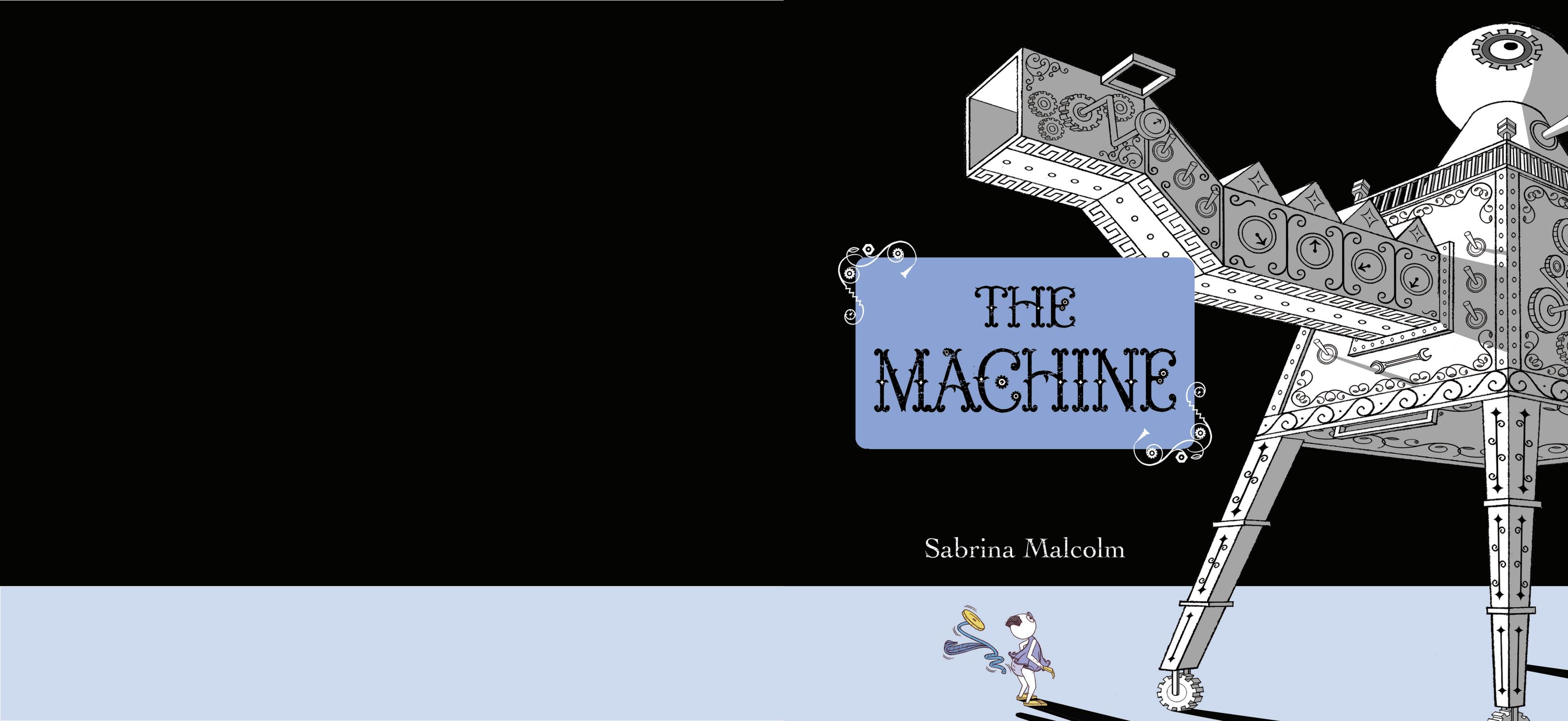


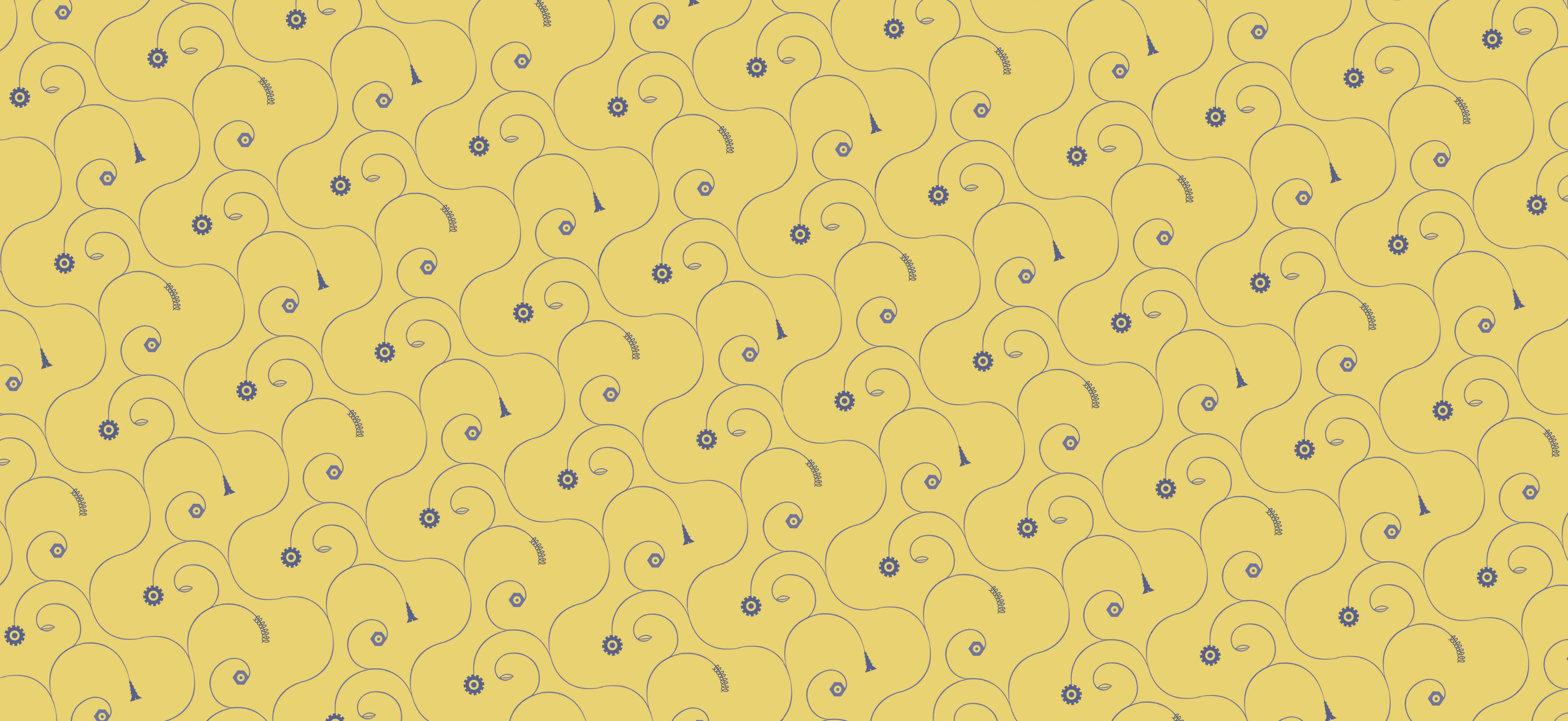
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# THE MACHINE

Sabrina Malcolm



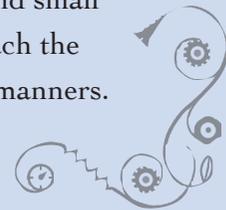


# THE MACHINE

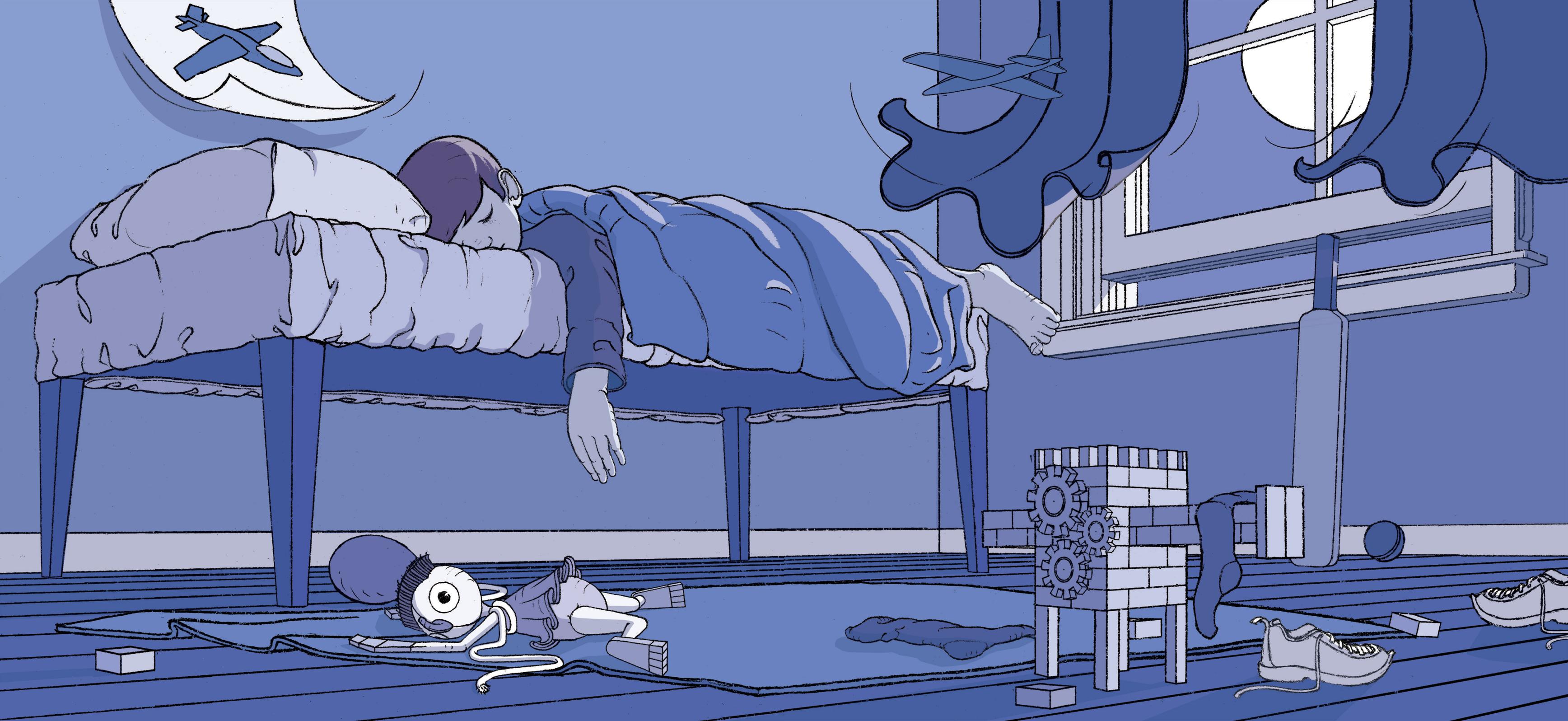


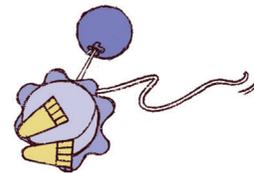
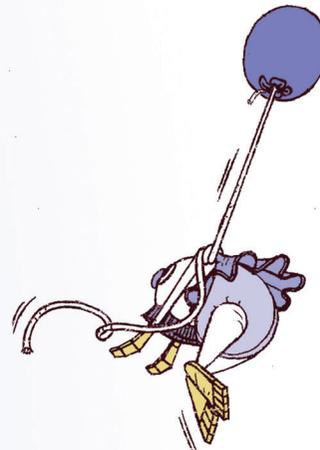
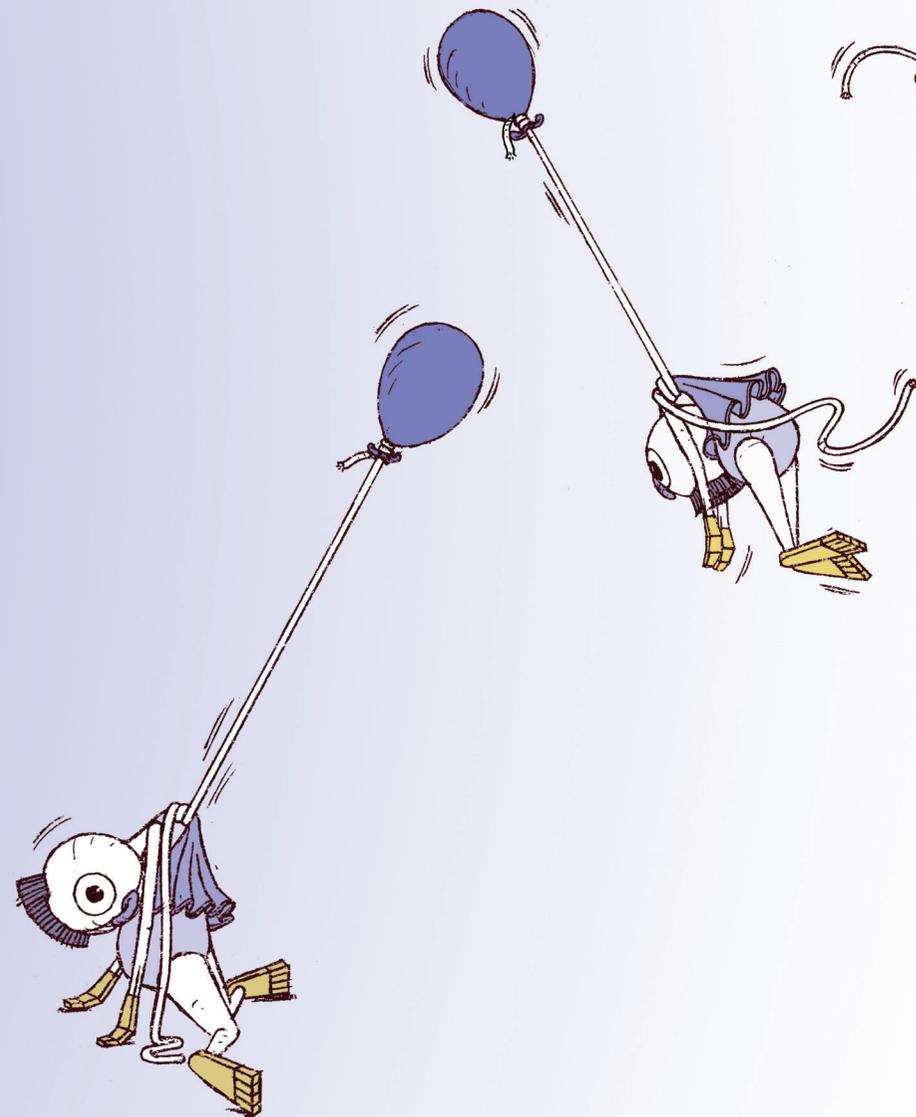
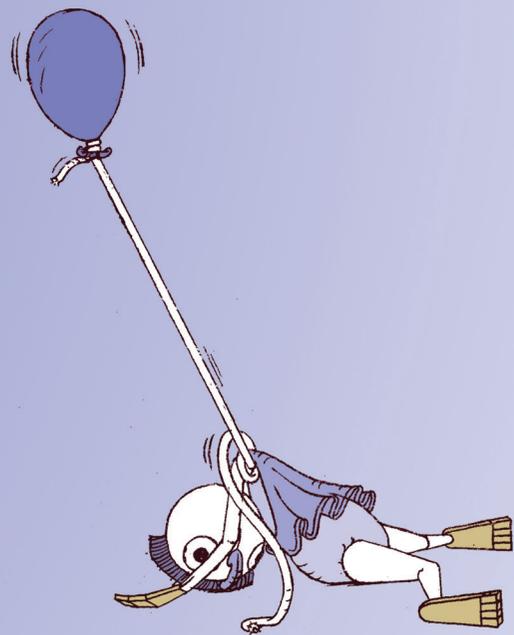
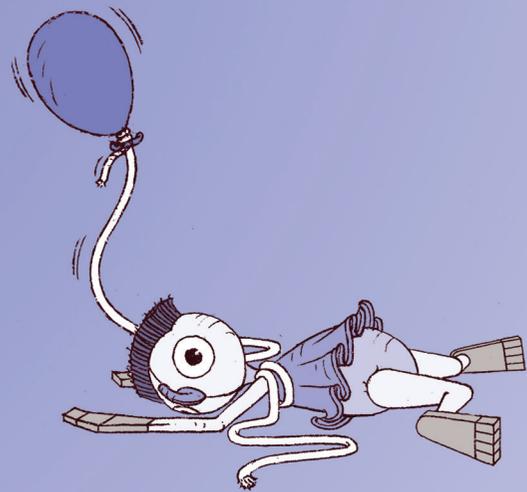
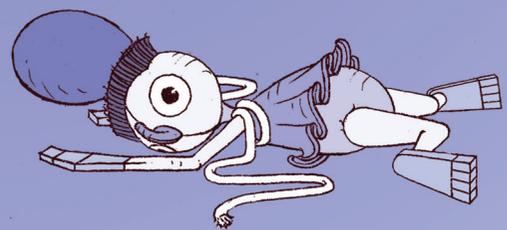


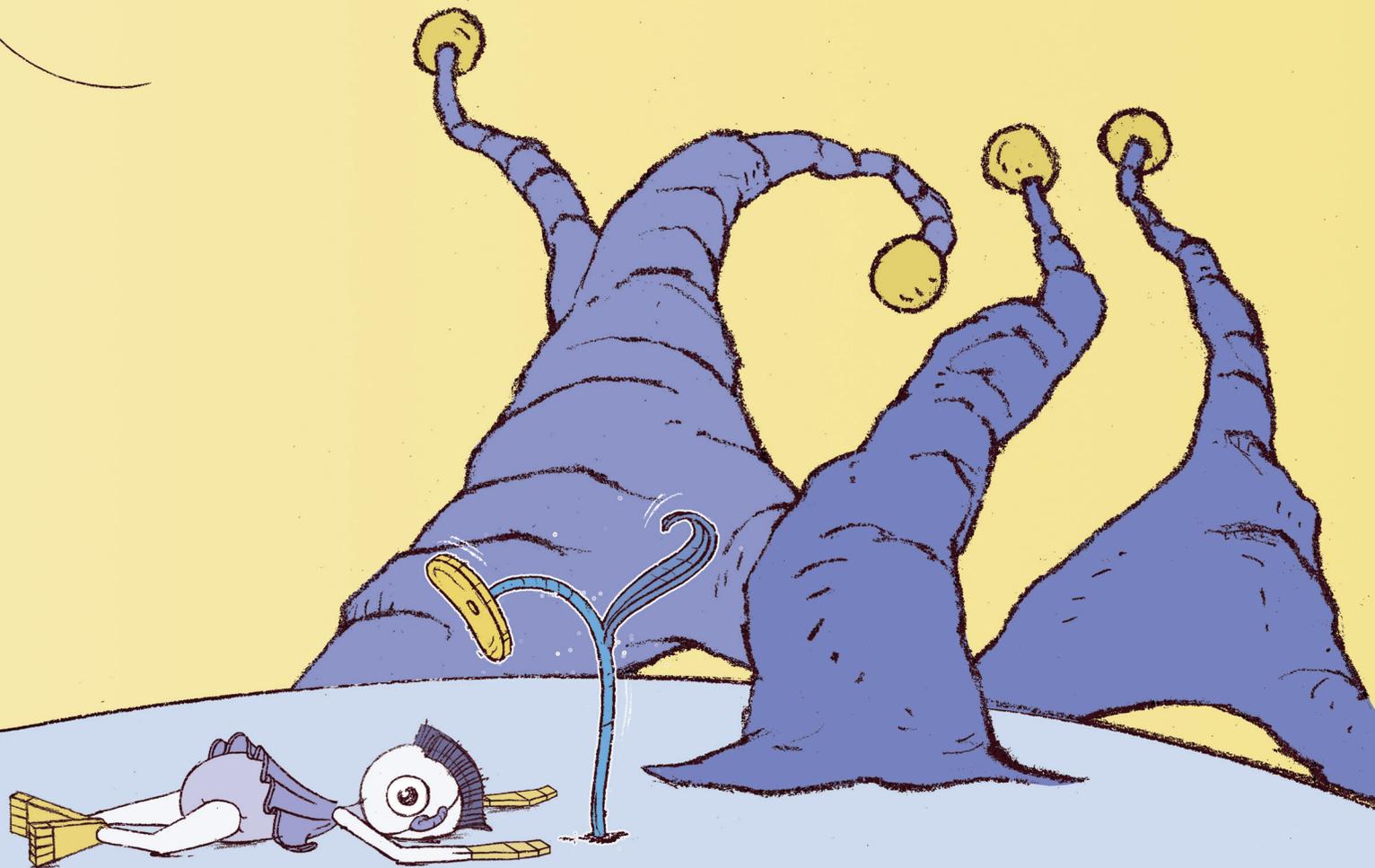
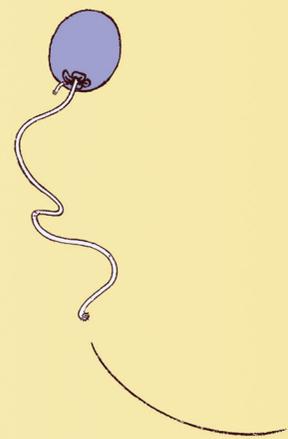
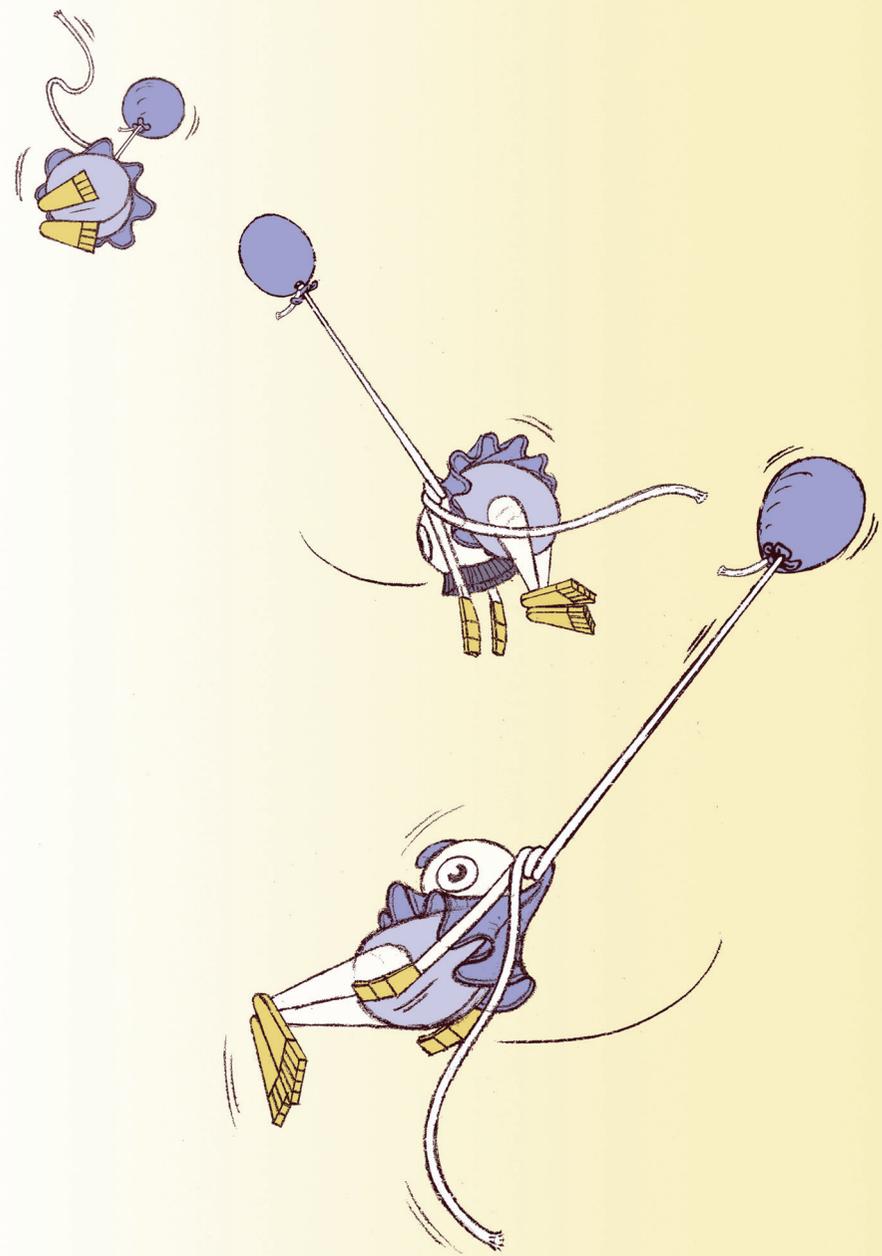
One moonlit night a toy vanishes from its owner's bedroom. It awakes to find itself in a puzzling world of odd colours and strange creatures, and there it meets a vast machine that shape-shifts into a succession of menacing patterns. Finally the toy sees red, and small though it is, sets out to teach the machine a lesson in good manners.

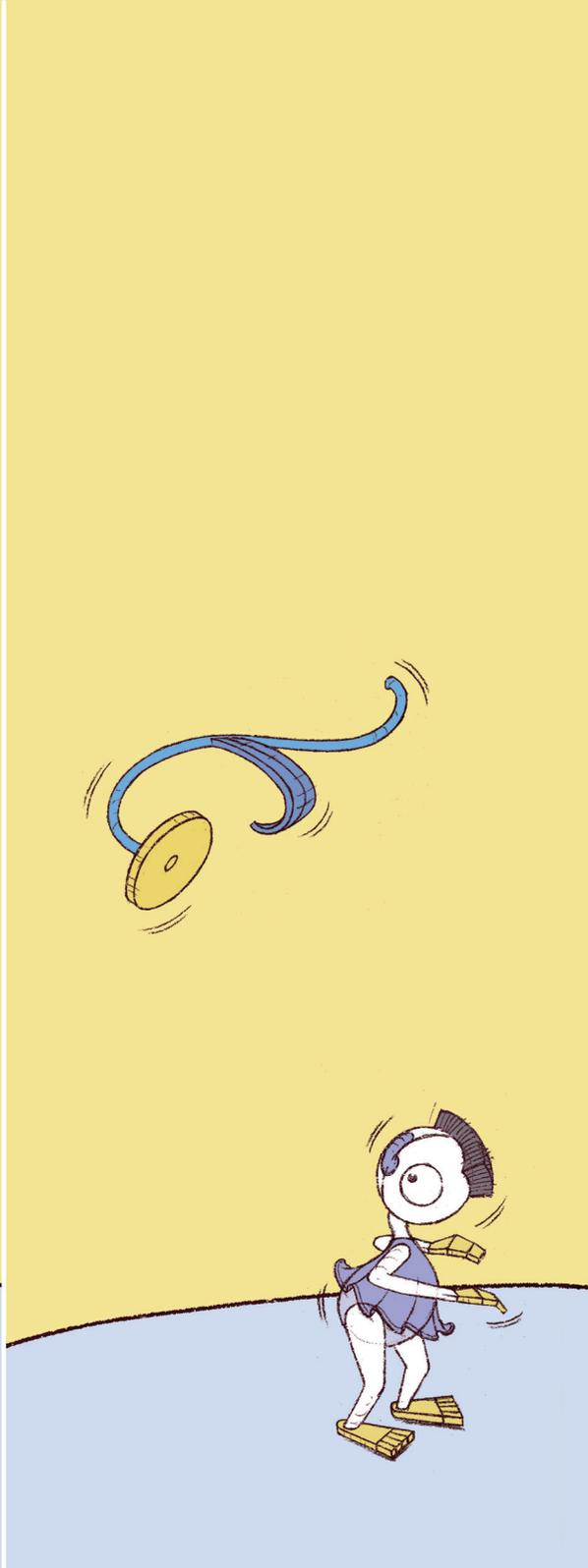
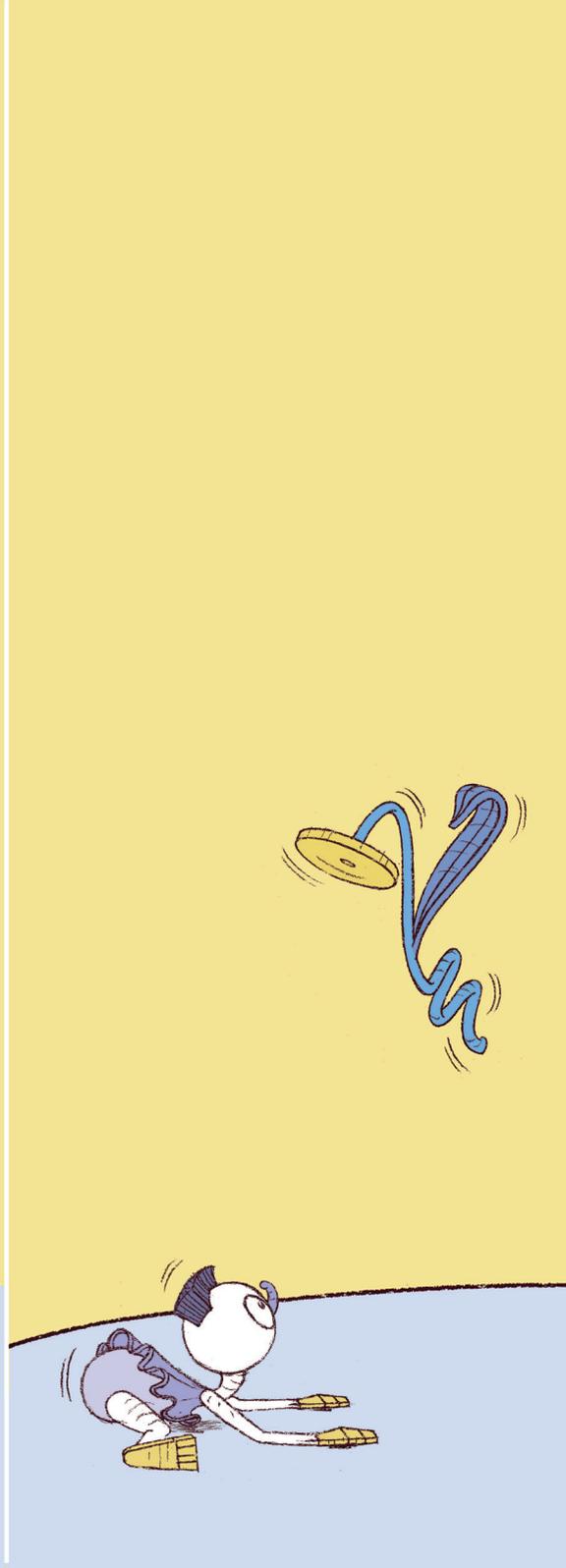
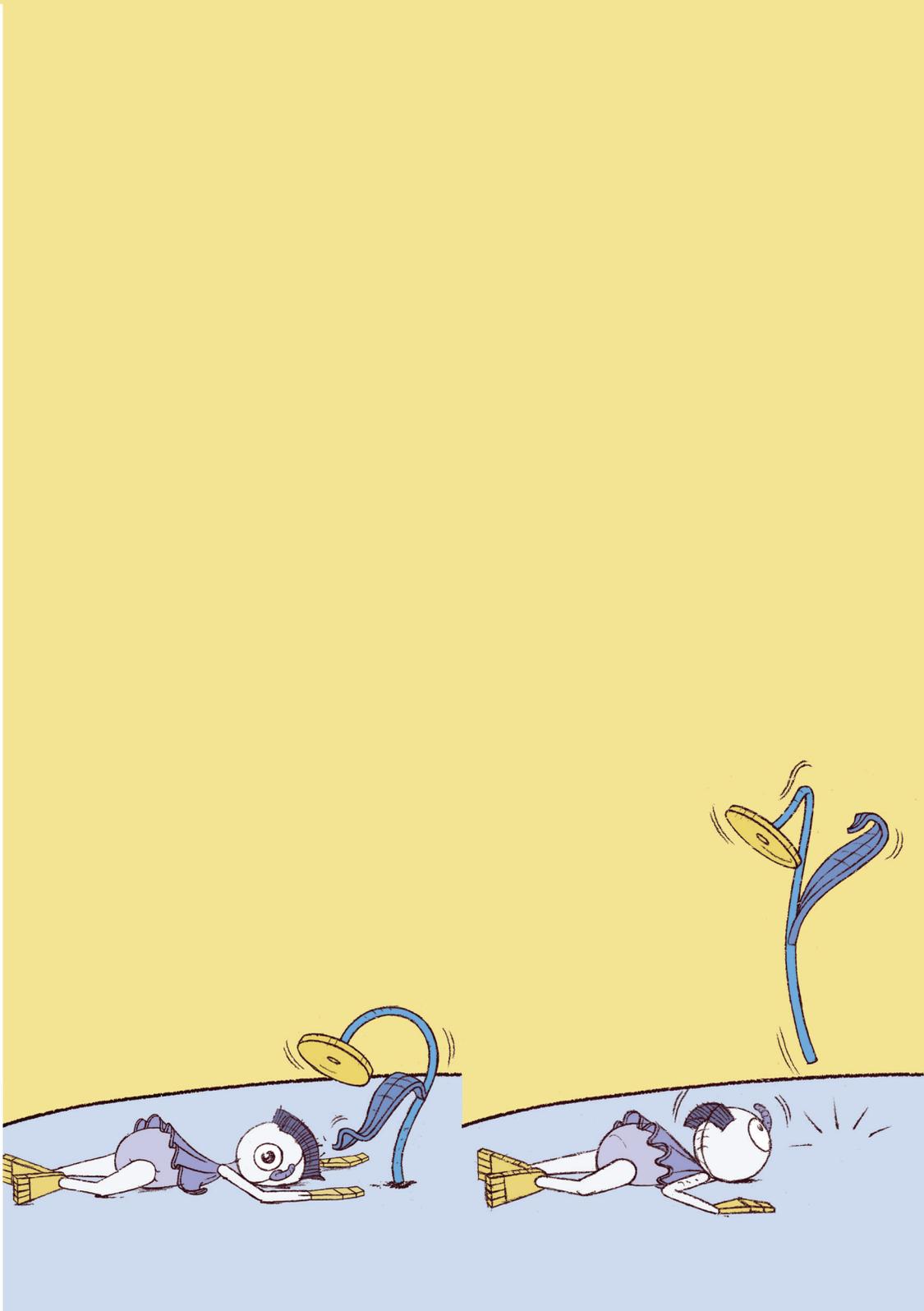
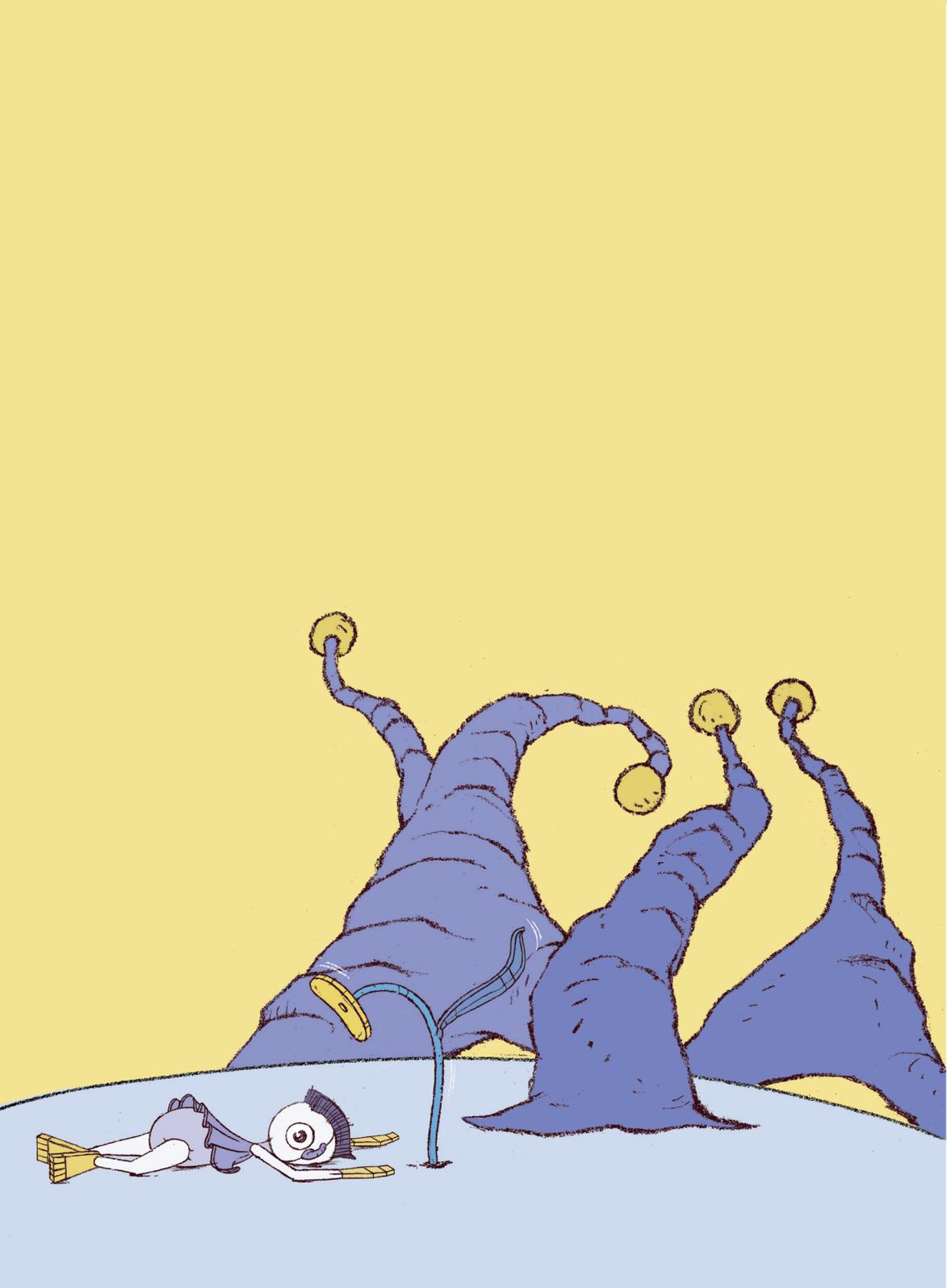


*For my family*

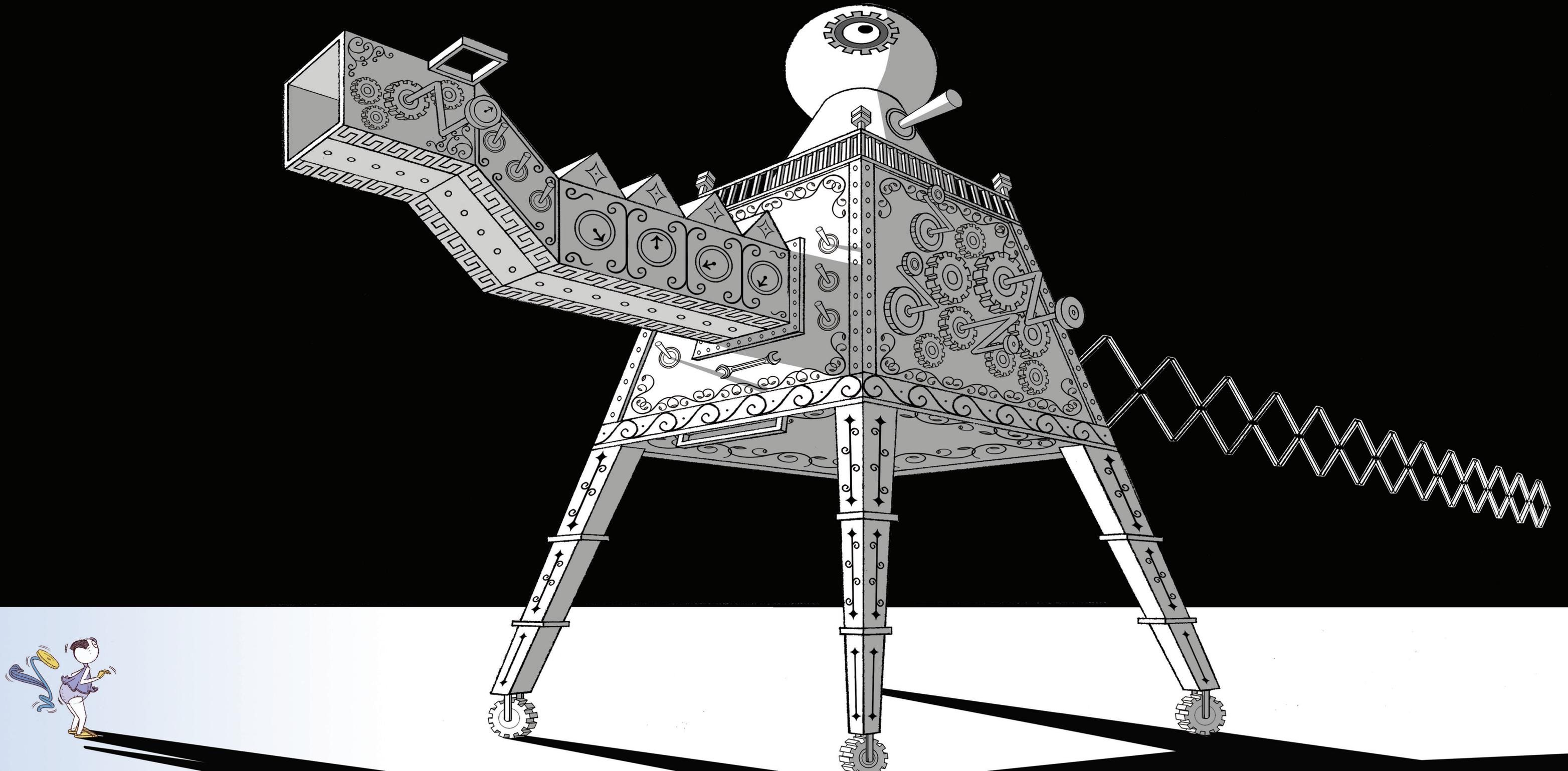


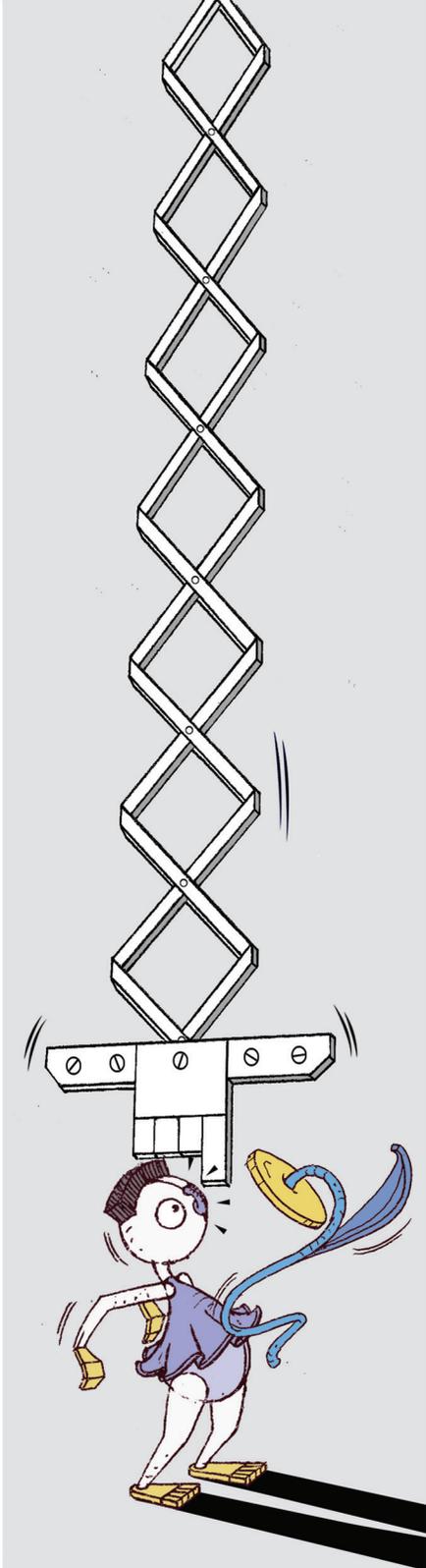
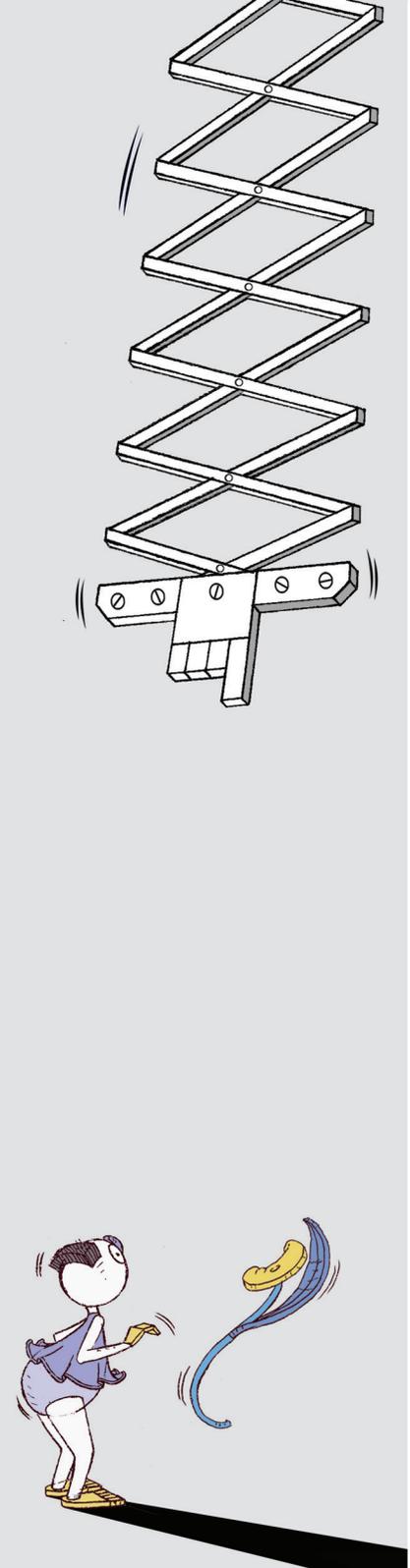
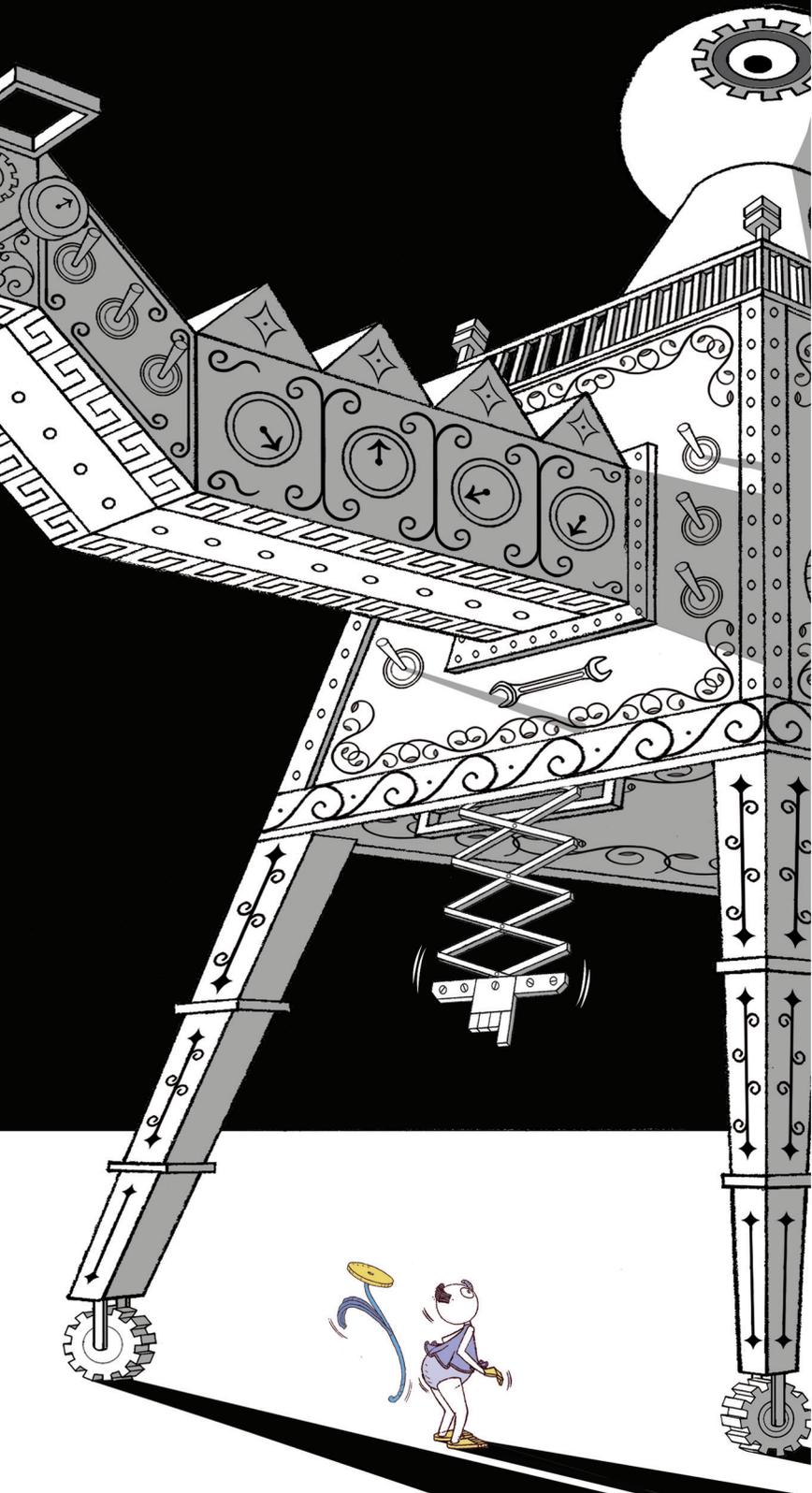


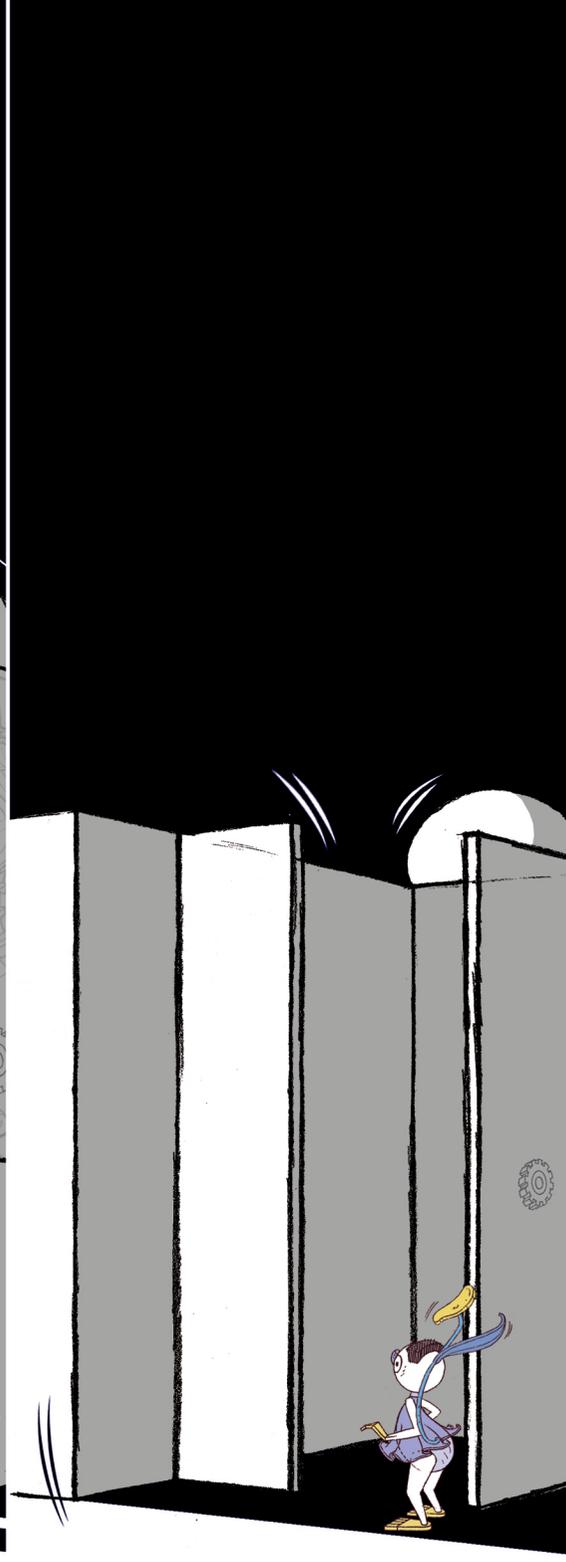
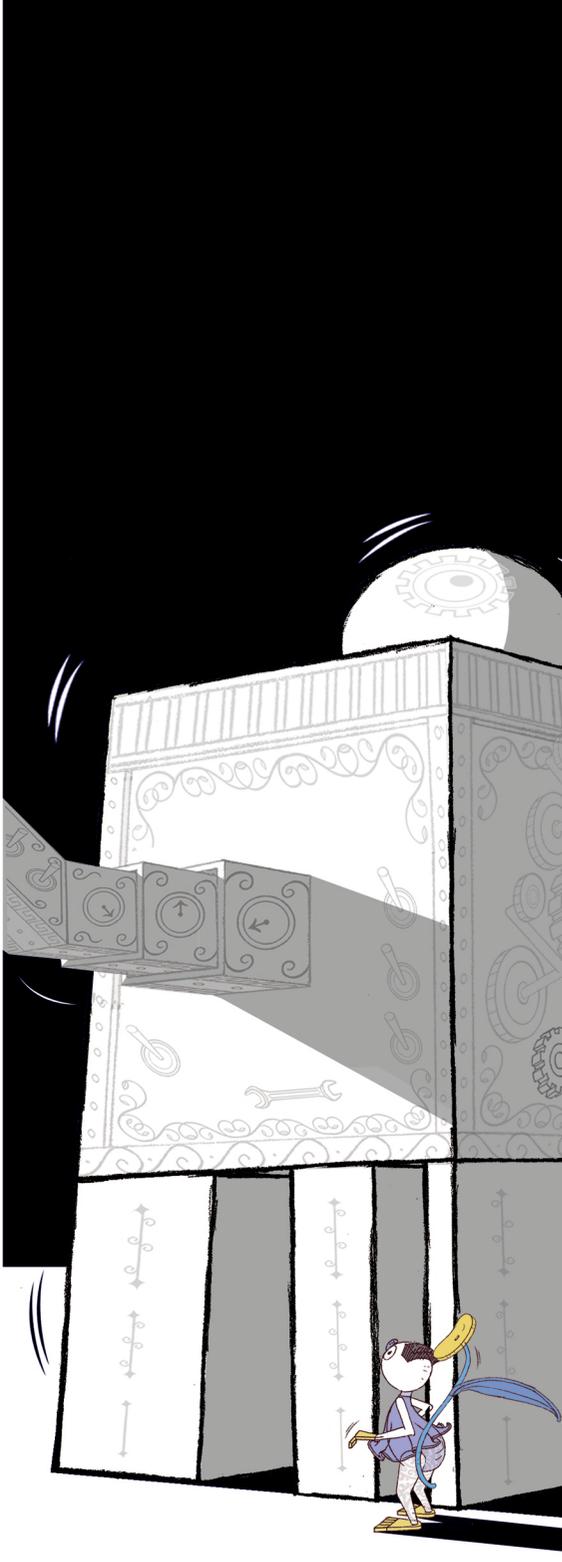
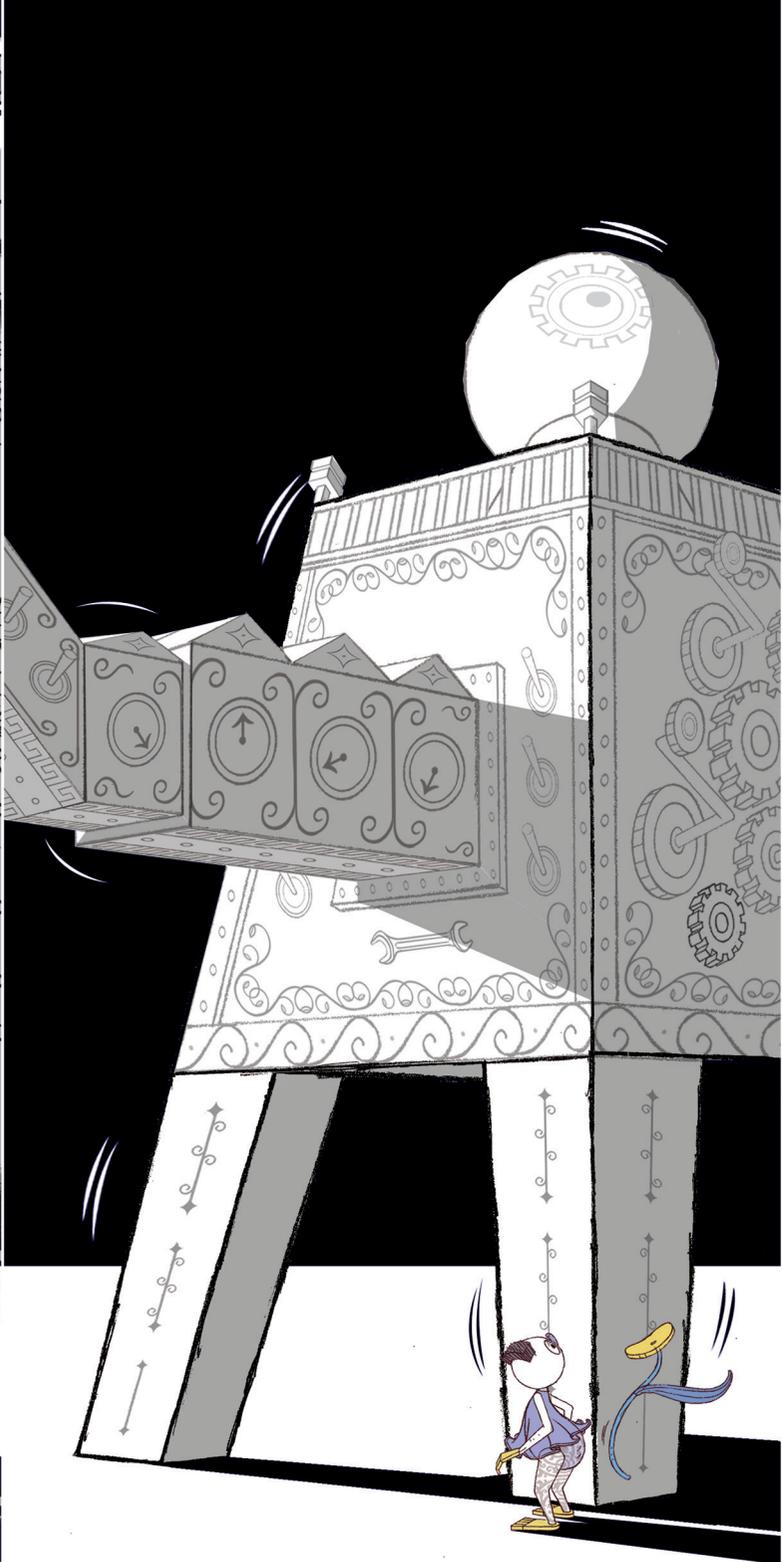
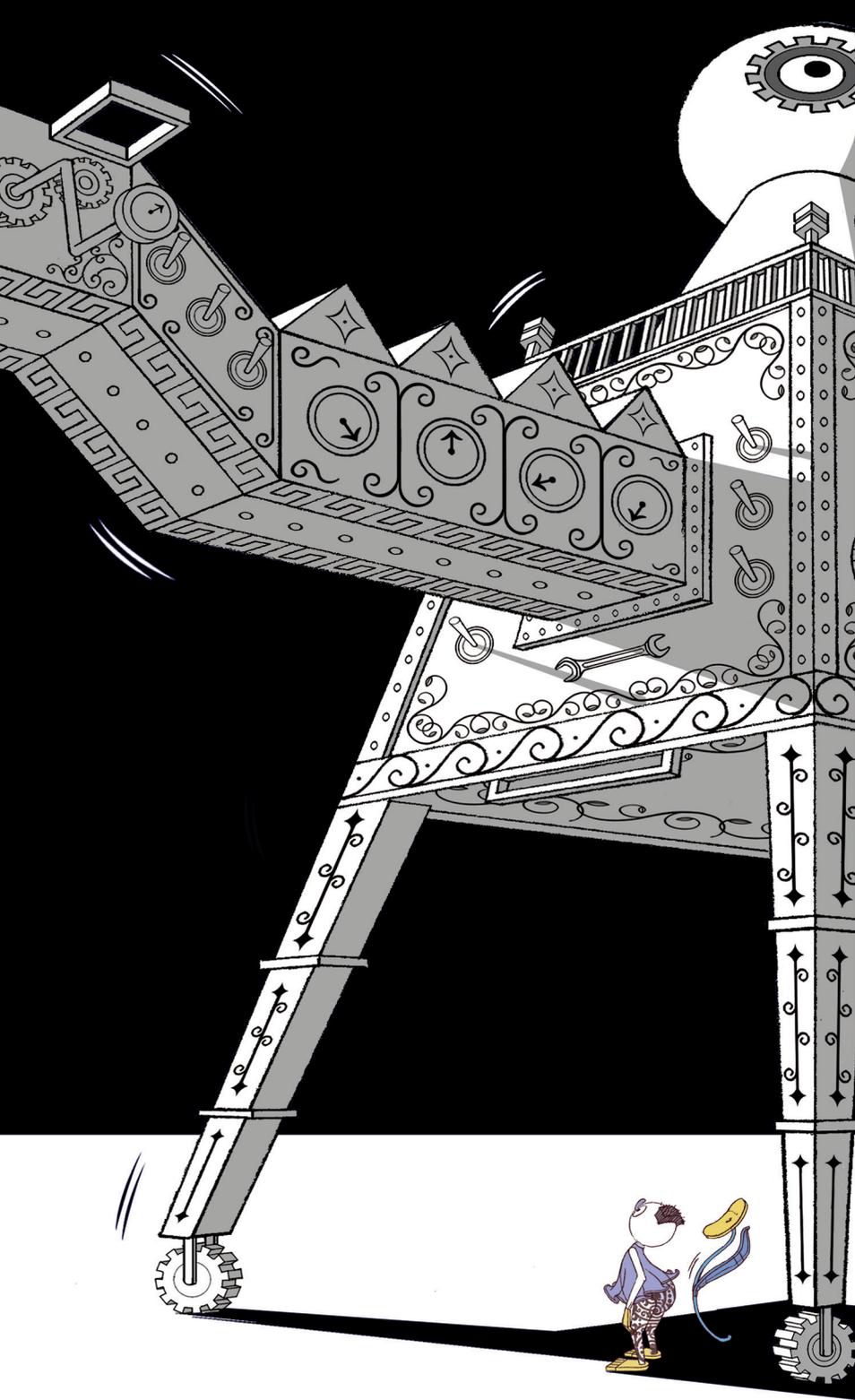


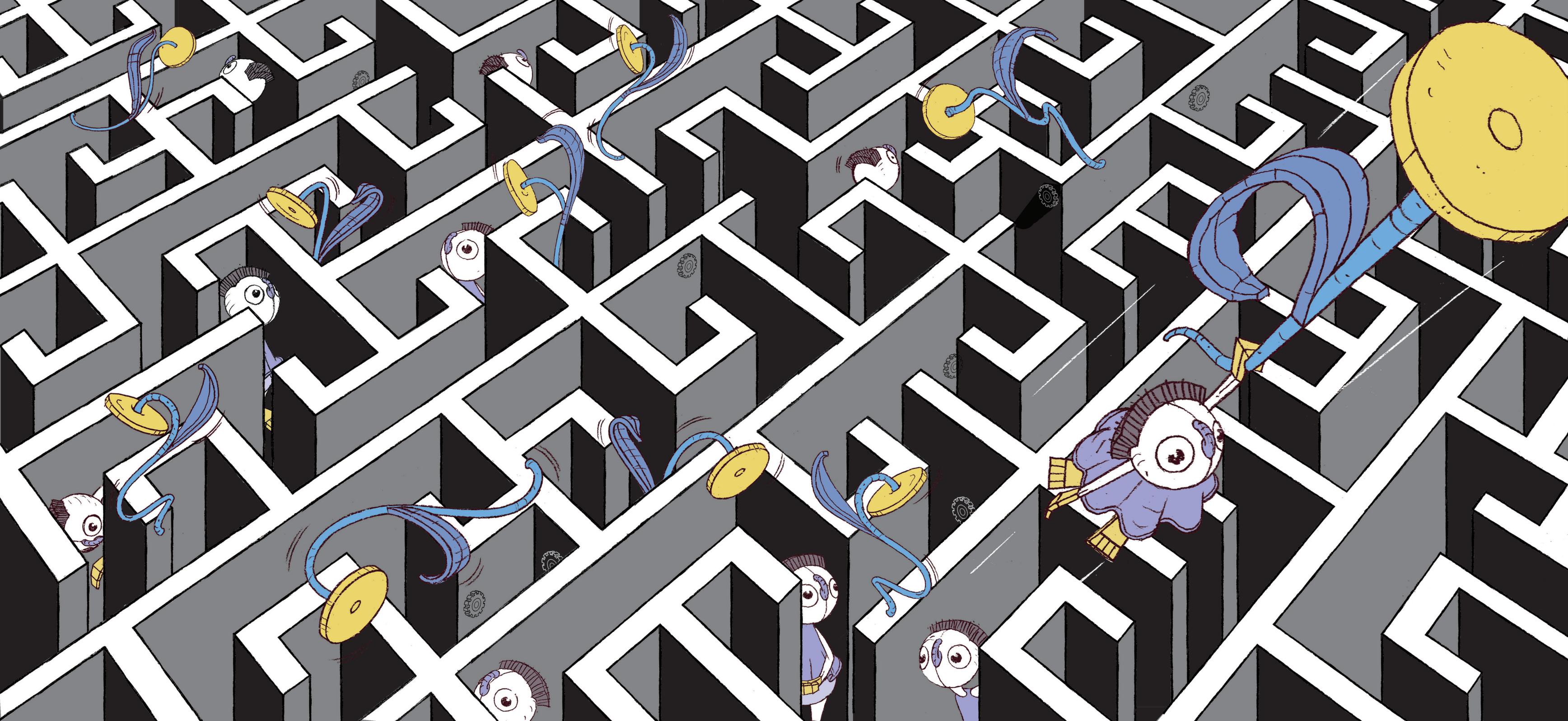


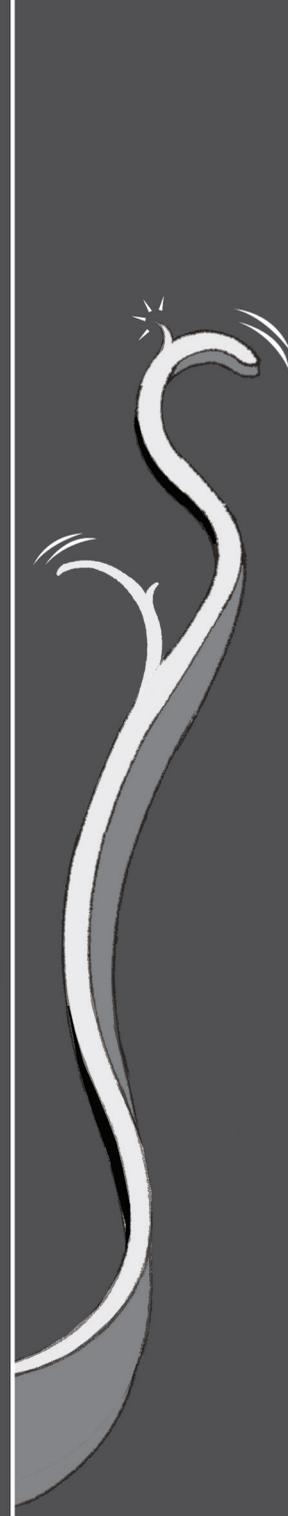
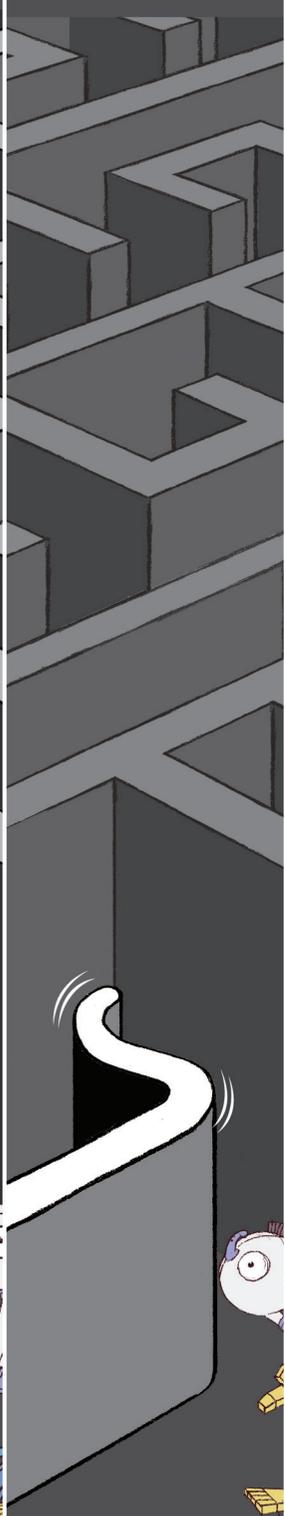
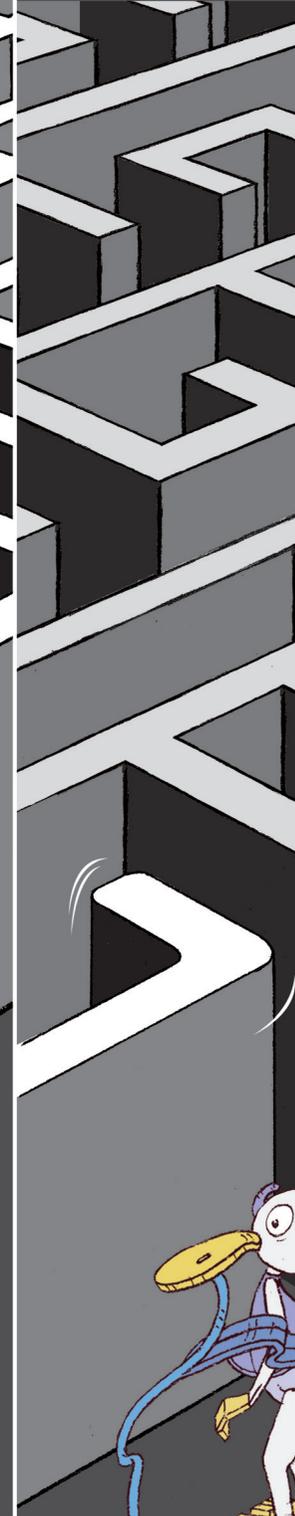
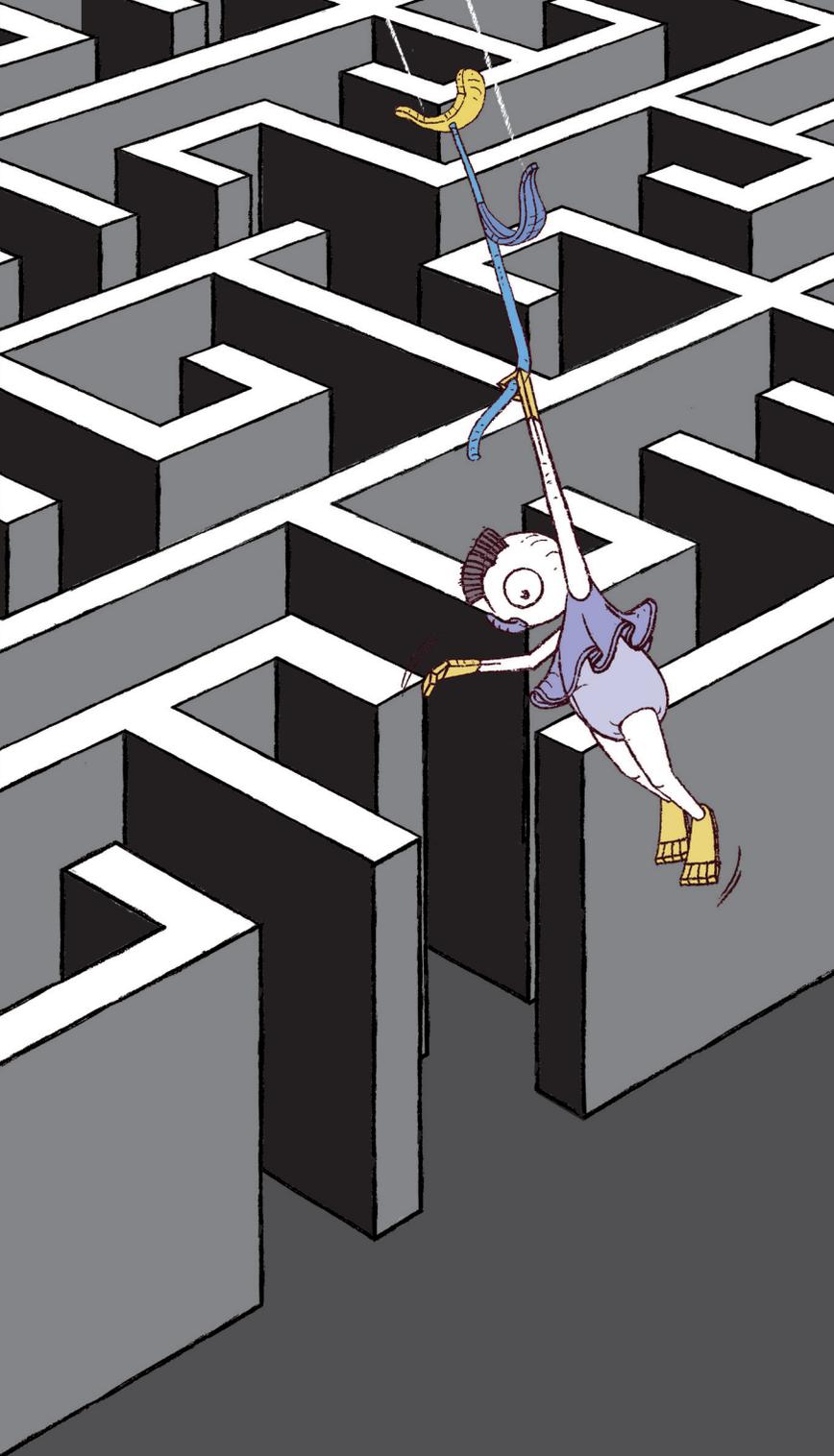




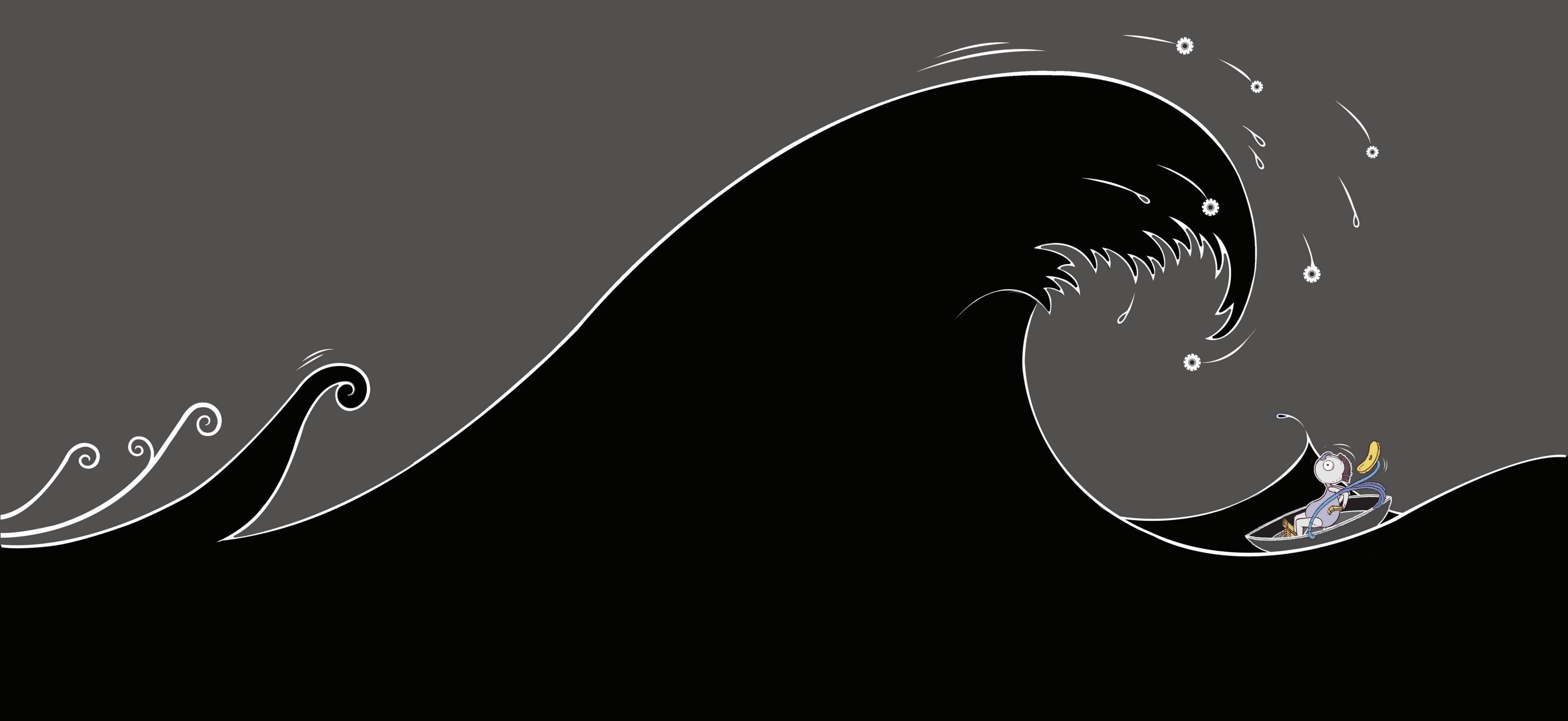


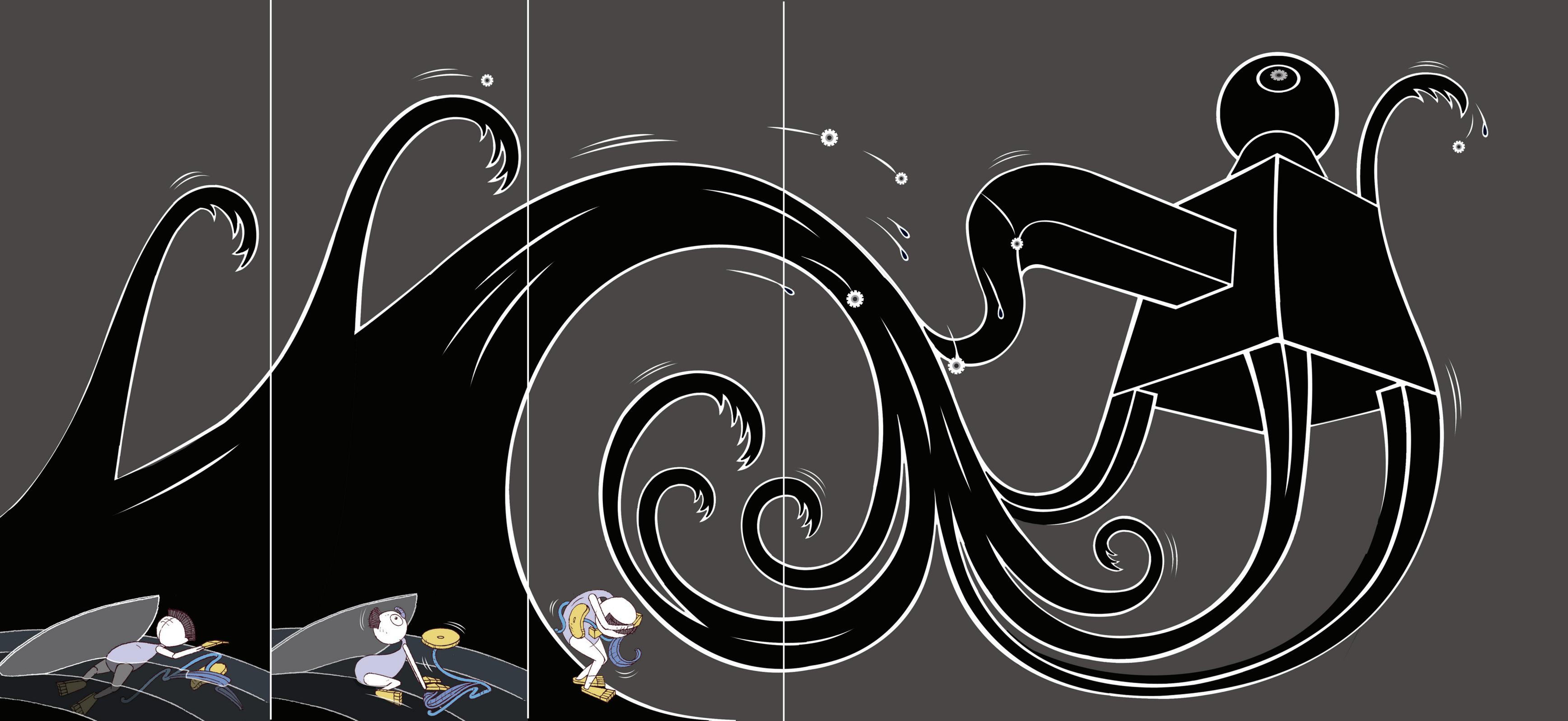


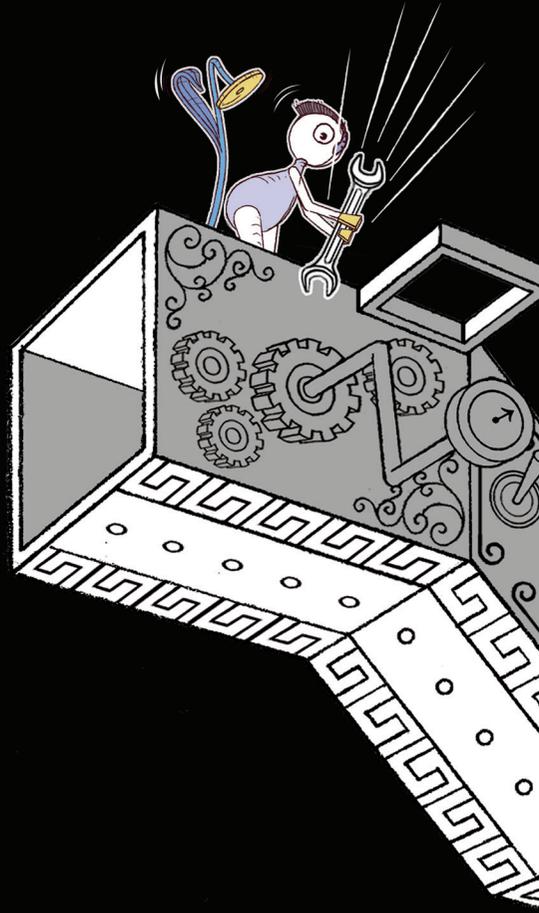
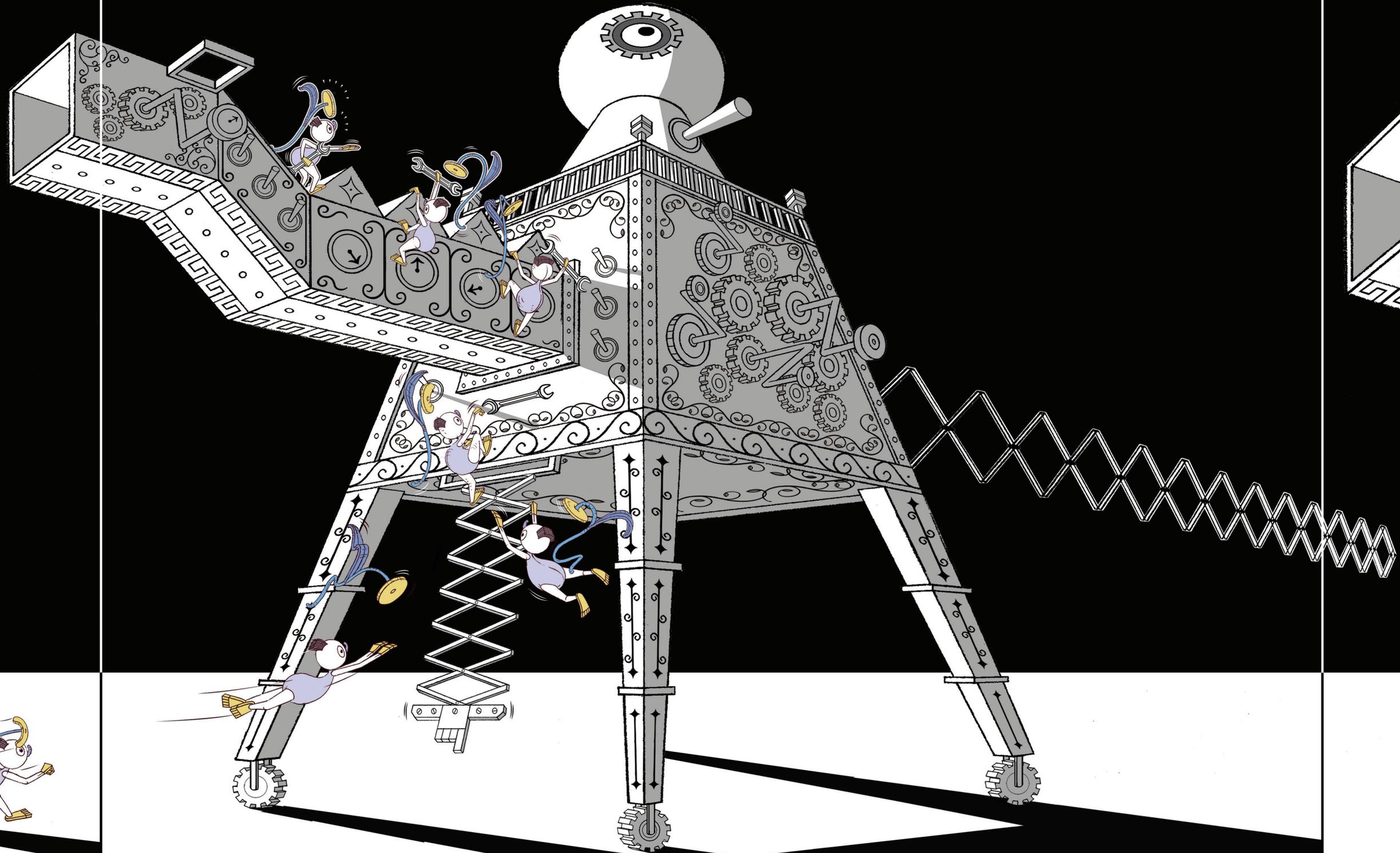


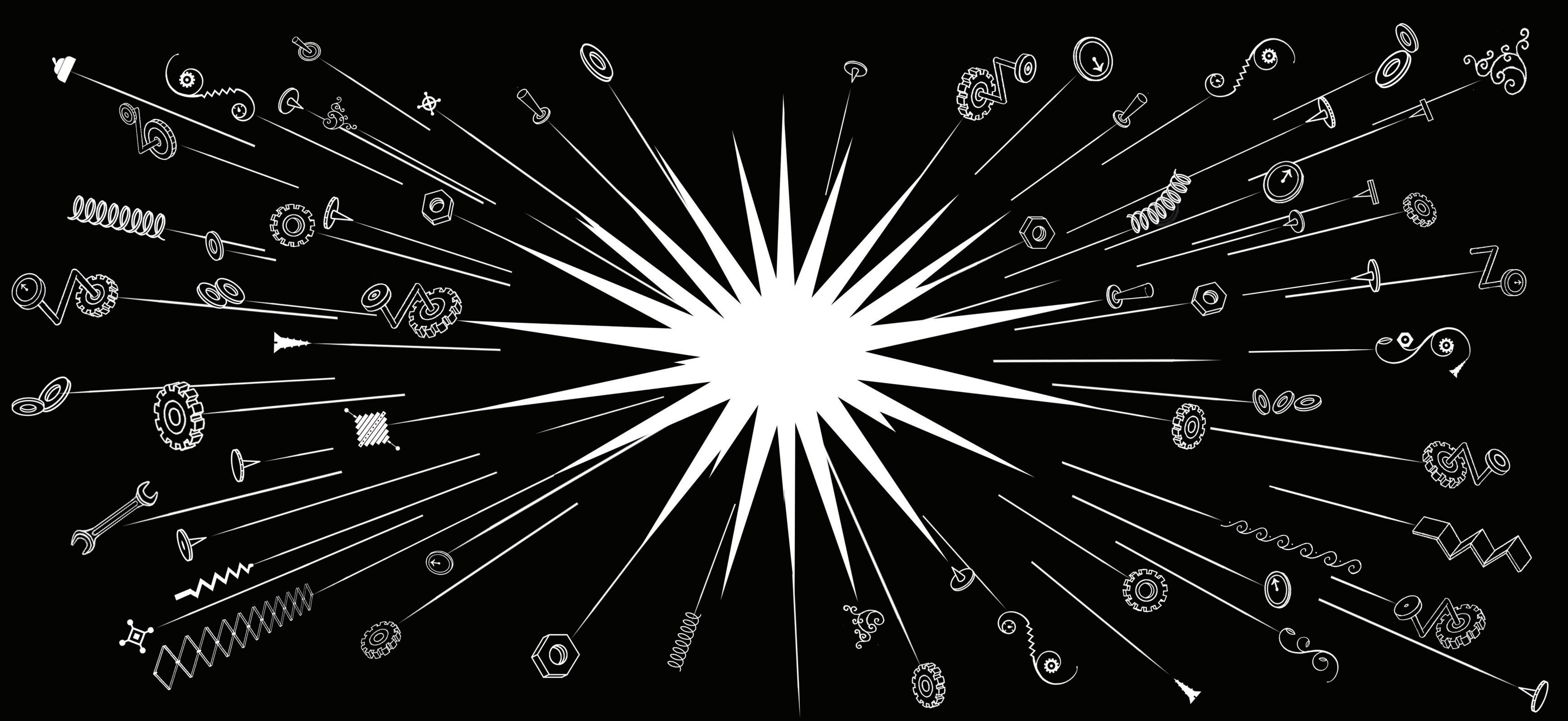


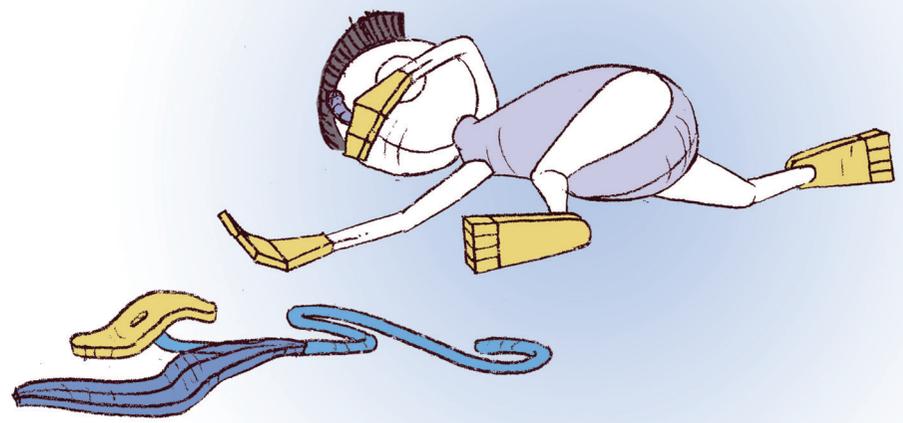


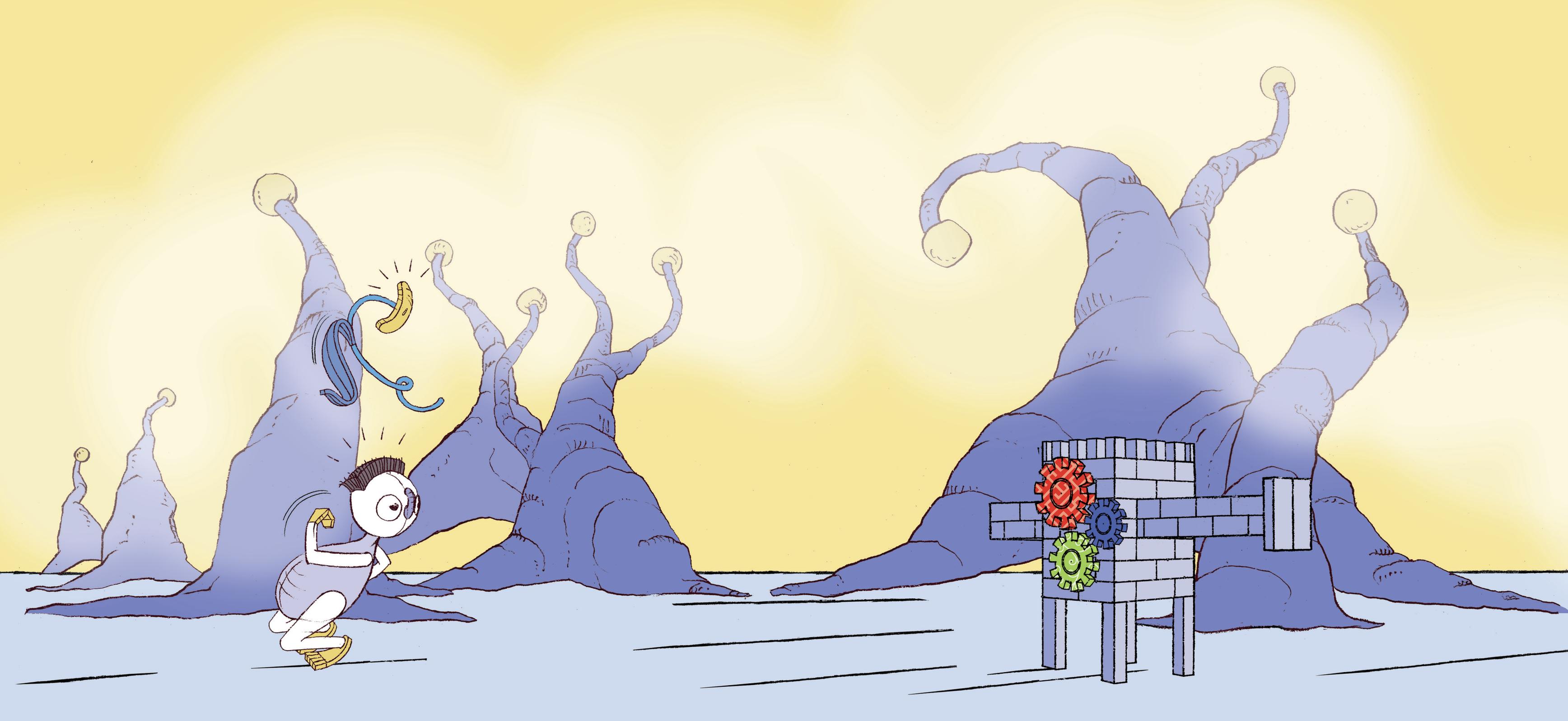


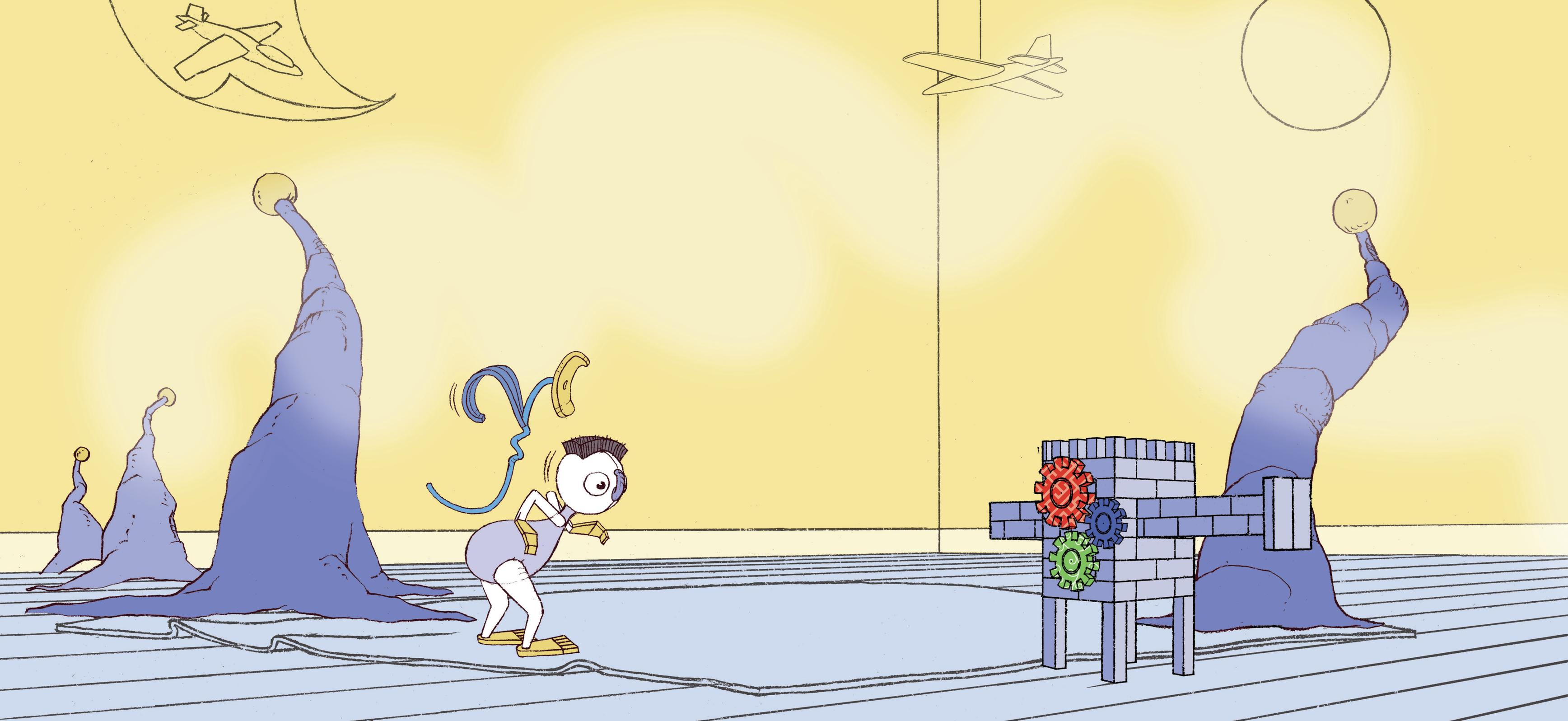


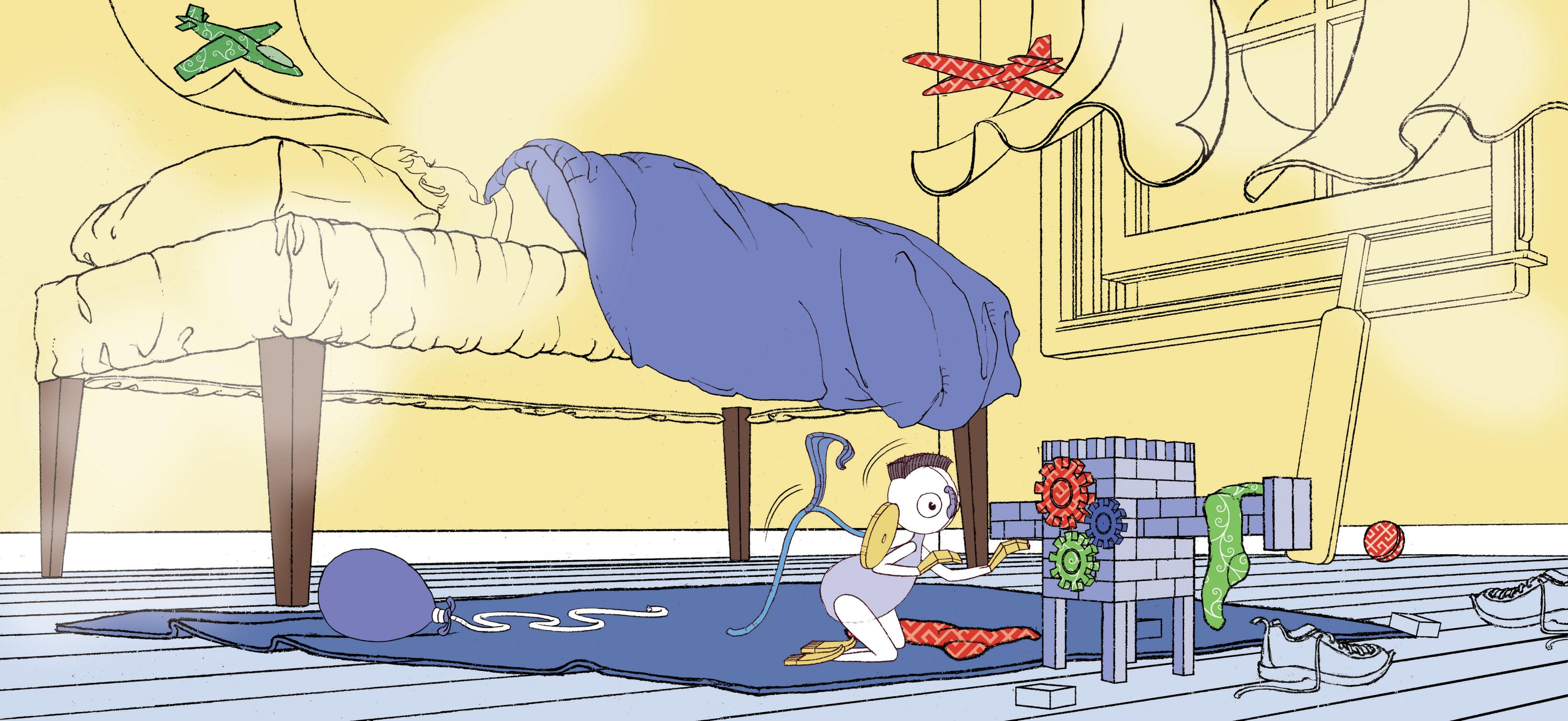




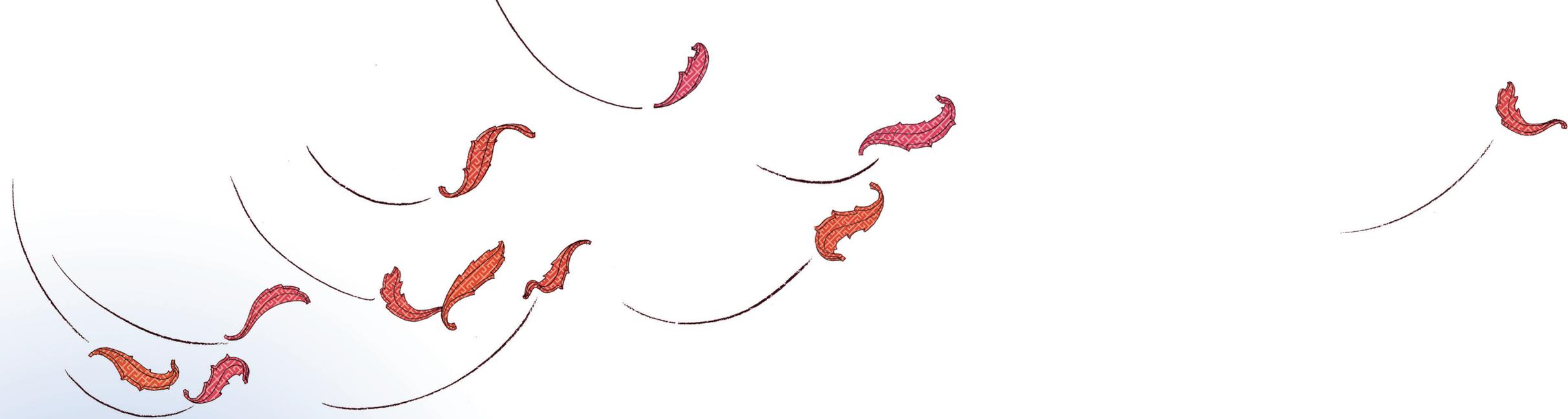


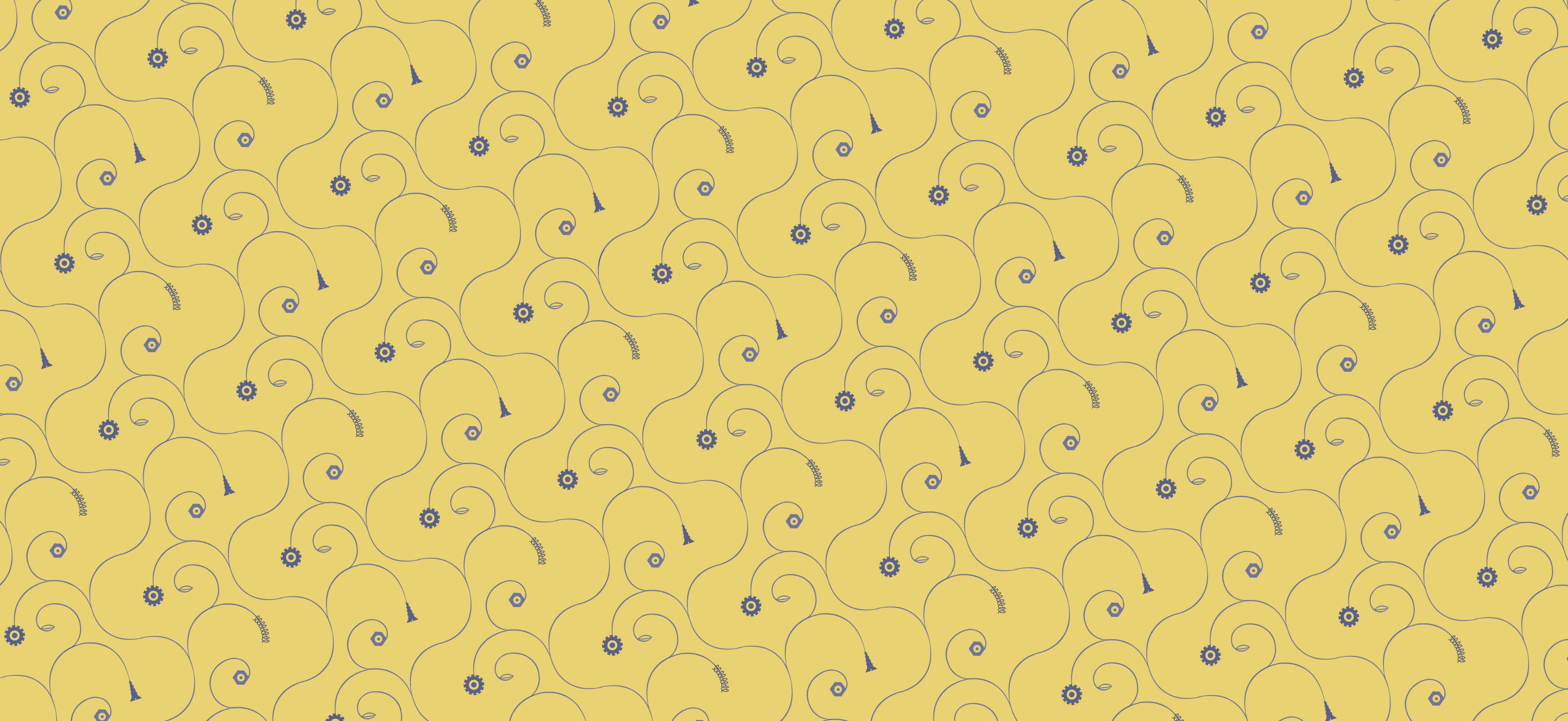


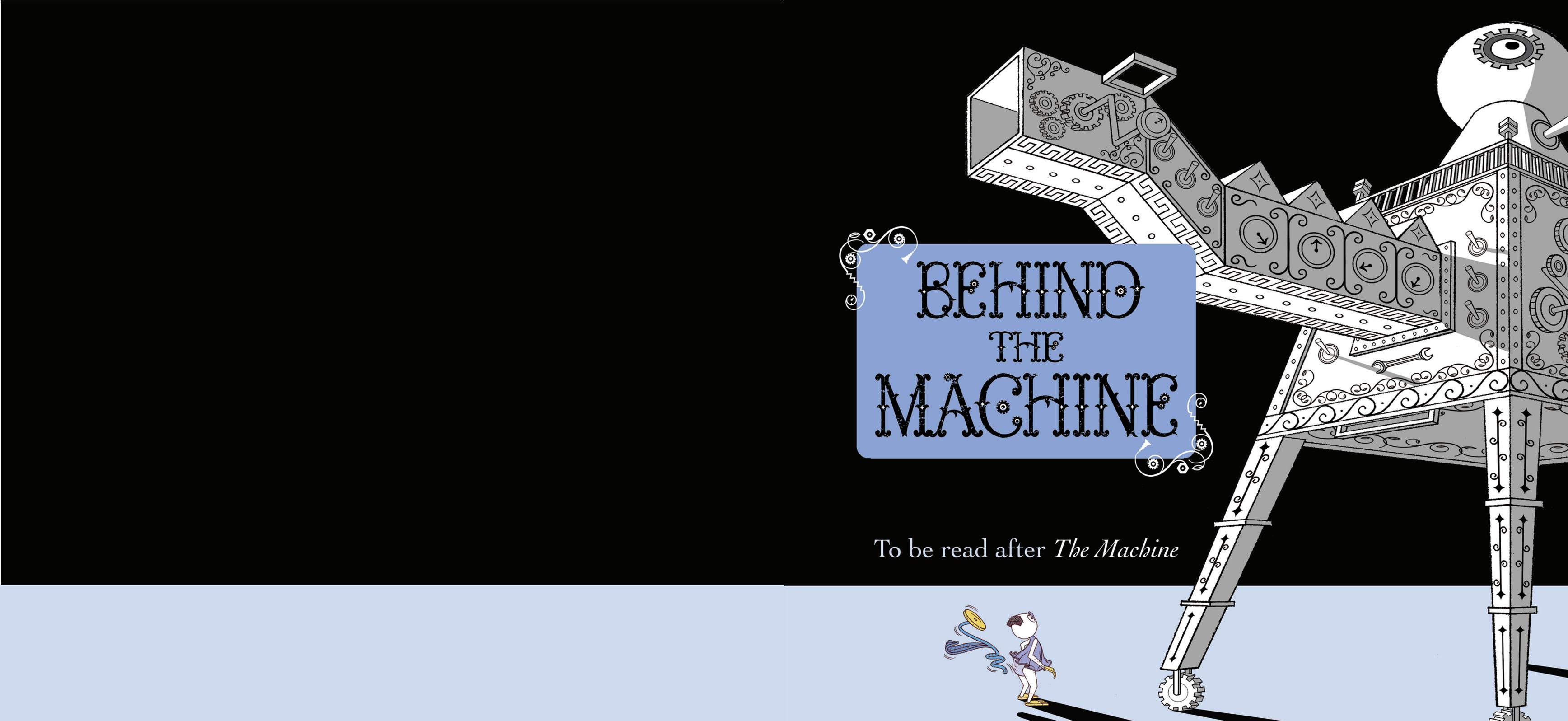










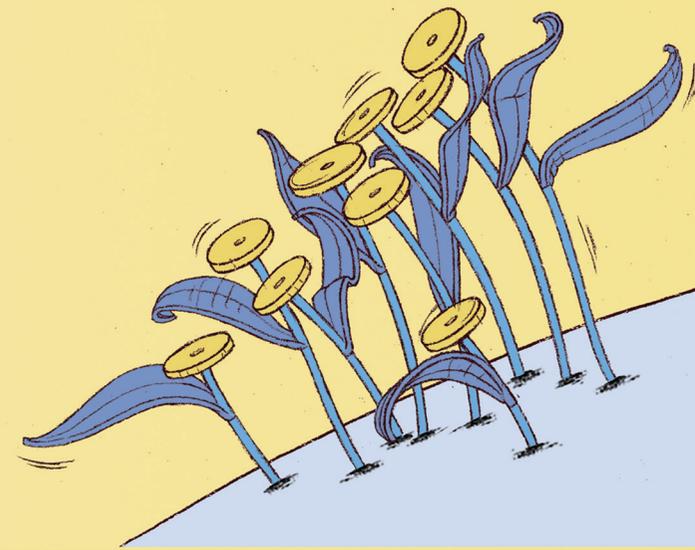


# BEHIND THE MACHINE

To be read after *The Machine*



# BEHIND THE MACHINE





Imagine you are reading a slightly different version of *The Machine*. In this story the toy, whose name is Bink, is wearing a red shirt instead of a blue one.



Now also imagine you are colour-blind. Or perhaps you do not need to imagine it, because colour-blindness is already part of your life.

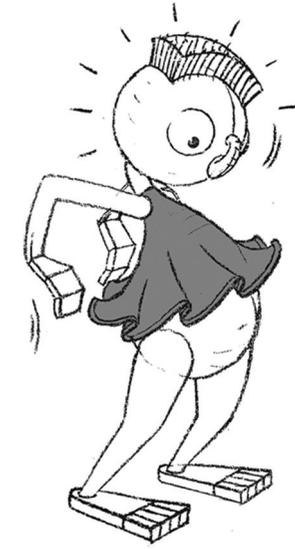
Being colour-blind does not mean you cannot see any colour at all. Instead it means that some colours look very much like others, so you have trouble telling them apart.



If you usually see in full colour, you might be surprised to know that this picture shows how Bink in his red shirt would look to many colour-blind people.

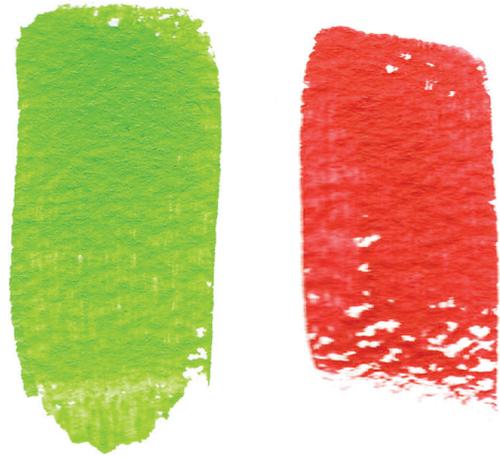


There are different kinds of colour-blindness. When one colour-blind person looks at a colour, he or she might see something quite different from what another colour-blind person would see. This picture shows how the red of Bink's shirt might look for two different colour-blind people.

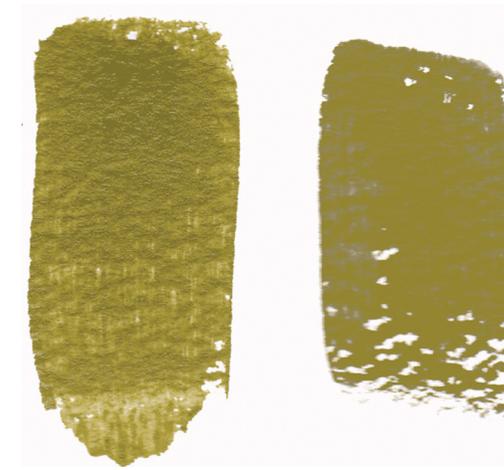


Colour-blindness can be very mild, or very pronounced, or anything in between. Some people have it so slightly they do not even know they are colour-blind, but for some people it can cause problems.

Complete colour-blindness, where a person can see no colour at all, is very rare. This picture shows how Bink might look to someone with this condition.



Even though there are different kinds of colour-blindness, certain pairs of colours look the same to many colour-blind people. If you painted a patch of green next to a patch of red, like these brush strokes...



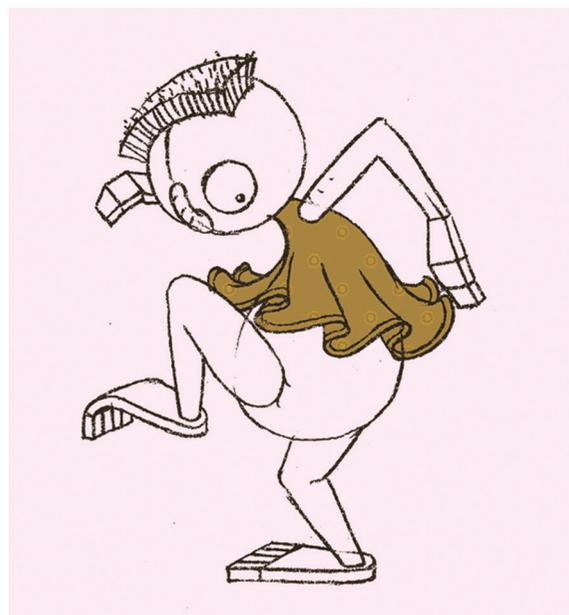
...quite a few colour-blind people would have trouble seeing the difference between the colours. This picture shows how the brush strokes could look.



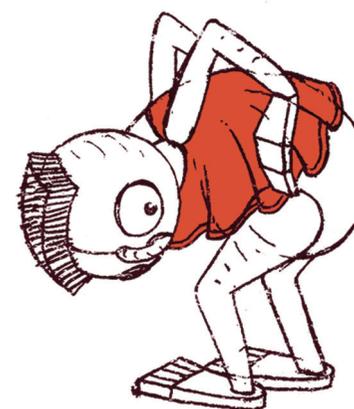
We could give Bink a green shirt instead of a red one. A colour-blind person might have difficulty knowing whether the shirt was red or green.



We could also put a red pattern on Bink's shirt, like this.



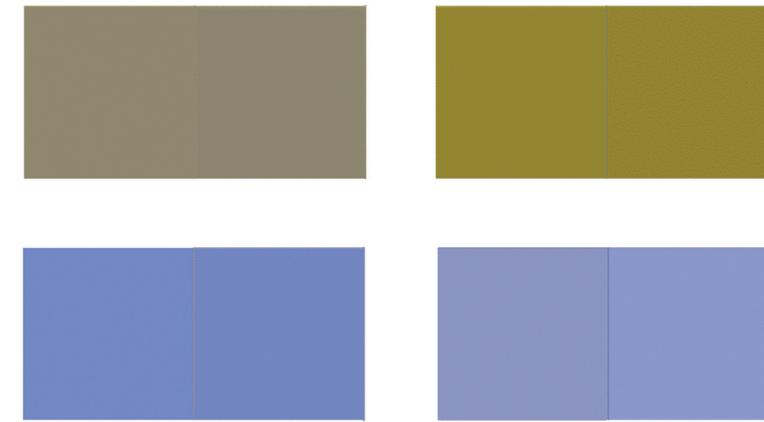
You might guess that a colour-blind person could have trouble seeing the red pattern against the green background, and you would be right. This is how Bink's new shirt would look for quite a few colour-blind people.



This book aims to show non colour-blind people what it is like to be colour-blind. It also aims to tell people with full colour vision how to make things easier for colour-blind people.



Red and green are not the only two colours that can look the same to colour-blind people. Other pairs of colours that sometimes cause confusion are shown here.



This is how those same pairs of colours would look to many colour-blind people.

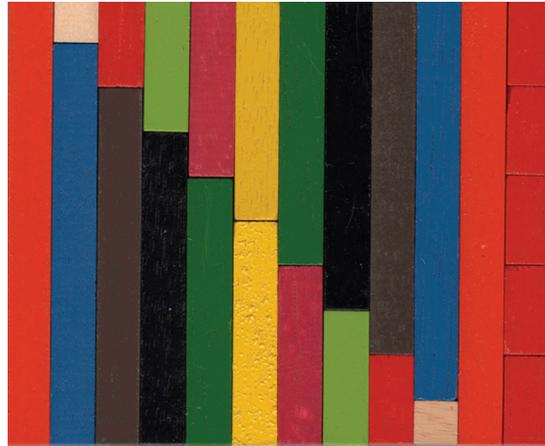


Not being able to tell the difference between certain colours can cause problems.

Suppose you had to do some maths using coloured marbles like these. Your teacher might ask you to count the purple marbles and the pink marbles, and add the numbers together.



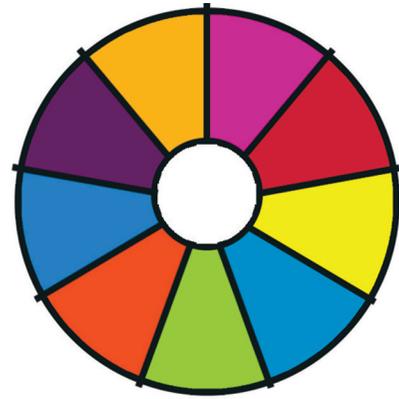
If you were colour-blind, the blue marbles might look the same as the purple ones, and you might count the blue ones as well. Because of it, you would get the wrong answer.



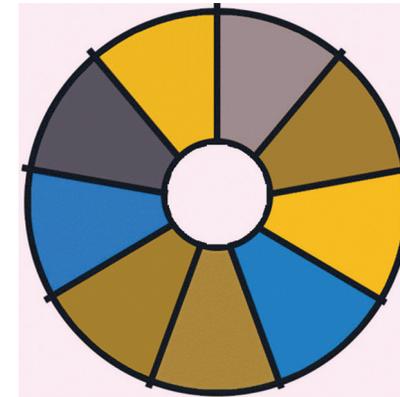
Some teachers use coloured wooden rods like these for maths and English. Your teacher might ask you to go and get the light-green rods to use for a class exercise.



If you were colour-blind, you might see the coloured rods like this. The light-green rods could look like the red rods, and it would be difficult to find the right ones.



School reading books are sometimes colour coded too. Each colour coded book has an area of colour on it that tells the teacher and the students how easy or hard it is to read that book. This colour wheel is an example of a colour coding system for books.



Here is how the same colour wheel would look to many colour-blind people. Some of the colours are hard to tell apart.



Rugby teams playing against each other usually wear jerseys of different colours, so that players will not pass the ball to the wrong person by mistake. This picture shows a green jersey and a purple jersey from a rugby game.



Here is how those same jerseys would look to many colour-blind people.

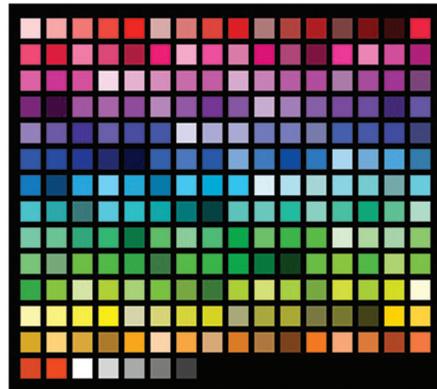


Sometimes being colour-blind can be dangerous.

This photograph shows part of a New Zealand forest, with a red track marker on one of the tree trunks. For people who are not colour-blind, the red marker is quite easy to see.



Here is the same photograph as it would look to many colour-blind people. If you saw things this way, you could easily get lost in such a forest.



You can see that every-day life is sometimes challenging for colour-blind people. It is possible, however, to make things easier for them. One of the best ways to help is to find out how things look to the colour-blind. This palette of colours can be re-drawn to show how it would look to colour-blind people.

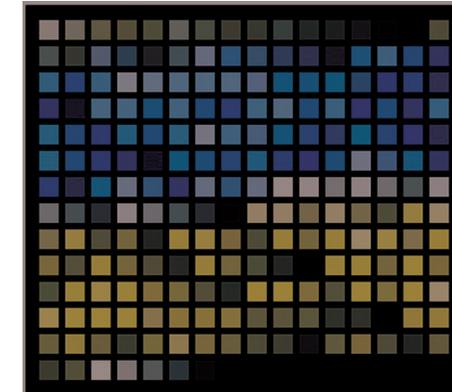


On the left is the full colour palette, and on the right is how it would look to someone with the most common type of colour-blindness. If you are not colour-blind, you can check which colours would probably cause confusion for such people. Some of the reds look very much like some of the greens. Also, pinks sometimes look the same as light blues. You can probably find other examples.



Here on the left is the full colour palette again, and on the right is how it would look to someone with another kind of colour-blindness.

You might notice that pure blues and yellows look about the same as they do in the full colour palette. This is true for almost all types of colour-blindness. Most colour-blind people are able to see blues and yellows easily.



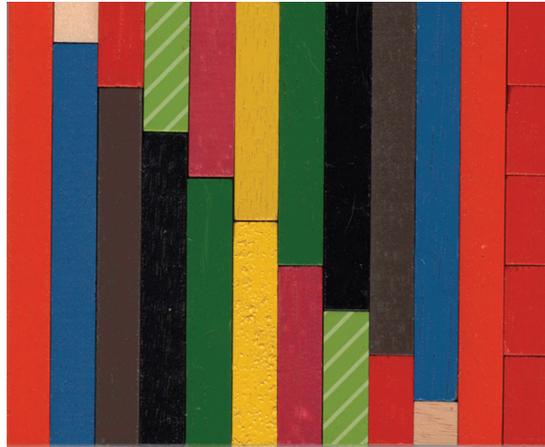
In another kind of colour-blindness, many of the same colour pairs look the same, but also, everything looks darker. The palette above gives an idea of how this might look.



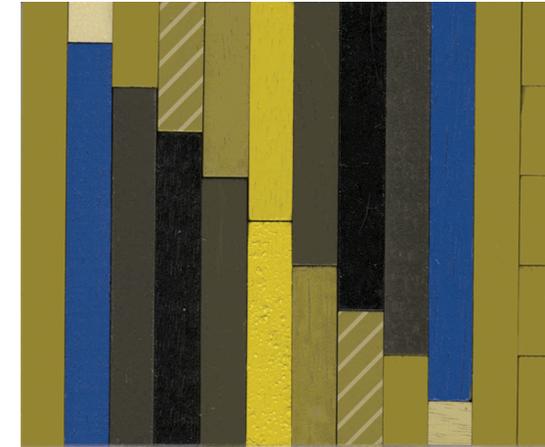
We could look again at the coloured marbles. A teacher who wanted to use marbles for maths problems could use ones that were patterned as well as coloured.



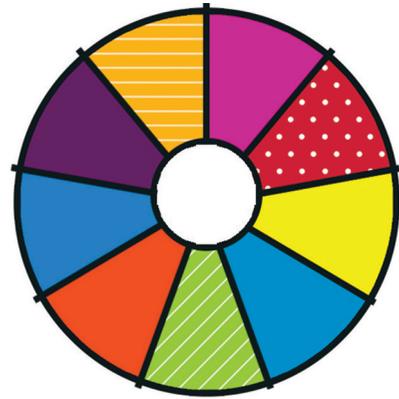
The teacher could say, 'Count the spotted purple and the striped pink marbles and add the numbers together.' This picture shows how such patterned marbles might look to colour-blind people. You can see that the patterns make it easier for colour-blind people to find differences among the marbles.



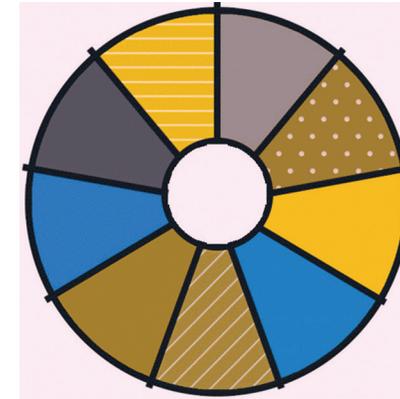
Coloured rods could also have patterns on them.



This picture shows how those same rods might look to a colour-blind person. If the person knew that the light green rods had stripes on them, he or she could easily find them.



In the same way, colour coded books could use patterned colour. The colour wheel above has had patterns added to some of the colours.



This is how many colour-blind people would see the patterned colour wheel. Patterns like these can help people who do not have full colour vision to recognise colours more easily.



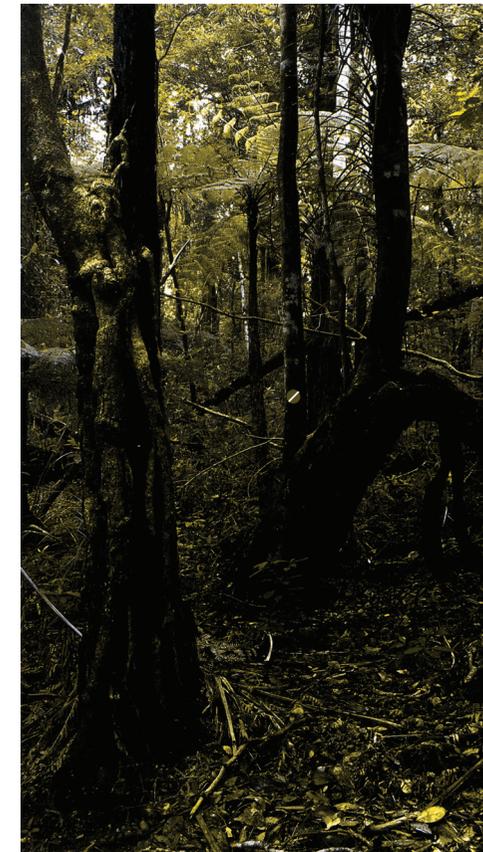
Rugby jerseys can be patterned too. In fact, they often are – but not always.



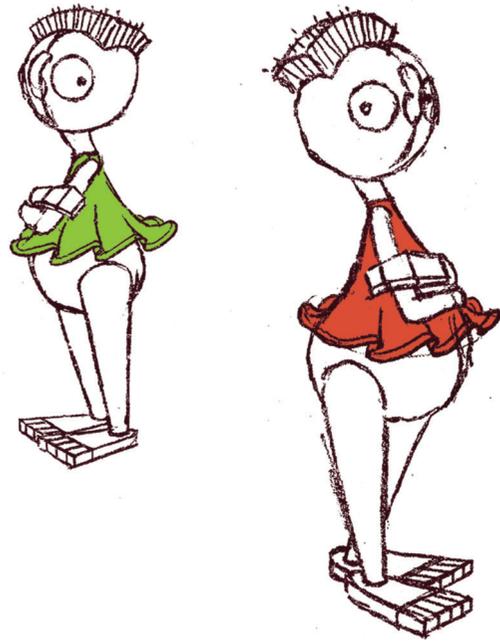
Here are the two jerseys as they would look to many colour-blind people. It is easier to tell them apart.



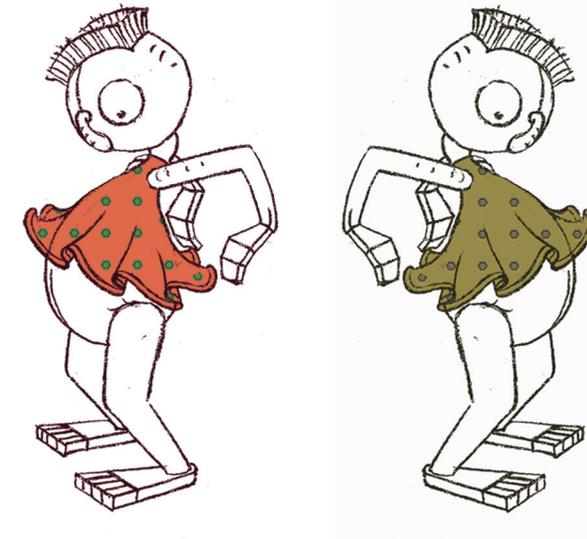
If the red track marker in this forest had a white stripe painted across it, like this...



...many colour-blind people would find it much easier to see. The picture shows how it might look to people without full colour vision. Compare this to the picture without a white stripe earlier in the book.



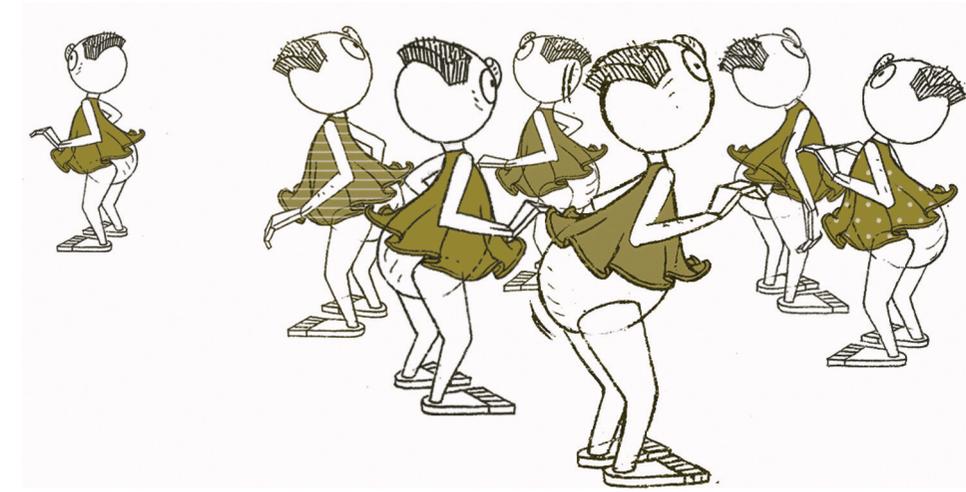
If you know which colours (such as red and green) look alike to colour-blind people, you can try not to use those colours next to each other.



Or if you need to put confusing colours next to each other, you can make it easier for colour-blind people by using colours of different *tones* – different lightness or darkness. For example, you could use dark red next to light green, or light red next to dark green. As the picture shows, this make it easier for colour-blind people to see a difference between the colours.

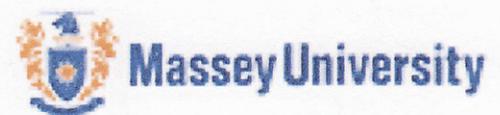


If you have to put confusing colours together, and if they need to be of similar tones, you can use patterns to make them look different from each other.



Using patterns in this way gives colour-blind people another clue about the colours of things. In this picture, the lines in the green shirt can be used to show colour-blind people that it is green and not red.

There are many ways to make it easier for colour-blind people to recognise colours.



**Declaration Confirming Content of Digital Version of Thesis**

I confirm that the content of the digital version of this thesis

**Title:** 'INFORMATIVE ORNAMENT: THE MACHINE'

is the final amended version following the examination process and is identical to this hard bound paper copy.

**Student's Name:** SABRINA MALCOLM

**Student's Signature:** 

**Date:** 6 APRIL 2010



