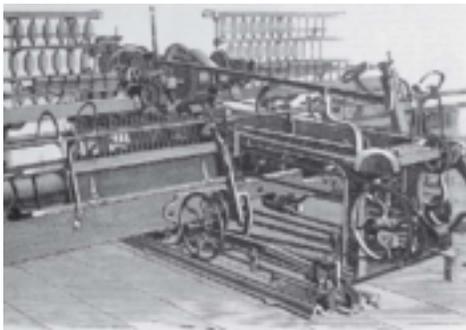


VII. Responses to Industrialism

A. The First Anti-Industrial Response: Ludditism

1. Just before the Steam Engine, a mechanical invention called the *Spinning Jenny* was invented **c.1764** that allowed an individual to create thread (an activity called “spinning”) more quickly than ever before.
2. The even more advanced *Spinning Mule* and similar machines like the *Power Loom* could only be run by the power of a Steam Engine. This caused a revolution in the manufacturing of clothing.



The simple, homey activity of “spinning” thread passed down from mothers to daughters, started to change with the introduction of the *Spinning Jenny* (top right). The *Spinning Mule* (bottom left) led to the industrialization of spinning. Soon massive amounts of thread were being produced in steam-powered factories.

3. The *Luddites* (named after a man called Neil Ludd were upset by human beings having to work in factories full of machines, where a person could easily *feel* like a machine.
4. The *Luddites* used sledgehammers to destroy machines to protest industrialization.

B. The Second Anti-Industrial Response: Transcendentalism

1. As steam technology was applied to different kinds of manufacturing and to transportation technology (such as steamships and steam trains), life began to speed up and increasingly focussed on material goods. This produced another anti-industrial response: transcendentalism.

2. In 1854, the American author Ralf Waldo Emerson wrote a book entitled *Walden; or, Life in the Woods*.
3. Emerson's goal was to "return to nature," so he built himself a small cabin, and immersed himself in a non-industrial lifestyle.
4. This is known as "transcendentalism," because, as the name suggests, the goal is to "transcend" (go beyond) material concerns, and focus on something that is non-material and believed to be more meaningful.

C. Conservationism and Preservationism

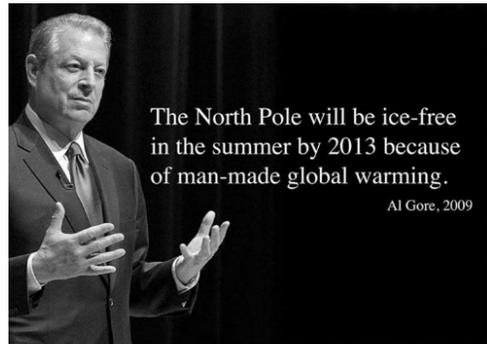
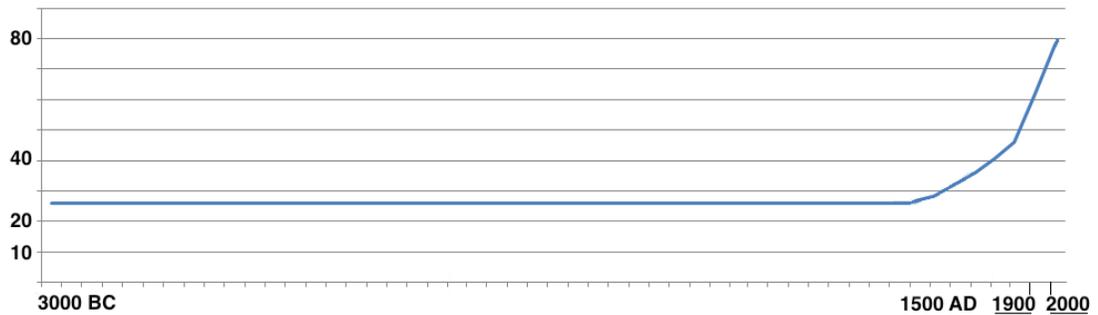
1. As the proto-industrial phase gave way to the industrial phase, human beings were using the resources found in nature at a great rate than ever before: cutting down trees to build house, drawing oil from the ground to power lamps, and later cars and planes, etc.
2. For some this rapid expansion of human activity was cause for concern. Was it possible that nature could be used up?
3. People who valued nature, such as soon-to-be president Theodore Roosevelt, came to believe that *some* natural resources should be *conserved*. To achieve this end, Roosevelt helped found an organization called the *Boone and Crockett Club* in 1887.
4. The concept behind this club is "conservationism." Conservationism holds that natural resources should be managed carefully so that they can be *conserved* for future generations.
5. Similarly, other worried observers believed that "unspoiled" nature was at risk of disappearing, and this should be view as a crucial value—to be *preserved*.
6. John Muir, a naturalist and friend of Theodore Roosevelt, took this view in founding the *Sierra Club* in 1892.
7. Preservationism is the view that nature should be viewed as an "end in itself," as opposed to a "means to an end." (Industrialization, of course, holds the opposite view that nature must be *used* by human beings in order to create the material values that sustain human life.) In preservationism, the goal is not to "manage" natural resources so that human beings can take advantage of in the future; the goal instead is to stop people from using nature at all.

D. Environmentalism and Environmental Alarmism

1. When the United States and other countries created nuclear weapons that could destroy so much human life and parts of nature, some scientists began to fear what would happen to the world.
2. In addition they worried about the growing use of chemicals to grow food.
3. A scientist named Rachel Carson found that because of the widespread use of a pesticide called DDT, certain birds had also died. She published her findings and interpretations in a famous book called *Silent Spring* in **1962**.
4. Carson did not call for the elimination of pesticides or other industrial technologies, but she did raise concerns about their effects on the "environment."
5. The "environment" means all the things that surrounds and affect humans. In most cases people use the word to mean "nature"—apart from human beings.
6. Some preservationists believe that the industrial changes will a disaster for the environment. They are alarmed, and want others to be afraid as well. This is known as "environmental alarmism."
7. Since the beginning of advanced industrialization, alarmists have been predicted that doom is just around the corner. In the 1960s, the main form of alarmism was the notion that human beings would run out of food.
8. The exaggerated negative predictions of environmental alarmists makes it very difficult for people to determine the validity of environmental claims today.

- 9. It is now commonly believed that human activity is producing “climate change.” With all the technology we are using, this is possible. But what should we do?
- 10. It is scientifically proven that industrialization has created the greatest improvements in human life. Instead of living only 25 years in pre-industrial times, we live 80 years today.

Life Expectancy Through History (Years)



Industrialism has produced the greatest advances in human life in all of history. At the same time, there are environmental problems. Lots of technology creates air quality problems (bottom left). The challenge is to understand and address these issues even if the worst predictions never come true (bottom right) so that we can continue to improve life for human beings.