TRACING THEMES
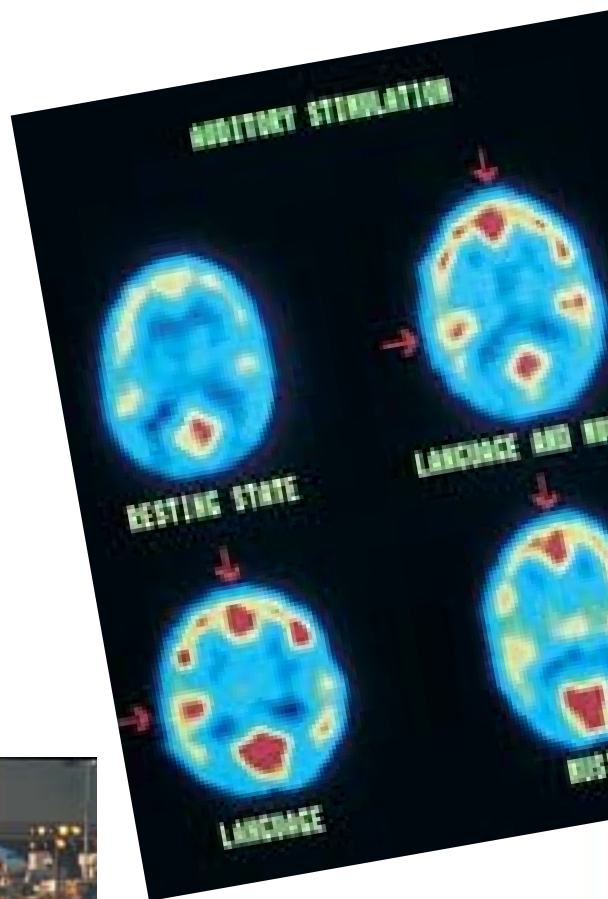
Science and Technology

Radar, guided missiles, nuclear submarines, reconnaissance satellites, atomic bombs—the inventions of the 20th century seem intended mainly for war, with the usual dreaded results. But these technological developments have also had far-reaching applications in peacetime. Because the innovations were originally intended for the battlefield, they were developed quickly and with a narrow purpose. However, their applications during peacetime have led to life-enhancing benefits that will extend far into the 21st century.

1914–1918 WORLD WAR I

FIGHTER PLANES TO COMMUTER FLIGHTS ▼

Airplanes were first used to gather military information but were soon put to work as fighters and bombers. The *Sopwith Camel* (*shown at right*), was one of the most successful British fighter planes, bringing down almost 1,300 enemy aircraft during World War I. The development of flight technology eventually led to sophisticated supersonic aircraft. Today, non-military aircraft are primarily used for travel and cargo transport. Jumbo jets carry hundreds of passengers with each takeoff.

1939–1945 WORLD WAR II

▼ ATOM BOMBS TO BRAIN SCANS

Faced with alarming rumors of work on a German atomic bomb, America mobilized some of the finest scientific minds in the world to create its own atomic bomb. The energy released by its nuclear reaction was enough to kill hundreds of thousands of people, as evidenced by the destruction of Hiroshima and Nagasaki. But the resulting ability to harness the atom's energy also led to new technologies for diagnosing and treating human diseases. Techniques such as positron emission tomography (PET) now reveal the inner workings of the human brain itself.

Applications of World War II Technology		
TECHNOLOGY	**MILITARY USE**	**PEACETIME USE**
Semiconductors	Navigation	Transistors, radios, electronics
Computers	Code breaking	Software programs, video games
Freeze-dried food	Soldiers' rations	TV dinners, space-shuttle rations
Synthetic materials	Parachutes, weapons parts, tires	Telephones, automobile fenders, pacemakers
Radar	Tracking and surveillance	Weather tracking, air traffic control, archaeological digs

1945–1991 THE COLD WAR

Image not available for use on CD-ROM. Please refer to the image in the textbook.

THINKING CRITICALLY

CONNECT TO HISTORY
1. **Hypothesizing** Do you think that peacetime technologies would have been developed without the stimulus provided by war? Support your answer.

   📁 **SEE SKILLBUILDER HANDBOOK, PAGE R13.**

CONNECT TO TODAY
2. **Evaluating Technological Impact** What invention or technological breakthrough do you think has had the greatest impact on American society? Write a paragraph to explain your answer. Stage a debate with your classmates in which you defend your choice.

🔵 **RESEARCH LINKS** CLASSZONE.COM

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