

# Girls Who Grew Up to Change the



Marie Tharp



Mary Seacole





Marie Tharp  
Geologist





Marie wanted to study the earth's crust, so she completed a master's degree in geology at the University of Michigan.



PANTHALASSA  
OCEAN

Today we know that millions of years ago, almost all the earth's land was united in a supercontinent called Pangea and surrounded by a super ocean called Panthalassa.

SIBERIA

EURASIA

NORTH  
AMERICA

PALEO-TETHYS  
OCEAN

SOUTH  
AMERICA

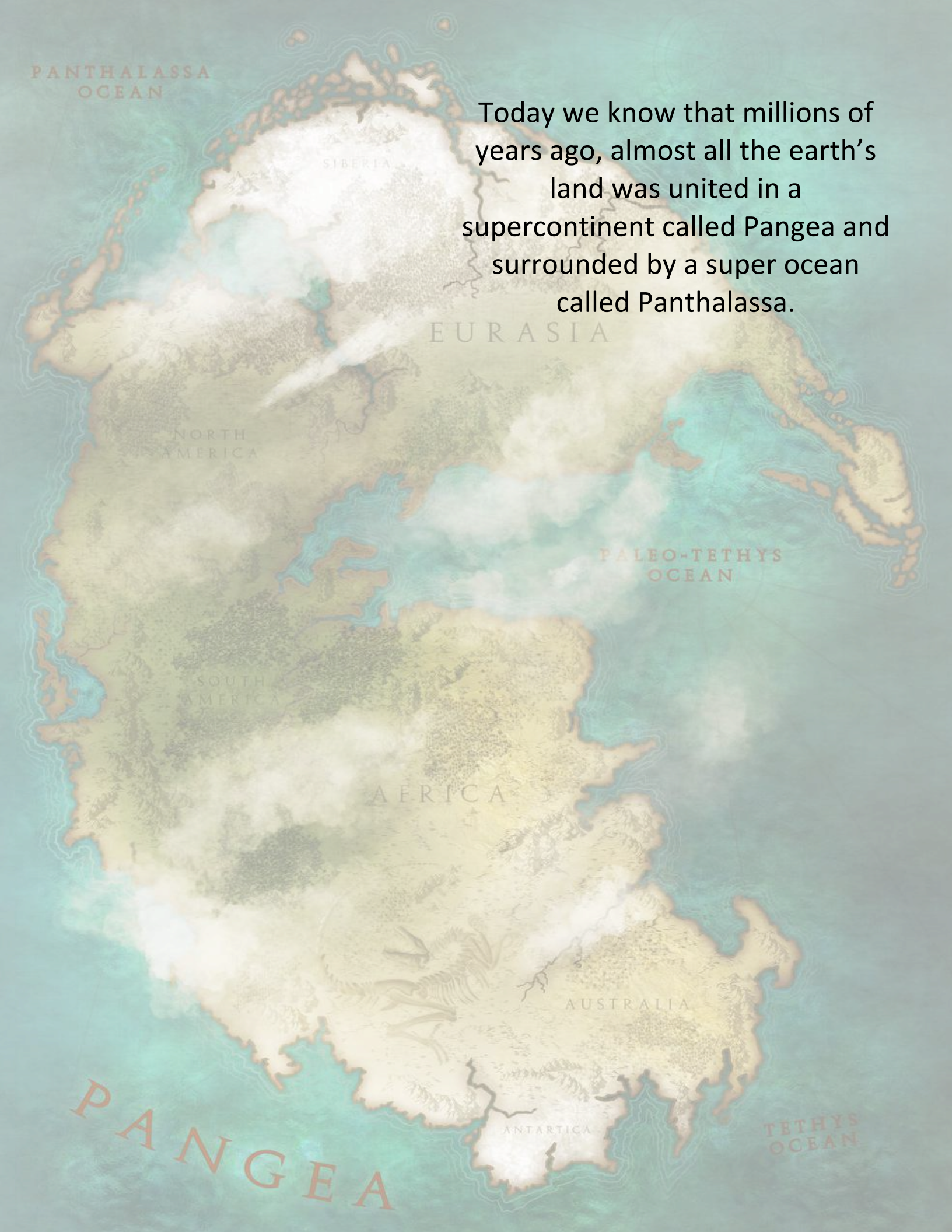
AFRICA

AUSTRALIA

ANTARTICA

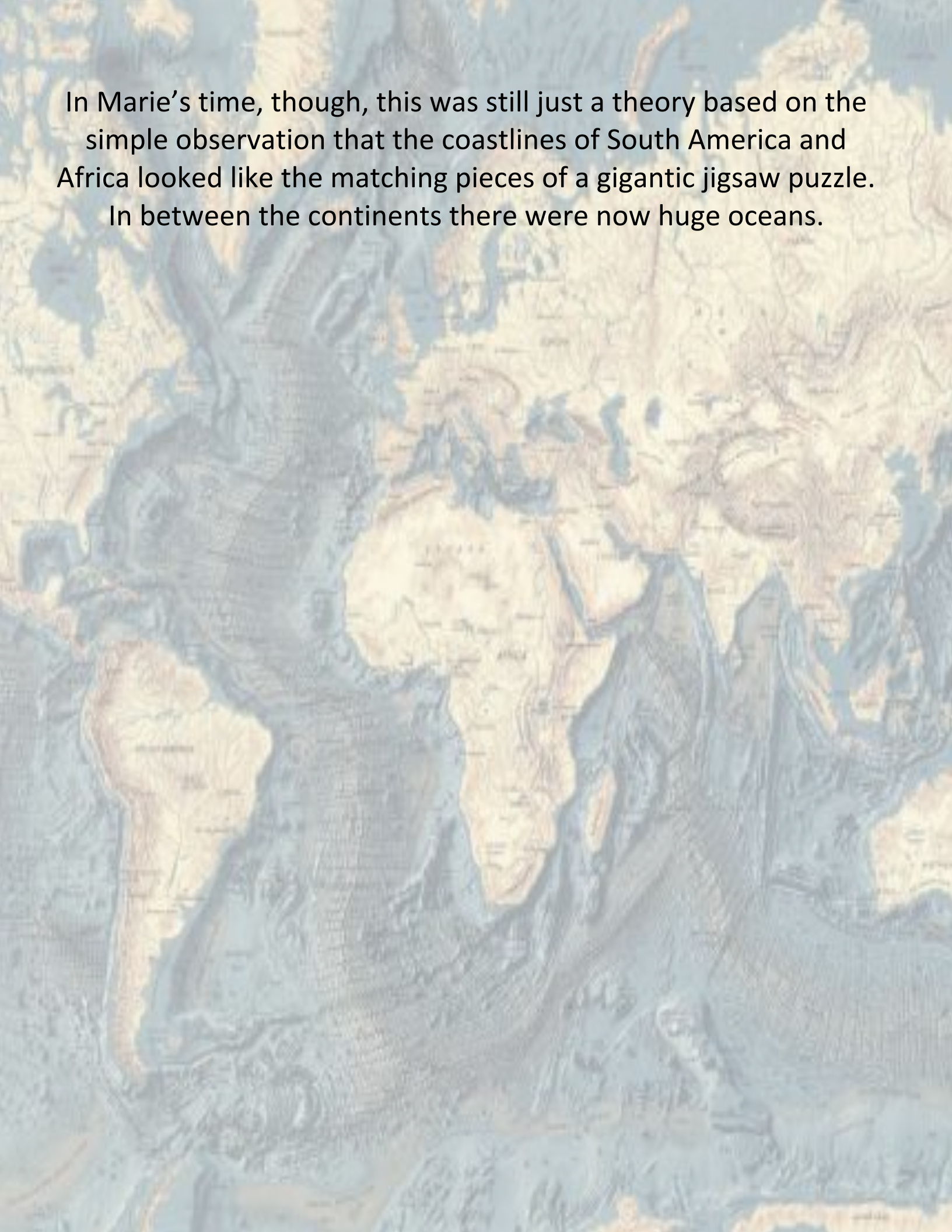
TETHYS  
OCEAN

PANGAEA





In Marie's time, though, this was still just a theory based on the simple observation that the coastlines of South America and Africa looked like the matching pieces of a gigantic jigsaw puzzle. In between the continents there were now huge oceans.



To prove that such distant lands had once been united,  
the ocean floor had to be mapped.



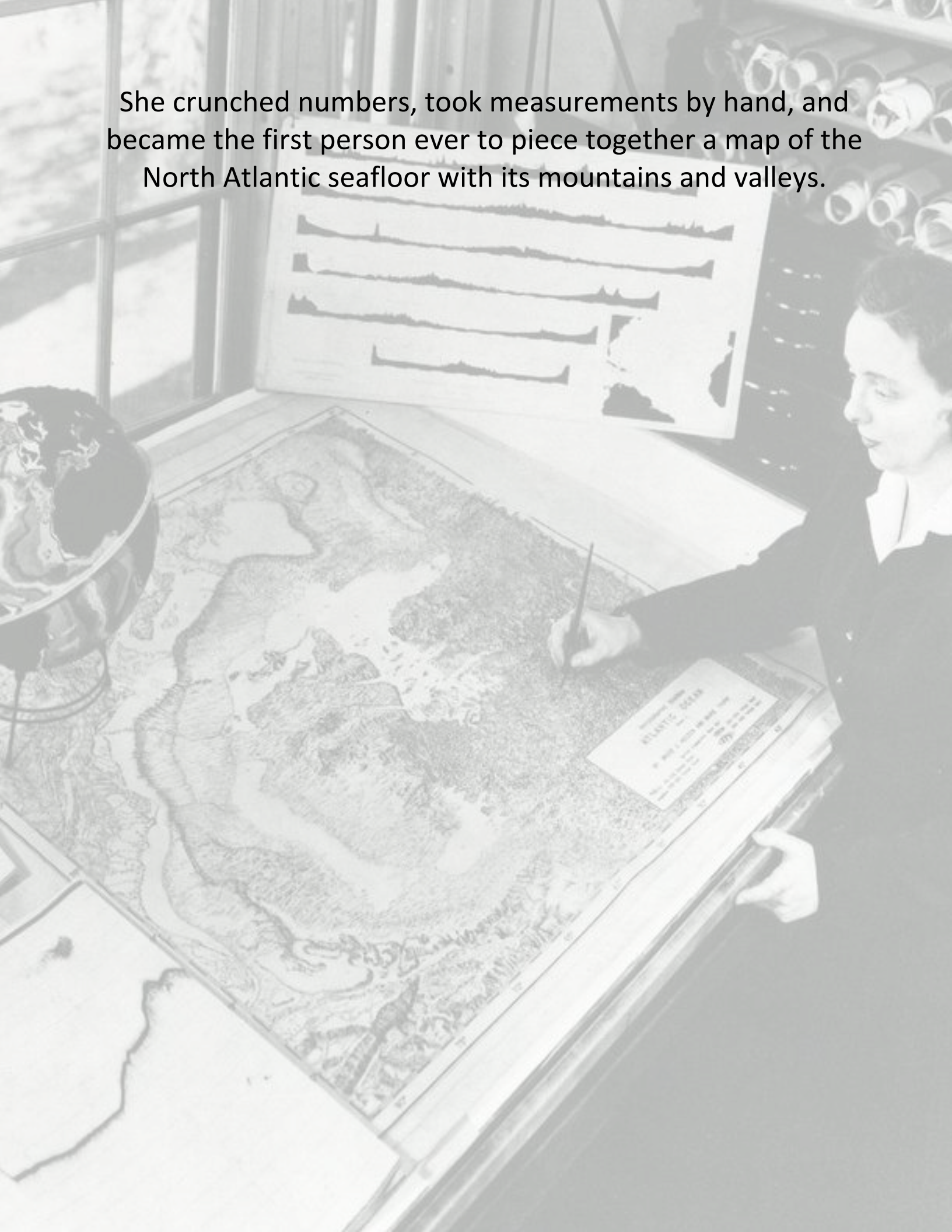
People assumed that the bottom of the ocean was flat, and this idea wasn't challenged until geologists started to use sonar onboard ships.

The sonar bounced sound waves off the bottom of the ocean, and it was Marie's job to make sense of the readings.





She crunched numbers, took measurements by hand, and became the first person ever to piece together a map of the North Atlantic seafloor with its mountains and valleys.



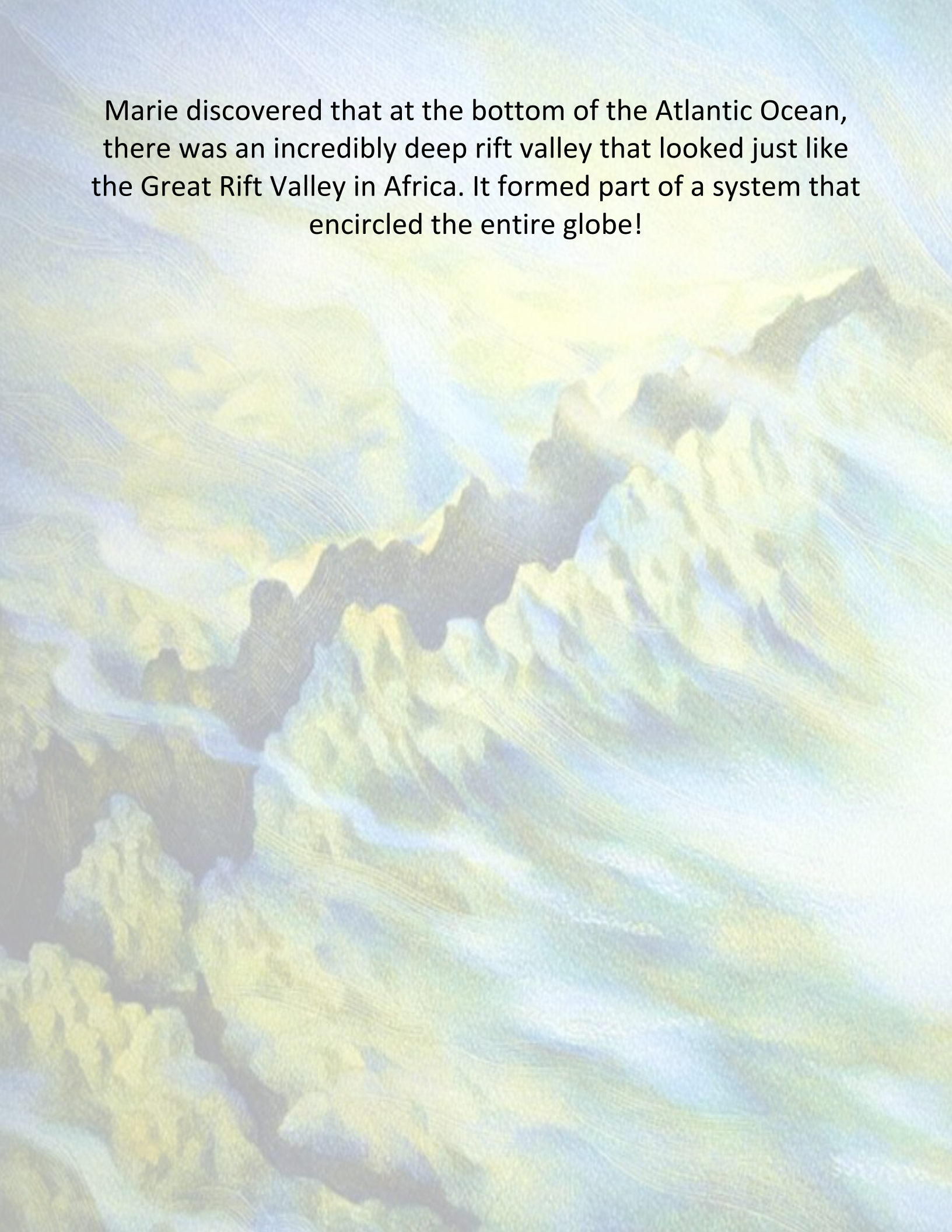


***“The whole world was spread out before me,” she recalled.***





Marie discovered that at the bottom of the Atlantic Ocean, there was an incredibly deep rift valley that looked just like the Great Rift Valley in Africa. It formed part of a system that encircled the entire globe!





She showed that the ocean floor was spreading apart, which meant that the continents were drifting away from each other. This in turn proved that they had indeed been united millions of years ago, when the earth was young.





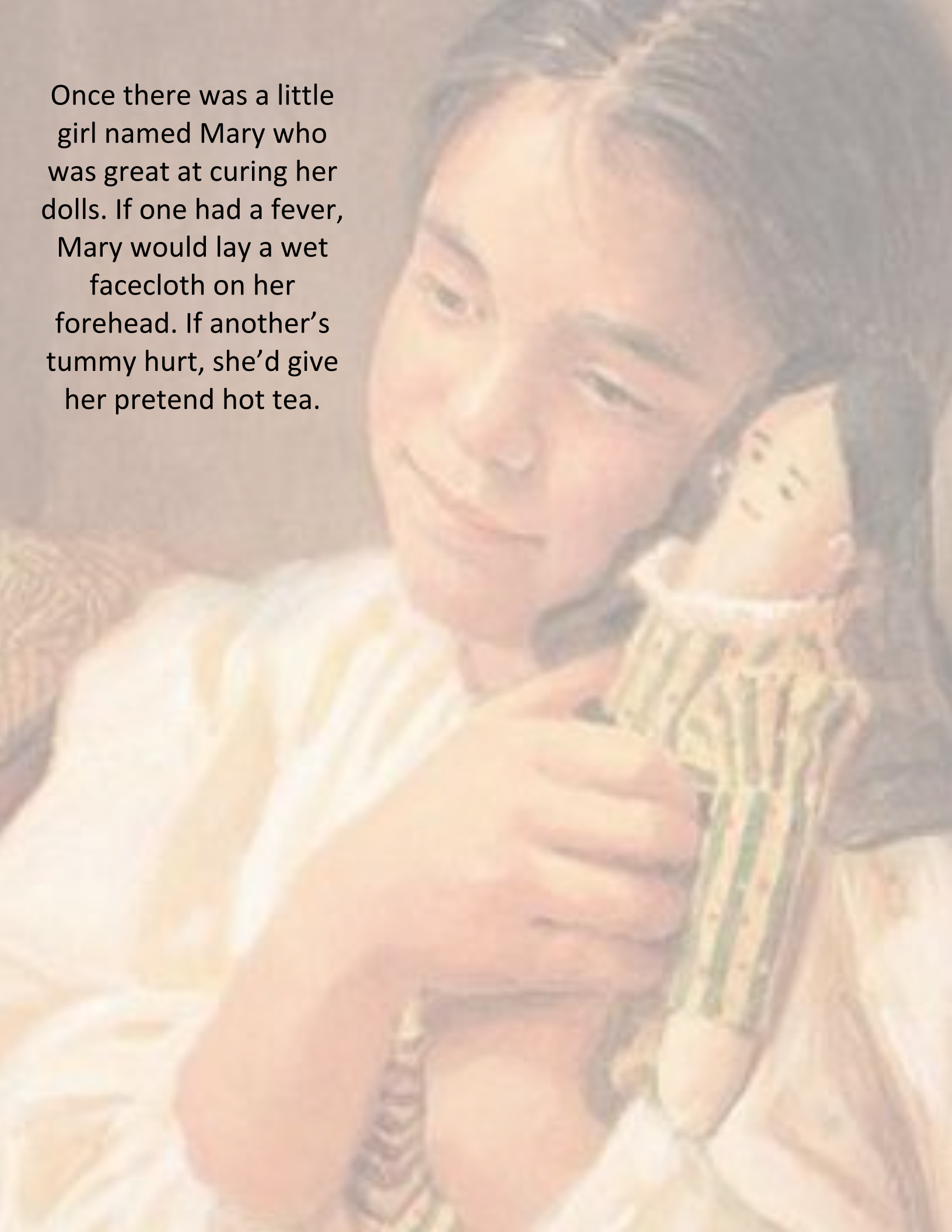


Mary Seacole

Nurse

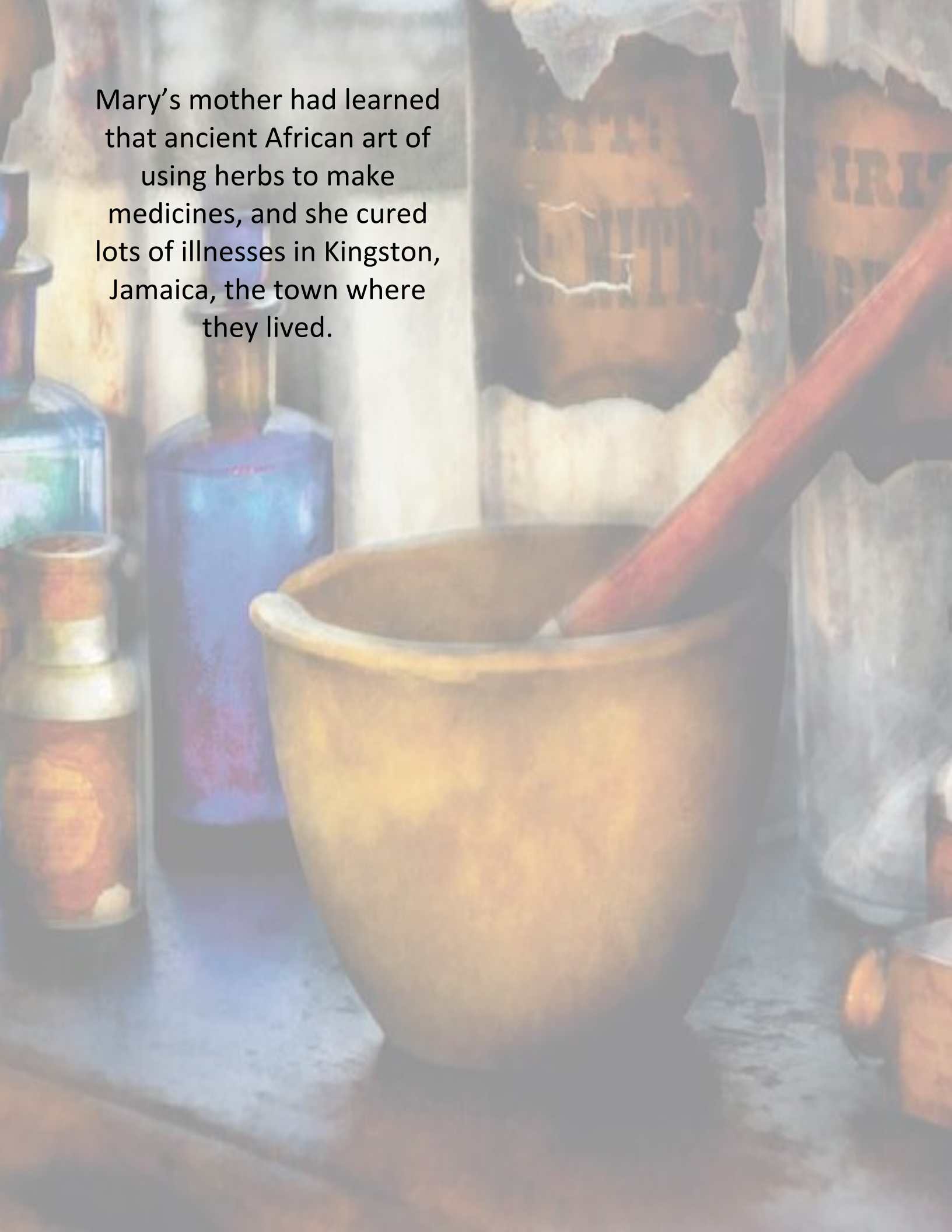


Once there was a little  
girl named Mary who  
was great at curing her  
dolls. If one had a fever,  
Mary would lay a wet  
facecloth on her  
forehead. If another's  
tummy hurt, she'd give  
her pretend hot tea.





Mary's mother had learned that ancient African art of using herbs to make medicines, and she cured lots of illnesses in Kingston, Jamaica, the town where they lived.



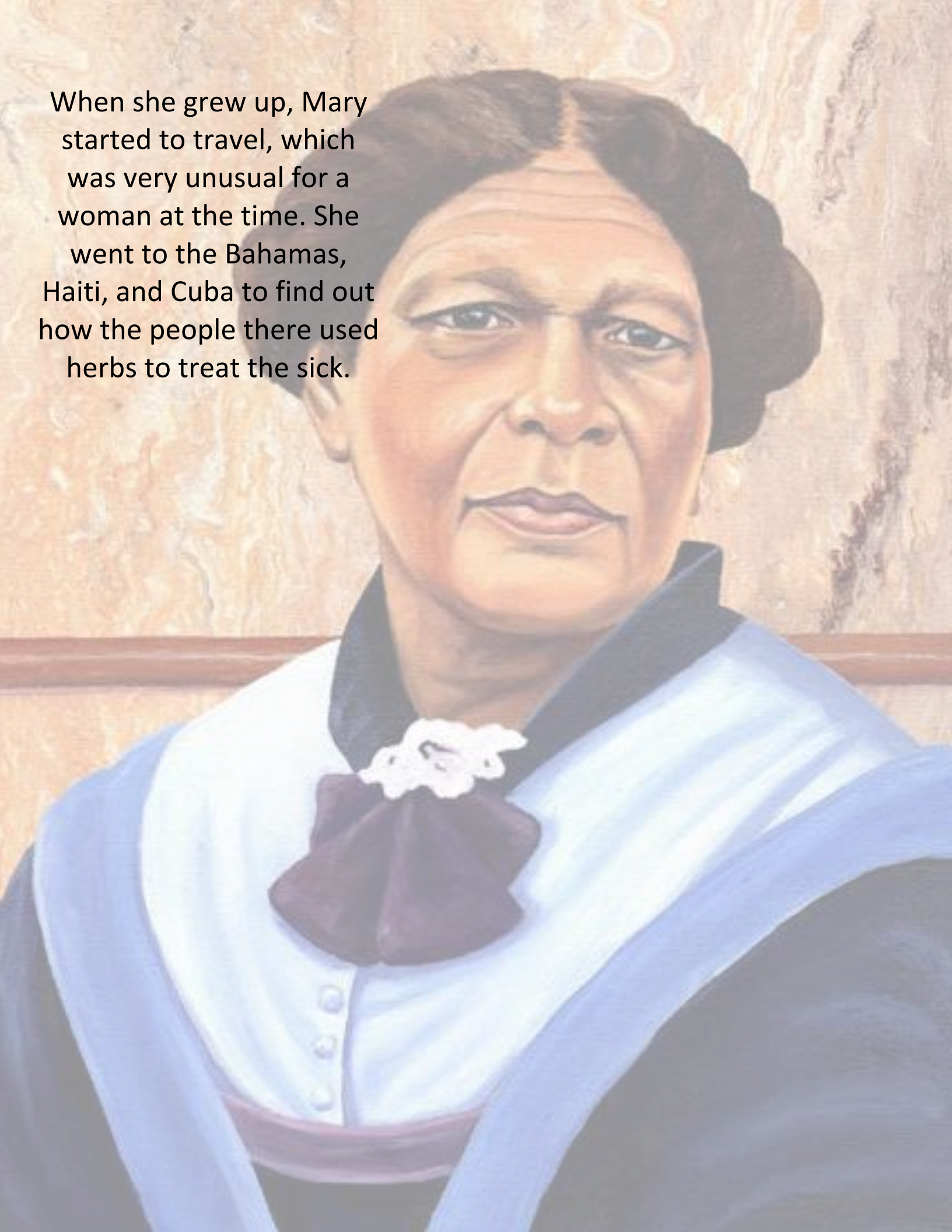


By the time she was  
twelve, Mary was  
already helping her  
cure real people!





When she grew up, Mary started to travel, which was very unusual for a woman at the time. She went to the Bahamas, Haiti, and Cuba to find out how the people there used herbs to treat the sick.



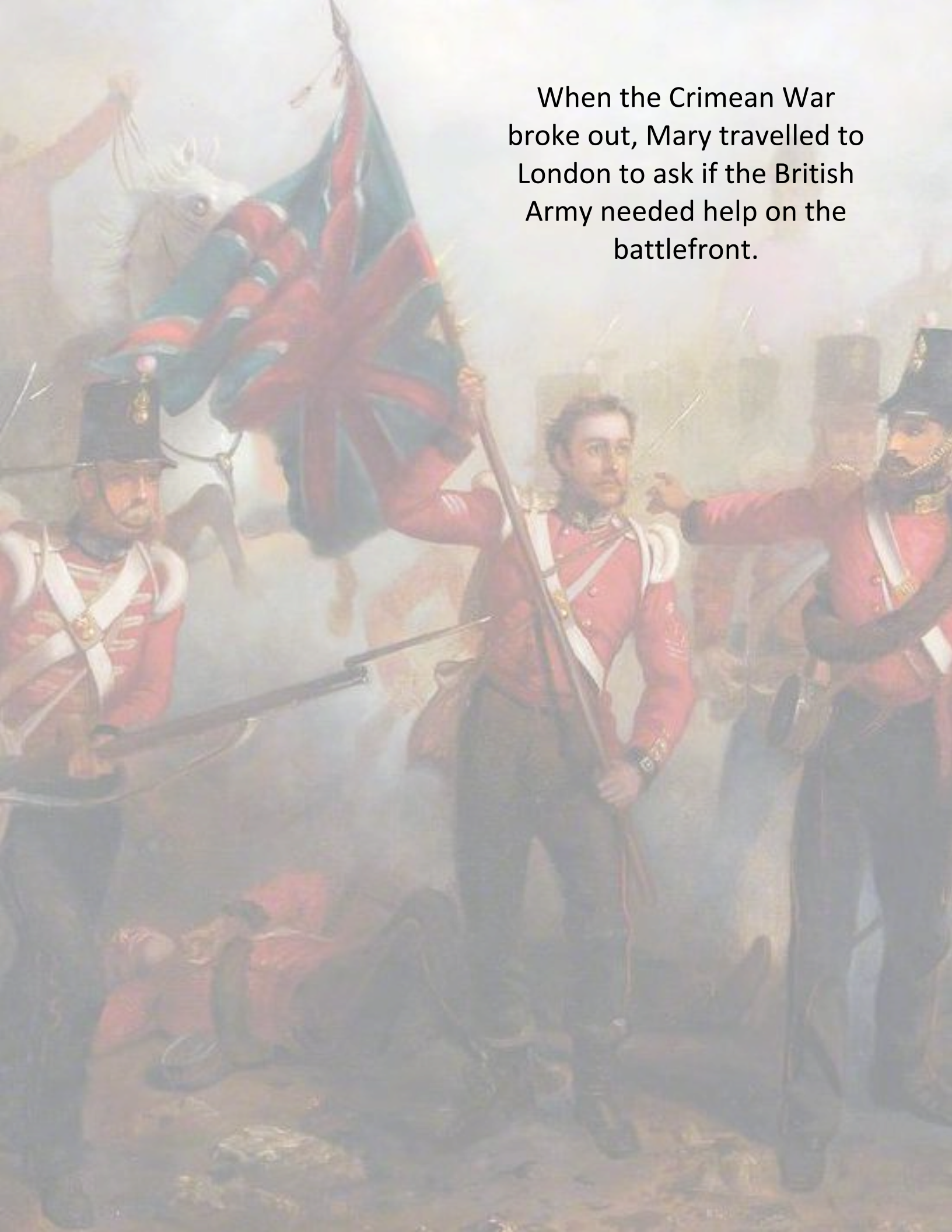


In Panama, she risked her life to help local nurses and doctors cure patients during a cholera epidemic.

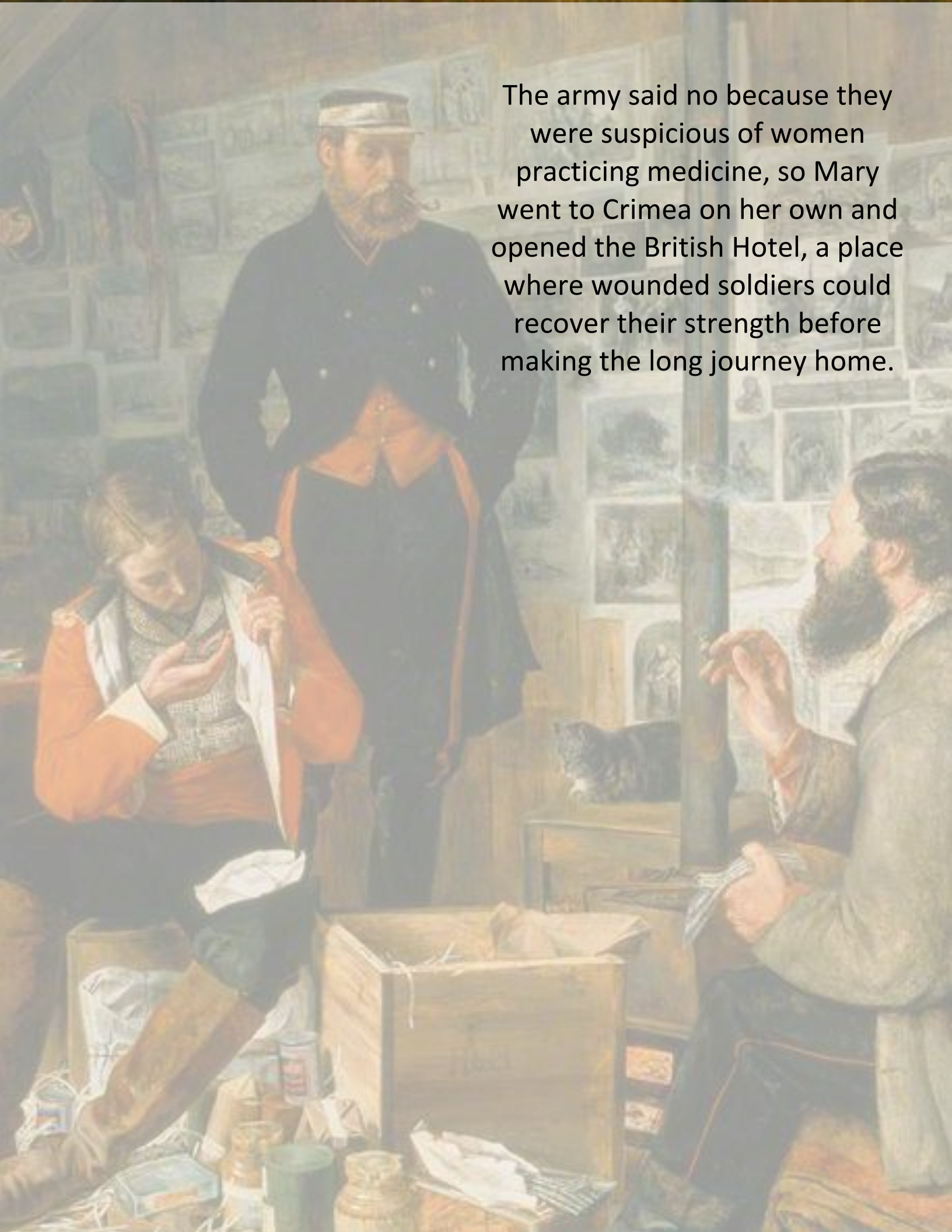




When the Crimean War broke out, Mary travelled to London to ask if the British Army needed help on the battlefield.







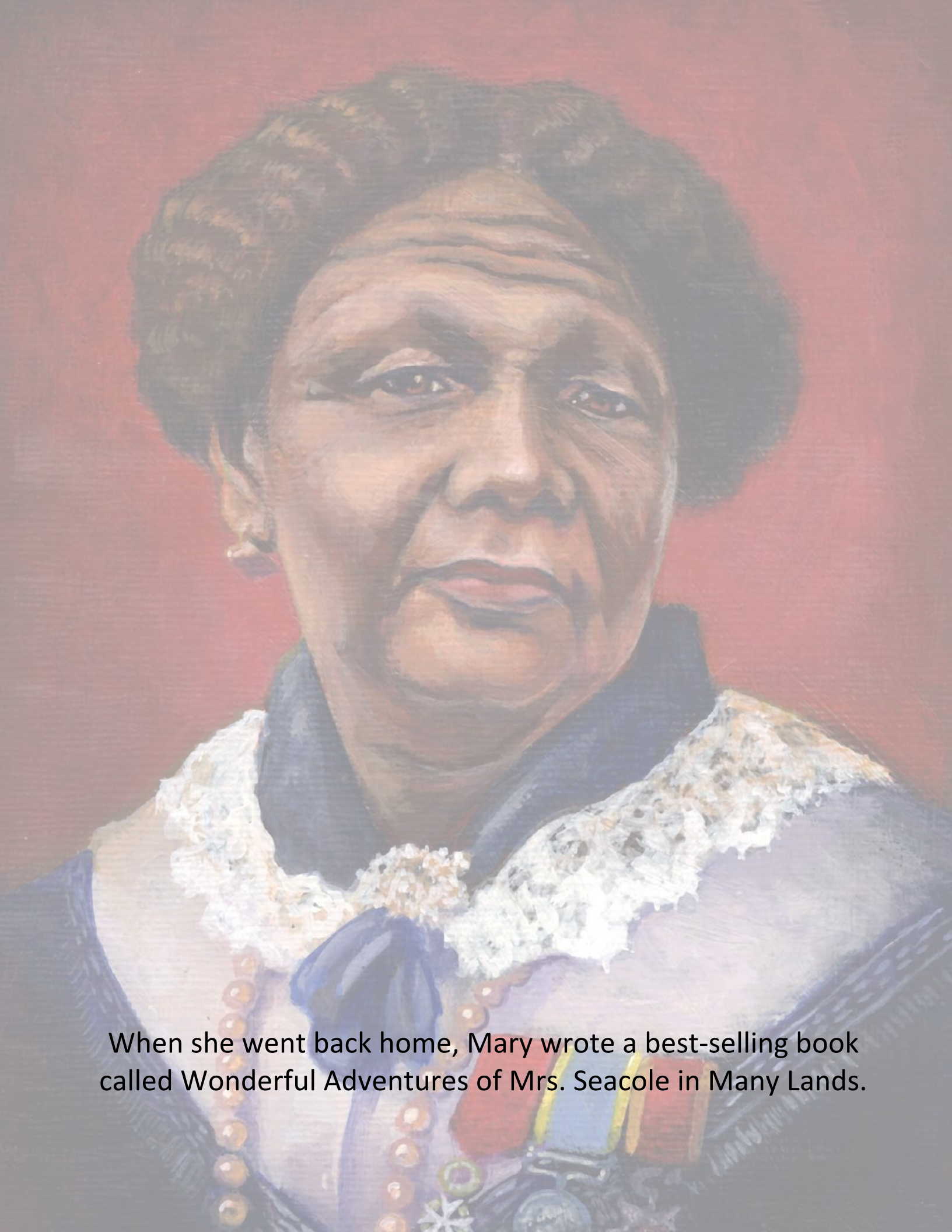
The army said no because they were suspicious of women practicing medicine, so Mary went to Crimea on her own and opened the British Hotel, a place where wounded soldiers could recover their strength before making the long journey home.



Mary travelled right to the front lines with two mules to bring medicines and food to soldiers. For her, any wounded soldier was a wounded human being: she didn't look at uniforms and treated men from both sides, often while bullets were flying and cannons thundered all around.







When she went back home, Mary wrote a best-selling book called *Wonderful Adventures of Mrs. Seacole in Many Lands*.



