

# ADVANCED READING

## PASSAGE 1

Notable as important nineteenth-century novels by women, Mary Shelley's *Frankenstein* and Emily Bronte's *Wuthering Heights* treat women very differently. Shelley produced a "masculine" text in which the fates of subordinate female characters seem entirely dependent on the actions of male heroes or anti-heroes. Bronte produced a more realistic narrative, portraying a world where men battle for the favors of apparently high-spirited, independent women. Nevertheless, these two novels are alike in several crucial ways. Many readers are convinced that the compelling mysteries of each plot conceal elaborate structures of allusion and fierce, though shadowy, moral ambitions that seem to indicate metaphysical intentions, though efforts by critics to articulate these intentions have generated much controversy. Both novelists use a storytelling method that emphasizes ironic disjunctions between different perspectives on the same events as well as ironic tensions that inhere in the relationship between surface drama and concealed authorial intention, a method I call an evidentiary narrative technique.

## PASSAGE 2

Climatic conditions are delicately adjusted to the composition of the Earth's atmosphere. If there were a change in the atmosphere—for example, in the relative proportions of atmospheric gases—the climate would probably change also. A slight increase in water vapor, for instance, would increase the heat-retaining capacity of the atmosphere and would lead to a rise in global temperatures. In contrast, a large increase in water vapor would increase the thickness and extent of the cloud layer, reducing the amount of solar energy reaching the Earth's surface.

The level of carbon dioxide, CO<sub>2</sub>, in the atmosphere has an important effect on climatic change. Most of the Earth's incoming energy is short-wavelength radiation, which tends to pass through atmospheric CO<sub>2</sub> easily. The Earth, however, reradiates much of the received energy as long-wavelength radiation, which CO<sub>2</sub> absorbs and then reemits toward the Earth. This phenomenon, known as the greenhouse effect, can result in an increase in the surface temperature of a planet. An extreme example of the effect is shown by Venus, a planet covered by heavy clouds composed mostly of CO<sub>2</sub>, whose surface temperatures have been measured at 430°C. If the CO<sub>2</sub> content of the atmosphere is reduced, the temperature falls. According to one respectable theory, if the atmospheric CO<sub>2</sub> concentration were halved, the Earth would become completely covered with ice. Another equally respectable theory, however, states that a halving of the CO<sub>2</sub> concentration would lead only to a reduction in global temperatures of 3°C.

If, because of an increase in forest fires or volcanic activity, the CO<sub>2</sub> content of the atmosphere increased, a warmer climate would be produced. Plant growth, which relies on both the warmth and the availability of CO<sub>2</sub> would probably increase. As a consequence, plants would use more and more CO<sub>2</sub>. Eventually CO<sub>2</sub> levels would diminish and the climate, in turn, would become cooler. With reduced temperatures many plants would die; CO<sub>2</sub> would thereby be returned to the atmosphere and gradually the temperature would rise again. Thus, if this process occurred, there might be a long-term oscillation in the amount of CO<sub>2</sub> present in the atmosphere, with regular temperature increases and decreases of a set magnitude.

Some climatologists argue that the burning of fossil fuels has raised the level of CO<sub>2</sub> in the atmosphere and has caused a global temperature increase of at least 1°C. But a supposed global temperature rise of 1°C may in reality be only several regional temperature increases, restricted to areas where there are many meteorological stations and caused simply by shifts in the pattern of atmospheric circulation. Other areas, for example the Southern Hemisphere oceanic zone, may be experiencing an equivalent temperature decrease that is unrecognized because of the shortage of meteorological recording stations.

### **PASSAGE 3**

The Food and Drug Administration has recently proposed severe restrictions on the use of antibiotics to promote the health and growth of meat animals. Medications added to feeds kill many microorganisms but also encourage the appearance of bacterial strains that are resistant to anti-infective drugs. Already, for example, penicillin and the tetracyclines are not as effective therapeutically as they once were. The drug resistance is chiefly conferred by tiny circlets of genes, called plasmids, that can be exchanged between different strains and even different species of bacteria. Plasmids are also one of the two kinds of vehicles (the other being viruses) that molecular biologists depend on when performing gene transplant experiments. Even present guidelines forbid the laboratory use of plasmids bearing genes for resistance to antibiotics. Yet, while congressional debate rages over whether or not to toughen these restrictions on scientists in their laboratories, little congressional attention has been focused on an ill-advised agricultural practice that produces known deleterious effects.

## PASSAGE 4

During adolescence, the development of political ideology becomes apparent in the individual; ideology here is defined as the presence of roughly consistent attitudes, more or less organized in reference to a more encompassing, though perhaps tacit, set of general principles. As such, political ideology is dim or absent at the beginning of adolescence. Its acquisition by the adolescent, in even the most modest sense, requires the acquisition of relatively sophisticated cognitive skills: the ability to manage abstractness, to synthesize and generalize, to imagine the future. These are accompanied by a steady advance in the ability to understand principles.

The child's rapid acquisition of political knowledge also promotes the growth of political ideology during adolescence. By knowledge I mean more than the dreary "facts," such as the composition of county government that the child is exposed to in the conventional ninth-grade civics course. Nor do I mean only information on current political realities. These are facets of knowledge, but they are less critical than the adolescent's absorption, often unwitting, of a feeling for those many unspoken assumptions about the political system that comprise the common ground of understanding—for example, what the state can appropriately demand of its citizens, and vice versa, or the proper relationship of government to subsidiary social institutions, such as the schools and churches. Thus political knowledge is the awareness of social assumptions and relationships as well as of objective facts. Much of the naiveté that characterizes the younger adolescent's grasp of politics stems not from an ignorance of "facts" but from conventions of the system, of what is and is not customarily done, and of how and why it is or is not done.

Yet I do not want to overemphasize the significance of increased political knowledge in forming adolescent ideology. Over the years I have become progressively disenchanted about the centrality of such knowledge and have come to believe that much current work in political socialization, by relying too heavily on its apparent acquisition, has been misled about the tempo of political understanding in adolescence. Just as young children can count numbers in series without grasping the principle of ordination, young adolescents may have in their heads many random bits of political information without a secure understanding of those concepts that would give order and meaning to the information.

Like magpies, children's minds pick up bits and pieces of data. If you encourage them, they will drop these at your feet—Republicans and Democrats, the tripartite division of the federal system, perhaps even the capital of Massachusetts. But until the adolescent has grasped the integument function that concepts and principles provide, the data remain fragmented, random, disordered.