Harnessing the Power of Nature

Literary nonfiction is a type of prose that uses literary techniques, figures of speech and other compositional techniques that you usually find in fiction or poetry to report on persons, places, and events in the real world. Also known as creative nonfiction, this category of writing is broad enough to encompass travel writing, nature writing, science writing, sports writing, history biography, autobiography, memoir and public speeches.

DIRECTIONS: Read the passage. Then answer the questions.

Since antibiotics were discovered in 1928, the medical community has been using them as the treatment of choice against bacterial infections. They have become so ubiquitous, in fact, that modern medicine now faces the possibility of them becoming ineffective as bacteria evolves into antibiotic-resistant strains. This might suggest that the use of living creatures to fight human disease is a bad idea; nature does sometimes tend to have a will of its own despite human desires and best intentions. But perhaps the key is not to abandon nature in our pursuit of scientific control, but to work in cooperation with it. To this end, scientists are attempting to solve the antibiotic-resistance problem by looking to the past. Before antibiotics, doctors treated bacterial infections with specialized viruses called phages, which kill disease-causing bacteria.

Doctors stopped using phages largely because of the scientific limitations of the time period. Like imaginary creatures in a modern video game, any one particular phage attacks only one particular strain of bacteria; the challenge, and the thrill of battle, is to match up the right opponents. With hundreds of different strains of individual viruses, it was impossible, in the early 20th century, to determine which strain of phage to use quickly enough to help the patient. Another limitation was that phage has to be grown in cultures of the same harmful bacteria it is intended to fight, meaning that the phage needs to be separated from the bacteria before being introduced into the patient. Early techniques for doing this filtered out the bacteria, but not toxins left behind in the culture by the bacteria, which could kill the patient.

Today, though, advanced techniques have been developed that allow scientists to identify and purify phage more efficiently, reducing the problems and risks that caused treatment with phage to fall out of favor. And a study in
the late 1980s suggested that phage were actually more effective than several different antibiotics in fighting disease in animals.

1. Why are scientists looking for an alternative to antibiotics?

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2. Why was the use of phage discontinued?

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3. What has changed that allows for phage to be reconsidered as a viable alternative to antibiotics?

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4. Identify some elements in this article that qualify it as “literary” nonfiction.

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