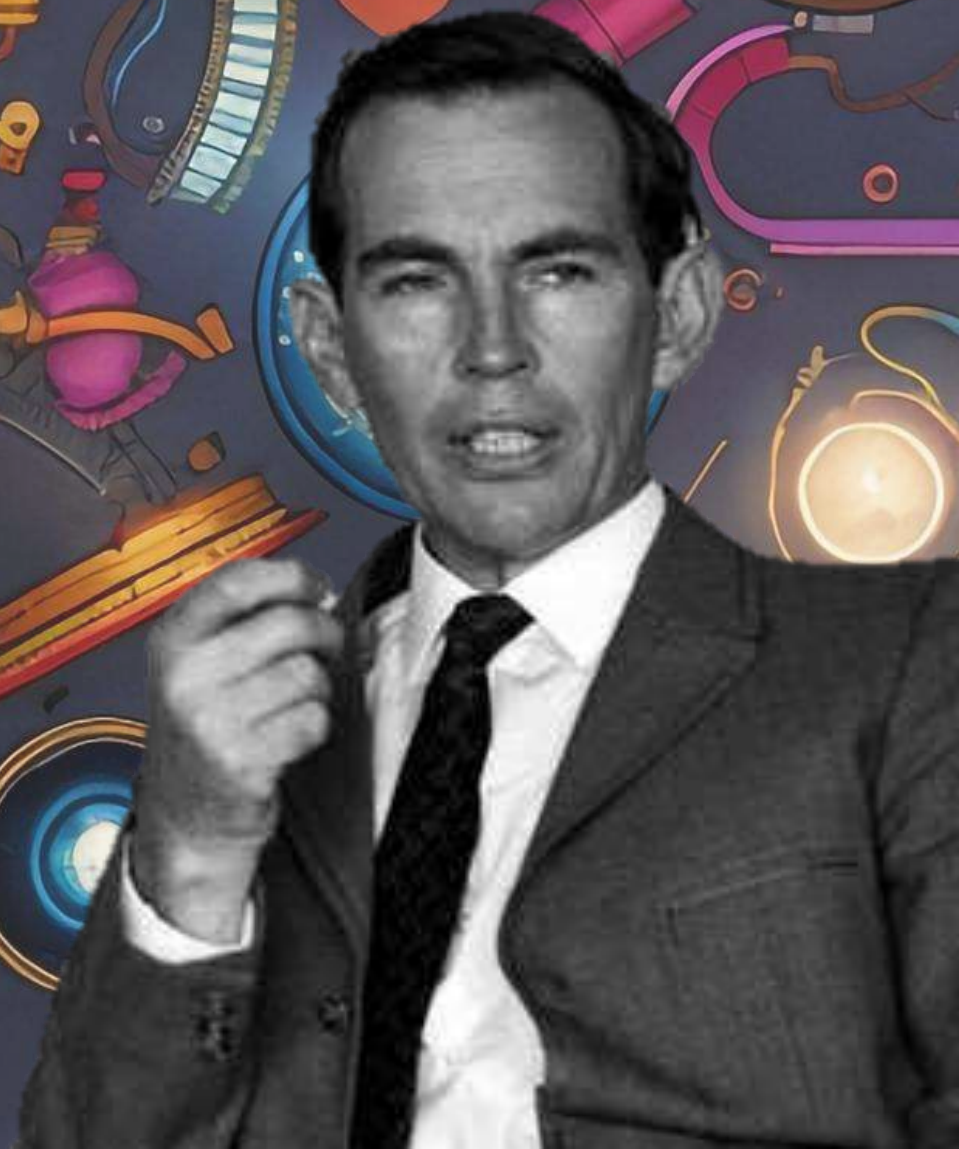


South African Inventors, Bright Minds and Other Science Heroes

THINK
DIGITAL ACADEMY

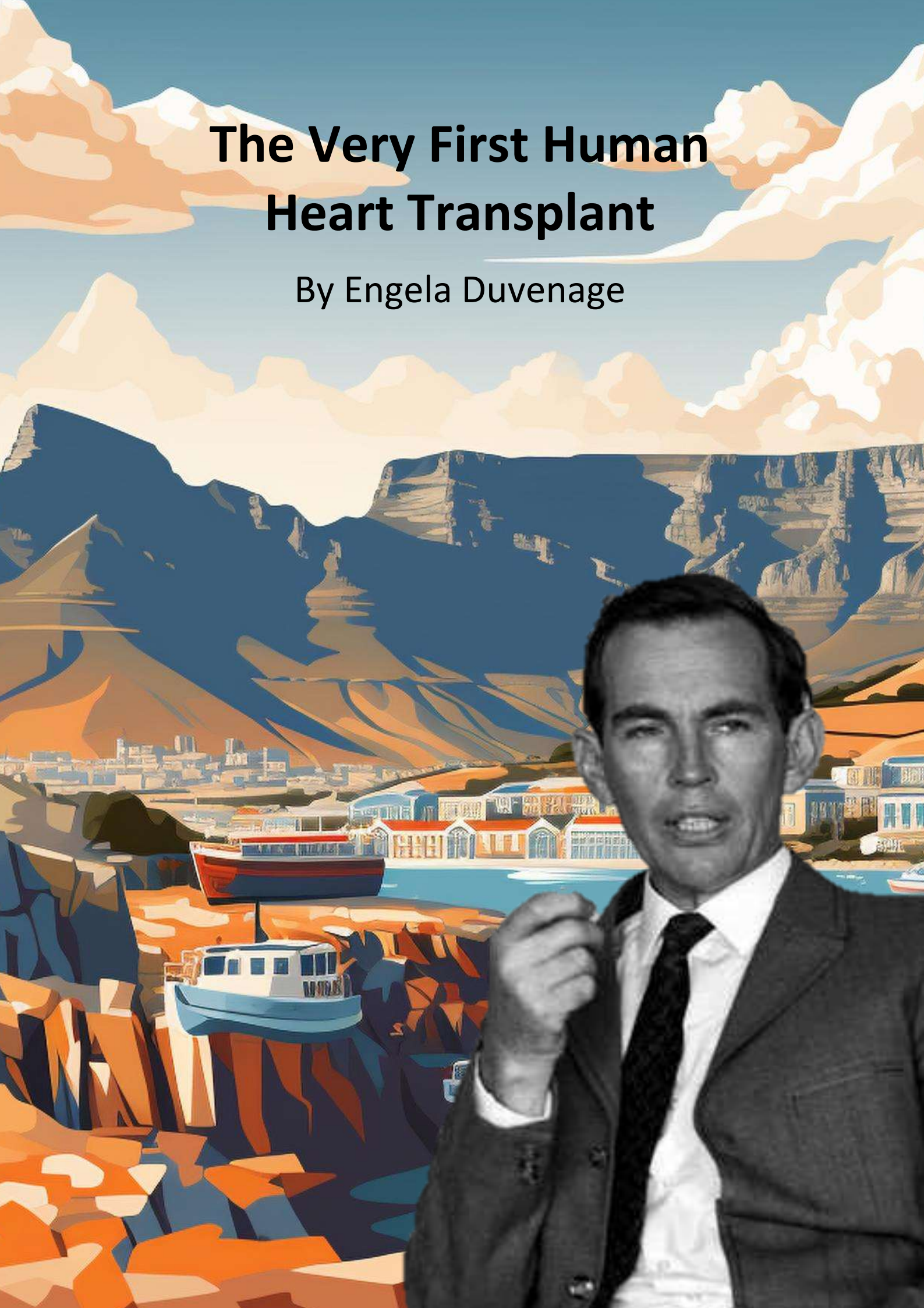


Christiaan Barnard



The Very First Human Heart Transplant

By Engela Duvenage

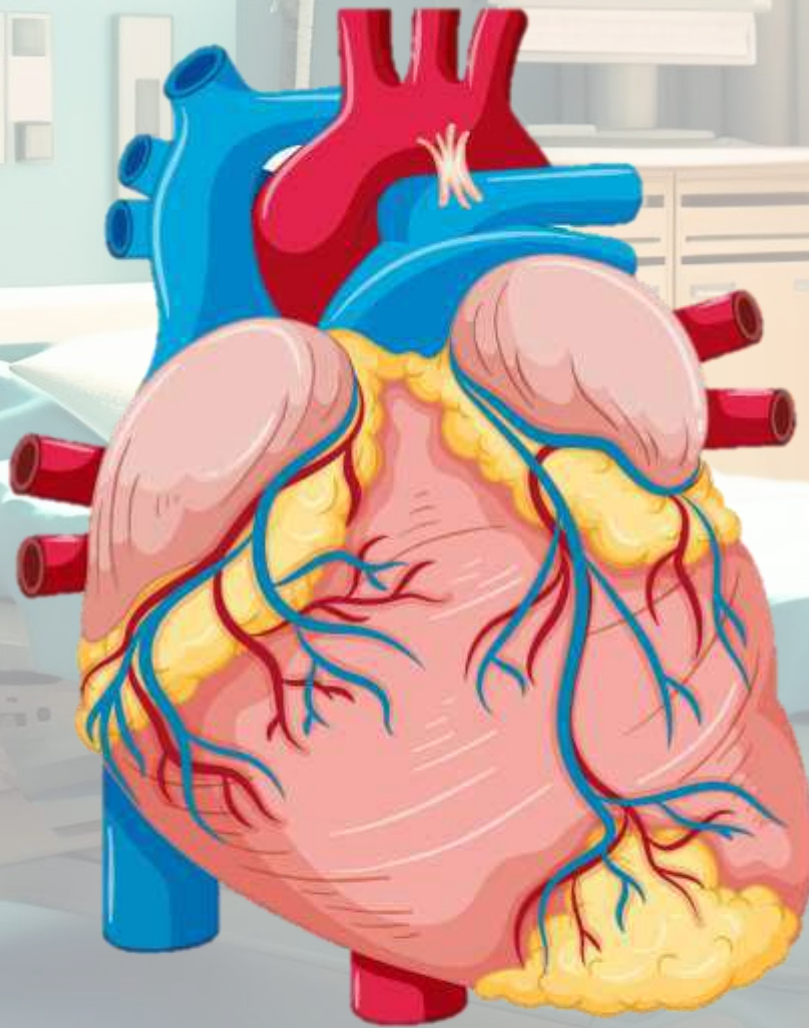


It's long after midnight on Sunday, 3 December 1967.
The streets around Groote Schuur Hospital in Cape
Town are quiet.



Eleven, Twelve, Thirteen. Doctor Christiaan 'Chris' Barnard counts each of the 31 steps he takes as he walks carefully between the hospital's Operating Theatre B and Operating Theatre A. In a bowl filled with a special saltwater mixture, he carries the first human heart ever to be transplanted into another human being.

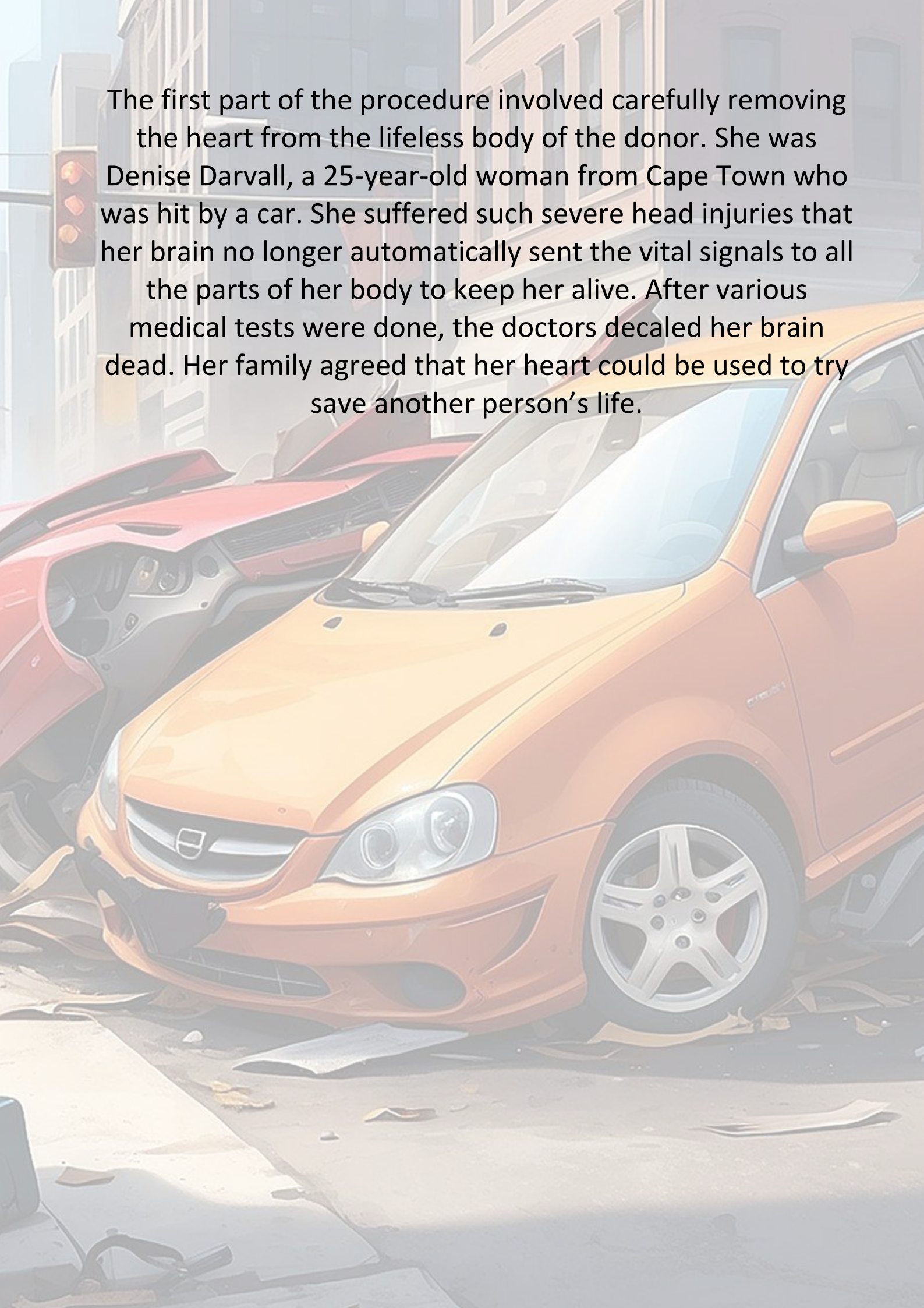
Christiaan glances again at the bowl, to make sure that nothing spills. The first-sized organ bobs in the fluid.



It has taken years of training and preparation in South Africa, America and Russia for Christiaan and his team to feel ready and brave enough to attempt the first heart transplant from one human to another.



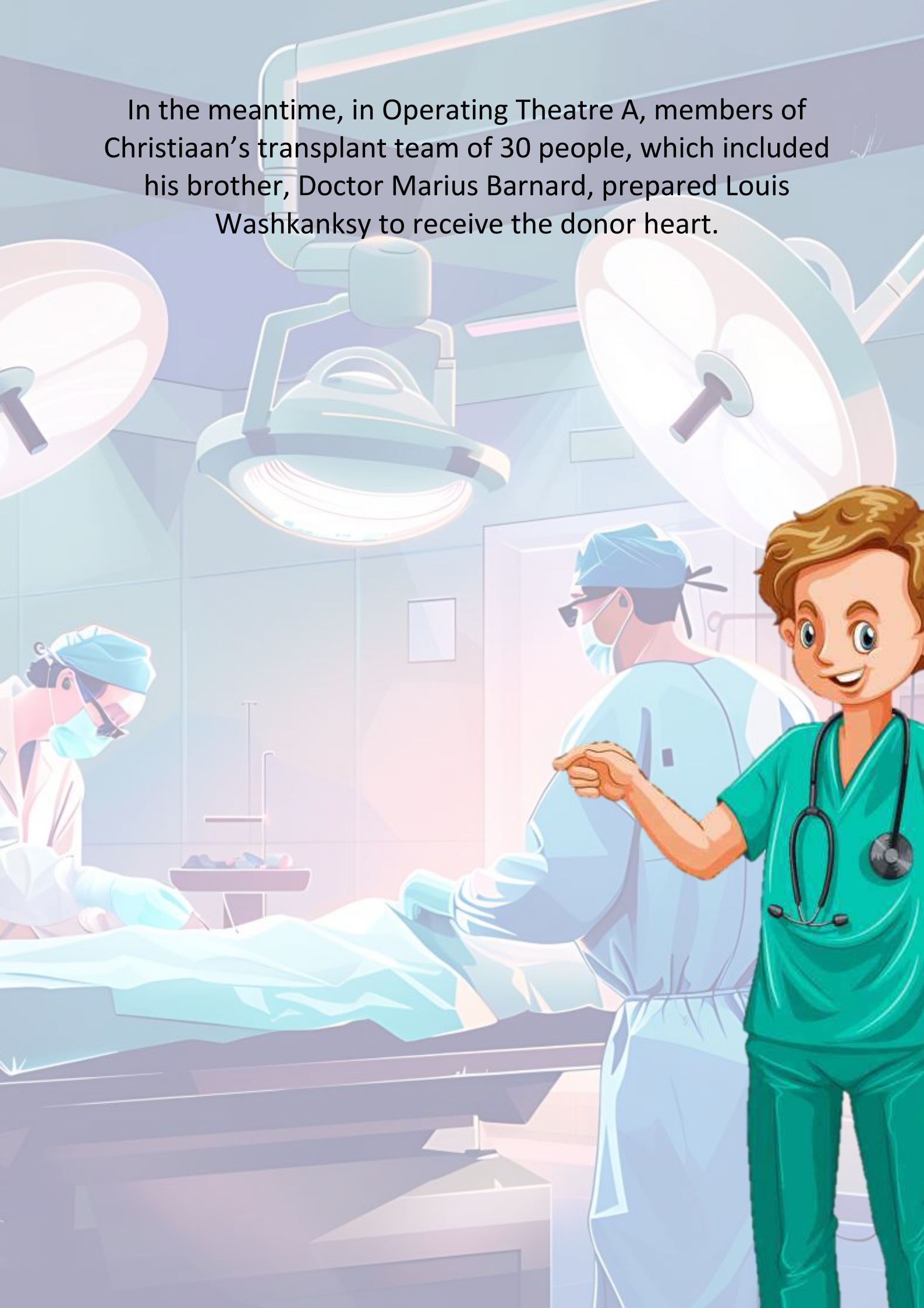
The first part of the procedure involved carefully removing the heart from the lifeless body of the donor. She was Denise Darvall, a 25-year-old woman from Cape Town who was hit by a car. She suffered such severe head injuries that her brain no longer automatically sent the vital signals to all the parts of her body to keep her alive. After various medical tests were done, the doctors declared her brain dead. Her family agreed that her heart could be used to try save another person's life.



In Operating Theatre B, Christiaan started removing the donor heart shortly after midnight. It was such a significant moment that his hands initially trembled, until he found his mojo and started to focus on the task at hand.



In the meantime, in Operating Theatre A, members of Christiaan's transplant team of 30 people, which included his brother, Doctor Marius Barnard, prepared Louis Washkanksy to receive the donor heart.



Louis is a 53-year-old shopkeeper. His own heart is too weak to pump enough oxygen-rich, life-giving blood throughout his body any longer. He is constantly short of breath and doesn't even have the energy to speak. He is dying.

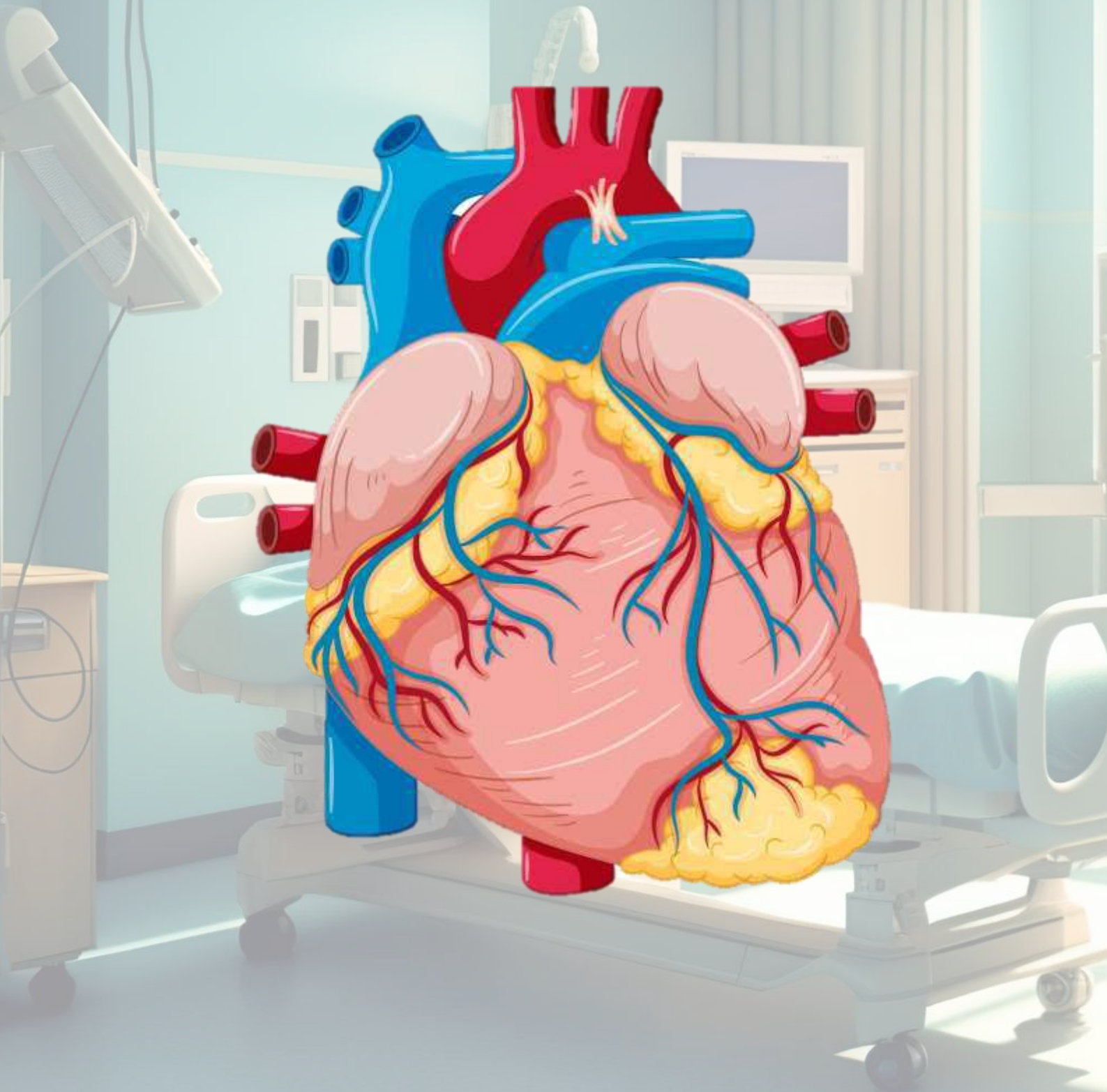


The heart Christiaan is carrying is to becoming Louis'. He is as calm as can be when he starts the implant procedure. All the necessary steps take about six hours to perform. The final fine stitch that attaches Louis' new heart to his body is made at 05:34 by Doctor Rodney Hewitson.

Louis' new heart is given an electric shock from a special machine to kick-start it into action.



A special heart-lung machine has kept Louis alive since his own heart was removed for the transplant to take place. The machine is turned on and off twice before the replacement heart at last starts beating by itself.



By late morning, an exhausted Christiaan heads home. In his car, he listens to the midday radio broadcast. His ground-breaking heart transplant in the main news story!

Journalists start calling him. News about the transplant's success quickly spreads across the globe.



Louis is still very weak when Christiaan visits him the first time.

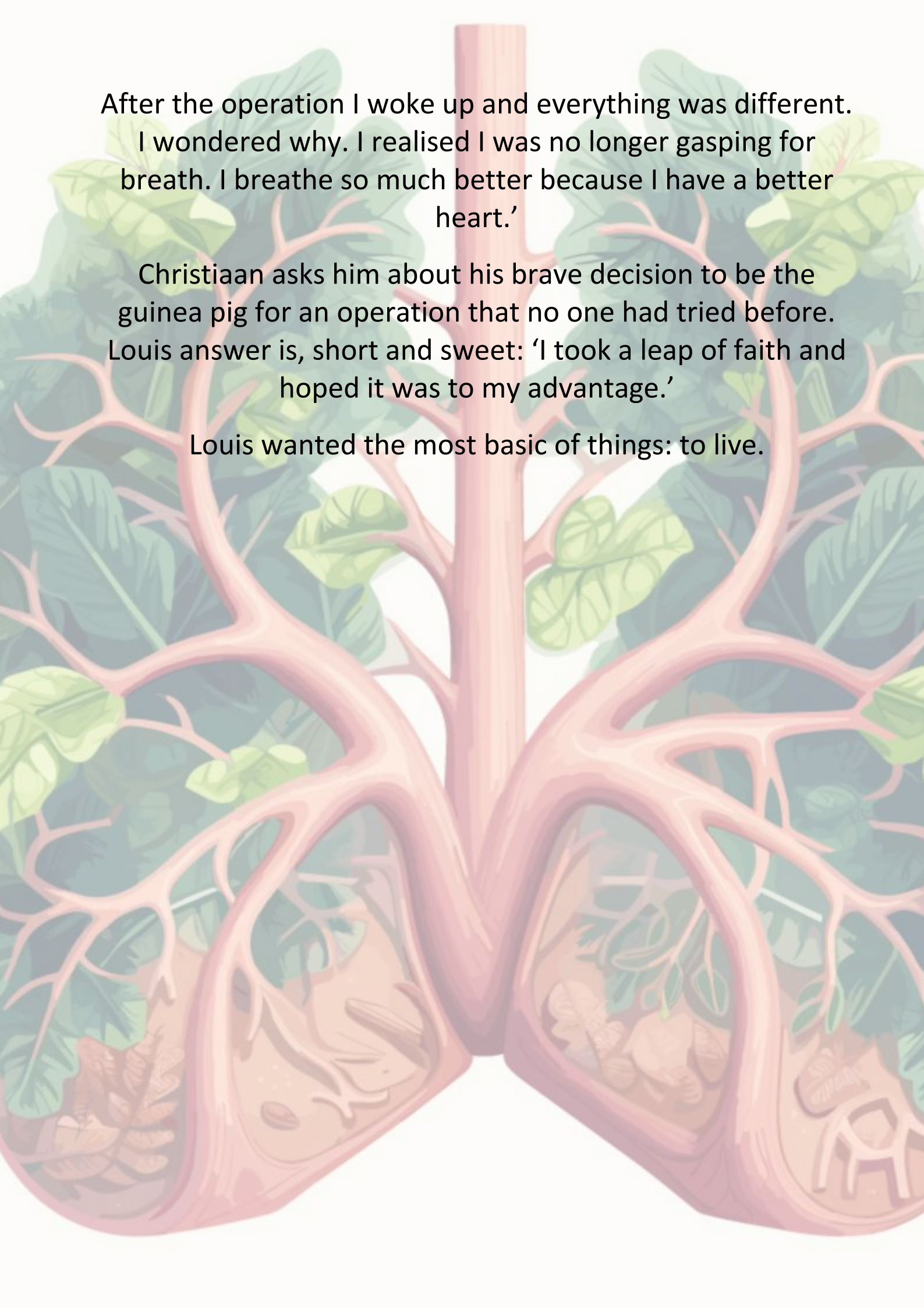
‘Do you know what we did?’ asks Christiaan.

‘You promised me a new heart ... I suppose you gave me one,’
Louis struggles to answer.

Six days after the operation, a cheerful Louis is recovering well.

‘In my life I’ve never felt better ... or happier,’ he tells Christiaan
when the doctor checks up on him.



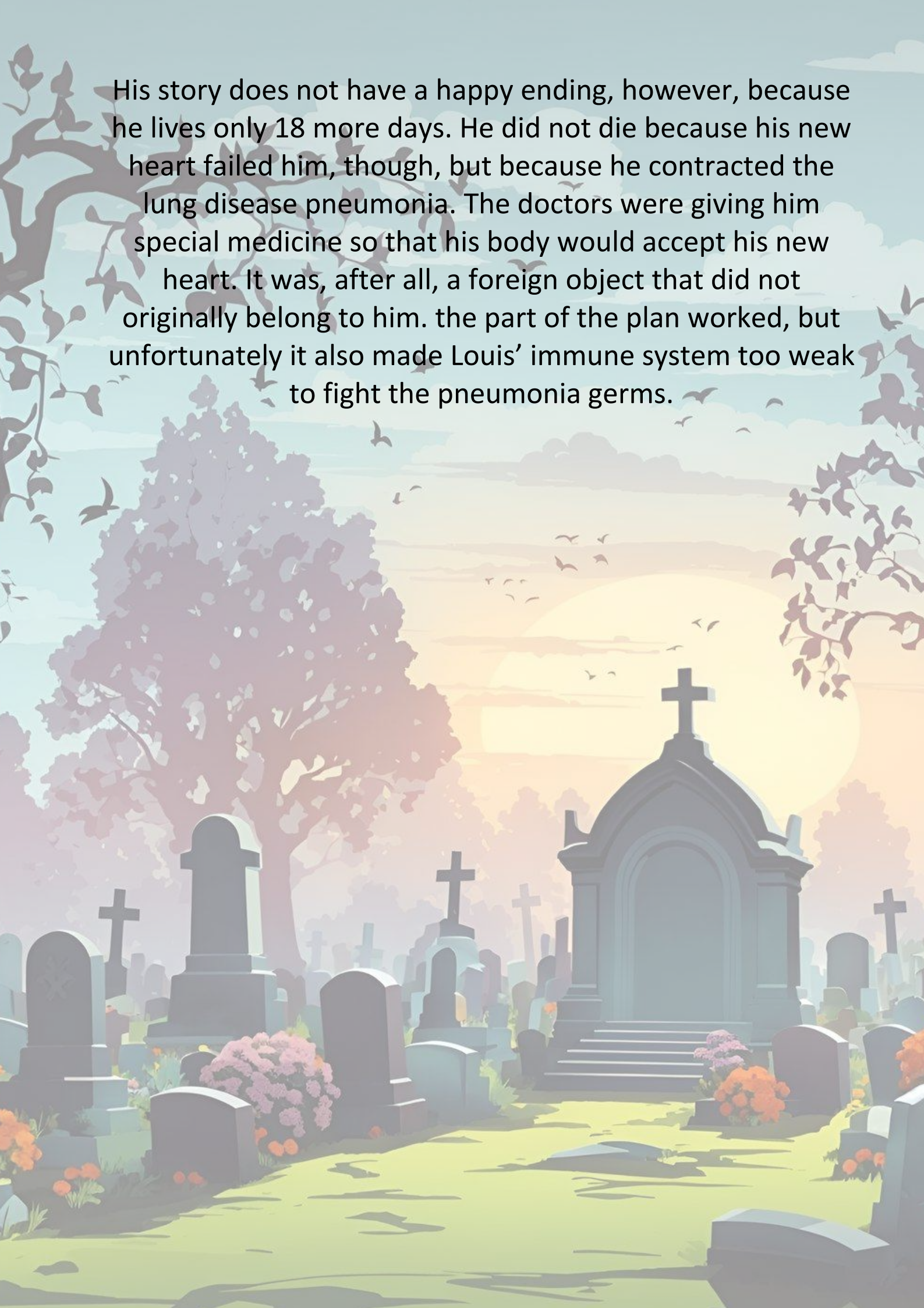


After the operation I woke up and everything was different. I wondered why. I realised I was no longer gasping for breath. I breathe so much better because I have a better heart.'

Christiaan asks him about his brave decision to be the guinea pig for an operation that no one had tried before. Louis answer is, short and sweet: 'I took a leap of faith and hoped it was to my advantage.'

Louis wanted the most basic of things: to live.

His story does not have a happy ending, however, because he lives only 18 more days. He did not die because his new heart failed him, though, but because he contracted the lung disease pneumonia. The doctors were giving him special medicine so that his body would accept his new heart. It was, after all, a foreign object that did not originally belong to him. The part of the plan worked, but unfortunately it also made Louis' immune system too weak to fight the pneumonia germs.



At least Louis' operation showed that a heart transplant could be successfully done. Three days after the first transplant, and American team does one too, this time on a baby. On 2 January 1968, Christian performs the world's third heart transplant on dentist Philip Blaiberg. Three months later, Philip is driving around again. He lives another 19 months, thanks to his new heart.



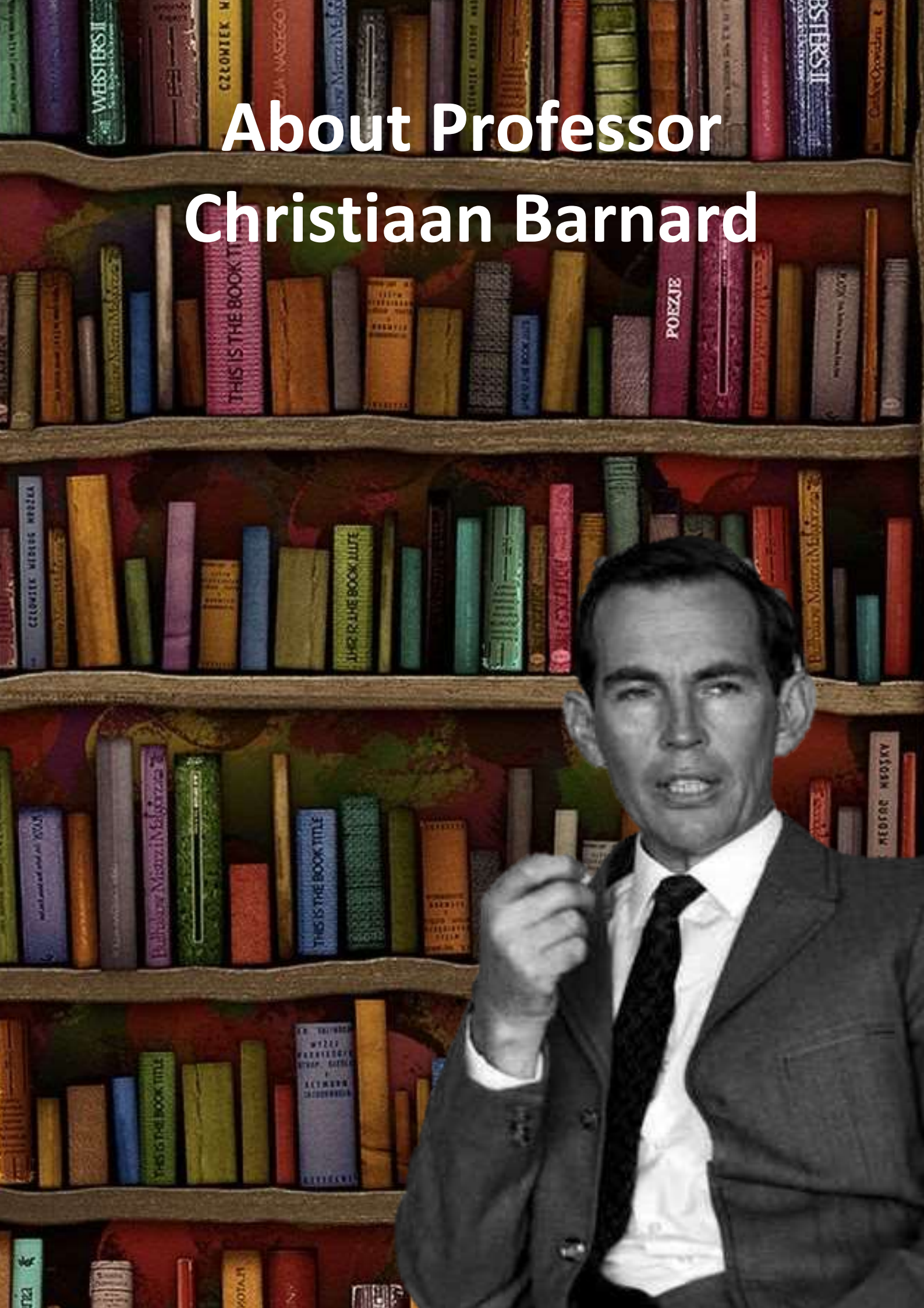
Within a year, 98 people worldwide receive new hearts, with mixed success. Christiaan and his team continue their research in South Africa and America to make different aspects of the transplant procedure more successful.



The survival rate of patients has improved significantly over the years since the ground-breaking operation, thanks among others to better medicines that stop patients' bodies from rejecting their new hearts.



About Professor Christiaan Barnard



Born: 8 November 1922, Beaufort West – died: 2 September 2001, Paphos Cyprus

matriculated: Beaufort West High School, 1940

Attempt: American doctors in 1964 transplanted a chimpanzee's heart into a human. The patient lived for only 90 minutes.

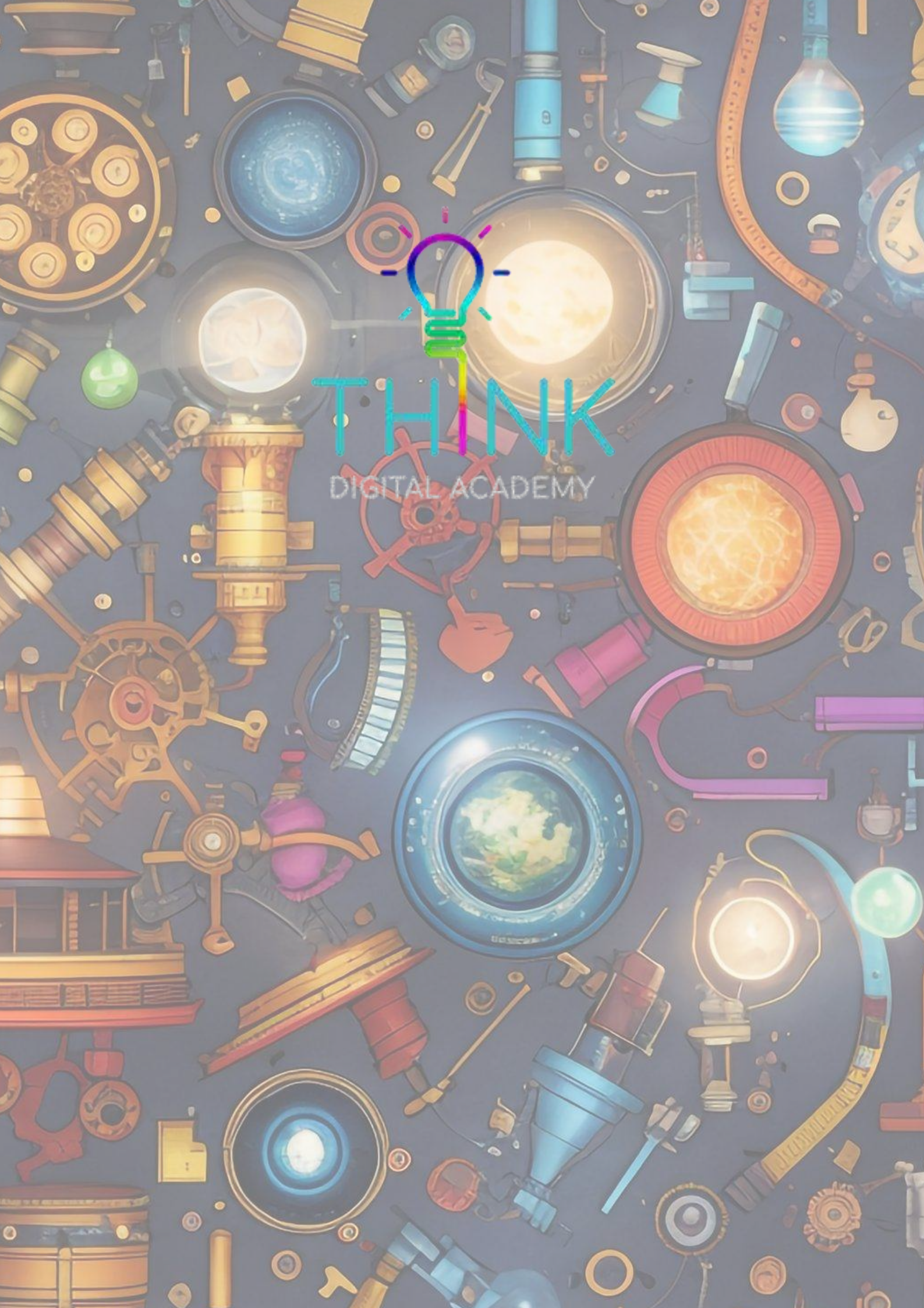


In recognition of a medical breakthrough: Christiaan received hundreds of honours, medals, and gifts from countries around the world. Many of these are exhibited in the Christiaan Barnard Museum in Beaufort West and the Christiaan Barnard Memorial Hospital in Cape Town.



Pain and joy: Transplants are filled with sadness and stress. On the one hand, there is always a seriously ill person for whom a new heart is the only hope of life. On the other hand, there is the unexpected death of a donor, often because of an accident, which leaves a family distraught and grieving. The family has to give permission for the person's organs to be transplanted into others.





THINK

DIGITAL ACADEMY