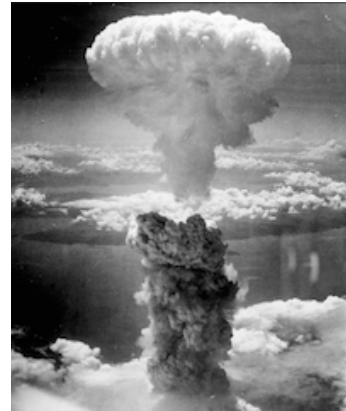
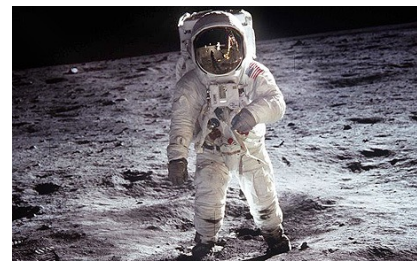


D. The Industrial and *Advanced* Industrial Periods of Technology

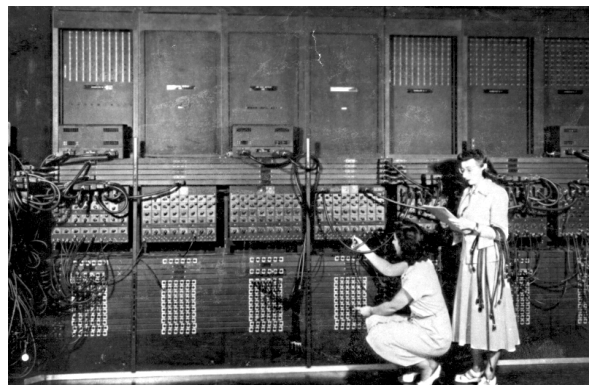
1. In 1870, the “industrial” period created by oil began. And in a sense, we are still in it. We still use cars and planes, which rely on oil/gasoline.
2. However, in a different sense, we live in a more advanced time. We have new “advanced” technologies:
 - a) nuclear power
 - b) space exploration
 - c) computers
3. The first of the advanced technology was the atomic bomb invented in **1945** as part of World War II.
4. This involves a whole new level of power, as demonstrated by the size of the explosions created by the bombs that use this kind of power.
5. Unfortunately, the science of atomic energy has stalled for now. It creates nuclear waste, which is dangerous.
6. If scientists can create form of nuclear power call “fusion” then nuclear power will become more useful.
7. Human beings also began to develop rockets during World War II, and then space exploration proceeded with remarkable progress until **1969**, when Neil Armstrong became the first man to walk on the moon.
8. This is a tremendous milestone, exactly one hundred years after the transcontinental railroad of **1869**, and two hundred years after the steam engine of **1769**.
9. However, as with nuclear power, space exploration has stalled. It has been nearly 50 years since the greatest accomplishment in the field of space exploration took place.
10. The one technology that truly makes our advanced society different is *computers*. Computer technology seems to be advancing all the time!
11. In **1946** a government project to calculate how to position artillery pieces (modern “cannons”) in times of war led to the design of the most famous early computer called the “ENIAC” (Electronic Numerical Integrator and Computer). It was 130 feet long and weighed 30 metric tons. It was nicknamed a “Giant Brain”. It could perform mathematical calculations 2400 times faster than a person.
12. Since that time, computers have advanced with incredible speed. The most amazing modern computer, the *smartphone*, is 40,000,000 times



The explosion of an atomic bomb over Japan in **Word War II**.



Human beings walked on the moon in **1969** as part of our advanced industrial era.



“Programmers” work to configure the ENIAC to perform a mathematical calculation. This “giant brain” could perform a complex mathematical calculation 2400 times faster than a human being.

smaller than the ENIAC, but 1700 times *more powerful*.

13. Since the atomic bomb was invented in **1945** and the ENIAC was developed in **1946** we will use these two dates as a tandem anchor fact to mark the transition to *advanced industrial civilization*. Here's what that looks like on the timeline:

