INTRODUCTION

We have always looked to nature to inspire us. This is commonly known as biomimicry: to mimic or make a copy of nature. Many of the significant inventions in human history found their beginnings in nature. We can't help but be awestruck by the majesty and beauty of the natural world and its delicate creative balance.

Ingenious features of the natural world, from sticky gecko feet to microscopic hooks on plant seeds, from the amazing communication skills of bees to the incredible building feats of termites – all these and more have captured our imagination and inspired us to create products, art, machinery and technology that have changed the world and propelled significant progress.

This book is a celebration of inventions inspired by nature, but it also asks an important question: can we create a softer, less intrusive, more eco-friendly world by taking a lead from the designs in the natural world?

Let's grab a glimpse of some of nature's most incredible inventions!

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BRIGHT EYES

Late one night, a black cat with bright yellow eyes decided to go for a walk. At around the same time, Percy Shaw was driving his old car along the winding country roads. He was tired after a long day's work and wanted to get home. Suddenly, a thick fog engulfed his clunky vehicle, forcing Percy to reduce his speed as he strained to make out the edges of the country lane.

Just then, as if from nowhere, a pair of eyes shone out in the darkness, bright and clear, and Percy realized he was headed for a ditch! Percy swerved and avoided the ditch with centimetres to spare! The cat blinked and slunk away into the hedgerow.

A thought began to form in Percy's mind…

What makes a cat's eyes shine so brightly in the dark? An idea began to bubble up and he asked himself, 'What if…?'

Percy later discovered that the effect was called 'eyeshine', which happens in animals and humans when light is shone directly into their eyes.

In 1935, Shaw began production of his 'cat's eyes' invention. He created a small stud that sat in the centre of the road; the stud was made of glass, with a black back, and a tiny mirror inside. These studs allowed drivers to stay on course in the dark or when visibility was poor. Percy's invention was described in the UK parliament as the most brilliant road safety innovation ever produced.

Today, cat's eyes are used throughout the world on motorways and main roads. They have been modified and improved on, and now the mechanism includes a rubber wiper which cleans the lens as cars drive over them and push them below the surface of the road. The cat that went for a walk on that foggy night has helped Percy Shaw to save countless lives worldwide.