

Directions:

1. Mark your confusion.
2. Show evidence of a close reading. Mark up the text with questions and/or comments.
3. Write a one-page reflection on your own sheet of paper.

**D.I.Y. Biology, on the Wings of the Mockingjay**

Source: James Gorman, *The New York Times*, May 10, 2012

Genetically modified organisms are not wildly popular these days, except one: a fictional bird that is central to the hugely popular movie and book trilogy “The Hunger Games.” That’s the mockingjay, a cross between a mockingbird and a genetically engineered spy bird called a jabberjay.

The action in “The Hunger Games” takes place in a fictional future in which teenagers are forced to hunt and kill one another in annual competitions designed to entertain and suppress a highly controlled population. The mockingjay first appears as a symbol, when Katniss Everdeen, the heroine, is given a pin that depicts the bird. Mockingjay pins, although not the birds, have spread to the real world.

“They’re funny birds and something of a slap in the face to the Capitol,” Katniss explains in the first book. And the nature of that slap in face is a new twist on the great fear about genetic engineering, that modified organisms or their genes will escape into the wild and wreak havoc. The mockingjay is just such an unintended consequence, resulting from a failed creation of the government, what Katniss means when she refers to “the Capitol.” But rather than being a disaster, the bird is a much-loved reminder of the limits of totalitarian control.

The origin of the bird, Katniss explains, is that the rulers modified an unspecified species of jay to make a new creature, an animal of the state called a jabberjay. Jabberjays were intended to function as biological recording machines that no one would suspect. They would listen to conversations and then return to their masters to replay them.

The jabberjays, all male, were left to die out when the public realized what they were doing. Like genetically modified organisms today, the jabberjays were not expected to survive in the wild, but they bred with mockingbirds and produced a thriving hybrid that could mimic human sounds and songs, and lived on, to the irritation of the government and the delight of the people.

Setting aside whether jays could actually breed with mockingbirds — this is a kind of fairy tale, after all — the choice of species rings true. Jays, along with crows and

ravens, belong to a highly intelligent group of birds called the corvids. And jays are naturally thieves and spies, keeping track of where other jays hide food, for example, to raid it later. Mockingbirds, of course, have a fantastic ability to mimic other birds' songs. Coincidentally, or perhaps not, Thomas Jefferson, a lover of both birds and liberty, kept a pet mockingbird in the White House.

I asked Joan Slonczewski, a microbiologist and science fiction writer at Kenyon College in Ohio, about her take on the mockingjay. Dr. Slonczewski, whose recent books include a text and a novel, "The Highest Frontier," teaches a course called "Biology in Science Fiction." The tools needed to modify organisms are already widely dispersed in industry and beyond. "Now anybody can do a start-up," she said.

That's no exaggeration. Do-it-yourself biology is growing. The technology to copy pieces of DNA can be bought on eBay for a few hundred dollars, as Carl Zimmer reported in *The New York Times* in March. As to where D.I.Y. biology may lead, Freeman Dyson, a thinker at the Institute for Advanced Studies known for his provocative ideas, presented one view in 2007 in *The New York Review of Books*. He envisioned the tools of biotechnology spreading to everyone, including pet breeders and children, and leading to "an explosion of diversity of new living creatures."

Eventually, he wrote, the mixing of genes by humans will initiate a new stage in evolution. Along the way, if he is right, the world may have more than its share of do-it-yourself mockingjays.

#### Possible WN topics

- Do you believe we will soon have "an explosion of diversity of new living creatures"? If so, what might that look like?
- Do you think parents should be able to control biological factors to produce children with special characteristics? Why? Why not?
- Do you think we need new laws to govern those who are experimenting with biology? Why? Why not?