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CHAPTER 1

Olivia sat on the floor in the tiny apartment, surrounded by a sea of **frothy plastic bubble wrap**, which covered the floor and the furniture. Things that looked like sharp triangular fins stuck out from the waves of wrapping material as though a school of sharks

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was swimming across the room. At a rickety little desk, Olivia's mother, the former queen of what had once been the **Kingdom of Alez**, now a republic, was bashing at a computer keyboard.

'MUM!' said Olivia. 'If you hit it that hard, you'll break it!'

'I hate these things,' said her mother fretfully. 'Why won't it do as I command?'

'Because,' Olivia told her for the thousandth time, 'computer commands are not the same as royal ones.'

Her mother's face darkened for a moment, but she pushed the thought away and forced a smile. 'Of course,' she said tightly. 'I must remember that I am not Queen Paragona now. I'm just an ordinary person.'

She recited the last sentence through gritted teeth. Olivia knew her mother had this written on a Post-it note stuck to the bathroom mirror and said it to herself each morning as she

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cleaned her teeth and got ready for the day.

‘And you’re doing really well at it!’ said Olivia cheerfully. ‘Think how many cool things you’ve done since you’ve not been royal any more!’

‘Hmmm.’ Her mother looked doubtful. But she perked up quickly. ‘I suppose it is nice to be in charge of my own life!’ she said. ‘I never got to choose what I wanted to do when I was royal. So that’s a plus!’

‘And your online tiara shop!’ said Olivia. ‘Royalty Rocks! You didn’t even know what the internet was when we lived in the palace. You’re **amazing**, Mum!’

‘Thank you, Olivia,’ said Paragona, discreetly wiping away a tear as she blushed. ‘It means so much to me to hear you say that.’

‘Look,’ continued Olivia, fishing one of the shark fins out of the bubble wrap. It was a silver crown with glinting jewels embedded in it. ‘You designed this one yourself!’

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‘It is rather beautiful,’ said Paragona shyly. ‘Imagine – I hadn’t even held my own pencil when I was the queen!’

‘We’ve got so many orders,’ said Olivia. ‘Everyone in Alez is, like, **“gotta get me a crown now”!**’

Paragona sighed. She didn’t like Olivia’s new way of speaking but she knew her daughter was just trying to fit into the world in which they now found themselves. ‘Ridiculous, isn’t it?’ she said. ‘They couldn’t wait to throw the royal family out, and now that we’re gone they all want to be us instead!’

Olivia shrugged. She didn’t really understand why so many people in the new Alez wanted to be princesses when she had hated being one.

Unlike her shocked and upset parents, Olivia had been relieved when they’d been forced to leave the royal palace and move to the city – especially as it meant she could finally go to

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school, which she hadn't been allowed to do when she was a princess. At that point, which Olivia now thought of as 'when she was really young', she had wanted to become a detective, but once she started school she had another much more exciting idea . . .

'How many orders today?' she asked her mother.

'No idea,' said Paragona, throwing up her hands in despair. 'This wretched object refuses to tell me.'

She gave the clunky second-hand laptop a look that would have turned courtiers to **jelly**, but had no impact at all on the whirring electronic device in front of her.



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Olivia jumped to her feet. ‘I’ll sort out the online orders,’ she said confidently. Since she’d started school, Olivia had quickly learned how to handle everything on a computer. ‘You do the unwrapping.’

Paragona looked at the chaos in her front room. She sighed again. Up at the royal mountaintop palace, she’d had so many rooms that if one got messy, she could just go into another until the servants had tidied up. The palace was so large that she could keep on going into new rooms for months before having to start again at the beginning.

But not any more. The day Alez became a republic, she, her husband Tolemy and their daughter Olivia had been thrown out of the front gates of the palace and sent down to the portside capital city to start their new lives as **ordinary citizens**. Now they lived in the tiniest of apartments in a tower block that was nestled

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among a forest of identical blocks. When they looked out of the window, they could see straight into the apartment opposite. Olivia loved looking at all the little boxes of windows with other families inside them.

But the best thing about their new home, in Olivia's opinion, was that it was high enough up for her to see just a **sliver of sea** in the bay. When they'd first arrived, Olivia was astonished to find that the country of Alez, which she had thought was a beautiful natural paradise, had changed beyond all recognition. In the palace library, she had pored over old photos and drawings of the landscape, which showed sparkling rivers, great still lakes, snowy mountains and endless deep-green forests. But, when she left the mountaintop palace, she found that, in reality, the trees were dying or had been cut down, the water was dirty and in short supply, and pollution hung over the city in a grey-brown blanket of smog.



Most surprising of all was the weather. It **changed** all the time. It was either far too hot or much too cold, and the rain didn't come when it was supposed to so everything dried up and died. Instead, a monsoon of water dropped all at once out of the sky and caused the city to flood! Huge storms raged across the valleys, pelting **massive hailstones** down in summer. Violent winds howled through the streets, whipping round the tall buildings like tornados, while the sea level crept higher and higher up the shore. It seemed to Olivia that the very weather itself had gone wrong.

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She began recording her observations in the little notebook that her Uncle Cassander had given her for her ‘new life’ at school. When she started school and learned about something called ‘**science**’, she was instantly hooked. Olivia always wanted to find out the reasons why things were the way they were, but at the palace no one could ever answer her questions. Once she got to school and discovered science, she realized the most exciting thing about her new life was that she could use the power of science to understand the mysteries of the natural world. With her two new friends, Helga

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and Ravi, she formed a society of investigators called ORHI (which stood for Office of Real High Investigations) so they could become scientists and crack the **Mystery of the Wrong Weather**.

Just then, Olivia and her mother heard the front door opening. Her dad's voice floated through to them, strong and confident. He'd been such a sad king the whole time he sat on the throne of Alez, as though, Olivia thought, he'd always known he wasn't really very good at it. But, in the months after they'd left the palace, her dad had got worse. He stopped speaking completely for a while and sat around all day in his pyjamas, gazing into the distance. Even making a cup of tea seemed too big a challenge for him.

But, after Olivia started to understand the importance of talking about feelings, and with help from her school counsellor, the former

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King Tolemy the Thirty-Second had cheered up again. Now he went once a week to see a therapist and had long chats about how it felt not to be the king any longer. And he began work at a community vegetable garden where he helped turn one of the old royal parks into a place where everyone could grow their own food. He still had bad days when he struggled to get out of bed, but he was so different now that Olivia had nearly stopped worrying about him.

‘Greetings, good and lovely citizens!’

Olivia’s dad burst through the door, beaming with joy. He was wearing his grubby gardening clothes (the opposite of his old velvet-and-fur royal robes). Olivia thought he looked much nicer that way. He stopped short when he saw the scene in the front room, and his face fell.

‘**Crowns,**’ he muttered in annoyance. ‘More crowns. Always crowns. When will it end?’

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Paragona looked up from her unwrapping. ‘You agreed,’ she said quietly. ‘You said this was a good idea.’

But Olivia smiled broadly at her dad. ‘Isn’t it awesome?!’ she said with rather too much enthusiasm. ‘Mum’s first order of home-designed crowns and tiaras has arrived – and everyone wants to buy one! We’re so proud of her, aren’t we, Dad?’

But before he could answer, two small figures ran into the room behind him. It was Ravi and Helga, Olivia’s friends from school.

‘The front door was open!’ said Ravi with a huge smile. ‘So we just came on in! Ooh, look, crowns! Which one’s mine?’



CHAPTER 2

Helga didn't look as delighted. She surveyed the scene in front of her with dismay.

'So much plastic!' she exclaimed.

Ravi fished out a delicate coronet glinting with tiny sparkling jewels, and placed it carefully on his head.



THE PROBLEM WITH PLASTIC

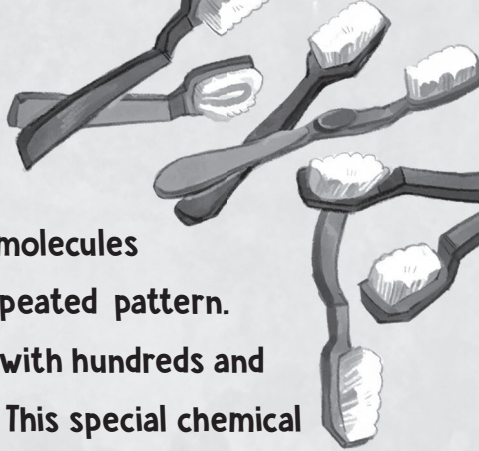
by Katsia Pabortsava

Plastic is the king of man-made material. It's everywhere and it's difficult to imagine our lives without it. Take this book you are reading right now, for example. The letters are printed with ink, which is a plastic. The pages are bound with glue and threads, which are plastics too. Look around – your fleece, the rug in your room, mobile phone, pen, shoes, birthday balloon, glitter – they are all made of different types of plastic or have some plastic in them. People make plastics from fossil fuels – oil and gas – which are the same substances that fuel our cars and heat our homes. Plastics

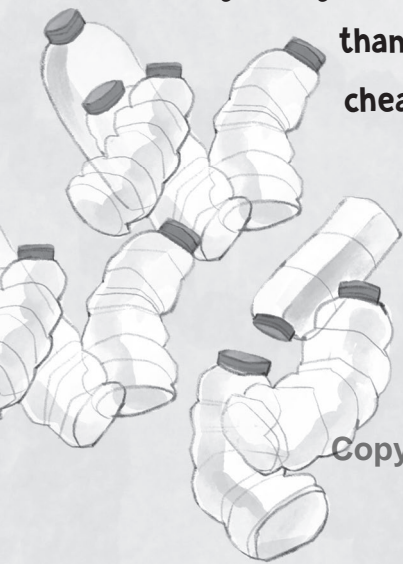


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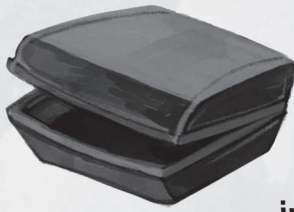
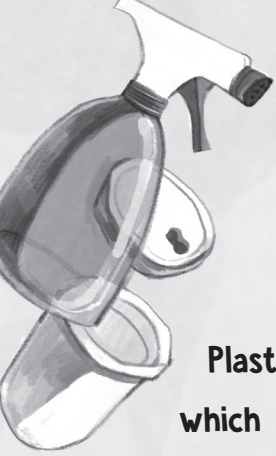
are polymers, meaning they are made of small molecules joined together in a repeated pattern. They are like long chains with hundreds and even thousands of links! This special chemical build allows plastics to be moulded into any shape by heating them. Plastics can also be mixed with different chemical substances, called additives, to make them hard or soft, sturdy or foamy, shiny and lots of different colours.



Plastic was created to help our lives. It is stronger, lighter, more durable and robust than many natural materials. It is cheaper to make and is available to everyone, everywhere. Plastic is often used instead of more expensive natural materials like cotton, wood, glass and metal. When



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plastic is used instead of wood, it saves trees from being cut down.

Plastic replaces cotton in our clothing, which saves all the fresh water required to grow it. Bottles made of plastic are lighter than glass ones and don't break if we drop them. For just over a hundred years, since plastic has existed, it has become a true superhero. It has given us waterproof clothing to stay warm and dry in the rainy weather. Plastic cling-film keeps our food fresh for days. Our cars are now lighter and use less fuel because many parts are made of plastic instead of metal. Plastic also heals and protects us from nasty diseases and viruses – things such as plasters and face masks contain plastic.



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But almost all the magical properties of plastics are also their curse. Because plastics are created to be superior to their natural siblings, they do not break down as quickly as wood or metal do. It means that once they have been produced and used, plastic stays in the environment for much longer. Scientists think that certain plastics could take hundreds or even thousands of years to completely degrade. Plastics are also made of different chemicals that get into the surrounding environment when they break down. Some of these chemicals can be poisonous and toxic for living organisms.



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‘Is this me?’ he asked the room in general.

‘Are those gems sustainably sourced?’ asked Helga accusingly, speaking directly to Paragona. ‘Mining can be very damaging to the environment and the local people!’

Helga had always been told by her mums that she must use her voice to **speak up** about issues she cared about. Which she certainly did, at **every opportunity**.

When Paragona first met Helga, she was astonished that her daughter’s friend seemed to think they were equals. But, since Paragona had got to know this determined, clever child, she’d come to enjoy their chats. It was refreshing, after all those years of bowing and scraping, to hear Helga speak her mind. Up to a point anyway.

‘Helga, those aren’t real jewels,’ Paragona replied. ‘They’re made of alternative materials.’

‘More plastic, you mean,’ said Helga, poking the sea of bubble wrap with her toe.

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‘But I think plastic is **marvellous**,’ protested Paragona. ‘It means I can make my crowns affordable for everyone! It’s democratic – I thought you’d appreciate that.’

Olivia sighed. Even though she suspected that Helga and her mum thoroughly enjoyed their disagreements, it all made her feel very uncomfortable.

‘Actually,’ retorted Helga, ‘it might be better if you used real ones – as long as they’ve been extracted in clean, safe ways.’

‘I don’t have any these days.’ Paragona was still trying to be patient. ‘All the royal ones at the palace belong to the government now.’

‘Olivia said you had some special royal family treasure that was stolen from you by pirates and hidden away,’ threw in Ravi hopefully. ‘It would be really cool if you could get that back!’

‘Fairy tales, Ravi!’ said Tolemy. ‘Not to be taken seriously! When my brother and I were

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kids, we liked to plan missions to “find the **lost family treasure**”. We had an old pirate map we found in the palace library that we imagined marked the spot!’

Olivia’s attention snagged on the words ‘old pirate map’. She thought she knew every inch of that library.

‘Where did your map go?’ asked Olivia. ‘I never saw it.’

‘We probably lost it,’ said her dad carelessly. ‘Who knows? Doesn’t matter – there’s nothing out there.’

‘Are you sure the treasure doesn’t exist?’ asked Ravi, disappointed.

‘Ha, no,’ said Tolemy with a chuckle. ‘If it did, my family would have drained the ocean until they found it.’

‘I wish it was real,’ grumbled Ravi.

‘So do I!’ said Tolemy in a heartfelt voice. ‘Think of all the good it would do if we found it!’

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Paragona brightened visibly until Tolemy added, ‘We could sell it and use the money to fund lots of projects in Alez to help people in need.’

Paragona’s face sagged. She’d clearly been imagining a new crown for herself, set with the lost treasure of Alez. She shook herself briskly and put a smile back on her face.

Olivia was torn. She was still curious about the old treasure map, but her dad sounded jolly again, not miserable, so asking him more questions about the palace might not be a good idea. She was already worried that seeing so many crowns lying around in their front room would remind him of the bad old days of being king and make him sad again. She carried on rummaging around in the boxes that the crowns had been delivered in.

‘Look!’ She held up a label. ‘It says here that all the plastic in the packaging is **recyclable!** That’s a good thing, right?’

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Olivia had learned about the importance of recycling plastic at school last term. And everyone agreed that it was very important indeed. So what was the problem?

‘Recyclable is not the same as recycled,’ Helga pointed out. ‘Recyclable means it could be recycled but it doesn’t mean it will be. And does anyone know **whether plastic is recycled or not**? What if it’s just burned, like in those factories we found where the forest used to be? Or buried? And what happens to the plastic that you can’t recycle?’

Everyone froze for a second. ORHI’s first investigation earlier that year took them to the Forbidden Zone in Alez, an area that used to be a huge, ancient forest. But, when Olivia, Helga and Ravi, as well as Olivia’s trusty Uncle Cassander, managed to get into the area, they found that the trees had been cut down and replaced with dirty factories belching dark

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smoke into the sky instead. They learned that this was part of the reason why the weather in Alez had gone so very wrong – without the trees, all the carbon dioxide was going into the air and causing temperature changes, which in turn affected the weather. Thanks to ORHI's investigation, Jeremy Pont, the President of Alez, had been forced to resign because he'd known all about the factories and the **damage** they were doing to the environment.

'Your mum's the new president,' piped up Ravi. 'So why don't you ask her?'

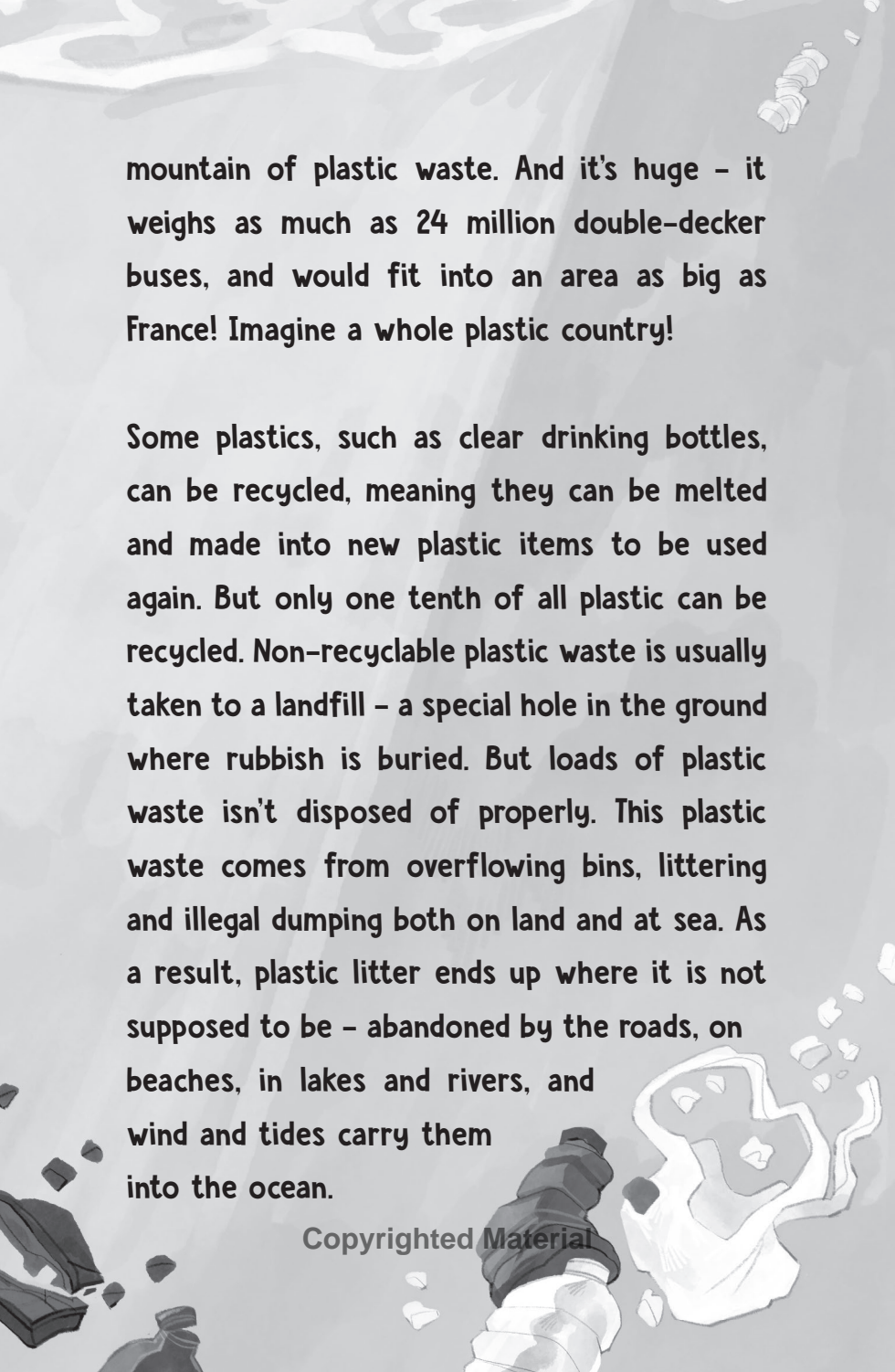
Helga gave him a quick smile, now in a much better mood. Olivia wished she could be as charming as Ravi so that everyone would like her. Her school counsellor had told her that she didn't need to try to be like other people, but she should do things in **her own way**. Which, she thought, was to investigate problems, find out reasons and causes, and then come up with solutions.

PLASTIC WASTE

by Katsia Pabortsava

Although plastic does a lot of good, this valuable and useful material has been taken for granted. We have developed a 'throwaway culture' for plastics, meaning it is more convenient to buy a new plastic item than keeping or reusing the old ones. That's why plastic items like carrier bags, food containers, cutlery and bottles are made to be single-use – there's no need to clean them, just bin them! Today, humans make over 400 million tons of plastic every year and more than half of it is packaging or single-use plastic. This means that when you unwrap a new toy, for example, the plastic packaging that kept it from breaking is heading straight into the bin. It's no wonder that every year we produce a giant

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The background of the page is a light grey color with a faint, stylized illustration of a mountain range. Scattered throughout the scene are various pieces of plastic waste, including a crumpled white plastic bag, a dark plastic bottle, and several pieces of clear plastic. In the top right corner, there is a small cluster of white plastic bottle caps. The overall aesthetic is clean and modern, emphasizing the environmental issue of plastic pollution.

mountain of plastic waste. And it's huge – it weighs as much as 24 million double-decker buses, and would fit into an area as big as France! Imagine a whole plastic country!

Some plastics, such as clear drinking bottles, can be recycled, meaning they can be melted and made into new plastic items to be used again. But only one tenth of all plastic can be recycled. Non-recyclable plastic waste is usually taken to a landfill – a special hole in the ground where rubbish is buried. But loads of plastic waste isn't disposed of properly. This plastic waste comes from overflowing bins, littering and illegal dumping both on land and at sea. As a result, plastic litter ends up where it is not supposed to be – abandoned by the roads, on beaches, in lakes and rivers, and wind and tides carry them into the ocean.

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