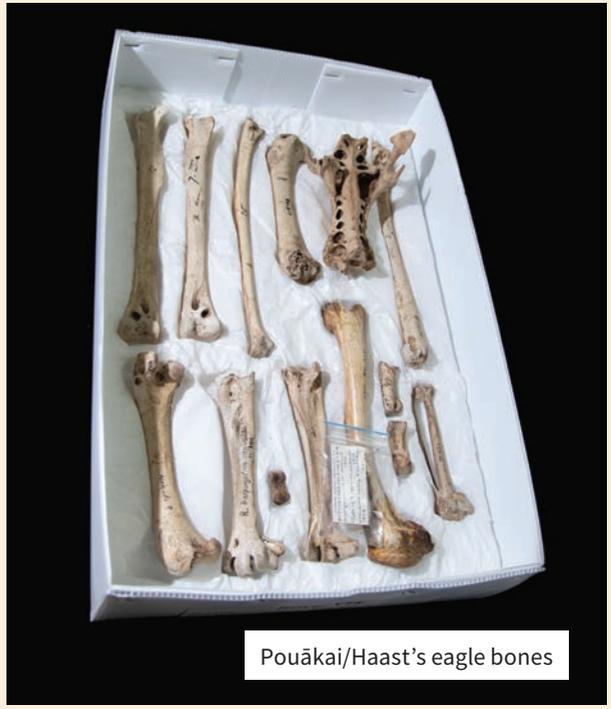
In 1871, Julius von Haast, an explorer and geologist, named the creature *Harpagornis moorei* after the Greek word “harpax”, meaning “grappling hook”. Almost three decades later, Charlie Douglas, another famous explorer, recorded an encounter with what was probably a Haast's eagle. Charlie lived in Westland, where he mapped the region's vast river valleys. On one trip, he shot “two raptors of immense size”. The largest bird had a wingspan of 2.54 metres. Charlie had no idea what he'd shot, but he wasn't the type to exaggerate. Some **palaeontologists** believe the unlucky birds may have been the last of their kind.

palaeontologist: a person who studies fossils to learn the history of life on Earth





A pouākai/Haast's eagle hunting moa



Pouākai/Haast's eagle bones



A curator with Canterbury Museum's moa bone collection

Back at the Lab

Back at the lab, the next step is extracting the DNA from the coprolites. Because of the risk of contamination, I'm the first non-scientist to go into this carefully guarded place. We kit up outside: paper overalls, face mask, gloves. Then we enter a small room behind airtight doors. Here we take off the gloves and put on a new pair. We pass through a second airtight door, and we're finally in the laboratory.





Jamie opens a freezer. It's filled with coloured containers, all holding biological material from many of New Zealand's extinct and endangered species. There are thousands of coprolite samples. Jamie says that studying DNA has taught scientists far more about the history of our bird populations than ever before. "It paints an accurate picture of what life looked like for New Zealand's birds before people arrived. And it helps us learn why their populations have declined."



Behind Jamie, another scientist uses a slender tube called a pipette to extract DNA from a sample. The process can take days. DNA is so small it can only be seen under a powerful microscope, and it's very difficult to extract. But for these scientists, the results make it all worthwhile. They provide a window to a time when the land was vastly different from what it is today.

Before I leave, Jamie tells me about his next adventure: He's heading to Antarctica to search for penguin coprolites. "DNA preserves well in cold climates, so what better place to look for it! We hope to learn how climate change in the past affected the diet of Adélie penguins in the Ross Sea."

Huia

I was the first of birds to sing
I sang to signal rain
the one I loved was singing
and singing once again

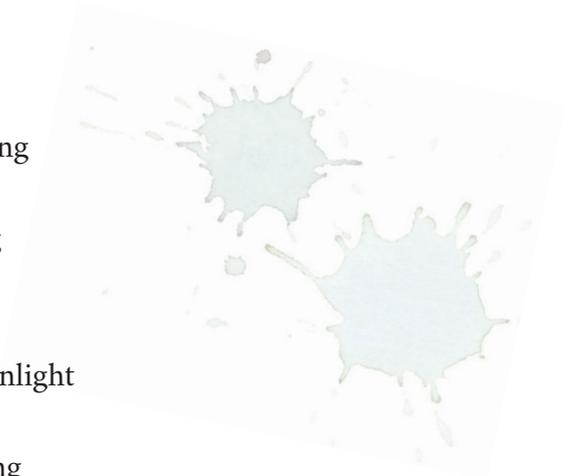
My wings were made of sunlight
My tail was made of frost
My song was now a warning
and now a song of love

I sang upon a postage stamp
I sang upon your coins
but money stepped towards me
and stole away my voice

Where are you when you vanish?
Where are you when you're found?
I'm made of greed and anguish
a feather on the ground

I lived among you once
and now I can't be found
I'm made of things that vanish
a feather on the ground

Bill Manhire



WHAT HAPPENED TO THE HUIA?

To Māori, the huia was tapu. The bird was prized for its beautiful tail feathers. Only rangatira of high rank and their whānau wore huia feathers, usually in their hair. This changed in 1901, when the Duke of York visited New Zealand. A Māori woman – as a token of friendship and respect – placed her own feather in the Duke's hatband. From that day, the bird's fate was sealed.

The huia was a social bird. Pairs mated for life. At one time, the species was found all over the North Island, but by the late nineteenth century, it was in serious trouble. Although some huia were hunted, the burning of lowland forests for farming had a bigger impact. Introduced predators and European collectors added to the death toll.

Rangatira became concerned by the bird's declining numbers, and they made certain places where the huia lived tapu. In 1892, the species finally became protected by law, but it wasn't enough. After the Duke's visit, the huia feather became popular in England, especially with fashionable people who wanted a feather for their hats. Back in New Zealand, there was good money to be made from selling huia feathers, and illegal shooting parties would kill hundreds of birds at a time. The last confirmed sighting of the huia was in the Tararua Ranges, near Wellington, on 28 December 1907.





Andrew

AN INTERESTING SITUATION

by Jo Randerson



Jane

Dolina



Rawiri



Ralph



Scene 1. **DOLINA** is at her lemonade stand. She has glasses, a jug of lemonade, a pen, some paper, and a sign: Fresh “lemonade” for sale. **RALPH** enters and holds up his own sign: Rāhina/Monday. He gives the thumbs-up to the audience, then sits in a chair at the side of the stage. **RAWIRI** enters.

DOLINA. Roll up, roll up! Fresh lemonade for sale.

RAWIRI. Sweet. Yes, please. How much for a glass?

DOLINA. One dollar.

RAWIRI (*giving DOLINA the money*). One dollar, here you go.

DOLINA (*giving RAWIRI the lemonade*). Thank you kindly. Here is your lemonade.

RAWIRI. Thanks. I’m so thirsty I’d drink anything! (*He takes the glass and drinks.*)

That’s better. Will you be selling this tomorrow?

DOLINA. Sure thing.

RAWIRI. Great. It’s very refreshing. It’s nice and yellow too.

DOLINA. It’s made from real lemons!

Scene 2. *The next day. DOLINA is back at the lemonade stand. RALPH holds up a sign that says Rātū/Tuesday. He rearranges the jug and glasses, then gives DOLINA the thumbs-up and sits down.*

DOLINA. Roll up, roll up! Fresh lemonade for sale.

RAWIRI arrives with **ANDREW**.

RAWIRI (to **ANDREW**). Here you go, just like I told you. It's really good. Do you have your dollar?

ANDREW (nodding). Yup. I'll have one glass of fresh lemonade, please.

DOLINA. Two dollars, mate.

ANDREW (to **RAWIRI**). Two dollars? You said it was one dollar. And I'm thirsty!

RAWIRI (confused). It was one dollar yesterday.

DOLINA. It's gone up. Inflation.

RAWIRI. Inflation? What?

DOLINA. The price went up. Because of the ... global financial crash.

RAWIRI. That sounds bad. I hope they were wearing seatbelts!

ANDREW. But I only have a dollar.

RAWIRI. Me too.

DOLINA. Well, sorry about that, but it's twice as much today. Two dollars.

RAWIRI. Oh, that stinks. I really want some ...

DOLINA. Well, I guess I could let you have credit till tomorrow.

ANDREW. Really?

DOLINA. Sure. I'll even let both of you have credit.

RAWIRI. OK, great! Pay you back tomorrow, promise.

DOLINA. Sure thing. Here you go. Just sign this.

She hands them a piece of paper to sign.

ANDREW. What's this?

DOLINA. Nothing to worry about. Just sign there at the bottom.

RALPH claps his hand over his mouth, looking worried. **RAWIRI** and **ANDREW** sign the paper and give **DOLINA** their dollar. **DOLINA** gives them a glass of lemonade each.



ANDREW (*drinking*). That's not bad ...

RAWIRI. And yellow – remember I told you?

Must be because of the vitamin C.

Healthy as!

DOLINA (*laughing slyly*). Come back tomorrow, guys. It's going to be even healthier!

Scene 3. *The next day.* **DOLINA** is at the lemonade stand. **RALPH** looks annoyed. He holds up a sign that says Rāapa/Wednesday, then gives **DOLINA** the thumbs-down. **RAWIRI** enters with **ANDREW** and **JANE**.



DOLINA. Roll up, roll up! Fresh lemonade ... oh, it's you again. Back for more?

RAWIRI. Yep, we've brought money to pay you back, and we'll all have a glass of lemonade, please.

JANE. I heard it's *really* good.

DOLINA. You heard right.

ANDREW. Here's my two dollars for a glass of lemonade, plus the dollar I owe you from yesterday. Thanks. So now the debt's cancelled.

DOLINA (*giving ANDREW the lemonade*). Sure, happy to give you more lemonade. But unfortunately, your one dollar isn't enough. You owe me more than that because of the interest.

ANDREW. What? You lent me one dollar yesterday, and I'm paying you one dollar back today. We're even.

DOLINA (*faking sympathy*). Oh, no! Have you never heard of *interest*?

JANE. Yeah, when you like someone? Or you want to go to a movie?

DOLINA. Not quite. Every time you borrow money from a bank, you have to pay them back a little extra, called interest. You borrowed one dollar from me, so now you owe me a dollar plus the interest on that dollar. The current interest rate is ten percent, so that's one dollar and ten percent of one dollar ... I'm sure you can do the maths.

RAWIRI. One dollar and ten cents? That's criminal. Besides, you're not a bank.

DOLINA. That's just the cost of borrowing – it doesn't matter who it's from.

She hands them a pamphlet with the words "Money Matters" on it.

RAWIRI takes it and reads it.

JANE. Let me get this straight. So if I didn't have any money, you'd lend me two dollars, and tomorrow, I'd pay you back two dollars and ten cents?

DOLINA. Not quite. Interest is charged for every dollar you borrow. So if you borrow two dollars, you'd have to pay two lots of ten cents. That's twenty cents! And that's why I'm going to own a new skateboard by the end of the month. Does anyone want to borrow some more money from me?

RAWIRI (reading from the pamphlet). Hang on! It says here "per annum".

DOLINA (acting super casual). Don't worry about that bit. Gets pretty tricky.

RAWIRI. I can do tricky. Ten percent per annum ... that means the interest rate is ten percent for borrowing money over an entire year. But I only borrowed off you for a day ...

JANE (nodding). So he actually only owes you ... what's ten cents divided by three hundred and sixty-five?

RAWIRI, JANE, and ANDREW try to work it out in their heads, muttering and counting on their fingers.

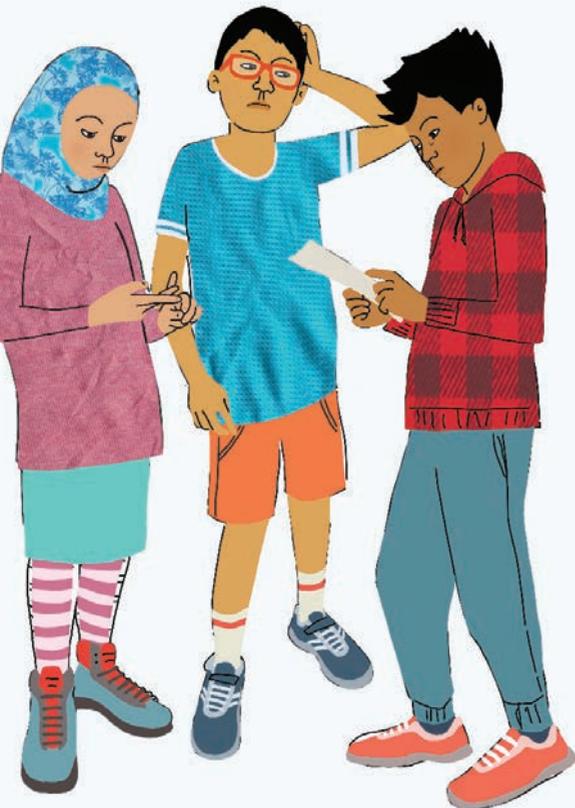
RAWIRI. Ten divided by three hundred and sixty-five is ...

JANE (confused). Half of three hundred and sixty-five is ... one hundred and ...

DOLINA (teasing). Six plus five ... times one hundred ...

ANDREW (totally lost). Ten ... plus ten ... minus ten ... I'm not very good at maths.

RAWIRI. Well, I am, and it's about zero point zero three something! Just a tiny part of one cent! That's nothing!



DOLINA. Well, actually, I have financial targets, so I'd prefer to receive the whole ten cents. I plan to buy multiple skateboards, then I'll sell them for more than I paid for them, and I'll buy an e-bike, which I'll rent to people for fifteen dollars an hour ... you get the picture! Basically I'm gonna be rich! And you signed my contract, so there's no getting out of it!

*She holds up the contract to taunt them. Meanwhile **ANDREW** has been looking closely at the lemonade.*

ANDREW. Excuse me, but how did this lemonade get so yellow?



RALPH reaches under the lemonade stand.

DOLINA. What? Oh, it's because of all the fresh lemons – as you know. So healthy!

RALPH holds out an empty bottle of yellow food colouring.

ANDREW. Hang on, what's this?

*He takes the bottle and looks at it. He passes it to **JANE**.*

JANE (reading off the bottle). Yellow food colouring? What?

RAWIRI. You cheated us! Your sign says this is lemonade.

DOLINA (shrugging). It's wet, it's yellow. It's practically lemonade ...



JANE. It's *not* lemonade. This is false advertising!

DOLINA (*pointing at her sign*). I don't think so. See those quote marks around lemonade? They indicate it's not real.

RAWIRI *grabs the contract and pen from the table and draws quote marks around the word "contract".*

RAWIRI (*holding up the contract*). Well, your contract has quote marks around it now. They indicate it's not real, either.

JANE. So we're not legally obliged to pay!

ANDREW. Awesome!

RAWIRI. See you later, entrepreneur!

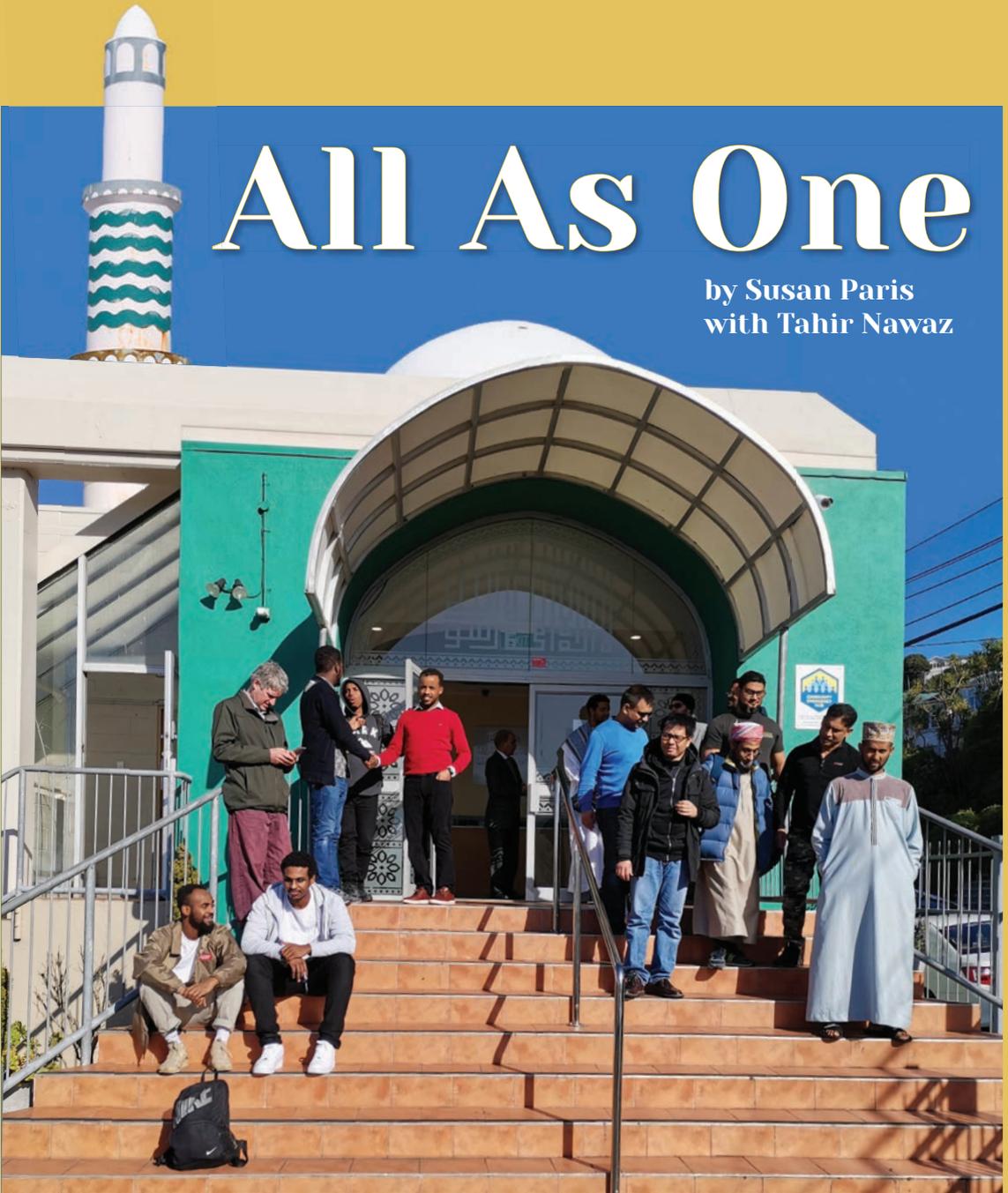
RAWIRI, JANE, and ANDREW *laugh and walk away, high-fiving each other.*

They also high-five RALPH as they pass. RALPH holds up a sign that says "The End" (with quote marks!).



All As One

by Susan Paris
with Tahir Nawaz



Wellington's Kilbirnie mosque has lots of different rooms. It has a library, a kitchen, several classrooms, a hall, two prayer rooms – all spaces that bring people together. For many, the mosque is like a second home.



Family

Most days, at least a dozen languages can be heard at the mosque. A lot of the people in this community once lived somewhere else: Somalia, Egypt, Ethiopia, Pakistan, India, Malaysia, Indonesia, China, Japan, Cambodia, Bangladesh, Syria. “We come from at least fifty different countries,” says Tahir Nawaz. He grew up in Pakistan.

Everyone here has a different story. Some people came to New Zealand as refugees. They wanted to feel safe and have a better life. Others came as migrants, hoping to find work.

Some Muslim families have lived here for several generations; others became New Zealanders only recently.

Because of this diversity, having a sense of unity is important. All prayers and sermons are spoken in Arabic, a language that many Muslims learn. “Sharing a language unites us,” Tahir explains, “and when we pray, we stand shoulder to shoulder. This removes our differences. Poor, rich, black, or white – these details fall away. Physical closeness gives us brotherhood and sisterhood. We become family.”



Always Open

Tahir made the move to New Zealand in 2000. He had his own business but now works for the Muslim community. Tahir helps to run the mosque and is the community's spokesperson. He also looks after his people's well-being, including helping new arrivals adjust to their new lives and settle in.

Serving others is an important part of being Muslim. This is a teaching in the **Qur'an**. "We're taught that if one person is suffering, everyone suffers," Tahir explains, "and when people are hurting, we stand together by their side.

We show solidarity, and we stay strong." To help people connect, the mosque is always open during the day. "People come to learn and pray," Tahir says, "but they also come to socialise. We enjoy spending time together, talking to one another and listening. We like to stay connected." Weddings, funerals, celebrating new babies, shared dinners, language lessons, and monthly lectures about **Islam** – these things all happen at the mosque. "This place is our community centre," says Tahir.

Qur'an (or **Koran**): the Muslim holy book
Islam: the religion of Muslims



Maria

Tahir's daughter Maria has been coming to the mosque her whole life. She says that some of her happiest memories are of spending time here during **Ramadan**. "We wait till the sun goes down. After that, we have a big shared meal. All the kids are running around, excited. People are getting the food ready. It feels like a party."

Maria took part in her first Ramadan when she was seven. Now that she's ten, she finds fasting a lot easier, although lunchtime can be a challenge, especially at school. "Some days, I have to go and read a book. Other kids' lunches can make you feel really hungry!" Maria says that when she fasts, she likes to think about other people who go hungry, like homeless people. This helps her to feel a part of something bigger, a community that stretches beyond her own.

Ramadan: the Muslim holy month



Muslim New Zealanders

Muslims are a small minority in New Zealand. They make up around 1 percent of the population – not quite 60,000 people. Up until the 1950s, our Muslim population was less than a few hundred people, mostly from Asia and Europe. In more recent decades, larger groups have come from Somalia, Bosnia, Afghanistan, Kosovo, Iran, Iraq, and Syria. Many settled in Auckland, which still has our biggest Muslim community. New Zealand's first Islamic Centre was established in Auckland in 1959. New Zealand's newest mosque is in Queenstown. It opened in 2019.



A Straight Path

Friday is the most important day of the week for Muslims. Sometimes as many as four hundred people will come to the Kilbirnie mosque to pray. When it's an important festival such as Eid, that number doubles. "During the week, we can't always come together," says Tahir. "People are busy and have responsibilities. But on Friday, we make the extra effort."

Muslims pray five times a day and the women and men pray separately. These prayers happen in all kinds of places, including home, school, and work, as well as the mosque. Tahir says that praying is a bit like meditation. "We go to our own space and have a short rest from the world. It's time to reflect." Every Friday, there's also a sermon, given by the **imam**. He shares a message to motivate people for the week. "The imam helps to keep us on

a straight path," Tahir explains, "and he reminds us to do good." A sermon will often be about a current event, such as the Covid-19 pandemic or the Black Lives Matter movement. "We learn about issues that affect the wider community," says Tahir, "not just Muslims."

Children often pray at the mosque, but during the week, Maria's busy with things like homework and netball and karate, so she usually says her prayers at home. On Sundays, she goes to the mosque for Arabic lessons and to learn the Qur'an. Maria recites **surah** with her dad on the way to school and says that her Arabic is coming along. She has her own way of learning. "I listen to the words over and over till they get stuck in my head. I also look for patterns and try to find the rhythm."

imam: the person who leads Muslim prayers
surah: a chapter in the Qur'an

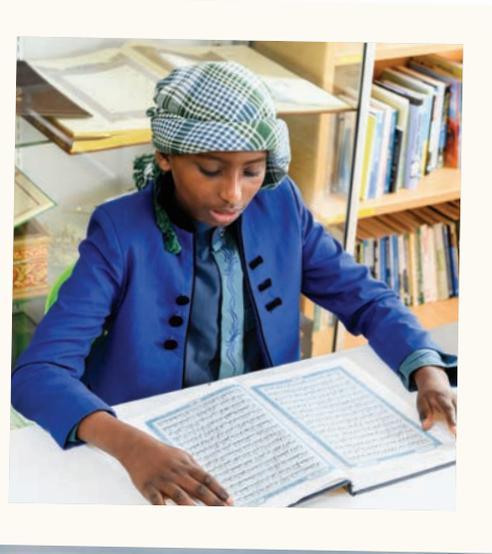


Sharmake

Like Maria, Sharmake Ahmad has always spent time at the mosque. He enjoys being there with his friends and taking Arabic classes. (He also speaks English and Somali.) Sharmake's a star student, both at school and the mosque. He likes playing football and reading novels by Anthony Horowitz, and he enjoys visiting family in other parts of New Zealand and seeing the different towns and cities. "I love all of it!"

Sharmake knows the entire Qur'an by heart. He's referred to as a **hafiz**, a term of great respect that few children (or even adults) earn. It takes around thirteen hours to recite the Muslim holy book from beginning to end. Sharmake doesn't do this very often. He says that whenever he recites, he likes to close his eyes. "It makes it easier to concentrate." Sharmake hopes to be an imam one day.

hafiz: a person who knows the Qur'an by heart



Who We Are

Every year, the Kilbirnie mosque holds an open day. Everyone is welcome. Visitors are invited to look around and ask questions, which the imam is on hand to answer. “People are always curious and want to learn,” says Tahir.

As well as touring the mosque, visitors are encouraged to spend time in the many different “cultural corners”, where they can learn about Muslim countries and cultures. There’s always lots of good food to eat and interesting people to talk to. Visitors can learn how to write their name in Arabic or how to put on a **hijab**. They can also get their hands painted in the traditional way using henna.

Most of the mosque’s children take part in the open day, including Maria



and Sharmake. They deliver flyers to promote the event, and Maria helps her sister on the baking stand. She also takes her turn watching over the little kids on the bouncy castle, and she enjoys talking to visitors. “It’s a really fun day,” she says. “People get to be a part of our community and learn who we are.”

hijab: the head scarf worn by some Muslim women



The Hāwera Mosque

From the outside, the mosque in Hāwera looks like a regular house. It even has a garden and fruit trees. For a long time, it was just a regular house. Then, in 2004, four families from the local Muslim community bought the building and turned it into a mosque. Even though Muslims had lived in Hāwera since 1983, they had no place they could call their own.

Although Muslims live all around New Zealand, most live in the bigger cities, many of which have had mosques for decades. Now, Hāwera's mosque is used by twenty families, including Hanaa Davids'. When Hanaa is there, she spends most of her time helping her mum teach Arabic to the younger children. Her main job is writing Arabic letters on the whiteboard.

There are only five students in the mosque's Arabic class – much smaller than Hanaa's used to. Her family moved to New Zealand from Cape Town, a South African city of five million. Hāwera's population is only ten thousand. When Hanaa first saw the town, she thought, "This place is too tiny to live in." She quickly changed her mind. Now she can see the good things that come from living in a small community. People are friendly. They have time. Hanaa enjoys horse-riding lessons and the sound of mooing cows. She says she wouldn't move for anything.



TROUBLE IN THE FOODLANDS

BY JOHANNA KNOX



It's still dark when I get a call from the Red Planet police chief. "Boss," I groan. "Only farmers get up this early."

"Exactly, Minnie."

It takes only seconds to understand: there's trouble in the Foodlands. I leap up. "I'm on it," I say.

Last year, the Foodlands district seethed with unrest. Doctor Wagener, a famous robotics engineer, bought a large farm and fired the workers. Seed sowers, harvesters, packers, even the accountant – he replaced the lot with robots. "They're a hundred times smarter," Doctor Wagener claimed. "And more efficient. No one will be able to compete." Wagener said robots were the future. He had plans. Other farmers in the district became nervous and distracted. Crops failed. There were food shortages. The situation played right into Wagener's hands.

By a stroke of luck, my scientist friend Doctor Topp had been using Martian bacteria as a preservative. She had enough sauerkraut stockpiled to bolster the food supply for several months. But then Wagener went quiet. Few bothered to ask why. They only cared that the crisis had passed and we could stop eating fermented cabbage.

The sun is rising above the mountains when I arrive in the Foodlands. I hear a loud argument coming from one of the farmhouses.

Inside, Sally O'Malley has a man tied to a chair. He's wearing garden netting.

"Take him and lock him up!" Sally says to me.

"It's her chickens that need locking up," the man cries. "They're destructive!"

"They're not!" says Sally.

A chicken runs past, and the man lunges. "Let me at it!"

I block him. "Stop. Your name?"

"Tim Little." He glares after the chicken.

"From?"

"Next door. I got up this morning, and Sally's chickens had dug up my cabbages. The crop's ruined."

"Rubbish," says Sally. "My chickens free-range in my orchard and fertilise my apple trees with their manure. Permaculture, right there! Why would I share that?"

"You want to destroy me," says Tim. "You're jealous because my cabbages make more money." He rocks the chair. "Let ... me ... go!"

"He's delusional!" says Sally.

"Take me to the cabbage field, Tim," I say. Despite Sally's protests, I untie the man, making him promise to leave the chickens alone.



Next door, things are worse than I'd imagined: deep holes, cabbages ripped from the ground, and shredded leaves everywhere! This was no work of chickens.

Something moves by the fence, but before I can investigate, I hear Sally shouting. I find her in the orchard. Every tree is bare. The apples are strewn across the ground. "Don't say my chickens did *this*," Sally wails.

Tim has followed me. He gapes. "I'm so sorry," he says, and clearly means it.

I shiver. Something or *someone* is attacking Foodlands' crops. If I don't get to the bottom of this – fast – Mars will face a second food crisis.

I look across to Doctor Wagener's enormous mansion – Sally's other neighbour.

"Do you see much of the doctor?" I ask.

"Never," says Sally. "He arrived here full of talk. Said his robots would make his farm the most profitable on the planet. Blah blah. Then ... nothing."

"I don't think he's grown a thing," says Tim.

"Robots aren't as clever as he thought," says Sally bitterly.

As if on cue, the grass rustles. Something like a wētā – one the size of my head! – scuttles away.

"Stay here," I tell Sally and Tim. I jump into my police pod. "To Wagener's mansion!"

The doctor's driveway is lined with hedges that are crawling with the wētā-like things. I look closer and see clippers. So, he's invented robots for trimming hedges. I wonder what else they can do? I survey the doctor's empty fields, and in a flash, I realise his plans have failed. Artificial intelligence *can't* beat human intelligence, and now, humiliated, he's programmed his robots to destroy his neighbours' farms. A classic act of revenge.

I knock on the mansion door. A small robot on wheels, with one arm and three eyes, answers. Its voice is a little too high. "May I help you?" the door-bot squeaks.

"Is Doctor Wagener in?"

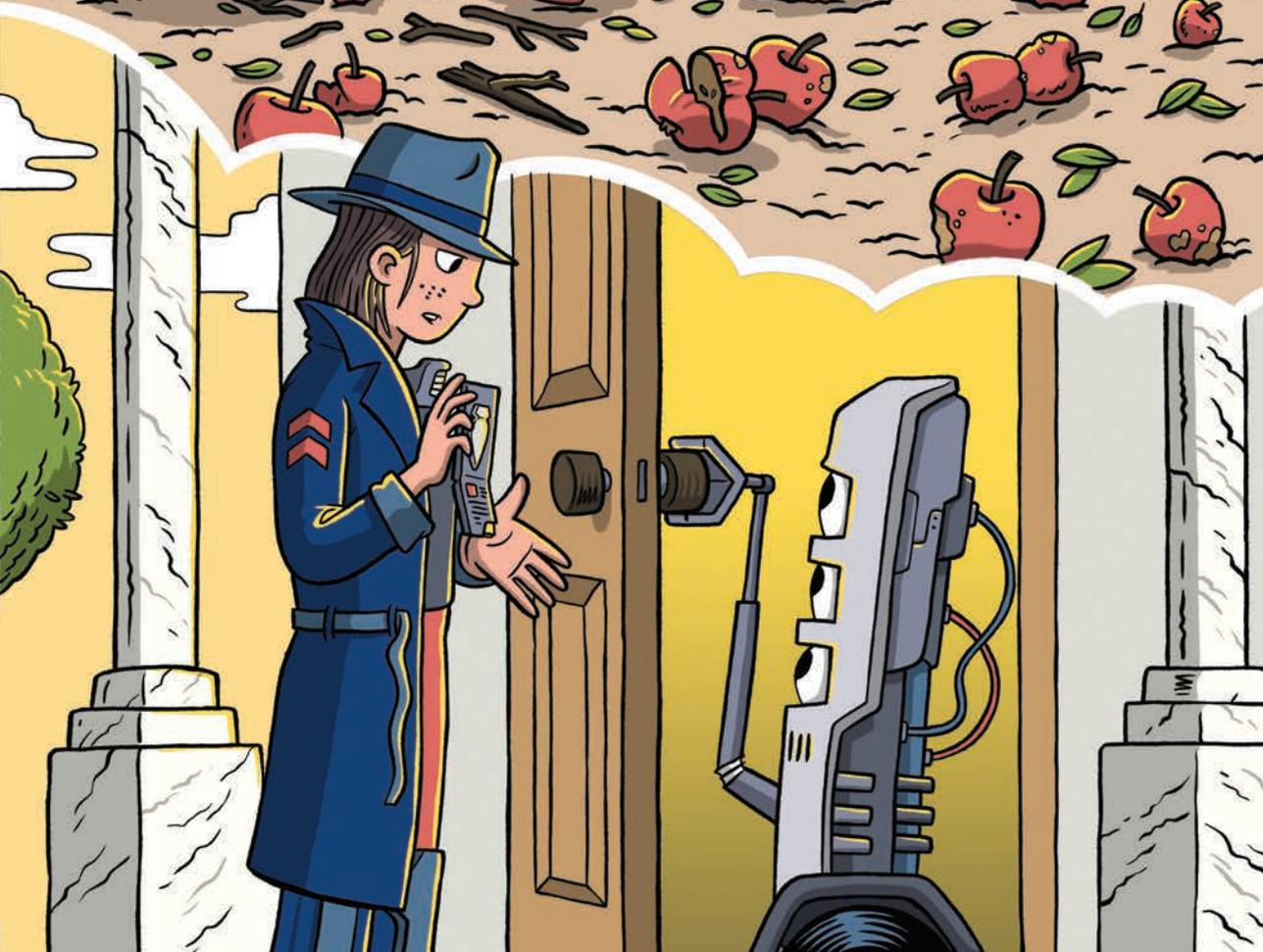
"Do you have an appointment?"

I flash my card. "Red Planet Police. I need to see the doctor immediately."

"Doctor Wagener sees no one without an appointment."

"Then I wish to make an appointment immediately."

A stream of numerals runs past the door-bot's eyes. It appears to be thinking. Then it repeats, "Doctor Wagener sees no one without an appointment."



Clearly not the smartest piece of software. I have an idea. “My name is No One,” I say. The robot remains motionless. A few more numerals tick past its eyes.

I try to be clearer. “You say Doctor Wagener sees no one without an appointment? Well, I’m No One. Hello.”

“Goodbye,” says the robot and closes the door.

So much for that.

I sidle round the building, looking for another point of entry. I spot an open window and peer in. What luck! There’s Doctor Wagener. He sits at a workbench, building wētā-bots ... but something’s wrong. He looks miserable. Then I see wētā-bots clamped over his feet. A prisoner! Not your classic case of revenge after all. What’s going on?

I vault through the window. Doctor Wagener’s eyes widen. “Talk to me,” I say.

He tries to get his words out. “I - I - I -”

The instant he speaks, a siren goes off.

“I - I - I -” he wails.

“You what?” I yell. “Tell me.”



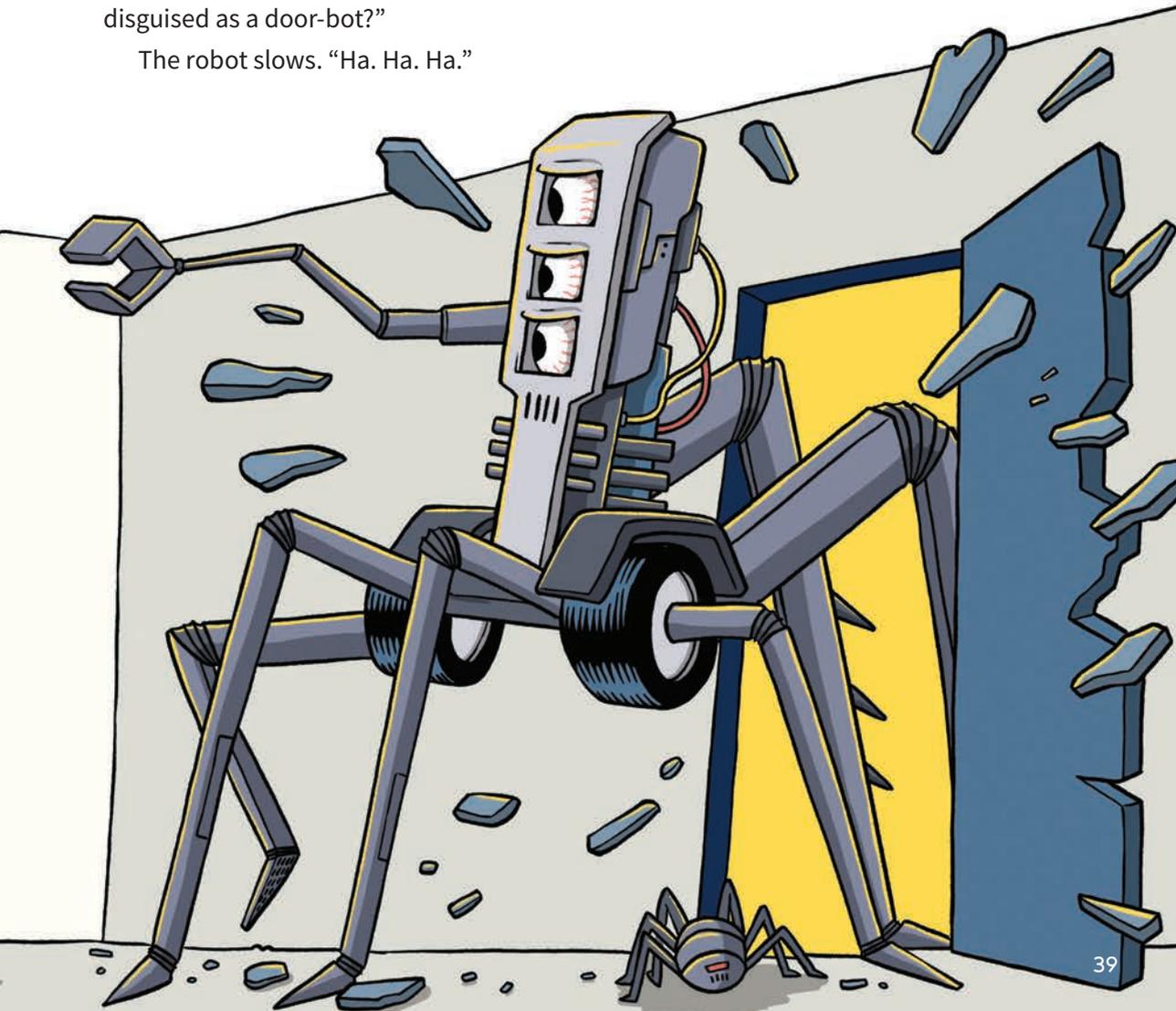
Before the man can explain, the door crashes open: it's the door-bot from before, and it means business. Those wheels have extensions. Now the heap of metal is as tall as the doorway.

"Well," the door-bot says, its voice much deeper. "If it isn't Detective No One. Ha, ha, ha." Numerals speed past its eyes so fast they begin to blur. I think back to everything I know about Doctor Wagener. Something Sally said this morning sticks in my mind. Why does this robot do so much number crunching?

The door-bot takes a wētā-bot from the table and clamps it over the doctor's mouth. It selects two more from the floor. Then it comes for me.

I back slowly towards the window and try distracting it with a question. "Let me guess," I say. "You're Doctor Wagener's accountant-bot, disguised as a door-bot?"

The robot slows. "Ha. Ha. Ha."



I continue. “Doctor Wagener programmed you to make this the most profitable farm on Mars, am I right?”

“That is my directive. I will achieve it.”

“But your limited artificial brain took the crudest path. Make the other farms *less* profitable. Never mind that there’d be no *food* ... a consideration that’s a little too nuanced for a robot.”

“Ha, ha, ha. You’re smart. For a human.”

I’m nearly at the window. “So you’ve sent wētā-bots to destroy all the crops! Against the doctor’s wishes – clearly. Perhaps the man has a conscience after all?” I turn to jump out the window, but something grabs my collar. It appears that the accountant-door-bot’s one arm can also extend.

“I detect you will try to thwart me from achieving my directive,” the robot says. “You must be destroyed.”

Now I’m in real trouble. Is there a way to shut this thing down? If only Wagener could tell me, but he’s gagged.

Then I realise. He did tell me!



“Go on, destroy me!” I taunt.

The robot lifts me right to its face, and lightning fast, I deliver three swift punches. Eye, eye, eye. The numerals start to fade. The arm releases me, then falls away with a clang. All the wētā-bots sag. The one on Doctor Wagener’s mouth thuds on the table, and the man bursts into tears. “The robots took over,” he sobs.

“Wow, dramatic,” comes a voice from behind. It’s Tim, leaning in the window.

Sally’s head appears beside him. “Doesn’t save our cabbages and apples.”

“I have an idea,” I say.

After more officers arrive to secure the scene, I call Doctor Topp. She likes my idea and says she’ll receive the supplies immediately. There won’t be cabbage or apples this year, but we’ll sure have a lot of cider vinegar. And we’ll be back to eating sauerkraut after all.

illustrations by Toby Morris



NEWS FOR YOU

by Bernard Beckett

When Lucy first heard about the lockdown, she pictured long sleep-ins and breakfast in her pyjamas. Maybe lunch in her pyjamas, too. She had a big pile of books and new skate tricks to learn, movies, and online hangouts. Best of all, everything would happen when Lucy wanted it to happen. Time didn't matter any more.

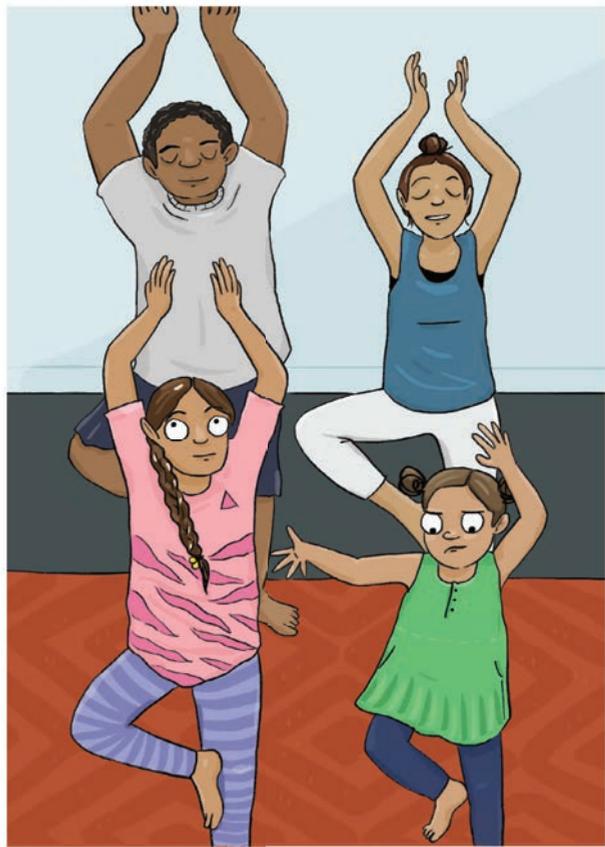
But Lucy's father had other ideas. "Breakfast will be at seven-thirty sharp," he announced at dinner the night before they went to level 4. "And I expect you to be at the table, showered and dressed. Routine. That's how we'll get through this." By the following morning, he'd drawn up charts and a daily timetable, with one hour of free screen time each day.

Lucy was appalled. "Dad's planning current-events quizzes!" she messaged her friends – but things were just as bad with them.

"My dad's making us do yoga," Maia said.

"Yoga ... lucky," said Toby. "We have a family meeting each morning. You can only speak if you're holding the talking stick. My little brother never shuts up."

"Sad!" said Matthew. "We get to stay in bed till we want."



Lucy had never liked watching the news, and now it was especially bad. She didn't want to hear about lonely grandparents in rest homes and travellers stuck overseas. She didn't want to know the number of people getting sick. Or dying. What about the happy stories? Where were they?

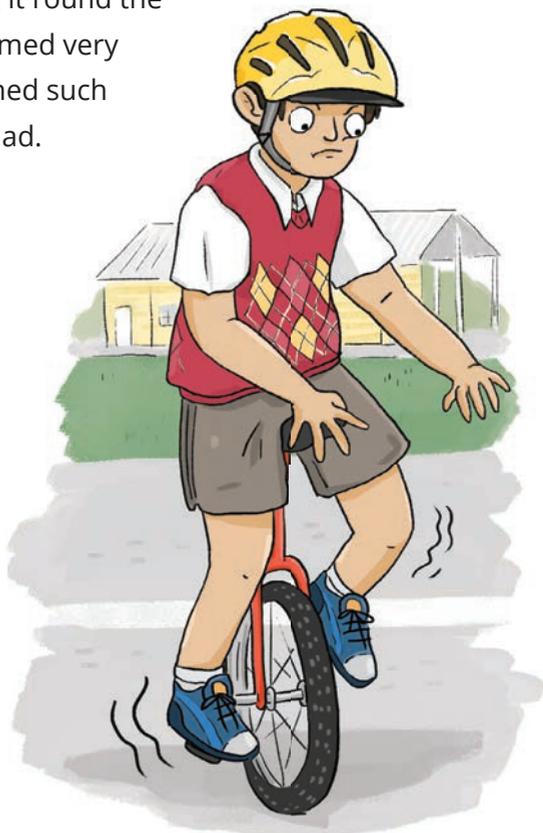
"You should try Bigg News," Maia wrote. "It's nothing like the other sites. You'll like it."

The next day, right before the family quiz, Lucy logged on to Bigg News. Maia was right. She did like it. All the stories were so positive. Lucy read about the farmer who fell down a bank and was rescued by his dog and the little kid who gave all his money to a food bank. There were stories about the scientists working on a vaccine and countries that had flattened the curve. Bigg News was exactly what Lucy had been looking for.

The most amazing thing about the site was that it was run by Andrew Biggs, a boy who went to Lucy's school. Everyone said he was a genius. He wore bright coloured vests and shorts every day, even in winter. One time, he brought his pet rabbit to school on a leash, walking it round the playground like a tiny dog. Andrew seemed very serious. Lucy was surprised he'd designed such a happy website, but she was glad he had. She promised herself she would find him and thank him when life returned to normal.

But when school finally did go back, Lucy forgot all about Andrew Biggs. There were so many things to catch up on. Then, one lunchtime, she was talking to her friends when she noticed someone at the far end of the courts, trying to ride a unicycle.

"Look! There's Andrew Biggs," Toby said. "Man, I loved his news site during lockdown."



"I know, right," said Calvin. "All those profiles of mountain bikers were awesome." Calvin was obsessed with biking. He especially loved footage of people flipping off jumps while they clung to their handlebars like frogs and was always sharing links with his friends.

"Mountain bikers?" said Toby. "I didn't see any of them. I was too busy reading about the people who think Covid comes from cellphone towers! And what about that person in Queenstown who saw a UFO?"

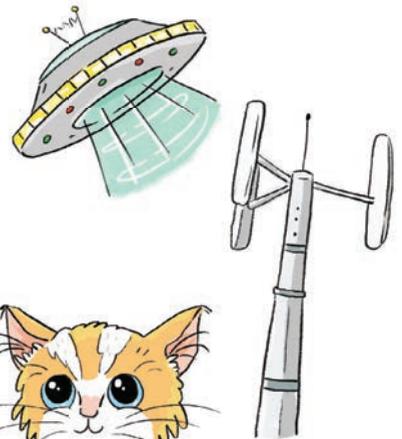
"What are you on about?" said Maia. "I just saw heaps of cute animal photos - all those stories about the SPCA and people who had adopted animals. That's why I told you about it, Lucy."

Lucy was confused. "Well, there were *some* animals in the news," she conceded, thinking about the story of the dog. "But it was mostly just positive stories."

"News?" Matthew screwed up his nose. "Boring!" He was into baking. "What about all those awesome recipes? I made brownies and cheesecake and Russian fudge. My dad loved it."

"OK, so this makes no sense," said Lucy. "How come we were on the same site but seeing different stuff? We're talking about Bigg News, right?"

They all nodded. Maia even pulled out her phone and found a photo of a kitten. It was all very odd. And no one could think of a plausible explanation.



"Ask Andrew," Toby suggested.

So Lucy shouted Andrew's name and waved her arms above her head like she was signalling a plane.

Andrew pedalled slowly and carefully across the court. He stopped in front of them. "What?" he said.

"You make that news website, right?" said Lucy.

Andrew nodded. He wasn't a big talker.

"So, we were looking at it during lockdown," she continued. "We all liked it, but for different reasons. No one can agree ..."

Andrew nodded again. He knew where this was heading. "Algorithms."

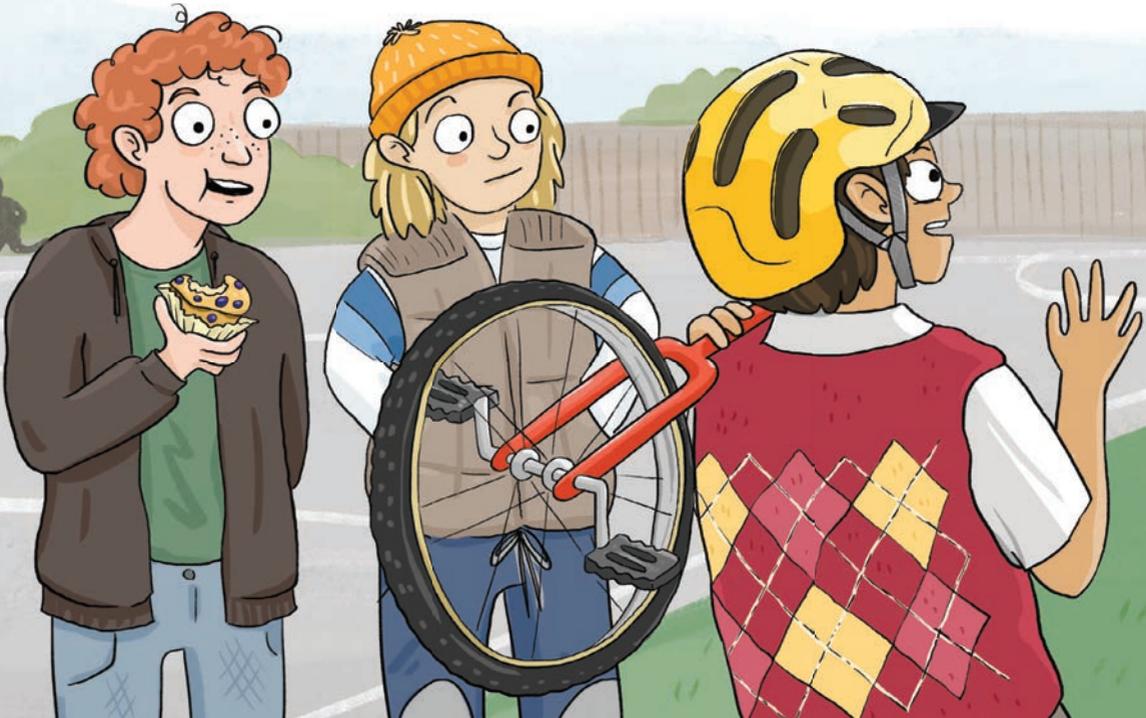
"Algorithms?" said Lucy. It was one of those words ... like mercenary or banal. She *thought* she knew what it meant.

"Yep. You got it," said Andrew.

Lucy looked at Maia, who shrugged. Toby shrugged, too. None of them knew what he was talking about.

"What are they again?" Lucy asked.

Andrew Biggs slid off his unicycle and swung it over his shoulder. He looked at them and smiled.



“Thank you for asking,” he said. “Putting it simply, an algorithm is a computer program that recognises and responds to patterns. It’s how machines solve problems. The best algorithms allow a machine to learn as it goes. That’s why computers can beat people at chess.”

Lucy nodded. This was sounding familiar, though she only half understood. What did news have to do with winning chess? “So how do algorithms work on your site?” she asked.

Andrew switched his unicycle to his other shoulder. “Whenever you visit my site, the algorithm looks at all the things you’ve been doing on your computer like the songs you’ve been listening to, the movies you’ve been watching ... even who you’ve been talking to. Then it finds people with similar tastes and looks at the stuff they click on and that’s what the algorithm will offer you. It’s found a reliable pattern, which solves the problem of what you want. If you like to watch horror movies, for example, the computer won’t match you with an article about a dog that thinks a sheep is its mother.”

It seemed that Andrew was a big talker after all.

“That sounds cute,” Maia said. Calvin put his finger in his mouth and made a vomiting noise.



But Andrew wasn't finished. "The more people who use my site and make choices, the better the algorithm gets at guessing what they want. That's what I mean about the computer learning as it goes. All the big companies use algorithms now. They want to sell you things."

"Wow," said Lucy. "That's kind of clever."

Andrew looked unimpressed. It made Lucy think she'd missed something. "OK," he said. "I'll get back to my unicycle, then. Bye."

"Wait a minute," Lucy said, but Andrew was pedalling away.

"Sorry," he called back. "Once I get this thing going, it's hard to stop."

Lucy ran after Andrew. She watched him practise figures of eight while they talked. "You don't think algorithms are clever, do you?" she asked.

"Oh, I do," Andrew said over his shoulder. "I also think they're a terrible idea." He stopped and slipped off his seat. "Guess why?" he asked.

Lucy felt a little kick of panic. It was the same way she felt when Ms Potts asked her a question that she couldn't answer. She breathed in and let the air out slowly. She thought about loyal dogs and mountain bikers and Russian fudge. Then she thought about vaccines and the curve – and the answer came to her straight away.

"If we only look at the stuff we *want* to look at," Lucy said, "we'll miss out on other stuff, and we won't know what it was. It might have been important. How will we know if we've missed something that really matters?"

Andrew smiled. "Exactly," he said.



Illustrations by
Giselle Clarkson

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