



SCHOOL JOURNAL

MAY 2016



TITLE	READING YEAR LEVEL
Māui	6
The Duel: The Inventors Awaken	6
Six	6
The Healers' Apprentice	5
The Past beneath Our Feet	6
Seed Savers	5
No Sun	5

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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Māui

by André Ngāpō



Dad's taken us out to our secret fishing spot – just me and Te Paea. There's no one round for miles. Small waves lick and tickle the side of the boat as the sun climbs higher and higher. My fishing rod stands straight, cutting a line across the blue sky.

“How are you going?” Dad asks.

“Fine,” I say, although I'm wishing Mum was with us. There's no point saying it. I'm sure Dad's wishing the same thing.

“Look,” says Te Paea, pointing to my rod. The tip's suddenly begun to dip and twitch, curving down towards the sea. I grab the rod, feel the tug on the line. I carefully reel in the fish like Dad taught me.

“Ka pai, Tiki! A tāmure,” Dad says. He reaches over with the net. “It’s a good size too.” Dad’s right. My snapper’s a big one – and we can keep it. Dad threw his first catch back.

“Luck,” Te Paea says, eyeing up my fish.

“Pure skill,” I say.

Dad helps me get the hook out of the snapper’s mouth. We say a karakia of thanks to Tangaroa and Hinemoana, then Te Paea changes the bait on her hook to squid and Dad chooses a new sinker. The competition’s on. They cast out at the same time, Te Paea’s rig flying through the air almost as far as Dad’s. I take my time. I don’t need to rush – I’ve got my fish, not like them.

“Hey, over there! A popoto!” Te Paea calls. I look and see a dolphin shooting through the water just behind us.

“There are more,” Dad says, pointing. Now four Māui dolphins are playing round the boat. They catapult into the air, slapping their sleek, shiny bodies against the surface of the water. It looks like so much fun I wish I was swimming with them.

“We should bring our lines in,” Dad says.



We reel in and wait while Dad rings the Department of Conservation. He tells the person on the phone exactly where our boat is anchored and describes each dolphin in great detail. When the call's finished, I see him checking for texts. Then he puts his phone away, looking relieved. We don't say anything, just sit quietly, watching the black and white streaks playing and racing in the water.

"Not many left now, eh, Dad?" says Te Paea.

"Åe. Not many at all."

"How many?" I ask.

"I'm not sure," Dad says. "Less than a hundred."

"Really? A hundred's nothing!"

"It's sad," says Te Paea.

Dad looks sad, too, much sadder than usual. "It sure is," he says.

We feel a bump. I peer over the side of the boat and see a dolphin staring straight at me – a little scar on the side of his nose.

"Look! I wonder how he got that scar," I say.

"It could be a she," Te Paea says.

The dolphin's real friendly. He follows us all the way to our island, the one where we always stop for lunch. He watches as Dad cuts the engine and chucks the anchor over the side. He's still watching as we wade ashore with our gear and lay out a picnic.





The food's different from usual. Mum always packs sausage rolls and banana cake, but Nan made lunch this time. Dad sees me looking and guesses what's on my mind. "Mum will be fine today," he says. He takes the lid off a big container of egg sandwiches. "She's glad we decided to come out. It's such a beautiful day. She said it would be good to charge our batteries."

I imagine Mum sitting in her green chair, trying to charge her own batteries, the sun hot and bright over her.

“Dad, why are they called Māui dolphins?” I ask. We’re lying about doing nothing, the three of us just lazing in the sand. “Are they named after Māui-tikitiki?”

“What do you know about Māui-tikitiki?” Dad asks.

“We learnt some stories at school. He’s the one who was cast out to sea, the cheeky one – cheeky, like a dolphin.”

“You could be onto something there,” Dad says.

“Māui-tikitiki is the one who stole stuff,” says Te Paea.

Dad looks amused. “Stole stuff?”

“He took fire and his grandmother’s jawbone,” I say.

“And wasn’t he the one who tried to cheat death?” asks Te Paea.

“Oh, yeah, I’d forgotten that bit,” I say.

Behind us, somewhere in the mānuka, I hear a fantail. Or at least I think I do. We’re quiet for a long time, the dolphin nowhere in sight.

The sun’s dropping out of the sky, down towards the horizon. We stop for a quick fish on the way home, then pack everything away for the bumpy ride over the bar. Four snapper, two gurnard, and two kahawai are stashed in the cooler. Mum will be pleased about the kahawai. Smoked, they’re her favourite.

The boat’s slicing through the water when Te Paea points back the way we came. It’s the dolphin. We agree it must be the friendly one, the one with the scar. “He followed us all the way,” she says.

The headland is approaching fast, the choppy bar not far away – daring us to pass through. Dad slows the engine, and the dolphin comes right up to the boat before suddenly dashing off to leap high in the air. Then he dives in the water, his tail disappears, and he’s gone.

“Do you think the popoto will make it, Dad?” I ask.

“I hope so,” he says.

Dad gazes after the dolphin for a moment. Then he looks back to shore. “Right, let’s get that kahawai home to your mum. Are you ready?”



Te Paea and I hold tight while Dad guides the boat through the push of the current. He's expert at this, always steering us safely through the breaking waves towards home.

illustrations by Rachel Walker



THE PAST BENEATH OUR FEET

BY ROSS CALMAN

There are thousands of clues about the past buried in the earth. Some may be right beneath your feet. Ngāi Tahu archaeologist Atholl Anderson has spent his life excavating these clues and working out what they tell us. For him, it all started with dinosaurs.

“ When I was a boy, I loved dinosaurs, but we didn't have much information about them back then. Palaeontologists sometimes wrote stories, and there was a man whose books I was mad about – Roy Chapman Andrews. He worked at the American Museum of Natural History in New York. During the 1920s, Andrews led an expedition to Mongolia to dig up dinosaur fossils. He wrote about his amazing adventures: being chased by bandits across the Gobi Desert, shooting from the back of the car ... that kind of thing. It was like cowboys and Indians and, of course, that suited me. I thought, 'I'll be a palaeontologist and dig up dinosaurs in remote places, too.' ”

There was one snag. Dinosaurs had yet to be discovered in New Zealand. (Joan Wiffen didn't find New Zealand's first dinosaur fossil – a **vertebra** from a theropod – until 1975.) It was a big snag, so Atholl thought maybe he wouldn't be a palaeontologist after all. Luckily, he was also interested in history. He could be an archaeologist!

“ Palaeontologists and archaeologists do pretty much the same thing. We excavate material that gives us information about the past. The main difference is that palaeontologists want to learn about animals and plants, whereas archaeologists are interested in people. We want to know how people lived, what they ate, what they did each day. To find answers, we dig at the sites where people once lived. We also look for middens. These ancient rubbish dumps contain fish bones, bird bones, shells, broken tools – all kinds of treasure! ”



A midden unearthed in Takapuna

Atholl's main focus has been tracking early human **migration** across the oceans and finding the sites where people landed. These sites were the beginnings of new societies, and this idea has always been of great interest to Atholl. He studies how these new societies changed over time. Atholl's great-great-great-grandmother was a Ngāi Tahu woman who married a sealer living on Whenuahou (also known as Codfish Island), a small island off the west coast of Rakiura/Stewart Island. Because of Atholl's Ngāi Tahu whakapapa, learning about the first Māori in Aotearoa has special significance for him.

Among the earliest sites of human habitation in Aotearoa, Wairau Bar near Blenheim is the best known. The first people arrived there from East Polynesia around 1270 to 1300. We know this because archaeologists have used radiocarbon dating to work out the age of **artefacts** found at the Wairau Bar site.



Two fish-hooks found in the middens at Wairau Bar

Archaeologists digging at Wairau Bar in the 1960s




WHAT IS RADIOCARBON DATING?

Radiocarbon dating is a method scientists use to estimate the age of biological material – something many artefacts are made of. This material, such as wood, shell, and bone, was once part of a living thing, so it contains an **element** called carbon. As they grow, living things absorb a form of carbon from the atmosphere known as radioactive carbon. When an animal or a plant dies, it stops absorbing radioactive carbon. Because radioactive carbon decays at a known rate, scientists can work out when the living thing died. They can tell how old an artefact is by the amount of radioactive carbon it contains.

Radiocarbon dating can tell us when the first people arrived, but it can't tell us where they came from. So how do we know the first New Zealanders came from East Polynesia? Again, Atholl says that artefacts provide an important link.

“Some of the things found at Wairau Bar were very similar to artefacts of the same age from Tahiti and the Cook Islands. The stone adzes, for example, were exactly the same shape in all three places. The whale-tooth necklaces were also very alike, made in the same way. Artefacts are often the connection across different societies. They are like clues from the past.”



A whale-tooth necklace found in a midden at Wairau Bar

Atholl says that archaeologists have lots of ways to establish connections between societies, such as looking at language. Among East Polynesian languages, te reo Māori is closest to Tahitian and Cook Islands Māori. Atholl has a story about this:

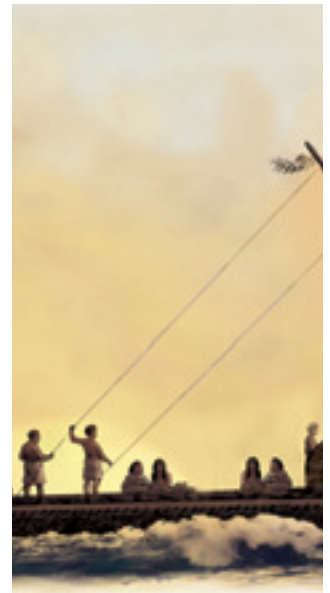
“When Captain Cook visited New Zealand in 1769, he brought with him a Tahitian named Tupaia. Tupaia had no problem communicating with Māori, despite the fact he'd never been here before. So that definitely tells us something.

In the same way, te reo Māori is similar to the language spoken by Moriori on the Chatham Islands. These languages – Tahitian, Cook Islands Māori, te reo Māori, and Moriori – are so similar it suggests the people who speak them must share common ancestors.

”

Archaeologists also use **genetics** to prove connections between different groups of people. They are especially interested in dentine, a source of **DNA** found in human teeth. They compare DNA from teeth found in archaeological sites in Aotearoa with DNA from sites in East Polynesia. Genetic similarities can prove that people were related.

Another area that provides valuable information is palaeoclimatology. This is looking at climate change over the centuries. Because the first migrants arrived here by boat, studying wind patterns is especially valuable. It can tell us where people came from as well as when.





“

I think that the waka Polynesians used to make long journeys could only sail with the wind behind them. This was unlike European sailing ships, which could sail to a limited extent against the wind. During the 1200s, the wind blew mostly from the north-east, down from East Polynesia towards New Zealand. That's the time we believe settlement occurred here. By the late fourteenth century, the wind patterns had changed. There were more westerlies. That's the wrong direction if you're trying to get here from the north-east! After that, New Zealand became a lot more isolated for a time.

”

Archaeology has given Atholl the opportunity to visit lots of interesting places. He's been to Madagascar, off the east coast of Africa, and the Galapagos Islands, off the west coast of South America. But no matter where the work has taken him, Atholl says it's all been about building a picture of the past. He believes that learning about our past is essential because it helps us to understand the present.

“To know ourselves properly, we need to think about where we've come from. We need to understand how our different societies have changed. Take Māori, for example. How have their beliefs, customs, and language changed over the decades and centuries? Then you need to think about why these things have changed. You have to know where Māori have come from – in the broadest possible sense – to understand Māori today.”





GLOSSARY

artefact: an object made by a person, such as a tool or work of art

DNA (deoxyribonucleic acid): the genetic information in a cell that tells the cell what it is (such as skin, hair, bone) and how to grow

element: a substance that can't be broken down into anything else because it is made from only one kind of atom

genetics: the study of inherited characteristics and their variation between people

migration: the movement of people from one place to another

vertebra: one of the small bones that make up the spine

▲
A midden like those found at Wairau Bar

THE DUEL

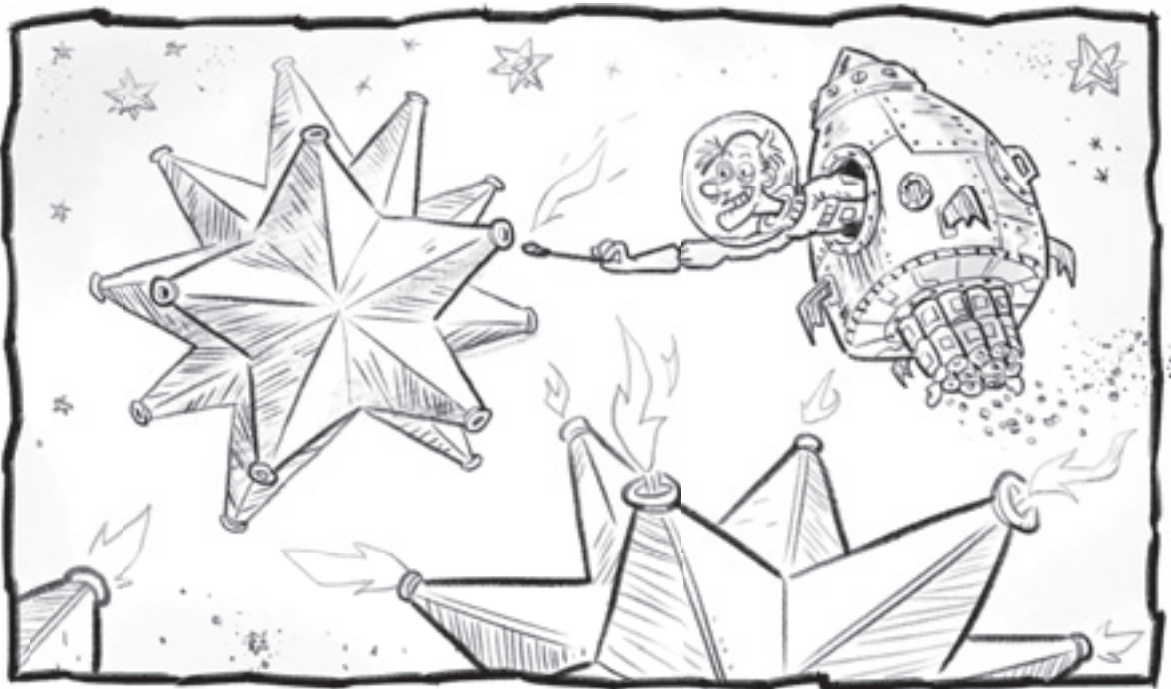
The Inventors Awaken

by Simon Cooke

“Something’s upsetting your grandpa,” Mum says when I get home from school. “He’s flatter than a pancake. I think you should go over.”

That doesn’t sound like Grandpa Sid. He has more fizz-bang than a fireworks display. “I’ll bike over right now,” I say.

If you don’t know already, my grandpa’s an inventor. He came up with the ideas for the moon and the stars and then rocket ships so we could explore them. He also invented handstands, Saturdays, and furless cats (an accident for which he later apologised).



When I get to his house,
Grandpa Sid doesn't answer
the door, so I let myself in
with the spare key.



The house feels unfamiliar. Usually it's filled with the noise of Grandpa Sid working, but today, it's strangely quiet. I check in the Inventing Room, but he's not there. I find him in the Thinking Room. He looks very sad, and I give him an extra-big hug. I'm not sure who invented hugs, but whoever did was a genius – almost as clever as Grandpa Sid.



“What’s the matter, Grandpa?” I ask.

“It’s a very long story,” he says. “Have I ever told you how I got started as an inventor?”

I shake my head. It’s one story he hasn’t told me.

“A long time ago,” Grandpa Sid begins, “before you and your mother were born, people just sat in caves grunting. One day I decided enough was enough – we needed a system! So I invented words that had meaning, and I called this system language.” Grandpa Sid smiles broadly at the memory.

“It’s a good system, too,” I say.

“It is,” Grandpa Sid agrees. “Language is how people communicate ideas. Language allows invention. In fact, you could argue that I invented invention,” he adds modestly.

“You really could,” I agree. After all, I’m here to cheer him up.

“I mean think about it,” Grandpa Sid continues. “Invention is about ideas – and ideas build on ideas. Take cars, for example. If someone hadn’t thought about wheels, cars wouldn’t be much use, eh?”



“And what is soccer without the invention of the soccer ball?
And campfires without fire?”



“Imagine inventors trying to invent those things without language!”
“It would be impossible,” I agree. “So, what did you invent after
language?” I ask this because I know Grandpa Sid wants me to.

Grandpa Sid looks happier as he remembers. “Lots of things. Sausages, socks, and singing.” He winks at me. “And let’s not forget noses. I invented those for health and safety reasons ...”



“Did you invent *everything*?” I ask.

“Not quite,” says Grandpa Sid. “I soon realised that I couldn’t keep up with demand. So I invented special institutes for training other inventors. It was the best of ideas; it was the worst of ideas.”

“Why, Grandpa Sid?”

“Well, in the years that followed, the human race gained many wonderful things. But not all inventors – or their inventions – are good, Emma. I worked alongside Baron von Spanner, a talented student I’d recruited to become my apprentice. I thought we were a team, but one day, I woke to find I was wrong. While I slept, that dastardly von Spanner had invented chains and padlocks, and he used them against me.”

Baron von Spanner? I’d never heard of him.

“You’d think it was the end for me – that Baron von Spanner had won,” says Grandpa Sid, “but you’d be wrong. I invented escapology!”

“Way to go, Grandpa Sid,” I say, offering my hand for a high-five. But Grandpa Sid shakes his head.



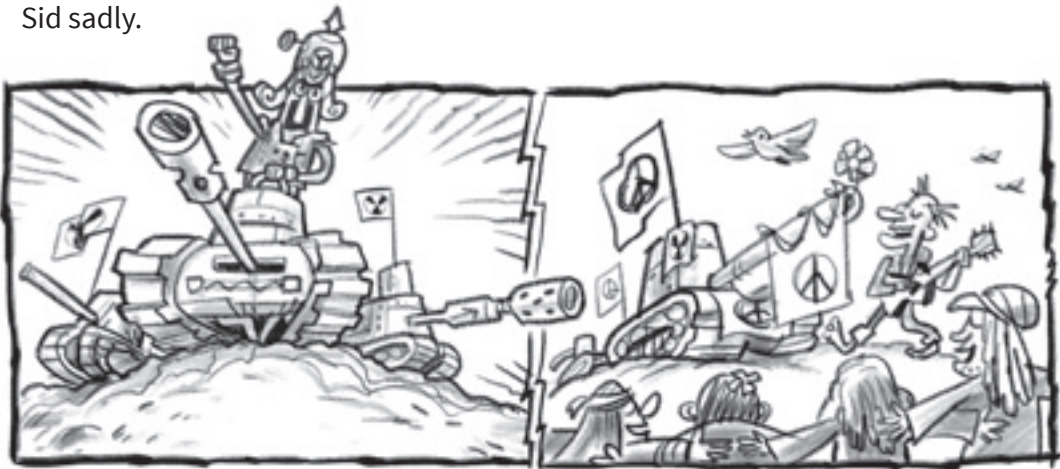
“Unfortunately, when I was finally free, I saw that my problems weren’t over. While I’d been imprisoned, von Spanner had invented machines that polluted the air ... the ground ... the water. It was an environmental disaster! Any lesser person would have found a cave and gone back to grunting – but I couldn’t. I was the only person who stood between the world and its destruction. So I did the obvious.”

There is no obvious with Grandpa Sid, so I just nod.

“I challenged von Spanner to an inventors’ duel.”

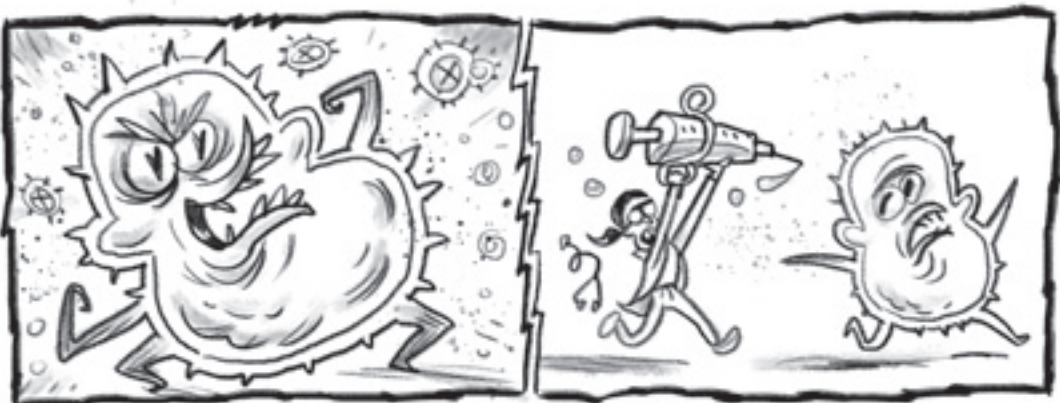
“What’s an inventors’ duel?” I ask.

“It’s what happens when all hope of negotiation has gone,” says Grandpa Sid sadly.



“Baron von Spanner started the duel by inventing war.

So I invented peace.



He invented disease.

So I invented medicine.

“For every idea von Spanner came up with, I neutralised it with one of my own. On and on it went ...” Grandpa Sid takes a handkerchief from his pocket and wipes his forehead.

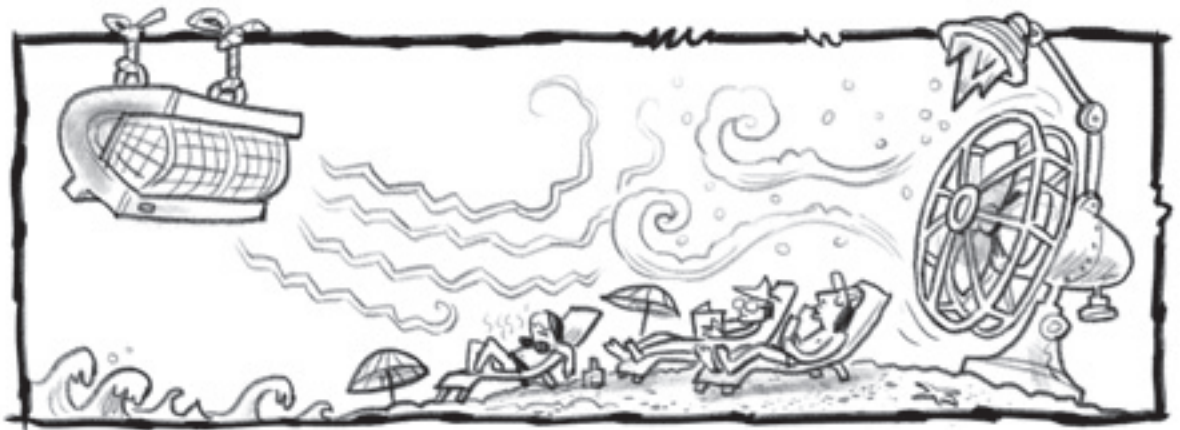
“What happened to Baron von Spanner?” I ask. “How did you get rid of him?”

“Rid of him?” says Grandpa Sid. He looks at me sadly. “I didn’t. And just this week he’s made contact after years of silence. Von Spanner wants another challenge – winner takes all. That man’s onto something big, I can feel it. He wouldn’t have challenged me otherwise – and I can’t stop him.”

I don’t believe this. Grandpa Sid can do anything. “You can’t give up, Grandpa,” I say. “You’re the greatest inventor in the world – better than Baron von Spanner will ever be.”

“Thanks, Emma,” says Grandpa Sid, “but I’m tired. I’m running out of ideas. Who knows what von Spanner will come up with next? A device to heat Earth’s atmosphere and cook us all?”

“Then you’ll invent a device to cool us down,” I say.



“What if he breeds giant cockroaches that eat everything, including the kitchen sink?” says Grandpa Sid.



“Then you’ll invent cockroach-eating kitchen sinks,” I reply.



“But what if he invents a popple-dopple-ate-a-nator?” asks Grandpa Sid.

“I don’t even know what that is,” I say.

“Neither do I!” Grandpa Sid grins. His mood has suddenly changed.

“But congratulations. The job’s yours. You’ll be perfect!”

“What job?” I have no idea what he’s talking about.

“My apprentice,” says Grandpa Sid.

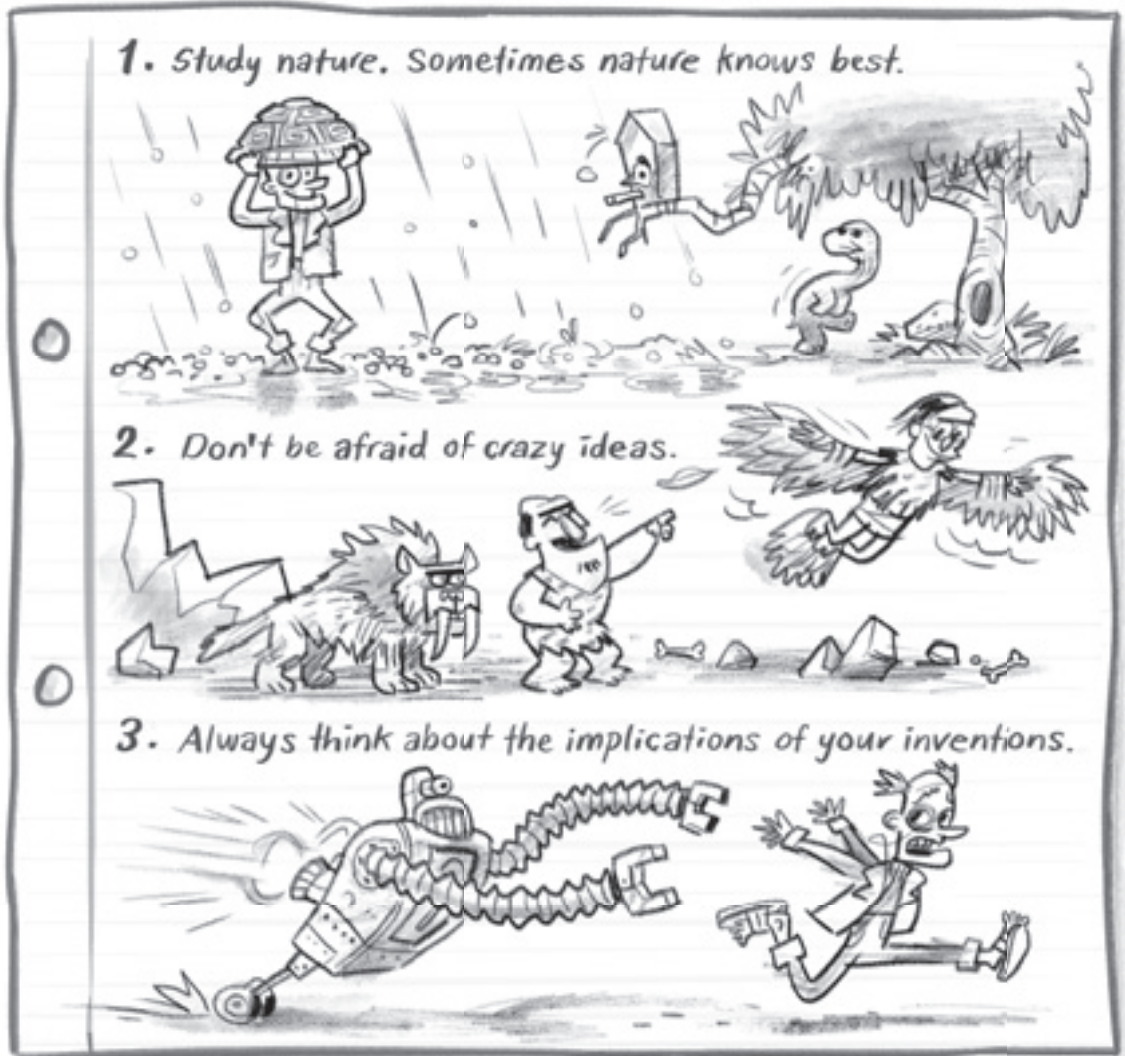
“Me?” Strictly speaking, Grandpa Sid already has an apprentice – but I decide now’s not the time to remind him.

“Why not?” says Grandpa Sid. “You’re smart, aren’t you?”

I nod cautiously.

“Good. If we’re to vanquish von Spanner forever, you’ll need to be very smart. Let’s start your training right away,” Grandpa says, jumping up.

“There are three fundamental rules for inventors,” Grandpa Sid says.



“Baron von Spanner never thinks about lesson number three,” says Grandpa Sid. “Worse – he doesn’t care. Always care, Emma. That’s very important.”

“I will, Grandpa,” I promise.

Grandpa Sid hands me a notebook. “Every inventor should have one of these to write down their ideas,” he says. “Keep it on hand. You never know when inspiration will tap you on the shoulder.”

Grandpa Sid now has a spring back in his step and a sparkle in his eye. I decide it's OK to go home and get to work.

"Come back tomorrow," says Grandpa Sid. "And don't be late. We have work to do."

I squeeze my notebook into my back pocket and jump on my bike, the ideas already fizz-banging in my brain like fireworks. Who knows what will happen next ...*



illustrations by Gavin Mouldey

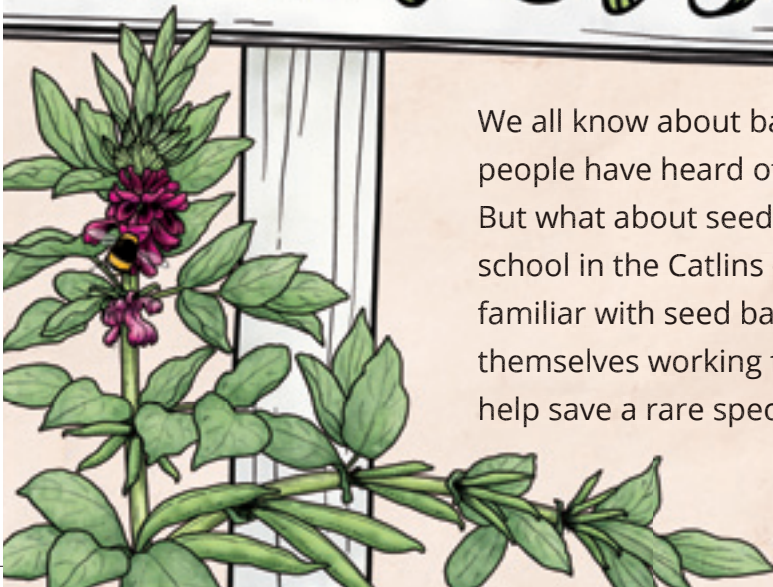
* If you want to know what happens next, look out for the August 2016 Level 3 School Journal.



Seed Savers

by Diana Noonan

We all know about banks for money – and most people have heard of food banks and blood banks. But what about seed banks? Students at a small school in the Catlins – Tahakopa School – are very familiar with seed banks. Recently, they found themselves working for one. They were asked to help save a rare species of broad bean.





Seed Banks

Seed banks are places in which seeds are looked after for the future. The seeds are kept cool and dry, and they are replaced regularly. Seed banks can be found all around the world. Some store the seeds of essential food crops, such as beans, wheat, and rice. Other seed banks are for wild or native plants.

Seeds are stored for different reasons. The most important is to ensure biodiversity. This means growing as many different plants – and varieties of each plant – as possible. We don't want to lose a plant that might one day become important. For example, a new pest may kill one variety of potato but not another. Or some varieties of corn may grow better in drought conditions caused by climate change. And who knows which wild plants might cure a new disease. Because we don't know what the future will bring, it's best to keep our options open. Seed banks are a way of doing this.

SEED SAVING IN NEW ZEALAND

New Zealand has many kinds of seed banks, which all work in different ways. Some are run by home gardeners who help save seeds that grow well in their local areas. Other seed banks work across New Zealand. For example, the New Zealand Indigenous Flora Seed Bank collects the seeds of our endangered native plants. Eventually, it wants to “bank” the seed of every native plant in the country. It's hard to predict which plants may one day be threatened by extinction.

There's also the Koanga Institute near Wairoa. This seed bank looks after the seeds of hundreds of **heritage** fruit and vegetables that are either from New Zealand or were brought here by our ancestors. Some of these plants are in danger of becoming extinct in their home country.

heritage: very old or passed down from earlier generations

Seed Guardians

Most seeds stay fresh for only a few years. After that, they won't grow into plants, so they need to be replaced. Replacing seed takes a lot of time for a seed bank because it involves growing hundreds – sometimes even thousands – of different plants. To help with this work, seed banks use “seed guardians”. These are volunteers who grow plants that will produce the fresh seed to return to the bank. This is exactly what the students at Tahakopa School did.

Joey, a student, explains: “The Southern Seed Bank asked a local gardener to grow a rare broad bean that has red flowers. But she'd already planted the more common, white-flowering kind. She was worried about cross-pollination, so she came to us. Our school garden didn't have broad beans, and we didn't have close neighbours growing beans.”

“But then we learnt that bees can fly a long way in search of pollen,” says Casey, another student at Tahakopa School. “That meant our ‘safe zone’ had to be double-checked. We made sure no one within 3 kilometres of our school was growing the white-flowering broad bean.”



CROSS-POLLINATION

To make seeds, most flowers need **pollen** from another flower. If the other flower is on a plant that is exactly the same kind as the first, the seed will grow into a plant exactly like its two “parent” plants. But sometimes pollen comes from a plant that is a little different. This is called cross-pollination, and it means the resulting seed will grow into a plant that's also different. For example, if red-flowering broad beans cross-pollinate with white-flowering broad beans, the next generation of beans may have red, white, or even pink flowers because they are a different variety.

pollen: a fine powder that comes from the male part of a flower and allows plants to reproduce



Extra Ingredients

The Tahakopa School garden had already been dug, so the soil was nice and loose. But no **nutrients** had been added for a long time. If the rare broad beans were to have the best chance, the students would need to add extra ingredients. "We added compost from our school compost bin and buckets of donkey poo," says Izzy. "These both contain a lot of nitrogen."

nutrients: minerals such as nitrogen and potassium, which plants need to grow

Planting Day

Spring arrived. It was time to sow the beans, but then it started to rain. The rain fell for three weeks, and the temperature dropped. It was the worst spring ever – but the seeds needed to go into the soil if there was to be enough time for them to grow into plants and form seed pods. One day, the rain stopped for a whole morning. The students quickly planted the beans. Then they laid a big sheet of clear plastic over the garden.

“We did this to help the soil warm up so the seeds would **germinate**,” Izzy remembers. “The plastic also kept the rain off. This meant that the beans wouldn’t get too wet and rot.” Lastly, to be extra cautious, the students built a framework so they could cover the garden with netting. The neighbours didn’t have broad beans – but they did have some wandering sheep!

germinate: begin to grow



Watching and Waiting

The cold, wet spring was followed by a hot, dry summer. Broad beans are known to be **hardy** plants, but then came the school holidays and problems with keeping up the watering schedule. The plants grew very slowly. Finally they flowered – but then there wasn't enough moisture in the ground to help the seed pods develop.

Broad beans usually take about four and a half months to produce beans. But Tahakopa's broad beans took seven months! "When we came back to school in February, the seed pods were still small and green," Casey says. "We watched them slowly grow bigger until finally they started to turn black. That's what we'd been waiting for!"

But before the pods could dry out properly, the rain came again! Like the previous spring, autumn was cold and wet. Worse, the rain was making the pods too wet, and some of them started rotting. And then there was another problem. Joey explains. "We opened a pod to see what was happening. The beans inside were wet and beginning to germinate!" If the students wanted to save *any* seed, they needed to act fast.

hardy: able to grow in harsh conditions



BROAD BEAN LIFE CYCLE



1. SEED germinates



2. PLANT grows STEMS and LEAVES



3. PLANT produces FLOWERS



4. FLOWERS are pollinated by INSECTS



5. SEED PODS develop



6. BEANS ready to be eaten (or dried)



The Seeds

The students picked any blackened pods and took out the beans. Ones that had started to germinate were taken home and sown in family gardens. Maybe they would grow through the winter. Beans that hadn't germinated were left to dry on sunny window sills. It was important to dry them properly. Any moisture could signal the bean to start germinating.

The Southern Seed Bank had provided 100 grams of seed, hoping for 300 grams in return. It was time to check the result. The dried seed was weighed: 120 grams. Not a brilliant result, but still an OK one. And the students were returning fresh seed, which was helpful. Plus seed guardians in other parts of the country had experienced better weather. Some of them were returning a lot more than 300 grams of seed.

So, would the students act as seed guardians again? Their answer is a definite yes, which is good news. Without seed guardians, many important plants could be lost forever – and that's not good for anyone.

No Sun

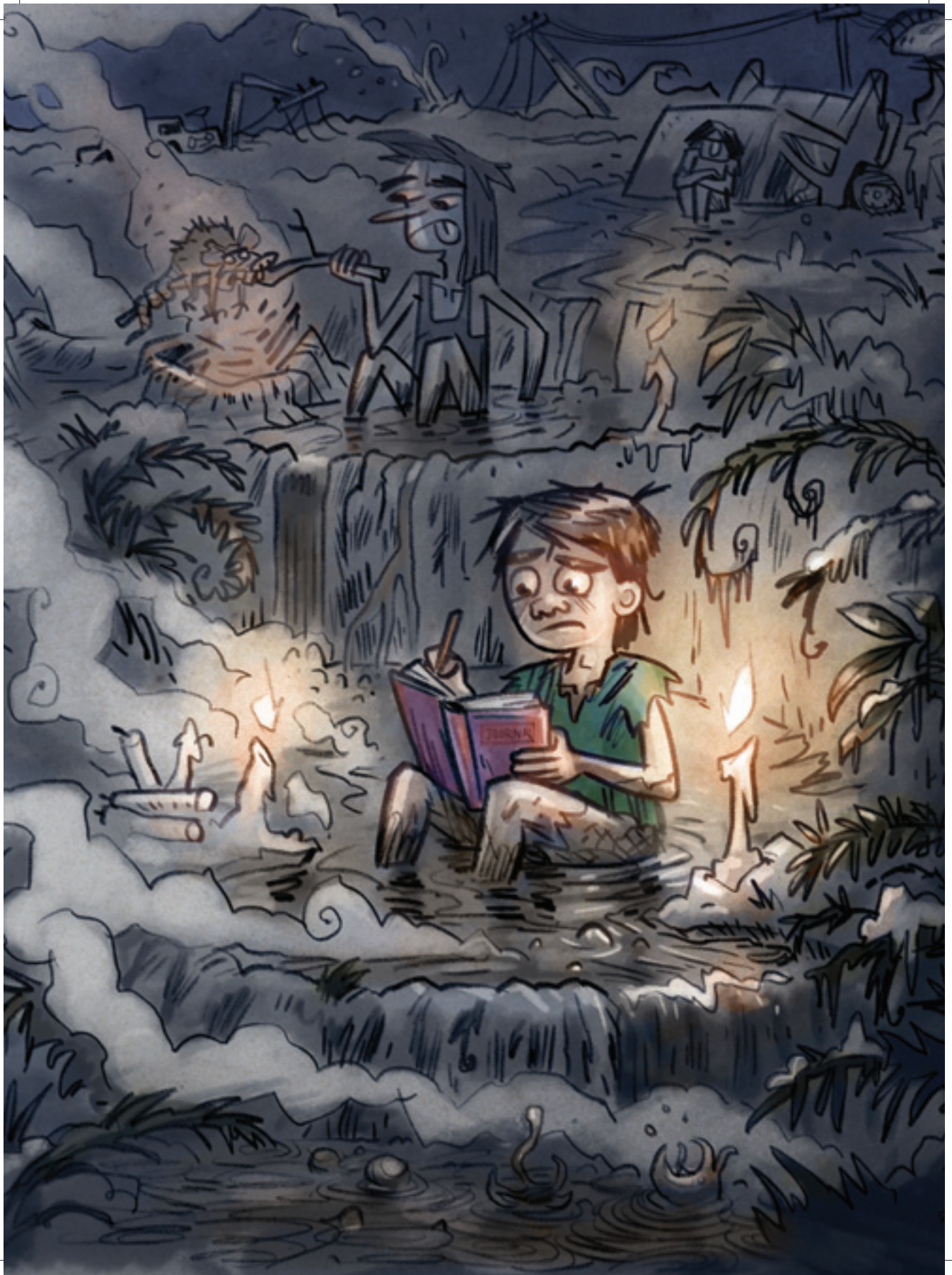


One day, the sun ran out.
At first it was just night, but then
the cold got colder.
Cars struggled through the snow.
The sea froze over.

Supplies ran low, then out.
We huddled round wood fires.
The stars flickered like a weak joke.
There was no moonlight. Most plants
and animals died. Rats survived.

We survived because we
lived in Rotorua.
Our boiling hot pools saved the day.
I mean the night.
I'm writing this by candlelight.

James Brown



Six

by Sarah Penwarden

Hannah sits on her bed with the presents laid out. She has lip gloss, fluffy pink pens, notebooks, and little gold bags to put them all in. One each for Chelsea, Emi, Amber, Sophie, and Ruby. Her mother can't understand why the girls are getting stuff when it's Hannah's birthday, but Hannah wants to give them something little, just for fun.

Their group began with Chelsea on the very first day of school. Hannah hadn't wanted her mum to go. She'd stood in the classroom, trying not cry. Then she heard a voice, and there was a girl with a blonde ponytail. The girl had freckles and pale blue eyes. Her eyes weren't friendly exactly. They were more like *knowing* eyes, as if she was sizing Hannah up.

"I'm Chelsea," the girl said. "I'll show you the junior playground." Chelsea had taken Hannah's hand, and they ran outside. They became best friends. They had a joint birthday party three years in a row, with their parents looking on, smiling. Then in year 3, Emi Waterfield started school – and they became three.

Last term, when they began intermediate, Hannah got the feeling Chelsea was a bit bored with their group. There were so many new girls, so many possible friends to choose from. It was Chelsea who got to know Amber and Sophie at netball practice. And it was Chelsea who sat next to Ruby on the bus. So now there were six of them.

Hannah checks the gold bags one more time. She bounces down the stairs and into the lounge. "Mum, I'm thinking I want ginger crunch, cupcakes, and those fruit skewers – you know, the ones with marshmallows. And maybe some popcorn."



Mum looks up from her work. "Yes, love. It's all arranged. And I've got the DVD booked, and I've ordered the cake you wanted. You just need to ask Emi's mother to pick Amber up on the way."

Hannah's impatient to have things organised. She phones Emi straight away, but they get distracted talking about Hannah's PE class. Alesha twisted her ankle, and Miss Trotter was gone for half the period. "Most of the kids started playing bull rush," Hannah tells Emi, "and some got rough, so Chelsea went to find Miss Trotter, and then Afa called her teacher's pet and –"

"Chelsea's not the teacher's pet," Emi interrupts her. "People always say that. It makes me really mad!"

"I know," Hannah says, ignoring the funny feeling that rises up. It's not like she was agreeing with them. Hannah always has the slight worry that Emi likes Chelsea more than Emi likes her. Would Emi be as mad if people called Hannah teacher's pet?

She swallows hard and continues. "I forgot to ask. When you come to my party on Saturday, can your mum pick up Amber?"

"Sure," Emi says. "We'll be there at three."

"No, it's two. My party starts at two."

"But don't you remember? Everyone's going over to Chelsea's place first to meet Twinkle. Then we're coming to your party."

"Oh," Hannah says. They're going to Chelsea's? Hannah's already met the new puppy, a tiny bundle of grey fluff with raisin eyes. The others have



only seen photos. Hannah understands they want to go – but why on her birthday?

“Chelsea said you wouldn’t mind,” Emi adds.

Hannah’s heart thumps. Her mind races with more questions. How come she doesn’t know? And why isn’t she invited?

“We talked about it yesterday, at break. Don’t you remember?”

Emi sounds irritated, but Hannah doesn’t remember. Maybe they talked when she went to the toilet. Or maybe she was at the tuck shop. Or maybe the other girls talked on purpose when Hannah wasn’t there.

“Why don’t you ring Chelsea?” Emi says. “Talk to her about it.” Hannah hears a yawn. “See you tomorrow,” and Emi hangs up.

Hannah stares at the phone for a while. Very slowly, she punches in Chelsea’s number.

“Hello?”

Hannah takes a deep breath. “Hey. It’s me. Emi says that everyone’s going to your place on Saturday to see Twinkle. Is that right?”

“The girls are *dying* to meet Twinkle. I knew you wouldn’t mind, and we’ll definitely be at your place by three. Is that OK?”

It isn’t OK, but Hannah doesn’t know how to say this. “Sure,” she says. “I guess.” Her voice is very quiet, but Chelsea doesn’t pick up on it. “I’ll see you tomorrow,” Hannah says.



Hannah puts the phone down. Her heart feels like someone's squeezing it. She walks back into the lounge and sits on the sofa, letting her hair fall over her eyes. After a while, her mother looks up. "Everything all right, love?"

Hannah tells her mum the whole story. Her mum's mad – Hannah can see it – but Hannah knows she won't say anything mean about Chelsea and the other girls. Instead, she goes back to the obvious. "But didn't you arrange for everyone to come here at two o'clock?"

Hannah keeps her head down and kicks the sofa with her feet. "I *thought* I did, but Emi and Chelsea say it's all arranged." Hannah sighs. "We can't change it now."

"Well, OK, but it's your special day. I just hope everyone understands that."
"They do," Hannah says, although she's not so sure.



The day of the party, they arrive on time at three – laughing and noisy. They give her presents and an enormous card. Hannah looks at her five lovely friends and can't stop smiling. Soon they're sitting on the sofa, watching the DVD. It feels like everyone's enjoying themselves, but they've hardly stopped talking about Twinkle: how cute he is; how lucky Chelsea is; how much they want puppies, too. Hannah looks over at Chelsea. Can she see that look in her eyes, or is Hannah imagining things?

Hannah gets up and goes into the kitchen. She opens the fridge to pull out the little bottles of drink. Then she walks over to the sliding door. It's late afternoon, and the garden's empty and quiet. There's a pile of rusty leaves gathered at the foot of the cherry tree. A sudden breeze scatters them across the lawn. Another gust of wind and the leaves are gone.

Hannah sighs. If things are changing, what can she do? Maybe it's all just in her head, anyway. She's been friends with Chelsea for six years, and they've always worked things out before.

She's going back to the others when Mum comes into the kitchen. "Everything OK, love?" she asks.

"Yes, Mum," Hannah says.
"Everything's fine."



illustrations by Bridget Monro



THE ROOM

by Renata Hopkins

In a time before our time, a great stone castle stood on a hill. In one of the castle's many rooms, a group of children were gathered. A girl named Mara stood at the back. Today she would learn if she would become the apprentice. Today she would learn her future.

The healers came forward and tied a cloth bag to the leather belt worn around each child's waist. "These bags contain a sample of what you seek," said Lonan, the eldest healer. "We shall see who among you has paid attention to your lessons. Only one apprentice will be chosen."

Bran glanced at Mara and smirked. He came from a long line of healers and was certain he'd follow in their footsteps. Unlike Mara. Her mother worked in the kitchen, her father in the stables.

The healers recited a short blessing. Then it was time to go. "Remember," said Lonan. "Each child must find a certain plant. Each child must complete the task alone. Each child must return by sunset. And remember, too, that we have ways of knowing if these rules are broken."



III THE BAG

Mara waited until she was outside the castle walls before opening her bag. There, she untied the cord and looked inside. Mara was filled with relief at what she saw. She had seen this plant many times.

“Rowan trees and red thread leave the witches all in dread,” she whispered to herself. The healers used the red berries of the rowan tree to treat various ailments. Some used its twigs to ward off evil spirits.

“You’ve a long walk ahead of you,” said a voice at Mara’s shoulder. Bran.

“Then I won’t waste my time talking,” Mara retorted. He was right – the rowan trees were high in the hills, half a day’s journey from the castle at least.

“Don’t worry,” Bran said. “There’s plenty of work for those who fail. You’d make a good maid – and an even better pig-mucker.” He laughed at the look on Mara’s face, then turned and disappeared into the forest.

THE BOAR

The further Mara travelled, the more her confidence grew. She passed many herbs, and she knew them all. There was meadowsweet for pain and fever, comfrey for healing wounds, plantain for stings. Mara began to imagine a future in which she was famed for her skills. People would travel from far and wide to ...

A squeal broke her trance, and a wild boar emerged from the bushes. Its tusks were monstrous. Mara felt for her knife as the animal grunted, lowered its head, and charged. She darted aside, leaping for the nearest tree. Her hands closed around a branch, but it was narrow – and as her legs swung up, the branch snapped. She twisted as she fell, landing like a cat on the rocky track. Mara sprang upright, holding the knife, but the boar had only charged because its path was blocked. It was gone as quickly as it had appeared.





IV THE TREE

By the time Mara reached the hill where the rowan trees grew, her legs ached. She did not stop to rest until she had gathered twigs, bark, *and* berries from a rowan tree. Then she collapsed. She leant against a tree to drink her water and eat the hazelnuts she'd collected along the way. High above, a falcon soared across the valley. Mara wished she had wings to fly home. Only the thought of Bran's smug face got her back on her feet.

THE ADDER

On the way home, Mara sang to keep herself company. She hadn't gone far when she suddenly stopped dead. Someone had joined in with her song. The sound came again, only it wasn't singing but a groan of pain, coming from the woods below. Mara left the high path. Cautiously, she walked into the shade of the trees.

"Hello?" she called. "Who's there?"

"Over here," came the faint reply.

The hair prickled on the back of Mara's neck. She'd heard tales of the banshees who haunted these woods – but the voice had sounded like a child's. Mara walked deeper into the shadows. A boy lay curled up on the ground.

"Bran!" Mara cried, rushing to his side. Bran's breath came in gasps, and his lower leg was red and swollen, two tidy puncture marks in the middle.

"An adder," Bran panted. "I felt the bite and saw it slide away."

The snake's poison would make Bran gravely ill. He needed the healers and their medicine. Yet Mara hesitated. She would never make it home before sunset, not if she helped Bran.

Mara reached for her water skin. She needed a moment to think.

It was rare for an adder's bite to kill. And did she really want to sacrifice her one chance because of Bran? *He would not help me*, Mara told herself. *He would leave me to the wolves and the bears if it meant he'd win.*

The boy guessed her thoughts. "Help me, Mara. Please. I don't want to stay here alone. I might die."

Mara said nothing. She had worked hard to get this far, and Bran hadn't. He took everything for granted – and he had never once shown her any kindness. Quite the opposite. From the very beginning, he'd made it clear he was somehow superior.

It was this last thought that helped Mara make up her mind. Bran *wasn't* better than her – but if she went on alone, then Mara would be *no better than Bran*. And that would be a fatal mistake.

Mara stood. She began to look for a strong, forked stick to make a crutch.



VI HOME

They did not talk much on the journey home. They did not have the strength. But when the sun finally slipped behind the hills, Bran spoke. “I’m sorry,” he whispered. “You could have made it without me.”

This was true, but Mara would not cry. “That’s OK,” she said. “I like pigs and their muck. They’re much simpler than people.”

A few hours later, Mara saw the lights of a search party. She called out, and it was not so long before they were found.

The next thing Mara knew it was morning and she was in her own bed. Lonan stood over her.

“Bran!” She tried to sit up, but Lonan stayed her with a hand.

“He is quite all right. He is being tended by a healer.”

Lonan passed her a cup, and Mara took a sip, pulling a face at the bitterness. “A tonic, for calming the nerves,” he said. “When you are better, you will learn to make it. That – and many other things.”

“But I returned after sunset. I failed.”

Lonan waved a hand as if shooing away a fly. “Sometimes it is best to break the rules.”

“I don’t understand.”

“You chose to help someone in need, though you knew the cost. That is a true sign of your calling.”

Mara looked at her teacher. Before now, he had always seemed so stern, frightening even. But now Lonan was smiling. His eyes were full of the magic and secrets they would soon share.

Mara smiled back. She was ready to learn.



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