

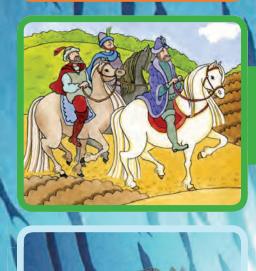
KEY STAGE

LEVELS

**SAN** 

### Key stage 2 levels 3-5 English reading booklet





Inventions

The Faces of the Czar

**A Life Underwater** 



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# Inventions

Think about your home and all the things inside it. Everything was invented by someone. Many things were invented to speed up housework, some were made for our enjoyment and others help us communicate. A few make homes safer, while others make your house cleaner.

#### **The Telephone**

In 1849, Italian engineer Antonio Meucci made the first telephone. He came across the idea by accident when he was trying to find a cure for headaches. Meucci believed that headaches could be cured by electricity. During his experiments he found that when the electricity was turned on sound travelled down the wires he was using. Meucci discovered that a pair of small cones joined together by wires made a basic telephone.

Soon after, a very similar invention was produced by a man called Alexander Graham Bell. Sadly, Meucci was unable to prove that his telephone was the first and he failed to make any money for all his hard work.





#### **The Vacuum Cleaner**

At the beginning of the 20th century cleaning a carpet meant lifting it from the floor, carrying it outside and beating it until all the dust fell out. It was hard, dirty work. Surely there was an easier, cleaner way of cleaning?

Hubert Booth, a British engineer, went to watch an inventor demonstrating a cleaning machine that blew dust from the seats of railway carriages. It certainly worked! The jet of air blew dust from the cushions – into the faces of everyone watching!

Booth thought that it would be even more useful if the machine sucked the dirt up, rather than just blowing it to another place. So he put a handkerchief on a chair cushion. Pressing his mouth against it, he took a deep breath and breathed in a lungful of dust. Once he had stopped coughing he turned the

handkerchief over. On the back was a dark ring of dirt where his mouth had been. Using this idea, Booth bought an electric motor and pump and in 1901 built the world's first vacuum cleaner.

#### **The Toaster**

Charles Strite was so fed up with burnt toast that he invented a pop-up toaster in 1919. This meant you didn't have to stand around waiting for the bread to toast – you just put it in the toaster and it would pop up when it was ready.



#### **The Television**

Although the invention of the television was the result of work by many people, Scottish inventor John Logie Baird is thought to be the first person to have produced an image on television.

In 1925, he created a camera which was made up of a jumble of lenses, spinning cardboard discs and electric motors. He

pointed it at the head of a dummy called 'Stooky Bill'. Amazingly, it worked. An image of the dummy appeared on the little screen.

#### **The Microwave**

During the second world war in the 1940s, Percy Spencer, an American, was working on the radar – a machine used to detect enemy aeroplanes. One day, while he was working on this machine, he noticed that a bar of chocolate in his pocket had melted. He immediately realised that the microwaves from the radar machine had heated it.

Spencer sent his assistant to buy some dry corn, and put this right in front of the machine. Switching on the power turned it instantly into popcorn.

Next, Spencer put an egg in front of the machine, flipped the switch and waited. It trembled. It fizzed. Finally it exploded, sending shell and yolk everywhere, including in the face of his assistant!

Spencer designed his invention so that it was like a mini-oven. The first microwave cost the same as an expensive car!

#### In the future

Now that the internet is being used more, people are inventing 'smart' machines so that owners can control them by phone. Imagine being able to put some washing on by sending a message to your washing machine. One washing machine, which was made recently, can even call out the engineer when it breaks down!

In the past, Russia was ruled by powerful emperors called Czars. (Czar is pronounced Zar.)

The Czars were very rich but the people of Russia were very poor.

### The Faces of the Czar

#### by Adèle Geras

Long ago, in a very far away and neglected corner of Russia, there lived a farmer called Frankel. On this particular day, Frankel was happily digging up turnips in what he called his field, but which in truth was a piece of land about the size of a tablecloth. He was so absorbed in his work that he hardly noticed the horsemen drawing nearer and nearer, until the noise of the hoof-beats on the dry earth of the road made him look up. What he saw made him drop his spade in amazement. It was the Czar. Frankel bowed deeply.

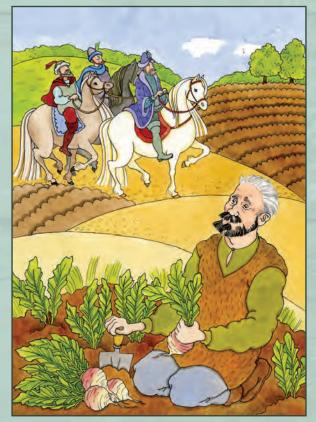
"Do not be surprised, my friend," said the Czar. "I am very interested to observe that

although the hair on your head is grey, the hairs of your beard are still black. It's something I've often noticed in people before, and yet no-one seems to know the reason for it."

"O, mighty Czar," Frankel replied (reasoning that he couldn't possibly be too polite to a Czar), "the hairs on my head started growing when I was born. Those on my chin only started growing when I was thirteen years old. Therefore, the hairs on my chin are much younger and not yet grey."

"Amazing!" said the Czar. "I'm overjoyed to have discovered the answer to a question that has long been puzzling me. Now, I beg of you, my friend, tell no-one else what you have told me."

"I will only reveal our secret after I have seen your face a hundred times, Sire," said Frankel.





When the Czar arrived at the palace, he asked all his advisers to gather round.

"Here," he said, "is a question. Why does the hair on the head grow grey before the hair of the beard? Whoever can answer that question will be promoted to the position of Chief Adviser."

All the advisers scurried about, asking everyone they met, consulting books too heavy to be carried, and working out every possibility on scrolls of paper a yard long. This went on for weeks. Finally, two of the advisers discussed the matter.

"I remember," said one, "that on the day the Czar asked us the question, he had come back from a ride to the Western Territory. Perhaps he found the answer there. If we ride in the same direction, maybe we'll come across it too."

\*\*\*\*\*\*

"Good day to you, farmer," said one of the advisers. "Did you tell the Czar why it is that the hair on the head turns grey before the hair of the beard?"

"I did, but I'm not at liberty to tell you gentlemen," Frankel replied.

The advisers sighed. "Is there nothing we can do to persuade you to change your mind?"

Frankel considered. "One hundred silver roubles\* will change my mind instantly."

"Then take these, my friend," said one of the advisers. Frankel took the coins, sat down, and spread the coins out on his lap to count them.

\*\*\*\*\*\*

The trouble only began when the advisers came to the Czar and told him the answer.

"How can you possibly know this?" shouted the Czar.

"We met a farmer called Frankel," they said, "and he told us."

The Czar stamped his foot and sent for his Chief of Police. "Go to the farm of Frankel, and bring him here at once."

\*\*\*\*\*\*

\* A rouble is a Russian coin.

"What have you to say for yourself?" yelled the Czar. "Did you not promise me that you would not reveal the secret you told me?"

"I said," Frankel whispered, "that I would only reveal it after I had seen your face a hundred times."

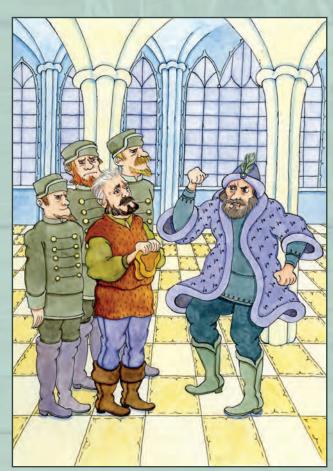
"But this is only the second time you have seen me!"

Frankel took out the bag containing the hundred silver roubles. "Here are one hundred coins. I have looked at every one. Therefore, I'm sure you will agree, I have seen your face one hundred times, as your face is on every coin."

The Czar was stunned, full of admiration for Frankel's sharp wits.

"I shall get rid of all my advisers and appoint you instead," he chuckled.

And so Frankel lived to a ripe old age, and became the richest and most powerful man in Russia, next only to the Czar himself.



# A Life Underwater

David Doubilet is a well known underwater photographer, who has had his work published in many books and magazines. He was born in New York and started taking photos underwater at a very young age.

I grew up in New York City, a very strange place to go diving. When I was ten, my uncle took me to the premiere of the movie *The Silent World*. Produced by Jacques Cousteau, the famous underwater photographer, the film was shot in the Red Sea and the Indian Ocean. I was absolutely mesmerised. Sometimes it happens to you. You see something – a moment, a part of life – that changes the course of your life. I was very lucky because it happened when I was only ten.

After the film, knees trembling, I went up to Jacques Cousteau, who stood straight, tall and aloof, talking to people in the theatre. I sneaked between a forest of legs, looked up at him, pulled his jacket and said, "Oh, Captain Cousteau, I want to swim underwater and take pictures. I want to be an underwater photographer." He looked down and said, "Why not?"

My family spent summers at our house on the New Jersey shore. The sea there is dark and murky and changes all the time. Rough or calm, it is always green. That's where I began diving. I had a simple yellow face mask and green flippers from a company called Frankie the Frog Man. The flippers looked like lily pads. My snorkel was made of hard rubber that hurt my mouth, but I could put my head under and breathe when I swam. I learned to be a good free diver and how to spear fish, too, because that's what you did underwater in those days.

At 12, I learned to scuba dive using a double air tank that was heavier than I was. I became a certified diver at 13. There was a group called the New York Skin Diving Academy. I had to study the physics of diving. I learned about air embolisms and the history of diving. In 1956 the sport was barely 12 years old, so I was a young pioneer. I liked to be underwater for one simple reason: I could escape the rest of the world. I could escape school or parents or lunch if I didn't like it. I was constantly being sought for something I was either late for, or forgot to do, or did not want to do in the first place. Being at the bottom of the pool was like being at the bottom of the ocean – no one could reach me.

My parents never really encouraged me, but they never discouraged me either. Everyone in my family did different things. My father, a doctor, liked to fish; my mother played golf; one sister skied; my other sister ice-skated. Everything I did, I did on my own, and everything was possible. I learned early on that if you want to do something, you go and do it.

There were few books about underwater photography back then. I didn't know as much as the authors of those books, but I wasn't far behind. Using a rubber bag, I adapted my first camera, a Kodak Brownie Hawkeye, for underwater pictures. The first results were absolutely terrible, but I wasn't discouraged. I was taking pictures of everything: fish, mussels and clams, and people peering down from the surface of a swimming pool. I was shooting bubbles. At 14, I won my first photography contest. At 15, my picture of a diver pulling up an anchor sold to a South American magazine. My school did not offer

photography courses like many schools do today. But even if you're a student, you can't say, "I want to make student pictures." You must say, "I want to make real pictures that will tell a story and please me."

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Photography depends on light. How does the light look in the morning? What kind of shadow does a glass of juice cast? Einstein called photographers "light monkeys," because they are fooling with, playing with, and constantly moving the light. A photographer must be as aware of light as a perfume-maker is of smells.

Photography comes from the heart. Strangely enough, it's not something you do, but something you use to explore your interests and to translate them into images.

David Doubilet





Standards & Testing Agency

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