Chapter 19: Technological Advances and Economics in the Global Age: 19-2c The Demographic Transition
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Printed By: James Harper (carter_mcquaid@roundrockisd.org)

19-2c The Demographic Transition

The population of Europe almost doubled between 1850 and 1914, putting enormous pressure on rural land and urban housing and overwhelming fragile public institutions that provided crisis assistance. This dramatic growth forced a large wave of European immigrants across the Atlantic, helping to develop the Western Hemisphere and invigorating the Atlantic economy. Population growth also contributed to Europe's Industrial Revolution by lowering labor costs and increasing consumer demand.

While some Europeans saw the rapid increase in human population as a blessing, others warned of disaster. The best known of these pessimists was English cleric **Thomas Malthus** (Eighteenth-century English intellectual who warned that population growth threatened future generations because, in his view, population growth would always outstrip increases in agricultural production. (*p.* 566)) , who in 1798 argued that unchecked population growth would outstrip food production. When Malthus looked at Europe's future, he used a prejudiced image of contemporary China to terrify his readers. A visitor to China, he claimed, "will not be surprised that mothers destroy or expose many of their children; that parents sell their daughters for a trifle; . . . and that there should be such a number of robbers. The surprise is that nothing still more dreadful should happen." *

Chinese Family-Planning Campaign

To slow population growth, the Chinese government sought to limit parents to a single child, but has relented in the recent past when the economic consequences of a rapidly aging population became clear. Billboards and other forms of mass advertising were an essential part of the original campaign to suppress fertility.

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The intensifying global connections of large amounts of people revealed a very different danger than malnutrition. Not only lack of food but now infectious disease emerged as a deadly threat to human populations. Large troop concentrations and troop movements around the world, often in tight and under-ventilated modes of housing and transportation, helped spread the influenza virus at the end of World War I (see Chapter 15). Almost the entire global population became infected with the virus. More Americans (approximately 500,000) died from the flu between 1918 and 1919 than in the war, and worldwide the influenza pandemic took 20 million lives.

Poverty continued to promote the spread of diseases in the twentieth century, especially in Asia, Africa, and Latin America. The mosquito-borne infectious malaria fever of the tropical regions posed a particular risk to people working outdoors and in fields. While Latin Americans in the Andes region had been familiar with quinine as an antimalaria drug since at least the seventeenth century, the most significant advances against the disease came in the early twentieth century. Engineers overseeing the construction of the Panama Canal observed the impact of simple public health measures such as the use of mosquito nets and drainage of stale water pools, for instance. More recently, the Chinese researcher Tu Youyou developed a new anti-malarial drug on the basis of traditional Chinese medicine, earning her a Noble Prize in 2015.

Also prevalent in conditions associated with poverty and limited access to hygiene has been cholera, a bacterial gastrointestinal disease with such severe diarrheic symptoms that it can come with death rates between 5 and 50 percent. Now rare in industrialized nations, it has long afflicted populations without access to safe drinking water.

Still, the generation that came of age in the years after World War II lived in a world where Malthus seemed to have little relevance. Industrial and agricultural productivity had multiplied supplies of food and other necessities. At the same time, cultural changes associated with expanded female employment, older age at marriage, and more effective family planning had slowed the rate of population increase. By the 1960s Europe and other industrial societies had made the **demographic transition** (A change in the rates of population growth. Before the transition, both birthrates and death rates were high, resulting in a slowly growing population; then the death rate dropped but the birthrate remained high, causing a population explosion; finally, after the transition, the birthrate dropped and population growth slowed down. This is the situation today in the wealthiest modern industrial economies. (*p.* 567)) to lower *fertility rates* (average number of births per woman) and reduced mortality. This meant that populations would age quickly. In the world's most developed nations, for example, median age rose from twenty-nine years in 1950 to thirty-

seven years by 2000.

By the late 1970s, the developing world had still not experienced the demographic transition and the global discussion of population growth became highly politicized. Leaders in some developing nations actively promoted large families, arguing that larger populations increased national power. When industrialized nations, mostly white, raised concerns about rapid population growth in Asia, Africa, and Latin America, populist political leaders in these regions responded by asking whether these concerns were racist.

This question exposed the influence of racism in the population debate and temporarily disarmed Western advocates of birth control. However, once the economic shocks of the 1970s and 1980s had revealed the economic vulnerability of poor nations, governments in the developing world jettisoned policies that promoted population growth and began to advocate birth control. Mexico is a good example. In the 1970s the government had encouraged high fertility, and population grew an average of 3 percent per year. In the 1980s Mexico rejected these policies and began to promote birth control, leading by the 1990s to a more manageable annual population growth of 1.7 percent.

World population exploded in the twentieth century, more than doubling between 1950 and 2000 (see Table 19.1). Although the rate of growth has slowed since the 1980s, world population still increases by a number equal to the total population of the United States roughly every three to four years. If fertility had remained constant from the 1990s, with a world average of roughly 2.5 children per woman, population would reach nearly 27 billion in 2100. This will not happen, however, because fertility is declining in most developing nations and is at less than replacement levels in most industrialized countries. In Iran, for example, the average number of children born to each woman dropped from more than six to less than three in the single decade 1986–1996. As a result, most experts estimate a world population in 2050 of around roughly 10 billion.

Table 19.1

Population for World and Major Areas, 1750–2050

	Population Size (Millions)						
Major Area	**1750**	**1800**	**1850**	**1900**	**1950**	**2000**	**2050 ***
World	791	978	1,262	1,650	2,521	6,055	9,725
Africa	106	107	111	133	221	785	2,478

Population Size (Millions)

Major Area	1750	1800	1850	1900	1950	2000	2050 *
Asia	502	635	809	947	1,402	3,683	5,267
Europe	163	203	276	408	547	729	707
Latin America and the Caribbean	16	24	38	74	167	519	784
North America	2	7	26	82	172	310	433
Oceania	2	2	2	6	13	30	57

Percentage Distribution

Major Area	1750	1800	1850	1900	1950	2000	2050 *
World	100	100	100	100	100		100
Africa	13.4	10.9	8.8	8.1	8.8	13.0	25.5
Asia	63.5	64.9	64.1	57.4	55.6	60.8	54.2
Europe	20.6	20.8	21.9	24.7	21.7	12.0	7.3
Latin America and the Caribbean	2.0	2.5	3.0	4.5	6.6	8.6	8.1

	Population Size (Millions)						
Major Area	**1750**	**1800**	**1850**	**1900**	**1950**	**2000**	**2050** *
North America	0.3	0.7	2.1	5.0	6.8	5.1	4.4
Oceania	0.3	0.2	0.2	0.4	0.5	0.5	0.6

Sources: *J. D. Durand, "Historical Estimates of World Population: An Evaluation" (Philadelphia: University of Pennsylvania, Population Studies Center, 1974, mimeographed); United Nations, The Determinants and Consequences of Population Trends, vol. 1 (New York: United Nations, 1973); United Nations, World Population Prospects as Assessed in 1963 (New York: United Nations, 1966); United Nations, World Population Prospects: The 2015 Revision (New York: United Nations, 2015); United Nations Population Division, Department of Economic and Social Affairs, World Population to 2300 (2004).*

In industrialized nations life expectancy improved as fertility declined. The combination of human lives. In 2000 about 20 percent of the population in Europe was age sixty-five or over. By 2050 this proportion will rise to over one-third. Italy soon will have more than twenty adults fifty years old or over for each five-year-old child. Because of higher fertility and greater levels of immigration, the United States is moving in this direction more slowly than western Europe; by 2050 the median age in Europe will be fifty-two, while it will be thirty-nine in the United States.

The combination of falling fertility and rising life expectancy in the industrialized nations presents a challenge very different from the one foreseen by Malthus. These nations generally offer a broad array of social services, including retirement income, housing supplements, and medical services for the elderly. In fact, the central factor in the growing healthcare costs of developed nations is the longevity of its population and its exposure to illnesses that occur far more frequently in age—heart disease, Alzheimer's disease, and cancer.