

Continuity and Change in a Globalized World

Today, no country can ever truly cut itself off from the global media or from external sources of information; trends that start in one corner of the world are rapidly replicated thousands of miles away . . .

—Francis Fukuyama, political scientist (born 1952)

Essential Question: How did science, technology, politics, justice, transportation, communication, and the environment change and stay the same after 1900?

One perspective shared by many scholars is that the 20th and 21st centuries were periods of unprecedented change. One factor in bringing about this transformation was the pace of discovery in science and the number of technological achievements made since the turn of the 20th century. These scientific and technological advancements led to changes in society, politics, economics, culture, and the environment. While many outcomes of these advancements were positive, they also included some unintended consequences that had negative impacts. Responses to these outcomes were varied.

Advances in Science and Technology

People made significant advances in understanding the universe and the natural world. These included:

The Origin of the Universe Several scientific theories tried to determine how the universe began. One of the best-known and best-supported theories was the *Big Bang*. This theory, that the universe started with one single cosmic event, led to a better understanding of the universe as well as atomic and subatomic science.

Wave Science Discoveries extended human knowledge and use of radio, light, sound, and microwaves. These breakthroughs led to improvements in radio and cellular communications as well as faster internet service.

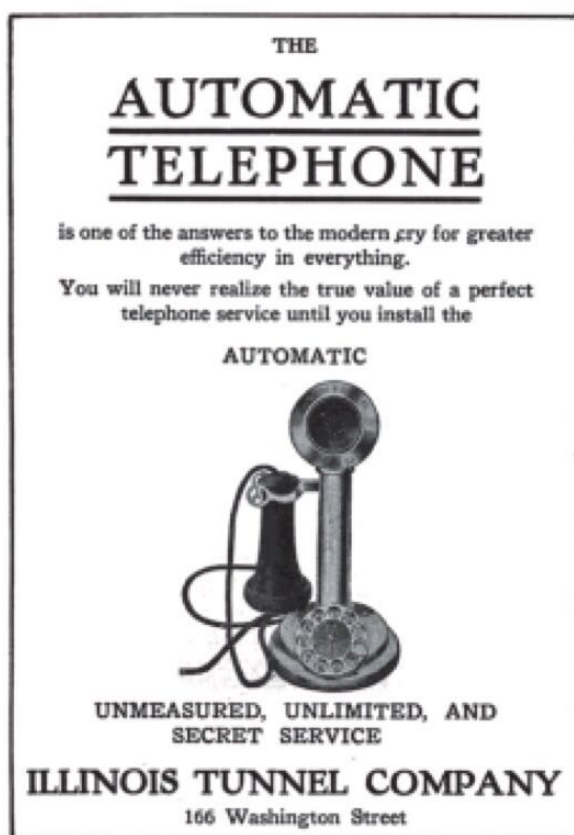
Medical Science Experts made discoveries about germs, viruses, diseases, and the human body. These discoveries led to cures or vaccines for common diseases such as polio, tuberculosis, and tetanus. Experts pioneered



new treatments for chronic diseases such as cancer and arthritis. The discovery of antibiotics, such as penicillin, helped people recover from or prevent infections. Reliable methods of birth control allowed women to control the size of their families. These and other medical advancements meant that people could live longer and better lives.

Energy Technologies Inventors and entrepreneurs made advancements in extracting and producing oil. Nuclear power became a significant source of energy. Renewable energy sources, including wind, solar, and thermal energy, became much cheaper to produce. In 2018, the International Renewable Energy Agency predicted that renewable energy sources would be consistently cheaper than fossil fuels by 2020. The increase in sources of power led to increased productivity, greater production of material goods, and faster transportation.

Communication Technologies In the 20th century, radio and television technology was further developed and telephone coverage increased so that most people eventually had a telephone in their homes. Internet communication and cell phones then replaced the older systems of communication. As a result, the amount and extent of mass communications increased, as did the global transfer of information.



Source: Wikimedia Commons (Left), Getty Images (Right).

Technology advanced from voice communication over wires to massive amounts of data available almost anywhere.

Transportation Technologies Airplanes were invented in the first years of the 20th century. Later, jet airplanes closed the distance between regions of the world. Shipping technology improved, with faster and larger ships carrying prefabricated shipping containers. These ships and planes could transport more goods farther and faster than ever before. Improved transportation technology resulted in the expansion of the global trade network and interactions among cultures.

Agricultural Technologies Scientists produced genetically modified crops that were more resistant to drought and disease and had higher yields. The most significant effect of these advances, known as the Green Revolution, was higher population growth rates, especially within developing countries. Another effect was the decline in biodiversity, as these genetically modified crops began to be cultivated at the expense of local crop types.

Changes in a Globalized World

Partly as a result of the advances in science and technology, the world experienced a number of significant changes to societies, economies, politics, cultures, and the environment.

Social Changes During this period, the world's population grew faster than at any previous time in history. The increase in population meant increasing challenges to existing social orders. The greatest growth rate in population occurred in developing countries, while developed countries saw a slowing of their population growth. In the developing countries, the population growth rate was largest in the lower socioeconomic classes. Improvements in communication and transportation made it easier for people to migrate from less developed countries to more developed ones. That led to a "brain drain" in some countries as more highly educated and skilled people left their home countries to find jobs elsewhere.

Girls and women in this era began to experience an increase in socioeconomic status, especially in the more developed countries. Women in these societies began to enter careers traditionally reserved for men. Their right to vote in elections was finally legalized, and in some cases women held the highest political offices in their nations. Because birth control allowed women to make choices, fertility declined in developed countries. Some women chose to put off having children until later in life or decided to not have children at all. In some countries, though, women saw little improvement in their status as societies resisted the change that was happening elsewhere. (Connect: Analyze changes in the practice of birth control from the mid-20th century to the early 21st century. See Topic 9.5.)

Economic Changes The trend toward economic globalization that started in the 19th century intensified during the 20th and 21st centuries. More developed nations continued to exploit less developed areas of the world, harvesting their raw materials and using the less developed areas as markets for finished goods. However, significant changes to the world economic



order took place. While the West, and especially the United States, was still a dominant economic force in the world economy, its superiority was being challenged by new sources of economic strength. Governments in Japan, Hong Kong, South Korea, Taiwan, and Singapore began policies that led to economic growth. These policies started the trend of Asian economies, which relied on inexpensive labor and high-quality manufacturing, competing against the Western economies to make consumer goods and high-tech products. Because of the modernization policies established after the death of Mao Zedong, which relaxed government control, China eventually became the second-largest economy in the world after the United States and a major exporter of goods to the rest of the world. India became an economic powerhouse by developing a labor force that specialized in software development and engineering.

Economic Policy Initiatives		
Program	Goal	Results
Soviet Union: Lenin's New Economic Policy (1921–1928)	Increase farm production and ease the transition to a communist economy	Peasants could own land. Small businesses were allowed. The Soviet economy began to recover from the Russian Civil War.
Soviet Union: Stalin's First Five-Year Plan (1928–1932)	Rapidly industrialize the Soviet economy	Industrial output grew. Farms were collectivized instead of having individual owners. Massive famines occurred.
China: Mao Zedong's Great Leap Forward (1958–1960)	Rapidly industrialize the Chinese economy	Peasants on collective farms were forced to produce steel using crude furnaces. Massive famines occurred.
China: Deng Xiaoping's Four Modernizations (1970s)	Attract foreign investment and move toward a market-oriented economy	China opened its economy to foreign producers. Industrial output increased, and China's economy grew rapidly.
United States: Roosevelt's New Deal (1933–1941)	Stimulate the economy and provide jobs during the Great Depression	The government hired millions to work on infrastructure projects, enacted Social Security, and regulated investments and banks.
United States: Reagan's Economic Recovery Tax Act (1981)	Stimulate the economy out of recession with supply-side economics	The economy came out of recession. Stock market and income inequality rose.
Great Britain: Expansion of the Welfare State (1945–1951)	Reduce income instability and inequality and provide a social safety net	The government provided citizens with health care, pensions, free education, and help for the poor. It also created huge bureaucracies.
Great Britain: Thatcher's Privatization of Industry (1980s)	Stimulate the British economy and reduce inflation	The economy grew and inflation was reduced, but unemployment rose to record levels.

Political Changes Mass protest movements helped bring about political and social change. Demonstrations in India showed how to effectively use nonviolent resistance and win social and political change. Activists championed civil rights in the United States, Northern Ireland, Canada, and other countries. Anti-war protests erupted in the United States and Western Europe. Women’s rights movements emerged in the Western democracies and spread across the globe. Protests against the system of apartheid brought an end to racial segregation in South Africa. Democracy movements led to political protests and revolutions in North Africa and the Middle East called the “Arab Spring.”



Source: Wikimedia Commons

Tahrir Square was the focal point of the 2011 Egyptian Revolution against former president Hosni Mubarak and his policies of police brutality. Over 1 million gathered in Tahrir Square on February 9, 2011, demanding the removal of the regime and for Mubarak to resign.

Governments were sometimes slow to respond to these calls for change. In some cases, they persecuted, imprisoned, or attacked the protesters.

During this time period, governments also began to play a larger role in managing or regulating their nations’ economies. This increased government intervention in the economy was a change from the free-market, or *laissez-faire*, economics practiced in the previous era.

Cultural Changes Once information (and people) could quickly spread across the globe, the pace of cultural interactions and exchanges intensified. People all over the world consumed Western culture, particularly aspects that originated in the United States, in the form of movies, television shows, and music. Fashion styles that appeared in one area of the world quickly were imitated and adopted in other regions. A consumer culture spread.

One significant change in the process of cultural exchanges from the previous era was that these exchanges were often a two-way street. For instance, while global audiences watched Hollywood movies, cuisine from China, Japan, India, and Latin America often found its way to the plates of Americans and Europeans. Music and art from East Asia found a loyal fan base in the United States. The Internet helped increase the rate and scope of these transfers, and advances in cellular technology made even the most remote areas on Earth accessible to these cultural exchanges.

Environmental Changes In the 20th and 21st centuries, humans attempted to overcome the challenges of their environment in many new ways. With jet airplanes, travel between points on the globe was measured in hours rather than in days, months, or years. New technologies in petroleum extraction meant that sources of energy were cheaper and more abundant than previously imagined. The Space Age broke the terrestrial limits placed on humans by their environment, and space exploration became possible.

However, although humans overcame some challenges, they also harmed the environment. Airborne pollution increased as factories, automobiles, and homes got their power from carbon-based fuels. Water pollution also increased as people and companies dumped waste in rivers, lakes, and oceans. Debates about the sources and causes of climate change developed as average temperatures around the globe increased, polar ice caps began to melt, and more intense and catastrophic weather events occurred.