

Unique relationships

Barbara McClintock

Barbara McClintock's creative research on genetic inheritance literally began out in the field, among cornstalks. In the laboratory, she peered through her microscope and imagined that she was down in there, walking between the chromosomes. The capacity to devote herself to her task with a sense of fun and vivid insight was one of McClintock's most unusual characteristics.

McClintock found that genes could reposition themselves on chromosomes, and that organisms had developed processes to control the functions of their genes. Her discovery that the genetic elements were not stable and unmoving conflicted with the prevalent views of the day. When McClintock first presented her results, she was already a respected researcher. However, her colleagues were skeptical and even cool to her claims of "jumping genes." McClintock was years ahead of her time in her research and thinking. It would be several decades before other scientists would agree with her understanding of hereditary processes.

Not until the 1970s did it become clear that "jumping genes" are not unique to corn plants. They exist in all living organisms, from simple bacteria to human beings, and are nature's way of creating genetic variations.

What allowed Barbara McClintock to see farther and deeper than her colleagues? Again and again, she stated that a researcher must take the time to look, have the patience to "hear what the material has to say to you," and be open to what is in front of you. Most importantly, the researcher must have respect for life. It would not be entirely correct to call Barbara McClintock a mystic, but she did have a way of seeing living organisms in a differ-



Barbara McClintock at her microscope.

ent way than her colleagues did. She felt a tie to all living things—cells, organisms, and the entire ecosystem.

Some of McClintock's fellow researchers felt that research on corn was far too slow. At best, corn can be harvested twice a year, while microorganisms reproduce in just a few minutes. For Barbara McClintock this was an advantage, since it gave her time for the analyses and insights necessary for a deeper understanding of her work.

o Barbara McClintock, Nobel Prize in Physiology or Medicine, 1983.