

THE MAKING OF A SCIENTIST



He had been interested in science since his boyhood years. At the age of twenty-two he excited the scientific world with a new theory. It was concerned with the working of cells. Ebright and his college room-mate explained the theory in an article. It was published in the journal entitled 'Proceedings of the National Academy of Science'. It was first of his many achievements in the field of science. It started with his studies on 'butterflies'.

Ebright was the only child of his parents. They lived in the north of Reading, Pennsylvania. There was nothing for Ebright to do there. He had no companions. He was not a good player. But his hobby was collecting things. Ebright was fascinated by butterflies. He started collecting butterflies in kindergarten. He also collected rocks, fossils and coins. He also became a star-gazer and an eager astronomer.

Ebright's mother recognized his curiosity and encouraged him. She took him on trips. She also bought him telescopes, microscopes, cameras and other equipment so that he could follow his hobbies. Ebright's mother was his friend until he started school. She would bring home friends to him. He was her whole life after her husband's death.

Ebright's mother would find work for Richie if he had nothing to do. She found learning tasks for him. He had a great hunger for learning. He earned top grades in school. By the time he was in second grade, he had collected 25 species of butterflies. These were found around in hometown. One day his mother gave him a children's book. It opened the world of science to Ebright.

That book was 'The Travels of Monarch X'. It described how monarch butterflies migrate to Central America. This book fascinated him. At the end of the book, readers were invited to help study butterfly migrations. They were asked to tag butterflies for research by Dr Frederick A. Urquhart of Toronto University, Canada. Anyone who found a tagged butterfly was asked to send the tag to Dr Urquhart. Ebright started tagging monarch butterflies. The butterfly collecting season around Reading lasts only six weeks in late summer. He realized that chasing the butterflies one by one won't enable him to catch many. So he decided to raise a flock of butterflies. He would catch a female monarch and take her eggs. He would raise them in his basement from egg to caterpillar to pupa to adult butterfly. Then he would tag the butterflies' wings and let them go.

He got busy with other scientific experiments. He entered a county science fair. His entries were slides of frog tissues. But he did not win any prize. He realised that the winners had tried to do real experiments. So he decided to do further research in his favourite field, that is, insects on which he had already been doing work.

Ebright wrote to Dr Urquhart for ideas. In reply, the famous scientist gave him many suggestions for experiments. These experiments kept Ebright busy all through high school. He also won many prizes in the county and international science fairs. For his eighth grade project, Ebright tried to find the cause of a viral disease that killed all monarch caterpillars. He thought the disease might be carried by a beetle. He tried raising caterpillars in the presence of beetles. But he didn't get any real results. But he showed his experiment in the science fair and won. The next year his science fair project was testing the theory that viceroy butterflies imitate monarchs. He said that viceroys look like monarchs because birds do not find monarchs tasty. By copying monarchs, the viceroys escape being eaten by birds. His project was to see if birds would eat monarchs. This project was placed first in the zoology division and third overall in the county science fair.

In his second year in high school, Ebright's research led to his discovery of an unknown insect hormone. Indirectly, it led to his new theory on the life of cells. This project won Ebright first place in the county fair and entry into the International Science and Engineering Fair. There he won third place for zoology. He also got a chance to work in Walter Reed Army Institute of Research.

Ebright's interest in butterflies never abated. As a high school junior, he continued his advanced experiments on the monarch pupa. His project won first place at the International Science Fair. That project won first place for zoology at the International Fair. He also worked at the army laboratory and at the U.S. Dept. of Agriculture's laboratory. The following summer Ebright went back to the Dept. of Agriculture's lab and worked on the hormone theory. Finally, he was able to identify the hormone's chemical structure.

Ebright's interest in butterflies never abated. As a high school junior, he continued his advanced experiments on the monarch pupa. His project won first place at the International Science Fair. In his senior year, he grew cells from a monarch's wing in a culture. He showed that the cells would divide and develop into normal butterfly wing scales only if they were fed the hormone from the gold spots. That project won first place for zoology at the International Fair. He also worked at the army laboratory and at the U.S. Dept. of Agriculture's laboratory. The following summer Ebright went back to the Dept. of Agriculture's lab and worked on the hormone theory. Finally, he was able to identify the hormone's chemical structure.

No one was surprised when Richard Ebright graduated from Harvard with highest honours. He also became a graduate student researcher at Harvard Medical School. There he began experimenting to test his theory if the theory proves correct it will be a big step towards understanding the life processes. It might also lead to new ideas for preventing some types of cancer and other diseases.

Ebright has many other interests also. He also became a champion debater and public speaker, a good canoeist and an all-around outdoor-Person. He was also an expert photographer of nature and scientific exhibits.

