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An Economic History of the World since 1400

Course Guidebook

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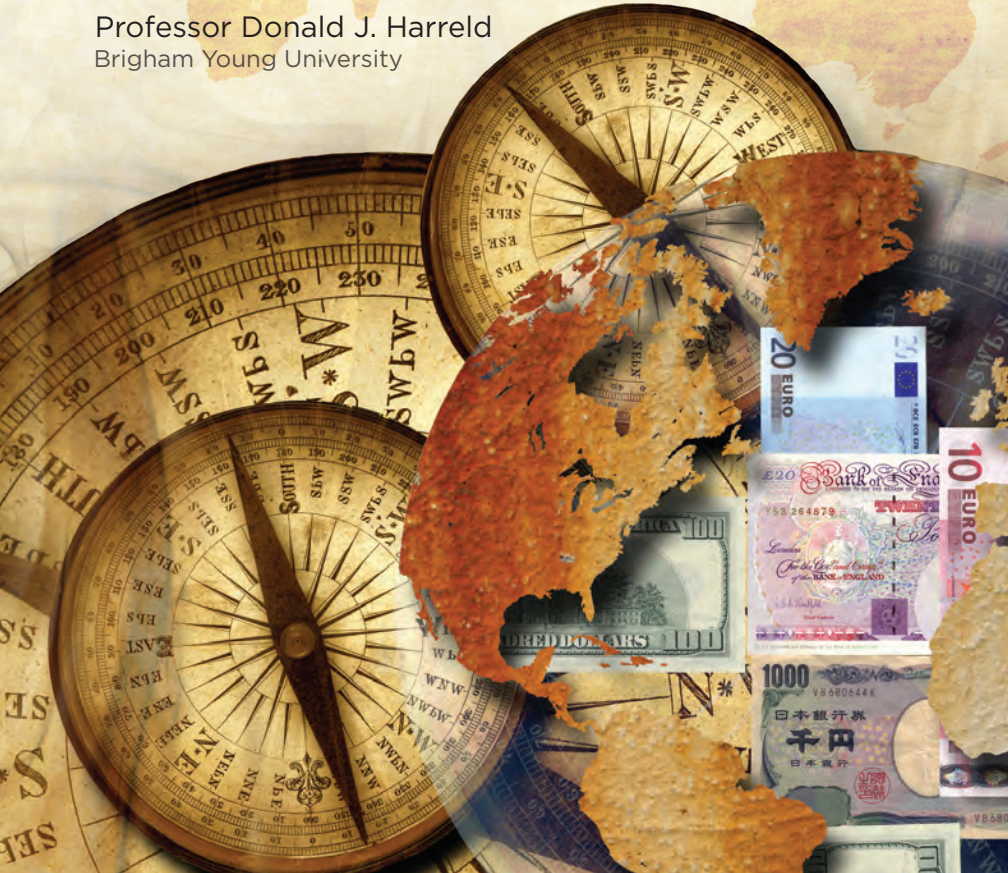

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Dr. Harreld specializes in the social and economic history of early modern Europe. His specific area of interest is in the economic history of the Low Countries. His work has focused on merchant communities, the expansion of Europe, early modern business communications, and commercial networks.

In addition to teaching courses on economic history and the history of European expansion, Dr. Harreld teaches world history, urban history, and the history of identity. He has twice been named an Alcuin fellow by Brigham Young University for excellence in teaching general education courses.

Dr. Harreld is the author of *High Germans in the Low Countries: German Merchants and Commerce in Golden Age Antwerp* and several articles on various aspects of European economic and urban history. He is the editor of the *Companion to the Hanseatic League* and is working on a book about Dutch voyages of exploration in the early 17th century. ■

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An Economic History of the World since 1400

Scope:

At its most basic, economic history concerns itself with the ways that mankind has structured his environment in the past in order to provide food, shelter, and clothing. Actually, most of human history has been shaped by how people have struggled to meet these basic needs. This course will examine the ways in which people and societies have provided for themselves by focusing on what they produce, how they produce it, and how production is distributed and consumed. Modern economic history, which for most scholars treats the past 500 or so years, has been shaped by all aspects of the human experience, and a wide range of extraordinary events, such as wars, plagues, exploration, technological innovation, and trade, have all affected economic reality over time.

This course takes a chronologically presented thematic approach to modern economic history. Although it does not attempt to touch on every possible topic that economic historians are concerned with, it has sought to present the most important topics and trends in economic history since 1400. It is true that a course like this one will be quite Eurocentric, meaning that the point of view is from the European, or Western, perspective, but this is because the modern world economy has been so dominated by Western ideas and ideals that if we are trying to understand the world we live in today, we will necessarily focus on Europe. It is also true that in the distant past, Europe's economy was rather insignificant compared to the economies of the great empires of Asia, such as India and China, but in our modern world, the economic system and institutions that developed in Europe over the past 500 years are the ones that have taken hold and predominate in our own time. Even though our focus will be on Europe, we will explore various regions of the world as they begin to play a role in the development of the modern economy.

In this course, we will explore the development of productive agriculture in the modern era. Mankind transitioned from hunter-gatherer to cultivator millennia ago, but only recently has agriculture been productive enough to allow people to focus their efforts on other activities, such as manufacturing and commerce. Thus, we will examine the development of business contracts and agreements, the form these took, and how they changed over time to give rise to a variety of partnerships and corporative relationships. We will also review the expansion of trade as discovery voyages and overland trade brought various regions of the world into closer contact than ever before. With the increase in maritime trade, an idea of economic nationalism, or what Adam Smith would have called the mercantile system, came to define the role of the state in the economy.

With new developments in science and technology and the routinization of knowledge, how people produced things changed dramatically. This is, indeed, one of the central concerns of economic history. And probably the greatest process in modern economic history was the shift to industrial production that we rather cavalierly call the Industrial Revolution. This was not really as sudden an occurrence as the term *revolution* implies, but it completely changed how goods were produced and even which goods would be produced in the past. The Industrial Revolution will form a pivotal point in this course because of the tremendous changes that society went through as a result of industrialization.

As radical new ways to produce goods increased overall production, the concepts of laissez-faire and free trade replaced older ideas about the role of the state in the economy during the 19th century. This was also the age of imperialism and colonization, as well as extensive warfare that affected so much of the world's population and set up a divide between the haves and the have nots in the world.

The last section of the course will examine the period following the Second World War, when economic dominance began to shift away from the West to other parts of the world. In this part of the course, we will look at the end of European colonization and the rise of Asia in world economic affairs. We

will also consider the end of communism, the growth of regional economic blocs, and the development of the global economy.

The course as a whole is intended to provide you with a solid overview of the economic history of the past 500 years and to raise questions that will prompt you to pursue further study of this fascinating topic.

Lecture 1

Self-Interest, Human Survival, and History

In a general sense, economic history concerns itself with the ways that mankind has structured the environment in the past in order to provide food, shelter, and clothing. In other words, economic historians are interested in examining the process through which society provides for its material well-being. Indeed, it would not be off the mark to state that the study of economic history is the study of human survival. The implication is that in our study, we will need to take into account all human characteristics and how these characteristics shape our behaviors. In economic history, we concern ourselves with the interplay between economic and social, political, and cultural behaviors.

Central Concepts of Economic History

- The late Nobel Prize–winning economic historian Douglass North suggested that what is of particular concern to the economic historian is explaining the institutional structures that underlie (and account for) the performance of an economic system and how these institutions change over time.

- For the economic historian Rondo Cameron, the most pressing concern was to explain the origins of unequal levels of development in the world.

- Perhaps the thinking of David Landes, however, is the most useful for our course. Landes was a professor of history at Harvard who wanted economic historians to trace and understand the main streams of economic advances and modernization, that is, how mankind came to where—and what—we are, in the sense of making, getting, and spending.

Questions of Economic History

- We will need to ask some important questions if we are to understand the main streams of economic history:
  - What was produced? Even the most primitive societies had to grapple with this question. Primitive societies might think of it in terms of what they could hunt or what they would plant. But this is also a question that entrepreneurs have been asking for thousands of years and startup tech firms still seek to answer.
  - How was it produced? This question forces us to look at resources, such as labor and machines, to understand how goods were made in the past. Looking at the changes that were made to how things were produced helps us understand how we got to where we are today.
  - How did what was produced get distributed? This question can be asked of the family, of the community, and at the regional, national, and international levels. Asking this question helps us to understand commerce, the allocation of resources, and social welfare practices.

- These three questions might seem fairly simple, but they lead to discussions of prices, resource allocation, production methods, technological development, labor, supply and demand, and more. The questions also point to issues that both economists and economic historians address, while doing so in very different ways.
  - Economists, for instance, practice something that few historians are comfortable doing: They look to the future and try to predict what will happen and what could influence decision making.
  - Historians, including economic historians, are oriented toward the past; we don't try to predict the future.

- Historians and economists also approach questions from different methodological perspectives.
  - Economists tend to try to isolate independent variables in order to identify regularities that might predict human behavior.
  - But to historians, this notion of isolating variables is not attainable. Instead, historians suggest that in attempting to explain what happened in the past, we need to consider as many variables as

possible. Actually, most historians consider all variables to be interdependent. Removing any one of them alters the situation, and thus, the explanation suffers.

Highlights of Economic History

- If we were to list some of the highlights of the economic history of the past 500 or more years, we might include the following events:

- The development of productive agricultural. Mankind moved from hunter-gatherer to cultivator millennia ago. But only recently has agriculture been productive enough to allow people to focus our efforts on other activities. Agricultural surpluses created important changes for how mankind provides for itself.

- The development of business contracts and agreements. Business contracts have existed for thousands of years, but the form these took changed over time and—hundreds of years ago—gave rise to a variety of partnerships and corporative relationships.

- The expansion of trade. In addition to the great European voyages of discovery, trade has expanded in a multitude of ways over the centuries.

- The development of economic nationalism or what Adam Smith would have called the mercantile system.

- The development of science and technology and the routinization of knowledge. New ideas and technology have radically affected how we produce things.

- The shift to industrial production. As probably the greatest process in modern economic history, the transition that we refer to as the Industrial Revolution was not really as sudden an occurrence as the term *revolution* implies. But it changed how we produce, what we produce, and how we distribute our products in significant ways.

- Population growth. Global population growth brought with it a demographic revolution, changes in our methods of production, and resulting increases in agricultural productivity.

- Free trade and mass consumption. These concepts became increasingly important in the newly industrial world.

- Imperialism, colonization, and warfare. The forces of imperialism, colonization, and warfare touched much of the world's population and set up an enduring divide between the global haves and the have nots.

- Economic growth and development.

Defining *Capitalism*

- One recurring theme that will thread its way through every one of these topics is the concept of capitalism. How do we define this term?
  - The word itself is rather new. *Capital*—basically meaning assets—dates as far back as the Middle Ages. But the word *capitalism* originated only in the middle of the 19th century, in the context of referring to an economic system. And then it was usually used by socialists.
  - Today, most people think of capitalism as a method of organizing economies and markets through flows of capital, or cash and its equivalents.

- Some characteristics of capitalism include the following:
  - Clearly defined private property rights
  - Enforceable contracts
  - Markets that set prices
  - Institutions favorable to the above elements.

- Thus, capitalism can be defined as: an economic system in which rational private property rights and enforceable contracts provide for the efficient functioning of markets that generate price signals and for

Among the characteristics of capitalism are enforceable contracts, which minimize costs and disputes.

which favorable institutions exist to create incentives for participation in the system. In this general statement, *private property rights* refers to the ownership, control, and exchange of a resource or a good.

- Unfortunately, this conceptualization represents more of an ideal, a way of thinking about the economy, than it is a description of reality at any point in the past. Aspects of it can be found in most historical periods, but rarely does the entire system seem to have functioned according to this description.

The Role of Institutions

- Another concept we will pay close attention to in this course is the role of institutions in economic history. This is an even more difficult concept to describe than is capitalism.

- At its core, the study of institutions is the examination of the interaction between (and among) individuals, firms, states, social and legal norms, cultural cues, and so on.

- Obviously, institutions change over time. The rules that govern much of human behavior, such as social and legal norms, tend not to be fixed and constant. Rather, they can change dramatically.
  - In turn, such changes can produce great confusion among historical actors, when they are thrust into situations that put them into contact with new and unfamiliar institutional arrangements.
  - For example, when parties from different cultures come together to engage in trade, certain misunderstandings and miscues are likely to occur, until each party adjusts to the new institutional arrangements.

Ideological Perspectives on Economics

- Three ideological perspectives offer a sense of the differences we will encounter in the study of economic history:

- Neoclassical economics. In general, neoclassical economic historians apply economic theory to historical processes in the interest of understanding the past.
  - This approach follows in the tradition of Adam Smith and holds in high regard the study of price theory, utility, profit maximization, and the presence of rational economic actors.
  - One drawback of neoclassical economics, as it applies to the distant past, is that it often struggles with the so-called free-rider problem (which refers to those who benefit from something without paying for it), and it has difficulty accounting for ideology in human action.

- Marxian economic history. Marxist thought has had a significant impact on economic history and continues to do so, to some degree, even today. The basic focus of Marxian economic thought is the mode of production.

- The Marxist historian views every historical period as having its own identity, shaped by the ways in which the means of production are owned, by how people relate to one another in the process of production, and by the material forces of production.
- In this view, all modes of production have built-in contradictions that must be resolved through some kind of struggle. Thus, to the Marxist, the driving force of human history is the struggle of one class with another.

- World systems theory. Although not a theory of economics per se, world systems analysis has had an important role to play in economic history.
  - Rather than viewing the nation-state as the most important focus of historical analysis, world systems theory seeks to substitute a regional or inter-regional, approach.
  - World systems theory also rejects the notion that Marxists and most neoclassicists commonly hold: that there is only a single path to economic development for most countries and regions.

A Note on Eurocentrism

- To understand the world we live in today, we must begin by focusing on Europe. Admittedly, economic history has suffered from a significant amount of Eurocentrism—a point of view that is of a distinctly European perspective.

- Our focus, to the extent that it falls in Europe, reflects the fact that the world economy has for so long been dominated by Western ideas and ideals. It can be difficult to get past this rather parochial viewpoint, but we will.

- In the distant past, Europe's economy was rather insignificant compared to the economies of the great empires of Asia, such as India and China. Still, in our modern world, the economic system and institutions that developed in Europe over the past 500 years are the ones that have taken hold. To understand how the world economy reached the point

where it is today, then, we will focus on Europe, beginning in medieval Europe, sometime after the breakdown of the Roman Empire.

Suggested Reading

North, *Structure and Change in Economic History*.

Osterhammel and Petersson, *Globalization*.

Questions to Consider

1. What do we mean by economic history?
2. What are the different approaches to economic history?
3. What is capitalism?

Lecture 2

Marco Polo, China, and Silk Road Trade

Scholars have long held that the premodern Asian economy was inferior to the European; that the Asian states were isolationist; and that Asian trade was passive, waiting for the entrepreneurial Europeans to kick-start economic growth. But in this lecture, we'll see that this view is far from accurate. There were roughly four world economies in premodern Eurasia centered around China, India, the Middle East, and Europe—and of the four, Europe was probably the least sophisticated.

A World Economy

- When we speak of a world economy, we are not referring to a global economy. Rather, we are referring to an integrated economic sphere, of which there were many before our present world system.

- Long before the 16th century—when European merchants turned to the sea in an attempt to reach into the heart of the existing world system—a vibrant trade network connected these integrated economic spheres.

- Such networks were based largely on overland transport but included a significant maritime component, particularly in the Indian Ocean region. The key points on this route were in the great Middle Eastern cities of Cairo, Baghdad, and Basra and the central Asian cities of Samarkand and Tashkent.

- Once the Mongols had conquered most of Asia during the 13th century, these trade routes became far safer than they were in previous centuries. And the two ends of the network, Europe and China, came into direct contact with each other for the first time in 1,000 years.

- But Europe was not China's equal in any sense. European agriculture could not compare with Chinese, and European production of iron and other items lagged behind the Chinese.

- Between China and Europe lay the Indian subcontinent and the dār al-Islam, or House of Islam, which was centered in the Middle East but was expanding at the time across the Indian Ocean littoral.

- Politically, Europe was divided into many small states. But in other parts of the world, the great empires that grew out of years of Mongol domination united vast stretches of Asia. Eventually—perhaps because of the disunity of Europe and frequent wars within the continent—European merchants began to use the Atlantic Ocean to move goods to various parts of Europe much more frequently than they had in earlier centuries.

- Europeans also looked to the Atlantic as a way to circumvent Muslim control of their end of the Eurasian trade network. Eventually, European adventures in the Atlantic would open up new possibilities for commerce by the end of the 15th century.

China

- Long before the Mongols conquered much of Asia, China had developed into the world's greatest economy. Already by the year 1100, the Chinese had an impressive iron and steel industry. The Chinese also developed hydrological techniques, such as watermills, that revolutionized industry.

- The Chinese revolutionized currency transactions by introducing paper money in the 10th century. Paper money didn't completely eliminate China's metal currency, but it did have a number of important effects on the economy. It increased the speed at which transactions occurred and introduced government regulation, increasing the wealth and stability of the state.

For centuries, China had a worldwide monopoly on silk production, an industry that provided work for both urban and rural populations.

- During most of the medieval period—from about the 9th century to the end of the 14th century—China was in an expansionary phase. The foundation for this long period of expansion included a focus on agricultural production, in much the same way that it did in other parts of the world.

- The increase in agricultural productivity led to increases in population, rapid urbanization, and an attendant increase in nonagricultural production, as well as significant growth in maritime trade. The state controlled maritime trade by establishing treaty ports through which all maritime imports and exports were funneled.

- Thus, by the 14th century, China had developed an important iron industry, several export products that were in high demand around the world, and financial innovations. Because of its strong agricultural foundation, China's population was growing, as well.

India

- India formed a kind of center point for Eurasian trade, including overland commerce and maritime trade. In Bactria—in the far north of the Indian subcontinent—Chinese, Indian, Persian, and Syrian merchants came together to trade along the Silk Road. In the south of India, trade followed the sea routes from India to Indonesia, Burma, and Southeast Asia to the east and to the Middle East and Africa to the west.

- The most important industry in south India was the manufacture of cotton textiles of all kinds and quality. High-quality cottons produced in Coromandel in southern India found ready markets in Southeast Asia and China. The Bengal (in northeastern India) and Gujarat (in northwestern India) also had important luxury cotton-cloth industries. But the vast majority of the cotton cloth India produced consisted of lower-quality fabric for the mass market.

- In southwest India, black pepper was an important export crop. But bulk commodities were grown throughout the subcontinent. Indian rice and wheat were exported all over the Indian Ocean region.

- India was essentially self-sufficient, exporting more than it imported. India was able to absorb most of its surplus, giving it, in general, great wealth, but with the effect that Indians were less interested in controlling shipping to other parts of the world's commercial system (with the exception of the Gujarati).

- As a result, by the 14th century, the Chinese controlled the shipping lanes from eastern India to the South China Sea, and Arabs controlled shipping from western India to the Middle East and Africa.

- Clearly, merchants from a variety of regions around the Indian Ocean were involved in long-distance trade. Although some, such as the Gujarati, predominated in specific regions, there is no question that trade with the Middle East and North Africa was dominated by Arab merchants, especially along the Malabar coast of southwestern India.

- The Malabar coast—with its main trading port of Calicut—was an important commercial region from about the 13th century, when the new *zamorin* (the Hindu ruler of Calicut) offered Muslim Gujarati and Arab merchants favorable trading privileges in exchange for their support.

- Calicut quickly became a major waystation for shipping between the Strait of Malacca and the Middle East. By the 15th century, Arab commercial domination of the port city essentially cut the Chinese out of the trade west of Coromandel. Once the Arabs took over the Calicut trade, few Chinese junks made the voyage to southwestern India, preferring to trade with Gujarati and other Indian shippers in Malacca.

- As a result, the Strait of Malacca remained primarily dependent on China's economy up to the 13th century and then as an interchange point for trade between the Indian Ocean and the South China Sea.

- Once the Chinese withdrew from the Indian Ocean early in the 15th century, a kind of trade vacuum emerged between southeast India and the Strait of Malacca—a vacuum that paved the way for domination by enterprising nonnative merchant groups.

The Middle East

- The Islamic world was a crucible of commerce. With its connections to Europe in the west, Africa to the south, and the Indian subcontinent and China to the east, the Islamic lands of the Middle East had been crossroads of commercial activity for centuries.

- From Constantinople or Aleppo, connections to the Silk Road through Tabriz and Samarkand linked the Mediterranean to the wealth of China. From Baghdad, Basra, and Hormuz, the sea lanes of the northern Indian Ocean connected the region with northwestern India and down the coast to Malabar. From Alexandria and Cairo on the North African

Mediterranean coast and through the Red Sea, merchants sailed across the Arabian Sea to either India or the port cities of eastern Africa.

- The importance of these major trade routes fluctuated over the centuries based in large part on the activities of the Mongols. But together, the routes brought Middle Eastern merchants into the world economic system of the Middle Ages.

- Once the Mongols succeeded in conquering and uniting most of the Eurasian landmass in the 13th century, commerce began to flourish as the Silk Road became safe for merchants. But over time, the Silk Road grew more dangerous.
  - The Mongols themselves were not merchants but, instead, established a regime that relied on tribute.
  - In the long run, they couldn't sustain this system. Thus, the Silk Road eventually became less stable and safe for merchants.

- For centuries, Middle Eastern merchants found the route through Baghdad and Basra out into the Persian Gulf and Indian Ocean to be the most stable. This route was most important during the period up to the middle of the 13th century.

- By then, Baghdad had an important textile industry. Once the Mongols conquered Baghdad, however, the trade route to the city declined in importance.

- In spite of this, the Persian Gulf portion of the route continued to serve maritime trade with India. But instability in the region shifted the trade with the Mediterranean—most importantly, Italian merchants—to either the northern route or to the route through Cairo and the Red Sea.

- Once the Crusader States fell at the end of the 13th century, Italian merchants shifted their commercial activity toward Egypt. This led to a significant increase in traffic along the Red Sea into the Indian Ocean.

After the 13th century, it was this route to India that was the most stable, until the Portuguese succeeded in opening up the route around Africa.

Europe

- Some estimates suggest that between 1291 and 1517, roughly 80 percent of all trade bound for the east was controlled by the Egyptians. It was in the Egyptian ports of the Mediterranean that European merchants found their best point of contact with the world economic system focused on Asia.

- In general, Christians were prohibited from trading with Muslims during the Crusading period of the 12th and 13th centuries. There were, however, ways around this prohibition.

- The Genoese were Egypt's most important trading partner from about 1250—during the Mamluk sultanate—because of the Mamluk reliance on slaves to serve in the army and in government posts. Genoese traders acquired slaves on the shores of the Black Sea and sold them in the slave markets of Egypt. This trade broke down once the Crusaders States fell, allowing the Mamluk state to decrease the size of its slave army.

- As the importance of the slave trade declined, the way was opened for Venice to increase its imports of spices and Egyptian cottons to meet the demand of European markets.

- Even after the Black Death of the middle of the 14th century, Venice continued to keep a lively trade going with Egypt, ensuring that Europe would continue to be part of the world economic system for at least another 150 years.

Suggested Reading

Boulnois, *Silk Road*.

Chaudhuri, *Trade and Civilisation in the Indian Ocean*.

Questions to Consider

1. How was the world's economy structured prior to the advent of European expansion in the 16th century?
2. Was there an Asian Age in the world economy?

Manorial Society in Medieval Europe

About the year 843, the Atlantic coast of France was harassed by Vikings. First, the so-called Northmen rowed their boats up the Loire River and set upon the town of Nantes, killing the bishop and many others. The French king bought them off to avoid the plunder of Paris. But when they rowed down the Seine, they pillaged all along the way. This scenario was played out across Western Europe during the 9th and 10th centuries. Waves of Scandinavian, Magyar, and Moorish invaders killed, pillaged, and burned wherever they went. The medieval state was no match for these marauders. This was the reality of life in Europe and most parts of the world before the modern era.

Agricultural Development in Europe

- From antiquity to about the year 1000, Europe was slowly building a more modern foundation based on a productive agricultural economy. This foundation was hard won. The little evidence that exists suggests that the population of Europe fell—with the decline of Rome—and remained fairly low for centuries. Country people drew together for protection in an environment of fear and instability. The devastating invasions of the Vikings and other groups unleashed crises during the 9th and 10th centuries.

- Europe became a no-man's-land, punctuated with small, scattered villages. Protection—such as it was—came from the warrior elite: the medieval nobility.

- With medieval states unable to ensure security, local lords fulfilled this role. The arrangement allowed medieval monarchs to maintain control of their domains, while essentially delegating real authority to the nobles.

- The result was a system of government in which the public sphere became merged with the private sphere. Instead of people rendering service to a state, individuals owed service to other individuals. The form this service took depended on the relationships between the parties. This aspect of medieval social organization is called *feudalism*.

- In such a system, the most important benefit the noble received as part of his oath to his overlord was land. In exchange for providing military service and dispensing justice, the noble received a grant of land from the monarch (or from another noble). This land grant was intended to support the noble family and its retainers. And it is with the land that *manorialism* came into play.

- The land grant—called a *manor*— was not just a house but essentially a village. It included the people who lived on and worked the land; their dwellings; and all the barns, ovens, and processing implements needed for survival. The peasants who worked the land were serfs who were bound to the land and exploited by the warrior elite.

- Most scholars believe that various forms of the manorial system developed in Gaul, that is, most of modern-day France; much of Belgium, the Netherlands, and Luxembourg; the northern part of Italy; and large areas of southern and central Germany. After the Norman Conquest, it included England, as well.

The Manorial System

- Under the manorial system, the noble lord controlled the land that the peasants worked. Furthermore, wage labor was rare; serfs provided work for the lord as a kind of tax and had their own land to cultivate.

- Land ownership was not understood in the modern sense. Land was granted following ancient customs, but it could rarely be sold or otherwise alienated. The result was an agricultural community with

a cooperative organization intended to ensure collective survival in a period of extreme instability.

- Individual initiative was subordinated to the needs of the community, and above all else, it was directed toward the production of food. The focus was on self-sufficiency, with the surplus going to provide for the noble family and its retainers, as well as the clergy.

Agricultural Advancements

- Technological developments made a difference in productivity. The two most important developments were the heavy plow and a new type of harness that allowed horses to replace oxen as draft animals.

- These developments enabled greater agricultural output, such that the population of Europe began to grow quickly by the 12th century, and—in the context of a largely subsistence economy—more land was brought under cultivation.

- By about 1300, Europeans had just about all arable land under cultivation, including marginal and poorly producing lands, to sustain the growing population. At this point, village populations had increased to the point where it was difficult to support everyone with the produce of the village, prompting new settlements.

- The technological developments that began with the plow and the horse collar continued, and more manors and villages began switching to the new plow. They even began employing a crop-rotation scheme to further increase output. In addition, new processing systems, such as windmills and watermills, spread across Europe.

- One result of this stable agricultural foundation was that when a more complex economy began to develop during the 11th and 12th centuries, it wound up being much less fragile and limited in its effects on people's

The first real improvements in harnesses for draft animals were made by the Chinese, though it is unknown whether the invention then spread to Europe or was developed independently by Europeans.

lives. By 1300, a money economy once again took hold, roads were built, and the number of towns increased dramatically.

Urban Life

- Most medieval towns had populations of only a few thousand, and most people lived in villages with even smaller populations. Towns and cities grew because of the agricultural surpluses that paved the way for population increases.

- The 300 years between 1000 and 1300 were the time of greatest flowering of medieval commerce. Markets and fairs began to proliferate, and two centers of urban life dominated the European economy: Flanders in the north and Italy in the south.

- Flanders and Italy were each areas of high urban population densities, and both contained centers of urban production and trade. Long-distance commerce developed between the two regions and with other parts of Europe.
  - The character of the trade differed greatly between these two poles of urbanization. The northern trade was largely focused on food and fiber. Agricultural products were shipped across northern Europe, and fibers used in textile production, such as flax for linen and wool, were mainstays of trade.
  - The trade in wool, most importantly from Great Britain, launched an important cloth-producing industry in northwestern Europe and in Flanders in particular.
  - Wool-cloth production in the cities of Flanders eclipsed all others in quality. Flemish cloth was traded all over Europe and even beyond the continent via the Mediterranean ports of the Middle East.

- Cloth production—like all craft production in the Middle Ages—was under the control of the guilds. In fact, each distinct craft had a guild in medieval towns, and the guilds played an important role in town governance.

- Italian merchants were one important market for Flemish cloths. And Italian towns also became outlets to the Mediterranean trade in luxury goods, which tied Europe into the Middle East and Asia. Flemish cloth went south to the workshops and markets of Italy and the Mediterranean, and the spices of the Levant were sent north via the Italian cities.

- Merchants from Flanders and Italy alike eventually directed their goods to a kind of halfway point, on the plains of the county of Champagne in France. The great trade markets there, known as the Fairs of Champagne, began as agricultural markets and developed into large international commercial fairs. The fairs provided a secure meeting place for merchants, and a series of institutions developed around them to allow for efficient exchanges.

- The Champagne Fairs represent only one example of the extent of commercial development in Europe at this time. The Hanseatic cities along the coast of the North Sea and the Baltic—which were dominated by German merchants—are another, as are the numerous overland and river trade routes of central Europe.

- By the 13th century, the proliferation of trade necessitated a variety of commercial arrangements to regulate trade and transactions, not only in the fairs of Champagne but also for the normal course of trade all over the continent.

Commercial Practices

- Two types of contracts had important implications for later developments. The first concerned the organization of merchants and their businesses; the second concerned the regulation of exchange and trade itself.

- The most common forms of business contracts during the Middle Ages were the *commenda* for sea trade and the *societas* and *compagnia* for

overland trade, all of which were forms of partnership allowing merchants to pool capital and to bring together investors and merchants.

- Credit at interest was illegal according to canon law throughout Europe during the Middle Ages. Thus, merchants and bankers developed mechanisms by which credit could be extended and hide the interest. The most common form for doing this was the *bill of exchange*.
  - The bill of exchange was regularly used in European commerce until the 18th century. It was an informal contract, by which a merchant ordered his banker—or, more frequently, his agent—to make payment on the merchant's behalf to another person.
  - It was actually a dual-functioning banking instrument that loaned money in one city and either transferred funds or remitted the payment in the currency of another city.
  - The bill of exchange had several advantages. It did not require transferring money between cities (a high-risk activity), and it allowed for loans at interest by hiding the interest within the exchange rate.

- Banking as we usually think of it developed in medieval Italy as an offshoot of commerce. There were three general kinds of banks in the Middle Ages: pawnbrokers, moneychangers, and deposit banks. But most banking until about the 14th century was an activity undertaken by merchants themselves. Wealthy merchants were the only ones who had the volume of money available to engage in deposit banking. And they were experienced in transferring money for international trade.

Summing Up the Medieval Economy

- As mentioned, by the middle of the 13th century, agricultural production in Europe had stabilized and was producing a surplus. The wealth generated by agricultural surplus could be released for investment in tools and improved techniques in production, as well as for business and trade.

- A vibrant commercial culture began to create institutions that governed trade, such as the fairs and contracts that allowed trade over long distances and, in turn, increased circulation of capital.

- It is true that, like today, recessions and short-term setbacks occurred from time to time, but overall, Europe's medieval economy seemed healthy enough. However, even as the economic future looked bright, crisis lurked around the corner.

Suggested Reading

Hunt and Murray, *A History of Business in Medieval Europe, 1200–1500*.

Lopez, *The Commercial Revolution of the Middle Ages, 950–1350*.

Questions to Consider

1. What developments led to economic growth in medieval Europe?
2. What technological innovations allowed Europe to move from a subsistence level of agriculture to one where surpluses were common?
3. How did the commercial revolution of the Middle Ages position Europe for commercial growth?

Lecture 4

How Black Death Reshaped Town and Field

Disease outbreaks, epidemics, and pandemics can have profound effects on human populations, affecting population growth, social norms, religious beliefs, and not surprisingly, the economy. The effect of epidemics often includes closure of trade and travel routes, lower economic productivity, disruption in the supply and demand of goods, and in extreme cases, demographic crisis. In this lecture, we'll consider the Black Death—one of the most devastating epidemics in history—and the impact it had on late medieval society and the economy.

The Great Famine

- In the Middle Ages—which extends approximately from the 5th to 15th centuries—the climate initially underwent a period of warming that benefited agricultural productivity. To be sure, with the technologies and agricultural knowledge of the time, agricultural productivity was always rather low. But for the most part, for hundreds of years, Europe had escaped the severe famines and crop shortages that would have resulted in widespread starvation.

- The result was steady, even robust, population growth before the 14th century. But the growing population required even more food. This led to increasing production on land that had already been intensely exploited for agriculture and to marginal land being brought under cultivation—land that could not produce a crop under less-than-ideal circumstances.

- Agricultural output increased, but because population was also increasing, there were no real surpluses. Then, by the first decade of the 14th century, cool temperatures and wet growing seasons became increasingly common. The first signs of trouble occurred in southwestern Germany when the wheat crop failed in 1309.

- Heavy, cold rains hit Europe in the following years. This weather pattern intensified in 1315 and continued to plague the continent through at least 1318. The rains oversaturated croplands to the point that crop yields in 1316 were half of normal levels, and productivity was barely enough to feed the continent even during the good years.

- But crops didn't fail only because of too much rain and bad weather. The climate was cooling to the point that certain kinds of agriculture could no longer be practiced in places where it flourished before. For example, in parts of Scandinavia, the growing season could no longer support grain cultivation. The result of these shocks was the Great Famine. During the worst of the famine—the summer of 1316—some areas, such as parts of Flanders and Great Britain, saw 5 to 10 percent of the population die of starvation.

- Until about 1320 or even 1322, European agriculture could not feed its population. Various famines occurred in some parts of the continent as late as the 1330s and 1340s. Some of these were the result of livestock epidemics decimating the meat supply. Large numbers of people died of starvation and disease. Those who lived often suffered from chronic malnutrition.

- Not surprisingly, grain prices rose astronomically during the worst of the famine years (1315–1318)—by about 10 times their pre-famine prices. Once the famine abated, grain prices declined.

- Western Europeans tapped into the grain-producing areas of Eastern Europe and the grain-rich regions around the Black Sea. European merchants, especially Italians, flooded the market with cheap grain

from the east. With grain prices low, many European farmers turned to alternative crops that could fetch higher prices.

Warfare

- In addition to the famine, a series of wars broke out between 1337 and the late 15th century. These conflicts were different from those earlier in Europe's history.

- Most medieval wars consisted of infrequent battles between small armies drawn mostly from the elites in society, and they were waged primarily during the summer. Knights fought these older medieval battles, and the general population was not too troubled by them, for the most part.

- By contrast, the wars of Western Europe in the 14th and 15th centuries saw armies engaged in multiple campaigns that made battlefields out of farm fields almost every year. And, as soldiering became a professional occupation at the end of the Middle Ages, the prolongation of war was in the best interest of its participants.

- The new professional class of soldiers was often either badly compensated or unpaid, so that individual warriors and combatants were forced to live off the countryside, taking what they needed to survive from the farms of the region.

- The regular destruction of crops and the effects of the destruction of mills and barns—not to mention the pillaging of soldiers—became common throughout the Middle Ages. The countryside bore the brunt of these armed skirmishes.

- Further, the systematic destruction of aristocratic wealth during periods of war became a military tactic by the 14th century. If the loss of life resulting from war wasn't bad enough, this destruction of agricultural wealth could significantly alter the rural economy, particularly when it occurred over prolonged periods of time.

- The best-known example of this new kind of devastating warfare was the conflict between the kings of England and France known as the Hundred Years' War (1337–1453). Although the war was not continuous, military campaigns were fought off and on much of the time.

- Northwestern Europe wasn't the only part of the continent to be ravaged. Civil wars also tormented the Italian peninsula, and the German lands descended into political turmoil. In addition, revolts and insurrections in the countryside exacerbated the situation.

- As the first half of the 14th century drew to a close, much of Europe had experienced successive waves of poor harvests and famine. The population was further beaten down by warfare on a large scale and civil strife over large areas of the continent. Then, seemingly out of nowhere, the plague arrived.

The Black Death

- About 10 years after the Great Famine struck Europe and just as the battles that led up to the Hundred Years' War were getting underway in Flanders, a devastating plague emerged in the south of China.

- Estimates suggest that by 1351, China had lost between one-half and two-thirds of its population to plague. Rodent fleas transmitted the sickness from its point of origin in the mountainous central Asian steppes, which had regular commercial interactions with southern China, thanks to the Mongols. Rodents—and their fleas—made homes in the warehouses and transfer stations all along the trade routes of the Silk Road that crossed Central Asia and linked east and west.

- The plague reached the Mongol outposts on the shores of the Black Sea by 1345. In 1346, the khan of the Golden Horde of Mongols was preparing to attack the Genoese trading post in Kaffa. By the time of the siege of Kaffa, the Mongol army had become infected with the plague and spread it to the Genoese colony. When the Genoese left Kaffa, they

For many in late medieval Europe, the prophecies of the Book of Revelation were evident with the outbreak of the plague.

brought the plague with them. Once the ships carrying their deadly cargoes departed for the busy commercial ports of the Mediterranean, there was no stopping the disease from spreading.

- The Black Death was actually three forms of plague: bubonic, pneumonic, and septicemic. Of these, the bubonic plague was the most common form. Although it is the least toxic of the three types of plague, it still kills 50 to 60 percent of its victims.

- Constantinople was the first stop the Genoese ships made on their way home. Once infection passed to the busy port there, it was easily transmitted along the maritime trade routes to North Africa and the Middle East and, of course, to port towns in Sicily and Italy. It spread rapidly throughout the Mediterranean.

- Although the plague moved quickly along the sea routes, it also traveled overland. City rat populations intermingled with country rats and shared their infected fleas. More commonly, livestock could provide a host for fleas, and herds were often driven from town to countryside, then to other towns.

- The Black Death came through the passes in the Alps to Germany, across the Rhine from France and Holland, and throughout Europe. France was probably the most populated country in Western Europe in the 14th century. The plague entered France via the Rhone River valley trade routes. It arrived in Paris in 1348 and, at its peak, killed about 800 people a day.

- The Black Death is best documented in Britain, where is it believed to have arrived on ships from Gascony. It reached London in September of 1348. London suffered from extremely poor sanitation, allowing the plague to ravage the city for almost two years. It killed roughly 40 percent of the city's population before abating.

- Eastern Europe was struck not as violently by the plague as was Western Europe. By 1351, when the Black Death was moving east along the rivers

and through the Baltic, the epidemic was two and a half years old. It is possible that by then, the underlying bacteria had mutated into a less virulent strain. But geography might also have played a role. Bohemia (the modern Czech Republic) is ringed by mountains on its western and northern borders and was not a major commercial center.

- However, the plague struck hard in the Muslim world. It hit Alexandria in Egypt in 1347—almost certainly introduced by Italian merchants from the Black Sea. Plague broke out in Cairo by autumn 1348. Some sources suggest that by 1349, one-third of the total population and perhaps 40 to 50 percent of the urban population of Egypt had died.

Economic Effects of 14th-Century Disasters

- The disasters of the 14th century had long-term effects on much of the world. Not only was population reduced in a horrifying way all across Eurasia, but the devastation and social turmoil also resulted in a restructuring of society and economy.

- The plague was a devastating phenomenon and should not be minimized. But the associated troubles that bore down on Europe, including famine and persistent warfare and civil strife, resulted in a different and perhaps more resilient economy from what had existed during most of the Middle Ages.

- Before the Black Death, Europe's agricultural land was overburdened. With the farming technologies of the time, population could not grow unless more land was brought under cultivation. The number of people that a household could support was limited by the amount of farmland available.

- As we have seen, any decrease in production put enormous stress on the population and made untenable the feudal system, in which serfs were bound to the land. Once the plague wiped out large percentages

of the rural population, this stress was reduced. As demand for land decreased, its value dropped.

- But the value of labor to work the land increased. The old equilibrium, where labor was cheap and land dear, was turned on its head in the matter of only a few years.

Suggested Reading

Aberth, *The First Horseman*.

Herlihy, *The Black Death and the Transformation of the West*.

Questions to Consider

1. How do explosive changes in the environment lead to economic disruption?
2. What kind of effects does epidemic disease have on the function of an economy?

Late-14th-Century Guilds and Monopolies

When population falls to the degree that it did in Europe during the Black Death years of 1346 to 1353, several things happen. First, the amount of farmland brought under cultivation drops. Second, the price of grain falls because of a decrease in demand. At the same time, wages rise as the number of available workers decreases. In other words, the demand for labor increases, forcing up its price. Other results include a drop in land value and, perhaps, in the cost of nonagricultural goods. We'll look at all these factors in this lecture.

Effects of Population Decrease on Agriculture

- Although the amount of farmland under cultivation decreased in the aftermath of the plague, such reductions were tempered by the fact that peasant families who had been forced to make do with smaller holdings before the demographic crisis often took over the vacant lands of their fallen neighbors. Thus, although the amount of land being farmed decreased overall, many peasants increased the size of their holdings. Even the gentry and larger landed farmers sought to increase their holdings in the wake of depopulation.

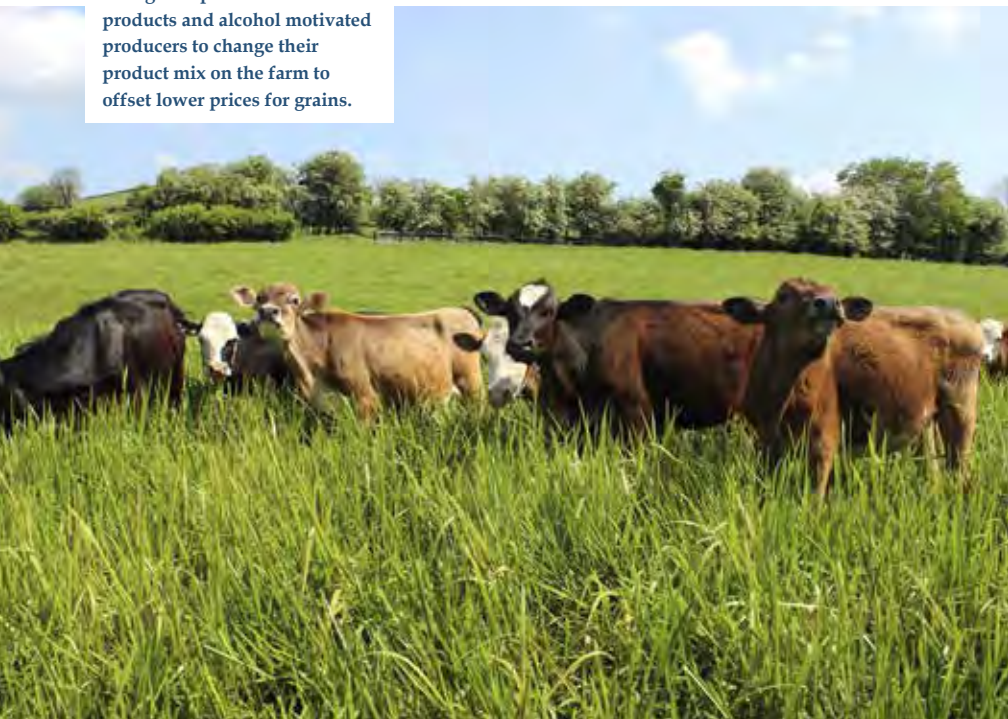
- The populations in the towns and cities of medieval Europe declined even more than in the countryside. For example, modern estimates suggest that at least half the population of Florence died during the plague. Data suggest that the number of urban areas decreased in many parts of Europe as a result of the plague, but the number of urban areas with large populations actually increased. In other words, a kind of consolidation of urban areas seems to have occurred.

- The population of Europe finally rebounded, but it took about 150 years, or until about 1500, to return to pre-plague levels. The changes to the society and economy during the intervening decades were profound.

- The lives of European peasants living in the countryside improved in the years following the Black Death from what they had been before the plague struck. But that doesn't mean there weren't ups and downs in the agricultural sector. In general, there was a tendency for the price of grain in Europe to fall over the course of the 14th century and into the 15th. But there were still wild fluctuations.

- Amid a broader decline in the prices of grain and other agricultural products, the prices of butter and cheese—as well as beef—remained fairly high and even increased. This reflected a higher standard of living after the plague as a result of rising wages.

In the wake of the plague, the strength of prices for animal products and alcohol motivated producers to change their product mix on the farm to offset lower prices for grains.



- The wages for agricultural workers also increased at a time when other prices were declining. In some places, the costs of agricultural labor increased by as much as 40 to 50 percent during the first decades after the greatest population losses and continued to increase throughout the 15th century.

Post-Plague Conditions in the Countryside

- In many respects, the farmer's mentality remained much as it always had been. Rather than decreasing production to tighten supply at a time of falling grain prices, farmers tended to expand cultivation instead. This made sense to them. Prices fluctuated, but all producers had fixed expenses, and the only way farmers knew to make more money was to grow more crops. The result, of course, exacerbated the decline in prices.

- But producers were also sensitive to market conditions. When circumstances permitted, many producers shifted some of their energy to higher-priced products. For example, records survive for some large-scale producers in England that show them feeding food crops to cattle, which were fetching a high price now that consumption of beef was on the rise.

- Social changes also occurred in the countryside as a result of the Black Death and the related crises of the 14th century. The most important change concerned the rights and freedoms of peasants.
  - As their costs increased, manorial lords who became indebted often turned management of their estates over to peasants in exchange for rents. This shift began the trend toward the elimination of serfdom.
  - Always in need of cash, the lords enforced traditional customs that required peasants to grind grain in the lords' mills and bake bread in their ovens for a fee. But over the course of the next few centuries, these vestiges of serfdom would also disappear.
  - Such changes didn't occur without resistance. In the decade or so immediately after the Black Death, manorial lords attempted to shore up or even reimpose servile obligations on peasants or to

freeze wages to pre-plague levels. But peasants were in a much better bargaining position now that labor was scarce. They were able to force lords to increase wages, lease land to them, and grant them greater freedoms.

- When the lords wouldn't give in to peasant demands, revolts ignited in the countryside. In 1358, peasants in northern France rebelled against lords who attempted to reimpose servile dues. The rebellion was violent, and the revolt was quashed by royal armies only after the peasants tortured hundreds of nobles and burned their castles.

Urban Responses

- Even before the crises of the early 14th century, European cities had been unable to achieve population growth through natural increase. As a result of poor sanitation, pollution, wars, and occasional food shortages, the urban death rate almost always outstripped the urban birthrate. Cities had to rely on immigration to maintain and grow populations. Thus, cities suffered even more from the population decrease of the plague than the countryside did.

- This problem was mitigated somewhat because the rural poor often moved to cities in the immediate aftermath of the plague, looking for better-paying work. Unfortunately, there wasn't much work in the cities for the rural poor, who were almost always unskilled manual laborers. Cities were sites of craft production that needed a skilled workforce with years of apprenticeship training.

- Those immigrants who were skilled were another matter. In some cities, craftsmen made up almost 30 percent of the new residents. And in cities involved in long-distance trade, as many as half the immigrants were merchants, shippers, or otherwise connected with trade.

- Citizenship rules varied across Europe, but in general, individuals could be enrolled as citizens after residing in a place for a certain length of

time and meeting certain requirements, such as employment status or a degree of wealth. Because of the benefits that accrued, immigrants sought citizenship whenever they could. The rural poor, however, were rarely enrolled as citizens and sometimes were even barred from taking up residence in cities.

- The upshot was that in the half-century after the plague, immigrants—whether citizens or permanent residents—made up a large, or even a dominant, element in urban society. It was not uncommon for the entire power structure of a city to change over the course of a few generations as immigrants displaced more established residents.

- Power struggles between these new citizens or between new citizens and more established families often resulted in uprisings against the town governments. The worst of the urban rebellions occurred at the end of the 14th century and into the early 15th century. The most famous was the Ciompi uprising in Florence in 1378.

- In the end, the urban revolts had the effect of increasing the participation of guild members in town government, while continuing to exclude lower-status workers. In contrast, the wealthy elites of the cities—whether they were members of the guilds, old family patricians, or wealthy merchants—succeeded in maintaining power.

Monopolies

- The real winners from the social upheavals in the cities after the Black Death were urban elites, who increasingly controlled production and trade in a wide array of products and manufactured goods that were high in demand as wages were rising across Europe.

- By the end of the 14th century, the new economic policies that developed in urban areas, whether they were instigated by the newly dominant craft guilds or by patricians and merchants, were primarily concerned with protecting and preserving one town's position in relation to other towns.

- In the aftermath of the Black Death, towns sought to regulate economic activities in ways that were perceived to protect the ruling classes. In general, the economic policies that towns adopted tended to be monopolistic, exclusive, and anti-alien. They were most favorable to the merchant elite but often served as a compromise between the merchants and the craft guilds.

- Rather than being broadly applicable, regulations developed after the Black Death were narrow, specific, and protectionist. Although they might strike us today as being counterproductive, they are understandable. They were born out of crisis and reflect the self-interests of those in control of the urban power structures.

- As mentioned, there was some consolidation among urban areas in the decades after the Black Death. Town leaders were well aware that this was going on and thought, rightly, that towns grew only at the expense of others.

- The large commercial towns, such as London, Ghent, Paris, Cologne, Florence, and Venice, were in a league to themselves. These cities did all they could to maintain their privileged places, while smaller towns fought hard to carve out identities for themselves.

- The most effective way to do this was to establish monopolies. Monopolies were granted by the ruler: Town councils granted monopolies to guilds or merchants; regional lords might grant monopolies to towns; royal or imperial governments might grant monopolies that had wider repercussions, such as the right to hold a fair or to collect tolls.
  - Monopolies in 14th-century towns took many forms. The craft guilds, for example, exercised monopoly control over production of certain products by restricting admission to the guild, establishing quality controls, and sometimes setting minimum prices and types of materials.

- The towns themselves could exercise monopoly control over the trade in certain products. Ghent, for example, held the right to the grain trade in Flanders. This meant that all grain imported or exported had to go first to Ghent for sale.

- Monopolies, whatever form they took, were established to protect local industry. They might be instituted to prevent perceived competition from distant cities or to crack down on nearby production.

- Obviously, monopolies are protectionist. Large cities needed to interact with one another because the cities were rarely self-sufficient, and none attempted to consume all the products it produced. This meant that foreign merchants were a fixture in the towns of late medieval Europe. But the towns developed policies that sought to keep as much production, income, and trade as possible in the hands of their own merchants and to closely regulate foreign trade. These policies were remarkably similar across Europe.

Suggested Reading

Huppert, *After the Black Death*.

Questions to Consider

1. How might society be affected be a dramatically lower population?
2. What problems would develop with a smaller workforce?

European Discovery Routes: East and West

As we all know, Christopher Columbus made his famous voyage to find a sea route to potential trade riches in Asia—a route that would allow Europeans to bypass the Muslim-controlled Middle East, with which Spain was at odds. But why take the risk? What would Europeans gain by reaching Asian markets by sea, when traditional routes through the Middle East had supplied the modest European demand for Asian luxuries for centuries? For that matter, what constitutes a "luxury good"? And what difference did this exploration mean to the European economy? Answering these questions requires us to look at a variety of geopolitical factors, beginning in the late 14th century, and ways that cross-cultural contact affected ideas about trade.

Early Atlantic Exploration

- The fact that Portugal took the lead in Atlantic exploration is curious because it was a poor kingdom on the fringes of Europe. But it is situated on the extreme western edge of the continent, bringing it close to the North African coast. And it was Portuguese aspirations in Africa that prompted early Atlantic voyages.

- Even earlier, in the 1300s, the Genoese—with their Mediterranean orientation—were looking for ways to cut into rival Venice's trade with North Africa. The Genoese established commercial and financial relationships with Portugal and began limited joint naval expeditions. The Genoese also had commercial outposts in North Africa and likely encouraged Portuguese aspirations there.

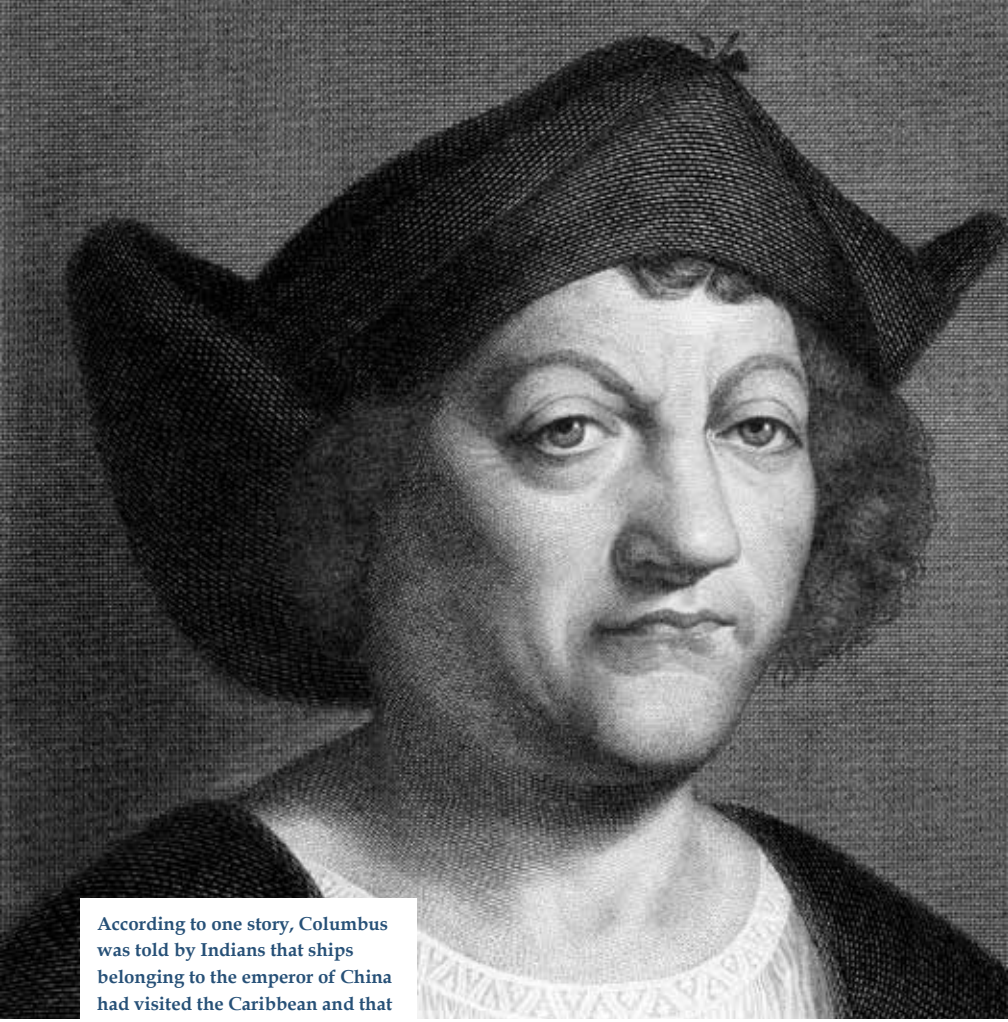
- In 1415, the Portuguese attacked and conquered the North African city of Ceuta, in Morocco, just across the Strait of Gibraltar from Spain. Ceuta was the terminus of the West African trade routes that brought gold, slaves, and other goods to Morocco. This new possession became profitable for Portugal and marked the beginning of a series of Portuguese incursions into Morocco.

Cultural Contact

- Bartolomeu Dias eventually discovered the route around Africa in 1488, though he turned his ship back rather than continuing to India. The voyage would have to wait 10 years, until Vasco da Gama made his famous passage. In the intervening years, the Genoese mariner Columbus convinced Queen Isabella of Castile to sponsor his speculative trip west to reach Asia.

- Both of these voyages—Columbus's discovery of America and da Gama's expedition to India—brought people from different cultures together in ways that were unusual for their time.
  - Although it is true that merchants had been trading goods the length and width of the Eurasian and African landmasses for millennia, this was most often done through multiple transactions, passing through many people.
  - It was unheard of for a merchant from, say, China to travel with his goods all the way to Venice, to say nothing of contact between the Old and New Worlds. Thus, when Columbus first interacted with the natives of America and da Gama tried to make sense of the advanced civilization of western India, their worlds, in a sense, collided.

- After his landing in October 1492, Columbus explored the Caribbean for a couple of weeks, aided by Indian guides. He believed that he was only about a 10-day trip away from mainland Asia, although it's not clear how he got this idea. But Columbus was also interested in establishing trade relations with what he thought were islands off the coast of China.



According to one story, Columbus was told by Indians that ships belonging to the emperor of China had visited the Caribbean and that he was only about 10 days away from mainland Asia.

He spent two months exploring the islands, all the while looking for signs that he was close to mainland Asia.

- On Wednesday, December 26, 1492, Columbus met with an Indian chief aboard one of his ships when a canoe approached bearing some pieces of gold that the natives wanted to exchange for a bell. By this point,

it had become clear that the Spanish really wanted the yellow ore—a useless ornamentation as far as the natives were concerned. Whether he knew it or not, Columbus had sailed into a region that was far outside the existing world system of trade as known to Europeans.

- Vasco da Gama, in contrast, was well aware that he was attempting to open direct commercial relations between Europe and India. But even this knowledge didn't truly prepare him for what he would find. He had stopped at several East African ports along the way, where he had some contact with Muslim merchants who were recognizable to him. But India was another matter.

- Da Gama's interaction with the ruler of Calicut and his staff is instructive. On his second visit to the ruler, da Gama was expected to present gifts. He planned to offer what he thought was an acceptable array, but the ruler's agents laughed at the cheap wares.

- Da Gama's fleet had only a paltry cargo of trade goods. They were fine for commerce in the less-sophisticated West African ports, but the value of the goods was low. Nevertheless, da Gama bartered some of his goods for spices with the local merchants of Calicut. The limited quantity of spices he brought back was so valuable in Europe that when sold, it covered the expedition's expenses and made a substantial profit.

Later Adventurers

- Soon after da Gama, adventurers from other European countries looked for ways to establish direct trade with Asia, too. This wasn't an easy proposition. Portugal had no intention of broadcasting what it had learned over a century of trial and error about the route to Asia.

- It was easier for Europeans to follow Columbus's route than it was da Gama's. Columbus had pitched his idea to the rulers of both France

and England; thus, his enterprise was fairly well known in the capitals of Western Europe.

- Most of the earliest adventurers who sailed to the Americas were trying to find the westward route to Asia. These explorers included John Cabot, an Italian who sailed for England and discovered parts of North America in 1497; Giovanni da Verrazzano, another Italian, who explored North America's mid-Atlantic coast in 1524; and Jacques Cartier, a Frenchman who explored parts of Canada in 1534.

- The one who actually succeeded where Columbus and others had not was Ferdinand Magellan, the Portuguese explorer who sailed for Spain in 1519. Though he didn't survive the voyage, his ship was the first to sail around the world.

- Such voyages were important, but they didn't result in opening westward trade routes to Asia. Thus, for the time being, Portugal had a lock on the water route to Asia.

- Once the Portuguese discovered the new passage to India, Northern Europeans began to consider how they might make it to Asia, as well. Though many Europeans followed the Spanish in their attempt to reach Asia by sailing west, this did not stop them from seeking an eastward passage. The English, for example, considered that two possibilities existed to reach Asia. One was the supposed northwest passage (around or through North America). The other was a northeastern passage (around Asia) or over the North Pole itself.

- An Englishman, Sebastian Cabot, bet on the second route, but his voyage ended with mixed results. Two of the three ships became trapped in sea ice on the return voyage, and all the men were lost. The third ship reached the mouth of the Dvina River in the White Sea; its success in reaching Russian territory led to direct trade with England.

- Although other mariners would attempt the northeast passage in later years, Europeans realized that they had only two choices in their desire to reach Asia. They could sail east around Africa or head west as Columbus had done. Both options were pursued, but it became clear that the route around Africa was the more successful.

- By this time, the Portuguese had been sailing to Asia for roughly 100 years along routes they kept a closely guarded secret. Probably the greatest boon to Dutch aspirations in oceanic trade was the information obtained by Jan Huyghen van Linschoten, who secretly kept notes about his voyage to India in a Portuguese ship. His published account included detailed nautical information necessary for a successful voyage from Europe to Asia around the Cape of Good Hope.

- The earliest Dutch voyage to the East Indies departed the Netherlands in April 1595 under the leadership of Cornelis de Houtman. Within months, several Dutch fleets had sailed to the Indies, launching a new chapter in the trade between Europe and Asia. By the end of the 16th century, the Portuguese were vying with the English and the Dutch for primacy in Asian waters.

Chinese Explorations

- Some people have asked why Asians—specifically, the Chinese—didn't succeed in discovering a sea route to Europe. China sent out several maritime expeditions in the first half of the 15th century, and these were much larger than Europe's expeditions to Asia. But they didn't result in the kind of global trade network that European expansion did because the motivations for these voyages were different from those of the Europeans.

- China's relationship with the sea was probably as old as Europe's. And technologically, the Chinese had developed larger and better ships than

the Europeans. But the impetus for Chinese seagoing voyages on a large scale was the dissolution of the Mongol Empire and the rise of the Ming dynasty toward the end of the 14th century.

- Isolated from the rest of Eurasia, the Chinese emperor sought a way to project Chinese power and turned to the sea for his solution. He planned to build a massive shipyard at Nanjing (Nanking). Over the following decades, a new emperor came to power, and he appointed a trusted servant, Zheng He, to lead the planned maritime expeditions.

- Zheng He's first voyage of 1405 was a massive undertaking. It consisted of 62 large ships and probably 100 smaller vessels. The fleet was manned by roughly 25,000 men. This fleet sailed first to Vietnam, then across the Indian Ocean to Calicut, where the ruler presented valuable gifts to Zheng He. On the way back, the fleet sailed through the Strait of Malacca and established a base there, which it used on later voyages.

- Zheng He commanded several more voyages over the course of almost 30 years. But unlike the Portuguese, who were trying to establish trade relations, the Chinese were engaged in an exercise in power projection. Everywhere Zheng He landed, he established tribute relationships with the local rulers.

- Zheng He died not long after his return from a final voyage in 1433. When a new emperor came to the throne as a child in 1435, the court officials—unwilling to continue the expensive explorations—ended them once and for all. The logs of Zheng He's voyages were destroyed. The conclusion of Chinese voyages occurred at just about the same time as the Portuguese were beginning their explorations down the coast of Africa, which within 60 years would open the route to Asia.

Suggested Reading

Abu-Lughod, *Before European Hegemony*.

Phillips and Phillips, *The Worlds of Christopher Columbus*.

Questions to Consider

1. What prompted Europeans to search for a new route to Asian markets?
2. How does culture (and cross-cultural contact) affect trade?

1571: Spain, Portugal Encircle the Globe

By 1500, the two Iberian kingdoms of Portugal and Spain had succeeded in opening up a world of possibilities for the backwater European economy to potentially take the lead on the world stage. But their different spheres of influence—Asia for Portugal and the Americas for Spain—required different approaches to ensure success. Portugal had obtained a stranglehold on the European route to Asia under the 1494 Treaty of Tordesillas, through which the pope settled a dispute between the two nascent sea powers by dividing the world, and all of its undiscovered territories, between them. Portugal quickly needed to develop a strategy to capitalize on this development.

Portuguese Voyages to Asia

- The earliest Portuguese voyages to India by Vasco da Gama and others were led by nobles who were more accustomed to war than to trade. Following da Gama's first voyage to India, others led expeditions to Asia. These men were interested in building up Portuguese power in Asia, often instead of building lasting commercial relations. Their strategy could be characterized as a policy of trade where possible and war where necessary.

- Growing out of this was a tendency to establish forts in Asia and to maintain a permanent fleet of ships in the Indian Ocean to dominate key trade routes. It was clear from the beginning that Portugal could not hope to establish land-based colonies amid the advanced economy and heavily populated interior of Asia.

- Even before the Portuguese crown established a viceroyalty to supervise trade in the Indies, the early commanders were prepared for war. In particular, da Gama faced various difficulties with the ruler in Calicut.

- Da Gama and the leaders of subsequent expeditions found that they had nothing the Indians wanted in exchange for Asian pepper and spices. Not to be deterred, the Portuguese entered into a triangle trade between Lisbon and Cochin, with a third location on the coast of West Africa, where they could obtain gold—something the Indians would accept for their pepper.

- By the turn of the 16th century, the Portuguese had jumpstarted trade in African slaves and gold along the West African coast. The participation of the Portuguese crown was paramount. The trade in precious metals and spices between Portugal and Asia was a crown monopoly, with some private interests represented.

- The Portuguese kings were able to monopolize trade with the Indies from the beginning because the crown had taken the lead in financing early voyages. Shipments of valuable commodities had to be protected by fleets organized with royal ships or merchant ships operating under royal rules.

- Portugal's spice trade—mostly pepper—far exceeded anything the small country could consume on its own. Thus, once back in Lisbon, spices were sold on contract at the markets of Antwerp. The crown monopoly lasted until the mid-1560s, when the crown sold contracts to private parties to trade with the Indies. By the 1570s, the pepper trade was finally free to all merchants, who nevertheless were subject to the import tax.

- Toward the end of the 16th century, the English and Dutch began to break the Portuguese monopoly on trade with India and, in so doing, ushered in an age of European hegemony.

Asian Responses to Portuguese Intervention

- The Portuguese had made their first visit to the coast of China in 1513, and in 1520, a Portuguese envoy traveled to Peking to establish formal trade relations. The envoy failed miserably. The Portuguese tried again in about 1521, but they failed again, and this time, the result was an imperial edict banning all trade to foreigners.

- The Portuguese might have thought they could force their way into the Chinese trade by using their cannons, as they had in the Indian Ocean. But they met their match with the Ming navy, which repelled a Portuguese attack in 1522.

- At the same time, however, Chinese officials in Canton recognized the benefits trade could bring, especially once the Portuguese began to control almost all long-distance trade in the Indian Ocean and the Strait of Malacca. The Chinese were forced to find a way to allow trade without harming the kingdom. The solution fit right into one of the Portuguese strategies for commercial dominance in the region, which included establishing trading forts at key points in the Indian Ocean and the Indies.

Later Portuguese Trade in the Indies

- The first Portuguese viceroy in the Indies, Franciso de Almeida, was particularly keen on building forts to establish dominance over commerce in the western Indian Ocean. Initially, the main reason for this was less about trying to control the spice trade in the Indian Ocean than it was about disrupting the spice markets of the Levant, which would be a blow to the Muslim middlemen.

- After the Portuguese succeeded in securing the sea route to India, the Venetians sought to ally with Muslims to ensure that spices would continue to flow into the eastern Mediterranean. The strategy of Almeida was to keep spices away from the Levant, forcing shipments to Europe into Portuguese ships.

The Chinese had a long history with gunpowder and rockets, and once they learned Portuguese techniques for making and using cannons in battle, the process was easy to copy.

- Shipments of pepper and spices through the Levant plummeted during the first 10 years the Portuguese were active in the Indian Ocean. Almeida's successor, Afonso de Albuquerque, continued this strategy of creating strongholds for the Portuguese but also introduced a more centralized administrative structure.

- Although the first phase of Portuguese involvement in Asia focused on military concerns in the western Indian Ocean, commercial concerns gradually became more important in a second phase. Two processes were put in place.
  - First was the development of the *carreiras*, or crown trade routes, which linked important commercial ports. Second, and perhaps more importantly, was the *cartaz*; this was a license that exempted Muslim traders and ships from seizure or destruction.
  - In the crusader mentality of the age, Muslims were seen as enemies of all of Christendom and subject to harassment.
  - The fee for the *cartaz* was not particularly onerous, but it required ships to stop at a Portuguese-controlled port, pay a tax, and stop again on the return trip. This process meant that the Portuguese had to establish a series of trade fortresses around the Indian Ocean and in the East Indies.
  - Once they had established forts at Hormuz and Malacca, several ports in India allowed for a fairly comprehensive system. But the Portuguese never had the ships or the manpower to put a lock on all Indian Ocean trade, much less to establish a land-based empire in Asia.

- In any event, the route through the Red Sea remained outside of Portuguese control, allowing for a significant quantity of Asian goods to make it into Mediterranean markets. Quite probably, even this degree of success might not have come to the Portuguese if it hadn't been for a political rivalry within India.
  - The Portuguese entered this rivalry by playing the rulers off each other, all the while siphoning off trade to their own forts.
  - But the Portuguese could extract only so much in taxes because of their incomplete control over the sea lanes. And how were

they to reward the minor nobility, who were geared to war and advancement?

- The solution was for the crown and its officials to promote the opportunity to plunder. This set Portugal on a violent course, focused on shipping that was unlicensed under the *cartaz* system and on vulnerable territories.

- There was a limit to this policy. The largest Asian states—the Mughal Empire of India and Ming dynasty China—could easily repel any Portuguese assault. But weaker states in Africa, such as Mozambique, or Sri Lanka in Asia, could be conquered—at least partially. It was only when these strategies failed to allow for sustained growth that the Portuguese had to enter Asian trade alongside the existing commercial structure rather than trying to disrupt it for short-term gain.

Activities in Spain

- In Asia, the Portuguese were attempting to fit themselves into an established trade network. On the other side of the world, the Spanish were searching for a network that would prove elusive to identify and integrate with.

- Although Columbus's voyages showed that it was possible to sail west across the Atlantic, it became clear to those mariners who followed in his wake that they had not landed anywhere near Asia. Rather, the land Columbus reached was a new continent, named after the Florentine explorer Amerigo Vespucci.

- The earliest officials Spain sent to the Americas were not merchants but members of the minor nobility. These were the *conquistadors*, who brought the Americas under loose Spanish control and allowed Spain to exploit the resources of the New World to the Europeans' advantage.

- Spain sent no armies to the Americas and did not engage in any systematic war of conquest. Rather, control of large sections of the

Americas was possible because the crown granted *encomiendas*, or land trusts, to the adventurers who went to make their fortunes.

- After 1492, hundreds of thousands of Spaniards left Europe for settlements in the New World. Trade between the Americas and Spain revolved around the exchange of American gold for European food and manufactured goods. By the middle of the 16th century, a variety of other goods entered the trade flows across the Atlantic, including dyes and precious metals.

A Global Trade Network

- The Portuguese and Spanish crowns continued to seek increased wealth, but the situations in these two parts of the world required two different strategies.
  - In Asia, the Portuguese found sophisticated commercial networks that could be exploited through harassment, plunder, and taxation.
  - In the Americas, no commercial networks existed for the Spanish to tap into. Yet because the Spanish in the Americas required some kind of compensation for their service, the *encomienda* allowed for the exploitation of indigenous workers to enrich settlers and—by extension—the crown.

- Thus, by the middle of the 16th century, Europeans were involved in several economic regions around the world. As we've seen, the Portuguese had inserted themselves into the economies of the Indian Ocean region. The Spanish had located a more unfamiliar land mass and economic organizing form in the Americas, and they were actively engaged in consolidating their power there.

- We can't really say that a global economy had developed by this point. But by connecting the economies of Europe, Africa, and part of Asia—by linking slaves, gold, and spices—the Portuguese were coming close to creating a global trade network. A few years hence, Spain would begin

the creation of a more established network, continuing throughout the 16th century.

- Scholars now usually date the beginning of a global trade network with the Spaniards' founding of Manila in 1571. Here began what scholars Dennis Flynn and Arturo Giráldez characterize as "substantial, direct, and continuous trade between America and Asia."

Suggested Reading

Gunn, *The First Globalization*.

Subrahmanyam. *The Portuguese Empire in Asia, 1500–1700*.

Questions to Consider

1. How did Europeans divide up the world following the great voyages of discovery?
2. In what ways did the European experience in America differ from the experience in Asia?

Lecture 8

Old World Bourses and Market Information

The new joint-stock companies of the 17th century provided merchants with previously unimagined opportunities—and challenges—as they sought information about trade in all parts of the world. The success of these early-modern merchant firms depended on their ability to communicate with their overseas agents, and the need for up-to-date information was a perennial concern. Thus, large joint-stock companies—such as the East India Companies—increasingly relied on representatives abroad to provide actionable market information. These reports were used for a variety of reasons, but they served the important purpose of explaining institutions to people who otherwise would have been ignorant of the rules of the game.

Changing Institutions in Early Modern Europe

- The joint-stock company, such as the Dutch and English East India Companies, was one of several new organizational forms to emerge after the European Middle Ages. This type of company would not have been possible without important changes to the institutions of early modern Europe.

- One such change was the transition to a modern landowner-tenant relationship from the medieval lord-serf relationship. Another was the introduction of written laws from the older practice of adhering to customs and traditions. Laws increasingly came to define property rights; in fact, the whole concept of private property represented an institutional change.

- Social relationships embodied by guilds and their monopolies were another way to organize production that put great value on status-based relationships. Guilds initially reduced transaction costs. Medieval trade fairs offered merchants some security and a rational system of monitoring payments. And fairs worked alongside, not against, merchant guilds.

- But during the 15th and 16th centuries, new processes replaced many of the functions that had made merchant guilds, and even the fairs themselves, attractive. Although merchant guilds remained effective at decreasing some transaction costs, they also perpetuated institutions that increased the costs of doing business.

- The fact that merchants did not simply abandon the guild structure once new and more efficient institutions came into being is problematic for theorists working in institutional economics. Why did merchants persist in these associations? One answer is that in some early modern commercial cities, procedures that had been put in place to meet the needs of the guilds provided non-guild merchants with many benefits, as well.

- Once the institutional climate had developed to the point that guild membership worked against commerce, many new ways to organize became increasingly common. The new institutions that developed in this environment provided for such organizations as bourses and exchanges, along with such practices as the use of witnesses and other information-seeking strategies to reduce commercial risks and transaction costs.

- After about the year 1500, new institutions developed to provide merchants with the same benefits as guild membership but at a lower cost.

Commercial Innovations

- Let's now turn to some of the innovations that resulted from the new institutions that transformed early modern European commerce. To

do this, we'll focus on the city of Antwerp in modern-day Belgium, a commercial powerhouse in the 16th century.

- The most important locations for trade in Antwerp were places where merchants regularly assembled to consult one another concerning merchandizing, shipping, buying, and selling. To meet this need, merchants of a city or region met in physical places, such as the Piazza of Venice, the bourses of Bruges and Antwerp, and at the Exchange in London.

- The origin of the exchange is an excellent example of how negotiated public spaces became essential commercial institutions.
  - An informal exchange—actually just a gathering place on an important street—was first established in Antwerp during the 15th century, following the earlier model of the Bruges bourse. By the opening of the 16th century, with the large number of merchants coming to trade in Antwerp, an informal gathering place along the street was becoming unsatisfactory, and the city's merchants searched for a solution.
  - The city's first exchange building was constructed in 1515. Now, the merchants had a dedicated place in which to conduct their affairs. This was still a public place, but it afforded the merchant community a place to withdraw from the bustle of the town.
  - Within a decade or so, the first bourse building was already too small to accommodate all the merchants dealing in the city, most of them foreign wholesalers. Thus, a new bourse was built in 1532.

- The *panden*, or various specialty markets, served a different function for merchants trading in Antwerp. The *panden* of the city operated with set days for trading. Although the *panden* were set up to follow the existing cycle of fairs, as the 16th century wore on, they began to remain open year-round. This break with the fair cycle is a good indication that institutions and the rules of the game were changing over the course of the century.

- Making deals was only one part of the commercial process. Once merchants made their agreements, they needed to ship their goods to

In its earliest form, the exchange or bourse was a public space; later, the practice of large numbers of merchants trading in informal gathering spaces became unsatisfactory, and structures devoted to trade were erected.

home markets. For this purpose, the *hessenhuis* (freight terminal) was built in Antwerp in 1564.

Legal Institutions

- With so many foreign merchants, Antwerp also developed institutions that facilitated commerce between different national groups. The city was home to merchants from across Europe, who probably had differing notions of the rule of law in commercial affairs.

- Certainly, some idea of merchant law had arisen centuries earlier in conjunction, for example, with the Champagne fairs. But by the 16th century, merchants involved in international commerce needed to conform to local customs and practices as the centralizing tendencies of the state moved toward legal standardization.

- Antwerp was also home to a variety of capital markets, where merchants made loans, issued bonds, and cleared transactions. In order to make sense of the many customs and practices of its merchants and financiers, Antwerp gradually developed a legal environment that provided a formal mechanism to enforce contracts and transactions.

- Antwerp's customs or laws giving legal recourse to merchants were so liberal and so favorable to commerce that the old merchant guilds lost their ability to influence transaction costs. The costs associated with guild membership might have meant that doing business was more expensive than those for merchants who avoided membership.

- Because European and world trade was growing so fast, information was in high demand by merchants wanting to minimize the risks of making deals.
  - The need for information about goods and individuals, coupled with confusion about new and often foreign business practices, made expert testimony increasingly commonplace. To minimize and resolve disputes, merchants routinely offered testimony regarding accepted

business practices, as well as customs surrounding the manufacture and sale of goods and the reputations of other merchants.
- Many merchants began to make records of their knowledge about commercial practices, giving rise to merchant manuals, such as *The British Negociator* by S. Thomas and *The New and Complete Guide to the East-India Trade* by C. F. Gaignat de l'Aulnais.

Institutional Differences

- By the 18th century, trade in the Americas was essentially a European project. The same could not be said for commerce with Asia, despite the maritime might of the European powers. In Asia, European merchants were confronted with an ancient culture that they could not easily displace. Significant misunderstandings occurred when the two sides of an exchange understood commerce from different contexts.

- This was evident in Vasco da Gama's clumsy efforts to grease his trading opportunities in Calicut with insultingly cheap gifts in the late 15th century. But in that example, at least the two parties shared a basic understanding of the proposed exchange. The problem was more acute when no standard reference of price or value was available, as when Columbus's men exchanged trinkets for gold with Native Americans.

- In the experience of the Dutch ship *Eendracht*, the institutional differences were so great that the two sides were not even fully aware that an exchange was taking place.
  - In this instance, the Dutch encountered two groups of South Pacific islanders who stole nails, gun shot, cooking utensils, and other items from their ship. The second encounter turned violent when the Polynesians overwhelmed the *Eendracht*'s sloop, and the Dutch responded by firing their muskets.
  - The captain's account of this encounter tells us that the Dutch did not think the islanders had any skill at buying and selling. He likely came to this conclusion because from the Dutch perspective, the

items that the islanders most demanded for their foodstuffs were of little value to the Dutch, and it was the Dutch who set the terms.
- That the exchange could have been based on something other than supply and demand seems not to have occurred to the Dutch. The novelty of nails and mirrors was more than enough to entice the islanders to give up the mundane foodstuffs that the Dutch so desperately needed.

- The Dutch and the Polynesians experienced tensions when they came together to exchange goods because of fundamentally different ideas about what was taking place. The Dutch fitted these attempts into their world of merchant capitalism, while the Polynesians seem to have understood the encounter as a form of redistribution.
  - In a redistributive society, such as the Polynesians', the chief could seize the goods of others as a matter of course and redistribute them according to need, usually in the form of gifts. In this way, the society would maintain a significant degree of social and economic equity.
  - Status and power in this redistributive society, especially among the Polynesians, had much to do with a person's ability to give gifts and take the goods of others. Moreover, rivalry between individuals and groups could lead to violent confrontations when the social structure was upset.
  - The violence that followed the initial attempts of the Dutch at trade was likely a chief's reaction to unauthorized redistribution, something that challenged his status in the society. But more than this, the Dutch insistence on offering something in exchange for the "gifts" of food might have been perceived as a challenge to the chief's paramount status in society. Confrontation allowed chiefs to maintain their status in the group by challenging the rising status of Europeans as gift givers and product takers.
  - An economic system based on the power of high-status individuals to redistribute goods had little parallel in the 17th-century Dutch economy. The institutions were completely different, and the rules of the game were incompatible. The Dutch probably never considered that they were interacting in a society that did not

operate on the basis of European market exchanges. For their part, the Polynesians could very well have interpreted the attitudes of Dutch in terms that would have called into question the status of the leaders of their society.

Suggested Reading

North, *Structure and Change in Economic History*.

———, *Understanding the Process of Economic Change*.

Questions to Consider

1. What kinds of institutions are necessary for international trade?
2. How are the "rules of the game" communicated to buyers and sellers?

Lecture 9

The Europeans' Plantation Labor Problem

The European overseas experience was focused, in general, on control of trade, preferably monopoly control—not necessarily the production of goods. Thus, what Europeans faced, as they struck out across the globe and attempted to exploit various regions, was a problem of labor supply. There were a number of remedies to the labor problem, including several forms of colonization, slavery, cooperative relations with native populations, and indentured servitude. In this lecture, we'll explore where and how Europeans formed colonies; how they solved the problem of labor supply; and where, when, and how race-based slavery began.

Colonization in Asia

- The Portuguese strategy in Asia clearly focused on establishing trading posts in key areas of South and Southeast Asia. This allowed them to dominate the carrying trade throughout the Indian Ocean and, to a lesser extent, in the South China Sea. These trading posts were fortresses, not really colonies. The Portuguese who staffed them were few in number, and they expected to remain in Asia for only a portion of their lives.

- The Dutch and the English initially followed the Portuguese pattern in Asia, preferring to establish trading forts with an eye toward funneling commerce through these ports. But this resulted in more than one port competing to attract Asian goods.

- Local producers played the Europeans off one another. Consequently, it didn't take long for the various European powers of the region to engage in commercial warfare to protect what they saw as their trade privileges in the region.

- Interestingly, as the price for products increased due to high European demand, the supply did not increase. This unexpected Asian response to higher prices for their goods was the catalyst for European attempts to establish colonies of sorts in Asia.

- The Dutch had been successful in making trade alliances with several rulers in Southeast Asia, especially on the clove-producing island of Amboyna. This put them in the middle of regional power struggles and pitted the Dutch against the Portuguese—though, in reality, it took little to push the Dutch toward war with the Portuguese in Asia.
  - The Dutch always sought first to control trade through strategic forts. However, when it became necessary, they tried to control production to maintain monopoly trade. Dutch attempts to control production began in the Banda Islands, long the world's only source of nutmeg and mace.
  - The Dutch ejected the English from their trading post on the islands in 1621 and proceeded to "pacify" the islands. They did so by granting parcels of land that had previously been controlled by islanders trading with the English to functionaries of the Dutch East India Company (Vereenigde Oost-Indische Compagnie, VOC). The local residents were coerced into producing for the Dutch alone because no other European company had access to the islands.

- The Dutch continued with a semi-feudal arrangement on Java, where local chiefs were made "regents" over certain areas under VOC authority and left to govern themselves on condition that specific quantities of products were delivered to the company. The Dutch controlled commerce but otherwise left the Javanese subject to their own laws and customs. For their part, the Dutch merchants and company functionaries were under the authority of Dutch administration and laws. This produced a dual society.

Colonization in Africa

- Although the Dutch experience also produced a dual society in Africa, it was characterized by different origins and outcomes than in Asia.

- European ships occasionally landed on the peninsula of the Cape of Good Hope, in modern-day South Africa, to take on fresh water and trade with the indigenous peoples (the Khoekhoe) for cattle and other provisions.

- In 1652, the Dutch East India Company functionary Jan van Riebeeck landed on the cape with 80 company servants (employees) and instructions to build a fort to supply the Dutch fleet. This fort was envisioned as a resupply station between the Netherlands and the Dutch factories in the Spice Islands.

- Within about 10 years of van Riebeeck's landing, the cape settlement had developed into a fairly autonomous colony. First, the company released some of its employees from service and granted them land on the cape. Then, the company brought slaves to the cape to build the fort, pier, roads, and so on. Finally, as the colony expanded, local peoples were forced to leave the area or accept being reduced to the status of servants of the Dutch settlers.

- The Dutch colonial population in South Africa remained small by the outset of the 18th century. It included about 700 company employees and 2,000 settlers. It also included large numbers of slaves and native servants, on whom the Dutch relied.

- Life within the Dutch colony was marked by a high degree of social stratification. Thus, relations between the Dutch and the Khoekhoe who chose not to integrate themselves into Dutch society became tense. As early as 1659, disputes over cattle between the Dutch and the local population erupted into outright warfare. The Khoekhoe succeeded in destroying some of the colonists' farms, but the African warriors were no match for superior Dutch weapons.

- Once the colonial authorities reestablished control, they planted a thick hedge and built watchtowers around the settlement as a boundary between them and the Khoekhoe. And rather than finding a way to coerce the native population into providing labor, the Dutch began to import slaves to solve their labor problems.

- Once the Portuguese began their trade and exploration down the West African coast, merchants traded European manufactured goods for slaves and brought their human cargo back to Portugal.
  - To be clear, the Portuguese were not capturing people from the sub-Saharan African interior. Instead, they set up coastal forts and purchased slaves from local merchants. Slaves obtained at these forts were further traded on Africa's Gold Coast for gold that was eventually used in the trade with India.
  - It was the Portuguese, therefore, who opened up the slave trade in Africa.

Labor Problems in the Americas

- The Spanish were the first to solve the colonial labor problem in the Americas by coercing native peoples to work on plantations. This was the basis of the Spanish *encomienda* system.

- Early on, the Spanish crown forbade conquistadors from enslaving Native Americans; thus, coercion was the only real option. However, it was difficult to force the Indians to work, particularly those with a nomadic way of life. The labor problem was especially acute on the large sugar plantations that the Iberians established in the Caribbean and in Brazil.

- The first documented case of African slaves being imported into the Spanish Caribbean was in 1505. Although the earliest importations were done haphazardly, after 1510, an organized slave trade had been established. And by 1520 or 1530, human cargoes were being shipped directly from Africa rather than first being sold in Spain.

- By about 1525, the Portuguese were shipping African labor to Brazil to work on the newly established sugar plantations there. African slaves often made up 25 to 40 percent of the population in Brazilian sugar colonies.

- The slave trade did not remain the purview of the Spanish and Portuguese. Although the French and English attempted to supply slaves to the

Sugar plantations in the Caribbean and Brazil required a large and hardy labor force that could not be met by the Native Americans; thus, slaves were imported into the New World.

Americas outside of the Spanish system, it was the Dutch who succeeded at creating a slave trade that rivaled the Iberian powers in the Americas.

- The Dutch, like the Portuguese before them, realized that they needed a constant supply of slave labor to make the plantations profitable. The solution was to capture the Portuguese slave-trading fort of Elmina, which they did in 1637.

- Ultimately, a classic triangle trade emerged in the Atlantic. In the first leg, Europeans traded manufactured goods along the African coast for slaves that would be shipped across the Atlantic. These slaves were instrumental in producing plantation products, such as sugar, which were then shipped to Europe. This triangle trade existed in the Atlantic economy at least into the early 19th century.

Colonies in North America

- Not all European settlements needed slave labor to prosper. The practice was largely restricted to environments in which Europeans failed to adapt well: tropical and subtropical South America, the Caribbean, and southern parts of North America. In the St. Lawrence River valley, for example, the French enjoyed a friendly, mutually interdependent relationship with the Algonquian tribes in the fur trade.

- The Dutch West India Company settlement of New Netherland began on Manhattan Island when a ship of settlers landed there in 1623. From Manhattan, the Dutch settlers spread out to Long Island, parts of the Connecticut River valley, and around modern-day Philadelphia.
  - The Dutch might have hoped for an indigenous supply of laborers, but the Native Americans had no interest in working for them. The climate of this area could not readily support the plantation-style of agriculture; thus, the settlers engaged in subsistence agriculture.
  - To increase settlement, the Dutch attempted to create a kind of semi-feudal settlement pattern. But ultimately, they opened the colony to settlement from anyone. This policy shift paved the way

for an influx of English, German, French Huguenots, and religious refugees, creating a polyglot colony of farmers who produced principally for their own local markets.

- The settlement history of New England was similar, in many respects, to that of New Netherland. The settlers tended to be farmers engaging in a European form of agriculture that did not require a large labor force. Between 1630 and 1660, about 20,000 Puritan colonists migrated to North America. Although the first groups concentrated around Boston, over time, a matrix of towns formed a multi-centered New England region.

- At the end of the 16th century, the English were outfitting their colonies not only with provisions but also with animals and crop-plant seeds to sustain permanent settlements. Still, labor remained a problem, particularly in the southern colonies, which almost from the start, were established around the principle of plantation agriculture. One solution to this labor problem was the use of indentured servants.

Summing Up European Colonization

- Taking a broad view of European colonization and exploitation during the early modern period, we can see that securing a labor force was a key component of controlling trade.

- In Asia, European colonization was really a case of finding ways to get the native population of the area to conform to European ways. This required relatively few Europeans as long as the local population or local rulers saw the benefits of collaboration.

- In parts of Africa and in the subtropical and tropical regions of the Americas, Europeans turned to slaves to provide the labor necessary to exploit the regions' resources.

- But European states also established colonies by settling Europeans when conditions were such that a large and inexpensive labor force was not necessary. Nevertheless, slaves from Africa still formed a substantial portion of the labor force in the southern colonies.

Suggested Reading

McCusker and Morgan, eds., *The Early Modern Atlantic Economy*.

Questions to Consider

1. What models did Europeans have for creating their overseas colonies?
2. Why was slavery necessary (or was it)?
3. Why was there a labor problem in the Americas?

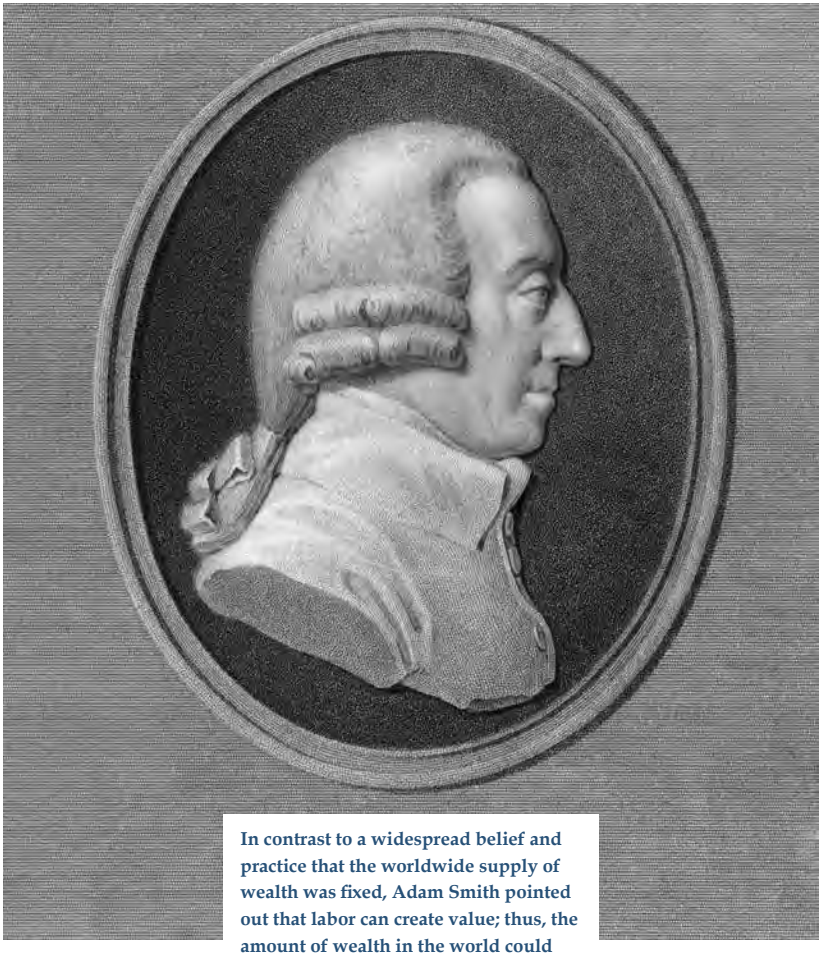
Adam Smith, Mercantilism, State Building

Adam Smith distinguished between value in use and value in exchange. He noticed that often the things with the highest use had the lowest exchange value, while the things of little use had the highest exchange value, such as water versus diamonds. He concluded that the real price of something is determined by the "toil and trouble" of acquiring it or making it—the labor required to produce and acquire goods. The point here is that determining price and value is not as simple as it might appear. This problem became clear once the various parts of the world began to come into direct contact. And at that point, when cultures collided, the world economic system began to change.

Background on Mercantilism

- Mercantilism is the government-orchestrated promotion of exports and restriction of imports to achieve a favorable trade balance. The mercantilists of the 18th century believed that economic functions would perform better if the market were regulated in a variety of ways. But Adam Smith tried to make the case for dismantling the many regulations in effect in England. To Smith, it simply wasn't the case that wealth could be achieved only by foreign trade. He favored the idea of a laissez-faire—or noninterventionist—economy.

- There were many others who, like Smith, promoted the idea that the market itself could guide the economy. Joshua Child, William Temple, and Dudley North were all notable 17th-century thinkers who fought for free exchange, rather than regulation.



In contrast to a widespread belief and practice that the worldwide supply of wealth was fixed, Adam Smith pointed out that labor can create value; thus, the amount of wealth in the world could increase by mankind's own efforts.

- What role did foreign trade have in the economic policy of 17th-century state building? Was mercantilism the driving policy at work on the 17th-century economy? Were any free-trade policies championed? To answer these questions, let's look at the character and motivation of state intervention in the economy at the time.

French Economic Intervention

- European states fell along a wide spectrum of intervention strategies. The primary reason that states regulated their economies was to increase revenue. Thus, what Adam Smith called the mercantile system is perhaps better viewed as economic nationalism.

- France was probably the best example of a country deeply committed to economic nationalism. In the early modern period, France was the most populous country in Western Europe, but its economy was rather stagnant compared to its neighbors.

- The French economy—and wealth—was based heavily on land and agriculture. It's true that France had a variety of important manufactures, but land remained the basis of societal wealth. And during the 17th century, the French state needed to dramatically increase revenue to fund its military and support the lavish lifestyle of the king and court.

- Because the crown rulers of the time had no real education or interest in economics, the job of increasing state revenues fell to state functionaries. The most important of France's state functionaries and mercantilist thinkers was the capable Jean-Baptiste Colbert, who was principal minister for King Louis XIV from 1661 to 1683.

- Colbert put in place a variety of state controls over the economy to increase state revenues, but he was never truly successful. His failure stemmed from the fact that revenue from the economy was never enough to finance Louis's wars and extravagant court life. But the blame was not Colbert's. The problem was the result of France's haphazard tax structure.

- Earlier, medieval kings had gotten the revenue they needed from agricultural production on royal lands. When the proceeds were insufficient, the king could, in times of emergency, appeal to his representative assemblies for permission to extract "extraordinary" tax revenues. By the beginning of the early modern period, many of these extraordinary taxes had become permanent.

- In addition, the king was often able to raise tax rates and impose new taxes by decree. Over the course of the 16th century, taxes had increased dramatically, and even this was not enough to cover the many military expenses of the French kings. Thus, the crown had no choice but to borrow money and sell state offices to the highest bidder.

- The kings began to use wealthy financiers known as *tax farmers* to raise revenues. Tax farmers paid a lump sum of money to the state in return for the right to collect specified taxes and the many tariffs and tolls imposed on merchandise shipped within the country and across its borders.

- Colbert wanted to reform this clunky tax system, especially by eliminating internal tariffs and tolls. But the state's need for revenue was simply too great to eliminate any of its revenue streams.

- The solution to this dilemma was to increase the efficiency and productivity of the French economy. The state began to regulate heavily, issuing decrees that governed everything from specifications for manufactured products to merchant conduct. The state also established and subsidized royal manufactories. And in true mercantilist form, the state prohibited certain exports and instituted high import tariffs for other goods.

- Colbert's goal was ambitious, but his attempts to regulate and direct the economy were not successful in the long term. The prohibitively high tariffs he instituted caused tensions with the Dutch, who were France's main trading partners. Commercial tensions between the two countries led to war in 1672, after which France was forced to repeal its prohibitive tariffs.

The Netherlands

- The Netherlands is a good example of a state that valued free trade over excessive government intervention. The Netherlands also provides a contrary example to Smith's insistence that a mercantile system was the norm in the 17th century.

- The Netherlands was politically nothing like the emerging absolute monarchy of France and a few other continental states. The Dutch government was decentralized, and the ruling class in the Netherlands was made up, for the most part, of the urban elite and merchant class, not the landed nobility.

- The fact that Netherlands—more than any other country in Europe at the time—supported free trade isn't particularly surprising, given the importance of commerce for the Dutch economy. The Netherlands was virtually tariff free for imports and exports. The taxes and tariffs that did exist were for state revenue, not to protect Dutch industries. Even the trade in gold and silver was unregulated, such that Amsterdam became the primary market for New World gold and silver in Europe.

- Outside of the Netherlands, however, the Dutch India companies did everything they could to guard their monopoly trade routes and eject from their areas of operation the commercial fleets from other countries.

Great Britain

- Great Britain provides a kind of middle example between the extremes of French economic nationalism and Dutch economic freedom.

- Great Britain experienced a number of religious and political upheavals during the 17th century but had a vibrant and growing economy. Unlike continental European monarchies, England moved away from absolutism toward constitutional monarchy. The English monarchy had the same kinds of revenue problems that plagued other monarchs of the 17th century, but its monarchs had fewer ways to bypass the legislative functions of Parliament.

- Once a constitutional monarchy was firmly established, Parliament took control of government finances in 1689 and the king's debt became the national debt. Within a decade, the British Parliament

created the Bank of England and issued new coinage, and an early securities market emerged. Although these changes indicate much greater state involvement in the economy than was the case in the Netherlands, we might still think of them as rational activities best suited to the state.

- England never rose to the level of economic nationalism that France exhibited, of course, but it did focus on a number of balance-of-trade solutions that were hallmarks of mercantilism. The most well-known examples—and those that had most support across England—were the Navigation Acts, which restricted trade in English ports or in the ports of English colonies to English ships. These laws were aimed at the Dutch and their free trade policies.

- The Navigation Acts were strengthened until eventually, English colonies could buy products only from England and colonial products had to be shipped to England for foreign sales. This created a closed system for England and its colonies—a market that could not be penetrated by foreign shippers and merchants.

- The English economy was still regulated, particularly with regard to foreign trade, where it exhibited the characteristics of economic nationalism. But attempts to regulate the domestic economy were much less successful, giving merchants and manufacturers considerably more freedom than enjoyed by most of their counterparts on the continent.

Activities outside of Europe

- If there was any area of the world in which the classic idea of a mercantilist system was operating, it was where European companies were active outside of Europe.

- In the Americas, for instance, European states clashed to control the resources and territory of the New World. This fertile and rich territory

was viewed as a place from which valuable resources could be extracted and imported home, while European products could be profitably exported and sold there.

- Given the asymmetry in economic capabilities between the Old World and the New, this meant that the balance of trade would always be in Europe's favor. Resource imports would almost always be of lower value than the value-added products Europe exported.
- Even the huge amounts of silver that Spain imported from the Americas were acquired much more cheaply than from European mines. The influx of American silver actually caused what has come to be known as the 16th-century price revolution. This was a period of price inflation all over Europe from the late 15th to the early 17th centuries.
- The Europeans' violent struggles for land and resources in the Americas likely had a role to play in the thinking of many people that there was a fixed amount of wealth, especially if the basis for that wealth was thought of as land and its productive yield.

- European activities in Asia were less concerned with the acquisition of territory, which was impractical, than they were with the control of trade.
  - The India companies of England and the Dutch certainly wanted to bring wealth back to Europe in the form of spices and Asian manufactures, but these had to be purchased with silver.
  - At the same time, cutthroat competition for Asian resources led to warfare between the European powers. This was an expensive way for a state to become wealthy, particularly considering the costs involved in enforcing monopolies. Nevertheless, commercial warfare was a hallmark of the 17th century.
  - European states certainly desired to increase their wealth, but we have seen that what Smith called the mercantile system was never a uniform policy of European states. A better way to think about state intervention in the economy, in the entire early modern period, is an attempt by states to adjust to the changing economic circumstances of an expanding world.

Suggested Reading

Coleman, "Mercantilism Revisited."

Questions to Consider

1. In what ways does the state intervene in the economy?
2. Is state intervention good or bad?
3. What might state intervention have looked like in the 17th century?

Lecture 11

British and Dutch Joint-Stock Companies

By the close of the 16th century, the Dutch and the English had broken the Portuguese monopoly on voyages to Asia via the Cape of Good Hope route around Africa. This opened a new chapter in the story of European hegemony over long-distance maritime trade. The English and Dutch thrust into Asia also gave rise to new forms of business organization in order to raise the tremendous capital necessary to pursue sustained commercial efforts in the Indies. In this lecture, we'll look at these commercial structures.

New Commercial Structures

- The commercial structures developed by the English, Dutch, and eventually, the French were unlike the Portuguese and Spanish examples, in which commerce was under the control of the state. Both the Portuguese and the Spanish employed an organizational approach that made possible the early expansion of Europe. But the state-led model did not attract permanent investment capital, nor did it require a profitable return. What was the English and Dutch alternative?

- Up to the opening years of the 17th century, large commercial enterprises in Europe were organized as regulated companies. The Dutch and the English refined the form so that companies were private in origin but approved by the state through the grant of a charter. Chartered companies were created when groups of merchants petitioned the government for a monopoly on trade, usually with certain parts of the world.

- The first of these was the English East India Company, chartered in 1600. The Vereenigde Oost-indische Compagnie (VOC)—or United East India Company—founded in the Netherlands in 1602 was the second.

- In order to raise capital and finance operations, the India companies issued stock, thereby becoming joint-stock companies. Joint-stock companies allowed a variety of individuals to invest by purchasing shares in the enterprise. The innovation of joint-stock companies was that unlike earlier partnerships, these new corporate structures allowed for varying levels of ownership, based on the number of shares bought.

Early English Voyages

- Under the command of James Lancaster, the English East India Company's first voyages succeeded in establishing a pepper trade at Achin, in Sumatra, and at Bantam, in Java. The company also established a factory or trading fort in Bantam.

- The company's second voyage, commanded by Henry Middleton, sailed well into the East Indies and visited the smaller Spice Islands. But it came into conflict with the Dutch, who had already inserted themselves into this region.

- The Dutch and the English engaged in warfare on Amboina in the Banda Islands in 1623, when the Dutch captured and tortured 18 English merchants and killed 10 of them. After 1623, the English abandoned direct contact with the smaller Spice Islands, instead focusing their trade at Achin and Bantam.

- Even before the hostilities between the Dutch and the English erupted, the English East India Company began to focus its commercial attentions on India. The Portuguese had controlled much of the trade with India. But the English now harassed them, driving the Portuguese away from key Indian ports and eventually establishing their own fort at the mouth of the Persian Gulf.

Early Dutch Voyages

- The early Dutch voyages to Asia were quite profitable. Between the first Dutch voyage around the Cape of Good Hope in 1595 and the founding of the VOC in 1602, eight separate companies sent out 15 different fleets consisting of 65 ships.

- In the absence of a coordinated Dutch commercial effort in the Indies, local merchants played the Dutch off each other, and prices for commodities rose at the source, even as prices fell in the Netherlands when spices glutted the marketplace. In 1601, the Dutch States General exerted pressure on the merchant community to force the merger of various companies into the VOC.

- By 1610, the Dutch had established a profitable route around the Cape of Good Hope. Indeed, in the coming century, the cape route would form the backbone of the Dutch commercial network, just as it had for the Portuguese in the previous century.

- The Dutch, like the English, also came into conflict with the Portuguese. But the leadership of the VOC, the Heeren XVII (a group of 17 shareholders), had obtained quasi-governmental authority from the parliament on overseas affairs. The VOC acted almost like a sovereign state outside of Europe.

- The public stance within Europe was that peace was better than war for the business of the Netherlands. In fact, the Dutch treated their diplomatic affairs in Europe differently than they did VOC affairs in Asia. For example, at home, the Dutch held that a peace treaty with Portugal would help them in their war with Spain. But the VOC's Heeren XVII opposed the conclusion of a treaty outside of Europe because the state-chartered company was often in conflict with the Portuguese in Asia.

- The Dutch did wind up concluding a treaty with Portugal. But the Heeren XVII had already ordered its fleets to conquer as much territory in Brazil

as possible before the treaty took effect and continued to harass the Portuguese in Africa and Asia even after the treaty.

- Much of the Dutch success in 17th-century maritime commerce had to do with a new type of ship called the fluyt, or "fly ship."
  - Unlike earlier vessels, the fluyt was built with increased cargo space and reduced or no artillery, and it was designed for ease in handling, allowing for a much smaller crew and operation at lower cost than other ships.
  - The problem with fluyts was that they could not be used in pirate-infested waters or other dangerous situations, unless they were heavily insured.

Trade with Asia

- The VOC and the English East India Company concentrated their efforts in the Indian Ocean, the Strait of Malacca, and the Spice Islands. But each sent a few ships north to China, hoping to open commerce in Chinese ports.

- The India companies were stymied in this, just as the Portuguese had been before them. Most of China's overseas trade was in the products of Southeast Asia, which the Chinese merchants exchanged for their manufactured goods.

- Some Chinese products were sent to Europe—in European ships—but most of China's commerce in the region followed the traditional Chinese trade network in Southeast Asia. And most of the trade in Southeast Asia was in the hands of Asian merchants.

- By the time the European India companies began operating in Southeast Asia at the beginning of the 17th century, trade in the region was already booming. The Chinese conducted a large proportion of this trade, but the Japanese controlled part of it.

- The Chinese controlled and restricted foreign trade through the tribute-trade system. That meant foreign trade was difficult to establish. Nevertheless, foreign trade was important to the Chinese, who got around this self-inflicted barrier by moving their focus offshore to such commercial centers as Manila, Thailand, and Taiwan.

- When the English and Dutch entered the picture early in the 17th century, the European concept of monopoly trade clashed with the Asian tradition of open trade.
  - For decades, the local rulers, with the support of Chinese merchants, had sought to keep the pepper trade based in Bantam. Although this worked to the advantage of the English, who established their trading fort there, the Dutch preferred a different arrangement.
  - The Dutch had established a trading fort in the port of Batavia, a few miles away from Bantam. This led to considerable conflict among the Dutch, the English, and the local rulers concerning where the pepper trade should be concentrated.

- The leadership of the VOC was explicit in recognizing that Dutch trade in Asia could be divided into three categories.
  - First, the Dutch preferred to establish areas where the VOC could exercise unchallenged territorial control by right of cession or conquest.
  - Second were regions where the VOC enjoyed exclusive trading rights by virtue of monopoly contracts negotiated—usually under duress—with native rulers.
  - The third category included areas of free trade with other Asian rulers, either through negotiated agreements or alongside other European nations.

- Regarding areas of territorial control, and sometimes of negotiated trading rights, the VOC had decided that the enterprise would maintain its dominance by force of arms if necessary. Indeed, all the East India companies were, almost from the start, belligerent actors in world trade. They routinely engaged in warfare, pillage, and conquest when they could.

Piracy and Privateering

- What we tend broadly to call piracy is actually two sides of a similar coin: piracy and privateering. The latter occurs when a monarch—or a state—gives permission to a private entity to engage in acts of war on the high seas, in unclaimed lands, or from the sea against states. Piracy involves these same acts without the sanction of a state.

- Privateering first developed sometime in the 13th century and was principally a wartime practice that authorized individuals to attack enemy commerce and, as compensation, to keep a portion of what they captured. It was a way for states to essentially create an instant navy in time of war or to redress peacetime depredations at the hands of hostile foreigners.

- In 1413, England defined piracy as high treason but tolerated some activity out of some of its ports, possibly because this allowed the crews to "practice" their naval skills, which would be needed when it came time to engage in privateering for the crown. In return, the crown got a portion of the privateers' captured goods.

- The French also had a long tradition of privateering, but the French example differed from the English. First and foremost, although the English used privateers to supplement their navy in wartime, the French privateers were the navy. At the same time, French privateers almost always acted on their own initiative.

- As part of their charters, the East India companies were granted sweeping powers by their respective states, including the right to defend themselves and their trade and to make war when necessary. Technically, they were considered privateers, but Asian merchant ships considered them pirates.

- Much of the India Company violence was directed at other European company ships in a kind of commercial warfare outside of Europe, while the states that chartered them might remain at peace.

- It wasn't the violence of privateering and piracy that ultimately changed world trade. Rather, it was the entire enterprise of opening the Atlantic and Indian Ocean trade, as well as tentative steps around the Pacific Rim, that had a profound effect on the world economy. From the first Portuguese attempts to divert trade away from the Middle Eastern market to the establishment of the Dutch factory at Batavia and the English focus on India, traditional trade relations were forced to change. Europe, at least in overseas trade, had begun to exercise hegemony over existing world systems.

Suggested Reading

Ormrod, *The Rise of Commercial Empires*.

Wild, *The East India Company*.

Questions to Consider

1. In what ways did Dutch and English ideas about trade with Asia differ from those of the Portuguese?
2. What was the connection between the early modern European state and commercial expansion?

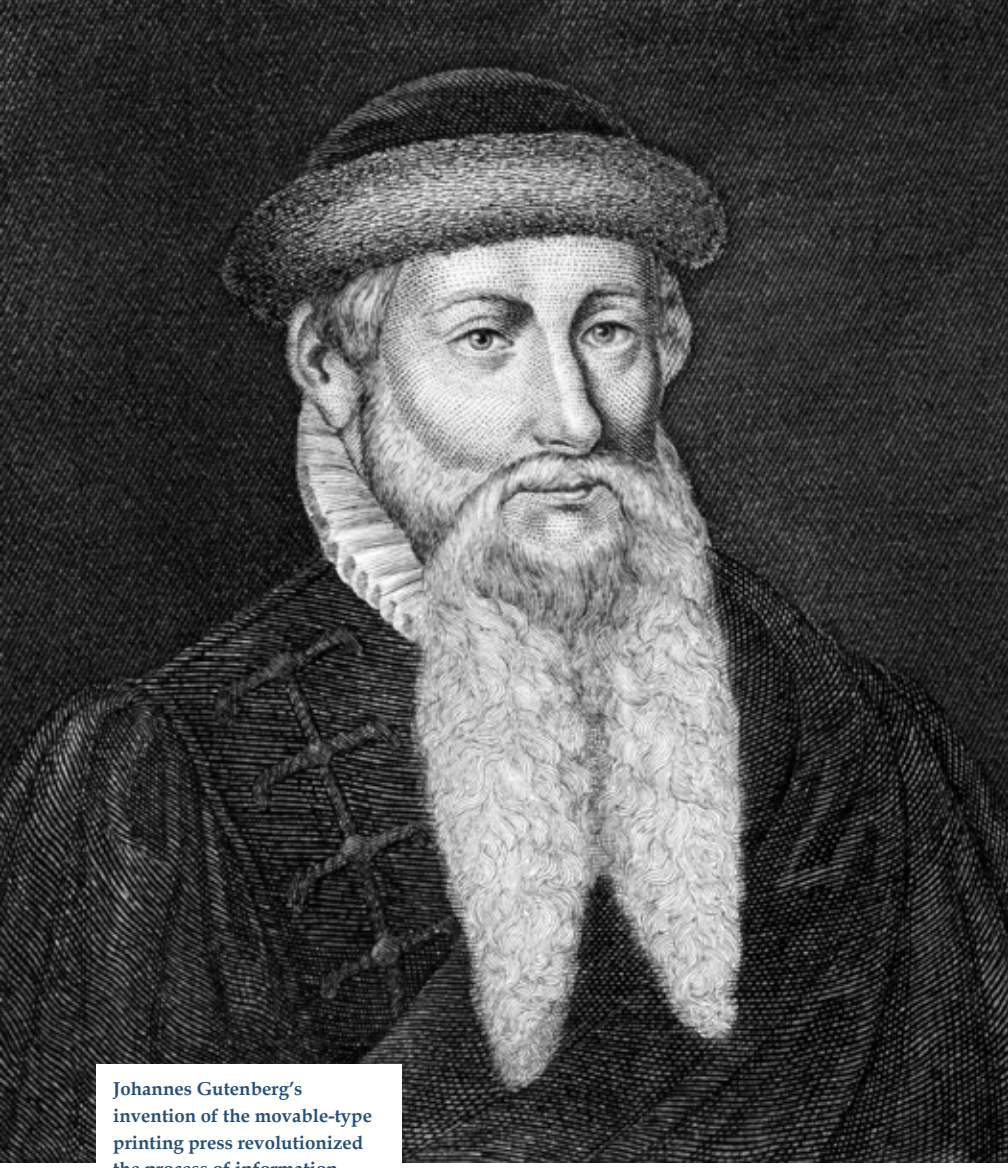
Europe, the Printing Press, and Science

During the Middle Ages and the Renaissance, learned men relied on the knowledge of the ancient Greeks and Romans to answer many of the great scientific and technological questions of their day. Medieval Europeans made great strides in agricultural innovations, military technology, and the harnessing of wind and water power, but they tended to stick with the ancients on matters of science. But then, thanks to the development of the printing press, scientific knowledge began to spread with unprecedented speed and new ideas circulated around the world. In this lecture, we'll trace this scientific revolution.

The Printing Press

- Movable type was first developed in China in about 1050, but the sheer number of Chinese characters made its use less practical than in Europe, where the Latin alphabet has fewer characters. And the Chinese made movable type from clay, which degraded quickly, or wood. But Johannes Gutenberg came from a family of goldsmiths and, thus, understood metallurgy and precision workmanship. And Gutenberg worked with an alloy consisting of tin, zinc, and lead. This made the letters durable, allowing them to be used repeatedly.

- The Gutenberg printing press of movable type was so successful that it spread across Europe very quickly. By 1480—less than three decades after its introduction—about 380 presses were in use in Europe. It would not be an understatement to say that the movable-type printing press was the principal agent of change in the transformation from medieval to modern society. The press contributed to the diffusion of scientific and technological knowledge throughout Europe, and this distribution



Johannes Gutenberg's invention of the movable-type printing press revolutionized the process of information dissemination.

of knowledge and innovation was further enhanced by a new technical literature.

- In the early 16th century, the topic of mining and metallurgy appeared in some of the most important technical publications, such as Agricola's *De re metallica*. Agricola's book described the various techniques used in the south German mining industry, with a particular focus on the machines involved. The printing press made these techniques—and techniques in other sectors—available to other parts of the continent much more quickly than other routes of diffusion.

- In addition to the diffusion of knowledge, the printing press gave rise to a lay intelligentsia. Throughout the Middle Ages, learning had been the provenance of universities and the church, but the spread of the printing press upset the status quo. Printing shops became intellectual centers where authors, publishers, printers, and even readers came together.

- The printing press also facilitated a change in the organization of knowledge and even of thinking. Printed books allowed scholars to standardize knowledge and store it permanently. Books also assisted in the visualization and quantification of information, which prompted new ways of thinking about problems. New ways of thinking—leading to scientific breakthroughs—helped to advance technological innovations.

Innovations in Industry

- After about 1500, Europe's technological advantages over the rest of the world began to widen. Europeans were still limited by the materials they had—most things were still made of wood and stone in 1500—and by their limits in craftsmanship. Thus, innovation was slow and incremental but constant in its progress.

- Europe's emerging market economy—in which investment, production, and distribution were based on supply and demand—encouraged innovation by producers and entrepreneurs who could decrease costs and react quickly to changes in demand. Not surprisingly, innovation and invention occurred first in the principal industries of early modern Europe's market-oriented economy. But they did not occur without obstacles from governments and producers alike. Governments feared that labor-saving innovations might produce unemployment, while guilds and companies feared new competition.

- Most innovations were minor, improving production only incrementally. Besides textiles, other industries that benefited from improvements in this period were shipbuilding and metallurgy.
  - For the long-distance commercial voyages of the day, ships were the most important method of transportation. Thus, innovations in shipbuilding had the potential to make a significant impact on an economy.
  - In many respects, innovations in shipbuilding had more to do with organization of work than with the invention of construction machinery. But shipbuilders learned to use the same sorts of power sources as other industries.
  - For example, the Dutch—who were the premier shipbuilders of early modern Europe—put windmills to work to power saws and hoists. The Dutch also rationalized ship construction by mass producing parts on a limited basis, and they made use of interchangeable parts to speed up the construction process.
  - The growth of the Dutch shipbuilding industry fueled the growth of local sailcloth and cordage industries. Minor improvements in ship construction, such as the use of metal bolts and screws, also allowed for better and larger ships.

- Technological innovation made a significant impact on the productive process in many industries. But inadequate power acted as a brake on further progress. Not until the development of the steam engine would the problem of insufficient power sources be resolved.

Development of the Steam Engine

- We have a tendency to think that the invention of the steam engine was sudden, even revolutionary. But it was preceded by many incremental innovations that spanned decades. The story of the development of the steam engine starts not with steam but with concerns about pumping water.

- The Italian physicist and mathematician Evangelista Torricelli was intrigued by the problem faced by Italian pump makers who needed to raise water more than 12 meters. Suction pumps of the time could raise water only 10 meters.
  - Torricelli experimented with mercury in a tube that was about 1 meter long. As the mercury dropped in the tube, it created a vacuum.
  - Interestingly, the height of the mercury in the tube fluctuated, depending on the atmospheric pressure. Torricelli had invented the barometer.

- Other scientists began experimenting with Torricelli's invention, including Robert Hooke. Hooke's experiments showed that pulling the piston out of the pump required great force against atmospheric pressure. Christiaan Huygens, a Dutch physicist working in France, wondered if this pressure might be applied to the mechanical work of machines. He became intrigued with the idea of producing a vacuum by means of gunpowder as an alternative to mercury.

- In 1678, Huygens developed a theory about creating an engine fueled by gunpowder in a vertical tube with a piston. The idea was that once the gunpowder was ignited, the force of the expanding gases would drive the piston upward until it reached a point near the top of the tube, where incisions would allow any remaining hot gases to escape. The weight of the piston and the vacuum formed by the cooling gases would then pull the piston back into the tube with a force that could lift a mass. What Huygens was proposing was, essentially, an internal combustion engine.

- Huygens's former assistant, Denis Papin, continued to work on vacuums in England. He was interested in vacuums generated by steam. Papin knew about Huygens's gunpowder engine but thought that the expansion of steam, rather than exploding gunpowder, might be a better way to move the piston.

- By the end of the 17th century, experimentation with steam was the hot new topic, and a variety of engineers were tinkering with it. Then, in the early 18th century, an English inventor named Thomas Newcomen incorporated the use of steam into the piston-engine idea. By about 1712, Newcomen had built the first steam engine that could successfully be used for commercial rather than scientific purposes.

The Steam Engine and Economic Growth

- The invention of a rudimentary steam engine illustrates a few points. First, the early investigation into what we might call pure science today—although it might not have had immediate practical or commercial application—led to significant technological developments. The development of the steam engine had its roots in attempting to solve the practical problem of pumping water out of mines. But the science behind it provided engineers with the knowledge they needed to adapt the principles into working machines.

- Second, the work of experimentation and invention knew no borders. If we consider the example of the steam engine, the early ideas on vacuums came from Italy, then spread to the Netherlands and France and finally reached England, where Newcomen's rudimentary steam engine was built. A vibrant program of publication in Latin—the language of scholarship—ensured that such ideas could be shared and improved upon.

- Scientific research and the publication of new technical knowledge had a third effect, which was that scientific and technological advancement contributed to the stock of human knowledge. And increases in the stock of human knowledge lead to economic growth.

- The early-20th-century economist Joseph Schumpeter popularized the idea that economic growth occurs because of "increases in the stock of human knowledge." Schumpeter also argued that although technological innovation can produce temporary monopolies for the innovators, competitors will soon adopt and adapt efficient innovations. Temporary monopolies, then, provide incentives for firms to develop new products and processes.
- Another way of saying this is that although invention and innovation improved production, new techniques were disruptive to industry. Schumpeter recognized this and posited the concept of "creative destruction."
- New methods and technologies caused instability and, often, severe hardships in the marketplace and labor force. Consequently, as we have seen, those who created the new technologies were often met with opposition by established producers and workers. And the state, preferring stability, might well feel threatened by the disruption that new methods brought.

- Even so, it was the actions of the state that ultimately drove much of the innovations that allowed for the creative destruction of traditional methods. Furthermore, to ensure that inventors and entrepreneurs had some incentive to innovate, states began to assign inventors exclusive rights to their inventions for a period of time. This period of exclusive rights, the patent, allowed the inventor to profit from the invention before the technology or formula behind it proliferated.

- The patent gave inventors significant incentives to innovate. Their inventions were often still met with opposition from workers and from owners of industries, but formal state-issued patents created an atmosphere in which invention was also encouraged and rewarded.

- By the time of the Industrial Revolution, the relationship between science and technology became more fixed. Science operated within the realm of ideas, while technology supported the realm of processes. But it should be clear that the two realms were interconnected to a large degree.

- It is difficult to make direct connections between developments in science and technology and economic growth over the long term. Although Torricelli's mercury barometer—an instrument of science—had no real economic benefit at the time of its invention, it originated from a desire to solve a practical problem. The barometer didn't solve the problem. But the science that underlay it was important for the ultimate development of the steam engine more than 100 years later.

Suggested Reading

Crosby, *The Measure of Reality*.

Questions to Consider

1. How is science related to the economy?
2. Does science affect society's way of thinking?

Lecture 13

The Industrious Revolution: Demand Grows

By about 1600, the character of the European economy had changed significantly from what it had been in the centuries before. Global trade currents had shifted after more than a century of exploration, bringing more goods to Europe and carrying European goods to other parts of the world. New technologies were increasing production, making more products available to more people than ever before. Economic historians have studied these supply factors, but the records to track demand have been far fewer. If Adam Smith's observation is to be taken seriously that "consumption is the sole end and purpose of production," we should consider not only the increasing supply of products but also the shifting patterns of consumption that affected demand.

Individual versus Market Demand

- Market demand is essentially the total of all individual demand in a given market. This concept works relatively well in an economic system that favors individual decision making. But it works less well in looking at the 17th century, a time when demand and consumption factors are better considered in the context of the household economy.

- As we know, when prices for goods are low or falling, the demand for them typically increases. Conversely, when prices for goods are high or rising, producers have the incentive to increase the supply of these goods. Looking at this historically—to make sense of the significant increase in the supply of goods that occurred even before the Industrial Revolution—we need to understand the sources of demand at the time.

- Absent demand, producers have no incentive to increase supply. Thus, we can posit that in the period leading up to the Industrial Revolution, demand for goods must have been high, creating the environment to spur production, innovation—and an Industrial Revolution.

- The basic premise of this is that long-term economic growth predated the revolution. In this view, a significant and growing demand for more goods took place first, creating bottlenecks with the production methods of the time. Initially, supply did not rise as quickly as demand, and the disconnect launched changes in production. A period of increasing demand wasn't satisfied until the Industrial Revolution came along—with its focus on supply—to solve the problem.

- Many scholars have used the alternative term *industrious revolution* to describe the period between about 1600 and 1800, when we believe that demand intensified. The increase would have been based on household decision making. Additionally, the idea of an industrious revolution is based on the notion that by the 17th century, people were working more, which had the potential to increase their incomes.

The Household Economy and Organization

- The definition of a household has varied over time, but for roughly the years 1500 to 1800, a household was a family-based entity in which "production, consumption, and resource redistribution occurred."

- Before industrialization, most production took place at the household level. All individuals in the household worked. This was true whether production was controlled by a guild within a town or in rural areas, where guilds rarely exercised control over production.

- Thus, the household was the locus of production and consumption. That said, probably the most powerful organizing institution for production in premodern Europe was the guild.

- The chief function of the guilds was to regulate entry into a craft through controlling apprenticeships, admitting members as journeymen or masters, and setting and supervising quality controls.
- Guilds were urban institutions, controlling production within the town borders. Most craft production, such as weaving or baking, was located in towns and controlled by guilds. Rural industry was usually not regulated by guilds.
- The power of the guilds, both politically and economically, waxed and waned over the centuries and in different regions, but guild regulation was almost always focused on household production. And guild-organized production itself took place mostly in individual households at the hands of the master and his family.

- Another form of organization for household production was something called the *putting-out system*. Here, merchants entered production by supplying craftsmen not only with a market for their products but also with credit, raw materials, and equipment. Merchants also connected various functions, such as engaging weavers to make cloth from the thread of spinners.

- Yet another organizational form—known only rarely in medieval Europe—began to move some production outside of the household in the 16th century. This was the factory. Although factories wouldn't become commonplace until after about 1750, some were set up earlier, primarily in the textile industries.

- In contrast with guild-directed production in urban areas, the putting-out system was often adapted to rural households that could be employed in producing crafts and other goods as a supplement to traditional agricultural products. The putting-out system was used in rural areas to avoid guild regulations and to tap into an underemployed agricultural workforce during off seasons. This provided rural workers with additional income and helped elevate consumption in the countryside above the subsistence level.

- In order for any household to increase its consumption, it needed to produce more goods for sale. Although the guilds were more concerned with quality than with volume, merchants who invested in the putting-out system wanted to increase production for their own benefit. Thus, there were external stimuli to increase household production, even if that meant somewhat lower-quality products than guilds would allow.

- Given the steady but slow pace of technological innovation at the time, the best way to increase production was to work more. In other words, producers needed to be more "industrious." Some scholars have suggested that that is exactly what producers did. Unfortunately, the evidence for this is circumstantial at best.

- The key idea to remember is that after about the year 1500, European households began to be able to obtain enough resources to raise consumption above the subsistence level. And this spurred an increase in demand.

Consumption

- Modern consumption theory would have us believe that consumption is determined by the autonomous individual who, with seemingly perfect knowledge of the full range of goods and prices, selects the best bundle of goods he can afford.

- The problem with applying this theory to the distant past is that the premodern individual was not autonomous. He or she was a member of a household economy, and consumption decisions were made by a group of individuals with unequal status within that household—and who were constrained by social conventions and traditions.

- The most important item of consumption during all of human history was, of course, food. Until modern times, most people were engaged in some aspect of agricultural production. But consumption theory,

focused as it is on the individual, fails to account for the fact that food is acquired by and for households, not normally for individuals.

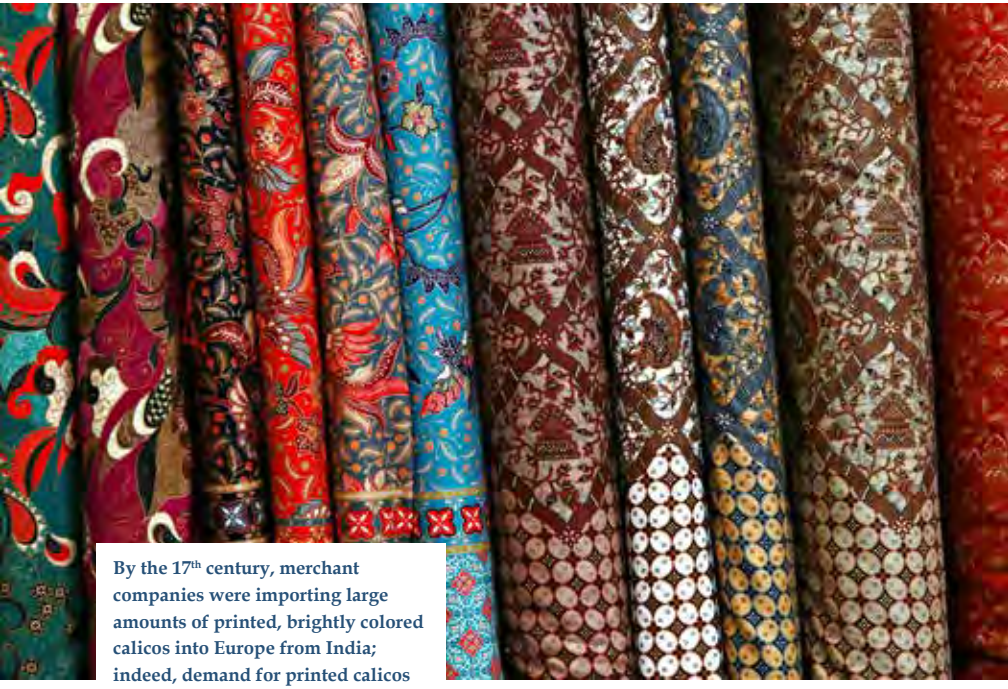
- Feeding the household is the greatest concern of all populations. The vicissitudes of war, disease, and famine exerted an almost constant pressure on the household, particularly on the lowest-status households. Consumption patterns in rural areas were also different from urban areas, and country living was no guarantee that people could grow all the food they needed.
- Consumption patterns changed slowly, and this was particularly true of food consumption. Food choices were often determined not only by locational factors but also by religious observance.
- Most food consumption was based on locally available crops. But some areas achieved such notoriety for their food products, such as beer, wine, and cheese, that they were traded far and wide.

- The next most important component of consumption is the demand for clothing and cloth. Subsistence-level rural households usually clothed themselves with household-made textiles. In the towns, cloth and clothing were more often purchased. Probably the greatest change in the consumption of clothing came with the introduction of cotton cloth to Europe in the 16th century, first from the Middle East and, later, from India.

- Despite increased production and the proliferation of new choices in the food and textile markets at the time, households still faced constraints on their choices. For example, sumptuary laws restricted such factors as the quality, color, and fashionability of clothing according to social status. These laws were often aimed at prohibiting lower-status individuals from imitating the fashion of higher-status individuals.

- In spite of such constraints, sources suggest that households still wanted to consume more and that they increased their work hours in order to do so.

- The story of consumption goes beyond food, fiber, and exotic products, such as tea and tobacco. Goods produced within Europe were also part of the mix. And in the context of an industrious revolution, they were



By the 17th century, merchant companies were importing large amounts of printed, brightly colored calicos into Europe from India; indeed, demand for printed calicos was so high that it disrupted local cloth production.

probably even more important than items to satisfy basic needs. Small niceties, such as buttons and ribbons; furnishings and housewares; and technological breakthroughs, such as clocks and mirrors, were all routinely transported across the continent to meet new consumer demand.

- Although the high and middling classes in Europe and the colonies consumed a greater variety and volume of goods for use in the household, poorer people increased their consumption in different ways. For lower-status households, consumption patterns changed to focus on activities outside the household, and individual consumption—rather than household patterns—increased during the 18th century as more households consisted of more than one income earner.

Reflecting on the Industrious Revolution

- The concept of an industrious revolution emerged once scholars identified an increase in demand—reflected in consumption patterns—around the year 1600 and continuing into the 18th and 19th centuries.

- Although some evidence suggests that consumption of foodstuffs increased only incidentally, the demand for non-local foodstuffs was quite pronounced. This was especially true as the flow of spices and exotic foodstuffs from overseas gained favor and as Europeans began incorporating these new items into their food routines.

- More importantly, demand for goods that could not be produced by the household in a given locality and goods that fell outside of guild regulation rose significantly.

- The new demand for nonessential (if not quite luxury) goods drove supply. Prices obviously rose, too. But in general, people and households were willing to work harder in order to pay for increased levels of consumption.

- Although an increase in work or industriousness is the hallmark of this theory, it is the aspect that has come most under fire by some scholars. For example, looking at two industries—saw mills and grain threshing—the scholars Clark and van der Werf found no solid evidence for an increase in work.

- In any event, it is clear that the household economy and consumer behavior were undergoing significant change in Europe and its colonies by the middle of the 17th century. Consumption increased at a rate that producers initially couldn't supply quickly enough. Though not particularly well studied, it is likely that demand for goods also fueled the fires of industrial innovation and invention.

Suggested Reading

De Vries, *The Industrious Revolution*.

Questions to Consider

1. How do we decide what goods we will "consume"?
2. Did people work more and harder before or after industrialization?
3. What does it mean to be industrious?

Why Didn't China Industrialize Earlier?

Until recently, economic historians have tended to characterize 1,000 years of Chinese history as virtually unchanging and with almost all wealth concentrated in agriculture. But it is not useful to paint what amounts to a fairly negative picture of Chinese economic history simply because the trajectory was different from Europe's. Upon closer inspection, we'll see that economic developments in China between about 1500 and 1800 were quite similar, in many respects, to those of Europe and that the amount of wealth in China, concentrated in agriculture, far exceeded anything found in Europe. Instead of asking why China didn't industrialize before the 20th century, a better question might be: How did the Asian economy develop in the early modern period?

The Agricultural Sector in China

- During the early modern period, new agricultural techniques and technologies in China made cultivation easier and required less labor. Real progress in agriculture came with new methods for improving soil quality, the science behind seed selection, and the introduction of new crops.

- The Portuguese and Spanish, who traded in the ports of southern China, introduced several New World plants that had an important impact on agriculture, including the peanut and the sweet potato.
  - The peanut and sweet potato both adapted well to soils that were unsuitable to other Chinese crops.
  - These staples also complemented traditional food crops in China and stored well enough to help the population winter over, substantially enriching the Chinese diet.

- The new food crops and a reorientation of agricultural specialization increased productivity and led to significant population growth. Most crop production shifted somewhat to the north of the traditional rice-producing regions in the south and along the coast. In turn, the more densely populated southern provinces shifted to commercial activities and manufacturing.

Manufacturing in China

- Although it is true the China remained overwhelmingly agrarian until fairly recently, it also developed some significant commercial and craft enterprises. This was particularly true in the south, along the coastal regions, where the Asian maritime trade was attempting to integrate itself into Chinese markets. Certainly, the European trading companies had a role to play here. But Chinese trade with Europe never amounted to a significant percentage of its commerce before the modern period.

- A similar process also took place away from the coast. As agriculture became more productive, the number of small-scale enterprises increased, with such manufactured products as lacquerware and bamboo wares, as well as writing materials. Larger manufacturing enterprises near the cities included weaving, porcelain production, and iron and steel foundries.

- Also, growers and ancillary industries became more commercialized and, in some cases, reoriented to industrial crops, such as cotton, oil seeds, indigo (for ink), and sugarcane. These changes went hand in hand with a migration of unskilled labor to the mining districts or the cities, where workers might find nonagricultural employment in workshops or as servants. A labor market actually developed by the turn of the 17th century, in which skilled workers were paid well and unskilled workers were often marginally employed.

- The newly mobile labor force allowed workshops to increase in size as early as the 16th century. Many workshops, particularly for textile goods, employed hundreds of people. These were not factories in the

industrial sense, but they were large enterprises, and they certainly had some of the characteristics of the industrial age: The location of work was centralized, large numbers of laborers were employed in individual enterprises, and production in specific goods was localized.

- Its shift to more manufacturing as early as the 17th century means that China could very well have industrialized sooner than Europe. The market for high-value Chinese goods was strong. Chinese silk, for example, fetched a price in Japan that was six times the price it sold for in China. The problem was that Chinese manufacturing—which relied on handcrafted products—was able to meet demand and make a sizable profit without the need to alter manufacturing methods.

- It's also important to note that China wasn't technologically backward on the eve of Europe's Industrial Revolution. The Chinese were inventing or improving some remarkable devices during the 16th and 17th centuries. For example, new methods in making wood blocks allowed for printing in more than one color. But the kind of monumental technological changes that occurred in Europe during the early modern period simply did not take place in China. Chinese producers preferred to employ more people, rather than use newer methods, to increase output.

The Middle and Upper Classes

- As more of China's productive capacity shifted away from peasant agriculture, a new urban middle class of workshop owners and merchants developed, and a rising class of rich merchants and businessmen drove commerce. These businessmen established basic banking functions necessary for trade, such as money changing and credit. Great merchants, whose wealth far exceeded that of their European counterparts, supplied the imperial armies and bureaucracy with food, cloth, and iron.

- A good deal of money could be made supplying the imperial apparatus. To say that the imperial court was opulent would be an understatement.

But it required taxes that were paid primarily in silver to continue functioning.

- Not only was the court opulent, but the Ming dynasty found itself forced to defend China from outside powers on all sides: Mongols to the northwest, the Japanese and Koreans to the northeast, and increasingly, unruly tribes on the borders. The Ming were able to maintain control, but the cost was high.

- To pacify the nobility, the dynasty also found itself paying vast allowances to imperial relatives. Chinese emperors traditionally had many wives and concubines, resulting in large, extended families that needed to be provided for and placated to keep them from meddling in imperial affairs. Extended royal family members received large imperial pensions and were granted huge estates—all paid for by the imperial treasury. In addition to family, there were tens of thousands of nobles, all of whom expected payments from the empire.

- In turn, the imperial bureaucracy was always on the lookout for ways to increase state revenues. This usually meant new and increased taxation.
  - The tax burden had become so onerous by the middle of the 17th century that many small producers were forced out of business because they simply could not make tax payments.
  - As a result, unrest and rebellion plagued the Ming dynasty in the first half of the 17th century, much of it caused by economic problems and what we might today call government overreach in taxation.

The Qing Dynasty

- By about 1644, a non-Chinese people—the Manchu—were marching across China, ready to establish a new dynasty that would last until the 20th century. Regardless of who sat in the imperial palace, once China's fiscal problems were brought under control, the country was poised for dramatic growth as it entered the 18th century.

- China now commenced a period of prosperity in agriculture, manufacturing, and commerce. Its sheer size ensured that its output far exceeded that of any other state on earth at the time.

- The foundations for a growing economy were set under the Ming dynasty in the 16th and 17th centuries. But the new Qing dynasty stabilized the empire and solved fiscal problems that had plagued the Ming. This achievement largely came about because the Qing recognized the importance of foreign trade. Under Manchu rule, commerce increased considerably, particularly for foreigners.

- The change in dynasty from the native Chinese Ming to the non-native Manchu Qing took place at the highest levels of society. The mass of the population and their agricultural, technological, and commercial methods continued virtually uninterrupted.
  - Though it is true that large numbers of Manchus moved into China proper (because of the dynastic change), they never came close to displacing the native population. Most areas of China, aside from military garrisons, had no Manchu populations at all.
  - The new dynasty set policy and controlled a variety of economic practices that affected the population, such as taxation. But many of the innovations that began during the Ming dynasty continued—and even flourished—during the Qing dynasty.

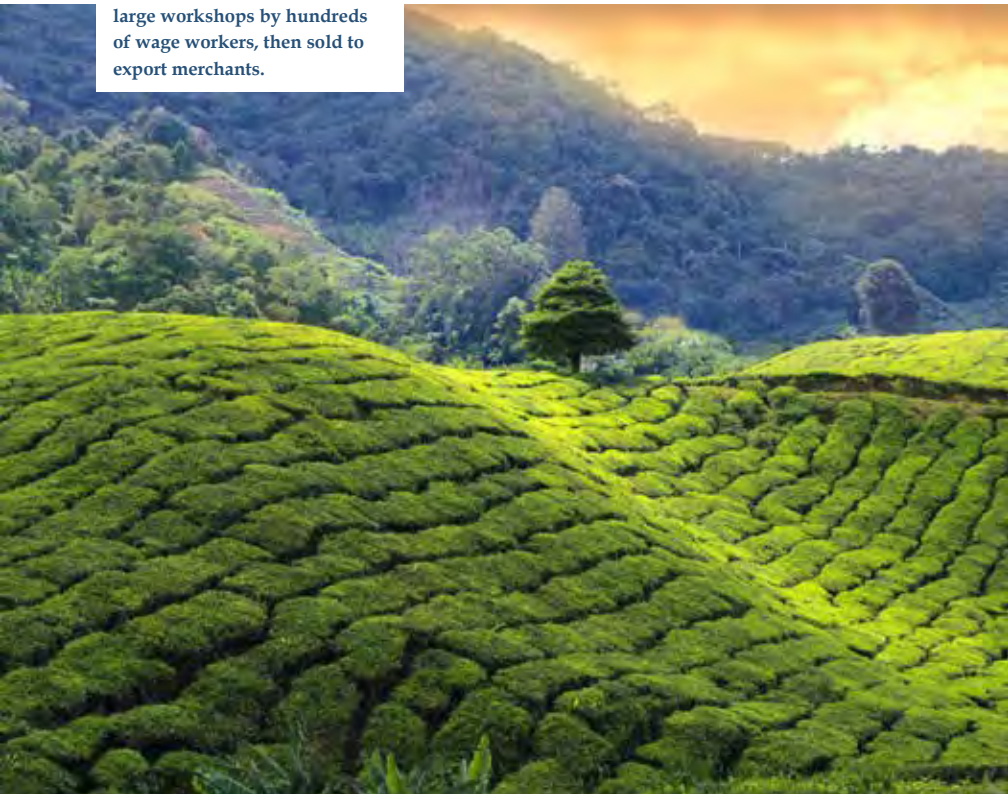
- By the 18th century, Chinese agriculture had become the most developed in the world. In parts of southern China, agriculture was even directed toward large-scale commerce. In Hunan province, for example, rice was a principal product and was traded over long distances, and tea plantations were established with the export market in mind.

- Manufacturing also flourished during the 18th century, albeit with preindustrial methods. China's textile industry produced cloths on a massive scale, primarily by small-scale producers. Rural peasants supplemented their income by producing cotton yarn or weaving cotton cloths or even silks. This small-scale production was marketed by a merchant class with long-distance networks.

- The availability of nonagricultural work to supplement peasant incomes probably made the quality of life of the average Chinese peasant quite high, especially when compared to European peasants during the same period.
- The major difference was that handcraft production never really needed to relocate from rural to urban areas in China. It wouldn't be until the 19th century that the rural population's dependence on the land decreased to the point that peasants moved to cities and looked for work in urban industries.

- China's export trade was not directed exclusively, or even primarily, at Europe. Chinese exports went to Japan, Southeast Asia, and the

Tea, once harvested on the plantations, was processed in large workshops by hundreds of wage workers, then sold to export merchants.



Americas, as well as Europe, after the Qing dynasty lifted the Ming restrictions on foreign trade. And in exchange for their products, the Chinese wanted silver.

- China's export trade—as large as it was—still accounted for only a small percentage of its economy during the 18th century. Foreign trade was concentrated in the maritime provinces of southern China. Inland trade was in the hands of large-scale, long-distance merchants. And China's manufacturing sector, geared as it was to export, certainly enjoyed a kind of symbiotic relationship with the agricultural sector. After all, this is where it got its workers. But manufacturing never came close to supplanting agriculture as the empire's most important economic engine.

India

- China isn't the only country that has been viewed as static and unchanging before modern times. India also has been shrugged off because it "failed" to industrialize as Europe did.

- Like China, India's economic path was different from that of Europe, but the subcontinent was not any less sophisticated than Europe at the time.

- If we consider the vast amount of manufactured goods they produced and circulated in foreign trade, India and China were really at the center of the world economy during the 17th and 18th centuries. Why, then, didn't China or India industrialize before Europe?

- As long as domestic labor surpluses were sufficient to supply their large populations with all their basic needs, there was no particular problem in their domestic economies that required the kinds of solutions industrialization would provide.

Suggested Reading

Parthasarathi, *Why Europe Grew Rich and Asia Did Not*.

Questions to Consider

1. What effect did Europeans have on the economies of East Asia before the modern period?
2. Why is agriculture important?
3. Why didn't Asian countries industrialize first?

18th-Century Agriculture and Production

Town and countryside have always had a symbiotic relationship. The countryside produced the food, fiber, and raw materials that city folk needed to survive. And towns produced finished goods and services that benefited farmers. However, some changes in the interplay between town and countryside ultimately contributed to the beginnings of the Industrial Revolution. Four such forces deserve our attention. First, changes were taking place in the organization of production. Second, agriculture had been evolving in the centuries leading up to the Industrial Revolution. Third, commoners began to exert some political clout to change their circumstances. Finally, demographic shifts would contribute to later developments.

The Ottoman Empire and China

- In the Ottoman Empire of the Near and Middle East, large numbers of agricultural workers became more servile by the 18th century than they had been in the centuries before. When the Ottomans set about expanding their empire, one of the methods they used to break the power of local elites was to eliminate serfdom and distribute land among the peasants.
  - This worked well as long as the Ottomans were firmly in control of their empire. But as Ottoman power diminished after the 16th century, the power of local elites grew. And as elites began to impose labor tax burdens on them, large numbers of peasants abandoned the land for city life.
  - The local elites consolidated land holdings and imposed new servile labor obligations on the remaining peasants, essentially re-enserfing them.

- In China, almost the opposite process played out after a series of twists and turns.
  - The Ming dynasty, seeking to stabilize society, encouraged peasants to claim new land and bring it under cultivation.
  - Over time, however, local elites imposed servile burdens on Chinese peasants, creating a class of peasants called the bond servant. Bond servants were treated worse than serfs, relegated almost to the class of slave.
  - In the 17th century, a new force came to power—the Manchus—whose Qing dynasty extended the bond servant system until Chinese peasants rebelled in large numbers, and the dynasty had no choice but to dismantle the system. By about 1750, Chinese peasants became family farmers, producing for an increasingly urban population.

Changes in Europe

- In Europe, the pattern of rural life was changing, too. First, in most of Western Europe, serfdom was largely eliminated. In Great Britain and the Netherlands, a market-oriented agrarian system developed that freed peasants from servile status. But in Eastern Europe, central governments enforced a new type of serfdom.

- Although serfdom largely disappeared in Western Europe, peasants still owed many labor dues to the nobility. These dues were delineated in a variety of ways—including taxes and labor obligations—and essentially were holdovers from medieval ideas about land ownership. The obligations left little for peasants to survive on.

- Farming practices remained static for centuries. Peasants employed a three-field system, their lands were divided up into many small plots, the technology in use was primitive, and fertilizer was virtually unknown. Agriculture was exploitative and productivity low—insufficient to produce enough food for the increasingly urbanized population.

Consequently, Western Europeans were forced to import grain from Eastern Europe.

- In Eastern Europe, the once-free peasants of the medieval period were slowly enserfed. Beginning in the 15th century, nobles and the state systematically bound peasants to the land. In Russia, this followed the period of Mongol rule. And taxes and dues were perhaps even more onerous on the peasants of Eastern Europe than they were in the west.

- The bright lights, if there were any, were England and the Netherlands, two places where agriculture took a different path than elsewhere in Europe.
  - In the Low Countries, large numbers of freeholders turned from grain production to intensive cultivation of industrial crops, such as flax for linen, hops for beer, and hemp for rope.
  - The shift to production for the urban market produced new agricultural scales and efficiencies that elevated parts of the rural market out of subsistence food production. But it also tended to require less-intensive labor inputs than did large-scale grain production. This forced many rural workers to turn to other occupations.

- Agriculture was also undergoing a revolution of sorts in England. Serfdom had disappeared in England by about 1500. In the following centuries, agricultural land was consolidated into larger units. At the same time, agricultural productivity increased as farmers worked to improve their land and farming techniques. This shift reoriented peasants from a focus on self-sufficiency to working for other growers.

- Such changes in agriculture signaled a new outlook for farmers and landowners, one that was focused on production for larger markets. Growers began to consider much larger audiences for their products—national and even international.

- Although the details differed somewhat in Great Britain and the Netherlands, the general pattern was strikingly similar. The elimination

of serfdom and larger-scale production for markets that were not exclusively local were preconditions for the rise of capitalist agriculture and, ultimately, the massive cultural, social, and economic shift from a preindustrial to a modern industrialized world.

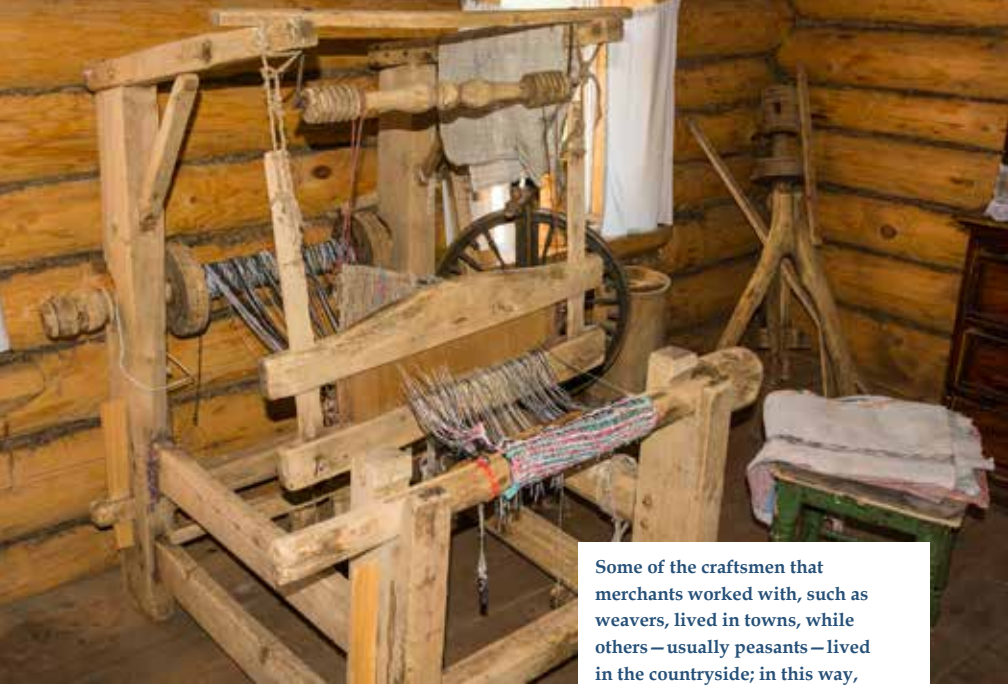
The Putting-Out System

- The putting-out system has been referred to by a variety of names, including proto-industrialization. The system developed as a mechanism for bypassing the restrictive regulations of the medieval guilds. It did so by extending production—usually of textiles—from the city into the countryside. Although guilds were still powerful, they were in decline everywhere in early modern Europe.

- Productive craftsmen often needed to go beyond the local area to obtain raw materials and to sell surplus goods that the local market couldn't absorb. In these instances, merchants served as the intermediaries among suppliers of raw materials, the craftsmen who produced the goods, and the consumers who purchased finished products. Although merchants had always had a hand in buying and selling, they became true merchant capitalists focused on organizing production though the putting-out system.

- In the putting-out system, the merchant became a sort of capitalist entrepreneur. He often purchased wool, for example, directly from sheep farmers and subcontracted the various aspects of preparation for spinning and weaving. In some cases, the merchant also made loans to his producers or purchased equipment and placed it with them.

- The various links in the production chain were dependent on the merchant to keep the system running. In time, the more enterprising merchants came to own each of those links, from the wool, to the yarn, to the spinning wheels and looms, and perhaps even the water-powered mill at the end of the process. Once the merchant owned the means of production, the workers ceased to be independent craftsmen



Some of the craftsmen that merchants worked with, such as weavers, lived in towns, while others—usually peasants—lived in the countryside; in this way, merchants brought idle agricultural laborers into the putting-out system.

and had only their labor to sell. The merchant became a capitalist and the craftsmen, wage workers. This process was slowly unfolding in the centuries before the Industrial Revolution.

- For the laborers, benefits of this system included an expanded market, the means to obtain credit, and work for underemployed rural workers. The primary disadvantage was dependence on the merchant.

External and Internal Trade

- Most discussions of European commerce prior to the Industrial Revolution highlight the expansion of European exploration, culminating in increased trade in high-value and luxury goods with the rest of the world. But if we were to quantify the volume of European trade, we would find that the vast majority of commercial transactions were in

intra-European trade. The same dynamic is true for other areas of the world, as well.

- The European focus on overseas trade was intended to gain access to luxury goods at lower prices than the products that were available through Middle Eastern middlemen. But trade strategies were also intended to find outlets for European products.

- What was the source of the increasing demand for European products within Europe and overseas? The changes we've already discussed in European agriculture and proto-industrialization allowed certain regions to experience tremendous economic growth by the early 18th century as they became more urbanized. The populations of the cities of the Low Countries grew significantly; British cities grew at an even faster rate.

- Thus, in the 100 or so years before the Industrial Revolution, population was on the rise, increasing demand for many goods. In some regions, farms were producing more than ever before—even with fewer farmers. This released many rural workers to participate in the putting-out system that streamlined the production of a variety of goods.

- These changes were in addition to the 200-year expansion of European hegemony overseas. The age of discovery was followed by the creation of neo-Europes as European colonists began migrating overseas at the end of the 17th century.

The Role of the State

- One factor in setting the conditions for industrialization remains to be discussed: the role played by the state. By the early 18th century, all states espoused, to one degree or another, mercantilist commercial and economic policies that employed protectionist measures to keep imports low and minimize foreign competition. Such policies were not exactly conducive to free and open trade.

- At the same time, if there were any one organizing trend in the political structures of European states during the 17th and 18th centuries, it was the drive toward the creation of absolutist monarchies. The movement toward absolutism was motivated by ever-increasing costs of government and the thirst for new revenue sources to support them.

- Although it might have been possible that these fiscal requirements would give rise to overall economic development, instead, they often led to contradictory commercial policies. For example, most states attempted to liberalize foreign trade—in other words, governments promoted free trade outside the borders of the state—while enacting measures to protect their own domestic industries.

- Was there something about Great Britain that made its state policies more conducive to industrialization than in other European states?
  - Probably one of the greatest mechanisms for British financial stability was the creation of the Bank of England in 1694. The Bank of England allowed the government to raise secured loans, thereby enhancing the financial security of the state in ways that many other states could not until the 19th century.
  - The financial security and stability offered by the bank allowed Great Britain to solve many of the problems of revenue that plagued the emerging absolutist states.

- The British government never played any direct or indirect role in the development of new industrial sectors during the 18th century. But the state was able to enjoy financial stability that proved to be advantageous for growth. In this way, the particular circumstances that existed in Great Britain made the Industrial Revolution possible.

Suggested Reading

Tauger, *Agriculture in World History*.

Questions to Consider

1. Why is agricultural production important for the economy?
2. Would it have been possible for industrialization to occur without a strong agricultural sector?
3. Can agricultural workers become factory workers?

Industrial Revolution: The Textile Trade

The Industrial Revolution began in Great Britain. And scholars have long asked why it began there, rather than in one of the other economies of Europe or even, perhaps, China. To answer that, we need to consider such factors as the labor force, natural resource endowment, customs and traditions, and the pace of technological change. All these forces played a role. But perhaps the real key to understanding why Great Britain was the leader in the Industrial Revolution lies in examining the unique set of problems that British producers confronted and the solutions they found to overcome such obstacles.

Changes in the British Textile Sector

- For centuries, the English textile sector centered on wool cloth. English wool was in demand all over Europe. It was considered the best available, and weavers in every country paid top prices for it. English weavers produced for the home market and for export to European commercial centers on the continent.

- The trade in wool cloth was regulated by the medieval guilds that controlled production methods, oversaw quality controls, and restricted exports to keep prices as high as possible for merchants.

- The British crown enacted protectionist laws to support the domestic wool industry, reinforcing guild efforts. It wouldn't be a stretch to say that the entire medieval English economy depended on the ongoing success of the wool-cloth industry.

- However, by the end of the Middle Ages, England—like most other European countries—had begun to develop considerable overseas commercial networks. This overseas trade served as an outlet for English goods, including English wool cloth. But the increase in trade also brought new products to Great Britain, such as spices, sugar, coffee, ceramics, metals, and lacquerware.

- British consumers recognized not only the fashion these products imparted but also their usefulness. Very quickly, British consumers and manufacturers adopted the new products as their own. For our purposes, cotton textiles, particularly from India, were the most important of these new imports. Cotton textiles were immensely popular and soon in high demand in Britain.

- As the popularity of cotton grew, wool's popularity began to wane. And as you might imagine, the wool-cloth merchants and producers felt threatened by this shift in tastes. In a desperate attempt to save their industry, Britain's wool-cloth producers sought to restrict the import of woven and printed cotton cloth into the country.

- The wool-cloth producers were a powerful constituency at this time, and initially, they were successful at stopping cotton imports from entering Britain. In fact, as early as 1700, the English Parliament passed a law forbidding the import of printed fabrics from India, Persia, and China—exactly the products in demand.

- At the same time, it didn't take long for enterprising men to realize that importing even small amounts of cotton cloth would allow them to begin producing highly desired cotton goods in Britain. This would create the beginnings of a British cotton-cloth industry, and it had the potential to generate great wealth.

Production Quality and Speed

- But as Britain's new cotton producers got up and running, they began to face some serious challenges. These challenges mainly centered on two factors: production quality and, more importantly, production speed.
  - Throughout the Middle Ages and early modern period, wool cloth was produced by weavers in small workshops all over England. In the classic example, the weaver's entire family would be involved in the production process. Spinning typically created a bottleneck in the process because spinners could rarely keep up with the needs of the weavers.
  - When the weaver produced more than he could sell locally, he made arrangements with a merchant to sell his surplus farther from home. If we think about this in larger terms, we can see that areas with many weavers could quickly produce more than the local region could consume.
  - Merchants were necessary to move surplus production from low population centers to large population centers and, more importantly, to sell it to wholesalers for export. The key was to produce more and better product for lower cost.

- Many of us have the idea that industrialization came about because of the development of the steam engine and new fuels. This is not entirely wrong. But when we consider the origins of the Industrial Revolution, we need to think more about the organizational techniques of production that were made necessary by a new product, rather than the introduction of heavy equipment and new power sources.

- The steps in producing cloth around the year 1700 included carding, roving, spinning, weaving, dyeing, and finishing. If any one part of the process broke down, it could pose a major interruption in production. As mentioned, the main problem in cloth production was the spinning bottleneck. Spinners couldn't produce thread fast enough to keep the weavers at peak productivity. In the cotton-cloth sector, the problem was a bit more complicated yet.

- British authorities didn't restrict the import of cotton fibers, only cotton cloth. Yet British cotton-cloth weavers found that domestic spinners couldn't produce high-quality cotton thread the way Asians could.
- Thus, not only were British spinners unable to produce in adequate quantities to provide the weavers with a steady supply of thread, but the thread itself was of poor quality. The short-term solution to the problem was to mix cotton threads with linen threads when weaving cotton cloth.
- The cotton thread, which was weaker, formed the woof (crosswise threads), and the linen thread, which was stronger, formed the warp (lengthwise threads). This short-term solution solved the quality problem in British cotton-cloth production, but it did not solve the bottleneck created by the spinners' relatively low productivity compared to the weavers' higher demand.

- The use of linen in cotton-cloth weaving saved the sector. And its modest success early on allowed cotton producers to innovate in a way that the tradition-bound wool-cloth industry could not.
  - Wool-cloth production was heavily regulated by various guilds. Consequently, innovation was nearly impossible because craftsmen in each aspect of production fiercely guarded their positions in the productive process.
  - In contrast, cotton-cloth production was unfettered by the traditions and customs of the wool-cloth producers; thus, it was comparatively easy to make changes to the system.

Inventions in Textile Production

- The first invention to increase productivity in cloth making occurred in the weaving process, and initially, it only compounded the spinning bottleneck. In about the year 1733, a man named John Kay—who was a clothier by trade, as well as an inventor—came up with the idea for what he called the *fly shuttle*. This device was a simple improvement on the

cloth looms of his day, but it allowed weavers to make wide cloths and sped up the overall weaving process.

- In the days before the introduction of Kay's fly shuttle, it took about six spinners to produce enough thread to keep one weaver's loom running. With the fly shuttle, the speed of weaving increased so much that spinners were left even further behind in producing the much-needed threads.

- Because demand was high and supply low relative to capacity, the price of thread increased considerably—when it could even be found. Delays in production were common. A solution to the bottleneck was essential if the fledgling British cotton-cloth industry were to survive.

- The solution to the problem came about as a result of the transfer of patent rights to a metal-boring machine. The inventor of the metal-boring machine was a man named John Wyatt, who had been a ship's carpenter before he applied himself to solving practical problems.

- Wyatt sold the rights to his metal-boring machine to a man named Lewis Paul in 1732. Both men were interested in developing a spinning machine. Apparently, Paul promised Wyatt a large sum of money to develop a spinning machine. And the next year, in 1733, Wyatt was testing a new machine that spun thread without "the intervention of the human fingers."

- It took a few years to work out the kinks. But in 1738, Lewis Paul took out a patent on the machine. Unfortunately, in spite of its promise to cure the spinning bottleneck, Wyatt and Paul's machine didn't take with spinners. Its parts were delicate, and it required considerable supervision to run. Nevertheless, people who saw the device were amazed. And it proved that it was possible to mechanize the cotton industry.

- However, another 25 years would elapse before strides could be made in mechanical spinning to advance production. The first improvements

were the *spinning jenny*, invented in 1765 by James Hargreaves, and the *water frame*, invented in 1768 by Richard Arkwright.

- The spinning jenny allowed one spinner to spin multiple spools of thread. The water frame was more important in that it reorganized labor into a factory system with the introduction of nonhuman power sources in the process of production.
- Arkwright's water frame is essentially an improved version of John Wyatt's earlier spinning frame. Arkwright called it the water frame because it was to be powered with a water wheel, in much the same way as flour mills were at the time.

The spinning jenny solved the problem of the thread bottleneck in cloth production but didn't change the organization of the cloth industry in any fundamental way.

- As a result, the water frame shifted the location of textile production in a fundamental way. Rather than parceling out the raw materials to workers across the countryside, it was the workers who needed to travel to the mill to produce the threads the weavers so desperately needed. This created the factory system, in which the manufacturer centrally located the means of production and hired workers who were required to travel to the factory to do their work.

- This might seem like a small change, but it was nothing less than a complete restructuring of the physical and social organization of production. A change this fundamental was not without controversy. And, as we see so often in the face of innovation, many small manufacturers attempted to block the new methods. But Arkwright's innovation took hold, and spinning mills became the standard method of thread production by the end of the 18th century.

- In spite of these important technological innovations in textile production—and even the shift to factory-based production—none of this sounds truly industrial in the contemporary sense of the word. What had been missing up until this point was the introduction of new, more modern power sources.

- The steam engine was being developed in Great Britain at about the same time as new spinning technologies were emerging. But the key was how to employ the steam engine in manufacturing, and that wouldn't take place until the 1780s. In the end, the development and application of the steam engine was the decisive stage in the foundation of the Industrial Revolution because it was the invention that facilitated large-scale industrial production.

Suggested Reading

Deane, *The First Industrial Revolution*.

O'Brien and Quinault, eds., *The Industrial Revolution and British Society*.

Questions to Consider

1. What does industrial production look like?
2. What kinds of changes in the productive process are necessary for it to be "industrial"?

British Coal, Coke, and a New Age of Iron

The iron industry was already organized in a way that fit well with industrialization and the onset of modern capitalism in the late 18th century. What was needed were new chemical techniques, new fuels to power the industry, and eventually, new technologies to make the process more efficient and able to produce a higher-quality product at lower cost. Perhaps surprisingly, the first place that significant changes in iron production took place was in Great Britain.

Processing Iron

- Processing iron ore is a bit more complex than simply heating it. Iron ore is a rock that contains metal and oxide. The iron must be smelted in order to use the ore. Smelting is a chemical process that separates the oxygen from the metal by introducing a reducing agent—usually some kind of carbon.

- Before the Industrial Revolution in the late 18th century, charcoal was the most common reducing agent. Heating the ore and the reducing agent at high temperatures in a blast furnace removes oxygen from the iron ore and produces a workable metal. At high temperatures, the iron melts—or at least becomes pliable—and is tapped off at the end of the process. This procedure required a robust carbon fuel supply and was labor intensive.

- You might think that all iron ore is the same, but that isn't the case. Iron is found is a variety of forms on earth, each of which has a different chemical makeup and different percentage of iron. Producing

workable iron from any given ore deposit required a fair amount of experimentation to get the chemical process just right.

Changes in Iron Production

- The first place that significant changes in iron production took place was in Great Britain. In some respects, this might be surprising because Great Britain's early modern iron industry was unremarkable. The best iron in Europe was produced in Sweden or Germany, places with rich iron deposits and huge forests. There, ironworks were set up in proximity to the mines that provided the iron, and the forests provided an almost unlimited supply of charcoal for smelting.

- In Great Britain, as populations grew and greater urbanization put pressure on agricultural producers to clear woodlands for crop production, finding a good fuel source became a serious hindrance to iron production. A new carbon fuel that would be an excellent reducing agent was absolutely necessary if the British iron industry were to survive amid the deforestation.

- What Great Britain had was a plentiful supply of coal in the same places that iron ore was mined. Because coal consists of up to 95 percent carbon, it had the potential to be an excellent reducing agent. And coal can be an even better fuel if is it heated to high temperatures in a low-oxygen environment. This process produces a fuel called *coke*.

- The step of smelting iron with coke rather than charcoal was first taken by a man named Abraham Darby.
  - In 1709, Darby leased an ironworks in Coalbrookdale. Because coal was plentiful in the region, he began experiments with smelting using raw coal. When that didn't work well, he hit on the idea of also using coke in the iron-smelting process.
  - Like coal, coke burns rather slowly and required an independent power source to drive a bellows sufficient to give the furnace a good blast. Initially, water-powered bellows were used. But once

the steam engine was introduced in 1775, the process of smelting iron with coke would really take off.

- English iron production was still fairly low during the early decades of the 18th century, amounting to only about 25,000 tons per year. And until about the 1750s, Darby's family was the only enterprise that used coke in the smelting process. The problem with the procedure had less to do with coke than it did with Britain's low-grade iron ore, which was filled with impurities. Such impurities were unacceptable for steel makers and wrought-iron producers.

- Consequently, most of the iron products Britain produced at this time were made with imported Swedish bar iron. Impurities in English-produced pig iron (the brittle iron that results from the smelting process) made it useful for only a few applications, such as casting. Unfortunately, Darby's coke smelting added even more impurities to the iron.

- Benjamin Huntsman, a clockmaker in need of tempered steel for producing watch springs, was the first to find a way toward solving this problem. By about 1750, he had developed a process for smelting iron at very high heat using coke, with excellent results in the final product.
  - But when Huntsman tried to sell his steel to local manufacturers, they refused to buy it, out of suspicion with his novel production methods. When Huntsman then tried to export his steel product to France, Sheffield manufacturers tried to get Parliament to ban steel exports, though to no avail.
  - It was only when steel manufacturers in Birmingham—about 90 miles to the south of Sheffield—tried to entice Huntsman to move there that the Sheffield manufacturers agreed to begin buying Huntsman's steel. But it turns out that Huntsman was still relying on Swedish bar iron to make his steel, not English pig iron.

- A solution was needed to eliminate the pig-iron impurities from the smelting process, and—in bar iron—from the forging process. The breakthroughs occurred in the development of a potting-and-stamping system patented in 1761 by the brothers John and Charles Wood.

- The potting-and-stamping process starts with melting pig iron in an oxidizing atmosphere, cooling it, then breaking it up into small bits. The iron bits, once washed, were then heated in pots in a reverberatory furnace. This kind of furnace kept the metal away from the fuel but allowed contact with the gases produced by the fuel. Though a reverberatory furnace is not as efficient as a blast furnace, it solved the problem of introducing additional impurities.
- By the 1770s, this process was in use whenever higher-quality iron was required. However, the highest-quality bar iron was still imported from Sweden and other parts of the continent. This was an expensive proposition for British manufacturers and continued to stifle growth in the industry.

Henry Cort's Innovations

- The next breakthrough—which would solve the problem of impurities and eliminate the use of charcoal in the iron-making process—was Henry Cort's puddling-and-rolling system, which was patented in 1783 and 1784. Cort's process involved breaking up impure pig iron and refining it over a coke fire to reduce the carbon in the iron.

- In the next stage, he put the refined pig iron in a reverberatory furnace, but rather than adding charcoal, he added clinkers with a high iron-oxide content. Now, as soon as the ore melted, its carbon content bonded with the ambient oxygen.

- As the metal purified, it collected into a kind of spongy mass, which was hammered to eliminate the slag, or waste content, it still contained. Then it was rolled between two cylinders. Rolling the iron sped up the process, allowing for greater quantities of iron to be produced in a given period. The resulting bar iron was deemed to be of equal—or even better—quality when compared with the best Swedish bar iron.

- Cort's method had several important improvements over its predecessors.

- First, he finally eliminated the use of charcoal in the iron process in favor of coke, which was a cheaper fuel.
- Second, Cort's process allowed native pig iron to be converted into high-quality bar iron. This greatly decreased the cost of making iron products and allowed the material to be used in a growing number of applications.
- The third improvement Cort introduced was to create a single process that replaced a variety of distinct processes, significantly increasing efficiency.

- Together, these improvements paved the way for massive growth in the British iron industry. British yearly iron output increased from 17,000 tons at the beginning of the 18th century to about 125,000 tons by the 1790s.

- The innovations in iron production also resulted in significant economies in the costs of raw materials and introduced labor savings and the ability to access cheaper coal and iron-ore deposits. With lower prices and higher outputs, the use of iron expanded significantly to include buildings, bridges, machinery, pipes, posts, and railroads.

Delays in Industrialization

- By the middle of the 18th century, British industry had clearly pulled ahead of the rest of the world. Continental Europe lagged behind, even though the latest technical developments were also well-known there. Scholars have proposed a number of reasons for the relative delay of industrialization outside of Britain.

- The most commonly accepted reason is that continental Europe lacked ready access to the kind of resources that Britain enjoyed. Coal, for example, was available on the continent but tended not to be concentrated in key areas. Besides, the rest of Europe still had vast forests, which—in the example of the iron industry—meant that charcoal persisted as a fuel.

The most important use of iron—and one that truly drove the growth of the iron industry—was in railroad construction.

- At the same time, the social and political atmosphere of continental Europe was still rooted in tradition, and wealth continued to be based on landholding. Warfare and revolution also negatively affected industrial development. Until these factors lost their hold on many Europeans, industrialization would have to wait.

- Coke smelting began to take off in France only after the French Revolution, in the late 1790s. In the early 1800s, the French built several dozen coke-fired blast furnaces, though growth was slow and production continued to be focused on charcoal smelting. It would not be until the second half of the 19th century that coke finally overtook charcoal for smelting in France.

- The Belgian iron industry, by comparison, made the switch to coke smelting much more quickly. Belgium had many of the same advantages Britain did. The most obvious similarity was large coal and iron-ore resources in close proximity to each other. In the 1830s and 1840s, tiny Belgium was the largest iron producer in continental Europe.

- As the Industrial Revolution unfolded in Great Britain and elsewhere in Europe, the recently independent United States of America—which was still very much in the European orbit—also integrated itself in this social and economic revolution.
  - During the colonial era of the 18th century, the American iron-smelting industry, had been based on charcoal smelting. The United States also had rich coal reserves along the eastern seaboard, but this was anthracite coal, not the bituminous coal that was mined in Europe. Because anthracite coal is not suited to coking, it was used directly in smelting. But standard blast furnaces produced poor results.
  - It wasn't until the hot blast method was developed that anthracite coal could be used effectively. After about 1840, U.S. ironworks began to switch from plant-based to mineral-based smelting.

Suggested Reading

Landes, *The Unbound Prometheus*.

Questions to Consider

1. Could there have been an Industrial Revolution without iron and steel?
2. How important is heavy industry for economic development?

Power: From Peat Bogs to Steam Engines

Two hundred years ago, the kind of flip-a-switch power we have come to depend on did not exist. Little thought was given to the kind of power services we enjoy today. Even so, there were a few situations in which the power-generating sources of 200 or 300 years ago were inadequate for the requirements of the time. The immediate problem that drove a search for a good power source was the need to drain mines. Thus, it was even before the Industrial Revolution that man's dependence on fossil fuels began, initially and most importantly, with coal.

Preindustrial Power Sources

- As urban society encroached on rural society in the 18th century in Great Britain and parts of northern Europe, the inevitable deforestation that accompanied it meant that coal began to replace wood as a heat source in homes.

- But coal was not the only fossil fuel in use in preindustrial Europe. Peat was another widely employed domestic heat source. Peat is the partially decayed vegetation and other organic matter that accumulates over many millennia in bogs. It is also the first phase of the formation of coal and other fossil fuels.

- Before the Industrial Revolution, other power sources included kinetic energy, such as human and animal power, water power, and wind power, and thermal energy, such as sources that rely on plant materials, vegetable- and animal-based oils, and animal waste materials.

- In antiquity, human and animal power reigned supreme and remained important even into more modern times, especially in agriculture and transportation. Innovations in harnesses and hitches over the centuries continued to improve the efficiency of animal power in agriculture and transportation. Animals could also be hitched to cranks and shafts to power grain and sugar mills, in addition to agricultural implements.

- The ancient Greeks might have been the ones to invent water wheels to obtain power from falling or flowing water. The Romans used water wheels in grain milling. The Chinese also used water wheels by about the 1st century. This source of power came into widespread use in Europe and, to a lesser extent, in the Islamic world during the Middle Ages.

- The earliest known account of a windmill powering a machine dates to 1st-century Greece. The Chinese also developed windmills by about the 4th century. Windmills were used for many of the same uses as water wheels: grinding grain, working pumps, and so on.

- Windmills and water wheels alike continued to be used as power sources even during the industrial period. Water wheels were often used to work the bellows for blast furnaces and for hammering smelted iron. They were also used in the textile industry to power cotton-spinning machines.

The Steam Engine

- As the Industrial Revolution wore on, turbines began to replace water wheels across Europe. The Hungarian scientist Johann Andreas von Segner developed an early and rudimentary water turbine in the mid-1700s. A few decades later, in the 1820s, the French engineer Benoit Fourneyron developed an efficient water turbine that found widespread use in the textile industry. But waterwheels and water turbines needed a fast-flowing water source to work, limiting the areas in which certain industries could be located.

- In experiments as early as 1643, the Italian mathematician Evangelista Torricelli was the first person to demonstrate that atmospheric pressure determines the height to which a fluid will rise in a tube when inverted over the same liquid. Over the course of the rest of the 17th century, scientists all over Europe tackled the problem of raising water.

- The breakthrough came when the French physicist Denis Papin and the English engineer Thomas Savery each demonstrated that motive power could be generated using steam. But it was the English inventor Thomas Newcomen who built the first steam-powered piston engine.

- Newcomen's engine was what is known as an *atmospheric engine*, and it operated at low pressure. It worked by steam condensing in a cylinder to form a vacuum. Atmospheric pressure pushed the piston into the cylinder in a manner similar to that discovered by Torricelli.

- Newcomen's application of the science was to create a power source for a pump. When the machine is at rest, the piston is at the top of the cylinder. Introducing steam from a water boiler through a valve into the cylinder displaces the air there, and the valve closes. Another valve then opens, injecting cold water into the cylinder to condense the steam. That creates a vacuum, enabling the external atmosphere to force the piston down into the cylinder and raise the pump.

- The vacuum is broken by opening the steam valve once more, allowing the weight of the pump-end of the beam to pull the piston out of the cylinder. The process repeats. In this atmospheric engine, the steam is simply used to create a vacuum to draw in the piston. It is the earth's atmosphere that raises the piston.

- Newcomen's steam engine had immediate practical application in draining water from Great Britain's coal mines. But there was another reason for the success of Newcomen's engine. Water wheels—and even windmills—could also power pumps. But what was a mine operator to do when his mine wasn't located near a fast-moving stream or in an area with a steady wind? The steam engine depended on neither.

- However, the steam engine could be used only if a reliable, cost-effective fuel source were available. Of course, coal was virtually free at the mine—especially coal refuse that couldn't be sold but could be burned for fuel.

Improving the Steam Engine

- Newcomen's engine was clearly tied to the coal-mining industry. Yet because its fuel consumption was voracious—and its operation was still relatively slow and uneven—it had few applications in other industries. This created a new problem: increasing the fuel efficiency of the steam engine to make it less expensive to operate.

- In the early 1760s, James Watt, who was employed by the University of Glasgow in Scotland, was asked to repair a Newcomen steam engine.
  - The cylinder in this engine was poorly made, resulting in a loss of heat and efficiency. Watt couldn't do much about this particular problem, but he realized that the process of cooling the steam—and allowing it to condense in the same cylinder into which the hot steam was injected—caused many of the breakdowns with which Newcomen's engines had become associated.
  - He experimented with ways to get around the heating and cooling process in the piston cylinder. Watt's solution was to draw the steam off into a separate cylinder, called a *condenser*, where it could be cooled without cooling the piston cylinder.
  - By eliminating the waste inherent in having to reheat the cylinder each time the steam was injected, this new method resulted in a significant fuel savings.

- Watt ultimately went into partnership with an entrepreneur named Matthew Boulton. The two went on to establish a successful steam engine enterprise, though no further improvements to the device were made until after their patent expired in 1800, when others became free to experiment with it.

- Boulton and Watt engines—in spite of their lower fuel consumption—were primarily used in pumping operations until the cannon expert John Wilkinson asked Watt to build a steam engine that could drive a 1,500-pound hammer for his ironworks.
  - This required converting the up-and-down motion of the piston to a rotary one. Watt created a crankshaft to accomplish this but had to put the project on hold to install several steam engines. When Watt came back to the project, he discovered that someone else had already patented the kind of crankshaft he wanted to use.
  - Watt then developed and patented a steam engine that allowed for rotative action—a rotary engine—in 1781. This changed everything.

- Once the steam engine could turn a shaft, textile manufacturers found many applications for it, and the steam engine spread out of the mining industry. By 1800, more than 300 Boulton and Watt steam engines were driving various types of machinery.

- After Boulton and Watt's patent expired that same year, inventors who had been quietly working at improving the steam engine were free to move ahead. The first improvement over Watt's engine was a high-pressure steam engine built in 1800 by the British inventor and mining engineer Richard Trevithick.
  - Although his earliest engines were stationary, Trevithick built a locomotive that used high-pressure steam in 1801 and took out a patent on it in 1802.
  - The difference between Trevithick's high-pressure engine and Watt's atmospheric one was that it was steam that raised the piston in Trevithick's high-pressure engine, resulting in significant fuel efficiency. Trevithick's high-pressure steam engine would eventually be used to power railroad locomotives and steamships.

- Even in Great Britain, however, water and wind power were still in much wider application by the 1830s than was the steam engine. The issue holding back the steam engine's success continued to be the price of fuel. In 1845, the English engineer William McNaught came up with a plan to add a high-pressure cylinder to older steam engines, then vent the

steam from the high-pressure cylinder into the original one. This effected significant fuel efficiency in existing steam engines and led to greater adaptation. As a result, it was during the 1840s that the mechanization of British industry really began—thanks to the steam engine.

The Spread of the Steam Engine

- The steam engine spread quickly throughout Europe, largely because of the development of the railroads. The high-pressure steam engine was ideal for motive power, though fuel costs were the main factor in determining its use.

- The problem was most acute for steamships that had to give over some of their cargo space to hauling coal for fuel. Steam was first used in maritime trade on short runs from Britain to France and the Netherlands.

By about 1840, Pennsylvania led the United States with the most steam engines in service—both stationary and motive.

Efficiency and cost gains didn't make transoceanic voyages as cost effective as sailing ships until about the 1870s or 1880s.

- In the United States, the steam engine was initially most successful in river transportation. Robert Fulton's 1803 steamboat—powered by a Boulton and Watt engine—was the first commercial steamboat service in the world.

- But American industry's embrace of the steam engine, like that of France and Germany, didn't begin until the second half of the 19th century. The early advances in the British coal and iron industries, coupled with a restructuring of textile manufacturing and the development of the steam engine, all occurred somewhat simultaneously. Which of them was most important for the ultimate character of industrialization is still debated by economists and historians today.

Suggested Reading

Crosby, *Children of the Sun*.

Questions to Consider

1. What would life have been like without modern power sources?
2. Can you imagine an industry without power?

A Second Industrial Revolution after 1850

The Industrial Revolution—in its first and second waves about 100 years apart—would profoundly change society. It not only introduced new technologies but also changed the nature and location of work and the way in which work was compensated. By 1850, industrialization—although it was moving apace—had still not achieved the advances in Great Britain that we think of today, even though Great Britain was an early industrializer. Nor had it yet spread to many parts of Europe. Scholars often refer to the period around 1850 as the start of the Second Industrial Revolution because this is the time when the rest of Western and Central Europe and the United States ramped up the industrialization process.

Industrialization outside Britain

- Speaking broadly, Western European countries attempted to imitate British success during the second wave of industrialization. This began as strategies to copy British advances in industrial technology. Much of the motivation was to counter ever-increasing British exports and to protect domestic industries.

- In the early days of industrialization, accomplishing this was fairly easy: People were sent to Great Britain to learn all they could about the new processes and techniques that were being used there.

- By the end of the 18th century, French and German technicians were able to return to the continent armed with British manufacturing know-how. The French Revolution at the end of the century slowed down the potential for French industrialization, but some of the social side effects, such as the elimination of guilds, were beneficial.

- However, the British already dominated many industries, especially the cotton-textile industry, by the early 19th century. Thus, simply copying the British textile industry after the fact didn't work. Britain was already too far ahead.

- France would have a hard time emulating the British model in any event, because it simply didn't have the quantities of natural resources, in terms of iron and coal, that drove British industrialization. And the French workforce was less inclined to move to urban areas. Thus, the pace of French industrialization was far slower than in other parts of Western Europe.

- The Germans, in contrast, industrialized rapidly once some key problems were overcome. The biggest barrier was that prior to unification in the 1870s, Germany consisted of many independent states and, therefore, lacked a cohesive national market. However, in the 1830s, the various German states agreed to a *zollverein* (customs union) that brought down the barriers to unified trading zones.

Focus on Steel

- The three major innovations during the Second Industrial Revolution came in the production of steel, chemicals, and eventually, electricity, rather than, as in the First Industrial Revolution, a production infrastructure based on textiles, coal, and steam.

- For instance, wrought iron continued to have many applications during the 19th century, but steel was the preferred product for making machines and for construction. The crucible process to make steel was extremely expensive, making it cost effective only in small-scale applications. The problem to be solved was how to make steel cheaply.

- The English engineer Henry Bessemer provided the first solution to the problem. Bessemer realized that the difficulty in producing good steel was caused by carbon impurities. Between about 1850 and 1856, he

developed a solution to eliminate the carbon by means of blowing air through the molten pig iron.

- The American inventor William Kelly developed the same process as Bessemer only a year later and apparently without any knowledge of Bessemer's work. But his was not the only method in the 19th century for producing steel. The most important of these processes, having clear advantages over Bessemer's, was developed in the 1860s by the French engineer Pierre-Émile Martin. The result was the Siemens-Martin process, which was so successful that it continued to be used until the 1990s.

Focus on Chemistry

- In the First Industrial Revolution, frequently, it was independent tinkerers who led the drive for better technologies. But during the Second Industrial Revolution, science and industry tended to join forces to a greater degree. Chemistry, in particular, flourished.

- German chemical science led the way with discoveries of artificial dyes, sulfuric acid, and the conversion of ammonia to nitrates. Others also contributed, including Alfred Nobel, who was the first to produce nitroglycerine on an industrial scale. The nitroglycerine was turned into a paste that Nobel called dynamite, which he detonated with a blasting cap of his own design. Dynamite proved useful in a variety of projects, including civil engineering and the quarrying of stone.

- Many more advances were produced in chemical applications for industry during the 19th century, including fertilizers for agriculture in Germany and Great Britain, the Goodyear process for vulcanizing rubber, and the invention of synthetic plastics in the United States.

Focus on Electricity

- The first uses of electricity represent another example of old ideas that gave rise to new applications and solutions to 19th-century problems in industry.

- The electric motor was based on the work of the French physicist and mathematician André-Marie Ampère, who, in 1820, discovered that mechanical force could be produced by the interactions of an electric current and a magnetic field. A year later, the English scientist Michael Faraday came up with the first simple electric motor. But Faraday's electric motor was too simple to have any practical application.

- Then, in 1834, a Jewish engineer named Moritz van Jacobi invented a rotating electric motor with enough power to actually run machines. Jacobi's ideas were followed in the development of useful electric motors, including one built by the American inventor Thomas Davenport, whose motor was powerful enough to run a printing press. Subsequent developments introduced electric motors to almost every industry.

Industrialization in the United States

- The United States was another early participant in the Second Industrial Revolution—and the first country outside of Europe to industrialize. The earliest industrial projects in the United States paralleled those of Great Britain by focusing on the textile industry's use of water power and steam.

- Although Americans frequently borrowed—and often improved on—European technologies and manufacturing processes during the 19th century, they had other important contributions to make. One of the most far-reaching of these was the so-called American system of manufacturing, which involved using interchangeable parts.

- By 1860, the United States was second-largest manufacturing economy in the world behind Great Britain. But the U.S. economy was also heavily dependent on agriculture, unlike much of Western Europe. As a result, the character of industrialization varied by region across the country.

- After the Civil War, the character of American industrialization changed more broadly. Resource-oriented processing in the Midwest and consumer goods manufacturing in the Northeast declined in relative importance, while more typical industrialized sectors, such as iron, steel, and machinery, grew. And as iron production, for instance, boomed, U.S. industry began to share with Germany a preference for very large firms.

- As American firms improved their iron and steel processes and increased efficiency, the co-location of coal and iron became less important. The steel industry moved west from Pittsburgh to such places as Cleveland, Chicago, and Baltimore. The concentration of iron and steel firms in the

The principal crop of the Southern states was cotton, but it was Northern industrialists who processed the cotton and controlled its trade.

Great Lakes and mid-Atlantic regions is why they became the industrial heartland of America.

- In the American South, in contrast, industrialization took much longer to develop. The region's dependence on plantation agriculture before the Civil War—and the presence of slave labor—lessened the motivation for industrialization.

Industrialization outside of Western Europe

- It wouldn't be until after 1870 that industrialization began to spread outside of Western Europe and the United States, primarily in Russia and Japan.

- During the 18th century, Russia had been one of the great economic powers of Europe. Using traditional methods, it had produced goods that were in demand in the West. But as Western Europe industrialized in the late 18th and early 19th centuries, Russia stagnated.
  - Russia remained overwhelmingly devoted to agriculture, and serfdom was still the norm. The Russian elite, whose wealth was based on agriculture, had little motivation to pursue policies of industrialization.
  - It was left to Western European entrepreneurs to import into Russia the machinery needed to industrialize production. However, by 1860, Russia was making more than half of its own machinery in operation in the country.
  - A severe labor shortage for manufacturing in Russia could not be overcome until serfdom was abolished. In 1861, Russian peasants were finally free to move off the land, but it took years of adjustments to turn a rural peasant into a factory wage worker.
  - Russia's merchant class was also small, and entrepreneurs were a small percentage of the population. Russian society needed to develop new attitudes about industrial production. The government could—and did—begin to support mechanization and factory production but mostly to build up its military capabilities.

- In order to get out from under foreign investors, Russia needed to exploit its own resources. Thanks to the initiative of Western European entrepreneurs, Russia began mining coal and iron ore in the 1850s, and oil was discovered in 1870. Once Russia started tapping into its own natural resources, industrialization took off. By 1890, Russia was entering a growth spurt.

- The situation in East Asia was altogether different. Although China had a sophisticated economy and had been just as richly endowed and technologically capable as Great Britain was in the 18th century, industrialization did not begin there until the very end of the 19th century. Part of the reason for this is that China had historically been aloof or hostile to Western ideas and products. China produced goods on a large scale but did so using traditional methods.

- The one place in East Asia that did industrialize shortly after the middle of the 19th century was Japan.
  - Japan's path to industrialization began around 1860 with some of the same kinds of societal reforms that Russia had instituted, especially the abolition of serfdom.
  - Japan initially relied on Western machine imports to jump-start industrialization. The government also supported early mining operations before most were eventually sold to private investors.
  - By 1880, Japan was poised for real industrial growth. Many of its earliest industries were in the textile sector. Within 10 years, industrialization had spread to food processing and chemicals, as well. Much of this growth was powered by steam engines, followed by electricity after about 1890.
  - Japan's greatest industrial success was in the production of silk. Silk was the first of the traditional manufactures that turned to technological innovations for production. Japan had export markets for its silk all over the world. And the profits from silk exports could be used to offset purchases of Western technology. Because of its efforts to industrialize silk production, Japan was able to capture much of the silk export market that China previously had dominated.

Suggested Reading

Horn, *The Path Not Taken*.

Sylla and Toniolo, eds., *Patterns of European Industrialization*.

Questions to Consider

1. Do all parts of the world develop at the same time?
2. How might countries that industrialize later learn from early industrializers?
3. What distinguished the second wave of industrialization from the first?

Family Labor Evolves into Factory Work

The German socialist Friederich Engels said that because of industrialization, workers were "torn from their former way of life." What Engels noted—and what a century of socialists after him attempted to exploit—was that industrialization disrupted the traditional labor patterns in society. Industrialization was extraordinarily difficult for the bulk of society, and its disruptive forces affected those who worked in skilled and unskilled professions alike. What was happening was nothing less than the transformation of labor from its traditional structure to a modern industrial working class. It was a transformation that would prove to be irreversible.

Breakdown of the Family Structure

- The most widespread change in society that scholars have pointed to as a result of industrialization is the breakdown of the working-class family structure.

- Throughout most of history, the working-class family was a unit of production and the cornerstone of a society's output. The earliest textile inventions, such as the spinning jenny, didn't change this role of the family. Instead, the jenny was simply brought into the home.

- Rather than the spinning jenny, it was the mechanization of weaving that led to major change in the structure of the family as a unit of production. The father, who became a machine weaver, was now employed in a factory—outside the household—thereby disrupting the family structure.

- Interestingly, early factory owners allowed men to bring their wives and children to the factory to be employed as assistants. In some cases,

as society—workers and industrialists alike—were trying to work out the new productive system, the whole family might move closer to the factory, enabling the family to work there as a unit.

- In England, a major shift in this family-and-factory structure began in the mid-1820s and was more or less complete by the mid-1830s. As spinning and weaving were put under one roof, the sizes of factories and machinery became larger. Textile machines required fewer skilled operators and more unskilled attendants. Machine tending became the work of unmarried women and, often, children. Factory owners could pay women and children lower wages than to adult men, and women and children were less likely to cause trouble for supervisors.

Population Shifts

- Throughout the 19th century, labor moved from traditional structures to industrial patterns of work. The result was a new social class and the emergence of new class relationships.

- Most scholars agree that, especially during the early period of industrialization, the market tended to work against labor, keeping wages low and working conditions poor. Industrialists and factory owners, not surprisingly, wanted to keep their costs as low as possible to maximize profits.

- But keeping wages low worked against the industrialists' end goal. Ultimately, they needed to increase the population's consumption of the goods they were producing. The only way their businesses would grow in the long run was to sell to the rapidly growing working class.

- In most parts of the world, populations grew significantly after 1800. France was one country in which population growth remained stagnant, but migration of skilled workers from other areas, including the Netherlands, Belgium, and Germany, allowed France's labor force to expand, nevertheless.

- Across the globe, migration from countryside to town, from region to region, and from one country to another all added to the available labor force of industrializing countries.

Changes in the Work Environment

- Changes in the workplace are difficult to measure, but we might consider the plight of the skilled worker—the craftsman. As industrialization was getting underway at the end of the 18th century, textile weavers were still considered craftsmen. They tended to have some education and could often sell their own cloths at market. But by 1810 or 1820—once weaving had been mechanized—weavers were reduced to unskilled wageworkers, employed simply to tend powered looms. Weavers' earnings dropped, and unemployment was common.

- Most weavers were men, and most of these changes occurred during the Napoleonic Wars—the early years of the 19th century, when large numbers of British men were drafted into the armed forces. Even with this drain of the young, mobile wageworkers, the number of handloom weavers rose over the first decade of the 19th century, driving wages down. The spinning industry also switched to unskilled workers, and women and children largely met the demand for labor there.

- By about 1820, women and children made up almost the entire spinning workforce. The men who worked in the spinning industry served as supervisors, enforcing factory discipline and maintaining the machines. Families were not necessarily opposed to children working in factories. Instead, as wages for men dropped, the wages paid to children contributed to maintaining the family income.
  - The British textile industry grew dramatically between the 1820s and 1840s, absorbing large numbers of workers. But because textile jobs had become unskilled, unmarried women and children began to be hired in increasing numbers.
  - The work women performed in the household economy was, like that of the male weavers, initially skilled. But tending machines required

fewer skills. What it did require was small hands with good dexterity. Thus, women and children were perceived as ideal workers.

- When young women in the factories got married or, perhaps, gave birth, they usually left the workforce. More generally, married mothers who still wanted to work often found themselves unwanted by factory owners.

Between the 1820s and 1860s, many new jobs were available for women, but because most of these jobs were unskilled, wages were low.

Coal Mining

- As a result of the success of the steam engine, coal mining was probably the fastest-growing industry in the 19th century. But aside from the steam-powered pumps that allowed for deeper mines, coal mining wasn't mechanized. Increased output of the mines depended on increases in the labor force.

- Coal mining was a low-status occupation, and it was difficult for mine owners to attract workers. At the same time, the tradition of the household economy—in which the entire family participated in production—was in play, too. As a result, a miner's family often ended up serving as subcontractors for the operation, hauling coal to the shaft and to the surface.

- As the middle classes became increasingly uncomfortable with children working in dangerous conditions, in 1830, the British Parliament investigated the problem. Michael Sadler, a member of Parliament from Newark in Nottinghamshire, is probably the best-known opponent of child labor. He represented an area that at one time was among the most successful coal-producing regions in all of Europe, and he chaired a committee to look into factory conditions.

- A series of factory reform laws in the 1830s and 1840s led to restrictions on the length of the workday and on child labor. As new factory laws prohibited employers from hiring younger children, women and youths made up the labor shortfalls.

Job Training

- In the traditional household economy, workers learned the tasks associated with production from their parents. In skilled professions that required more time to master, young children would apprentice to masters before becoming employed as journeymen.

- Long and involved training was well-suited to household production and to skilled work before the age of mechanization. For factory work, however, training was difficult to integrate into existing production requirements.

- In Great Britain and, to a lesser extent, the United States, where most of the early industrial jobs were learned by trial and error, a kind of sink-or-swim attitude prevailed. It was thought that there was no time to develop formal training programs. Yet the sheer pace of technological innovation would have benefited from some basic levels of training—if not education and literacy—even for much of the unskilled work.

- One solution was the persistence of craft guilds in many areas of the industrialized world, well into the 19th century. Another possible solution was to increase state-sponsored basic education.

- German industrialists viewed the workforce somewhat differently than either the French or the British; this might partly explain the rapid and successful industrialization of Germany around the middle of the 19th century.
  - As in France, a system of apprenticeships persisted, as German skilled workers realized that they could apply their skills to new industries. Some German industrial engineering firms even attempted to replicate the apprentice system in their factories, by establishing training workshops in the 1850s. In many other instances, German craftsmen found a way to flourish side by side with large factory firms.
  - German industrialists were most concerned with insisting that their foremen be educated. Coal mining was the first German industry to experiment with training foremen, beginning in the late 18th century. By the middle of the 19th century, German technical schools were far superior to anything available in Great Britain at the same time.

Wages

- Regional variation was great in terms of the conditions workers endured, how educated the workforce was, and not surprisingly, what kind of wages workers earned. For example, in London, a carpenter's assistant earned about double what a carpenter's assistant made in Cracow, Poland, in 1860.

- Even among unskilled and uneducated workers, wages varied greatly from region to region. Labor mobility evened out some of these wages differences. But even by the 1850s, pay varied significantly for the same jobs within industries. Wages between towns varied even more.

- Education—and, more importantly, the training and experience of industrial workers—led to a multiplication of wage differentials. In the Siemens Company of Germany, for example, a foreman's wage was about 40 percent higher than was a worker's pay in 1866. In all sectors, women's wages fluctuated between one-third and one-half of men's wages for the same job.

Conclusions about Labor

- Industrialization affected working-class people first and foremost by disrupting the structure of the family. It also worsened working conditions initially and imposed a discipline most workers chaffed under.

- The new factory jobs also destabilized wages and inserted unheard-of wage differentials, while also necessitating new ways to train untrained laborers.

- With all this upheaval in the lives of common people, it should come as no surprise that class consciousness—in the modern sense—developed.
  - The factories of the industrial world became places where the interests of the workers and factory owners often clashed. Workers

and employers needed one another, but each had different goals in the relationship.

- Differences between the two often produced conflicts between what the workers were willing to give up—for example, more leisure time—and what the owners expected—say, a faster working pace.
- In some respects, the labor market boiled down to this give-and-take between workers and employers. If the whole point of the industrializing process was to produce goods more quickly, more uniformly, and at a lower cost, then the question was: Who should benefit from this change? There really wasn't a straightforward answer.

Suggested Reading

Bronstein, *Land Reform and Working-Class Experience in Britain and the United States, 1800–1862*.

Questions to Consider

1. What does it mean to be "working class"?
2. Does the working class have a consciousness?
3. How might industrialization have disrupted labor?

Lecture 21

Cornelius Vanderbilt and the Modern Firm

Who was it that introduced new technologies and new materials into the productive process? We usually refer to them as industrialists and exponents of capitalism. These were men who reorganized preindustrial production to take advantage of the new machines and power sources of the Industrial Revolution and who put armies of skilled and unskilled laborers to work in the factory system. The names of many industrialists are today obscure, but many more are still well-known, including Cornelius Vanderbilt, Andrew Carnegie, John D. Rockefeller, Robert Peel, and John Wilkinson. These captains of industry were all at work in the industrializing countries of the 18th and 19th centuries, amassing great wealth and influence and defining their age.

Early Industrialization

- The first industrial capitalists were largely men of common backgrounds who were willing to take risks, explore new ways to produce goods, and use the technologies of the Industrial Revolution. Although they were willing to take chances, they also sought ways to minimize their risks. In part, that meant looking for ways to lower costs. Because machine and building costs often were fixed, the early industrialists frequently turned to manipulating labor costs as the best way to reduce production expenses.

- Working conditions were usually poor, and early industrialists had little incentive—at least before about the 1830s—to provide better conditions. Often, they did so only at the insistence of the state.

- The industrial workforce was also in a constant state of flux, increasing and falling in number, sometimes on a daily basis, depending on

demand for the firm's products. Although this led to instability for workers, it also allowed business owners to respond quickly to market conditions. These industrialists often viewed their enterprises as their personal fiefs, rather than as organizations that would function beyond their lifetimes.

- In the early days of industrialization, the capitalists who financed firms typically also managed the businesses. This was another risk-reduction strategy at a time of great change and uncertainty. The early industrialists preferred to take on partners, who invested in the firms, rather than hire managers to run daily operations.
  - The idea here was that equity holders with a financial stake in the firm were more motivated to increase performance than were managers for hire.
  - The disadvantage was that this philosophy put a brake on the size of the firm, limiting its growth to only as fast or as large as one proprietor or group of partners could manage. In time, the proprietor approach had to bend to a new reality.
  - In Great Britain, some firms were so large by the early 19th century that the roles of capital and management diverged. Beginning in the 1830s, industrialists increasingly became financiers who hired professional managers to run their businesses.

American Management

- Managers began to proliferate at about the time of the Industrial Revolution. In 1840, it's estimated that the total U.S. workforce probably numbered almost 5.5 million people, among which only about 3,000 managers supervised 50 or more employees. Even then, there were very few managers supervising other managers. In other words, the idea of a managerial hierarchy didn't exist yet.

- Let's look at the railroad industry to understand why managers became necessary. When railroads became larger and longer—say, 100 miles or more, broken into multiple sections—managers were required. That's

Railroads stretched across hundreds and even thousands of miles, and because of their function and size, operated a variety of facilities, requiring a management system.

when the railroad tycoons began to face the challenge of figuring out how to effectively and efficiently operate a business with large numbers of employees and equipment spread across large areas.

- After about 1850, large American railroads started to operate through multiple units called *divisions*. Each division operated independently, with a central office overseeing systemwide functions, such as track maintenance and machinery repair.

- Initially, there weren't any models for the railroads to follow. The factory system didn't apply well to the functioning of a railroad. In comparison, the old overseas commercial companies—such as the English East India Company—might seem to us to be somewhat similar, but on closer inspection, those similarities dissolve, as well.

- The India companies were run by owners or partners, each of whom had unlimited liability. The companies bought and sold whatever goods seemed best to a merchant on location.
- Coordination was important but not nearly to the degree that it was for the railroads, which were shipping goods and transporting passengers, too.

- Other industries outside of transportation and communication that began to introduce managers into their organizational structures did so largely to increase the reach of their products. Early industries had relied on local wholesalers and retailers to sell the products they made. Now, in places outside the reach of local wholesalers, the manufacturers themselves needed to step in to market their goods.
  - In other words, manufacturers increasingly established distribution centers, sales offices, purchasing offices, and other mechanisms to allow for increased production and sales.
  - By adding these specialized units, manufacturers were able to dramatically increase the size of their overall enterprises. These multi-unit organizations also employed specialized managers to supervise the new functions.

- Broadly speaking, it wasn't until after 1850 that businesses reached the size and complexity to need managerial hierarchies. This was the result of three factors:
  - First, firms were growing in size. Once a firm reached about 200 or more employees, the personal and direct control of the industrialists became difficult to maintain. This was especially true when the enterprises were spread over large geographical areas.
  - Second, manufacturers were integrating distribution and marketing functions into the enterprise rather than relying on intermediaries, such as wholesalers. This was especially true for machine makers, who found that marketing needed to be done by individuals with a working knowledge of the machinery.
  - Finally, industrial enterprises were becoming more complex and required specialized employees, such as engineers and machine operators.

- To address these developments, the new industrialists could rely on the people most loyal to them—their families and friends—to manage their enterprises, or they could create managerial bureaucracies.

- In the United States, large, multi-unit enterprises—such as the railroads—followed what is known as a *line-and-staff* management structure.
  - The line-and-staff concept predominates in American manufacturing to the present day. Early on, the industrialist owner would also have served as president, while delegating authority for certain functions to a general manager.
  - In the example of the railroad, the general manager had authority over a certain division of the railroad, such as the trains and traffic moving within his division. But the general manager delegated aspects of his authority to managers in his division to move trains and traffic in their own areas.
  - These were the *line managers*, the ones who were directly responsible for the core functions of an enterprise. In contrast, s*taff managers* had responsibility for the materials required to run the company.

- Organizing management in this way ensured that authority and responsibility would be clearly defined within the organization. By the end of the 19th century, scientific management was born.

European and Asian Management

- Line-and staff management was not as favored in Europe, though it was found in a few European industries, including railroads. European industrialists typically preferred to retain direct control and authority over their operations. In Great Britain, for example, more than 75 percent of the firms doing business at the end of the 19th century were still family managed.

- A form of paternalistic management also developed in Japan, which was the first and most successful country in Asia to industrialize.

The Japanese managerial structure focused on group harmony and cooperation.

- In early industries, supervisors, drawn from the ranks of the samurai or craft masters, operated almost like feudal lords, and workers tended to be exploited; thus, by the turn of the 20th century, the government instituted factory acts that forced employers to consider management style.
- Around the First World War, Japanese industry sought to increase harmony in the workplace. Decision-making became a group effort so that no single individual could be blamed or credited for an enterprise's success or failure.

- Because European distribution networks tended to be well developed and work well, there was less need for, or interest in, the vertical integration of distribution and marketing functions that required multi-divisional organization the way American firms did. And because Europeans retained a preference for smaller, family-based firms, the kind of large, anonymous firms that emerged in the United States and Japan took longer to develop.
  - Europe did, however, embrace an organizational form of business known as the *cartel*. Cartels were set up to regulate output and distribution without forcing the mergers of their members into large enterprises. Cartels divided a market amongst themselves, fixed prices, and restricted competition.
  - Cartels were actually a form of business organization, rather than a management structure. Not surprisingly, cartels provided their member firms with a great deal of security that allowed for significant reduction of risk.

Development of the Modern Corporation

- Today, corporations are a preferred business form for many enterprises because they reduce the legal and financial risks faced by the sole owner and proprietor. But the early industrialists didn't have the benefits of forming corporations.

- Prior to the corporation, a business organization known as the *joint-stock company* was the preferred form of raising large amounts of capital, diversifying investor risk, and taking on greater business objectives. These companies predominated in the 17th and early 18th centuries, but they came in for widespread skepticism and concern after a celebrated enterprise known as the South Sea Company ruined many British investors in 1720.

- Some of the earliest legal reforms in business organizational structure were developed in the United States. In 1811, New York introduced a process of incorporation that established the concept of limited legal and financial liability of an incorporated firm's shareholders. The whole point of the corporation's form was to limit the liability of the individual owners and provide a way to raise operating capital through the sale of shares. Other states followed suit.

- Great Britain removed restrictions on establishing corporations in 1825, but it wasn't until 1844 that British law allowed for the registration of corporations and not until 1855 that limited liability was allowed. In Germany and France, early corporations had at least one owner with unlimited liability, but the liability of other shareholders was limited to their investment. In 1861, Germany fully adopted the limited-liability concept.

- By the end of the 19th century, the character of the industrialist and the firm had undergone a dramatic evolution. Self-made men who assumed all the risks and wielded all the authority in their firms gradually gave way to corporations run by a professional class of managers and owned by multiple shareholders, many of whom had little or nothing to do with business operations.

Suggested Reading

Vanderbilt, *Fortune's Children*.

Questions to Consider

1. How important are company founders?
2. Do individuals play the greatest role in the firm, or is success a group effort?
3. How do firms work?

Lecture 22

19th-Century Farm Technology, Land Reform

Agriculture remained important, even during a period that saw massive industrialization and large numbers of people leaving rural areas for work in the cities. The size of the agricultural sector declined during the 19th century, but its productivity increased, especially as science and technology were increasingly applied to agricultural concerns.

Global Agricultural Productivity

- On the eve of the Industrial Revolution, the Low Countries and Great Britain had the most productive agricultural sectors. In part, that's because they were among the first to effect reforms that changed land-ownership patterns. And they eased agricultural labor restrictions. These kinds of reforms were necessary for a country to support domestic population growth and to prepare the way for the onset of industrialization.

- By the turn of the 19th century, British agriculture was not only able to feed and provide for an entire country, but its grain output was sufficient to export, as well. And this was all with a growing population. Thus, British agriculture had an important role to play in facilitating the growth of industry.

- Farming in the Low Countries had been oriented toward the market for centuries. The predominant agricultural techniques focused on high-value and high-calorie products, such as dairy farming and beef finishing. Far more of these dairy and meat products were produced

than could be consumed locally. For this reason, the Low Countries' agricultural export market thrived, though they had to import grain from the Baltic region.

- Agricultural productivity increased widely in Europe throughout the 1800s. But the rates of increase and the speed of change varied greatly from country to country—and from region to region. The United States benefited from following the English and Dutch examples, which meant that its productivity was high from the start.

- The sheer size of the United States meant that clear regional differences emerged in its agricultural production. But after the Civil War, the United States was the dominant agricultural power in the world.

- In comparison, other parts of the world, such as India, struggled to improve their agricultural productivity, in part because of the intervention of Europeans or, as in China, because of decaying imperial bureaucracies that were uninterested in agricultural reforms.
  - Indeed, one of the greatest impediments to increased agricultural productivity all over the world was the delay or failure of agrarian reform movements to emancipate peasants. Changes in land-tenure arrangements were at the heart of agrarian reforms.
  - Aside from the enclosure movement in England, the most widely known change was the confirmation of peasant rights during the French Revolution.
  - Small farms predominated in the south and west of France. But these regions had less fertile soil and never reached the levels of productivity that other regions of the country did.
  - Almost half of all farms in France were larger (about 100 acres or more) and located in the more fertile northern and eastern parts of the country. It was in these areas that French farms were most productive and where industrialization was most pronounced.

- In Germany, the southwestern states had a land-tenure pattern very similar to their neighbors across the border in France, that is, with many small farm owners. In Germany's north and east, large grain-producing

estates were the rule. Though not very efficient, these estates had, for centuries, produced grain surpluses for export.

- In southern Europe, Spain, Italy, Portugal, and the Balkan states failed to enact sufficient agrarian reforms, if any at all. More than half the populations of these countries remained employed in agriculture, but productivity was low. Thus, these peoples depended on imported grain. It is no coincidence that the countries of southern Europe were among the last on the continent to industrialize.

Agricultural Productivity in the Neo-Europes

- Other areas of the world that we might call neo-Europes—meaning territories that were colonies or former colonies of European states—also engaged in agrarian reforms, often with better success than enjoyed by their former empires.

- Latin America—an important and lucrative exporter of luxury crops—retained large plantations even after peasant emancipation.

- Once Mexico became independent of Spain in 1821, the rural North American country set about reforming its system of agriculture but met with limited success because of the resistance of wealthy landowners and the Catholic Church, which was a large landowner in its own right.
  - In the face of such formidable obstacles, the Mexican peasantry was reduced to the status of peons, laboring in debt bondage to the large landowners.
  - This form of indenture lasted throughout the 19th century and was a factor that made industrialization almost impossible in Mexico until recent times.

Productivity in Other Parts of the World

- Outside of the neo-Europes, it's useful to divide the world into regions that were under European political domination and those that were not.

- One example of a region dominated by Europe during the 19th century is India under British rule. British administrators had a responsibility to provide Great Britain with ample supplies of cotton and food at low prices and to collect taxes. High taxes forced many Indian landowners to sell their land to speculators. The result was a series of revolts that the British put down in the mid-19th century and a string of famines that devastated Indian agriculture.

- The Ottoman Empire ruled much of the Middle East for centuries, up to World War I. During that time, Egypt was its most important agricultural possession.
  - Egypt had been an important producer of grain since antiquity. Under the Ottoman administrators, Egypt underwent a modernization program in the early 19th century that focused on cotton production for European industry.
  - Egyptian peasants were forced to grow cotton at the expense of food crops; many wound up in debt and working on large estates. The Egyptian peasants rebelled in the late 1870s, at which point, the British intervened and took control of Egypt from the Ottomans. But the British simply continued the same failed system of requiring small farmers to grow cotton. Consequently, few of them were ever able to emerge from debt bondage.

- Another example of a decaying empire that failed to enact sufficient agrarian reforms during the 19th century was the Qing dynasty in China.
  - China had two agriculture regions, each with different land-ownership and land-tenancy patterns. By 1800, northern Chinese agriculture was based on small-scale subsistence agriculture, with farmers owning their land. In the south, the norm was large farms focused on cash cropping.

- As the Chinese population grew in the early 19th century, marginal lands that couldn't support peasant families were increasingly brought under cultivation. This forced many peasants to turn to cash crops, which allowed them to purchase food but made the risk of famine due to food crop failure a real concern.
- A series of rebellions broke out once famine hit, weakening the government but failing to improve the condition of the peasants.

Agrarian Reforms

- In countries where agriculture stagnated, industrialization failed to take off. But where meaningful reforms were enacted, social and economic conditions became conducive to industrial development.

- Political and economic stability were also enhanced by agrarian reforms that increased agricultural productivity. Once a state could feed itself or had the wealth to import enough food to feed its population, the threat of rebellion and invasion decreased.

- It took more than reforms in land ownership and tenancy to increase productivity. But such reforms gave farmers an incentive to develop their acreage and to implement more efficient methods in agriculture.
  - By definition, farmers have always been engaged in improving their land and, by extension, their crops. Since antiquity, farmers selected seeds from the most productive plants to sow in subsequent years. This practice gradually improved the productivity of their plantings.
  - Another way that farmers worked to increase productivity was by adopting crops imported from other continents or regions and adapting them to local conditions and farming methods. In some instances, these foreign crops were well-suited to particular forms of agriculture or certain climate conditions.

The potato blight devastated Ireland, causing starvation and a mass exodus of the population.

Advances in Farming

- In premodern times, at least one-third of cropland was left fallow each year in order to give the soil time to recover the nutrients that had been extracted with the previous harvest. Starting about the 16th century, perhaps in Germany's Rhineland, nitrogen-fixing leguminous crops for animal forage were planted in rotation with grains and other food crops, negating the need for long periods of fallow. These practices spread to England by the 18th century and across Europe and North America.

- The science of soil fertility also underwent something of a revolution in the early 19th century with the introduction of new fertilizers. By the last quarter of the 19th century, chemical fertilizers had become an important feature of agricultural production in Western Europe and North America.

- The 19th century also brought new technologies to farming, technologies that were well-suited to the highly productive agriculture of Western Europe and North America. It is useful to think about the development of agricultural technology as a progression from previous, more traditional tools to those that became available as a result of industrialization. Considered this way, we can immediately identify three types of technical improvements in agriculture.
  - The greatest improvements made were to the plow, which otherwise hadn't significantly changed since the end of the Middle Ages.
  - A second type of technical improvement centered on the development and introduction of entirely new tools, such as mechanical threshers and reapers.
  - A last innovation in 19th-century agricultural technology revolved around new power sources for agricultural machines. This meant experiments in adapting steam engines to agricultural labor, such as plowing.

Suggested Reading

Federico, *Feeding the World*.

Questions to Consider

1. Why did an agricultural revolution go hand in hand with an industrial revolution?
2. How revolutionary can agriculture really be?

Lecture 23

Speeding Up: Canals, Steamships, Railroads

Before the coming of the railroads, each locality kept its own time based on the position of the sun. Time differed from town to town because the sun's position in the sky varies by four minutes for every degree of longitude. The community clock showed what time it was in any particular town but not necessarily what time it was in nearby towns. Under these conditions, the railroads found that maintaining a timetable and keeping their trains on schedule was a nightmare. Thus, railroad companies were the first to standardize time with the use of time zones. Timekeeping is just one example of the changes that society had to make in order to travel and communicate faster.

Roadways

- Early roads and highways developed from footpaths and dirt tracks. These roadways were established to connect towns and villages and to move goods to markets. States also used roads to move armies and materials. But these early roads proved to be an unreliable method of transportation for industrializing nations at the beginning of the 19th century.

- At the time, road travel tended to be a time-consuming process, and most roads were intended to meet only local needs. Road networks were most robust near towns and cities, but away from major towns, the system of roads broke down.

- The relationship between the state and roadbuilding has varied throughout history, with road repair (rather than construction) being among the larger issues states faced. In 18th-century England, the government had little to do with roads. The major thoroughfares were turnpikes, which were usually maintained by trusts and financed with the tolls that private owners collected from those in transit. The early United States also followed in this pattern of roads supported by user tolls.

- Once industrialization was underway by the early 19th century, the tonnage traveling over roads increased dramatically. Toll roads turned out to be too costly to meet these transportation needs. From a commercial perspective, more goods could be transported far more cheaply by water than by land.

Waterways

- Commercial traffic has always moved along the world's rivers. In fact, water transport was usually less expensive than land transport, especially for bulky, heavy products.

- Rivers also can be linked together by manmade canals to form more elaborate transportation networks. Canals were not inexpensive to build, but they were easier to maintain than roads, and they could handle cargo better.

- In England, during the first decade of the 19th century, canal shipments cost about half the price of overland transport by roadway. But Great Britain was relatively small and had many rivers stretching inland. The real benefit of canals was in the interiors of continents. Thus, canal building proceeded quickly on the European continent as industrialization progressed.

- In the United States, canal building was particularly successful. Probably the most important was the Erie Canal, built between 1817 and 1825 between Albany and Buffalo, New York. The Erie Canal dramatically

shortened the time and cost for shipping goods inland from the Eastern seaboard.

- What really made the American canal and river networks outstanding was the introduction of steam-driven boats. The American engineer and inventor Robert Fulton used a steam-powered paddlewheel boat up the Hudson River in 1807. It traveled at a speed of only about four miles an hour, but it revolutionized transportation along the nation's inland waterways. Within a generation, hundreds of steam-powered paddleboats plied America's rivers and canals.

- Almost immediately, continental Europe followed the U.S. example of deploying steam-powered boats on rivers and canals. By the mid-1820s, steamers were active all over Great Britain, France, and the Netherlands and along the Rhine River far into Germany.

Railways

- At the same time as canals were being dug and steam engines were being applied to water transport, a new method of moving goods by land developed using steam power. Ultimately, it would prove to be a faster and cheaper form of transportation than ever known before, once the full extent of industrialization was realized. Railroads, which required huge amounts of steel and coal, became practical in the 1830s.

- Engineers had experimented with rail transport for decades. The earliest railways were built in mines on wooden tracks to facilitate the movement of coal- and ore-laden carts to the surface.

- Because most mines were located some distance from water transportation networks, rail lines were built in the late 18th century to move the coal and ore to market. Although these were initially constructed of wooden tracks, heavier loads led to the need for greater strength and the idea of placing cast-iron plates atop the wood.

- The early rail cars were pulled by horses, but the British inventor and mining engineer Richard Trevithick demonstrated a steam locomotive as early as 1804. The first commercially practical steam locomotive engine was introduced in 1810. It would be a few more years before track suited to steam locomotives was developed.

- By 1820, however, hundreds of miles of rail lines stretched across Great Britain, serving mines and other bulk industries that needed to haul their products to canals or other waterways for transport to distant markets.

- In 1829, in response to a contest to find the best locomotive design for rail transport, the British engineer George Stephenson and his son Robert changed the rail game with a locomotive they called the "Rocket." This put an end to horse-drawn railways, as the new steam locomotives could pull more cargo farther and faster than ever before.

- During the 1830s, miles of rails were laid in Great Britain at enormous expense. But once the lines were in use, the profits swiftly recovered the cost. In less than 20 years, more than 6,000 miles of track were laid in Great Britain, and the proliferating railroads employed more than 100,000 men.

- Railroads were also being built in the United States at about the same time as they were taking shape in Great Britain. In the decade between 1830 and 1840, the amount of track laid across the United States covered 3,000 miles. By 1860, the United States could boast 36,000 miles of track, compared with Great Britain's 13,000 miles.

- On the European continent, Belgium was the first country to adopt the railroad. It was followed by the German states, Russia, and the Ottoman Empire. By the 1860s, railroad mainlines effectively connected all but the most rural areas of Europe.

- Interest then shifted to Europe's colonies. The British built a few railroads in South Africa and Australia. But India—with its huge population and

importance as a source of cotton—became the focus of British efforts. By 1870, India had 5,000 miles of track.

- The next phase in railroad building was to span the continents, which began with the opening of the American transcontinental rail line in 1869.

Ships

- Ships continued to play an important role in transportation at sea. A sailing ship's power source was free, and these vessels could carry large cargoes over great distances.

- Sailing ships were still faster than the lumbering steamboats and retained their dominance until steam transport could be improved. The tide began to turn around 1862, the year that Samuel Cunard's steamship the *Scotia*—still using a paddlewheel—crossed the Atlantic in just eight days.

- Sailing ships fell into serious decline in the late 1800s and soon were used only for specialty runs. Meanwhile, the introduction of steel (rather than iron) in steamboat construction led to larger and faster vessels. In 1884, large steel steamships could cross the Atlantic in six days.

Communications

- By the end of the 19th century, advances in transportation had come close to creating a global commercial market. But this would not be possible without one additional piece of the puzzle: innovations in communications.

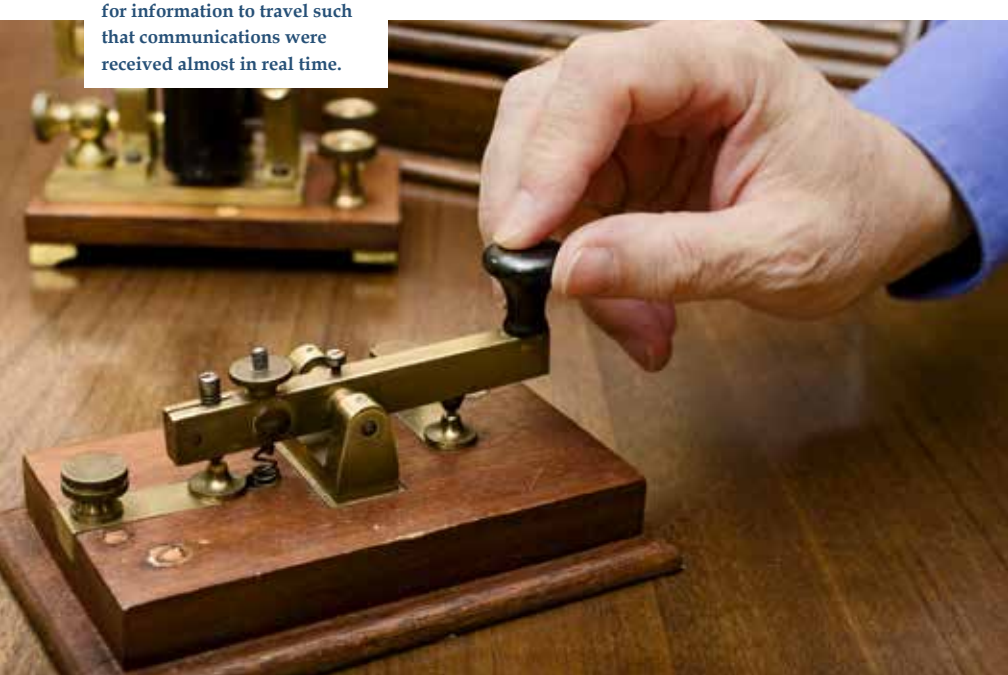
- Experiments in electrical current had included attempts to communicate across distances. In 1816, the English inventor Francis Ronalds constructed the first working telegraph but found little interest in his new device.

- In 1833, the German mathematician Carl Friedrich Gauss developed a working telegraph that met with success, strung along Germany's first railroad line in 1835. As with many early industrial developments, it would fall to the English to develop a commercial telegraph. This was installed along the Great Western Railway line in 1837. A secure link thus developed between railroads and telegraphs that would remain in place for many years.

- The electric telegraph's commercial use was ultimately perfected in the United States. Two American inventors, Ezra Cornell and Samuel Morse, came up with a way to send telegraph messages with a single wire and to use relays to keep the signal strong across long distances.

- The communications code Morse developed was perhaps of equal or greater significance. On May 24, 1844, Morse transmitted the world's first telegraph message. Soon, the telegraphic method of Morse and Cornell became the standard for rapid communication.

The telegraph reduced the time for information to travel such that communications were received almost in real time.



- The telegraph succeeded in unifying markets both within a county and between countries. Once communication cables were laid across the ocean floor, we can begin to think in terms of a unified world market.

- The Anglo-French Telegraph Company laid the cable across the English Channel in 1850. And by 1866, telegraph cable had been laid across the Atlantic Ocean, thereby connecting London with the United States and Canada. By the turn of the 20th century, telegraph cables had also been laid across the Pacific Ocean, connecting the Far East with the United States. Telegraph communications could now literally circle the globe.

- The close connection between railroads and telegraphs expanded to include financial markets, which found such communications indispensable in transmitting information about markets, economies, finance, and trade around the world.

- Investigations into improving the electric telegraph led to a variety of experiments with telephonic communication. Who invented the telephone remains an open question, but Alexander Graham Bell took out a patent and produced a working telephone in 1877.

- The telephone had the capacity to transmit a larger amount of information, much more economically, than did the telegraph. Initially, it was used almost exclusively by businesses. By 1900, however, the telephone had begun to spread to households.

- A drawback to the telegraph and telephone, of course, was that transmitters and receivers needed to be connected by wires on either end of a communication. This fact prompted a variety of physicists and inventors to experiment with wireless telegraphic communication. The breakthrough came as a result of the work of an Italian inventor named Guglielmo Marconi, who came up with a way to transmit signals without wires in 1895. Backed by British investors, Marconi succeeded in developing a commercial wireless telegraph service that would transmit messages from ships at sea to receivers on land.

Suggested Reading

Schivelbusch, *The Railway Journey*.

Questions to Consider

1. How does effective communication affect commerce?
2. In what ways are developments in communication and transportation connected?

European Urbanization and Emigration

In the 19th century, the population was growing so fast—in Europe, at least—that millions of people left for opportunities and better lives in other parts of the world. This population explosion began in northwestern Europe, most noticeably in Great Britain and the Netherlands. The number of people living in each of these areas more than doubled in a little more than 50 years before 1820. Europe's overall population doubled during the first half of the 19th century and tripled by about 1910. Europe and the world experienced a demographic revolution during the course of the 19th century. It is a revolution that is still going on as the planet's population continues to grow.

Causes of Population Growth

- One general factor that causes population growth is an increase in agricultural productivity in order to feed growing numbers of people.

- In addition, birthrates—measured by the number of births per thousand people—also increased, especially in Great Britain. Birthrates can increase as the result of a number of factors, the most obvious of which is an earlier marriage age, giving women a longer reproductive period in their lives. But we also need to consider the other side of the equation, which is the death rate. The balance between birthrates and death rates determines how fast a population will grow or decline.

- For centuries, Europe had experienced very high death rates, often between 35 and 36 per thousand. Likewise, birthrates had fluctuated between 36 and 40 births per thousand. The obvious result was a slow rate of population growth.

- By about 1750, death rates in Great Britain had fallen to about 30 per thousand. By 1800, they had dropped to about 26 per thousand. And by the end of the century, death rates were running at about 15 per thousand.
- Interestingly, birthrates were also declining. Death rates simply declined faster than birthrates; thus, the overall population grew dramatically.
- The declining death rate had more to do with lower infant mortality than adult mortality. Up until 1820, life expectancy around the world was about 25 years. So many infants never made it to adulthood that the average life expectancy remained low. Life expectancy rose to 36 years around 1820 and to 46 years by the end of the 19th century.

- One factor that contributed to decreasing death rates was better health. Diseases that at one time decimated the population had abated in Europe.
  - The first real breakthrough in combating disease came when an English physician named Edward Jenner invented a vaccine for smallpox around 1798.
  - In the 1860s, other European scientists were making important discoveries, too. For instance, Louis Pasteur discovered that organisms cause disease and that weakened forms of the disease could be used as a vaccine to prevent outbreaks of the full-blown illness.
  - Working from Pasteur's discoveries, the English surgeon Joseph Lister came up with the idea of

In developing his smallpox vaccine, Edward Jenner inoculated a boy with cowpox; the youth suffered from the cowpox infection but later seemed to become immune to smallpox.

using antiseptics to fight infection. His discoveries revolutionized treatment of the injured and ill.

- These and many other smaller discoveries of the 19th century—along with the introduction of national health regulations—greatly improved life expectancy.

Emigration

- Europe's agriculture was becoming more productive, but there wasn't enough land to support the growing population, and there weren't enough jobs in the cities to employ everyone. Thus, large migrations occurred in the 19th century.

- During the 100-year period between 1815 and 1914, some 60 million people departed Europe. About 35 million people crossed the Atlantic for the United States. Another 5 million went to Canada. Argentina and Brazil became new homes for about 15 million Europeans, while other emigrants went to Australia, New Zealand, and South Africa.

- Of the 60 million people who left Europe, about 18 million of them were from Great Britain and Ireland. Substantial numbers also departed Germany and Scandinavia. Not until after about 1880 or 1890 did large numbers of Italians, Eastern Europeans, and Russians also emigrate.

- Migrants from India and China were also moving within Asia and to the more developed areas of the world. For example, large numbers of Chinese moved to California during the Gold Rush.

- Many scholars have viewed the population movements of the mid-19th century as the greatest in human history, and it was unquestionably the Europeans who accounted for the largest redistribution.

- Such massive migrations in some cases led to overall population declines. For example, Ireland's population dropped to 4.5 million in 1900 from about 8 million in 1840. Most of the difference was due to emigration.

- But migration within Europe proved to be just as significant. Even before industrialization, population movements within Europe were fairly common. Many of these movements during the early modern period had to do with religious persecution, displacement resulting from warfare, and state-sponsored settlement.

- The largest migrations in Europe mostly took place within individual countries. These were the mass migrations from countryside to the growing cities. The growing urbanization of Europe proceeded in lockstep with industrialization. Workers were attracted to the cities as production moved into factories.
  - In Great Britain, the proportion of the urban population to the total went from about 48 percent in 1851 to 73 percent by about 1910. In France, it went from about 25 percent to about 45 percent during the same period.
  - Not surprisingly the sizes of the cities grew, too. In 1800, Europe had 23 cities with populations of more than 100,000. By 1900, there were 135 cities that size or larger.

Urban Growth

- The populations of the largest cities in Europe were staggering. In 1800, the population of London was 1.1 million. Eighty years later, it was almost 5 million. Paris had a population of about 0.5 million in 1800, but by 1880, its population had more than doubled.

- The cities were largely unprepared for the influx of people, and conditions were initially poor. Consequently, the growth of cities presented many challenges, as governments needed to find new ways to supply and manage their vast populations.

- The millions of peasants who migrated from the countryside to the cities—and even those who crossed the oceans for new homes in the industrial cities of America and elsewhere—were unprepared for the crowded and filthy conditions they experienced.

- The differences between the lives of the rich and middle classes and the working classes were stark. In the industrial cities, workers lived in one or two rooms shared with their extended families or even strangers in dilapidated buildings or tenements that were quickly and often shoddily built to accommodate them.

- By about 1875, standards of living for the working class in Northern and other parts of Western Europe began to improve. Workers' wages rose, partly as a result of outmigration, thereby decreasing the labor supply. And improvements in agriculture resulted in lower food costs. This freed up some domestic earnings for better housing, clothes, and leisure activities. Foodstuffs also became more varied.

- Probably the most important changes to improve the situation in cities were the proliferation of government regulations intended to improve living and working conditions. Central water supplies, sewer systems, and public health rules caught up with the rapid rise in population to dramatically improve the quality of life in cities. Once this was accomplished, Europe was much better situated to cope with an exploding population.

19th-Century Paris

- Probably one of the best examples of the problems of rapid urbanization—and a city's response to a huge influx of migrants—is Paris in the 19th century.

- Between 1801 and 1846, the population of Paris doubled, with the most pronounced increases in density found in the old central core of the city. As people flocked to urban centers and moved into overcrowded neighborhoods, large slum quarters developed.

- Paris was an old city, and its population growth had been slow in the preceding centuries. The French capital—like almost all other European

cities before the modern period—had grown up organically, without a perceived need to plan for future growth.

- The rapidly growing cities during the early 19th century were quite literally caught off guard. The biggest problem was not housing, though that was woefully inadequate. Rather, it was an urban infrastructure that couldn't keep up with population growth and increased densities.

- In Paris, the mood among those in power was for a radical rebuilding. The lead was taken by the first popularly elected president of France, Louis-Napoleon Bonaparte (Napoleon III), the nephew of the more famous Emperor Napoleon. Napoleon III chose a man named Georges-Eugène Haussmann as the chief architect of what would become an extensive urban-renewal project.

- In 1853, Haussmann was appointed prefect—or chief magistrate—of the Seine Department, meaning he ran local government affairs in Paris and its immediate suburbs. In this position, Haussmann was put in charge of accomplishing the vision of remaking Paris.

- Water was Haussmann's first priority. A number of aqueducts built between 1865 and 1874 succeeded at bringing millions of gallons of water into the city each day. In this way, Haussmann eliminated the use of the polluted Seine River as a water source in less than 10 years.

- For several reasons, Napoleon wanted to open up the metropolitan landscape with wide boulevards. Haussmann, with little concern for the city's heritage, tore down scores of medieval structures. Of 200 or so grand Parisian buildings in the 18th century, only 50 escaped Haussmann's wrecking crews. But the Paris of today—with its wide boulevards, plazas, and open spaces—was the Paris that Napoleon III had Haussmann build for him.

- Projects similar to the Haussmannization of Paris were undertaken in many other cities across Europe and in North and South America.

- For example, London's Albert Embankment—along the Thames—included large sewers that discharged waste into the river, along with gas mains and water pipes.
- Such public works projects took decades to complete. But they solved the overcrowding and poor conditions presented by a soaring urban population. The result was an even-greater capacity for population growth.
- These growing populations—once accommodated within the existing infrastructure—provided industry and agriculture with the workforces necessary for a growing economy.

Suggested Reading

Ó Gráda, *Black '47 and Beyond*.

Questions to Consider

1. What makes populations increase?
2. How does this affect the economy?
3. Do populations grow more with industrialization?

Lecture 25

Unions, Strikes, and the Haymarket Affair

On May 3, 1886, workers from the McCormick Reaper Works factory in Chicago walked out on strike. This was part of a nationwide series of labor stoppages by industrial workers aimed at securing an eight-hour workday. The McCormick Reaper strikers clashed with the Chicago police, who fired into the crowd. In the end, no one knows how many workers were killed. This event is known as the Haymarket Affair, after the section of Chicago where the confrontation took place. The event highlights some of the social tensions that industrialization generated that had yet to be worked out.

Defining *Class*

- We usually use the term *class* to refer to socioeconomic status, as when we refer to the *middle class*. However, *middle class* has lost its descriptive power as it has come to mean almost anyone in modern society.

- If we use the term to describe various roles in our socioeconomic structure, it begins to become useful. For instance, we might distinguish between the class of industrialists who own the means of production and the working class who are employed for wages.

- Workers sell their labor to the industrialist, sometimes creating an unequal relationship. If we were to extend this definition of *class*, we might notice that different classes have different interests. The industrialist wants to employ his workers at the lowest possible wage and get the maximum output from each one. Workers, in contrast, are interested in earning a living wage and enjoying some leisure time, to name just two things.

- Throughout history, society has separated itself along divisions that we might loosely refer to as classes: elites, merchants, craftsmen, unskilled laborers, peasants, and so on. Industrialization gave rise to a new social class.

- Indeed, many would say that the whole idea of class as we know it came about with industrialization. This notion of class started with the introduction of wageworkers into the economy, though the process had been going on for more than a century by the time of the Haymarket Affair.

Class Consciousness

- Industrialization, with its ability to employ large numbers of unskilled workers, changed the organization of labor. As individuals began traveling to a central workplace rather than performing their work at home, industrialization also changed the relationship of family and social structures to the workplace. These changes presented a new set of interests for those who made up the worker class.

- Wageworkers were no longer simple peasants associated with agriculture. Nor were they artisans who were skilled in some kind of trade. Because of their common experiences in factories, wageworkers began to think of themselves as a collective entity. Within a few decades of industrialization, wageworkers developed a class consciousness, or conscious belief, regarding their economic place in society.

- In turn, workers and industrialists developed a relationship filled with tension and mistrust. A similar tension arose in the United States. American workers, however, had something that many European workers lacked: the right to vote.

- The source of tension between industrial employers and labor was usually (though not exclusively) related to harsh working conditions on the factory floor and the strict workplace rules that prevailed at the time.

- Karl Marx thought that the development of class consciousness by workers would lead them to unite under the banner of socialism. Marx was wrong about the outcome, but class consciousness did bring workers together to demand better working conditions from the industrialists.

- Concern about collective well-being was not a new concept. Peasants had worked together for mutual survival for thousands of years. Artisans viewed themselves as part of a distinct corporate body as far back as the Middle Ages. But wage work was a relatively new concept. As the location of work moved from the home to the factory and as the labor that produced goods depended on the industrialist for materials and tools, significant social upheaval resulted.

- Large numbers of people (the labor class) were now thrown together in close proximity on the factory floor. In this environment, factory workers became aware of the common interests they shared and saw how they might act together to further these interests.

Labor Associations

- Premodern guilds established something of a precedent for the group consciousness that industrialization brought about. It would be imprecise to suggest that the medieval guild was an antecedent to the modern labor union, but the waning of the old guilds did leave a vacuum that modern labor associations filled.

- Medieval guilds essentially were associations of merchants or skilled craftsmen who were employed in a common trade. Guildsmen owned their own tools and had control over the materials used in their profession. The guild masters determined who could join the guild, regulated quality, and influenced production volumes and, sometimes, price.

- Guilds were often powerful organizations in medieval cities. But the important thing to note is that guilds were established to maintain the stability of production and the interests of the masters, rather than to

protect workers. That said, guild members shared an identity that went beyond craft production into the social sphere. Guilds also provided members with a variety of privileges and looked after the welfare of members.

- Not surprisingly, it was the artisans—who were the professional descendants of the guilds, in a sense—who formed the earliest labor associations. They sought to resist the mechanization of their trades. The earliest labor associations were essentially anti-industrialization, and they routinely worked against the introduction of machinery in the productive process.

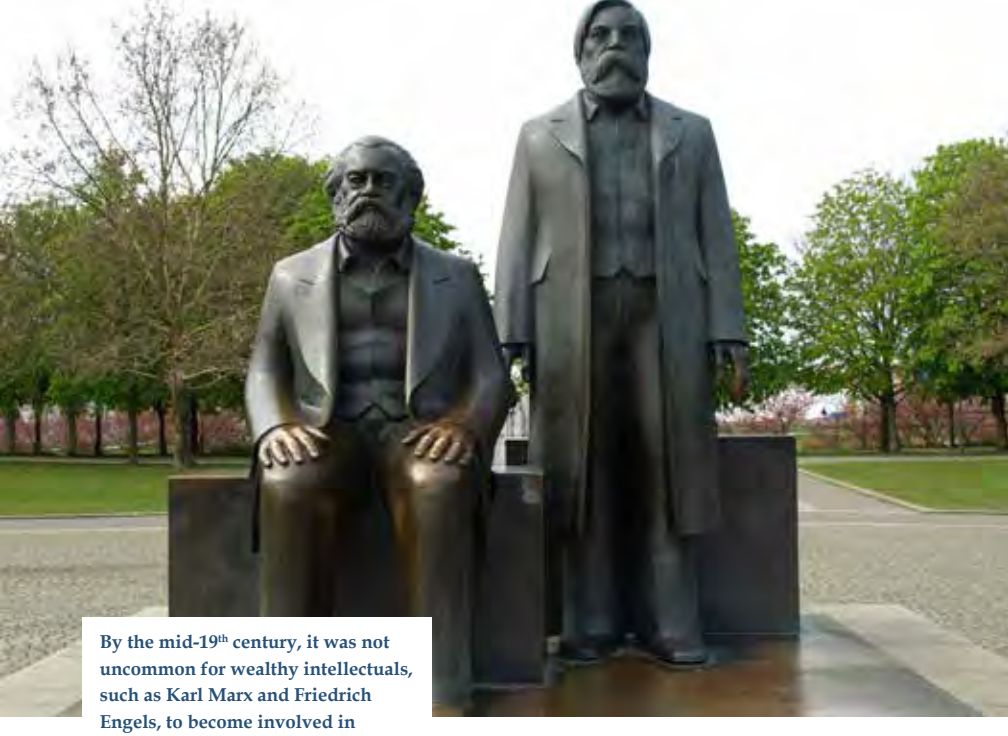
- As the 19th century wore on, trade unions developed. The main purpose of trade unions was to negotiate with employers for wage and workplace improvements.

- Collective bargaining was the form by which trade unions sought to magnify the individual worker's negotiating leverage to gain advantages that suited him individually, while also securing gains for the group. When these negotiations failed, the workers used the one effective tool they had: the strike.

Marx and Engels

- Karl Marx and Friedrich Engels—radical sons of wealthy Germans—met each other in England during the 1840s. Marx and Engels both sought to end the plight of factory workers. They preached outright revolution as the only way the workers of the world would be free of exploitation.

- Marx chose to highlight the tensions that led to conflicts between workers and industrialists in order to convince the workers to rise up to change the economic system that had developed as a result of industrialization. Marx became convinced that it was the working class that would fuel and pursue a revolution that would topple what he called the "capitalist mode of production." But an organized political



By the mid-19th century, it was not uncommon for wealthy intellectuals, such as Karl Marx and Friedrich Engels, to become involved in workers' political movements.

party would be needed to lead the workers' revolution. Marx found it in Great Britain in what would become the Communist League.

- Marx produced his most famous piece of writing—*The Communist Manifesto*, cowritten with Engels—for the league between 1847 and 1848. It outlined Marx and Engels's view of the history of socioeconomic relations as a series of struggles between the haves and the have-nots. It also set forth a series of demands, such as a progressive income tax and free public education, to illustrate the party's dedication to workers' interests.

- Though Marx's writings were influential during a period of unrest in Europe in the middle of the 19th century, the Communist League was never able to mobilize the world's workers. Still, politics had entered the realm of the working classes for the first time.

Labor Unrest

- The period after about 1880 or 1890 saw the greatest labor unrest. Part of the reason for this is that collective bargaining was not a legal remedy in most countries before the 1870s, and only when collective bargaining was in place could labor unions really begin to grow and develop a plan of action. Even then, labor strikes remained illegal in most places until the early 20th century.

- Strikes were the most direct remedy available to workers to address their job grievances. Political remedies took more time and often appeared to be much less effective in the short run.

- Most successful strikes centered on workers' desire for fewer work hours or higher wages or against a wage cut. Wage strikes were most common during periods of high inflation, such as the 1870s, when wages failed to keep up with rising prices in Europe and the United States.

- In 1877, labor leaders in St. Louis authorized a general strike of all industries. Similar walkouts occurred in industrial cities all over America that same year, including the Great Railroad Strike.

- Toward the end of the 19th century, American workers more frequently began to use the threat of strikes over wages as a tool in collective bargaining efforts. The problem, of course, was that in order to injure the employer in a labor shutdown, the workers needed to be prepared to absorb the hardships that a loss of wages would entail.

- By the turn of the 20th century, more than half of all strikes were based on disputes over wages. Strikes over working conditions factored in only about 5 percent of walkouts. Strikes over working conditions were also the hardest fought, because they usually required a large expenditure of capital on the part of the employer to address.

- Workers' views of the workplace had changed dramatically from common perceptions 100 years earlier. In the early days of industrialization, many

workers had felt threatened by the mechanization of many sectors of the economy. But by the end of the 19th century, even though the bulk of the population remained engaged in agriculture, vast numbers of workers were now employed in large-scale industrial production at factories.

- Strikes over the length and number of work days peaked from about 1905 to 1907. European workers, for instance—after succeeding in decreasing the work day to about 9 or 10 hours—did not seek further cuts until after World War II.

- The political situation had changed, as well. In the middle of the 19th century—a period that coincided with significant political unrest—urban political machines latched onto workers' concerns.
  - Socialist parties were the most active in trying to appeal to workers to achieve their political ends. But most political parties had some role to play in this, as the growing numbers of workers—and their votes—came to be seen as valuable political assets.
  - Even then, party leaders who represented the upper and middle classes were usually incapable of truly understanding the concerns of aggrieved workers. By and large, their interests were aligned with employers, a situation that has continued up to the present.

Suggested Reading

Berlanstein, ed., *The Industrial Revolution and Work in Nineteenth-Century Europe*.

Thompson, *The Making of the English Working Class*.

Questions to Consider

1. Why do workers strike?
2. Are workers and bosses always at odds with each other?
3. How might industrialization have created worker tensions?

Banks, Central Banks, and Modern States

Governments had a significant impact on the economic climate of 19th-century Europe. Governments were very much involved in creating conditions that could either advance or hinder industrialization and, more broadly, the economy. We have a tendency today to view many government actions as interference. But governments also provide an overarching structure for economic activity, such as the legal environment in which an economy functions and activities intended to promote domestic trade and industry. In this lecture, we'll consider the role of government in the economy, as well as other institutional contexts that business and industry must negotiate in order to grow.

Economic Roles of Government

- Governments play a number of roles in an economy. For example, they create the legal environment in which an economy functions, engage in activities to promote domestic trade and industry, impose regulations, and engage in production.

- All these ways in which governments are directly involved in the economy illustrate the idea that there are a variety of institutional contexts that business and industry must negotiate in order to grow. For that matter, the choices that individual governments make in their actions relative to the economy also depend on traditions and attitudes.
  - For example, Great Britain and the United States both preferred their governments to exercise minimal direct involvement.
  - Governments in France and Prussia exhibited much greater involvement, even to the point of state involvement in industrial enterprises.

Legal Traditions

- Great Britain's common law tradition—which is the legal tradition in most of the United States, most of Canada, Australia, and New Zealand—reflects the cumulative legal wisdom of a society, as gathered in the form of its published judicial opinions. Common law has the advantage of being not too confining, giving it flexibility when confronted with change. It was and is evolutionary in nature, relying heavily on custom and precedent.

- In France and most of the European continent, the tradition of civil law prevailed. Civil law typically is based on codified statutes.
  - France, before the French Revolution, encompassed a number of outmoded institutions. The revolution abolished what was left of the feudal order and instituted a more rational legal system based on Roman or civil law, assembled in legal codes. Napoleon Bonaparte then carried many of the French legal reforms and ideas into the countries he conquered.
  - The Napoleonic Code consists of three parts: the law of persons, the law of property, and the law of commerce. It soon spread across Europe, outlining allowable forms of business organization.

Banking

- All banking systems have some features in common, but they differ in structure according to nationality, because an institution's structure is shaped by its governing legislation, in addition to the historical evolution unique to the country.

- Scholars have identified three stages in the development of banking. The first phase focused on merchant banking, following the British model. The second phase concerned the development of industrial investment banks, beginning in Belgium. The third phase, which combined aspects of traditional banks with industrial banks, developed in Germany.

- Each phase in the development of the European banking industry is marked by a solution to a financial problem that needed to be solved at the time. Europe was convulsed by revolutions—political and social, as well as economic—and these disruptions resulted in new institutional arrangements, primarily to address the problem of how to attract more capital in order to grow.

- Scholars have identified several possible ways that banks could interact with other sectors of the economy, including promoting growth, having neutral effects on the economy, and restricting growth.

Banknotes and the Gold Standard

- The Bank of England, founded in 1694, was the cornerstone in the development of modern banking systems. It introduced a variety of services that served the financial needs of commerce, including money transfers and exchanges, the discounting of bills of exchange, and foreign trade transactions.

- Probably the greatest change in early banking practices was the monopoly on banknote issuance that Parliament gave to the Bank of England in the mid-19th century.
  - The Bank of England had begun managing the national debt for the government at the end of the 18th century, though the bank was still privately held at the time.
  - In 1844, Parliament passed the Bank Charter Act, which instituted the gold standard and required that banknotes be issued based on gold reserves. The Bank of England then became the central bank of the United Kingdom and the banker for other banks.

- Banknotes and the gold standard are important for our discussion of banking because of the effect these changes had on commerce generally.
  - Banknotes developed from the need to transport money. A piece of paper, essentially a promissory note, was much easier to transport than precious metals.

The Bank of England was founded in 1694—decades before the Industrial Revolution—but it played a significant role in the development of modern banking.

- Eventually, these were not written out to specific individuals. Rather, they could be redeemed for metal currency by the bearer. When that happened, they became equivalent to currency, but they were not standardized between banks.
- However, central banks, such as the Bank of England, typically are authorized to print banknotes that are uniform and can be redeemed at any bank.

- Most people didn't see the need to redeem their banknotes very often. Thus, a bank typically could issue more notes than it could cover with its available reserves. Over time, banks developed their own formulas to determine the value of notes they were willing to issue relative to the amount of metal reserves on hand.

- We can see a problem with this process. In order to increase the amount of money in circulation, the quantity of precious metal reserves on

hand would have to increase, as well. What happens when a country's reserves of precious metals decline? The government and central bank might have to reduce the amount of money in circulation or allow the currency to float (in other words, not be based on metal reserves).

- Think about settling accounts between two parties using different currencies. How do they set a rate of exchange? If they were to use metal coins—say, silver—they could just weigh the silver to determine how much of one currency equaled another.
  - This was essentially how transactions were carried out around the world during the Middle Ages. But carrying huge amounts of silver or gold was a risky undertaking. Thus, international bankers cleared and settled payments so that large amount of metals wouldn't need to move around.
  - States began including foreign banknotes in their treasuries to make this process easier. The British pound sterling was the stable currency of the 19th century.

- The British were early to establish the gold standard as a way to deal with complex financial relations between countries, which were on the rise at the time. Still, not all countries chose to adopt the gold standard.

- There were really three "standards" initially: the gold standard, the silver standard, and bimetallism. Silver prices plummeted beginning in the second half of the 19th century, and bimetallism failed. After about 1876, most industrialized nations had adopted the gold standard.

Banking and Industrialization

- The British banking system developed private merchant banks that were engaged mostly in international trade and foreign exchange. To match a variety of credit schemes common in European trade, the merchant banks extended short-term loans and offered brokerage services, payment transfers, and clearing and settlement services.

- Many economic historians have suggested that because Great Britain was already wealthy by the onset of industrialization, British banks were probably more or less neutral in their contributions to industrial development. But British banks also extended credit to industrialists, usually on short terms, and many developed close relationships with industrialists.

- Other countries followed the English central bank example. For example, the Bank of the United States—which was founded in 1791 and reorganized in 1816—helped fund the public debt and served as a repository for federal funds before the Federal Reserve was established in the 1930s.

New Banking Systems

- The far greater capital needs that emerged after the mid-19th century created the conditions for new types of banking systems. This was especially true for such industries as the railroads, which were capital intensive. This led to a second banking revolution, which began in Belgium with the establishment of the Société Générale in 1822.

- Belgium's Société Générale was founded with the specific charge to "promote trade and industry." Until this point, banks had been focused on marketing and providing financial services to individuals and businesses. But here, we have the state giving a bank a new charge: to take an active role in growing the economy.

- The new banking scheme took off once Belgium broke from the Netherlands in 1830. After that, the Société Générale increased loans to industry and began investing in the railroads and the coal and iron industries. But Belgian banking went even further, directly investing in smaller industrial enterprises. The Belgian model spread to France by about 1850.

- The third stage of the 19th-century banking revolution began in Germany around 1870. Following on the Belgian and French models—each of

which promoted industrialization in those countries—German financiers created mixed banks (or universal banks) that combined traditional banking activities with industrial investment.

Insurance

- Efficient banking systems are among the necessary components of an effective business. In one sense, they serve to minimize risk by establishing the rules of settling accounts, making payments, and investing. Another way businesses minimize risk is to insure themselves against unexpected losses.

- A business has a number of ways to reduce its risk of loss. One way is to spread risk over many enterprises. For example, a manufacturer or merchant who wants to ship products abroad might minimize that risk by dividing the shipment among several ships. Actually, it was in maritime commerce that insurance developed.

- Later, as the British began to dominate overseas trade during the 17th century, London coffee houses—most notably Lloyd's—began to deal in insurance. By the end of the 17th century, fire insurance businesses emerged.

- Over the course of the 19th century, as actuarial science developed, improvements were made in calculating risk for all areas of insurance. But even with more scientific methods to set premiums, the insurers' ability to calculate and maintain minimum capital reserves was also necessary to pay off any claims. Thus, insurance companies had to grow in size as banks, businesses, and individuals increasingly used insurance.

- Large insurance companies formed after universal banks were established, in the second half of the 19th century. In other words, larger insurers developed at about the same time as the banks began to play a greater role in providing capital to industries and needed to manage their own risks.

Suggested Reading

Grossman, *Unsettled Account*.

Questions to Consider

1. Why are banks important for business?
2. Can banks work against industry?
3. How do businesses reduce risk?

Lecture 27

Understanding Uneven Economic Development

Factors conducive to industrialization include technological innovations, a productive agricultural sector, population growth and an adaptable workforce, natural resource endowments, favorable institutions, and businesses that promote industry. In 1890, the eastern region of the United States, parts of Canada, Great Britain, much of northwestern and Central Europe, and parts of Russia and Japan were all heavily industrialized. Pockets of industrialization were also underway in some other European countries, Latin America, the Middle East, and India. But almost all of Africa, most of South America, and much of Asia remained practically untouched by industrial activity. In this lecture, we'll explore the reasons behind this uneven development.

Modernization Theory

- Until recently, developmental policymakers thought that undeveloped and underdeveloped countries needed to progress through each stage of industrialization to complete the process of development. This idea is closely aligned with *modernization theory*—the idea that societies should move through a series of transitions from traditional to modern.

- Some of the tactical thinking underlying this idea was that in order to become modern, a country would need assistance to begin the transition. It would be necessary for an underdeveloped country to receive some new technologies, usually focused on infrastructure. Eventually, the objective would be for the less-developed countries to

start producing goods domestically rather than importing them. This is called *import-substitution industrialization*.

- More recently, policymakers have realized that the theory has some flaws. For example, according to this line of thinking, underdeveloped African countries would to need build and maintain a landline-based telecommunication system. But in reality, cellphone systems are today far preferable and cheaper to install. Such examples show that countries do not necessarily need to adhere strictly to each stage of traditional development.

- During the late 19th and early 20th centuries, the problem of industrial development was not solved by forcing societies to move through stages of development. Instead, it often took many took decades after early industrialization had begun elsewhere for large areas of the world to join the industrial club.

Factors Shaping Industrialization

- Based on Great Britain's experience, scholars long held that the type and quantity of certain natural resources—primarily coal and iron—were important to industrialization. Northwestern Europe had excellent endowments of both.
  - Great Britain, in particular, mined huge amounts of coal and led Europe in coal production. Germany was the second-largest producer, and tiny Belgium was the third. The only other coal producers of any size in 1850 were France and the United States.
  - Each country needed to exploit its unique natural resources to sustain industrial development. What were some of the other options? Many of the alternatives were the same fuels that had powered traditional manufactures for centuries.
  - For example, Switzerland was a late industrializer with poor coal resources. But its industrial development took off once electrical power became more common, after about 1880.

- Other endowments were important, too, especially as a larger percentage of the world's population became aware of the possibilities that industrialization afforded. The model for industrial development has always included a dynamic labor force of both unskilled and skilled workers.

Human Capital

- It might be said that economic growth depends on the diffusion of knowledge about technology and production methods. Some scholars have suggested that the acquisition and application of knowledge is the most important factor, above all others, in industrialization. According to this line of thought, human capital is what really makes the difference as to whether a nation industrializes or not.

- One way to measure human capital is to look at the availability of basic education resources and the level of adult literacy in a population.
  - During the 19th century, literacy was on the rise as more countries established primary schools. In 1830, for example, those countries that were either already on the road to industrialization or were poised to begin industrializing had fairly high primary school enrollments.
  - Germany had about 1,700 students enrolled per 10,000 people. The United States enrolled about 1,500 students per 10,000. And the United Kingdom, oddly, had a smaller percentage, with 900 students per 10,000.
  - In Asia, the picture was different. Data for China are not readily available, but as late as 1920, fewer than 200 Chinese students were enrolled per 10,000.

- Another way to measure human capital is to look at the data for adult literacy.
  - U.S. adult literacy rates went from about 85 percent of the population in 1850 to more than 90 percent in 1900. The literacy rates in both France and Belgium rose from about 60 percent in

Human capital can be measured by a population's ability to provide a satisfactory workforce for industrialization, basic education resources, and levels of adult literacy.

1850 to about 82 percent by 1900. In contrast, Italy's literacy rates rose from less than 25 percent of the adult population in 1850 to only about half the population.

- Russian adult literacy rates were, as we might expect, even lower, with only about 30 percent of the adult population literate by 1900.

- Yet another way to measure human capital is by a population's ability to provide a workforce that is satisfactory for industrialization. The persistence of serfdom in some areas of Eastern Europe and the Soviet Union until the 1840s and 1860s and the continuation of slavery in the U.S. South until the 1860s and, later, in parts of South America are indicators that a significant portion of the available labor force in these areas could not be dedicated to industrial activities.

The Course of Industrial Development

- Netherlands and the Scandinavian countries began industrializing in about the 1880s. All of them had high human capital endowments. For example, Sweden's adult literacy rate of about 90 percent was already the highest in Europe by 1850.
  - These countries also had abundant natural resources: iron in Sweden and timber in the Scandinavian countries. Each of them had good access to the sea, along with favorable political institutions that were conducive to commerce.
  - At the same time, these countries had virtually no coal deposits. Thus, they relied on traditional forms of power to drive their industries: water power in Sweden and Norway and wind in the Netherlands and Denmark.

- These endowments were somewhat different than those of the earlier industrializers, such as Great Britain, Belgium, Germany, and the United States. Because of this difference in endowments, economic development and the character of industrialization were necessarily different in the Netherlands and the Scandinavian countries. The strategy each country used was to take advantage of its access to international markets and stake out a niche industry to which the country was well suited.

- In contrast, Southern and most of Eastern Europe failed to industrialize before the 20th century. These countries had fairly low human capital endowments and were characterized by low levels of agricultural productivity, usually because agrarian reforms were slow to occur. Their autocratic, authoritarian, and sometimes corrupt and inefficient governments also tended to hinder economic growth.

- The situation in southeastern Europe was even worse. The Balkan states, including Albania, Greece, Romania, and Serbia, were the poorest in Europe, west of Russia. All had recently gained their independence from the Ottoman Empire.

- About 80 percent of the population in these areas was engaged in agriculture—a sector that, once again, was not particularly productive. Farm technologies in the region were primitive compared with the rest of Europe, and these states had few natural resources.
- The landed nobility in Southern and Eastern Europe held virtually all power; thus, their institutions favored a kind of feudal paternalism, even though the peasantry had been emancipated by the turn of the 19th century.
- The small middle class, concentrated in urban areas, slowly moved these backward Balkan states in the direction of modern industry. But with an industrial workforce making up only about 10 percent of the working population before 1910, the modern world seemed to have passed the region by.

- The largest of the Eastern European countries was Russia. In absolute terms, Russia ranked as the fifth-largest industrial economy in the world at the time. But its industrial output per capita was much lower. About 60 percent of the Russian labor force was still engaged in agriculture. Further, several events in Russia and abroad, including its war with Japan and its internal revolution, put greater industrial growth on hold.

The Nonindustrial World

- Most of the world didn't industrialize until the 20th century—and often quite late in that century. This doesn't mean that they were untouched by industry, but more often than not, the industrial club took to exploiting the nonindustrial world for its resources. For example, American and European firms purchased mines all over South America, Africa, and Asia.

- Agriculture was also part of this system of resource extraction, for both food crops and industrial crops. American and European firms created huge plantations around the world that were set up specifically to feed the Western consumer's demand for tropical products, such as cotton,

tropical oils, fruits, and coffee. Industrial crops, such as hemp and rubber, were perhaps even more important.

- As oil fields were discovered in various parts of the world, American firms also became closely involved in their development.
  - Oil was discovered in the Middle East shortly after the turn of the 20th century. The Turkish Petroleum Company—founded by German, Dutch, and British investors—was established in 1912 to exploit Iraqi oil reserves.
  - As they had done in the mining industry, American and European firms imported all their own technologies to collect the oil and brought in skilled Western workers to run the fields. Almost all the profits went to the Western investors, as well.

- It's important to note that this pattern of resource exploitation wasn't restricted to Western powers. Japan, which had also industrialized by the end of the 19th century, engaged in many of the same activities.

- Industrial capacity was introduced by developed countries into nonindustrial ones but only to meet the resource requirements of the industrialized world. Was this pattern good or bad?
  - Some scholars have suggested that even if the goal were to funnel resources to the industrialized nations—that is, exploitation—the resulting development in infrastructure and skills of the lesser-developed countries contributed to later native industrialization.
  - Others argue that this pattern of exploitation served only to impoverish nonindustrial economies and increase their dependence on the industrial powers.
  - Under either interpretation, the unequal power in such relationships contributed to significant resentment toward capitalist systems generally and against Western Europe, the United States, and Japan specifically.

Suggested Reading

Easterlin, "Why Isn't the Whole World Developed?"

Questions to Consider

1. Do countries have to go through certain stages in order to industrialize?
2. What does it mean for development to be uneven?

Lecture 28

Adam Smith's Argument for Free Trade

In 1776, in *The Wealth of Nations*, Adam Smith stated: "If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry." In Smith's time, foreign trade mostly offered supplements to consumption or, perhaps, raw materials. Thus, Smith was arguing that countries should buy products from where they were the cheapest. When he wrote this, he was thinking from the perspective of a mercantilist economy, one in which laws had been established to protect domestic industries against foreign competition. But with industrialization, significant surpluses became possible that could not be consumed domestically and had to be exported.

Comparative Advantage

- Adam Smith's support of foreign trade came during the earliest period of industrialization; thus, he wasn't necessarily aware of all of the implications that industrialization might present to domestic production, much less foreign trade. Nevertheless, Smith argued in favor of dismantling monopolies and restrictions on foreign trade in favor of what we might call a laissez-faire attitude toward trade.

- A later group of classical economists, most notably, the British political economist David Ricardo, sketched out a theory for free trade based on the concept of comparative advantage. This moves beyond Smith's identification of absolute advantage, in which the advantage lies in producing at the lowest cost, using the same resource. Comparative advantage focuses on the advantage one has at producing a good at a lower opportunity cost.

- In considering comparative advantage, it isn't the monetary expense or resource cost of production that matters. It is opportunity cost—that is, the cost to ensure that scarce resources are used efficiently. Thus, a nation should concentrate its productive energies in industries where it is most internationally competitive.

- Ricardo's theory suggested that countries should specialize in those products that they produce most efficiently—not necessarily more cheaply than in other countries—and sell these products internationally in order to purchase goods on international markets that would be relatively more expensive to produce domestically. Free trade would ensure that all nations benefited from their unique comparative advantages.

According to David Ricardo's theory of comparative advantage, a nation should concentrate its productive energies in industries where it is most internationally competitive, trading with other countries for products that are less competitively produced domestically.

Free Trade in Europe

- British merchants involved in international trade began petitioning Parliament to permit free trade beginning in the early 19th century. Ultimately, Parliament was convinced that eliminating restrictive laws

and tariffs would benefit the country. By the 1850s, Britain had repealed most of its mercantilist laws and eliminated most barriers to international free trade.

- The British manufacturer and liberal statesman Richard Cobden, having led the way in convincing Parliament to adopt a free-trade policy, believed in it so strongly that he went to France to convince Napoleon III and other influential Frenchmen of the benefits of free trade between their two countries. In 1860, the two countries signed the Cobden-Chevalier Treaty, which was an important step in the direction of free trade.

- Under Napoleon III—the nephew of Napoleon Bonaparte—France negotiated trade treaties (usually for lower tariffs and duties) with major European powers. Under a most-favored nation clause in the Cobden-Chevalier Treaty, this allowed Great Britain to benefit from the special trading privileges that France negotiated.

- The result was an explosion of trade within Europe, as well as a reorganization of industry broadly, resulting from the greater competition that increased trade brought with it. With the elimination—or, at least, the reduction—of protective tariffs, less-efficient producers were either forced out of business or forced to modernize as the effects of comparative advantage were felt. Poorly performing domestic industries could not survive under a free-trade regime when there were foreign alternatives that could be imported more cheaply.

- Overall, international free trade is supposed to benefit individual nations and the world as a whole by increasing the volume of trade. That it certainly did, around the middle of the 19th century. And it did so by allowing each nation to gear production to its comparative advantages, in part through greater specialization of labor.

Other Benefits of Free Trade

- Smith noted that there are other benefits to be gained from international free trade beyond the favorable exchange of goods. Trade could also be a way to transfer knowledge and technology between countries. This would be important for less-developed countries, which could adopt foreign technologies to increase their production and overall wealth. For large nations with vast and growing domestic markets, the ability to access new technologies through free trade might be an even greater boon than access to new markets.

- Smith used the example of China, which already had a large domestic market—and one that Europeans wanted badly to access. To Smith, the most important benefit China could gain from free trade with Europe would have been Western technologies.

- Smith recognized what we all know to be true today, which is that some countries are more developed than others and that trade will always be unequal between the more developed and less-developed nations, even within the context of free trade.

Free Trade versus Mercantilism

- If we were to compare free trade to the type of trade conducted during the mercantilist period to which Smith was reacting, it was indeed very free. Under mercantilism, international trade frequently was a monopoly of government-chartered companies. These companies had mostly been dismantled and their monopoly privileges revoked, though a few still existed to trade with remote regions.

- Great Britain's free-trade policies supported not only the ideals but also the reality of free trade after the middle of the 19th century. With the largest economy of the time, Britain's elimination of domestic tariffs and its participation in various trade agreements around Europe meant that British markets were open to most of the industrialized world.

- Bear in mind that there were still tariffs and other protectionist measures in many places. But even these were far more favorable to trade than anything that had come before them. Thus, the second half of the 19th century was a period when international free trade flourished.

- Even though we refer to the second half of the 19th century as a kind of golden age for free trade, it is also true that no country—not even Great Britain—industrialized during a period of completely free trade. The debate between those who favored free trade and those who favored protectionist measures continued throughout the period.

A Return to Protectionism

- A number of events beginning around 1870 led to a reversal of free-trade ideals and a slow return to protectionist measures by the eve of World War I.

- As mentioned, free trade did not benefit all trading partners equally. Indeed, it became clear that poorer trading partners were being further disadvantaged by free trade. This did not go unnoticed in the industrial world, though the international firms and the industrial states that benefited from it did little to alleviate the disparity.

- Some in society, including Karl Marx, publicly condemned the problems of free trade when they perceived it as turning into exploitation. Marx and his socialist allies were not the only ones against free trade because of its perceived exploitation of workers. Even before Richard Cobden negotiated Great Britain's trade treaty with France, the voices of some of his countrymen were warning against the ills of foreign commerce.

- Exploitation of colonies and less-developed nations under the guise of free trade was a real problem. The colonies that Europe would claim in the second half of the 19th century were clearly sources of raw materials and potential outlets for European manufactures.

- But even within Europe, free trade often had negative effects for workers. One aspect of free trade was that increased competition weeded out poorly performing producers in favor of cheaper imports. As you might imagine, although the factory owners might have suffered, their workers would have been even more negatively affected if forced out of work.

- Another consequence of free trade was the integration of the international economy, including the synchronization of price movements.
  - Before the era of free trade, price fluctuations were usually regional and most often the result of natural causes, such as weather-related crop failures.
  - With industrialization and free trade, price movements became increasingly affected by fluctuations in demand for goods. The synchronization of prices had far-reaching and often devastating effects that led to further public apprehension about the benefits of free trade.
  - Economic crises—and even depressions—spread quickly as a result of the integration of the international economy. The Panic of 1873 resulted in a depression that lasted for about six years, followed by a fairly stagnant economy that lasted much longer.

- By 1880, after the worst of the depression had passed, most industrial nations had begun the return to protectionism.

- As more countries abandoned free-trade policies, a series of tariff wars ensued. The upshot was that large landowners—feeling pressure from low grain prices—and industrial capitalists—hurting from foreign competition—formed a kind of coalition to exert pressure on national governments.
  - In Germany, Chancellor Otto von Bismarck responded by instituting a variety of tariffs to protect large landowners in the eastern part of the country and the industrial west. Other countries quickly followed in reinstating protective tariffs.

- France was able to push through a new tariff law in 1881. Italy then jumped on the tariff bandwagon and started a trade war with France. This was in spite of the fact that France was the largest market for Italian goods. Trade between the two countries plummeted.

- The United States had been a low-tariff country for much of the 19th century, in part because of the size of its agricultural export market. The United States wanted other countries to keep their tariffs low, which would make the nation's agricultural exports attractive to foreign markets. But after the depression of the 1870s, the United States enacted protectionist measures for the same reasons that European industrial nations did—to protect against foreign competition.

Results of Protectionism

- In the aftermath of the return to protectionism, the value of international trade continued to grow. In 1860, Great Britain's exports totaled $579 million, while the United States, Germany, and France each exported between $200 million and $300 million worth of domestic products to foreign markets.

- By 1913, the value of British and German exports equaled about 20 percent of their respective gross domestic products (GDPs). Yet the value of America's exports amounted to only 6 percent of its GDP. Even with the huge value of goods the country was selling abroad, American exports constituted a small percentage of its total production.

- Stated broadly, in spite of the return to protectionism, the world economy was still growing strongly heading into the 20th century. At the same time, the world economy was integrated to a degree never before experienced.

Suggested Reading

Irwin, *Against the Tide*.

Questions to Consider

1. What is free trade?
2. How free is free trade in our modern world?
3. Is free trade always beneficial?

Lecture 29

Middle-Class Catalogs and Mass Consumption

In the last decades of the 19th century, several factors were at play that point to a tremendous shift in the attitudes people and manufacturers held about consumption. Probably the most obvious factor is the radical transformation that society experienced with industrialization, as large numbers of people moved to the cities and altered the ways they purchased goods. No longer was the majority of the population engaged in growing their own food or making goods for home consumption. People—elites, working classes, and the middle class—all had their needs met in retail markets. And it was the middle class that was the most important in determining what goods would be produced.

The Middle Class

- Today, we have a tendency to consider just about everyone to be among the middle class, except perhaps, for the fabulously wealthy or the destitute. But a more precise definition—and one that is common among sociologists—defines the middle class as members of society whose socioeconomic status falls somewhere between the working class and the upper class.

- There was a clearer distinction among socioeconomic groups in the late 19th century, particularly in Europe, although also in the United States. The middle class was not the working class, but it was not a homogenous group either. The wealthiest were the owners and managers of businesses, who were often as wealthy as the aristocracy. These were the minority in the middle class.

- The vast majority of the middle class were small-scale entrepreneurs, shopkeepers, schoolteachers, and professional people, such as doctors, lawyers, and business managers. The middle class was made up of people who had salaries and wages high enough to afford some property, as well as possessions beyond their basic needs, and some education that allowed them to pursue employment that rarely required manual labor or factory work.

- As it is today, the middle class was a diverse group. It included an army of white-collar (but low-paid) clerks and civil servants. These white-collar workers usually came from working-class backgrounds and aspired to be counted among the middle class. They had attended school and were focused on advancing their socioeconomic standing—often through their spending on consumer goods, which was meant to give off the air of a middle-class professional.

- There was quite a bit of tension between these middle classes, with the white-collar, lower-middle-class workers derided as pretentious upstarts by the professionals in the middle class.

Women in the 19th Century

- Another group in society that was rising in importance for the economy was women. As a result of industrialization, they had far more opportunities to work outside the domestic sphere and, thereby, integrate themselves in the economy.

- By the late 19th century, many jobs had become *gendered*, meaning that some jobs were viewed as women's work and others as men's work. Among the occupations that came to be reserved for women were nurses, primary school teachers, and by the end of the century, telephone operators.

- Most of the women in these jobs were single, and most expected to return to the home after marriage. But they held solidly middle-class jobs.

- The fact that these working women were single is significant for our purposes. Their jobs gave single women incomes at their disposal. By the end of the century, women—whether single or married—were far more likely than previously to make household purchasing decision on their own.

Middle-Class Consumption

- A seemingly endless array of consumer goods was now being produced in factories all over the industrialized world. And the abundance of these consumer goods was a relatively new phenomenon.

- Before the middle of the 19th century, most products of industrialization available to consumers were such items as flour, lumber, and cloth—essentially things out of which other things could be made.

- Soon after mid-century, factories began producing consumer goods that had never been mass produced before, including home furnishings, clothing, and packaged foods. All these new products were on display for the world to see in stores, in mail-order catalogs, and at the many exhibitions and world's fairs of the late 19th century, which drew huge crowds with elaborate exhibits.

- The Great Exposition in London, held in 1851, was the first of many world's fairs that trumpeted consumer goods and the heavy industries of the Western world. Subsequent exhibitions were held in New York in 1853, London again in 1862, and Philadelphia in 1876.

- In 1889, real wages were higher in France than in Great Britain, and wages had reach unprecedented levels all over the industrialized world. Things that formerly concerned only the upper class—such as fashion—became of interest to the middle classes and even to working-class people.

- The middle classes enjoyed more and better living standards, such as running water and sanitary facilities. This was also the era when gas

and electricity transformed the way people lived their lives. Further, the middle classes were insulated from the famines of the past. They were well-fed, and the new changes in work patterns provided them with substantial leisure time and more disposable income.

- The great world trade exhibitions were one of the ways that the middle classes came to accept mass-produced goods as alternatives to familiar handmade products. Business owners were also finding new ways to sell their manufactured consumer goods. Department stores, which could bring all kinds of goods together under one roof, began to supplant the multitude of small, so-called dry-goods shops.
  - The history of the department store dates to the late 18th century, though they took off after the middle of the 19th.
  - Department stores flourished in the large industrial cities of Europe and the United States. By the 1880s, Macy's, Lord and Taylor, and Abraham and Strauss all operated major stores in New York,

Although it might seem like a minor invention, the sewing machine may have done more to convince people that mass-produced goods were acceptable than almost any other product of the later 1800s.

while in Chicago, the name Marshall Field and Company became synonymous with upscale retailing.
- All these department stores employed the novel practice of setting a fixed price for each item, which eliminated the haggling that had been a hallmark of small shopkeepers for centuries.
- However, the retailing environment also became somewhat impersonal. The store clerk was now a stranger, and the price of the product was fixed. Because the products were pre-made and generally of uniform quality, there was no longer room for haggling.

Advertising

- Department stores and catalog companies, as well as the manufacturers of the merchandise they sold, marketed their goods directly to the public through advertising schemes and indirect sales efforts. The goal, as with all advertising, was to convince consumers that they needed the product, the product was good, and the produce was popular in their socioeconomic group.
  - The manufacturers were not simply leaving their failure or success to some kind of Adam Smithian invisible hand, through which markets are influenced by supply and demand. Instead, they wanted to create demand.
  - By reaching out directly to consumers, the manufacturers were diminishing the preferences and opinions of the retailers.
  - What's more, by influencing consumers through their marketing efforts, manufacturers were manipulating consumer preference—even to the point of convincing consumers that they needed products that they had never needed before.

- In the 1890s, an industry developed around advertising. And advertising firms—which had once been merely brokers between retailers and media firms—found it necessary to hire artists and copywriters to create ads that promoted manufacturers' products and influenced both consumers and retailers.

- Through advertising and other promotional activities, manufacturers forged connections with consumers and gained their loyalty to the brand. Although the connection was impersonal, it was very much the same kind of loyalty and trust traditional shopkeepers had once enjoyed.

- Manufacturers also promoted new habits through advertising. Cereal makers marketed their products to hurried urban workers, who didn't have time for a homemade breakfast. Personal hygiene products, such as soap, safety razors, and toothpaste, were marketed in ways that taught people how to groom, often including instructions about how to use them.

- Advertising appeared almost everywhere. Newspapers and magazines, where advertisements could be targeted to certain consumers, were important for building national brand recognition.

The Consumer Society

- The massive increase in the manufacture of consumer goods; the development of retail distribution centers, such as department stores and mail-order firms; and extensive brand promotion and marketing activities produced a new consumer society.

- Though led by the middle classes, all socioeconomic groups—from the upper class to laborers—benefited from unheard-of product choice, even with mass-produced consumer goods.

- Once they were able to accumulate some discretionary income, no longer did people in the industrialized world need to be self-sufficient in the production of their food, clothing, and household products. Industrial production and modern distribution methods opened up a world of product possibilities. This shift represents a massive transformation in society that had profound effects for economic systems.

- Not only that, but industrial production would increasingly be driven by consumer demand—by what sells. Mass consumption, in many respects, brought humanity into the modern economy, for better or worse.

Suggested Reading

Williams, *Dream Worlds*.

Questions to Consider

1. What kinds of factors influence our decisions about what products to buy?
2. In what ways do our patterns of consumption change over time?
3. What role does mass production have in our consumption patterns?

Lecture 30

Imperialism: Land Grabs and Morality Plays

At its core, *imperialism* refers to the policy of one nation extending its authority over others through territorial acquisition or by establishing economic and political control. In general, the pattern of new imperialism of the late 19th century flowed directly out of free-trade rhetoric and a problem of unequal development between industrialized and undeveloped areas of the world. The new imperialism followed a progression whereby an industrialized nation invested capital in a "less industrialized" country in order to develop methods to extract natural resources and to build infrastructure that was necessary for the industrialized Western nation to move resources back home. Imperialist development took the form of colonies, protectorates, and spheres of influence.

Factors Giving Rise to Imperialism

- One factor that gave rise to the new imperialism was economic. Imperialism was closely linked to questions of development, free trade, and protectionism. A French prime minister in the 1880s named Jules Ferry put it succinctly: "Colonial policy is the daughter of industrial policy."

- In addition, many Europeans thought that overseas empires could solve social and economic problems at home. Western politicians frequently argued that the establishment of overseas empires would create new markets and employment opportunities for domestic enterprises. Some policymakers also thought that colonies would help deal with the problem of increased domestic populations, but few Europeans actually settled in the colonies.

- Another factor that contributed to imperialism was nationalistic competition. Nationalism is based on the belief that nations should be created out of a shared language, cultural heritage, and history, in a specific geographic location. Nationalist rhetoric was (and is) quite powerful, arising out of the revolutionary fervor that gripped much of Europe during the first half of the 19th century. Nationalist rhetoric was also very much about power—and increasing the perceived greatness of a nation.

- Cultural motives were also involved in imperialism. Many Europeans saw it as their duty to civilize the world along European lines. The predominant thinking held that railroads, telegraphs, hospitals, and schools would transform native lives by exposing them to the benefits of Western society.

Social Darwinism

- Many influential 19th-century thinkers applied Charles Darwin's theories of evolution and the notion of "survival of the fittest" to social and cultural change. These thinkers included Herbert Spencer, Auguste Comte, Lewis Morgan, and others.

- They suggested that human culture followed a kind of evolution from primitive to barbarian to civilized. Western society was, in their view, the most civilized at the time and was, thus, the culture that the rest of the world's people's should move toward.

- It was hoped that native peoples in undeveloped regions would welcome the higher culture of the Europeans and Americans. But there was an implicit understanding that Western civilization could be forced on natives, who might not know what was best for them. Today, we call this line of thinking *social Darwinism*.

- The ideas of cultural evolution and the uncivilized nature of non-Westerners were not uncommon. They sum up fairly well the attitudes

of Europeans and Americans toward the rest of the world at the time. In the United States, the official policy of the federal government and much of the population toward Native Americans was closely connected to the same ideas.

- Just as undeveloped populations of the world were to benefit from Western civilization, Western society would benefit by tapping into the wealth-producing raw materials of the colonies. And Western manufactured goods would return to those same colonies in something of a virtuous cycle. What's more, excess European populations could settle in the colonies, deepening the civilizing project and further strengthening ties with the mother country.

- Not surprisingly, there were many problems with the underlying assumptions of imperialism. First, Europeans rarely migrated to Asia or Africa; instead, they emigrated to the Americas or Australia—the so-called neo-Europes. Second, although imperialist enterprises were set up to exploit the resources of the colonies, most raw materials at the time still came from within the industrialized world itself. Third, the vast majority of world trade—especially in manufactured goods—was conducted in the industrialized world, not with its colonies.

Imperialism in Africa and the Ottoman Empire

- Before industrialization, European settlements in Africa had been few and far between, and most of them centered on the slave trade. Of course, the slave trade ended in 1807. But there were other parts of Africa that Europeans had brought under their direct control even before the 19th century, and these relationships would continue into the future. They included the French in Algeria, the Portuguese in Angola and Mozambique, and the British at the Cape of Good Hope. After 1880, the principal European states set about to divide up the rest of Africa among themselves.

- Most scholars point to the Berlin Conference of 1884 as the event at which Europeans agreed to the terms under which Africa would be partitioned. Before the conference, only about 10 percent of Africa was under direct European control. But by the eve of World War I, 30 years later, as much as 90 percent of Africa was under European administration.

- Otto von Bismarck, the chancellor of Germany, hosted the Berlin Conference, which drew representatives from throughout Western Europe, the United States, and the Ottoman Empire. The delegates discussed and agreed on several points, but the most important agreement concerned the concept of effective occupation.

- *Effective occupation* articulated the principle that it was not enough for a nation to declare a colony in name only; the government also needed to occupy the territory it claimed. Occupation could take the form of settlements, the establishment of a military garrison, or the operation of a mine or an industry.

- This set off a mad scramble by European states to effectively occupy any area they could in Africa. The Germans created a colony in southwest Africa, the Portuguese solidified their control over Angola, and the French occupied a large territory called French West Africa. States that already controlled colonies bordering on the Mediterranean—such as France and Great Britain—looked inland to occupy more territory.

- At the Congress of Berlin of 1878 (not to be confused with the Berlin Conference of 1884), it was the Ottomans who were in the Europeans' sights. At this congress, the European powers assigned parts of the Balkans to Austria-Hungary, Cyprus to Great Britain, and Tunisia to France.

- Even before this, Great Britain and France began loaning large sums to local rulers who were trying to emulate European industrialization, mostly in Egypt and Lebanon. This was yet another program of economic exploitation. When Egypt went bankrupt in 1882, Britain occupied the country to protect its investments.

Thanks in large part to diamond mogul Cecil Rhodes, Great Britain effectively occupied large swaths of territory in Africa by the end of the 1880s.

Imperialism in Asia

- The story of the new imperialism in Asia is different from that of Africa and the Middle East. From the Western perspective, the empires of Asia were in decay, but effective occupation there would be a much more difficult a proposition, with one notable exception.
  - Between 1763 and 1857, the British East India Company gained control of India by using a paid native army to conquer the Indian principalities. By the middle of the 19th century, the British government itself got involved, and the country was exploited just like any other Western colony coming under British rule.
  - The British thought of themselves as far superior to the native population. As a result, Indians were forbidden to serve in military or administrative positions or even move in the same social circles as their British overlords.
  - However, the British government built railroads and a communication infrastructure that benefited Indian entrepreneurs, as well as the British firms that operated in the colony.

- Farther east, the Dutch East India Company slowly took control of the East Indies, that is, roughly modern-day Indonesia. And when the Dutch East India Company was dissolved in 1799, the Dutch government took over control of what was now a colony. Dutch rule was repressive and harsh. A series of revolts broke out in 1830 and again in the 1880s, but the Dutch were unwilling to give up their worldwide monopoly on the spice trade.

- So it was that the old joint-stock companies—the East India Companies of Britain and the Netherlands—laid the groundwork for eventual European domination of India and the East Indies. The same could not be said of the mainland of East Asia. China itself was a vast empire and far more populated than any other area the Europeans sought to control.
  - China also was economically self-sufficient. It neither needed nor wanted Western goods, and free trade was not a concern for Chinese rulers.

- But the industrialized Western nations would not tolerate being cut out of such a huge economy. Only a few Chinese ports were open to European shipping at the time, and the Europeans wanted greater access to Chinese markets.
- In their attempt to gain this access, the British began importing Indian-grown opium in violation of Chinese law. Eventually, British opium traders succeeded at addicting millions of Chinese people.
- In spite of an official protest by China to British authorities, the trade continued. Thus, Chinese officials confiscated British opium stores. In retaliation, British warships bombarded several Chinese cities in 1839, starting the First Opium War. The conflict ended in 1842, when—in the face of superior British weapons—the Chinese relented and opened China to Western trade.
- The opium trade did not abate, however; instead, even more Chinese became addicted. When the Chinese once again tried to block the Europeans in 1856, a Second Opium War erupted. This time, the French forces joined the British, and together, they succeeded at occupying Beijing. The war ended in 1860, with the Chinese opening even more ports to European shipping, allowing European diplomats into the capital, and legalizing the opium trade.
- China was humiliated, and many of its neighbors—which had been under Chinese control—fell to foreign occupiers and imperialists during the 1890s.

Results of the Imperial Experiment

- In spite of all of Europe's rhetoric at the outset of the imperial experiment, the civilizing motives were largely forgotten by the turn of the 20th century. Nationalistic competition and policies of economic exploitation dominated Western interactions with the nonindustrialized world.

- Did anything positive for the developing countries come out of the new imperialism? Under Western domination, most regions of the world came to possess Western industrial technologies, such as railroads, telegraphs, and some modern industries.

- But the story doesn't stop there. Even today, we speak of Third World countries when referring to parts of the world that are less developed or, perhaps, that developed differently than the First World did. The new imperialism was an early and most would say a failed attempt to ignite industrial growth outside the industrial core of the West.

Suggested Reading

Headrick, *Power over Peoples*.

Hoffman, *Why Did Europe Conquer the World?*

Questions to Consider

1. Are colonies good for the natives?
2. Why did the Western world try to dominate the rest of the world in the 19th century?
3. How did imperialism work?

Lecture 31

World War I: Industrial Powers Collide

The end of the 19th century was a fairly peaceful time for the industrialized world. There were plenty of wars around the world, primarily in response to the new imperialism, but with a few exceptions, the Western nations were largely at peace. That said, by about the 1890s, European foreign relations were beginning to fall apart as old dynastic politics started once again to insert themselves into the relationships between states. These problems would lead to the outbreak of the first really modern war: World War I.

The Polarization of Europe

- The German Empire was formed by the unification of several German states in 1871 under the Prussian king. But Germany was surrounded by rivals. In order to balance European power and ensure peace, Germany allied with the Empire of Austria-Hungary and the Russian Empire to form the Three Emperors' League in 1873.

- One of the goals of the league was the control of Eastern Europe. But bickering broke out between Austria-Hungary and Russia over their respective roles in the Balkans, and Germany sided with Austria. These two powers then invited Italy to participate in a new Triple Alliance. Russia left the league and—together with France—formed the Franco-Russian Alliance in 1894. This alliance stipulated that should Germany attack France or Russia, the other would come to its aid and attack Germany.

- Great Britain remained above the fray of continental rivalries, but along with Ireland, it eventually sided with France and Russia, creating the Triple Entente in 1907. The terms of the Triple Entente did not require

each country to go to war on behalf of the others but stated that they had a "moral obligation" to support one another.

- Thus, by the turn of the 20th century, the great powers of Europe had become polarized. Added to this mix was a heightened international rivalry that grew out of the new imperialism. This led to what amounted to an arms race in which Great Britain and Germany focused on building bigger and more powerful battleships powered by steam turbines.

- The arms race was only one of several factors that increased tensions among the industrial powers at the dawn of the 20th century. Domestic politics within the nations of Europe also contributed to the willingness of countries to go to war. The idea was that war would distract from domestic political agitation.

- To a lesser extent, a return to protectionism at the end of the 19th century also contributed to economic tensions. When tensions were high, blockading trade was a common diplomatic measure.

- By 1914, the alliances between Europe's industrial powers had so often become entangled in conflicts large and small that war seemed inevitable.

The Beginning of World War I

- The spark that touched off the First World War brought into sharp relief the territorial rivalry between Austria-Hungary and Russia over control of the Balkans.

- After a military coup deposed the king of Serbia in 1903, a pro-Russian party took over Serbia's government. Austria ruled parts of the Balkans, and the new Serbian military rulers spread anti-Austrian propaganda in an attempt to unite the Austrian-ruled Serbs with those in pro-Russian Serbia.

- Austria was intent on maintaining its control of the Balkans; thus, in 1908—with Russian approval—it annexed Bosnia-Herzegovina, which had been under Ottoman rule. But tensions were still high in the Balkans.

- Between 1908 and 1912, a series of Balkan crises erupted as various small states sought independence from Ottoman rule. These tensions tested Europe's diplomatic entanglements, particularly the Triple Alliance between Germany and Austria.

- On June 28, 1914, Archduke Franz Ferdinand—the presumptive heir to his uncle, the Austrian emperor—visited Sarajevo in Austrian-ruled Bosnia. A radical Bosnian Serb, opposed to Austria's imperial aims in the Balkans, assassinated the archduke and his wife.

- A few days later, Austria—reinforced by Germany's pledge to stand by it—declared war against Serbia. France, alarmed that Germany's role in the war threatened it, urged Russia to respond. And Russia, enraged by the attack on fellow Slavs, declared war on Austria. Europe's web of alliances brought each major actor into play, including Britain.

Conduct of the War

- Germany's Schlieffen Plan initially called for concentrating the war in the west, against France, then shifting to the eastern front, against Russia. But things didn't go according to plan.

- The Germans overran Belgium and were poised to take Paris when they were forced to draw back in the face of British and French counterattacks. The Germans and the Allies dug in. By the winter of 1915, the two sides were facing each other across a 300-mile front.

- On the eastern front, the Germans and the Russians fought along thinly held ground, where fast troop movements covering a great deal of territory were the norm. The Germans were able to drive the Russians back but not to beat them—at least not right away.

From 1915 to 1918, the Western Front did not shift more than about 10 miles in either direction.

- World War I was the first large-scale war between industrialized powers. New technologies came into play, such as tanks and steamships with heavy guns. World War I was also the first war to use airplanes for reconnaissance. And in ocean waters, submarines caused havoc for merchant ships and warships alike.

- The sinking of the *Lusitania* by a German U-boat in May 1915 brought the United States into the war by 1917, while Russia—undergoing revolution at home—dropped out of the fighting.

Armistice

- The German public had no real idea that its war machine was being beaten by Great Britain, France, and the United States. Still, it had become clear in the German high command that an armistice was the only way to avoid exposing Germany to invasion.

- President Wilson saw the end of the war as a chance to reshape international relations. Wilson's hope was for a new era of more open worldwide diplomacy, national self-determination, and a review of the 19th-century colonial system. With the expectation of better surrender terms, the Germans got the kaiser to abdicate.

- The armistice, when it finally came, took most Germans by surprise. Many of them felt betrayed by their military leaders, the kaiser, and the new political changes. This attitude would have important repercussions over the next two decades, as Germany tried to recover from the changes.

Economic Aftereffects

- World War I put an end to the free-trade policies of the industrialized nations. Blockades of the type that precipitated the German U-boat attacks in the North Sea and English Channel were very different from those used to control seaborne trade in earlier centuries.
  - By the 20th century, military technologies had developed that made it difficult for ships to blockade individual ports. Thus, embargoes and blockades could be put in place only at shipping choke points, such as in the English Channel. But by the 20th century, submarine technology had advanced to the point where navies could counter blockades to devastating effect.
  - Not only did blockades curtail direct trade, but they put pressure on neutral countries to restrict trade with belligerents. As we saw, neutral U.S. shipping—once suspected of trade with the Allies—was targeted by German U-boats. Likewise, the Allies exerted great pressure on northern European neutral states to curb their trade with Germany.
  - The belligerents put a variety of quotas in place to control the trade in key products and prohibit trade in goods deemed essential to the war effort. Increasingly, onerous tariffs were also applied that were explicitly protectionist in nature.

- During the war, governments intervened in economic affairs to a much greater degree than they had previously. For example, government

expenditures increased significantly, in many instances, reaching as high as 50 percent or 60 percent of GDP. At the same time, governments controlled prices and production in key industries, controlled raw materials for production, and occasionally engaged in manufacturing. Free trade and laissez-faire economic policies in the industrialized nations were dead by the end of World War I.

- Finally, the volume of world trade fell during the war. Exports certainly fell as a result of the policies most belligerents had of restricting exports to bolster domestic supplies. And naval blockades were intended to restrict a country's ability to import goods.
  - Imports into Germany remained stagnant or declined during the war, while imports into France skyrocketed; those of Great Britain and Russia also increased. Although this affected these countries' balance of trade, the ability to increase imports was crucial to winning the war. The Allied blockades, then, had the desired effect.
  - For countries outside of Europe, exports exceeded imports. The real winner, as far as foreign trade is concerned, was the United States, whose exports during the war far outpaced imports.

- One other result of the war economy was the development of what has since been called the *military-industrial complex*.
  - This concept is most often associated with World War II and the Cold War. But the close coordination and control of the economy by governments that began in World War I mark its birth.
  - This does not mean that governments simply took over their economies. Rather, it refers to industrial self-regulation by businesses and greater coordination between businesses and government, with the aim of achieving victory in all-out war.

- The economic costs of the war were enormous, especially in terms of physical destruction. The small kingdom of Belgium—which had been a major battlefield—lost half of its steel mills and three-quarters of the rolling stock on its railroads. France was almost bankrupted. The country's industrial production was almost halved, and 10 percent of French territory lay in ruins.

- Germany was in even more dire straits. The Versailles treaty reduced its size and, most importantly, removed 75 percent of its iron ore and 25 percent of its coal mines. Not surprisingly, Germany's industrial production plummeted. It also lost almost all of its merchant fleet, and its entire navy was dismantled.
- The first years following World War I were a period of decline. Population loss, falling production, disruption of the volume of world trade, and the return to protectionism all contributed to shattered economies. To make matters worse, the huge debts that countries had accumulated to finance the war had to be paid off.
- Inflation hit much of Europe hard after the United States—now Europe's largest creditor—insisted on being repaid in full and as the German war reparations bill of more than $30 billion came due. This was a bill that Germany could almost never hope to pay. Unknown at the time, these problems created conditions that made a second world war more likely.

Suggested Reading

Reynolds, *The Long Shadow*.

Questions to Consider

1. World War I was a pivotal event in world history. How might the new imperialism have affected the geopolitical situation at the turn of the 20th century?
2. In what ways did industrialization change how countries waged war?
3. How did the economy react to total war?

Russia's Marxist-Leninist Experiment

On November 9, 1917, Bolshevik revolutionaries fanned out across the city of St. Petersburg. Under the cover of darkness, the Bolsheviks occupied key points of the Baltic port city, which had been the imperial capital of the Russian Empire for the past 200 years. This stealthy seizure of power—called the October Revolution—occurred overnight, with virtually no bloodshed, but it wasn't the start of the Russian Revolution. That had begun months before, in February 1917. Still, it was a defining moment: the start of the phase led by Vladimir Lenin, an intellectual activist who had returned to his Russian homeland only a few weeks before the Bolsheviks seized the city.

Marx's Stages of Development

- Socialist and communist parties had been agitating throughout the industrial West for decades before the First World War broke out. The socialists believed that revolution was the only way for social and economic change to come about that would be favorable to them. There were many varieties of socialism, but one that became widely accepted was the ideology expounded by Karl Marx and Friedrich Engels during the 1840s and 50s.

- Throughout most of the 19th century, the socialist parties succeeded at inciting workers to make their influence felt in the workplace through strikes and collective bargaining. But Marx wasn't simply proposing a strategy for working people to gain more control in society. He was proposing a theory about the way society develops over time.

- Marx's theory focused on the tensions that arise over private property, that is, property used in the production of goods and the resulting profits. The problem, as Marx saw it, was that conflicts over property within a social system resulted in the society's collapse over time and the rise of a new social system in its place.

- Marx's stages of development were as follows: primitive communism, slave society, feudalism, capitalism, and socialism. Lenin added a sixth stage to Marx's theory: a stateless society.

Issues Addressed by Socialism and Communism

- Most of the problems that socialists wanted to solve concerned working-class participation in the democratic process. That is, who should control production and the distribution of wealth? The socialists pointed out that an industrialist with a factory could not produce anything without workers. Why, then, should the capitalist take the lion's share of the wealth?

- Many socialists interpreted the First World War as one that was waged to prop up the capitalist system and advance the interests of industrialists; thus, some of them agreed not to support the war unless it took the form of a revolution to bring about social change.

- At the same time, many socialist parties supported their nations out of a sense of patriotism. The resulting disagreement caused some socialists to reconsider Marx's doctrine that socialism could not be realized until each nation first went through a *bourgeois* or capitalist revolution. One of those who broke with the idea was Vladimir Lenin.

- Lenin had a clear ideological viewpoint and was dedicated to communist revolution worldwide. But initially, Lenin did not see a communist revolution in Russia as the goal. For Lenin, the Russia Revolution was meant only to be a spark for revolution in Germany or any other truly industrialized country.

Lenin arrived in St. Petersburg only a few weeks before the October Revolution, but he still managed to play the lead role in putting the Bolsheviks in control.

Socialist Uprising in Germany

- In 1918, after the end of World War I, an uprising erupted in Germany, led by the social democrats. Chaos ensued as socialists and conservatives fought for control.

- But the socialists were not united in Germany. Although many of them wanted a government of workers' councils, most social democrats preferred a parliamentary system. Thus, the social democrats left the rebellion, allowing government troops to crush it.

- The more radical revolutionaries in Germany had expected Russia to come to the rescue. But Lenin had bigger problems to deal with once the Russian czarist regime fell from power.

The Situation in Russia

- Although the Russian economy was becoming modern by the time the First World War began, its pace of change was glacial. There were some significant structural problems that could not be overcome because of the czarist regime's inability to mediate between the peasants, who had been released from serfdom in 1861, and the nobility's insistence on being compensated for the loss of its serfs.

- In 1905, Russian peasants and disgruntled factory workers began a series of strikes and, eventually, armed insurrection. To stay in power, Czar Nicholas agreed to allow the creation of the Duma legislative assembly and greater freedoms for Russians. But these concessions only delayed the end of Nicholas's rule.

- Tensions mounted during World War I because of Russia's inability to counter German advances. The czar decided to take personal control of the Russian army and moved to the front lines. In an autocratic regime, this left nobody in charge back at the capital—except for Nicholas's German wife, Alexandra.

- Alexandra came under the influence of a mystic named Rasputin. Under his influence, she and her advisors caused disarray in the government. Rasputin was assassinated in December 1916 by nobles trying to save the government from German influence. But by then, it made no difference. Russia was moving toward revolution amid the czar's neglect, rapid industrialization, lack of meaningful land reform, and an unpopular war over issues in the Balkans and Europe that had nothing to do with the lives of most Russians.

- When a series of strikes broke out in St. Petersburg (now called Petrograd) in February 1917, the government treated the unrest as a simple annoyance. But by the end of February, the czar wired his general in Petrograd to put an end to the problem. Troops were called out to disperse the crowds.

- However, the military itself was becoming unreliable. One unit mutinied on the evening of February 26. Although this mutiny was quashed, troops across the city rebelled the next day. Many soldiers were unwilling to fire on civilians. Within just a few days, the soldiers of the Petrograd garrison had gone over to what was quickly becoming an all-out revolution.

- The imperial government ordered the Duma to adjourn until April. With the capital in the hands of revolutionaries and the city in chaos, the members of the Duma were initially at a loss about what to do.

- The Duma realized that socialist parties were quickly taking control of the revolution and were planning to establish a Soviet, or revolutionary council, in Petrograd. Soviets were beginning to form in other parts of the country, as well.

- By March 2, 1917, the Duma and the Soviets were demanding Nicholas's abdication in favor of the popular Duke Michael. But Michael refused the crown. And, in a matter of just a few days, imperial Russia became a republic.

- The Duma formed a provisional government that was intended to be only temporary—until elections could be held. The majority of Marxists in the country—the Mensheviks—supported the Duma's provisional government.

- Meanwhile, the provisional government took the unpopular position of continuing the war with Germany and Austria. The new government felt it could not simply ignore the treaties that Russia had entered into under the czar, even if they were unpopular.

The Return of Lenin

- The Bolsheviks, who were still in the minority, nevertheless were able to take control of the revolution once Lenin returned to Russia. After taking over the government in the autumn of 1917, Levin moved quickly to get Russia out of the war so that he could turn to the task of a systematic economic transformation.

- In less than a month after the Bolsheviks took power, Russia agreed to an armistice with Germany and Austria. Lenin then took full control. The landowning classes lost their estates to the peasants. Banking was turned into a state monopoly. And stock dividends stopped being paid. Local Soviets forced the wealthy to hand over their money or face imprisonment. Many of these changes were clearly not Bolshevik ideas.

- In order to supply industry and provision the armies, Lenin set Russia on the path of *war communism*—the subordination of the state to the needs of war. War communism had several features that, in retrospect, were nothing close to the kind of policies most socialist parties had ever promoted. They included: nationalization of all industries, a ban on worker strikes, confiscation and redistribution of peasant land, a ban on private enterprise, military-style control of the railroads, and a single-party system.

- What prompted these oppressive policies? Production in all sectors plummeted following the revolution and Russia's exit from World War I. In these circumstances, the state simply took over the economy. The result was a massive increase in state bureaucracy and increased centralization under Bolshevik leadership.

- Most socialists balked at these policies because they diminished the role of workers in industry; trade unionism and collective management had been a central position of communist parties.

- By 1920, the war with Poland came to an end. And it was clear that Lenin's Bolsheviks were firmly in power. But Russia had been thoroughly ruined economically.

- In this postwar climate, opposition to Bolshevik policies was rising even among fellow communists. Peasant revolts flared, and socialist parties were beginning to speak out. Finally, in March 1921, Ukrainian sailors in the Russian navy revolted, demanding that the Bolshevik party end its exclusive power to rule.

- In response, Lenin instituted his New Economic Policy (NEP). The most extraordinary change was the restoration of some limited private enterprise. This might seem a small concession, but the implications were significant.

- Allowing a market economy in agricultural produce meant that a money economy would be reintroduced into Russia. It also meant that factories of consumer goods would have to be given the freedom to sell their goods, as well. However, the state still controlled heavy industry, banking, and foreign trade.

- The NEP allowed Russia to recover somewhat from the worst of the war years. But it was still not clear how communism would operate in an otherwise capitalist world, especially when it seemed that capitalist institutions were required for communism to function.

- Lenin died in 1924, only a few years after putting the NEP in place. With his passing, several factions within the Bolshevik party jockeyed for control. Ultimately, Joseph Stalin was able to eliminate political opposition and consolidate power.

- Stalin rejected much of Lenin's economic liberalization in favor of a carefully planned economy. He established the notion of five-year plans to control production and growth.

- The planned economy functioned so differently from the capitalist system of the other industrialized countries that the Depression of the 1930s had a very different character in Russia than it did in Western Europe. For a moment in time, it seemed as though the communist planned economy was able to avoid the kind of shocks that plagued the West—almost.

Suggested Reading

Fitzpatrick, *The Russian Revolution*.

Pipes, *The Russian Revolution*.

Questions to Consider

1. What is communism?
2. What factors led to the Russian Revolution?
3. Could communism work?

Lecture 33

The Trouble with the Gold Standard

After World War I, some Western nations resorted to tariffs, import quotas, and import prohibitions to ensure that they would be able to weather the economic storms that were brewing. At the same time, they frequently granted export subsidies to stimulate exports—exports that no one wanted. In this way, a kind of neo-mercantilism infected the world. The old principle of most-favored-nation status was abandoned, as every country seemed prepared to go it alone. The postwar order—with industrialized Europe at its center and the United States retreating into isolationism—was facing an economic breakdown. In this lecture, we'll explore how this happened and what strategies nations used to regain their footing.

German Reparations

- In Western Europe, the victors or World War I—namely, France and Great Britain—were at odds over punishing Germany by calculating an outrageously large reparations bill.

- Not surprisingly, most of the belligerents had large wartime debts of their own; this exacerbated the problem.
  - The United States had loaned large sums of money (around $10 billion) to the Allied nations during the war and wanted all of its money repaid.
  - Great Britain had also loaned money to its allies, but the British planned to forgive many of these loans and assumed that the United States would do the same.
  - France wanted the United States to cancel its war debt, while insisting that the Allied powers hold Germany to large reparations payments.

- Because the United States wouldn't forgive its debtors, both Britain and France needed Germany's reparations payments to pay off their U.S. debt.

- Germany made some reparations payments as early as 1919. But the final bill wasn't tallied until 1921, amid a great deal of debate. The Allies finally decided on a total of $33 billion.

- Germany's capacity to pay its estimated bill depended on its ability to export more than it imported. In other words, Germany would need a favorable balance of trade to extinguish the debt. By the end of 1922, Germany decided that it had no choice but to suspend reparations payments, thereby breaching the Versailles treaty.

- French and Belgian troops responded by invading Germany, occupying the Ruhr valley, and taking over the rich coal mines and railroads there to force payment. But the French strategy was a failure. Germany simply printed more money to compensate the idle workers. This was one factor that set in motion years of uncontrolled inflation.

- At this point, the United States—facing default of its foreign loans—began loaning new money to Germany and encouraging U.S. companies to invest in its former enemy. By getting the other Allies to agree on a realignment of the reparations payment schedule, the United States also began to guarantee German war reparations.

The Gold Standard

- Industrialized nations wanted nothing more than to return to a state of "normalcy," but this was a difficult proposition in the postwar political atmosphere.

- Most of the belligerents—as well as many newly formed countries—set their sights on creating self-sufficient economies that focused on import-substitution industries. In other words, their industrialization efforts were

directed at creating substitutes for products they would otherwise have to import.

- This was completely the opposite of the kind of export-led industrialization that was normal in the late 19th century, when something close to free international trade was seen as most effective for economic growth.

- Once the United States began guaranteeing German reparations payments, the industrialized world turned its attention to the one thing that most nations agreed was still missing for normalcy: a return to the gold standard.

- The United States had left the gold standard in 1917, when it entered the war, but it returned to the standard in 1919, once the war was over.
  - Germany adopted the gold standard in 1924, shortly after its inflation was brought under control with its new currency.
  - Great Britain and 16 other countries returned to the gold standard in 1925, Italy in 1927, and France in 1928.

- However, Great Britain, as well as most other countries, now set their currencies at parity with their prewar values, thereby embracing the gold standard with an optimistic sense of what their currencies were actually worth. The upshot was that currencies were overvalued, setting the conditions for recession to contract their economies.

- Indeed, overvalued currencies typically choked off exports because a country's goods were now considered too expensive by their trading partners. Throughout Europe, exchange rates failed to reflect relative price levels.

- In spite of such problems, the middle years of the 1920s showed positive growth in the industrialized nations. The Roaring '20s, as the name suggests, was a period of instability, sporadic growth, and eventually, crisis.

Economic Imbalances

- By the middle of the 1920s, most industrialized countries experienced at least enough prosperity that it seemed as if things had returned to normal. Even the countries hardest hit by the war—Germany and Austria—had functioning economies.

- But a return to normalcy did not mean that there wasn't a certain amount of irrationality or some rather profound imbalances in the economy that were a direct result of the war economy. And these imbalances were difficult to reverse.

- The war drove nations to increase their productive capacity, and European countries mobilized millions of people to provide labor for the war effort. Governments took over the transportation infrastructure and ordered factories to retool for military production. Many areas of Europe had been devastated, and agricultural production dropped. In industry, factories were bombed, and large numbers of productive laborers were now on the battle front.

- During the war, non-European countries—faced with much lower imports from Europe—began producing goods themselves that had once been imported. Moreover, the non-European world found itself supplying Europe with many of the agricultural and industrial products it was now producing.

- Once the belligerent countries returned to normalcy, they returned their industrial production back to nonmilitary goods. Land was brought back into production, and agriculture returned to normal levels of productivity. Large numbers of men were released from military service to work on farms and in factories.

- Outside of Europe, countries continued their trajectory of growth focused on agricultural and industrial production. Ultimately, the world population entered a state of chronic overproduction.

- The resulting oversupply brought low prices to world commodity markets. In order to keep their income levels up in the face of falling prices, farmers simply increased production wherever they could. This practice caused prices to slump even further.

- The world economy was undergoing what some scholars refer to as *structural deflation*, brought on by excessive supply. Worldwide demand could not keep up because oversupply could not sustain normal prices. Price decreases were not at all beneficial because they were not caused by better, cheaper ways of producing. Rather, they were caused by selling at bargain-basement prices.

- In this atmosphere, nations began to institute protective tariffs and import prohibitions. Thus, during the 1920s, the world rejected free trade once again and implemented protectionist measures to bolster national economies. These protectionist measures and a policy of isolationism extended to the United States.

- But it wasn't just U.S. political isolation or a self-imposed end to immigration that affected the world economy. Perhaps of even greater concern was the commercial isolation the United States also instituted. In 1929, the United States instituted a new tariff system that essentially closed U.S. borders to foreign trade. In response, other countries enacted retaliatory tariffs that closed off many American exports. As a result, U.S. exports fell by about half.

- Nevertheless, the economy of the United States remained extraordinarily prosperous. Prices for all classes of goods, agricultural and industrial, were excellent, and the country was growing rich.

The Crash

- In this prosperous environment, investment in the U.S. stock market increased significantly. By 1928, stock-market investing had become markedly more speculative than it had been earlier. But there were

problems that many failed to see. The crisis in agricultural prices had not been resolved, and the U.S. internal market was became saturated as exports decreased.

- The New York Stock Exchange saw a spectacular rise until March 1929, when investors began selling off stocks as a result of a Federal Reserve report concerning excessive speculation in the market. But because stock prices were still high, some people continued investing in the stock market.

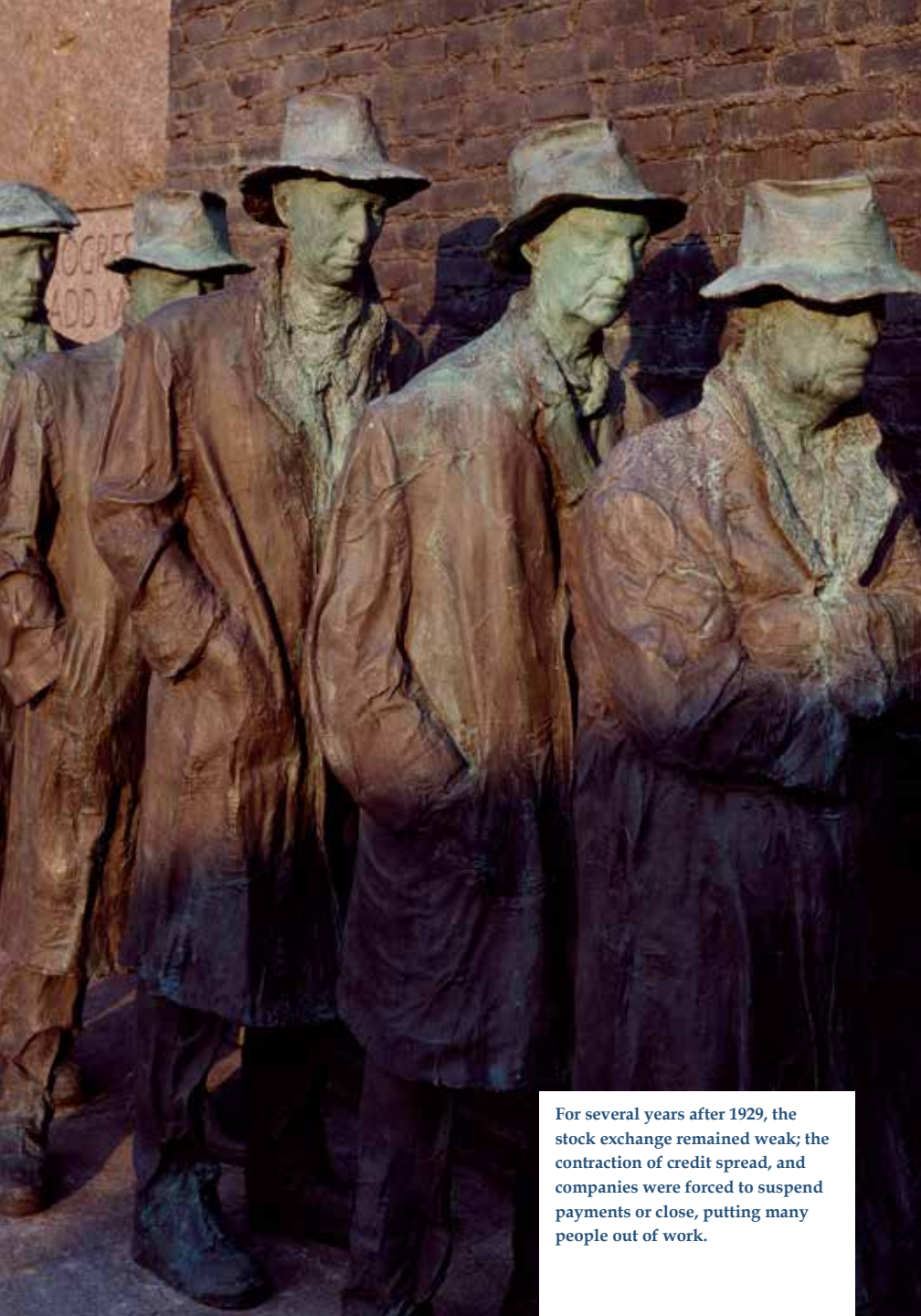
- After a series of poor growth figures in the second half of 1929, more people changed their expectations about how safe the stock market was. Very quickly, some decided to get out.

- On October 24, 1929, frightened investors rushed to sell their stocks on the New York Stock Exchange, crashing U.S. markets. Investors around the country—who relied on afternoon editions of their newspapers and radio broadcasts—began to stage a panic. On October 29, 1929—Black Tuesday—the panicked selling continued.

- Stock market prices plummeted again, with some sellers unable to find buyers for their stocks. Banks started calling in loans, forcing even more selling. The stock market lost more than $30 billion in value in just two days.

- The economic collapse associated with the Great Depression did not affect only the United States. It turned into a general banking crisis in other parts of the world, but it didn't end there.

- American isolationism and protectionism had the effect of depressing international commerce. The protectionist policies contributed to inefficient trade relations broadly. Nations attempted to reserve domestic markets for their own producers, especially if the industry was in decline or crisis. Thus, world trade continued to contract.



For several years after 1929, the stock exchange remained weak; the contraction of credit spread, and companies were forced to suspend payments or close, putting many people out of work.

- As a solution to such an intractable problem, most economists realized that nations needed to leave the gold standard behind. This was an agonizing proposition. The gold standard was the symbol of stability and prosperity. But in hindsight, the return to the gold standard was one of the first actions after the war that led to an unstable international economy.

Suggested Reading

Clavin, *The Great Depression in Europe, 1929–1939*.

Irwin, *Peddling Protectionism*.

Questions to Consider

1. How do countries restructure their economies following total war?
2. What might the economic effects of total war be on nonbelligerent countries?
3. What is an economic depression?

Lecture 34

Tariffs, Cartels, and John Maynard Keynes

In 1920, British economist John Maynard Keynes published his treatise *The Economic Consequences of the Peace*. In this pamphlet, Keynes predicted that the reparations payments assessed on Germany would prove to be much too high and would have disastrous effects. Keynes was correct in his assessment of the situation, and his pamphlet turned out to be influential. In it, Keynes suggests that government needs to reconsider the kinds of austerity measures that were commonly introduced during financial slumps. Instead of scaling back during economic downturns, Keynes advocated increased government expenditures "on a large scale." The flip side to this was his call for a decrease in government spending during good times.

Keynes's Revolutionary Thinking

- In his most famous book, *The General Theory of Employment, Interest, and Money*, John Maynard Keynes laid out the theory that demand is the most important factor in economic activity.
  - Remember that leading up to the Great Depression, the world was in a state of oversupply, which left production capacity unused and resulted in massive unemployment.
  - According to Keynes, the only way out of this trap was for governments to increase spending—essentially to create demand.

- Keynes shattered the predominant economic thinking of the 19th and early 20th centuries, which was based on Adam Smith's principle of laissez-faire and asserted that free markets would stabilize the economy. Keynes advocated for government intervention, in a sense, by

suggesting that governments could moderate the swings in economic performance through either purchasing goods or investing in business.

- Most economists consider Keynes to be the founder of modern macroeconomics, and virtually every developed country has employed his theories when developing policy.

Options Surrounding the Gold Standard

- During World War I, most countries directly involved in the conflict (except for the United States) left the gold standard. After the war, most countries returned to the gold standard and attempted to reinstate prewar exchange rates. But not all countries had sufficient gold reserves; thus, they began holding foreign currencies instead—mostly dollars and British pounds. This system worked fine, but it was risky.

- There were only a few options open to countries tethered to the gold standard. They could devalue their currencies and deflate prices to restore their gold parity balance. They could restrict trade to limit imports and, thereby, ensure that the gold they had didn't leave the country; in other words, they could manipulate the trade balance. Or they could leave the gold standard and allow their currencies to fluctuate. Under this alternative, the currency would actually depreciate.

- The first option—a devaluation—was a difficult pill to swallow, and some countries, such as Germany, couldn't make that kind of adjustment even if they had wanted to.

- Leaving the gold standard was a difficult choice. But some European nations deemed it to be necessary to stabilize their postwar domestic economies.
  - In the face of rising unemployment and reluctance to raise interest rates, Great Britain left the standard again in the fall of 1931, allowing the pound sterling to depreciate. This shocked many

countries. Remember that countries with insufficient gold reserves often held British pounds as an alternative to the precious metal.

- Japan, which had only recently adopted the gold standard, left it within a few months of Great Britain. Other countries with close economic ties to Britain left the gold standard, too. Those that chose not to leave it quickly initiated exchange controls.
- The result was that trade goods coming out of countries with depreciated currencies were much cheaper than were exchange goods that remained priced according to a national currency's inflated value on the gold standard. Most countries' initial response to the problem was to regulate foreign trade by limiting imports and restricting foreign payments.

Government Regulation

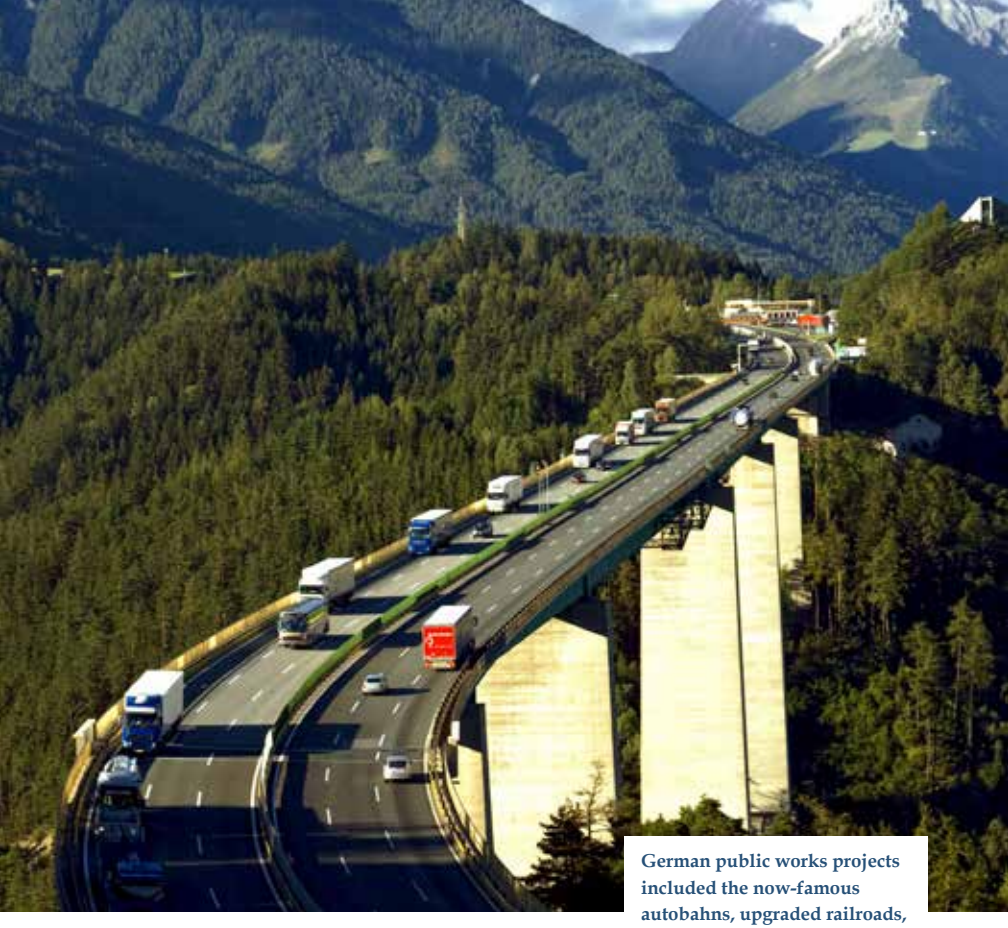
- In a matter of only a year or two, nations began regulating all aspects of their economies in ways that were unimaginable before World War I.

- Even in Great Britain, the issue of cheap imports cutting into domestic production became a concern. The British Import Duties Act was put in place in 1932, adding a general tariff of 10 percent on most imports. This tariff was increased within a few months to 20 or 30 percent.

- The new tariffs were only part of the strategy to limit the supply problem of countries dumping their exports. Import quotas and licenses became even more widespread.

- State intervention in Europe went far beyond tariffs and quotas. Some countries went so far as to ban the import of certain goods in order to prop up domestic production and control supply. In many cases, policies that favored monopolies, cartels, and even nationalization of industries were also adopted during the 1930s.

- France made radical changes in policy as a result of the Great Depression. During the early 1930s, the French government introduced



German public works projects included the now-famous autobahns, upgraded railroads, housing projects, and more.

a variety of actions intended to pull the country out of the Depression. Many of these measures were similar to the kinds of protectionist interventions that other industrialized nations enacted. The government also enacted production limits in some industries.

- Most industrialized nations were beginning to take a hard look at the demand side of the supply-demand relationship as a driver of economic growth. It was rare that any state fully implemented all of Keynes's recommendations. But the British were well aware that new demand

needed to come from a wide swath of the population. Thus, getting people back to work and, even more radically, redistributing wealth became an important part of British policy in the 1930s.

Comparing the United States and Germany

- The two countries hardest hit by the Great Depression were the United States and Germany—countries that hadn't left the gold standard. And both Germany and the United States adopted several practices to stabilize their domestic economies in the 1930s that were amazingly similar.
  - Following World War I, through tax cuts and less government spending. U.S. government spending actually remained higher than prewar levels, once war-related expenditures and extraordinary wartime taxation are accounted for.
  - Revenues from customs tariffs declined as a percentage of total U.S. government income, indicating that the protectionist measures were having an effect on supply. But the American government was larger after the war. And for the few years leading up to the Depression, the U.S. economy grew steadily.
  - Meanwhile, Germany had experienced significant shocks to its economy over the course of the 1920s. But after the period of hyperinflation in 1922 and 1923, the German economy grew at a good rate in the next few years.

- Because economic growth was good leading up to the Depression, neither country seemed aware that the world economic system that had developed in the wake of the First World War was vulnerable to such an economic crisis.
  - Policymakers failed to consider that the economic system had become must less flexible. Production and distribution of goods were tied up through cartels and monopolies. Prices and wages had become more rigid, partly as a result of adherence to the gold standard. And free trade had been eliminated through the implementation of tariffs, quotas, and other restrictions.

- Each of these developments contributed to a structural problem in demand. During the 19th century, nobody ever thought that supply would outgrow demand. The result was, as we have seen, market collapse and millions of people unemployed.

- In the United States, the size of government had increased following World War I and throughout the 1920s. In that light, when Roosevelt was elected, his prescriptions for curing the nation's economic ills naturally included considerable government involvement.

- When Hitler came to power in the early 1930s, the expansionist and militaristic ambitions of Nazism were still not clearly defined. Likewise, the Roosevelt administration was not at all preoccupied with military buildup until 1937, when German intentions became obvious. Even then, the United States remained focused on defensive military expenditures.

- Both countries used similar strategies to combat unemployment and poverty in their populations, including poor relief and public works programs. Both governments also set up work camps for young men from rural areas, primarily to keep them from migrating to the industrial workforce.

- In the United States and Germany alike, various factions attempted to influence economic policies and, in some instances, even attempted to co-opt government power. Germany provided the clearest example of this.
  - German industrialists and financiers were opposed to democracy and wanted the Nazis to provide an authoritarian solution to the crisis. The middle classes agreed with the industrialists that labor unions should be broken, but it also wanted the Nazis to decrease the economic power of the industrialists and bankers.
  - American industry supported democracy but wanted to eliminate antitrust laws in order to protect their profitability. Other groups, including labor leaders and other progressive movements, wanted U.S. antitrust laws strengthened.

Changes in Economic Systems

- In the spring of 1936, the new French government established by the Popular Front Party initiated a set of reforms. These reforms essentially rejected a century of economic thinking by taking actions that were consciously intended to increase demand rather than to regulate supply.

- The Popular Front–led government instituted the 40-hour workweek, allowed for collective bargaining, started a public works program, and nationalized the armaments industry. These reforms were intended to increase wages and spending to increase demand for goods.

- Meanwhile, Hitler had suspended World War I reparations payments in 1933. Even more worrisome, extremist political responses to the crisis proliferated around Europe.

Rumblings of War

- By the late 1930s, a new problem was coming into view. German spending on armaments increased dramatically, and the old antagonisms were beginning to rise to the surface once again.

- The rest of the industrialized West had no choice but to respond to a new threat of German aggression. Military spending increased everywhere after about 1937.

- In Asia, Japan had been continuing its attempts to dominate regions that could supply its industries with raw materials. As the only real industrial power in East Asia, Japan held a considerable amount of power in the region. And it, too, was taking an increasingly militaristic stance toward foreign relations.

- What was happening in the 1930s was a response to a massive downturn in the global economy, with governments turning to direct intervention

in economic affairs. Essentially, they were creating a regulated market for the first time in more than 100 years.

- The solution to the Great Depression, in each instance, included some degree of state imposition of restrictions on foreign trade and increased intervention in the domestic economy.

- The industrialized world began to prosper again during the second half of the 1930s, even as tensions between nations heightened. At the end of the 1930s, few saw that another war was on the horizon.

Suggested Reading

Romer, "What Ended the Great Depression?"

Questions to Consider

1. Under what circumstances should governments intervene in the economy?
2. In what ways can governments affect economic activity?
3. In what ways does government intervention in the economy provide for social stability?

Lecture 35

Japanese Expansionism: Manchurian Incident

On September 18, 1931, a Japanese army officer detonated explosives on a section of railroad track in southern Manchuria, touching off what came to be known as the Manchurian Incident. The Japanese declared that the explosion was the work of the Chinese, providing the Japanese army with a pretext to attack Chinese troops. Within a few months, Japanese forces had taken control over most of southern Manchuria. This action could be considered the first shot in what would become the Second World War. Although the Manchurian Incident seems like it was influenced by economic motives, the problems resulting from the Great Depression and the responses to it had a significant role to play in bringing the world to war.

Japanese Takeover in Manchuria

- In the summer before the New York stock market crashed in 1929, Japan had begun pursuing policies to force down domestic prices and increase exports by tightening the money supply.

- Japan—which had abandoned the gold standard in 1917 and struggled for several years after World War I to stabilize its economy—returned to the standard in 1930. It then fixed its currency exchange at pre–World War I rates.

- But at this point, global prices dropped drastically. Since Japan's recent return to the gold standard now kept the yen trading at a high exchange rate, Japanese exports were not as attractive as they would have been.

In turn, the Japanese people lost confidence in their political parties because of the export problem, speculative banking practices, and a drop in agricultural prices.

- Japan's military officers were among those most unhappy with the nation's government. And the officers in the Japanese force in Manchuria were some of the loudest critics. Thus, the military came to have great influence on government policy,

- Once in control of Manchuria, the Japanese created a nominally independent regime there in 1932 called Manchukuo. They even established the former Chinese emperor, Puyi, as the emperor of the new Manchukuo. In reality, however, Manchukuo was a puppet state.

- Most Japanese viewed the events in Manchuria as a way to solve the economic ills that had beset the country. The event also ushered in a period of expansionism by the Japanese.

- Over the next few years, Japanese forces began engaging the Chinese army south of Manchuria and pressed into northern China, annexing territory as it was conquered. The United States and Great Britain both condemned the takeovers but were reluctant to push the Japanese too far.

Japan's Economic Zone

- At the same time as Japan became increasingly isolated from the rest of the industrialized nations, it also set about using its expanding sphere of influence to create a self-sufficient economic zone.

- Unlike some political and labor movements in the West that held up communism as a potentially attractive alternative, Japan viewed state-led economic development as its best strategy for success.

- At the time, the invasion of Manchuria seemed to prove to the Japanese that their economic strategy was working. Between 1931 and 1934,

Japan's industrial output rose by 82 percent. With its economy booming, Japan came out of the Great Depression much faster than the Western nations.

- With the benefit of hindsight, we can see that domination in Manchuria did not really end Japan's economic problems. What did?
  - First, the fact that Japan left the gold standard only a year after it had adopted it allowed the yen to drop in value against other currencies that remained on the standard, thereby making Japanese exports more attractive.
  - Second, Japan discovered that deficit government spending served to stimulate the economy. The growth of the Japanese Empire—especially in Manchuria—required much higher military expenditures. The government also invested in construction projects and industry in Manchuria.

- Actually, increased state involvement in the economy was the main driver of Japan's economic boom during the 1930s. But the apparent successes of Japan's state-led economic development program reinforced some of the problems with unregulated capitalism that the Japanese people had been repelled by. Although the state was now very involved in economic decision making, the reliance on European-style cartels left much of Japan's industry in the hands of corporations.

- In 1937, Prince Konoe Fumimaro was named the new prime minister of Japan. He was now in a position to institute his preferences for state planning and a structured economy into state policy.

- What Japan was creating in the 1930s was a kind of hybrid economic system, somewhere between the centrally planned economies of the Soviet Union and the liberal capitalism of the Western industrialized nations.

- Japan realized rightly that if its new economic vision were to succeed, it would need to keep the Soviet Union at bay. Thus, Japan found common cause against the USSR with Nazi Germany.

The Axis Powers

- In 1936, Japan and Germany entered into an Anti-Comintern Pact. *Comintern* is shorthanded for the Communist International, an organization led by the Soviets that advocated for worldwide communism. Both Japan and Germany agreed to exchange information about the Comintern movement and to join forces if either were attacked by the USSR. Fascist Italy entered the pact a year later.

- Japan's New Order, as it was hailed, set out to organize governments friendly to Japan in East Asia. But Japan's real problem was controlling its radically conservative military in what would quickly become an all-out war in the Pacific.

- Meanwhile, in Europe, Hitler had helped to pull the German economy out of the Great Depression by creating massive public works projects and by engaging in the same kind of deficit spending that the Japanese had discovered could kick-start economic growth. But in setting an economic policy for his new regime, Hitler was much less deliberate than Konoe.

- Much like the strategy Japan was developing at the same time, Hitler was formulating a plan for an expanding Germany that would allow it to become a political and economic powerhouse.

- As early as 1933, Hitler quietly ordered the military to rearm, with the goal of going to war within the next 10 years. His immediate goal was to reclaim all the territory that Germany had lost at the end of the First World War.

- The first step in this strategy was the remilitarization of the Rhineland in 1936. Less than two years later, Germany annexed Austria. But this is something that most Austrians had wanted for years, following the breakup of the Austro-Hungarian Empire.

- Germany would also annex an area of Czechoslovakia known as the Sudetenland, which was largely ethnically German. German actions in the Sudetenland evoked a response from the other European powers. But rather than risk war, France and Britain met with German and Italian representatives and agreed to the annexations.

- The major lands that Germany had lost as a result of the First World War were in what was now Poland. Germany invaded Poland on September 1, 1939, and two days later, France and Great Britain declared war on Germany.

- As we have seen, the economic motives of both Japan and Germany were remarkably similar. Both regimes found a way out of the Great Depression by adopting aspects of Keynesian economic policies, whether or not they were aware of Keynes's fiscal theories.

- Pre–World War II Japan and Germany also rejected free-market of capitalism and the rigidly planned economies of communism, seeking instead to establish a new national program based on economic self-sufficiency and territorial expansion.

Progress of the War

- By 1941, almost all of continental Europe was under the control of Nazi Germany and Italy. For its part, Japan had succeeded in occupying large portions of China, including Manchuria, as well as most of Southeast Asia.

- The Allies responded forcefully, but they had not been aggressively building up their military to the degree that the Axis Powers of Germany, Italy, and Japan had been. The Soviet Union—which eventually joined the Western Allies—had been focusing on crash industrialization in the years leading up to the war.

- All or most of the more advanced industrialized nations were coming out of the Depression by the time the hostilities began. The war accelerated

the process. Western nations now ramped up production to impressive levels.

- The war-industrialization effort relied on regulated markets, even among those countries that were most commonly associated with free-market economies. In such markets, prices were regulated, financial controls were imposed, and centralized decision making and prioritization of production were established. Massive administrative bureaucracies also were created to accomplish these objectives.

- In order to control inflation, countries began to ration consumer goods and certain foodstuffs. Food production itself was often regulated, especially in Great Britain. In the United States, farmers were initially reluctant to increase production for fear that any overproduction might cause a drop in prices. But once the United States entered the war, agricultural production increased significantly.

The British increased tank production from about 700 a year in 1939 to 9,000 a year in 1942; military expenditures that had amounted to about 16 percent of GNP in 1939 rose to 56 percent by 1943.

- The problem of how to finance the wartime economy loomed large as industrial production shifted to supplying the needs of a massively enlarged military and as agricultural production became geared toward feeding hungry people at home and in the war-torn countries. Thus, the Western capitalist countries turned to issuing debt to fund the war. The only alternative in the face of massive increases in government spending would have been oppressive taxation.

- Government coordination also forced industry to increase production on a tremendous scale. Still, the Allies were able to reorient their domestic economies to war with great effect. The earlier successes of Soviet industrialization also continued throughout the war.

- In the face of massive Allied troop assaults in Europe and the dropping of the atom bomb in Japan, the Second World War ground to a halt in the space of 30 years. In the end, World War II left 60 million people dead and about the same number of people homeless or refugees.

- In the face of such horror, the leaders of the United States, Great Britain, and the USSR met at Yalta in 1945. Roosevelt, Churchill, and Stalin agreed to several provisions for an orderly end to the war.

- World War II is usually characterized as a conflict over competing ideals or worldviews. It began as the world was emerging from a horrible economic depression that followed almost two decades of political and economic confusion after the First World War. These competing worldviews had important economic aspects to them, in addition to the factors of totalitarianism and racism that we usually associate with the war. That is to say, these competing worldviews included competing economic ideals that were contained in their communist, fascist, and capitalist roots.

Suggested Reading

Milward, *War, Economy and Society, 1939–1945*.

Young, *Japan's Total Empire*.

Questions to Consider

1. Following the devastation of World War I, what still-unresolved factors might have led to renewed hostilities?
2. Were there any connections between Asia and Europe before World War II?
3. How did political and social concerns affect economic policy?

U.S. Aid and a Postwar Economic Miracle

During the autumn of 1944, even before World War II was over, plans for what would come next were being drafted in Washington, DC, at the Dumbarton Oaks estate. In attendance were representatives of the world's largest countries: the United States, the USSR, China (which at this point still hadn't fallen to communism), and the United Kingdom. In October 1944, the participant nations agreed on several goals for a new international organization. The purposes of the organization would be to: maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and establish a center for harmonizing the actions of the nations in achieving these goals—the United Nations.

The Bretton Woods Conference

- The United Nations officially came into existence in October 1945. In a world that had been disrupted by two world wars in the span of only 20 years, the desire for peace and cooperation was high. The UN charter promoted economic and social cooperation around the globe at a time when it was obvious that economic and social problems had played an important part in moving toward war in the first place.

- It also seemed that an even more focused approach to avoiding economic problems was required. In the buildup to World War II, national economic policies had the potential to be—and many were—harmful. Even as the victorious Allied leaders had been contemplating a United Nations, they were also envisioning a global approach to promoting open markets and free trade.

- Solutions to these issues were discussed at the Bretton Woods Conference in July 1944. This conference, held in New Hampshire, brought together hundreds of delegates from around the world to temper the extreme economic regulation of the prewar years. One organizing principle of the Bretton Woods Conference was that international trade alone could and would cure the most pressing of Europe's economic problems at war's end.

- The Bretton Woods Conference was an ambitious undertaking. But the plans developed there could not possibly solve all the problems that were haunting Europe as the war came to a close. Government policymakers were forced to make short-term decisions that contradicted some of the aims of the Bretton Woods agreement.

- Much of Europe—and a good chunk of East Asia—lay in ruins, and millions of people had been displaced and were out of work. The roadmap for international trade and peaceful coexistence was now under development. But exactly what route the Allies would take had yet to be fully determined. They looked to the United States for leadership.

- On June 5, 1947, Secretary of State George C. Marshall presented the commencement address at Harvard University. In his speech, he signaled the willingness of the United States to respond with a program to assist Europe in economic rebuilding. This was the genesis of the European Economic Recovery Plan—more commonly known as the Marshall Plan.

Postwar Europe

- Even though the war in Europe had been tremendously destructive, European industrial capacity had not been completely wiped out. With the exception of Germany, much of the continent's infrastructure—roads, railways, and housing—was either repaired or rebuilt fairly quickly. By 1947, economic output had just about reached 1938 levels.

- Given the severe level of destruction during the war, many industrial inputs for rebooting the European economy needed to be purchased from the United States. But Europe lacked the hard currency with which to buy them.

- The only way for Europe to finance growth was to increase exports. But that required purchasing industrial inputs. Imports exceeded exports by some 65 percent. And in this environment, European countries were reluctant to eliminate wartime price controls and rationing.

- Of course, governments could remove all controls and allow the market to function freely, but that was a scary proposition. For more than a decade, Europe had been functioning as a war economy, under close regulation. Nobody really knew what would happen if those controls were removed. The United States and the Marshall Plan offered a way forward.

U.S. Aid to Europe

- During the summer of 1947, foreign representatives across Europe gathered in Paris to form the Committee of European Economic Cooperation (CEEC). This was one of the first moves toward European integration, and it was sparked by the U.S. offer of aid. But the United States would consider only an integrated program to assist Europe-wide recovery.

- The committee's first order of business was to draft an aid proposal for consideration by the U.S. Congress. Unfortunately, the plan the CEEC came up with was more a summary of the plans of individual nations, rather than a realistic assessment of where the greatest needs were. Thus, experts were called in to formulate an aid distribution scheme.

- In December 1947, President Truman asked Congress for almost $7 billion, which would be dispensed as the first installment in a four-year economic recovery program for European countries. The money would be provided in the form of grants and loans, the repayment of which

would depend on the receiving country's ability. The plan was intended to jump-start world trade as much as it was to rebuild Europe.

- Countries that accepted Marshall Plan funding had to sign off on agreements with the United States that would stabilize exchange rates, balance state budgets, and end price controls. Essentially, aid recipients had to move toward a market economy.

- This was a key point. The United States was highly suspicious of the possibility of socialist governments aligning with the Soviet Union and establishing Soviet-style communist regimes. In a sense, the Marshall Plan required governments to choose between the centrally planned economies of the East and the market economies of the West.

- Although separate from the Marshall Plan, negotiations on tariffs and trade led to the General Agreement on Tariffs and Trade (GATT) signed by 23 countries in Geneva in the autumn of 1947.
  - The GATT continued what the Bretton Woods Conference had started by focusing on the benefits of international trade. While Bretton Woods offered a solution to the payments problem, GATT took the next step toward trade liberalization.
  - GATT succeeded at curbing tariffs on tens of thousands of items. This was its real benefit. Successive rounds of negotiations attracted more signatories and removed tariffs and quotas on even more goods.
  - It was a major step at returning to the free-trade policies of the pre–World War I days and spelled the end of the economic nationalism of the first half of the 20th century.

Results in Germany

- By the time the Marshall Plan was put in place, Germans had been living under price controls and rationing for years. The United States had hoped for an integrated Germany after the war, but philosophical disagreements with the Soviet Union frustrated those efforts. The Western powers then

occupying Germany—the United States, Great Britain, and France—decided to proceed without Soviet involvement in a solution.

- Why were price controls and continuations of rationing programs a problem when food and other resources were scarce? The answer is that price controls created product shortages.
  - The amount of money in the German economy was actually higher after the war, say in 1947, than it was before the war. But with prices held artificially to a low level, there was no incentive to produce, and shortages persisted. In the case of food shortages, people simply started producing their own food or resorted to barter.
  - Factory workers, who realized that their wages weren't worth much, often took time off work to grow food or engage in barter. Thus, industrial production was low.

- Germany needed a few things before its recovery could get under way: a new currency, the elimination of price controls, and reduced taxes. The

A new German currency, the deutsche mark, was instituted in June 1948, which was exchanged on a ratio of 1 new deutsche mark for every 10 former Reichsmarks.

Allies set up a working group of economists to lay out a plan to put the needed changes into motion.

- Between the time the necessary changes were put into effect, in the spring of 1948, and the end of the year, industrial production in Germany increased by more than 50 percent. These changes set Germany on a clear path for growth during the 1950s.

Results in France

- France—like Germany—had industrialized during the 19th century. But French industry traditionally had suffered from relatively low levels of raw materials.

- The character of French industrialization was different from Germany's, as well. Even on the eve of World War II, France was largely rural, and its manufacturing companies tended to be smaller in scale than in other industrialized countries. After the war, France became far more urban and industry became much larger.

- The French employed Marshall Plan funds to good effect—to rebuild French industrial capacity with new technologies.

- France also established an economic planning commission to develop a long-term strategy for growth. Key to its growth was the involvement of labor. French labor unions aggressively promoted an increased workweek as a way to increase productivity. The French economic miracle was based on increases in labor productivity—double those of the United States during the 1950s and 1960s.

- But the French case differed from traditional free-market capitalism through the government's nationalization of some of the country's key industrial sectors, including coal, gas, electricity, and some transportation industries. The result was a mixed economy.

The European Miracle

- The 25-year period after World War II came to be seen as an era of miraculous growth for the European economy. We have seen that the foundation for this rapid growth was defined shortly before the ended war and put into place almost immediately following the war's conclusion.

- Circumstances differed from country to county, but the many plans and agreements put in place after the war served to jump-start economic growth on a grand scale.

- The United States and Europe experienced strong growth after the war. But Europe's growth rate—with the notable exception of Britain—tended to be much greater than that of the United States. Europe was just as industrialized as the United States before World War II, but European growth halted because of the war. After the war, Europe was able to rapidly catch up, once the brakes on economic growth had been removed.

- No one is more closely associated with the European miracle than George Marshall, the former Army general and U.S. secretary of state who emerged as a catalyst toward the end of World War II for a unified proposal that would set Europe on a trajectory for growth.

- At the time of his death in 1959, the plan that bore Marshall's name could be counted as one of the West's major achievements of the 20th century and an important reason for the European economic miracle. But there was a limit to how fast Europe would grow. Twenty-five years on, circumstances would change—and that economic miracle would end.

Suggested Reading

Hogan, *The Marshall Plan*.

Marglin and Schor, *The Golden Age of Capitalism*.

Questions to Consider

1. What was the most pressing need in Europe following World War II?
2. What role did the United States play in postwar reconstruction?
3. How did the plan for reconstruction drive the European economy in the decades following the war?

Lecture 37

Colonialism and the Independence Movement

After World War II, Europe turned from the battles at home that had threatened Western ideals of democracy and independence to their territorial possessions abroad. Many European countries became determined to hold onto their colonies in Africa and Asia, even though it was now a different world than it had been in the days before the two world wars. The West's wartime rhetoric of "liberty" and "democracy" was not lost on the millions of native peoples who were still living under colonial rule. Many of them had experience serving alongside their colonial masters in the fight against fascist totalitarianism in Europe and communist expansion in Asia. After the war, they brought a mixture of new ideas home with them.

Ghana

- One Western-educated African who became a leader for independence after World War II was Kwame Nkrumah of the British Gold Coast colony (modern-day Ghana). In 1947, Nkrumah was asked to become general secretary of a new political party called the United Gold Coast Convention (UGCC), which was oriented toward independence.

- The sluggishness of the postwar Ghana economy helped Nkrumah's socialist rhetoric catch hold. In the summer of 1949, he formed a new political party, the Convention Peoples' Party (CPP), which would agitate for independence from the British Empire.

- The British government proposed to authorize self-government for the colony—but not independence—under its own constitution. In response, Nkrumah and the CPP called for a general strike. The strike turned violent, and Nkrumah and others involved in the protests were jailed.

- The British went ahead with their plan for limited self-government in the Gold Coast. In early 1951, they held elections that the CPP won by a landslide. Nkrumah was so popular that he was elected to a seat in the assembly while in prison. He was released and joined the new government. In 1952, the British colonial governor appointed him Gold Coast prime minister.

- The CPP continued to dominate the colony's assembly and to call on the British to grant independence. Under popular pressure, the British government conceded a few years later. On March 6, 1957, Nkrumah addressed a massive crowd in Ghana's capital as the president of the newly independent African nation.

Algeria

- In North Africa, Algeria had been a French possession since 1830. But the French didn't administer Algeria as a colony. Instead, after 1848, Algeria was administered as a *département* of France, just like other areas within France.

- Tens of thousands of native French people migrated to Algeria during the course of the 19th century, forming a kind of upper class that controlled the economy and managed the state. The French also felt it was their duty to civilize Algerians.

- Many native Algerians tried to work within the system to bring about equal rights for themselves but without advocating succession from France. Some sought peaceful solutions to the Algerian problem, but others were more inclined to fight.

- The Algerian War of Independence began on November 1, 1954, when the Islamist National Liberation Front attacked a variety of targets. The war dragged on for years, devolving at points into guerrilla attacks and bombings.

- In France, the post–World War II government of the Fourth Republic was unstable, and the conflict in Algeria destabilized it further. In 1958, France turned to its World War II hero, General Charles de Gaulle, to form a new government and solve the crisis in Algeria. But even de Gaulle could see no way out of the situation.

- De Gaulle finally put the question of Algerian independence to a vote, with 91 percent of French and almost 100 percent of Algerian voters in favor of granting it. Algeria became independent on July 5, 1962.

- The government that emerged following the Algerian war of independence promoted state control of the economy. Throughout the 1950s and 1960s, Marxist ideologies played a major role in the independence rhetoric in Africa and in the way that independence movements were drawn into the Cold War.

The Congo

- The tiny European kingdom of Belgium had held the huge central African region of the Congo for more than 100 years as a colony. Belgian rule was harsh and consciously kept the native population in a subservient state.

- Beginning in the late 1950s, several independence parties emerged, one of them led by Patrice Lumumba, a writer and activist. Another was led by Joseph Kasavubu, a civil servant in the colonial administration.

- The Congolese were eager consumers of independence and pan-Africanism rhetoric. But getting these kinds of messages past the

Belgian authorities was not always easy. One planned speech touched off the Leopoldville riots of 1959.

- The vastly outnumbered European population realized that it would not be able to maintain control over the colony for much longer and, at long last, initiated the process of decolonization.

- Lumumba became prime minister of the newly independent Republic of Congo. But a power vacuum resulted when the Belgians left, and two of the new nation's richest provinces broke away to form the Republic of the Congo, taking the bulk of mineral wealth.

- Lumumba tried to form a central government along the lines of what Nkrumah was seeking to accomplish in Ghana, but he needed support. Soon, in-fighting broke out in Lumumba's government, and he was assassinated by supporters of Joseph Mobutu, a Congolese army officer.

- In 1965, Mobutu—with the support of the United States and other Western powers—began more than 30 years of authoritarian rule in what became known as the Democratic Republic of Congo and, eventually, Zaire.

Indonesia

- The Dutch East Indies (the Dutch colony in modern-day Indonesia) were an important source of rubber and oil that had enriched the Netherlands and financed much of the nation's industrial development after about 1890. The colony was such an important source of raw materials that Great Britain and the United States tried to help defend it against Japanese invaders during World War II. But the Dutch were forced to surrender control in the spring of 1942.

- Because the Japanese imprisoned most of the Dutch colonists, native Indonesians were able to take over most of the domestic administrative

jobs. But Japanese rule turned out to be more oppressive for native Indonesians than Dutch rule had been.

- After Japan surrendered to Allied forces in August 1945, native Indonesians declared their independence. But the Dutch—backed by loans from the United States—were intent on reasserting colonial rule in the region, and a four-year guerrilla war for independence ensued.

- The U.S. threat to eliminate all funding to the Netherlands—including crucial Marshall Plan aid—eventually proved to be the nail in the coffin of continued Dutch rule in Indonesia.

French Indochina

- Elsewhere in Asia, the question of a country becoming communist was a key concern for Western nations in determining the course of decolonization. One example was French Indochina—consisting of Vietnam, Laos, and Cambodia—where independence movements were under the leadership of communists.

- French Indochina came under the control of the Nazi collaborationist French Vichy government during the early years of World War II. Vichy authorities granted the Japanese permission to land troops in the colony's northernmost province of Tonkin (in modern-day Vietnam), ostensibly to block Allied supply routes to China.

- The Japanese restricted their occupation to this northern territory until 1941, when they began moving troops into the south, as well. In 1945, Japan decided to take over all of French Indochina.

- The French attempted to hold onto the colony, but they couldn't repel Japanese forces. The Japanese remained in control of Indochina until the end of the war in the Pacific in late 1945. After the war, the French attempted to reassert control.

- President Franklin Roosevelt felt that French Indochina was in worse condition after 100 years of French rule than it had been before the French arrived. Roosevelt's successor, Harry Truman, maintained the U.S. anticolonial position.

- The Allied troops' plan for French Indochina after the Japanese surrender was to move in and secure the colony, but the United States was reluctant to establish a direct presence there. Thus, the task of removing the Japanese from Indochina fell, in the north, to Chinese nationalist forces under Chiang Kai-shek and, in the south, to the British.

- The goal of the Chinese and British occupiers was to secure Japanese disarmament in Indochina and repatriate any Allied forces held there as Japanese prisoners of war. The British were to maintain order while staying out of local Vietnamese affairs. But the British expected to secure the colony and return it to France.

- A combination of several Vietnamese nationalist parties known as the Viet Minh had fought alongside the Allies during the war and waged a guerrilla war against the Japanese occupation. Indeed, even before the British landed in Indochina, the Viet Minh had declared an independent Vietnam.

- Under the leadership of Ho Chi Minh, the Viet Minh was clearly a communist organization. But now, the British took over and pushed the Viet Minh aside. Once French authority was reestablished, the Viet Minh fought back, with the support of the Soviet Union and the communist government in China.

- Fighting raged in Indochina until the French were humiliated at Dien Bien Phu. This outcome put the communists in power under Ho Chi Minh.

- This brought the small and not very developed country within the orbit of communism. It also created a point of tension in what was

The battle at Dien Bien Phu was the first time that a native force defeated a Western colonial power in combat; the defeat brought the communists under Ho Chi Minh to power.

becoming a new war, the Cold War between communism and Western capitalism.

The Aftermath of Decolonization

- Several new states continued to be tied economically to their former colonial overlords even after independence. And the establishment of new political regimes—even those with a Marxist bent—did not necessarily mean that Western businesses would be ejected.

- In the case of Ghana, for example, British businesses continued to dominate, as Nkrumah's socialist government followed a path of nonalignment in the Cold War.

- In the Congo, most Belgian colonists and administrators returned to Belgium fairly quickly after independence. But a strong Belgian identity remained during much of the 1960s.

- In Southeast Asia, the specter of communism had a profound effect on decolonization developments throughout the region and subsequent attempts at development. The Dutch in Indonesia and the French in Indochina initially tried to reassert their political control, but ultimately, they withdrew.

- There is no disputing the wide gap between Western ideals and the sad realities after centuries of colonialism in Africa and Asia. Many native peoples were wary of free-market capitalism that traditionally had oppressed and exploited their homelands. Not surprisingly, they were drawn to the communist rhetoric of equality and self-determination. This put them at odds with their former overlords, who were motivated by their total opposition to the spread of communism around the world.

Suggested Reading

Smith, "A Comparative Study of French and British Decolonization."

Questions to Consider

1. How did the political rhetoric of World War II influence independence movements around the globe?
2. In what way did the Cold War affect attempts at decolonization?

Japan, the Transistor, and Asia's Tigers

Japan had been an industrialized nation since the late 19th century, but by the end of World War II, its economy and infrastructure were considerably beaten down. Even so, in a matter of only about 10 years, Japan had restarted its productive capacity and was an important source for small consumer electronics in the United States. In this lecture, we'll explore how that happened, and we'll look at the rise of the Four Asian Tigers: Taiwan, Korea, Hong Kong, and Singapore.

The Question of Japan

- As it had been with Nazi Germany in Europe, the question for the victorious Allied powers in the Pacific after World War II was what to do with Japan, as well as Japan's imperial territories and the areas it had conquered during the war.

- The first order of business was to demilitarize Japan and to repatriate the millions of native Japanese who were abroad at the time of the surrender. These Japanese were repatriated by the end of 1948, but once home, they were usually impoverished and unemployed.

- The Western Allies wanted not only to demilitarize but also to democratize Japan. These democratization efforts were motivated, in part, by the desire to dismantle imperial institutions and elite governance and to ensure that Japan didn't fall to communism.

- If the United States and its allies were to succeed in keeping Japan out of the communist orbit, Japan would need to develop a strong new

economic structure. The United States was determined that this would be along the lines of Western capitalism.

- Yet by 1947—with the United States in control of all aspects of Japanese society—it was clear that the Japanese economy was on the brink of collapse. This, more than any other factor, threatened U.S. objectives in occupied Japan.

- The threat of communism was not thought to be external to Japan. Rather, democracy along U.S. lines meant freedom of speech, the press, and assembly. And these freedoms might give Japanese socialists and communists an unwanted platform to exploit the dissatisfaction of Japanese workers with the country's devastated postwar economy.

- Because Japan had been the most industrialized nation in East Asia before the war, many Allied policymakers favored reindustrializing Japan as a key to the economic success of the region and as a bulwark against an expanding communist sphere. Others felt that only by eliminating Japanese war-supporting industries would the prospect of future wars be reduced.

- In the end, U.S. and Allied leaders broke up many of Japan's largest industrial conglomerates. The Western occupiers encouraged labor unions to engage in collective bargaining and initiated land reform policies that made it easier for small tenants to purchase farms. In 1949, they negotiated a plan with the postwar Japanese prime minister that would have even more far-reaching effects.
  - Japan was directed to balance its budget, suspend state loans to industry, and abolish state subsidies to businesses. These new policies were draconian and might have strangled the Japanese economy if not for the Korean War, which erupted in 1950.
  - In support of U.S. efforts in Korea, the American military began placing large orders with Japanese businesses. Between 1951 and 1953, U.S. military purchases in Japan amounted to roughly $2 billion and accounted for about 60 percent of Japanese exports. This jump-started the postwar Japanese economy.

- With the decade of the 1950s now underway, Japan was about to embark on one of the longest periods of economic growth that the world has ever seen. Four of its neighbors—often referred to as the Four Tigers of Asia—also experienced unprecedented rates of industrialization and economic growth in the 20 years following the Second World War. These are Taiwan, Korea, Hong Kong, and Singapore.

Stages of Industrialization

- How were Japan and the Four Tigers able to industrialize so rapidly and experience such dramatic growth? Let's start to answer that question by thinking about the historical phases of industrial development in the 100 to 150 years before the end of World War II.
  - In the European example, the first phase of industrialization began with the application of machinery to the textile industry.
  - The second phase was characterized by a focus on heavy industry. This occurred during the second half of the 19th century, when coal and iron predominated. It was the great age of steel, railroads, and steamships.
  - The third phase, dating to the first half of the 20th century in Europe and North America, is when the internal combustion engine and the expansion of the petrochemical industry led the way.
  - The most recent phase began when consumer electronics, such as televisions, small appliances, transistors, and semiconductors, became most important for economic growth.

- The four-stage pattern of industrialization is a crude way to view the process, but it provides a simple way to think about what is called *sequencing of industry*. This refers to industrializing countries enacting policies in sequence to promote economic growth. The idea is that introducing low-tech industries first might generate the growth necessary to move to more advanced industries. This is exactly what Japan and the Four Tigers did in the 1950s to 1970s.
  - For example, Japan already had a textile industry before World War II, and it was revived in the 1950s. Hong Kong developed a textile

industry in the 1950s, and Taiwan and Singapore did the same in the 1960s. But there were other low-tech industries that offered some of the same developmental benefits as textiles.

- For instance, toys, watches, and other small gadgets offered wide consumer appeal and required relatively low investment in technology and fixed costs. Japan promoted these industries in the 1950s, while Taiwan and Hong Kong developed them in the 1960s.
- Once these low-tech industries were assimilated, the Asian countries moved into steel, followed by chemicals and electronics. Eventually, the Asian economic miracle moved into the automotive and high-tech industries.

Postwar Trends in Global Trade

- A number of circumstances that emerged in the global economy after World War II also contributed to the economic growth of Japan and the Four Tigers. These include: technology exchanges, expanded global trade, rising standards of living, the information revolution, and the rise of multinational corporations.

- Cold War competition drove the United States and other Western nations to allow—and even encourage—technological outflows. This might seem counterintuitive. We might think that closely guarding technologies would be important during the Cold War. But many technologies with manufacturing and consumer applications were shared with the conscious intent of bolstering the economies of the Allied nations and slowing the expansion of communist regimes around the world.

- In spite of the problems that free trade presented to most of the Third World in the decades after the war, international trade expanded considerably between 1950 and 1970.
  - The expansion of global trade—and the rise of free-trade policies to a greater degree than had existed in the decades immediately before the war—greatly benefited the industrialized nations.

- The volume of international trade more than tripled between 1950 and 1970. This expansion also benefited those countries that were industrializing at the time by opening up new markets for their manufactured goods.

- Rising standards of living in Europe and North America increased demand for consumer goods, such as textiles, small appliances, electronics, and even automobiles.
  - The introduction of large discount department stores in the United States put downward pressure on prices and opened up new opportunities for manufacturers around the world that could produce large amounts of inexpensive goods.
  - This was an especially good opportunity for places with limited domestic markets, such as Hong Kong and Singapore. But Japan, Korea, and Taiwan also devoted a significant amount of their production to consumer goods.

- The cinema and radio were already well developed before World War II, but they expanded their reach considerably afterward. And with the introduction of television in the 1950s, mass media grew considerably. Aside from the obvious opportunities that the media represented for business, the information revolution was also manifest in the growth of educational institutions around the world.

- Partly because of the example of American private investment overseas, new business conglomerates extended the reach of international trade. These multinational corporations were willing to produce, buy, sell, and lend anywhere in the world as long as their international activities had the ability to increase profit margins.

Global Trade and the East Asian Economies

- Probably the most important decision that the East Asian economies made related to these general trends was to gear domestic industrial production for export markets. Japan and the Four Tigers were now

exploiting the massive growth in demand for consumer goods underway throughout the Western world, especially in the United States.

- This production often focused on goods that could be made more cheaply in Asia than in the United States or Europe. The less expensive goods not only found ready markets but could be produced cheaply enough to absorb the import tariffs still charged in the consuming countries.

- More liberal trade policies—resulting in a greater degree of free trade than had existed since before the First World War—also made production for export feasible again. And growing export markets allowed small countries to overcome the size limitations of their domestic markets by encouraging production at full capacity, without fear of oversupply.

In the 1950s, the company that could produce an affordable transistor radio for the consumer market stood to make a phenomenal profit; the firm that succeeded was Tokyo Telecommunications Engineering Corporation, which later became Sony.

- The story of the Sony Corporation illustrates the process that many East Asian companies followed in world markets. Business partners Masura Ibuka and Morita Akio seized on the opportunity of easy access to new American technologies after the war. Once the technology was brought to Japan, their company produced an inexpensive transistor radio that was popular domestically, but the real money lay in export markets in the United States and Western Europe.
  - Working with a couple of New York import agents, Morita arranged to have Sony radios distributed by the U.S. company Delmonico International. He and Ibuka assumed that that would be the only way to do business in the United States.
  - But by the end of the 1950s, Sony decided to terminate its radio distribution contract with Delmonico. Left with a warehouse full of unsold radios, Morita decided that it was time for his company to dispense with the middleman and sell the radios in the United States directly.
  - In February 1960, the Sony Corporation of America was established. Sony itself was still small at the time, but it was intent on conquering the huge U.S. market. By the end of the 1960s, it had established itself as one of the world's premier electronics manufacturers.

Suggested Reading

Vogel, *The Four Little Dragons*.

Questions to Consider

1. How did postwar recovery in Asia differ from the European experience?
2. What was the character of industrialization in Asia during the 1960s?
3. How did mass consumerism affect industrialization?

Lecture 39

The Welfare State: From Bismarck to Obama

Debates about social welfare programs have a history, and they are conditioned by historical circumstances. Once enacted, social welfare programs are difficult to reverse because people become accustomed to the benefits the state provides. And although many people tend to think of social welfare programs as being decidedly liberal in concept, conservative political forces actually instituted some of the earliest social welfare programs. In this lecture, we'll examine social welfare programs in detail, starting with the question: What are the origins of social welfare?

Origins of Social Welfare

- State-sponsored welfare began in industrial Germany in the late 19th century. The immediate reason that social welfare programs were set up there was purely political: to eliminate the threat of socialist movements in the country.

- Germany, although highly industrialized, was a young nation in the 1870s when the Social Democratic Party was gaining a following among the laboring classes and socialists were gaining seats in the Reichstag. This was much to the chagrin of the conservative Chancellor Otto von Bismarck and Emperor Wilhelm I.

- In a speech to the Reichstag in November 1881, Bismarck laid out the government's social welfare policy: "Curing social defects will have to be pursued not only through the repression of Social Democratic excesses but also through the consistent and positive promotion of workers' welfare."

- Under Bismarck's leadership, the Reichstag in 1883 created a comprehensive health insurance program for all of Germany's industrial workers. It was followed, in 1884, by accident insurance and, in 1889, by old age insurance. These social insurance programs did not initially apply to all German citizens, but they are usually considered to be the first steps toward what has come to be known as the welfare state.

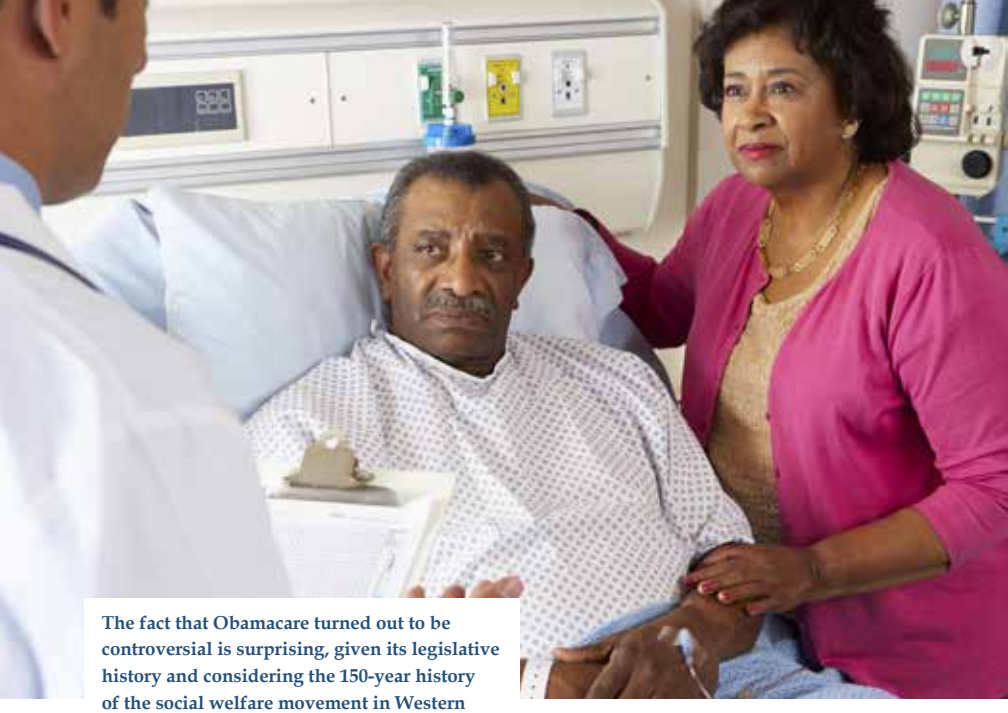
- Bismarck's model was soon adopted by Denmark, Norway, and Sweden, all of which introduced forms of health, accident, and old age insurance in the 1890s and during the first decade of the 20th century.

- Social welfare schemes differed among countries, primarily in the ways they were financed, though in each instance, government contributions had a direct role to play.

- In Great Britain, some industries began providing accident and pension insurance to employees at the end of the 19th century. Then, during the early years of the 20th century, the British Parliament began working to provide accident and health insurance to a broader segment of the population. The National Insurance Act of 1911 was Britain's first national social welfare program. The new law applied only to the wage earners, however, not to their families.
  - Interestingly, both conservatives and trade unions opposed the law, though for different reasons.
  - Conservatives felt that providing health insurance benefits fell outside the scope of government. Trade unions opposed it because many were already operating their own insurance programs.

Socialist Influences in Social Welfare Legislation

- The massive social upheaval brought about by industrialization and the move toward more democratic governments by the end of the 19th century led to far more successful attempts at passing welfare legislation than ever before. Nevertheless, socialist influences were clearly present



The fact that Obamacare turned out to be controversial is surprising, given its legislative history and considering the 150-year history of the social welfare movement in Western society that preceded it.

in social welfare legislation, regardless of which political party was responsible for it.

- Nations were, in principle, governed democratically by the will of the people. Thus, they had an economic responsibility toward their citizens. If governments didn't act, there was a strong likelihood that their populations would react—as was clearly the case in the Russian Empire at the end of World War I, when disaffected Russians turned to socialism.

- Then, the Great Depression drove home to governments that they couldn't simply ignore millions of people who were out of work and without any means to support themselves.
  - The United States, for example, had a tradition of relying on voluntary private poor relief and welfare provision. But during the Great Depression, private funding dried up.

- Initially, the states stepped in to provide relief. In 1932, when Roosevelt became president, large-scale federally funded plans to get people back to work were put in place.
- Before the end of Roosevelt's first term, the United States had joined the rest of the world's industrialized nations in providing extensive social welfare programs for its citizens.

Social Welfare in Europe

- The individual most closely associated with the creation of social welfare provisions in Europe is probably the British economist and social reformer William Beveridge.

- During the Great Depression, Beveridge began to favor a process of state planning and intervention in the economy. In 1941, he became the chairman of the British government's Interdepartmental Social Insurance Committee.

- As chairman, Beveridge presented a plan that has come to guide the Western welfare state. His report, entitled *Social Insurance and Allied Services*, proposed a cooperative relationship between individuals and the government in stamping out poverty, disease, unemployment, and inadequate education. His proposal for social welfare was based on a flat-rate contribution through taxation and a flat-rate benefit for all. The report was so influential that after the war, the British government based virtually all social welfare legislation on its principles.

Social Welfare after World War II

- By the time World War II was over, most Europeans had experienced decades of economic, political, and social turmoil. National populations pulled together to get their countries moving again. A dedication to mutual support swept across Europe, and most people felt that caring for the displaced and dispossessed now required government action.

- The locus of this new solidarity could be found partly in the trade unions, which had been providing various social welfare benefits for members even before the war. To many, unions provided a model for governmental programs that would cover entire populations. And it was often the social democratic political parties that used the democratic process to further social welfare goals.

- After World War II, the social democrats moved to the political center and, at the same time, pushed for greater social welfare benefits and industrial nationalization schemes. By this point, most Western European governments were being led by these centrist social democratic parties.

- It was an odd convergence of liberal and conservative thinking about the ways that social welfare programs could benefit society. The government would accomplish these aims by regulating the market economy, ensuring equitable income distributions, and providing for the public good through social welfare programs.

- It's true that communist parties often joined with centrist and more traditional socialist parties to form coalition governments. But most communist parties tended to be marginalized in Western Europe because of their sympathetic stance with the Soviet Union.

- Even so, communist voices had agitated to improve the conditions of the working classes for decades. and the Cold War did not silence them. The Cold War provoked military buildups and political rhetoric. It also created a kind of welfare race.

- Capitalist economies had long focused on development and growth, often at the expense of the individual. In contrast, the socialists and communists traditionally had championed social welfare, especially in such places as the Soviet Union.

- Postwar capitalism sought to head off the rising socialist movement by providing social welfare programs on a par with those proposed by socialist parties. The difference was that Europeans accepted the social

democrats' willingness to replace what many saw as the instability of capitalist markets with some economic planning.

- Postwar social democrats linked economic growth with the provision of social welfare programs. This led to a shift in thinking about such programs. Before the war, social welfare programs had been thought to apply only to certain workers. They were viewed essentially as employment benefits and were contributory in nature. In Europe, the variety of contributory schemes shifted more toward state-funded benefit programs that came to be viewed as rights of citizenship. This raised the possibility of increased state intervention of all kinds.

- Soon, governments throughout Western Europe were engaged in interventions that went beyond the original social welfare programs. Among these were programs of partial and full nationalization of key industries, such as the coal industry in Britain. Following the war, the notion was widespread that nationalization would provide greater stability and productivity—and better working conditions—than would strictly profit-motivated private concerns.

Social Welfare in East Asia and Eastern Europe

- Social democratic movements were far less likely to come to power in East Asia, which tended to be authoritarian or—if democratic—much more conservative than their counterparts in Europe or America.

- The authoritarian regime in power in Taiwan, for example, developed a social welfare policy that favored only a small proportion of its workers.
  - After nationalist Chinese forces left the mainland for Taiwan in December 1949, Taiwanese social welfare programs came to provide old age, health, and disability insurance but only to the military and civil servants. Workers not employed by the government were at the mercy of their employers' contributory programs.
  - In a sense, Taiwan wasn't providing any social welfare programs for its citizens. It was simply providing insurance programs for its

employees. A similar situation occurred in South Korea after the Korean War.

- The Soviet bloc countries of Eastern Europe were also led by authoritarian regimes. But unlike their East Asian counterparts, they developed expansive social welfare programs for their citizens, even when they probably could have been more restrictive.

- The difference had less to do with the degree of authoritarianism between Asia and Eastern Europe than with the socialist idea of the social contract. Nevertheless, in order to remain in power, Eastern Europe's rigid socialist states needed to provide some material benefits to their populations.

Legacy of the Social Welfare State

- By the end of the 1950s, most countries that offered social welfare programs for the majority of their citizens had instituted four types of insurance programs: old age (Social Security), accident, health, and unemployment.

- A variety of additional social welfare programs have emerged over the years, including free higher education, maternity leave, paid holidays and vacations, and subsidized housing. Not surprisingly, government spending on social programs increased significantly between 1950 and 1970.

- What is the legacy of the social welfare state? How can we assess its merits and weaknesses?
  - One major problem is the large expenditure required to provide the array of social welfare programs that currently exist. In most authoritarian regimes, individuals and business are expected to foot the bill. In social democratic states, governments have been deemed to be the best purveyors of programs to support the nation's welfare.

- The welfare state has also led to an increasingly complex bureaucracy, larger government apparatus, and centralization of services.
- At the same time, many people—and most electorates—seem to affirm the social welfare state as a success.
- In the more than 70 years following World War II, the developed countries of the world succeeded at eradicating the most serious social problems in society. Social welfare programs have, by and large, eliminated the threat of destitution due to old age, disability, illness, and unemployment. But the value of such social welfare programs may become less obvious as memories of the Great Depression fall further into the past.

Suggested Reading

Trattner, *From Poor Law to Welfare State*.

Questions to Consider

1. What role do governments have in providing for the general welfare of their citizens?
2. What kind of programs can be categorized as social welfare programs?
3. How has political orientation affected the move toward or away from social welfare program?

The End of American Exceptionalism?

To quote the American sociologist and political scientist Martin Lipset, the attributes of American exceptionalism are "liberty, egalitarianism, individualism, populism, and laissez faire." These concepts began to crystalize in 18th- and 19th-century political rhetoric and were held up as ideals all should strive for in the face of absolutist states and class-based societies. Today, we probably wouldn't say that they are unique to the United States, but they took on a distinctly American flavor in the historical experience of the new republic. They presented the industrial world with a new direction in which capitalism took center stage.

Development of American Exceptionalism

- During the 19th century, a rising tide of nationalism swept Europe. It was based on the shared background of each country's population—such factors as a common language, common religion, common cultural heritage, and so on.

- A case could be made that Americans, too, had a shared cultural heritage around the time of the Revolutionary War. But that quickly changed as a rising tide of immigrants formed a new melting pot. Now, rather than being based on the same kind of shared culture as with the European nationalisms, Americans gravitated to an intellectual identity of lofty ideals, such as liberty and individualism, egalitarianism and populism. For most Americans, these ideals set the United States apart from the rest of the world.

- By the time World War II concluded, the United States was clearly the world's strongest economy, it had the strongest military, and in the minds of most Americans, it possessed the strongest democracy.

- But a new question emerged as a potential challenge to the idea of American exceptionalism. Given the problems of the 1920s and 1930s, would the world capitalist order that America now led continue to function during peacetime? The United States had little choice but to quite consciously take a leadership role in the postwar world.

U.S. Leadership

- One way the United States would lead was by working to create international organizations to ensure peace. In doing so, it would play not only the leading role but just about the only role in the reconstruction of war-torn Europe and by setting itself up as the defender against "godless communism." It would also seek to extend its economic model around the globe.

- Before the war, the U.S. economy had been roughly half the size of the combined economies of Western Europe, Japan, and the Soviet Union. After the war, it was larger than all of them combined.
  - This was no small feat, especially if we consider that the United States experienced potential challenges to its continued prosperity immediately after the war.
  - For example, more than 10 million people were discharged from the U.S. military after the war concluded. And nobody knew, at the time, what would happen once the government removed wartime production quotas, price controls, rationing, and other regulations that had been in place.

- After the war, international trade expanded on a massive scale, and U.S. manufacturing was one of its greatest drivers. Some estimates suggest that global trade rose nearly fivefold, from $62 billion in 1950 to more than $300 billion in 1970, with the United States accounting for roughly

15 percent of it. This overall increase in world trade can be credited to increased sales of manufactured goods, technology, and food.

- Agriculture had always been an important part of the U.S. economy, especially its exports.
  - After World War II, American agricultural productivity increased greatly as farmers converted en masse from animal power to mechanized agriculture. This switch also decreased the number of agricultural workers.
  - Between 1950 and 1970, U.S. agricultural exports more than doubled in value from a little more than $3 billion to about $7 billion.
  - Production probably would have increased even more if Depression-era price supports and quota systems had been eliminated after the war. Instead, the U.S. government continued to promote agricultural exports through subsidies, loans, and marketing assistance.

- The petroleum industry was also on the rise following the war. Although the United States enjoyed large oil reserves in Pennsylvania, Texas, Oklahoma, and Louisiana, many people began to predict after World War I that the country would eventually run short of oil.
  - This led American oil companies to join British and French petroleum companies in exploring new oil reserves in the Middle East.
  - As it turned out, the United States became an oil-importing country as early as 1948. At this point, the Middle East became important for American strategic interests because America's global trade had to do with manufactured products that ran on petroleum, especially aircraft and automobiles.

- If any American industry of the 1950s and 1960s was to become iconic, it was the American automobile industry. American automotive exports in the 1950s increased from about $750 million to more than $1 billion.
  - U.S. car makers' export figures paled in comparison to those for domestic sales, which by 1960. topped $17 billion. By the end of the decade, however, the situation changed; Americans were importing more cars than they exported.

Although televisions were expensive in the 1950s, the availability of credit allowed many people to purchase one, along with cars, refrigerators, and other big-ticket items.

- Although American automotive exports increased during the 1960s overall, they declined as a percentage of global trade. The Japanese and West European automotive industries began to outpace the United States in global exports.

Cold War Defense

- It wasn't the proliferation of American consumer goods by itself that thrust the United States into the role of leader of the Western world. Tensions between the United States and the Soviet Union and its allies prompted an American response.

- The communists under Mao Zedong had taken over China, and in 1950, the Soviet-backed North Korean army invaded South Korea. The U.S.

commitment to fighting the expansion of communism led to a significant increase in defense spending.

- This increase was a boon to American industry. A private arms industry with close ties to the Department of Defense emerged, focusing on high-tech weaponry and rapid technological change. Further, the defense industry employed large numbers of scientists, engineers, and factory workers and stimulated all kinds of related economic activity.

- The technologies that were being developed in response to Cold War defense needs also held the potential to benefit industries producing for the civilian market. Probably no industry benefited more from the technological changes of the Cold War than America's infant computer industry.

The Changing U.S. Economy

- In general, during the 25 years after World War II, the United States experienced sustained economic growth. But by end of the 1960s, the country was feeling competitive pressure in all its basic industries as foreign firms caught up. Even so, the United States led the world in technological innovation, heavy industry, and the manufacture of consumer products for 25 years after the war.

- This is not to say that there weren't problems in American society. This was also a time of racial strife, the quagmire of the Vietnam War, and struggles for the equal rights of women. But by and large, the United States enjoyed a generation of economic prosperity and world leadership.

- By the 1970s, the American economy underwent profound changes. America was still exceptional, but the character of America's leadership was changing. The United States was beginning to lose its economic hegemony.

- One problem was that, as a result of the Cold War, the American economy favored investment in defense over consumer manufacturing. Did the Cold War have a negative effect on the American economy?

- In a book published only a couple of years before the end of the Cold War, historian Paul Kennedy theorized that all "great powers" go through a rise-and-fall cycle. By taking a long-term view, Kennedy pointed out that the relative strength of countries fluctuates over time.
  - The reason for this is that the rate of economic growth varies, shifting the relative advantage one country has over another.
  - Kennedy also highlighted the connection between wealth and military power. Wealth is required to build military power, and conversely, military power is needed to defend a country's ability to acquire wealth. Thus, there is a trade-off. Focus too much on expanding a nation's military power, and it will choke off that nation's ability to create wealth.

- By 1970, the United States was reaching a tipping point.
  - Although the U.S. share of overseas trade grew in absolute terms during the intervening 25 years, America's percentage of world trade remained level. The upshot was that the international trade of other countries was growing faster than that of the United States.
  - In its role as a world hegemon, the United States was sharing technologies, offering aid and loans, and providing for the defense of nations within its orbit. The United States maintained a massive overseas military presence during the Cold War.
  - At the height of World War II, defense spending had made up about 85 percent of the federal budget. Even during the 1950s and 1960s, defense spending fluctuated between about 50 and 70 percent of the federal budget. After the Vietnam War, federal defense spending dropped to about 30 percent, a range in which it remained until the end of the Cold War.

- The noncommunist world owed much to the United States for its economic success after World War II. But by the mid-1960s, U.S. companies were investing so heavily in Europe and elsewhere that

many Allied countries felt that the United States was turning them into economic satellites.

- Overseas investments, including military expenditures, were certainly indicators of a strong economy. But left unchecked, they erased the benefits of American exports to repatriate wealth.
- The massive defense spending, especially once the Vietnam War ramped up, led to government deficits, inflation, and (surprisingly) growing difficulty for American manufacturing to remain competitive in a changing world.

The Verdict on American Exceptionalism

- Did American exceptionalism come to an end in the 1970s? We could easily answer yes, but it wouldn't be because the ideals around which the concept revolves are no longer pertinent.

- The United States was so successful in its goals of championing capitalism and democracy that the differences between the United States and most other Western democracies simply decreased over time.

- It's true that Americans continue to prefer less government involvement in the economy than do some European states. And European states have been more inclined to devote considerable resources to social welfare concerns, while the United States maintained rather high defense spending. But the United States remains the largest economy in the world. And, acting as a global peacekeeper, it continues to spend far more on defense than any other nation in the world.

- The 1950s and 1960s were truly the golden age of American capitalism. And the United States felt duty-bound to lead the world economy into the future. American exceptionalism remained alive and well, even if the American economy experienced ups and downs.

Suggested Reading

Lipset, *American Exceptionalism*.

———, "Still the Exceptional Nation?"

Questions to Consider

1. What is a superpower?
2. In what way was the American economy of the 1950s and 1960s exceptional?
3. How strongly do values persist over time?

Lecture 41

Middle East: From Pawn to Power Broker

In October 1973, on the Jewish holiday Yom Kippur, Egypt and Syria attacked Israel. This war injected a new economic element into the way wars are fought: oil. When the conflict erupted, Arab states initiated an oil embargo against the United States and Europe, hoping to force them to convince Israel to modify its policies concerning disputed territories. Within six months, the price of oil had quadrupled. How did the Middle East come to play such a central role in world affairs? The answer is found in the breakdown of empire, continuing attempts by Western nations to dominate the world, a global shift in fuel consumption, and the disintegration of the postwar economy.

The Ottoman Empire

- The Ottomans entered World War I after Russia declared war on the empire. The Russian action came in response to an Ottoman attack in the Ukraine, on the Russian-held Black Sea port of Odessa, a few months after World War I began. The Ottoman Empire was a mostly rural domain that included almost all of the Middle East. Now, it was locked in combat with the world's industrialized powers.

- After the war, the core of what we usually refer to as the Middle East was administered by the League of Nations under the mandate system until the countries were deemed to be able to function independently.

- As a result of some informal discussions after the war between the British prime minister and the French premier, the former Ottoman territories were divided up between Great Britain and France, which were to serve as protectors of these mandate territories.

- The reasons Great Britain and France claimed the mandate territories were oil, prestige, and the strategic location of the Middle East in trade between Europe and Asia. Otherwise, the Allied powers had little interest in the Middle East, and there was little or no attempt at developing the region along Western industrial lines.

- Most importantly, Western nations moved in to take control of potential oil reserves. It was fairly clear that the modern armies of Europe and the United States—as well as the modern industrial economy broadly—were increasingly dependent on petroleum. Thus, during the 1920s, after the mandates were set up, Western oil companies moved to establish joint ventures to develop the region's oil fields.

Western Control of Oil Regions

- One of the most important early efforts to control Middle Eastern oil was the creation of the Turkish Petroleum Company, a joint venture of several Western oil companies. In 1928, the company staked out its area of operation, which included Turkey and virtually all of the mandate territories, plus Saudi Arabia and the Sinai Peninsula.

- Western control of the oil regions meant that local nations would have to fight hard to obtain any oil rights. What's more, the groups controlling the Turkish Petroleum Company argued over whether or not to start pumping Middle Eastern oil. After the war, world supply was outpacing demand, and many investors in the venture wanted to hold the oil in reserve.

- In the non-mandate countries, the rulers realized that this Western oil rush might attract financing that the new states desperately needed for development. Saudi Arabia, for example, awarded the Standard Oil Company of California (now Chevron) a concession for oil exploration in exchange for a cash payment in 1933 and a modest yearly payment thereafter.

American oil companies formed the Arabian American Oil Company (Aramco), which today is known as Saudi Aramco—the world's largest energy company.

- The upshot is that after the breakup of the Ottoman Empire, the Middle East became dominated by Western powers that were more interested in oil and strategic location than they were in development of self-determination.

Changes in Industrialized Nations

- Fuel-consumption patterns shifted between World War I and World War II. The supply of known reserves still outstripped demand, but there were concerns that supplies would eventually fall short. And one thing that World War I had taught the West was that control of oil was a form of political and military power.

- Even so, by the opening years of the Second World War, Middle Eastern oil production amounted to only about 5 percent of global output. By

comparison, the United States still produced more than 60 percent of the world's oil.

- Even more so than during World War I, modern mechanized warfare and industry relied on a steady supply of fuel. The Allied powers were well aware that the German war machine needed oil—and that they needed oil to defeat Germany.

- During the Second World War, the Allies depended on U.S. oil production. After the war, oil consumption shifted quickly to civilian uses. Demand increased, and prices began to rise slightly. For these reasons, U.S. and European producers turned their attention back to the Middle East.

- By 1950, the old mandate system had been dismantled, and the countries that the mandates had created became independent. These states were not unaware of the money and power that their oil reserves brought to the oil companies and, by extension, to the Western nations. Leaders of the oil-producing countries renegotiated their original oil concessions with Western companies.

- At the same time, demand for oil continued to increase. Between 1950 and 1970, consumption in the United States tripled, but prices for oil were remarkably steady. Then, the house of cards came crashing down in 1973, when Middle Eastern politics and the Cold War came into play.

Oil as an Economic Weapon

- During the 1973 Yom Kippur War, the Middle Eastern oil-producing countries surprised the West by instituting an oil embargo. As soon as the Arab oil-producing nations chose to make oil an economic weapon in 1973, the price shot up, resulting in a global recession.

- The United States negotiated with the king of Saudi Arabia to end the embargo after the Yom Kippur War, but Saudi Arabia was reluctant to

take the lead. Arab conditions for lifting the embargo needed to be met first, and most of these were unacceptable to Israel and its allies.

- Prompted by the United States, intense negotiations ensued among the Arab oil producers over whether the embargo had outlived its usefulness. Eventually, in March 1974, the embargo was lifted, but by then, the damage had been done.

Monetary Crisis

- The 1973 oil crisis precipitated by the embargo was a kind of last straw in a process that had already begun to shake a 20-year period of economic growth in the Western world. By the late 1960s, a monetary crisis was brewing.

- To settle international exchange payments, most countries held strong reserve currencies, such as the U.S. dollar and the British pound, fixed to the gold exchange value.
  - As a result of the Marshall Plan, many foreign treasuries had built up large holdings of the dollar. Because the dollar was set at a fixed amount of gold, foreign governments holding dollars had a claim on gold in the U.S. treasury.
  - As long as U.S. manufacturing was humming along, this was not a problem. But by the late 1960s, the continued strength of the dollar made American products less attractive abroad, owing to their relatively high prices. Many countries thought it was doubtful that the United States had sufficient gold reserves to convert its outstanding currency.

- In 1971, the United States experienced a negative balance of trade—meaning imports were in excess of exports—for the first time since the late 19th century. President Richard Nixon felt he had no choice but to suspend the convertibility of dollars to gold to take the pressure off U.S. currency.

- The oil price spike in 1973 also upset international trade balances. World demand for oil was so high that oil importers had no choice but to pay higher prices, and they now became poorer at the expense of the oil-exporting countries.

Global Recession

- The oil embargo was lifted in 1974. But by then, the energy crisis had taken hold and exacerbated the already shaky state of the world economy.

- The United States found ways to conserve and decrease consumption after initial domestic shortages, but underlying problems in its economy now contributed to inflation and unemployment. These problems plagued all the major industrialized countries during the early 1970s.

- A global recession set in from about 1973 to 1975, and slow growth lingered for years. Oil prices continued to climb during the 1970s.

- Yet another oil crisis occurred in 1979 when the shah of Iran was deposed in a revolution of Islamic militants led by the Ayatollah Khomeini. Oil prices spiked again, this time jumping by almost $30 per barrel and more than doubling in a year's time.

- The oil-producing nations' wealth skyrocketed, but the market shocks also precipitated a second recession from about 1980 to 1982.

- Members of the Organization of Petroleum Exporting Countries (OPEC) were now accumulating large fortunes. But the vast wealth engendered by the new "petrodollars" had to be put somewhere.

- Some OPEC members decided to spend their newfound wealth on industrialization projects in their own countries. These required considerable capital expenditures, and the projects often benefited Western companies with the expertise to construct them. As a result, many OPEC members wound up with significant debt.

- All the while, Western countries were finding ways to decrease their own consumption and dependence on OPEC oil. Often, this was by finding other sources, such as North Sea oil in Europe and Alaskan crude in North America.

- In the face of falling revenues, Saudi Arabia frequently tried to pressure fellow OPEC members to reduce production to stabilize or increase prices. But the rest of the organization chose not to follow the kingdom's lead.

- In 1986, Saudi Arabia broke with OPEC and increased oil production dramatically, compelling a significant drop in the price of oil. Between 1985 and 1990, oil prices fell by half. That got OPEC's attention, and soon, the oil-producing countries began managing production to increase prices.

- Prices increased again during the 1990 Gulf War, but problems of supply never materialized.
  - The war was short. And by 1990, OPEC members found it increasingly difficult to agree on oil policy, particularly because two of its members—Iran and Iraq—were now at war.
  - Thus, prices began to slide once more. Adjusted for inflation, the world price for oil in 1998 was at the lowest level it had been since the late 1940s.

- Attempts to forge peace in the Middle East proceeded throughout the 1990s. Most of these initiatives have returned to some of the initial reasons for using oil as a weapon: return of Israeli-occupied territories and the improvement of Arab Palestinian rights in Israel.

- The peaceful conclusion of the first Gulf War in 1993—with the participation of several leading Arab states—and the Israel-Palestine peace agreement that same year might have spelled a new era of peace in the region. But in 1993, no one could guess that radical Islam had other cards to play.

Suggested Reading

Yergin, *The Prize*.

Questions to Consider

1. How does switching to a new power source/raw material change global power relations?
2. Why is access to foreign raw materials a question of national security?

Lecture 42

Germany, the European Union, and the Euro

In the space of about a half century, Europe was able to establish a unified currency—the euro—and create an economic union that would span most of Western Europe. Even more than that, the European Union of today includes a political dimension that provides its members with a mechanism for unified action beyond simple coordination. But to find the beginnings of the European Union, we will have to go back to the uncertain days immediately after the Second World War, when so many of the ideas about what the future of Europe would look like began to take shape.

The Council of Europe

- One of the earliest gatherings of the architects of a new Europe occurred in 1948 in the Netherlands. Some 750 delegates met at the Hague Congress to consider what form political cooperation might take in postwar Europe. The debate boiled down to those who favored a kind of watered-down United States of Europe and those who preferred the formation of a classic international organization similar to the United Nations.

- The result was the Council of Europe, which combined the characteristics of both, although without forcing member states to give up sovereignty or even allowing the council to make decisions binding on all of them.

- European states realized that they couldn't return to the individual extremes of economic nationalism that some of them had practiced during the interwar years, but they were unwilling to give up their political independence. The choice was between an international organization and a supranational organization.

- International organizations depend on the voluntary cooperation of their member states. They work toward a common goal, but they have no powers of coercion.
- Supranational organizations require member states to give up at least some of their sovereignty. They include a mechanism to compel compliance with mandates.

The European Coal and Steel Community

- The impetus for the creation of a truly supranational organization in Europe had a great deal to do with keeping the peace. And it set out to do so through greater economic integration.

- Following the war, the Allies were split on what to do about Germany. The United States and Great Britain favored the idea that Germany should be rebuilt and allowed to reindustrialize without oppressive restrictions. The French wanted to keep Germany weak in order to increase French industrial production.

- France's Monnet Plan called for giving France control over the coal-rich Ruhr valley to increase French steel production. If French control wasn't feasible, then the Ruhr should at least come under the supervision of an international authority.

- But putting the Ruhr under French control would make it nearly impossible for German industry to recover. Thus, the United States objected, fearing that a weak Germany would give Russia too much influence in the east.

- France succeeded at dismantling quite a bit of German industrial capacity in the Ruhr. But in the end, the Germans objected, and the Americans supported the German position. The Ruhr valley was placed under the control of the newly created West German government, meaning that the West Germans would be able to produce steel at a cheaper price than France.

- The only solution to France's problem was the creation of a supranational organization that would even the playing field by controlling West European coal and steel production. The person who led the way at creating this supranational organization was the French foreign minister, Robert Schuman.

- On May 9, 1950, Schuman announced his proposal to pool the coal and steel production of Western Europe. After almost a year of negotiations, the governments of France, West Germany, Belgium, the Netherlands, Luxembourg, and Italy signed a new Treaty of Paris, which initiated the European Coal and Steel Community (ECSC).
  - It created a supranational common market for coal, steel, coke, iron ore, and scrap metal out of what had been six national markets.
  - Although establishing a supranational organization with coercive powers, it also allowed for some national interests to be protected within member states.
  - Further, with the creation of the ECSC, the constraints placed on the West German coal and steel industries were removed.

- The ECSC's common market began fully functioning in 1953. Over the next 10 years, members' iron production increased by nearly half. Trade within the community—and with others—was booming.

- With few exceptions, the organization worked remarkably well. The member states cooperated to uphold the common rules of the organization and even to pay a common tax to support the organization and its mission.

The European Economic Community

- At a meeting of the foreign ministers of the steel community in Messina, Italy, in 1955, plans were sketched out for what would eventually become a full common market that would be free of tariffs among members.

- For the next two years, the six ECSC countries negotiated the framework for this common market. In May 1957, their leaders signed the Treaty of Rome, creating the European Economic Community (EEC).

- Ultimately, the goals of the treaty boiled down to three important points:
  - First, the treaty called for the gradual elimination among members of import duties and other restrictions on trade in manufactured goods. This would begin almost immediately but was expected to take about a decade to fully accomplish.
  - Second, the treaty asked signatories to establish common agricultural, transportation, and social welfare policies.
  - Third, the treaty suggested that members could not unilaterally renounce their memberships. This was challenged from time to time, but the common market was able to retain its supranational character over the long term.

- Other countries, including Great Britain, the Scandinavian countries, Austria, Switzerland, and Portugal, banded together to create the European Free Trade Association. It sought to bring down tariffs between member states on manufactured goods only. It did not dictate tariffs on trade external to the group. This organization functioned well enough and continues to exist today in a smaller form.

- Great Britain and Denmark left the European Free Trade Association in 1973 to join the EEC. Austria and Portugal left later.
  - Great Britain had been invited to join the EEC and the ECSC from the outset, but it declined because it wanted to focus on its own empire and because it opposed the creation of any power bloc on the continent.
  - Britain was also reluctant to give up any of its sovereignty to a supranational organization, no matter the potential benefits. But that was in the 1950s; conditions were very different 15 years after the common market was founded.
  - In retrospect, Great Britain's disinterest in joining the EEC at its inception can be viewed as the biggest mistake the country made following the war. Britain was still the world's third-most important

power in 1945, but it was overextended, and its economic outlook was not good.

- By the time Britain realized its mistake in the 1960s and applied for membership in the EEC, French President Charles de Gaulle initially vetoed Britain's admittance. After de Gaulle resigned, the new president, Georges Pompidou, admitted Britain, viewing it as a counterweight to growing German influence.

Global Recession

- By the early 1970s, the postwar economic boom years were coming to an end. U.S. President Richard Nixon took the dollar off the gold standard in 1971 in the face of increasing American trade deficits and growing pressure on the dollar. Then, war in the Middle East in 1973 sparked a global energy crisis.

- More than any other, these two events—the end of the gold standard and the subsequent oil shock—plunged the world into recession just as Britain was joining the EEC.

- One of the EEC's goals at the time was to create a monetary union over about a 10-year period. But the global recession of the 1970s put a strain on the ability of the EEC to function as a supranational organization because its individual members felt compelled to pursue nationalist economic policies.

- Because of the recession, EEC member states considered protectionist measures. This move came even though the reason behind the common market had been to eliminate the nationalist economic policies that had caused so much ruin in Europe and led to two devastating wars.

- By the 1980s, it was clear that circumstances had changed sufficiently to require a revision of the Treaty of Rome that had established the EEC. Most European states now realized that the only way to avoid the

incremental protectionism that was stifling trade within the common market was even greater economic integration.

The European Union

- In December 1985, the ministers of EEC member states—meeting at the Council of Europe—agreed to the text for a Single European Act. The ministers' overriding goal was the creation of a single market in Europe by 1992.
  - A common market allows for the free movement of goods and services by eliminating tariffs and quotas among member states. But as we have seen, a common market falls short of full integration. Member states are free to pursue economic policies as long as they don't violate common market rules. Thus, a common market coordinated some aspects of economic policy, but it did not amount to integration.

In Europe, a currency union had been decided upon in the mid-1990s; by 1999, the new euro was already being used in financial markets.

- In contrast, in a single market, all economic barriers are removed, meaning that goods and services—and capital and labor—can move as freely within the market as they can within a single country. Non-trade barriers that provide some protections under the common market are not allowed in a single market.

- The Council of Europe hoped to begin implementing the terms of the Single European Act by the end of 1986. But constitutional issues in several countries held up passage until January 1987.

- By the early 1990s, European governmental leaders were trying to figure out how to integrate EEC members into a single European Union and what to do with all the Eastern European states that were expressing interest in membership.

- Many European leaders, including the president of France and the chancellor of Germany, called for a political European Union ahead of the 1992 deadline for implementation of the single European market. But at a meeting of the European Council in Maastricht in December 1991, political union went beyond what most member states were willing to do.

- The pinnacle of the Maastricht conference was an agreement on the formation of the European Union and the creation of a common currency a few years later. For the rest of the decade, participating states sought to make the changes necessary to meet the criteria for joining the European Union.

- The European Union today unites a single market with standard laws and social services and the free movement of people, capital, goods, and services, thereby eliminating most border controls within member states. In this way, the dream of peaceful coexistence largely became reality.

Suggested Reading

Gilbert, *European Integration*.

Questions to Consider

1. What were the economic challenges facing Europe following World War II?
2. What strategies could states use to solve these problems?
3. Was the dream of a united Europe possible?

Free Trade: Global versus Regional Blocs

Ever since the English economist David Ricardo explained the idea of comparative advantage, some people (at least those who understood this difficult concept) began to support the idea of free trade. What is comparative advantage? Well, at its most basic, it is the theory that a country is better off if it engages in foreign trade for goods that it can get at a lower cost from another country than if it made the products itself. What's more, both countries will benefit by trade with each other. This idea of comparative advantage—as explained by Ricardo and economists who subscribe to his theories—has been an important driving principle for free-trade policies over the past two centuries.

The Progression of Free Trade

- In the early 19th century, English merchants began to put pressure on Great Britain's Parliament to permit free trade. But centuries of restricted trade and bullionism made Parliament cautious.

- British statesman Richard Cobden—a manufacturer himself—succeeded in convincing Parliament that eliminating restrictive laws and tariffs would benefit the country. Thus, by the 1850s, most barriers to international free trade were eliminated in Britain.

- Of course, unilaterally opening up free trade was an important step. And it was one that could probably have been taken only by Great Britain at the time. Until other industrial countries adopted free-trade policies, the prospective benefits outlined by David Ricardo could not be achieved.

- Unfortunately, few industrialized nations in the 19th century subscribed to multilateral free-trade principles. Most countries that allowed any form of free trade entered into bilateral agreements. For this reason, the second half of the 19th century was a period during which international free trade—with limits—began to flourish.

- But during this early golden age of free trade, even relatively open countries, such as Britain, had some selective protectionist measures in place. After an economic slump in the early 1870s, most industrialized countries began to restrict their trade policies again. By the 1900s, the free-trade era had come to an end.

- Soon enough, it became clear to most economists that protectionism prolonged the Great Depression, though the Depression also prompted the United States to begin negotiating trade agreements with individual nations, beginning in the mid-1930s. Such negotiations did not represent a broader attempt by the United States to advocate for general free-trade policies. They did, however, provide a model that other nations could use in their own bilateral trade agreements.

- After World War II, the United States emerged as the most vocal advocate of free trade. With U.S. and British leadership, the multilateral General Agreement on Tariffs and Trade (GATT) was negotiated as part of UN discussions in the late 1940s.
  - From the start, GATT was intended to reduce global trade barriers and to encourage countries to move toward specialization and, thereby, take advantage of their comparative advantages in order to grow more quickly and efficiently.
  - In other words, GATT was a move to return to the free-trade principles elucidated by Ricardo in the early 19th century.

- These ideas about free trade, protectionist measures, and the like were all developed and experimented with in the confines of the industrialized world and areas of the world that the industrialized nations controlled.

Barriers to Free Trade

- It has become something of a given since World War II that free trade is the only viable option for economic growth anywhere in the world. What's more, protectionism only inhibits growth. This is an odd idea if we consider that most of the industrialized world developed during a time when protectionist measures were not only common but also when free trade was virtually unheard of.

- Consider that before World War II, the United States probably led the way in protectionist economic policies.
  - Should we be surprised—in the contemporary era, when free trade is again being held up as an ideal—that smaller, less industrialized (and less developed) countries would be fearful of competing in the global arena of GATT and its successor, the World Trade Organization?
  - If, as Ricardo theorized, free trade is the best way to achieve commerce that is "most beneficial" to each nation, does it have to be practiced on a global scale, or are there alternatives?

- It's clear that free trade has been the rhetorical goal of the industrialized West. But tearing down trade barriers since World War II has been easier said than done.

International Trade Relationships

- Among the forms that international trade relationships can take are *unilateralism*, *bilateralism*, and *multilateralism*. Each of these forms has advantages and disadvantages, depending on the desired outcome. But in general, multilateral free trade is considered to be the most favorable to widespread economic growth over the long term.

- Yet another form of international trade relationships focuses on locational factors that highlight the similarities of national economies in a particular area of the world. This is called *regionalism*.

- For our purposes, regionalism is the creation of preferential trading arrangements. Regional trade blocs did not really emerge until after the Second World War. And though regional blocs do not represent direct opposition to multilateralism, neither do they fully support free-trade policies.
- What trade regions offer is a way for smaller countries to link up with larger ones on the road to multilateralism. It is also a way for smaller countries to create a larger bloc in a multilateral world, perhaps as a way to avoid the neo-imperialist position of some free-trade critics.

- Regional trade arrangements have proliferated since World War II. Probably the earliest regional trading bloc was the European common market that was established in 1957. Initially, the United States and Great Britain were not in favor of these kinds of regional arrangements. But the goals of those who participate in a common market are to reduce and eventually eliminate tariffs. These are steps in the direction of free trade.

- Europe was already industrialized for the most part. And, at least philosophically, it shared a long-term commitment to multilateral free-trade policies. This was much less true in most other areas of the world.

- Consequently, a wave of regionalization occurred around the globe in the 1950s and 1960s. Other regional trade associations clearly saw joint regional action as a means to participate more actively in the world economy.

- Even before the creation of Europe's common market, the Arab states, no longer under the rule of the mandate system, formed the Arab League in 1945, with the goal of furthering economic development and political stability in the region.
  - At the end of the 1950s, the Economic and Social Council of the Arab League met to discuss how the organization would go about furthering economic coordination.

- The organization agreed that it would seek "to organize and consolidate economic relations among the States of the Arab League … and to provide the best conditions for flourishing their economies, developing their resources and ensuring the prosperity of their countries."

- Aside from the European common market, probably the most successful of the regional economic associations from this period is the Association of Southeast Asian Nations (ASEAN). At the time of its creation in 1967, ASEAN consisted of Thailand, Singapore, the Philippines, Malaysia, and Indonesia.
  - These nations perhaps saw that multilateral free trade was a form of Western imperialism and that only together could the Southeast Asian states get out from under the dominance of the West and take their rightful place on the world stage.
  - During the 1990s, several Southeast Asian states that had previously been embroiled in warfare and Cold War politics joined ASEAN, including Vietnam, Laos, Burma, and Cambodia. In more recent years, ASEAN followed the lead of the European Union and committed itself to greater integration and the creation of a common market.

- Several South American nations similarly formed the Mercado Común del Sur—the Southern Common Market (Mercosur)—in order to promote free trade by removing barriers within the region.

- The ability of these regional trade blocs to achieve their goals is a mixed bag. That said, there has been a proliferation of even newer regional trade associations since about 1990.
  - The regional trade bloc that probably came to have the most prominence in the United States in recent decades was the North American Free Trade Agreement (NAFTA). It governs trade among the United States, Canada, and Mexico.
  - Like other trade blocs, NAFTA was set up with the intention of lowering and eventually eliminating trade barriers. The agreement also established rules for trade in various sectors, including agriculture.

Some critics believe that under NAFTA, large numbers of manufacturing jobs relocated to Mexico, but North American manufacturers probably shipped more jobs to China than Mexico.

- After NAFTA went into effect in 1994, trade among the three partners more than tripled, and trade in agricultural goods was spectacular. But is it safe to say that NAFTA was a success?
- Although it's true that U.S. exports to Canada and Mexico quickly increased—and Canadian and Mexican exports to the United States and each other also increased—the Americans' trade deficit with Canada and Mexico also doubled within only six months of the agreement going into effect. U.S. trade deficits continued to rise vis-à-vis Japan, Europe, and China. Thus, NAFTA didn't have much of an effect on overall U.S. trade imbalances.

The Verdict on Regionalism

- What is the verdict on regionalism over the past several decades? Has it been a threat to multilateral free trade? Has Ricardo's theory of comparative advantage been turned on its head with increasing regionalization?

- The sheer number of trading blocs that emerged since World War II calls into question the strength of any commitment to multilateral free trade.

- Regional trade blocs certainly have the potential to throw up barriers to free trade. In theory, they could even be conducive to the kinds of protectionist measures that marked the period between World Wars I and II.

- Furthermore, many economists think of trading blocs as discriminatory organizations that are set up to benefit member countries by protecting their markets from foreign competition outside the trading bloc. For these economists, multilateral trade is seen as being replaced by partial trade liberalization focused on regionalism.

- In contrast, many scholars suggest that regionalism provides an alternative path to free trade. Scholars who subscribe to this interpretation have begun to rethink the entire global economic order. In this view, regionalism might enhance the prospects of free trade in ways that multilateralism cannot.

- Because regionalism is such a recent phenomenon, it is still difficult to predict what the outcome will be. On the one hand, regionalism has significantly increased the scale of international trade by allowing for increased exchanges between neighboring countries. On the other hand, these limited trade circulations might come to focus on just a few key regions—North America, Europe, and East Asia—and that would be to the detriment of less-developed regions of the world.

Suggested Reading

Singer and Svetlicic, eds., *The World Economy*.

Questions to Consider

1. What is the difference between globalization and regionalization?
2. How might regional trade organizations bring stability to developing economies?
3. Do regional trade organizations help or hinder developed economies?

Lecture 44

Gorbachev, Yeltsin, and the Soviet Decline

In August 1989, Hungary opened its border with Austria, prompting a flood of East Germans to cross into Austria and, from there, to West Germany. East German authorities were caught by surprise and closed their side of the border with Hungary. But East German citizens who were intent on escaping to West Germany began fleeing through Czechoslovakia instead. Soon, crowds of East Germans who had remained behind demonstrated, demanding that the government open all its borders and end communist party control of East Germany. The events in Berlin were only a small part of massive changes that were underway in the Soviet Union and the Eastern European communist bloc. We'll review these events in this lecture.

The Collapse of European Communism

- In the decades before the 1980s, the Soviet government had responded to the Cold War by financing a massive military buildup. These large defense expenditures came at the expense of the Soviet economy, which began to stagnate.

- When U.S. President Ronald Reagan began an American military buildup in the 1980s, the Soviet Union simply could not afford to increase its military spending in response. Mikhail Gorbachev inherited this situation when he became the Soviet leader.

- During most of his political career, Gorbachev, the communist party leader in Moscow, had been faithful to the party and to communism. Even so, he was critical of some of the inefficiencies of the Soviet system. Gorbachev believed that only significant reforms could ensure

continued political and economic health for the USSR. But rather than returning the Soviet Union to the good old days, Gorbachev's reforms provided an opening that undermined the communist system.

- From the start, Gorbachev was disgusted with the near-ruinous economic policies of the Soviet bureaucracy. He instituted a policy of *perestroika* ("restructuring") that began as a series of major economic and political reforms.
  - The various ministries dealing with economic issues were centralized and reduced in size. Gorbachev also allowed for some private enterprise and private ownership of property. By 1990—a year after the fall of the Berlin Wall—Gorbachev was favoring policies that would move the Soviet economy toward a free-market system.
  - He fought vigorously against the corruption and inefficiencies in the economy and in the party. But *perestroika* was not sufficient to cure the ills of almost 70 years of Soviet communism. The economy continued to stagnate.

- The true communists in government felt that Gorbachev's rejection of centralized planning based on production quotas was to blame for the country's economic problems. At the same time, critics of Soviet-style communism said the real problem was that the country wasn't moving fast enough toward a free-market economy. No matter what he did, Gorbachev ran into opposition. But the simple fact remains that his reforms failed to turn the economy around.

- Unlike almost all of his predecessors, Gorbachev allowed for broad public debate and criticism of communist party policies. This new approach to public engagement was called *glasnost* ("openness"). In this context, Eastern European peoples began to challenge Soviet domination and communist rule in Eastern Europe—and communist regimes began to topple.

Poland

- In 1981, Poland's communist government imposed martial law to suppress the Solidarity trade union movement. But by the mid-1980s, Poland had relaxed martial law and released several leaders of Solidarity from prison. These leaders picked up where they had left off, working for free and democratic government. In the meantime, as in the case of the USSR, Poland's economy was deteriorating.

- In 1987, the Polish government released the last of the Solidarity prisoners. Shortly thereafter, a series of spontaneous strikes broke out. After several meetings between the government and Solidarity representatives, the trade union was legalized, and its leader, Lech Walesa, became a mediator between the government and the trade union movement.

- Poland's communist government was in retreat and had no choice but to call for elections. In 1989, the Solidarity candidates beat the communists

The Berlin Wall was built in 1961 to stop East Germans from migrating to the West; it was finally torn down in 1989.

by a landslide. After a summer of tense negotiations between the old-guard communists and the Solidarity leaders, it was decided that a noncommunist would become prime minister.

- The new Solidarity government in Poland had been almost a decade in the making, but the events in Poland set off a kind of domino effect, as communist governments fell one after the other across Eastern Europe. With the exception of Romania, these transitions were fairly peaceful.

- Once it became clear that Gorbachev would not intervene, a sigh of relief rippled through the region. This was the first time that Eastern European peoples would be able to decide their own political destiny without the threat of attack by the Soviet Union. As soon as they realized this, thousands of ordinary people publicly spoke out against communist party domination, and pro-democracy protests spread.

Democratic Revolutions

- Nothing symbolized the Cold War more strongly than the division of Germany with the Berlin Wall following World War II. In 1989—as tens of thousands of East Germans traveled to West Germany—massive demonstrations sprang up. In cities across East Germany, people demanded democracy and an end to communist rule.

- Gorbachev explicitly told East German leaders that the Soviet Union would not support them. In turn, the old-guard communist leaders of East Germany resigned. That put younger and less experienced communist functionaries in charge, who promised political and economic reform.

- Because no one really believed the reforms would occur, the migration into West Germany continued. Unsure of what to do, the East German government ordered the Berlin Wall crossings to be opened. Within days, tens of thousands of East Berliners crossed into West Berlin, and East Berliners started tearing down the wall.

- The changes that the new East German leadership tried to enact were met with scorn. The communist party in East Germany was filled with corrupt party officials, and once people realized this, the party was discredited.

- As a result, the East German communist party changed its name and moved closer to centrist European socialism. It held free elections in 1990 that returned a new parliament with a conservative majority and whose goal was unification with West Germany.

- As events rapidly unfolded, the issue of reunification began to loom larger in West Germany and the rest of Western Europe. Cold War rhetoric had set up the division as a kind of line in the sand between East and West.

- Helmut Kohl, the chancellor of West Germany at the time, outlined a plan for reunification. Although Kohl's plan was tentative, it became a blueprint for moving toward full unification. By the end of 1989, the ministers of the European Economic Community accepted that although the details had yet to be worked out, the unification of Germany could go forward.

The USSR

- Gorbachev's restraint during these tumultuous months showed that he had become convinced that the Soviet Union could no longer afford to politically support communist governments, nor could the Soviet military afford to take the kind of action it had in the past to prop them up. Gorbachev seemed to take a similar position with regard to the nature of the authority of the communist party in the Soviet Union.

- Clearly, Gorbachev was planning for a new political structure, in which a strong president elected by the Soviet legislature—the Supreme Soviet—would replace the rule of the communist party bosses. In early 1990, Gorbachev made a proposal to the central committee of the Soviet communist party that it give up its monopoly on political power; remarkably, the committee agreed.

- As a result of his reforms, Gorbachev was no longer the only authority in the Soviet Union's political scene, which had come to be made up of old-guard communists and a variety of young reformers. He had put events in motion but no longer controlled the outcome. In 1990, Gorbachev's popularity began to wane, and he found himself unable to effect change by the force of his personality alone.

- By then, three major political forces were contending for power in the Soviet Union. One group consisted of the more conservative elements in Soviet politics, including key members of the military and the party faithful. A second group, led by Boris Yeltsin, wanted more far-reaching and rapid changes. The third political force that challenged Gorbachev was popular unrest in some of the outlying republics of the Soviet Union, including Estonia, Latvia, and Lithuania.

- The turning point came in August 1991, when the old-guard communists that Gorbachev had tried to appease by bringing them back into government launched a coup d'état. The Soviet army occupied Moscow and placed Gorbachev under house arrest while he was on vacation.

- In only two days, the coup collapsed, and Gorbachev returned to Moscow. But though he had set the wheels of democracy in motion, he was no longer a leader whom the people would follow. Yeltsin was quickly becoming the most important political figure in the country.

- Within only a few months, the communist party of the Soviet Union that Lenin had established collapsed as a major political force. On December 25, 1991, the Soviet Union ceased to exist.

- Gorbachev was forced out of office, and a new political experiment—the Commonwealth of Independent States—came into being. Because of his public role in crushing the coup, Yeltsin emerged as the strongest leader in the newly formed commonwealth.

- As president of Russia, Yeltsin was wildly popular in 1992. But he confronted the same economic and political problems that Gorbachev

had tried in vain to solve. His inability to solve the economic problems and to further reform the political structure of the Russian parliament led to increasing opposition and unpopularity.

- In a repeat of the situation that Gorbachev had faced, former communists in the Russian parliament worked against Yeltsin's program of rapid change. In September 1993, Yeltsin suspended parliament, and for its part, parliament deposed him.

- Legislators tried to incite a popular uprising against Yeltsin, and some protests took place, but the military still backed Yeltsin. He ordered the army to surround the parliament building with soldiers and tanks. On October 4, 1993—after a group of rioters caused significant damage in Moscow—Yeltsin ordered the tanks to attack the parliament building. The rebellion was quickly crushed.

- Yeltsin was able to stay in power for several more years. And Russia was able to implement a new constitution that, at least for a time, ensured continued economic and political reform that would move Russia and the rest of the old Soviet Union toward free markets and democratic government.

Suggested Reading

Sebestyen, *Revolution 1989*.

Questions to Consider

1. What circumstances in the 1980s led the populations of Eastern Europe and the USSR to question the validity of the communist system?
2. Why did the transfer of power from communist to noncommunist leadership happen so smoothly?

Lecture 45

Half the World Left behind in Poverty

Several factors have strangled economic development in some parts of the world that were the least developed following the Second World War. One is that the Europeans who set up the colonies had no real relationships with their ethnically mixed native populations. Borders were arbitrary, with meaning only to the Europeans. This frequently led to unrest and civil war when colonial powers pulled out and the ethnic groups vied for power. Further, Western nations often misunderstood what kind of aid was required to help their former colonies develop or the degree of poverty in which they lived. In this lecture, we'll look at development strategies used by newly independent countries.

Rostow's Stages of Growth

- Most postwar development policies were influenced by the economist W. W. Rostow, who wrote an influential book called *The Stages of Economic Growth*.

- In it, he suggested that undeveloped countries needed to progress through all the stages of industrialization. Rostow identified five phases of economic development: traditional society, preconditions for takeoff, takeoff, drive to maturity, and high mass consumption.
  - The traditional society phase primarily encompasses agricultural societies that are in a constant state of change, depending on harvests, wars, plagues, and other forces. Technological development is generally low, and manufacturing is variably developed.
  - Preconditions for takeoff refers to a period during which science and new technologies are introduced that change the level of

The degree of poverty in the poorest countries of the world is far more acute than almost anything experienced in the Western world; almost 13 percent of the world's population lives in a state of near starvation.

productivity of agriculture and industry. A certain amount of upheaval in social and political values often occurs in this phase.

- Takeoff is the stage when true economic growth occurs. During this stage, investment increases, new industries expand quickly, and firms reinvest their profits. This sets off a chain reaction of increased demand for labor, new manufactured goods, and urbanization.
- The drive to maturity is the period when modern technological development extends to all industrial production. Trade increases, goods that were once imported are produced domestically, and manufactured goods are exported.
- During the period of high mass consumption, the economy shifts toward consumer goods and services. Individual incomes increase well beyond basic needs, and society as a whole can shift some of its wealth to providing social welfare.

- Rostow could not predict what might come after the fifth stage, but it was clear to him that societies can—and should—move through a series

of transitions from traditional to modern, although they would need assistance to do so.

- It would be necessary for underdeveloped countries to receive some new technologies, usually focused on infrastructure.
- Eventually, less developed countries would start producing goods domestically rather than importing them and begin the takeoff stage of development. This is called import-substitution industrialization.

- In development policy, the stages-of-growth concept was adopted by modernization theorists, who sought to transition developing nations from traditional to modern economies. That this might cause significant social and political upheaval was often thought to be worth the price.

- More recently, policymakers have realized that these ideas had flaws. For example, according to modernization theory, underdeveloped African countries would need to build and maintain a landline-based telecommunication system. But in reality, cellphones are far preferable and cheaper to install.

Nigeria's Path to Economic Development

- At the end of the 19th century, Great Britain had aggressively expanded in the region of modern-day Nigeria. The primary interest of the British in the area was extractive, prompted because local merchants were interfering with access to valuable commodities, such as palm oil, cocoa, and peanuts.

- Britain declared the Niger delta region a protectorate in 1885, and it created the Royal Niger Company in1886 to coordinate commercial efforts and guard against German expansion in the region.

- When the British moved into Nigeria in 1900, the Royal Niger Company was shut down. In spite of the loss of sovereignty, the strength of local cultural traditions ensured that British rule would have little direct

effect on the everyday life of the native peoples of the region. The British colonial administration merged various linguistic and cultural populations into an administrative group in 1914.

- Under colonial rule, Nigeria continued to be primarily an agricultural country. Industrialization was discouraged—or forbidden—by the British. Thus, like most African colonies, the roots of Nigerian dependence on Western industry were already solidified by the early 20th century.

- Following World War II, Nigerian demands for independence prompted the British government to slate Nigeria for self-government in much the same way that it was doing in the rest of Africa. Britain followed a policy of decolonization based on its estimation of the ability of a colony to rule itself.

- In 1960, Great Britain granted Nigeria independence. At the time, Nigeria's economy was fairly strong, but it was highly agrarian and not particularly diversified. The country's leaders became determined to develop industrial and service sectors.

- The government produced a national development plan in 1962 to guide the country's priorities for a five-year period. The plan was designed to promote economic growth by prioritizing agricultural and industrial development.

- At that point, the Nigerian state took over its own economic development. Nigeria initially chose to focus on education to increase its population's literacy and develop an educated workforce. The new state also invested in infrastructure.

- Nigeria followed some policies suggested by modernization theory, including establishing some industries to create jobs. But Nigeria had few options for capitalization, which meant that the government usually financed these projects, often with funding provided by Great Britain and the United States.

- By the late 1960s, Nigeria began to exploit its oil reserves, and oil quickly replaced the country's traditional export crops. Nigeria became the world's seventh-largest petroleum producer and joined OPEC in 1971.

- Two years later, the rise in oil prices caused by the oil crisis brought large sums of petrodollars into the country. Although some of the oil money was supposed to go to investment in industry, the newfound wealth actually led to inflation and exacerbated severe wealth inequalities.

- By the early 1970s, about 70 percent of the firms operating in Nigeria were foreign owned. Although Nigeria never resorted to nationalization, the country began to forbid foreign investment in certain industries. Over time, it had about a 60 percent stake in the oil concerns operating in the country.

- By the 1980s, Nigeria had become overly dependent on oil exports, which totaled more than 85 percent of all exports and contributed to more than 75 percent of state revenues by the end of the decade. As oil prices declined in the late 1980s and 1990s, Nigeria found itself in serious economic trouble.

Bangladesh's Path to Economic Development

- In 1947, when the British divided their massive Indian colony between India proper and Pakistan, they disrupted the economic system that had been in place in East Bengal, which we know today as Bangladesh.

- Bengal's main products were jute, rice, and other agricultural products that had traditionally been consumed in other parts of India. Yet Bengal, or East Pakistan, had no real industrial base, and its agriculture was in dire need of modernization.

- The government of Pakistan increased the amount of land under cultivation in Bengal and made some improvements to the agricultural

industry. But these changes did little to improve the situation of the rural population, which became poorer between 1947 and 1971.

- Pakistan established several five-year plans that called for increased industrialization, but the vast majority of these investments were made in West Pakistan, not Bengal. As a result, East Pakistan's economy took a nosedive.

- At this point, civil war erupted as the population fought to break away from Pakistan. The war was marked by atrocities at the hands of the Pakistani army, massive population displacements, and starvation.

- At independence, Bangladesh instituted a socialist system of government and nationalized all its industries. The war had caused significant food shortages, and because the export markets for jute had dried up, a crucial source of capital had been lost.

- Bangladesh possessed a large workforce, but the population's knowledge base was low. The county had few natural resources, with the notable exception of natural gas. And the war with Pakistan had devastated the transportation system.

- After a famine in 1975, Bangladeshi leaders turned their attention to economic development. But the socialist growth model that the country had chosen led to economic stagnation rather than growth. Unable to solve the country's problems in the short run, the government gradually allowed greater participation by the private sector.

- Since the 1970s, more state-owned firms have been privatized in Bangladesh, including those in the banking, telecommunication, aviation, and media industries. By the mid-1980s, the economic policies of Bangladesh encouraged private enterprise and investment, and barriers to trade were reduced, but the country's economic growth remained slow.

- Even so, agricultural productivity has improved. Life expectancy is much higher than it was 40 years ago, and the population is healthier and better educated than ever before.

Successful Development?

- Are Nigeria and Bangladesh two examples of successful development? Each tried strategies it thought would be best-suited to its unique circumstances, and each considered the role of state, private, and foreign investment.

- However, Bangladesh initially received little Western investment, perhaps because of its socialist orientation. Bangladesh's earliest foreign aid came from India, which was itself a developing country. The problem with some types of foreign aid, such as debts and investments, is that they can have a destabilizing effect on a developing economy, particularly because investors send money into developing countries when conditions are good and pull it out when conditions deteriorate

- To be sure, Nigeria and Bangladesh have experienced significant growth over the past decades, but both remain largely impoverished countries.

Private, Nonprofit, and Small-Scale Development Projects

- Not all development strategies depend on government action and large amounts of foreign aid. Recently, private, nonprofit, and small-scale development projects have proliferated. By themselves, these might not pull an entire country out of poverty, but they can make a difference in the quality of life of thousands of people.

- Many small-scale aid organizations with shoestring budgets provide self-help programs. These tend to be of the kind that international aid programs rarely consider but are crucial to development.

- In Bangladesh and Biafra, the most immediate need at the time of independence was food production, yet governments and aid organizations tended to favor industrialization projects.
- In contrast, some organizations are setting up operations to dig wells for rural villages to provide clean water. Other programs have found ways to provide livestock to small-scale farmers.

- With more than half the world's population living in poverty, not just meeting their immediate needs but finding solutions to help individuals over the longer term has become the focus of development in the poorest countries.

Suggested Reading

Chang, *Bad Samaritans*.

Questions to Consider

1. Why are some nations rich and some poor?
2. Is there a right and a wrong way to succeed at economic development?

Lecture 46

China, India: Two Paths to Wealth Extremes

India, by focusing on outsourcing for high-tech industries, has promoted its wealth of human capital. This, coupled with excellent English-language skills, has made India a center of the high-tech service industry. China, by promoting foreign investment and building up its manufacturing capacity, also has been promoting its inexpensive and stable workforce. The low wages in Chinese manufacturing relative to elsewhere have attracted large numbers of Western companies. How did China and India get to this point? How was their development different from that of other underdeveloped nations of the world, thrusting them onto the stage of major economic powers?

India's Mixed Economy

- Probably no one is more closely associated with Indian independence than Mohandas Gandhi. It was also probably with Gandhi that India evolved a contradictory concept of development. Gandhi believed that India was being "ground down," but in his view, this had little to do British rule.

- Rather, Gandhi felt that modern civilization was causing many of India's problems. He rejected the competitiveness of capitalism and materialism and the warlike nature of his times. And he rejected the industrialization model of economic development for India. To Gandhi, industrialization brought many of the ills to the world. What he proposed was peaceful, self-sufficient villages focused on Indian values.

- When the British left and India became independent in 1947, the country faced several problems, the most severe of which were rampant poverty and a lack of natural resources.
  - Early political leaders, such as the first prime minister, Jawaharlal Nehru, and Sardar Patel, his deputy, gravitated toward socialist policies. But Nehru and Sardar were torn between the social welfare doctrines of self-sufficiency (as preached by Gandhi) and the more Western belief that only modern technology and industrialization (along Western lines) could produce economic security for Indians.
  - Nehru actively embraced science and technology, and he felt that industry was essential for India's future. In the end, he chose a middle path.

- As something of a student of Gandhi, Nehru was dedicated to helping the country achieve its goal of self-sufficiency. But he also wanted to move India into the industrial club by promoting large-scale industrial projects, including those involving iron, steel, and hydroelectric power. During the period when Nehru was prime minister (1947–1964), these appeared to be perfectly reasonable goals.

- India's middle path offered a mixed economic structure that was noncapitalist and noncommunist at the same time, even as the country moved toward a model of economic development that expressed a strong dose of social responsibility.

- Nehru and other Indian independence leaders were well aware of the disruption that extreme nationalist economic policies had caused in Europe in the 1930s. Thus, they were leery of free-trade rhetoric and in favor of state intervention in the country's development.

- By the 1970s, however, many commentators insisted that India's policies had stifled entrepreneurship and resulted in decades of poor economic growth, all while the real social ills of India were being ignored.

- Back when India became independent, the country was overwhelmingly rural and impoverished. Ninety percent of the population lived in rural

villages and was engaged in subsistence farming. India also had an abysmal literacy rate of only 16 percent.

- What India really needed from Nehru was agrarian reform and agricultural assistance. But what Nehru gave India were steel mills, smelting plants, and huge hydroelectric projects—many of which were never completed.

- Thus, the social justice rhetoric of Gandhi—although not ignored—was not adequately addressed, leaving millions of Indians in abject poverty. Because India could not feed itself, Western food aid flowed into the country. Protracted slow economic growth and endemic poverty convinced most people that India's mixed economy was a failure.

- By the end of the 1990s, India, like most developing nations, introduced liberal economic policies along Western lines. It was now poised to compete with China in a variety of economic sectors. Although India's per capita income has increased significantly since independence,

Many Western companies outsource aspects of their businesses, such as technical support and software engineering, to well-educated employees in underdeveloped countries.

the country continues to struggle with mass poverty, and its income inequality is fairly similar to that of China.

China's Communist Economy

- China had barely begun to industrialize by the time its imperial structure gave way to a nationalist political ideology. In the 10 years or so following the collapse of China's imperial government in 1912, the country entered a period of virtual political and economic anarchy. Governance devolved into a series of regional warlords and military units.

- The nationalist groups that started the revolution had a rudimentary political ideology but no real economic program. The warlords were interested in their own wealth and tended to terrorize the peasants.

- The government of China changed hands often in the 1910s and 1920s. And, not surprisingly, China slipped ever deeper into poverty.
  - The northern provinces of China suffered through a series of famines and a variety of other ills during this period, prompting large numbers of refugees to migrate to other areas.
  - In the more urban south, the proliferation of Chinese-owned factories increased to the point that they outnumbered foreign-owned enterprises. But industry was focused on handmade textiles, flour milling, consumer products, and similar projects.
  - Chinese industrial production probably didn't employ more than about 1 million people—a ridiculously small number for a country whose population surpassed 0.5 billion in the early 1930s.

- On the eve of World War II, China was still an overwhelmingly agrarian economy. The early nationalist movement had been heavily influenced by Western ideals of democracy, but many Chinese thinkers couldn't help but make comparisons with the experience of Russia during its revolution of 1917. Marxism and Leninism were coming to be seen as viable solutions to China's problems.

- Communist economic policies that stressed collective effort were thought by many to fit China's unique circumstances better than the model of Western industrial capitalism. The Chinese Communist party was founded in Shanghai in 1921, and one of its influential members was Mao Zedong.

- The communists slowly built a good reputation among the Chinese, and during World War II, the party began to gain a significant following. In 1949, only a few years after the war ended, Chinese communists under the leadership of Mao took power in China.

- During the 1950s, China set about a massive industrial modernization program that included measures to combat deep-seated social inequalities. Chinese industrialization followed the socialist model of state ownership, centralized planning, and a focus on heavy industry and mobilization of the workforce.

- An interesting feature of Mao's industrial program was the Great Leap Forward (1958–1960), in which small-scale industrialization was undertaken in rural rather than urban areas. The idea behind the Great Leap Forward was to encourage broader-based technological development and a quicker transition to industrialization. Mao's Cultural Revolution followed the Great Leap Forward and, unfortunately, was a bit of a step back as it tried to counter perceived capitalist influences in society.

- After Mao died in 1976, China's new leader—Deng Xiaoping—set about reforming China's communist government and economic policies.
  - Deng's economic reforms included reversing total collectivization of agriculture by allowing small-scale private farms.
  - In industry, managers were encouraged to run their state-owned enterprises more like private companies, accountable to stockholders. China even began accepting foreign investment.

- These reforms resulted in an extended period of amazing economic growth for China, and it opened the country's economy up to the world.

At the same time, domestic poverty was declining, employment was rising, and exports were booming.

- On the flip side, income inequality and corruption increased, and a variety of new social ills—such as overcrowded cities, pollution, and inflation—crept into the economy. What had happened in China after 1976?
  - China had rejected the communist economic system in favor of state-sponsored capitalism.
  - But the Communist Party refused to relinquish political control, and it backed away from democratic reforms.

Neoliberalism

- Both China and India jumped on the bandwagon of neoliberalism, a movement that began in the 1980s and was led primarily by the United States and Great Britain. In particular, it expressed the perspectives of Ronald Reagan and Margaret Thatcher, whose policies called for a return to the laissez-faire capitalism of the 19th century. Neoliberalism supports privatization of industry and advocates balanced budgets, deregulation, and free trade.

- The Chinese and Indian economies alike have shown tremendous growth as a result of liberalization, particularly in their attitudes toward foreign investment. Unfortunately, economic liberalization has also had the effect of creating significant income inequality.

Comparing India and China

- Both India and China started down the road of economic development in similar, though not identical, situations. Neither one had industrialized, both countries were largely agrarian, and each had a massive population that lived in poverty. However, if we compare the economic policies of

China's Mao with those of India's Nehru, we see some clear differences, in spite of their similar roots in socialism.

- China followed a path that conforms—unwittingly, we can only assume—to the Western theory of stages of economic growth. Some of Mao's earliest goals were to reorganize Chinese rural society through land reform and to keep peasants on the farm to maintain high levels of agricultural productivity and enable the country to become self-sufficient.
  - Next, China developed key industries, especially steel. But the state also sponsored smaller-scale industrial development that prepared China for its industrial takeoff.
  - Today, China is concentrating on creating a mature industrial economy by branching out into new industries and taking steps toward mass consumer production on its own account, rather than as a contractor for Western firms.
  - It's surprising that communist China became so successful while following the traditional characteristics of Western industrial development. Could this be proof that economic growth is best achieved by following the Western model? The jury is still out on that question, but China's example lends a great deal of support to the idea.
  - More than that, China's experience suggests that democratic institutions are not necessarily required for capitalist industrial growth, nor for industrial growth of any kind. Looking back over the past century, we can see that some of the highest growth in economic output was realized in authoritarian regimes, such as the Soviet Union and Nazi Germany.

- We might say that India's trajectory was exactly the opposite of the Western model, disregarding the stages-of-growth theory. Indian leaders were so intent on industrializing that agriculture was all but ignored. The focus was on capital-intensive industrial development. And India jumped past the mass production of consumer goods to enter directly into the service sector, leaving millions of potential workers behind.

- India has become the service center of the world, and China is the world's manufacturing center. The two countries will likely be leaders in the world economy for years to come, in spite of their deep-seated social problems.

Suggested Reading

Meredith, *The Elephant and the Dragon*.

Questions to Consider

1. How will changes in production and human capital affect Western dominance of the economy?
2. Will the rise of China and India change the equilibrium of the global economy?
3. What strengths do China and India add to the world economy?

Lecture 47

The Information Economy: Telegraph to Tech

For many of us, it's staggering to compare the early developments in computer and information technologies to the past few years of notebook computers, tablets, and cellphones. Within only a few decades, an information economy has grown up as a result of these technological innovations. But if we thought the availability and importance of information came only with computers and data networks, we would be missing a much longer-term process that has had a significant impact on the way that businesses and the economy function. In this lecture, we'll look back over the past 500 years of changes that have taken place in the ways business information is acquired, transmitted, and used.

Information Exchange

- We can make several general observations about information exchange since the development of the printing press in the West:
- The quality of the information got much better with the arrival of the printing press in the late 15th century.
- The kinds of information—or the way information was organized—changed and improved.
- The speed with which information was transmitted increased dramatically.
- The availability of information expanded in significant ways.

- The cost of obtaining many types of information dropped.

- The value of the information itself rose and continues to rise.

Early Types of Business Information

- The success of a business depends on the ability of its stakeholders to communicate with one another. Today, we use telephones, e-mail, and various online services, but 500 years ago, merchants and their businesses also needed information in order to be successful.

- Even after the development of the printing press, firms often employed couriers to carry news about market conditions, local events, and the competition and to send instructions back and forth between the home office and branch offices. The printing press allowed for greater standardization of information types and better ways to share business information.

- Information exchange within firms was necessarily a confidential enterprise, and from an early date, firms kept the notes and reports of their agents. In addition to newsletters and other correspondence, firms used these notes and reports to compile commercial handbooks as a way to transmit information within the organization.

- Whether for the private consumption of merchants within a firm or with an eye toward distribution to a wider audience, the merchants published information in their area of expertise. In more modern times, these often took the form of policy and training manuals. Most early manuals contained information on weights and measures and currency exchanges.

- Merchants, however, needed access to information about unfamiliar markets and new products, whether they were acting individually, working for a large firm, or acting as a functionary of one of the new joint-stock companies.

Although there were many ways to share information, the printing press enabled commercial information to be organized into manuals, price currents, and business newspapers.

- Merchant manuals presented their readers with a variety of advantages over other forms of communication.
  - The earliest manuals focused on the nuts and bolts of commerce: general instructions on calculating currency and measurement exchanges, as well as instructions for merchant apprentices. These kinds of manuals were common during the 16th and 17th centuries.
  - During the 17th century, books that focused on trade regulations began to appear. Commercial dictionaries also became available by the end of the 17th century and were even more common during the 18th century.
  - Trade and travel literature describing important commercial cities and extra-European commercial centers was also important during the 18th century.

- Manuals were just one way that the quality of available information improved. Businesses needed other kinds of information much more quickly than manuals could deliver it. For example, manuals could give an idea of prices in distant lands, but current prices were much more valuable.

- In book form, merchant manuals started the process of profiting from information. And when merchants realized that they would profit even more by speeding up the process of information exchange, the business press—in the form of newspapers and printed price lists—was born.
  - In their earliest days, business newspapers were simply printed price lists and exchange rates. At first, these were rather simple affairs, likely printed by the exchange brokers in a city. But the process of compiling price lists, although essential, was probably a large enough job that brokers simply licensed the rights to a merchant to start a price list publishing business.
  - At this point, price currents became regular publications, available for sale or subscription. Price current publishers emerged in Antwerp, Amsterdam, London, Venice, and other commercial cities.

- Why were these kinds of lists published when, prior to the printing press, the information they contained was considered to be something akin to a trade secret? According to John McCusker, the scholar who probably has most closely studied the topic, there were three reasons for these types of publications: (1) to advertise the commerce of a city to the world, (2) to allow a more efficient form of information exchange than courier systems and manuals, and (3) to make a profit.

- By the 18th century, several more types of data were published in the business press, including stock market price lists and information on shipping and commodities entering and leaving a city's markets. Once these types of information were combined into a single publication, the result was essentially a financial newspaper.

The Telegraph

- A technological shift with profound effects on the emerging information economy was the telegraph, introduced in the 19th century. The telegraph reduced the time for information to travel across vast distances, enabling communications to be received almost in real time. The telegraph succeeded in unifying markets both within a county and between countries.

- Business newspapers didn't disappear with the telegraph. But with this new technology, the information itself could be transmitted from once place to another, then compiled into a newspaper. Once communication cables were laid across the ocean floor, business information could be transmitted between continents and around the world.

- The telegraph offered a variety of enhancements to business communications by replacing the long-distance courier and by changing the process for updating information in the business press. But it also had even more far-reaching effects.

- Once the telegraph was applied to transmitting price data, essentially in real time, the business of business information changed even more than it had with printed price currents. Perhaps the most interesting development in this regard was the introduction of the stock ticker.
  - A man named Edward Calahan, who was the chief telegraph operator in New York, came up with the idea of printing out the stock-price streams from the telegraph.
  - The system that was in place when Calahan came up with his idea relied on messenger boys to run around New York City with slips of paper that contained both buy and sell orders and prices. Calahan realized that if each brokerage firm had a machine that could receive and print out the current prices, the system would be much more efficient.
  - In 1867, Calahan introduced his gold and stock ticker and founded the Gold and Stock Telegraph Company. Soon, he had hundreds—and, eventually, thousands—of subscribers to his service. In 1872, Calahan moved to London, where he was instrumental in setting up a ticker service in Great Britain.
  - Over the next several years, a variety of improvements were made in stock ticker technology. But with the introduction of the stock ticker, the speed and availability of information increased and expanded significantly.

Computers

- The introduction of the computer during the 1940s for use in code-breaking—and, eventually, other applications—changed the way information was handled again.

- During the 1950s, new developments in electronics, especially the transistor, were introduced into computers, making them much more versatile than electromechanical models that could really be used for only one purpose. By the 1960s, computer use had spread to business to solve problems, increase efficiency, and lower costs.

- Over time, computers actually changed the way business units functioned. Accounting and finance, which once relied on armies of bookkeepers and adding machines, switched to computers fairly early on.

- The dissemination of computers had a variety of effects. Efficiency was increased, and costs decreased. But workforce reductions also occurred. With the computer, fewer workers were needed, and tasks were completed more quickly—and with fewer errors.

- Increasingly, computers were used not only to perform specific tasks but also by managers to generate and analyze information of all kinds. What's more, firms began sharing information within their organizations and with a variety of outside stakeholders, such as suppliers, wholesalers, financial institutions, and even customers.

The Information Superhighway

- The promise of rapidly increasing computing power, personal computers, and large-scale data networks was not lost on computer scientists or policymakers. Ideas about what this new information superhighway might do and how it would change our lives were bandied about informally and in policy papers around the world.

- In the early 1990s, U.S. Vice President Al Gore invoked the term *information superhighway* to describe the rapid changes that had been taking place since computer scientists connected research institutions in 1969. The idea was that the Internet would transform the lives of people, allowing access to information in homes, schools, and businesses at virtually no cost.

- On one level, the dream of the information superhighway has, indeed, come true. In 1995, not long after the introduction of the World Wide Web, the web could access about 110,000 sites. Today, the number is about 180 million websites and rising. And the number of people who have access to the web has risen from some 10 million to more than 3 billion.

- As the Internet has come to dominate so much of our lives, the information that passes through it has become even more important for the world economy than anything the information superhighway thinkers of the 1990s could have imagined.

- The flip side of Internet access and the dream of the information superhighway—and one that is still unfolding—is the vast amount of data being collected from Internet users around the world. Such data gathering has implications for how businesses and governments use, and potentially misuse, information about ourselves.

- Over the course of about 500 years, we have moved from a world in which access to information was expensive and slow to a world in which information is up-to-date and available instantly at a fairly low cost. What the future will bring as the information economy continues to unfold is anyone's guess, but there is little doubt that even more changes are in store.

Suggested Reading

Cairncross, *The Death of Distance*.

Muller and Ojala, eds., *Information Flows*.

Questions to Consider

1. In what ways does access to information drive economic change?
2. How can information be delivered to businesses?
3. What kinds of information do businesses need?
4. How might information inequality affect global economic growth?

Lecture 48

Leverage with Globalization in Its Grip

The dot-com bubble of the 1990s was only one of several events in recent decades that highlight the interconnected nature of the new global economy. Other events include the Asian financial crisis of 1997, the Great Recession of 2008, and the Greek debt crisis that emerged in 2009. Individually, there is perhaps nothing too remarkable about these events. But by fitting them into a broader trajectory, two important and interrelated economic changes come into focus: the rise of a new phase of globalization and the reorientation of capitalism toward debt-driven growth.

Recent Financial Crises

- Globalization encourages the integration of the global economy by way of investments from developed economies into developing countries. Direct foreign investment flowed into the Southeast Asian countries during the 1980s and 1990s in response to what we thought of at the time as the Asian economic miracle.
  - But the get-rich-quick mentality of many investors put significant stress on the currencies of these countries, most of which still had fixed exchange rates. Foreign debt as a ratio of GDP skyrocketed in several of the countries toward the end of the 1990s.
  - In 1997, creditors panicked and began pulling their capital out of the region, causing Asian currencies to collapse. The crisis couldn't be localized because investment in the Asian economy came from all over the world. There were widespread worries that the crisis in Asia would cause a more general global crisis.

Globalization is a process whereby contact of a variety of types—between various regions of the world—speeds up, is spread more broadly, and intensifies.

- Roughly 10 years later, the Great Recession struck the developed world. This crisis was felt globally in the form of liquidity crises, currency crises, and bank failures, particularly in Europe.

- The Greek debt crisis that began in 2009 is just one more manifestation of economic globalization or, perhaps more accurately, of financial globalization. It became clear that the Greek government was overextended and crushed under debt obligations that it couldn't repay. In 2012, Greece defaulted on its sovereign debt. Other Eurozone nations were also in need of bailouts to avoid default, including Ireland, Portugal, Spain, and Cyprus.

What Is Globalization?

- At its base, *globalization* is a process that affects human relationships—economic, political, social, and cultural—between and among countries, regions, and continents. These relationships accelerate, expand, and become more concentrated with globalization.

- The influence of nations decreases by the very nature of globalization. For this reason, some provocative thinkers refer to the process of globalization as the end of the nation-state.
  - In globalization, global power structures shift in favor of the market, but there is an interesting twist here.
  - In order for the influence of the nation-state to decrease, there first needs to be an expansion in the nation-state as a form of political organization.

History of Globalization

- We could probably start the history of globalization with the year 1492. Christopher Columbus's voyage from Europe to the Americas was just one of many explorations undertaken by Europeans to reach the markets of Asia, but this voyage started the process of integrating the American and European economies.

- Granted, this integration was tentative at first and one-sided. And in spite of the harm frequently done to many native populations, the events of the years following 1492 accelerated, expanded, and concentrated the economic, political, cultural, and social relationships between two large regions of the world.

- In 1571, the city of Manila was founded in the Philippines by Spanish conquistadors. The area around Manila had long been connected to trade with China, and the Spanish thought it would make an excellent location for landing goods from the Americas for their use in Asian trade.

From this point on, the European program of commercial expansion completely circled the globe.

- Trade within and between various regions had, of course, been going on for centuries before 1571. But once the Europeans opened up trade with the Americas, the first wave of globalization took off.

- Sometimes, setting precise dates doesn't work well when we want to discuss broader trends that might have led to globalization. For example, we could use the year 1750—which many scholars cite as marking the end of the pre-industrial era—to represent a host of changes that, in retrospect, can be viewed as revolutionary and as having profound effects on the world's economy.
  - It's true that industrialization came about, at first, from a localized series of events. But these were in response to changes in global trade.
  - British technological developments converged with production bottlenecks and efforts at import-substitution for Indian cotton cloths. The solutions that technology brought to the bottlenecks had ripple effects across several industries, leading to new export products.
  - Soon, industrialization spread across Europe to the neo-Europes (such as the United States) and a few other parts of the world (notably, Japan).

- Many scholars point to the rise of industrialization in the early 19th century—around 1820—as the time when several factors came together, leading to a new wave of globalization.
  - As the modern economy emerged, such currents as industrialization, price convergence, new technologies for transportation and communication, and mass migration between continents were all accelerating and expanding global contacts and interconnectedness.
  - Within just a few decades of the 1820s, some of the world's financial markets were beginning to synchronize.

20th-Century Globalization

- In spite of problems associated with increasing economic interconnectedness, globalization proceeded—with considerable fits and starts—until the end of the 1920s. At that point, the brakes were applied.

- The reactions of many countries to the events of the 1920s and the Great Depression were decidedly in opposition to globalization. The United States, for example, pulled back into a fairly isolationist stance.

- The events leading up to and following World War II brought an end to the laissez-faire style of globalization of the 19th century. The outcome of World War II initially also inhibited any return to globalizing tendencies because the world was caught up in competing political spheres.

- The process of globalization decelerated in some ways around the middle of the 20th century, but at the same time, the foundations were being set for renewed globalization that would begin in the last quarter of the 20th century.

- Perhaps the best example of an anti-globalization process that in the end paved the way for greater globalization is the orientation of global political structures to the nation-state along Western lines, even in places where the nation-state had not existed, such as Africa.
  - As historian Adam McKeown has pointed out, though the developing nation-state is usually held up as the antithesis of globalization, the homogenization of political forms around the world is actually part of the process of globalization.
  - At the end of World War II, large swaths of the world were under colonial domination or were satellite states or protectorates. With decolonization, nation-states with institutions similar to those that had developed in Western Europe were set up where colonies had once been.
  - The former colonies did not return to traditional local forms of governance or economic production. They turned to the models left behind by colonial powers.

- However, many of these new countries turned into dictatorships after they found it difficult to create sovereign states along Western lines that could also incorporate local cultural norms. The model of Western nation-state political organization itself became a part of the process of globalization.

- The postwar years were also the period when international monetary policies were established and during which GATT was negotiated to facilitate the growth of international commerce. These were needed precisely because in the immediate postwar years, new solutions were sought to mitigate the broad retreat from globalizing tendencies.

- But the increasing prevalence of regional trade blocs and multinational corporations after 1970 has brought us into the thick of another wave of modern globalization: financial globalization. Regional markets can perpetuate the kinds of barriers to free trade that national markets did in earlier decades, but they also point to a widening of international interconnectedness.

Summing Up Globalization

- Globalization is not necessarily inevitable in the course of human events, but it has been underway for hundreds of years. Sometimes, we cheer on the advances of globalization, and sometimes, we're terrified of its outcomes. Indeed, there is much in our past to show that we are wise to be wary.

- In the 15th century, Europeans essentially forced global trade on subsistence-level populations in the Americas and Africa. By force of arms, they also imposed it on much of Asia. The globalizing tendencies in the 19th century led to the creation of sometimes brutal colonial regimes in much of Africa and Southeast Asia. In the 20th century, mankind fought major wars that began in part for economic reasons, some of which were in reaction to globalization.

- From a more complimentary perspective, globalization has also led to unprecedented cultural exchanges. Art, literature, scientific discoveries, and ideas of all kinds moved with greater speed around the world.

- Earlier, we mentioned that one of the economic changes underway is the reorientation of capitalism away from a system that creates wealth through production of goods and services and toward a system that creates wealth by servicing money. We might call this debt-driven growth.
  - Each of the crises mentioned earlier was related to debt finance, having little to do with production.
  - It is an interesting—and sometimes tragic—phenomenon that investors have increasingly engaged in speculation on foreign currencies, securities, real estate, and other financial instruments, rather than on industry and production.
  - The modern financial system provides incentives to gamble over the short term, rather than invest over the long term. The result is speculative bubbles, based on the appearance of wealth without the underlying wealth-creating foundations. When these bubbles burst, the economy winds up in disarray.
  - It's true that a vigorous financial and credit system is crucial to economic growth. In the modern economy, however, even debt itself—once it is divided into a variety of financial instruments—becomes an accumulation of capital.
  - Globalization, which by its nature allows for greater integration of financial markets and capital flows, accelerates this process, broadens its application, and intensifies it, thereby heightening the consequences of the outcome, for good or ill.

- In 1980, economics professor Walter Heller wrote an article entitled "Can There Be Another Crash?" In it, Heller explained that the circumstances of the Great Depression in the early 1930s were so different from anything that could happen in the 1980s that he was confident another crash couldn't happen.

- The circumstances of the 1980s are very different from the ones we experience today. And globalization is very different from what it

was then. The capitalist economy that chugs along today is also very different. The question we must ask ourselves, then, is: Have we learned the hard lessons or our past, or can there by another crash?

Suggested Reading

Hopkins, ed., *Globalization in World History*.

Questions to Consider

1. How do the particular circumstances of time and place affect broad trends in economic history?
2. Are economic crises preventable?

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