From the Wright Technology Bloss

The 20th Century has seen a host of discoveries and inventions that have shaped our world and led us further along the path called progress. Ordinary people labored to produce an amazing array of technologies that have saved lives, mod-

1901

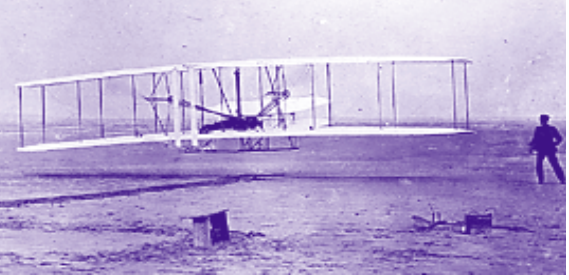
- Italian inventor Guglielmo Marconi transmits telegraphic radio messages from Cornwall, England, to Newfoundland.

1902

- Engineer Willis Carrier builds and patents the first air conditioner, known then as an "apparatus for treating air." The first air conditioners were used mostly in industrial buildings. Eventually, Carrier develops units for personal use. Today, air conditioners are used worldwide to cool billions of the heat-oppressed masses.

1903

- Orville and Wilbur Wright, self-taught mechanics and bicycle manufacturers, build the first powered aircraft capable of controlled flight. Orville later successfully tested the model, nicknamed Flyer I, at Kill Devil Hills near Kitty Hawk, N.C.



1905

- Albert Einstein formulates the Special Theory of Relativity; establishes law of mass-energy equivalence and creates Brownian theory of motion. His photon theory of light provides the foundation for virtually all electronic devices that use light.

1906

- Sound broadcasting debuts in the U.S. when electrical engineer Reginald A. Fessenden broadcasts the first radio program of voice and music from Brant Rock, Mass.

1907

- American inventor Lee de Forest, improving on the vacuum tube, invents the triode (so named for its three elements: an anode, a cathode, and a control electrode). The tube functions as both a radio-wave detector and an amplifier. It revolutionizes radio and communications.
- Belgian-born chemist Leo Baekeland invents Bakelite, the first synthetic substance. Two years later, the first commercial manufacture of Bakelite marks widespread use of plastic.

1908

- The Ford Motor Company produces the first Model T, selling 15 million nationwide.

1910

- 60 and 25 Hertz (Hz) are widely established as the operating broadcast frequencies. Today, 60 Hz ranks as the standard frequency in North America.
- Commonwealth Edison in Chicago, formed over several years from about 20 electric utilities, becomes the world's largest electric utility.

1911

- American engineer Charles F. Kettering develops the first practical electrical self-starter for automobiles.

1913

- Henry Ford introduces the moving assembly line to America at his Model T plant in Highland Park, Michigan. Ford's inventiveness improves efficiency at his automotive plants and speeds up the method to deliver Model Ts to the mass market.

1914

- American physicist Robert Goddard begins experimenting with rockets.

1915

- First transcontinental telephone call takes place between Alexander Graham Bell in New York and Dr. Thomas A. Watson in San Francisco.

1916

- French inventor Paul Langevin constructs the sound, navigation and ranging device to detect German submarines during World War I. The device is known today as sonar.

1927

- "Talkies" premiere with the release of *The Jazz Singer,* the first full-length motion picture with sound.

1930

- Robert Watson Watt builds the first radio detection and ranging device to detect aircraft. The invention is known simply as radar.

1933

- Congress mandates the Tennessee Valley Authority (TVA) to control floods and produce power through a system of nine major dams in seven states.

Brothers to Bill Gates: omed in 20th Century

ernized the home and workplace, and linked the world through sight and sound. Let's take one more look in the rear view mirror to review just how far and how fast humankind came in the 20th century.

1935

- Rural Electrification Administration (REA) brings electrical service to rural America.

1936

- Boulder (later renamed Hoover) Dam on the Colorado River in Arizona and Nevada is completed, creating Lake Mead, the largest reservoir in the world.

1937

- British engineer Sir Frank Whittle builds the world's first jet engine.

1939

- The first commercial television set premieres at the World's Fair in New York City.
- American researcher Edwin H. Armstrong invents frequency modulation (FM).

1940

- Radio Corporation of America at Camden, N.J., demonstrates the first electron microscope.

1942

- Former Bell Laboratories physicist Chester Carlson patents xerography process, forerunner of the Xerox.

1946

- Engineers at the University of Pennsylvania unveil the Electronic Numerical Integrator and Computer (ENIAC) for the U.S. government. It is the first fully electronic digital computer and performs nearly 400 multiplications per second.

1947

- Bell Laboratories scientists Walter Brattain, John Bardeen and William Shockley invent the transistor. Within a decade, the invention was in everything from computers to guided missiles.

1948

- American engineer Peter Goldmark invents the long-playing (LP) record.

1954

- The USS Nautilus is converted to nuclear power, thus becoming the U.S. Navy's first nuclear-powered submarine.

1955

- Ultrahigh frequency waves are produced at the Massachusetts Institute of Technology (MIT).

1956

- The 4.2-megawatt (Mwe) Calder Hall reactor in England generates electricity and becomes the first nuclear power plant. The following year, the 60-Mwe nuclear plant at Shippingsport, Pa., is put into operation.
- Transatlantic cable telephone service begins when the first transatlantic submarine telephone cable (called the TAT-1) is laid.

1957

- The Soviet Union launches the Sputnik satellite.

1958

- U.S. establishes the National Aeronautics and Space Administration (NASA).
- U.S. launches the first moon rocket. It fails to reach the moon, but travels 79,000 miles from earth.

1960

- Scientist Theodore H. Maiman discovers the laser, which was reflected from a ruby crystal.

1964

- The first "bullet" train in Japan travels at top speeds of 130 mph. Later trains will exceed speeds of 190 mph.

1965

- Engineer Ray Dolby develops a way to reduce background noise in recordings.

1967

- The microchip arrives on the scene and becomes the miniature building block of the electronic revolution. In 1971, Intel Corporation develops the first microprocessor.

1969

- Apollo 11 blasts off from Cape Kennedy and lands on the moon's surface, July 20. Neil Armstrong steps out on the moon July 21. Apollo 11 returns to earth three days later.

1970

- Researchers at Corning Inc. design and produce the first optical fiber for use in telecommunications. Today, nearly 100 percent of U.S. long-distance phone traffic is carried over optical fiber.

1975

- The video cassette recorder (VCR) changes television viewing habits.

1980s

- Personal computers emerge on the market.

1990s and beyond

- The number of Internet users worldwide is roughly 150 million people and growing. More than 50 percent of the users are from the United States. It is estimated that by the year 2003, more than 1 billion people will surf the Internet.