



ELENA MAIXNEROVÁ
& KATEŘINA WAGNEROVÁ HIKADE

HOW TO ANIMATE



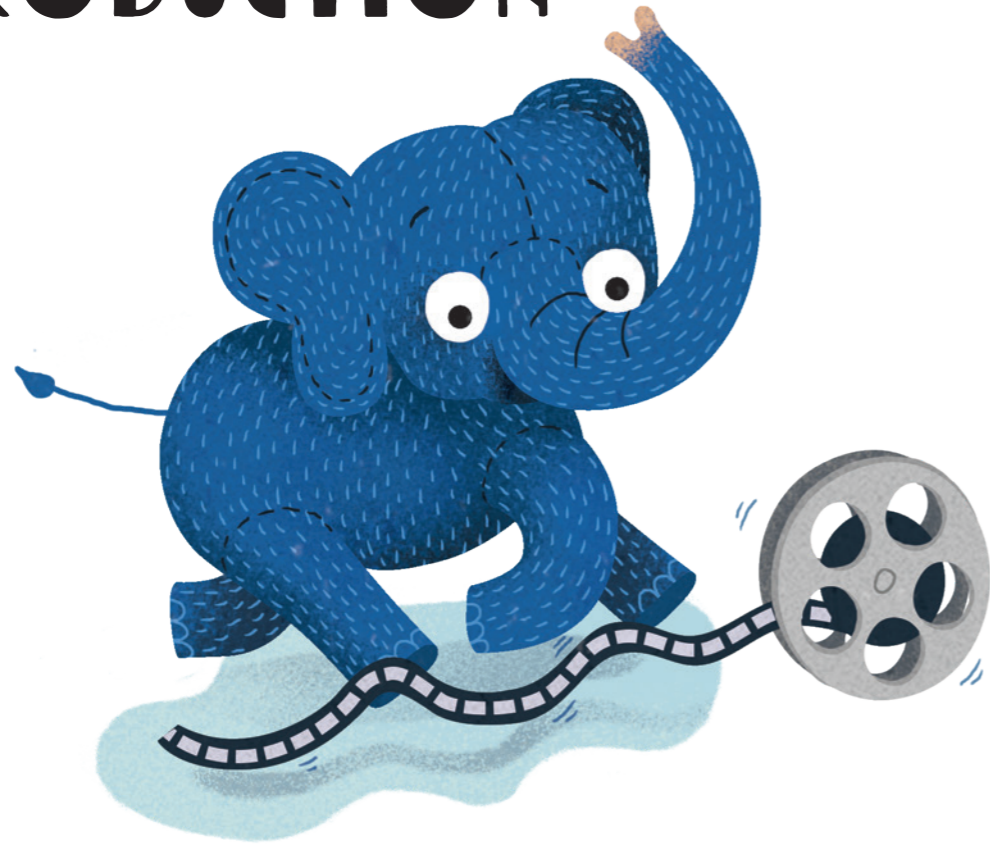
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B4U PUBLISHING



INTRODUCTION



Dear reader,

The book in your hands is not only about animated film but animation in general. We have done our best to make it entertaining, educational and – above all – instructive. With its help, we firmly believe that having discovered pre-cinema toys you will have fun trying them out and making them yourself.

We hope that the chapters on animation techniques will draw you into the topic and encourage you to be creative, and that soon you will be coming up with amazing ideas of your own!

This product comes in two parts. The first comprises the book itself. The second comprises supplements in an online repository,

where you can download various templates and sets of instructions for printout. You can access these by clicking on the QR code (see below). You will find one of these in every chapter for which such materials are available.

Each chapter also references treasures from film history for you to watch and so better imagine certain techniques of animation and optical toys. All are listed on p. ► 71. You will be alerted to them by a pictogram within a chapter.

We wish you many hours of creative enjoyment!



◀ files for download

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BEFORE FILM

Important 19th-century inventors and some of their inventions:

1. Thomas Edison: the light bulb
2. George Stephenson: the steam locomotive
3. Georges Méliès: special effects in animation
4. Eadweard Muybridge: photographic studies of motion



Gentlemen pace about solemnly in tails and top hats. Ladies in frilly dresses trip this way and that. The steam locomotive is on the track and ready for the off. The 19th century was a time of technical progress and invention... And this included optics.

ILLUSION OF MOVEMENT

The invention of film depended first and foremost on the optical illusion of movement, something that was first explored in the early 19th century. As the century wore on, various

optical toys, machines and more complex instruments were developed – paving the way for the first cameras and film projectors. As at first electricity was used for lighting only, machines were operated by hand. At that time, all serious-minded adults thought the idea of humans one day flying to the Moon a crazy one. All serious-minded adults but one, that is: Georges Méliès dreamed of doing it. At least I can visit the Moon in film, he said to himself. If you turn to page ► 71, you, too, can take a look at the Moon!

UNSTOPPABLE PROGRESS

In 1902, French director and pioneer of cinematography Georges Méliès made the black-and white silent movie *A Trip to the Moon* (*Le Voyage dans la Lune*). At fourteen minutes long, it was practically a feature film. What's more, it was one of the first films to tell a fantastical story. In those days, movies tended to be short records of everyday reality. Méliès became the main representative of fiction in the narrative film.

FIRST DISCOVERIES IN FILM

The 19th century was a time of progress and invention. The aforementioned optical toys and machines first appeared in academia. Scientists used them to investigate various physical and optical phenomena. Before long, the machines were available to the general population, where they became very popular. Let us now discuss these further.

A Trip to the Moon, 1902





LATER INVENTIONS

As is so often the case, one invention led to another. Different people might come up with the same invention simultaneously. Inventors were constantly trying to improve on the work of others. Isn't it just amazing that the pinhole camera has developed into the digital camera! As the main topic of our book is animated film, we cannot include every invention – but we can tell you a little about the most important ones.

PHOTOGRAPHIC FILM

As we approach the 20th century, industry develops apace, and this includes the photography and film industries. Indeed, the two are closely linked. The first cameras – plate cameras – were able to take only one photograph at a time, and it took a very long time for this to be exposed. The advent of photographic paper made this situation more favourable. But we still have a long way to go on our journey...

The true breakthrough came in 1885 with the invention of photographic film, surely the most significant discovery in this field, which replaced poisonous chemicals. The pioneer responsible for photographic film was **George Eastman**. Made initially from paper, it switched to celluloid, a lightweight, easily mouldable (and also highly flammable) plastic that could be wound on a spool. This invention paved the way for cameras that could take several shots, one after another. Which in its turn paved the way for the first video cameras and so for the first films and film projections.

Before we move on to film, let us stay a while with photography. With the next double-page spread, you can play inventor by building your own pinhole camera, with which you can take photos and work with photographic film.

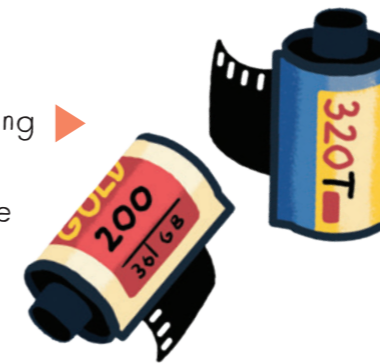


▲ digital camera



◀ SD card – for storage of images taken by a digital camera

Films for recording images taken with an analogue camera ▶



▲ analogue camera



ONE MORE INTERESTING THING

Who else may be glad of such a development? Who could barely wait for the invention of a camera so small it could be hidden in a buttonhole?

If you are thinking of agents in the secret services, you are on the right lines. Can you imagine James Bond taking a briefcase filled with an alchemist's equipment on a mission? Of course not! But an agent with a camera in his pocket watch has much in common with 007. These days, cameras are hidden in all kinds of places. When you walk about a department store, can you spot the security cameras?



PREPARING A TABLE FOR ANIMATION

Object animation requires a table or other work surface. How should this be prepared?

1. Camera and tripod. A selfie stick may be useful too, as may an improvised stand for your phone. In any case, you will need to keep your camera or phone steady.
2. Desk.
3. A large sheet of paper, to serve as a base and background for the animation. You might draw or paint part of the scene on this.

4. Adhesive tape is good for attaching elements of the backdrop to the scene. You don't want this to move during animation.
5. Close the curtains or blinds. Light intensity changes in the course of a day. Your scene will need constant lighting, so that the brightness and colour of your image does not change along with the weather.
6. Lighting of the scene.
7. You may use a computer – to back up your photos and/or for its animation program. If you have an animation program in your phone, you may manage without a computer.

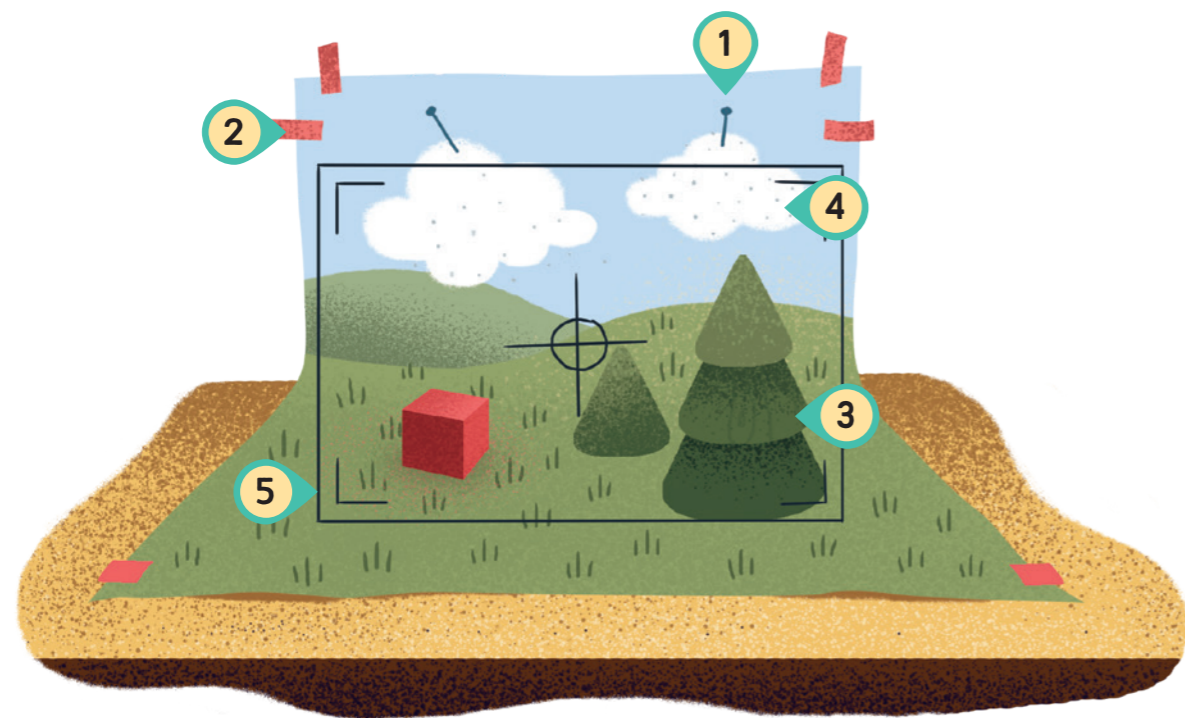
WHAT TO MAKE SCENERY WITH

Be creative! You will surely come up with lots of things you can use. Remember that the scene doesn't have to be set up on a table or have a paper base or background. The most important thing is that the ready scene does not move or fall apart. Instead of a table, you might set it up on a blanket or outdoors on the lawn...

1. Paper, scissors, paints and other artist's supplies.
2. Doll's house – this can make up the entire scene or a part of it.
3. A building set can be made into houses, obstacles, mazes... Anything that occurs to you!
4. Clothing or a cloth might serve as a lawn, river etc.
5. Products of nature, stones, sand, wood...
6. Boxes of different sizes. You can paint these, cover them with cloth or use them just as they are.
7. Kitchen utensils, pots, cups, funnels etc.



HOW TO PREPARE A SCENE



Now you know how to prepare an animation desk. Here, let us go into more detail about what a scene needs. Young animators often neglect something simple but important, and this will affect the quality of the animation. So, what must we not forget?

1. If you want to try out your animation first, you can use blank paper as a base. If you are ready to animate your short story, paint the background so that it fits the scene. Choose the size of the background in accordance with what will be moving around in the scene.

2. The base and backdrop should now be stuck to the desk, wall etc. If they are not, the background may move along with the object. This will be seen in the animation – which is not what we want.

3. Various scenic props – made of wood or plastic, for instance – will help you create space in the scene. As you set them down, fix them with an adhesive to make sure that they don't move when they shouldn't.

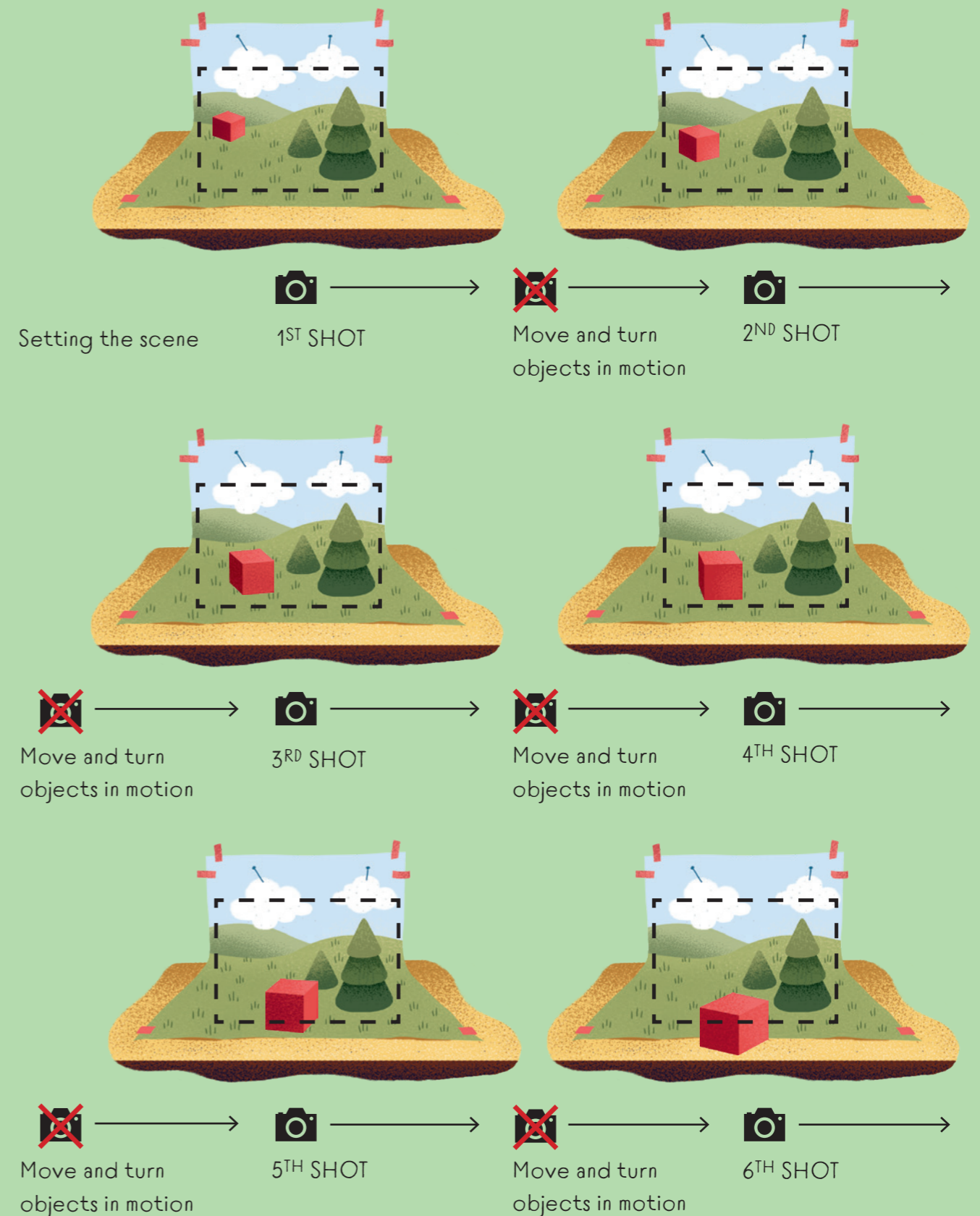
4. There can be scenic props in the sky, too. A cottonwool cloud, for example, can be fixed with a pin, while a paper prop can be glued on. Moving these while making the animation will add life to your work.

5. A black frame delimits the camera shot. Be aware that this takes in the scene only, not the edge of the desk or the wall. Bear this in mind as you set up your tripod.



If you now know what to do and how to do it, you can get cracking. Start with a simple object – like a die.

HOW TO ANIMATE OBJECTS



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Vivid images?
How is this even possible?

Delve into the enchanting world of animation with this captivating book. Join a curious guide and his plush companion on an exciting journey that takes you from the early days of film history to the mesmerizing realm of animation. Discover the secrets of how ordinary pictures come to life, unravel the mysteries of optical illusions, and embark on your own animated movie-making adventure. With QR codes on each page, you'll have access to downloadable materials, making the creative process even more enjoyable.

Don't wait any longer – let's breathe life into the world of animation together!



EAN + ISBN

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