PATRICIA ERA BATH

PHYSICIAN AND INVENTOR

BORN 1942

The Little Girl Reads the newspaper every day. It's important to know what's going on in the world, she believes—maybe not as important as homework, but right up there. She shares this conviction with her dad. He drives a subway now, but before settling down in New York City he sailed the world with the merchant marine. Born on the island nation of Trinidad, he loves to talk about the places he's been, and his daughter loves to listen.

One day, reading the newspaper as usual, the girl sees a story about a doctor whose clinic in the African city of Lambaréné (now in Gabon) treats people with scary diseases like leprosy. The doctor's name is Albert Schweitzer. I want to help people like he does, she thinks.

When she tells her parents, they are all over it. The family doesn't have a lot of money, but Rupert and Gladys Bath believe "With an education, you can own the world." They give their daughter, Patricia, a microscope and later a chemistry set. When they tell her never to settle for less than her best, she promises she won't. Many years later, as a professor of medicine, she will follow Albert Schweitzer's example by developing innovations that prevent blindness and treat eye disease all over the world.

Patricia Bath grew up in the New York City neighborhood of Harlem in the 1940s and '50s. Like her parents, most of the neighbors were black and worked hard for very little money. The schools weren't the best. But looking back, Patricia saw the neighborhood as a source of happy memories. She didn't know any women doctors, but her own family doctor—a man—encouraged her in her career. Meanwhile, her parents taught her that being rich didn't mean having a lot of stuff; it meant being close to your family, being self-reliant, and learning. In that sense, Patricia grew up rich.

When she was sixteen, Patricia earned a spot doing cancer research in a prestigious
summer program at Yeshiva University. Twenty-eight students from all over the city participated. A photo of Patricia presenting her research appeared on the front page of the *New York Times*.

As she spoke, another student raised his hand and tried to correct something she had just said. "Don't you mean that cancer is an anabolic rather than a catabolic process?"

"That's a common misconception," she replied calmly. "A growing tumor is a symptom of cancer, which is really a wasting, catabolic disease."

Patricia and her parents were thrilled when her research contributed to a study published by one of her professors.

Patricia graduated from high school in only three years and got a scholarship to study chemistry at Hunter College. After that, following in Dr. Schweitzer's footsteps, she headed to medical school at Howard University in Washington, D.C. To help pay the expenses, her mother worked as a house cleaner. "So that I could go to medical school, my mother scrubbed floors," Patricia later said.

Patricia chose eye health, ophthalmology, as her specialty. When she graduated in 1968, she worked in two New York City hospitals, one in Harlem and one in a more affluent neighborhood. Right away she noticed that her poorer patients were much more likely to have eye problems. When she did a study to find out more, she learned that people in Harlem were twice as likely to be blind as people in other parts of the city. Why was this? Patricia concluded that poorer people didn't get good eye care.

Dr. Schweitzer's mission was to cure leprosy. Dr. Bath's was to prevent blindness. With help from colleagues, she founded the American Institute for the Prevention of Blindness (AIPB), whose goal is to protect, preserve, and restore sight. She also pioneered community outreach programs, using volunteers to make good eye care and blindness prevention available to more people. Today this effort has saved the sight of tens of thousands of people all over the world.

In the 1980s, Patricia was a professor in Los Angeles when she came up with a novel idea. Cataracts, cloudy films that develop in the lens of the eye over time, are common causes of blurred vision and blindness. For decades, cataracts had been treated with a specialized drill that literally ground them up. But Patricia thought lasers—highly
focused beams of light—might do a better job. Lasers would vaporize the film, so an artificial lens could be inserted in the eye. The lasers would also be less painful than the traditional method, and less likely to cause unintentional damage.

Few people agreed that this was a workable idea. In the United States at that time, lasers were more often used for military than medical purposes. So Patricia went to Germany, where laser research was more advanced, and spent five years working on perfecting her device. When at last it worked the way she wanted it to, she was so excited she didn’t want to leave the lab.

Patricia patented her invention, the Laserphaco Probe, in 1988. Today laser surgery is a standard treatment for cataracts.

Like her inspiration, Dr. Schweitzer, Patricia eventually found her way to Africa. On a volunteer trip with AIPB, she operated on a woman who had been blind for thirty years. The procedure she performed, keratoprosthesis, replaces a diseased cornea—the transparent front part of the eye—with an artificial one. It worked like a charm. Patricia has received many awards and accolades over the years, but in the end she counts that achievement as her finest hour. “The ability to restore sight is the ultimate reward,” she said.

**Achievement:** Physician who invented a device that uses lasers to remove cataracts from the eyes; also pioneered community ophthalmology, which brings eye care and blindness prevention to underserved populations.

**Quote:** “Do not allow your mind to be imprisoned by majority thinking. Remember that the limits of science are not the limits of your imagination.”

**Fascinating fact:** The first woman faculty member in ophthalmology at UCLA, Patricia refused to accept the office she was offered. It was in the basement next to the room that housed the lab animals. “I didn’t say it was racist or sexist,” she recalled later. “I said it was inappropriate.” The administration gave her a better office.