Guide to Responding

Reading Quiz for Lynn White, Jr.’s “The Historical Roots of Our Ecological Crisis”

Please note that the answer guide below includes some thoughts on ways of responding to the quiz questions. Especially if you infer information or an argument, please argue why your answer is correct.

Directions: Award yourself the number of points beside each suggested answer. There are more points available than what the question is worth, so you may have extra credit. If you mention an idea that is not in this list, give yourself points based on how important you think it is. Write out why you think it is important. Point values are assessed based on whether the keyword or concept is central to understanding the author’s main point as stated in the summary below or is a supporting detail. Supporting details and examples are worth fewer points each. Also, the overall value of each question is assessed based on its centrality to author’s thesis and its overall importance in the essay. In self-grading, if you list a detail not included here, follow the scoring key for the relevant question: details for 10-point questions are worth 1 point and are worth 2 points for weightier questions. Main ideas or complex thoughts are worth 2 and 4 points, respectively. When self-grading factor in whether you took the test in open-book or closed-book format. Add 10 percent to your total score if you completed the quiz in closed-book format.

Scoring: Your score will be out of 100, so it should be expressed as a percentage: if you get 85 points, your grade is 85 percent. You must score at least 65 percent to pass. The grading scale is as follows:

A 90 percent+
B 80–89 percent
C 70–79 percent
D 65–69 percent
F <64 percent

Main Point Summary: Written in 1967, “The Historical Roots of Our Ecological Crisis” by Lynn White Jr. (1907–1987) is a very early entry in the writings of the modern environmental movement. Today, the U.S. is world dominant in science and technology, a position it inherited from its European antecedents. The U.S. is also the home of the modern environmental movement and is a profoundly Christian nation. White, a medieval historian and self-proclaimed “churchman,” wrote to remind his readers of the significance of the Christian worldview that remains as an artifact of the belief system of even “post-Christian” scientists. He traced the differences between pre-Christian paganism’s teachings about humanity’s place in nature and the coercive mentality encouraged by Christianity. The Pentateuch, the first five books of the Hebrew Bible, forms the Christian Old Testament. In the Book of Genesis, Christianity’s creation story gives humans
(men) dominion over the earth: “And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth” (Genesis 1:26, King James Bible). Because modern science evolved as an attempt to fathom God’s mind through examination of heavenly creation as an expression of God's intent, the Latin Church (Rome) dominated western science. The axiom that God gave the Earth to humans for them to exploit survived, even when God ceased to be a primary hypothesis in scientific experimentation in the 18th century.

Writing when he did, White examined the group of cultural rebels called the “beatnicks” for an alternative view of the human-nature relationship. He concluded that what was needed was an alternative view of that relationship that originated from within Christianity, not from an imported religious idea. He turned to St. Francis of Assisi, a 13th-century friar and mystic (c. 1181–1226) from Italy, whom he called “the greatest radical in Christian history since Christ.” St. Francis’s radicalism came from seeing equality in all living things and humans as part of the natural world, not its masters.

Related Readings: There are many related essays in this course. The basic premise of White’s essay is how humans view themselves in relation to the natural world, as part of it or as its masters. White expresses his argument in religious terms because, historically, religion propelled (and restricted) science. However, religion is cultural, so any reading that addresses cultural beliefs as the basis of ecological waste are related, especially the articles by Donald Worster, “Attitudes toward Water” in subunit 2.1.3.1 and “Agrarianism and Nature” in subunit 5.3.4. Josef Haekel’s entries, “Totemism” and Vilmos Diószegi and Mircea Eliade’s “Shamanism,” describe the pagan relationship between humans and nature, the view that Christianity supplanted. Agobard of Lyons (9th Century): “On Hail and Thunder” in subunit 3.7.1 is an example of the efforts of the early Latin Catholic Church to stamp out pagan ideas regarding nature and human’s place in it.

1. Your answer should include the following concepts and key words:  
   - Rabbits were introduced into England as a domesticated animal for food in 1176 (1 point)  
   - It’s plausible that when Pleistocene humans used fire to hunt, they forced a mass extinction (1 point)  
   - It’s plausible that when Pleistocene humans used fire to hunt, they created the world’s great grasslands (1 point)  
   - The Nile Delta has been a human artifact for 6000 years (1 point)
• The Nile Delta has not been a swampy, African jungle for 6000 years (1 point)
• The Aswan Dam in Egypt is part of the 6000-year history of human impact on the Nile Delta (2 points)
• Terracing (1 point)
• Irrigation (1 point)
• Overgrazing (1 point)
• Roman cutting of forests (1 point)
• Open fields vs. bocage (1 point)
• Defining bocage (1 point)
• The automobile drove away huge flocks of sparrows (1 point)
• Concentrations of horses by people in cities drew flocks of sparrows (2 points)
• We don’t know exactly what historic environmental changes were caused by humans but we know all organisms adapt their environments (3 points)
• Unintended consequences account for much environmental change (2 points)

2. Your answer should include the following concepts and key words (add one point to each separate assessed point value if your answer is organized so that each step builds on the one before it):

• Theoretical and empirical approaches to natural environment (2 points)
• Scientific knowledge means technological power over the environment (2 points)
• Acceptance of the idea that scientific knowledge means technological power over the environment as “normal” is itself a human “invention” as important as the invention of agriculture [where “normal” means “cultural acceptance” and “invention” means “cultural change” or “new idea”] (6 points)
• The acceptance of idea that scientific knowledge means technological power over the environment created the idea of ecology (2 points)
• The word ecology appeared in English in 1873 (2 points)
• Increased scientific knowledge means increased potential impact (4 points)
• The scale of environmental impact that humans have may be so large as to fundamentally alter the global environment rather than affecting local ecosystems (4 points)
• This paper was published in 1967, at the very beginning of the modern environmental movement (4 points)
• Published before global climate change entered popular consciousness (2 points).
• Science was aristocratic, and technology was lower class and action oriented (2 points).
The sudden fusion of the two occurred during European democratization (2 points).

3. Your answer should include the following concepts and key words:
   - Successful technology is western but it has roots from all over the world (2 points)
   - China (0.5 point)
   - Specific names (0.5 point each)
   - Water- and wind-powered machinery and automation were central to Western leadership (3 points)
   - Specific names, inventions (0.5 point each)
   - Colonization in the 15th century by Europe was made possible by superior, empirically-based technology (2 points)
   - Specific names (0.5 point each)
   - The most important period in modern science was the translations of Arabic and Greek scientific works into Latin in the 11th century CE (3 points)
   - Specific names (0.5 point each)

4. Your answer should include the following concepts and key words:
   - Paraphrase: “Our daily habits of action, for example, are dominated by an implicit faith in perpetual progress, which was unknown either to Greco-Roman antiquity or to the Orient” (5 points).
   - Cultural views on human relation to nature changed from passive to coercive (5 points).
   - Describe changes to plowing technology and impact (2 point).
   - Medieval calendars as examples of cultural change (2 points).
   - Predominantly Christian worldview (1 point).

5. Your answer should include the following concepts and key words:
   - Sharp break with pre-Christian paganism (2 points)
   - In paganism, everything had a guardian spirit, which inhibited wanton destruction. (2 points)
   - A creation story (2 points)
   - Man made in God’s image, anthropomorphism (2 points)
   - Human transcendence of nature (3 points)
   - God’s will that humans exploit nature (4 points)
   - Difference between Greek and Latin churches (2 points)
   - Specific details of difference (1 point each)
   - Decoding symbolism in the Greek East; understanding how God’s mind works by discovering how the world (creation) works in the Latin West (3 points)
   - Specific details (1 point each)
- 13th to 18th century, hypothesis of God essential to science (2 points)
- Western science was cast in a matrix of Christian theology (2 points)

6. Your answer should include the following concepts and key words:
- The author is a theologian (1 point)
- Christian theology bears a huge burden of guilt for out of control ecological impact of modern science and technology (4 points)
- Because of the Christian worldview of dominance over nature connected to how science evolved in the West, we act as if “we are superior to nature, contemptuous of it, willing to use it for our slightest whim” (4 points)
- Rethinking religion is necessary to changing attitudes toward nature (2 points)
- Some turn to Zen Buddhism as an alternative worldview about nature, but that is not viable as a western philosophy (2 points)
- Implied knowledge: predominantly Christian America needs a Christian source of conservationist thinking (3 points)
- St. Francis of Assisi was a dissenter to the superiority of humans over nature (4 points)
- St. Francis emphasized humility for the human species (2 points)
- St. Francis gave an alternative Christian view of nature and man’s relation to it (4 points)
- St. Francis sought a democracy among all creation; man is part of creation (2 points)
- Paraphrase: “We shall continue to have a worsening ecologic crisis until we reject the Christian axiom that nature has no reason for existence save to serve man” (4 points)