

# History's Greatest Voyages of Exploration

## Course Guidebook

Professor Vejas Gabriel Liulevicius  
University of Tennessee, Knoxville



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## **Vejas Gabriel Liulevicius, Ph.D.**

Lindsay Young Professor of History  
University of Tennessee, Knoxville

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**P**rofessor Vejas Gabriel Liulevicius was born in Chicago, Illinois. He grew up on Chicago's South Side in a Lithuanian American neighborhood and spent some years attending school in Aarhus, Denmark, and Bonn, Germany. He received his B.A. from the University of Chicago. In 1989, he spent the summer in Moscow and Leningrad (today St. Petersburg) in an intensive Russian-language study program. His dissertation research was funded by a German Academic Exchange Service fellowship and took him to Freiburg in Germany's Black Forest region and to Vilnius, Lithuania. He earned his Ph.D. in European History, specializing in modern German history, from the University of Pennsylvania in 1994.

After receiving his doctorate, Professor Liulevicius spent a year as a postdoctoral research fellow at the Hoover Institution on War, Revolution, and Peace at Stanford University. Since 1995, he has been a history professor at the University of Tennessee, Knoxville. He teaches courses on modern European history, World War I, 20<sup>th</sup>-century Europe, and diplomatic history. In 2014, he received the University of Tennessee's Excellence in Graduate Mentoring and Advising Award. He also has won both of the university's top teaching awards: the Provost's Excellence in Teaching Award in 2003 and the Chancellor's Award for Excellence in Teaching in 2012. In 2005, he was awarded a prestigious National Endowment for the Humanities Research Fellowship. He currently serves as Director of the Center for the Study of War and Society at the University of Tennessee.

Professor Liulevicius's research focuses on German relations with Eastern Europe in the modern period. His other interests include international history and the history of the Baltic region. He has published numerous articles (which have also appeared in French, Italian, and German translations), and his first book, *War Land on the Eastern Front: Culture, National*

*Identity and German Occupation in World War I*, also appeared in German translation in 2002. His second book is a study of German stereotypes of Eastern Europeans and ideas of a special German cultural mission in the East over the past two centuries, entitled *The German Myth of the East, 1800 to the Present*.

Professor Liulevicius has recorded five other Great Courses: *Turning Points in Modern History*; *Espionage and Covert Operations: A Global History*; *War, Peace, and Power: Diplomatic History of Europe, 1500–2000*; *World War I: The “Great War”*; and *Utopia and Terror in the 20<sup>th</sup> Century*.

Professor Liulevicius lives in Knoxville, Tennessee, with his wife, Kathleen, and their children, Paul and Helen. He would like to express his gratitude to Dr. Bruce DeHart of The University of North Carolina at Pembroke and Paul Liulevicius for their assistance. ■

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# History's Greatest Voyages of Exploration

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## Scope:

Throughout history, one of the deepest human impulses has been the drive to explore, encounter, and reveal the unknown. In this unique course, you will join a quest to study the greatest explorers of world history and spotlight their complex motivations, including religious impulses, pursuit of commerce, desire for conquest, and drive for scientific knowledge. In their process of discovery, explorers have bound together the world we know today.

Key themes of this course include the fact that one journey can produce a cascade of others, even if the initial venture ends in failure; the range of ways in which unknown peoples are encountered, including through friendship or violence; the multiplicity of motives at work in explorers; and the reality that the drive to discover is at the core of human identity.

We begin by assessing the remarkable feats of premodern explorers, working without advanced technologies yet achieving epic results. We follow the ancient Polynesian navigators as they spanned and populated the vast Pacific Ocean and examine the journeys of Pytheas the Greek, who ventured into northern Europe to seek the edge of the world. We uncover the religious motives that inspired the travels of the Chinese Buddhist monk Xuanzang on his famous voyage to the west in search of holy scriptures in India; the legendary wanderings of St. Brendan of Ireland in the North Atlantic; and the Arab scholar Ibn Battuta's extensive travels throughout the Islamic world.

The quest for new lands and prosperity led the Vikings to arrive in North America, known to them as Vinland; sent Marco Polo along the Silk Road to China; and propelled the impoverished kingdom of Portugal to round Africa and seize trade in the Indian Ocean. The shattering impact of conquest becomes evident in the "enterprise of the Indies" of Christopher Columbus, which joined continents together and set the stage for the ravages of the conquistadors in Latin America and the circumnavigation of the globe by Magellan's sole surviving ship.

The difficulties of cross-cultural exploration are brought into focus by the global missionary activity of the Jesuits and the extraordinary challenges of the Japanese diplomatic Iwakura Mission, sent out in 1871 to study Western civilization.

The remarkable record of bold Victorian female explorers—including Ida Pfeiffer of Vienna, who set out to circle the world twice, and Mary Kingsley, who ventured into unfamiliar British West Africa—adds depth to the human experience of exploration.

Our course weighs the human tragedies associated with the risks of exploration by tracing the fate of Henry Hudson, left by a mutinous crew to die in the Canadian north in 1611, and the doomed 1845 Arctic expedition of Sir John Franklin, which was lost in spite of the most advanced technology of the day.

We then follow the evolution of a new kind of exploration—not for wealth or conquest but on behalf of science. Britain’s Captain James Cook, the German scientist Alexander von Humboldt, and the American team of Lewis and Clark chart for us the outlines of a natural world made intelligible through discovery.

Toward the end of the course, we consider exploration of the harshest environments—in the Arctic, Antarctic, and the ocean depths, where simply reaching the limit becomes its own reward. And we conclude by asking the most compelling question of our age: Whither the race to outer space? ■

# The Earliest Explorers

## Lecture 1

A study of the great explorations of history is a study of the deepest impulses of human nature. We see the lure of wealth, conquest, and fame. We also appreciate the quest for higher aspirations—the spiritual call to pilgrimage or to spread a gospel. What’s more, we witness the basic drive that most of us share with the celebrated explorers of the world: restlessness, wanderlust, the longing for faraway places. There is a basic human determination to explore. The word *explore* comes from the Latin *plorare*, meaning to “cry out” or “make known.” In this lecture, we’ll begin our examination of what drives humans to explore by investigating the movements of the early Polynesians.

### Genetic Wanderlust

- The motivations for exploration and discovery are built into our genetic makeup. In fact, the first act of exploration was the movement of our ancestors out of Africa to the continents of the world. Human expansion has been rapid and dramatic. Around 150,000 years ago, *Homo sapiens* emerged as a species, and more than 60,000 years ago, humans began migrating out of Africa—first to Asia and Australia, then throughout Europe, and then across to the Americas, with the Pacific region the last major area to be peopled.
- All this persistent and restless expansion speaks to the explorer spirit of our early ancestors. In some 2,500 generations, humans have populated the world. Modern genetic science in the last few decades has allowed us to trace this process of prehistoric expansion. Although most DNA is common to all humans, minute variations and “genetic drift” offer clues to the movements of our earliest ancestors and the timing of their diffusion as they spread out of Africa and around the globe.

- Our genetic wanderlust also reveals something important about human nature: All of us are travelers, on the way from here to somewhere else. After all, there's a reason life is often called a journey.
- Consider the prevalence of tourism. Experts estimate that 1 billion tourists traveled outside their country's borders in 2012, and in 2013, it was estimated that global tourism generated about US\$7 trillion, or 9.5 percent of global GDP. What's more, consider the profound impact of mass migration: In 2008, *The Economist* estimated legal and illegal migrants worldwide at 200 million.

### **Early Exploration of the Pacific Islands**

- The best place to get a clear picture of the earliest explorers is in the Pacific islands, the last major region to be peopled. Dotting the vast Pacific Ocean are numerous far-flung islands with civilizations that date back many centuries. The Pacific islands were peopled because explorers set off from distant continents, traveled across the seas, and settled there. The peoples of the Pacific islands are a testament to the ancestral spirit to move, to explore, and to discover.
- The first settlers of the vast area comprising the Pacific islands are today known as Polynesians. Polynesia was a term later applied to this part of the Pacific by Europeans, from the Greek term for "many islands." Polynesia encompasses the huge triangle formed by Hawaii, Easter Island, and New Zealand, with many smaller islands in its bounds. Inhabiting these islands are the Polynesians, who speak languages within the larger Austronesian language family and who share many cultural similarities, speaking to their common origins.
- Each side of the great Polynesian triangle spans about 5,000 miles. The first European explorers who arrived centuries after the Polynesian migrations—including Captain James Cook in the 18<sup>th</sup> century—were mystified to find people with clearly related languages and cultures living so far apart.

- Some early anthropologists claimed that the island peoples had found new lands by accident, by being blown off course, then stranded on an island. This theory, which we might call “discovery by getting lost,” does not make much sense, given that communities and families moved quite deliberately, taking their crops and livestock with them from place to place.

### **Polynesians and the Lapita Culture**

- The history of the Polynesian triangle begins with an epic movement that began some 7,000 years ago. Bands of Neolithic explorers moved out into the vast expanse of the Pacific and gradually spread human culture from island to island. We do not know who these prehistoric master navigators were, but clearly, they had phenomenal navigation abilities—mastery that depended on intuitive skills of way finding that are lost today.
- About 70 percent of the earth is covered by water, and the Pacific is the largest of the world’s oceans, covering a third of the planet’s surface—comprising 64 million square miles of blue ocean, dotted with thousands of islands. It is a realm of archipelagoes, volcanic islands, and atolls. Thousands of years before the first Europeans navigated the Pacific, Neolithic explorers sailed over its vast expanses—progressing from one island to another and settling over a distance of some 9,300 miles, from Asia to Easter Island.
- Precisely how and when this happened is an ongoing topic of debate among historians, linguists, and archaeologists. According to the version that many experts favor, the ancestors of the people in the region began their expansion around 5000–2500 B.C., out of Asia. In the western Pacific, a distinctive culture arose, known as the Lapita cultural complex, which was active around 1600–500 B.C. This culture was found on the Pacific islands north of New Guinea, the Bismarck Archipelago, Solomon Islands, and Fiji.
- A theory called the “express train to Polynesia” argues that the Lapita culture originated in coastal southeast Asia and swept eastward, marked by astonishing speed and momentum. By about

1000 B.C., these navigators had reached Samoa and Tonga; they eventually settled Easter Island before A.D. 400, Hawaii by A.D. 400, and New Zealand by A.D. 1000. Before the global spread of English in modern times, the Austronesian language family was the most widespread geographically.

### Phenomenal Navigation Skills

- The Lapitas' exploration and peopling of the far-flung Pacific islands was a sophisticated operation, accomplished through keen navigational instincts and use of voyaging canoes that were double-hulled or fitted with outriggers for balance. Sails were made of heavy woven matting. Large vessels of 50–60 feet in length were sufficient to carry some two dozen people for journeys up to three weeks.
- One insight observed by the historian of exploration Felipe Fernández-Armesto is that these Polynesian voyagers did not simply sail off with the wind at their backs, hoping to find land. He has demonstrated that they were much more pragmatic and sailed tacking into the wind—shifting course in a zigzag fashion—so that they could always catch a wind or current to take them home.
- The navigational skills of these ancient Polynesians were phenomenal; they found their way without a compass or maps. Navigation involved visualization of the star map and comprehension of the meanings of cloud shapes, wave movements, bird flights, and fish schools. Chants and poetry were also aids to navigation, serving as mental maps passed down through generations.
- Once new habitable lands were discovered, Polynesian explorers became settlers. Into their boats they loaded plants and domesticated animals—essentially a ready-made kit for agriculture.

### A Culture of Adventure

- The Polynesians possessed a “culture of adventure,” but did they ever reach the Americas? The hints along these lines are tantalizing. For example, the sweet potato originates in South America, but

it was already found in the Pacific islands around A.D. 1000. Similarly, chickens are not native to the Americas; however, in 2007, ancient chicken bones were found in Chile and carbon dated to the 1300s—long before Columbus and the Europeans arrived in the New World.

- The archaeological evidence we have makes clear that the movement of Polynesians was not exclusively outward. Once established on numerous islands, Polynesian peoples maintained trading networks spanning more than 1,000 miles.
- Adze blades made of basalt rock have been found in the Tuamotu islands in the South Pacific. This is intriguing, because basalt comes from volcanic islands, not coral atolls, as the Tuamotus are. Tracing the blades geologically, archeologists have found that, astonishingly, one of them came from Hawaii, 2,400 miles away.

### ***Kon-Tiki***

- A crucial theme of this course is that voyages of discovery provoke other voyages. In one example, a modern explorer who wanted to understand the Pacific expansion re-created and reconstructed the event.
- Although most scholars postulate a Pacific expansion that moved from Asia eastward, 20<sup>th</sup>-century Norwegian scientist Thor Heyerdahl proposed a different theory. He argued that South Americans moved westward and



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**The story of Thor Heyerdahl's *Kon-Tiki* expedition was made into a documentary in 1950, and Heyerdahl's book about it sold more than 50 million copies.**

populated the Pacific 900 years before Columbus. Heyerdahl built a ship using prehistoric technology, strapping 45-foot balsa logs together with rope. He named his ship *Kon-Tiki* after a mythical Inca god who, according to legend, sailed westward.

- On April 28, 1947, Heyerdahl and his small crew set sail from Peru and charted a 4,300-mile trip to Polynesia. The expedition had five radio sets to stir up public interest with reports of the voyage. This has been called “the world’s first reality show.” After 101 days, the expedition reached land.
- Although Heyerdahl’s voyage exposed weaknesses in the archaeological understanding of Pacific cultures, there is no real evidence for his theory of a westward migration out of South America. In fact, modern genetic evidence supports the opposite of Heyerdahl’s theory. The true legacy of the *Kon-Tiki* adventure was not to reveal what actually happened but to demonstrate the astonishing abilities of prehistoric explorers. Heyerdahl’s greatest achievement was to embody humankind’s spirit of adventure in his time.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 1–25 and 41–50.

Obregon, *Beyond the Edge of the Sea*.

### Questions to Consider

1. What are the attributes of a “culture of adventure”? Is our culture one of adventure?
2. What is at stake in the “express train” versus “slow boat” debates about Polynesian expansion?

# The Scientific Voyage of Pytheas the Greek

## Lecture 2

**A**ncient Greeks believed that the civilized world was centered in the *polis*, or the Greek city-state. Pytheas the Greek, setting off around 340–325 B.C., left that known world and traveled to the British Isles and the Atlantic coast of Europe, going perhaps as far as Iceland and visiting lands inhabited by people the Greeks called barbarians. It was not trade that motivated Pytheas; rather, he was driven by the desire to experience these lands firsthand for himself. Pytheas was a keen observer and scientific in his instincts, as demonstrated in his precise estimates of distances. In fact, his journey has been called the first scientific expedition.

### Phoenicians: Long-Distance Traders

- The Mediterranean Sea, which literally means the sea in the “middle of the earth,” is a body of water circled by Europe, Africa, and Asia Minor—an ideal entity for networks of trade and travel. The civilizations of the ancient and classical worlds perfected ships with sails, and with rows of oarsmen, these ships were able to hug the coastlines, traveling always in sight of land. Although seafaring was a daring and daunting prospect, it was also the basis of lucrative trade.
- The first of the great large-scale long-distance traders of the Mediterranean region were the Phoenicians, a Semitic people whose civilization was at its height from 1550 to 300 B.C. The Phoenicians were primarily traders in purple dye, a much-valued luxury item. (In fact, their name in Greek means “people of purple.”) They built the great commercial cities of Byblos, Sidon, and Tyre, in today’s Lebanon, and as they expanded, they also built a new city, Carthage, in current-day Tunisia in North Africa.
- The Phoenicians set up trading outposts on islands, such as Crete, Cyprus, Sicily, Sardinia, and Malta. They even ventured out past the Strait of Gibraltar—founding Cádiz in Spain—and explored

parts of the African coast. There, the Phoenicians engaged in “silent trade” on the coasts—conducting commerce with locals but without a shared language in which to communicate.

- The Phoenicians may also have traveled in the Atlantic Ocean to the Madeira Islands and the Canary Islands and perhaps even visited the Azores.

### **Egyptians: Outsourcers of Discovery**

- The Egyptians also engaged in trade, but they did not pursue extensive exploration or territorial expansion because of their attachment to their holy land by the Nile. However, one famous Egyptian expedition was that of the female pharaoh Hatshepsut. In the 15<sup>th</sup> century B.C., she ordered a massive expedition to travel south, which brought back cinnamon, ebony, gold, ivory, monkeys, panther furs, and 31 frankincense trees.
- In the literature, there are also mysterious hints of journeys that may have gone much farther. The Greek historian Herodotus recorded a story that the 7<sup>th</sup>-century-B.C. pharaoh Necho II outsourced discovery: He hired a Phoenician fleet to leave from the Arabian Gulf and head south around Africa, to circumnavigate the vast continent.
- Herodotus doubted the accuracy of the story—but only because of one fact that actually suggests it might be true. Herodotus noted that the Phoenicians were amazed that when they sailed far enough south and turned westward, the sun was on their right hand—which is, in fact, what would happen south of the equator.

### **Greeks: Inventors of Geography**

- The ancient Greeks saw themselves as heroic explorers. One historian has aptly called the Greeks the original “extreme travelers.” They, like the Polynesians, had a culture of adventure. This is reflected in their myths, in the stories of Jason and the Argonauts, and in the Homeric epics, *Iliad* and *Odyssey*.

- The Greeks also invented the science of geography as a field of study. One of the first maps of the known world is said to have come from Anaximander in the 6<sup>th</sup> century B.C. Although some early Greek geographers believed the earth to be a concave disk, eventually many agreed that the earth was a sphere because that was the most perfect form.
- In the 3<sup>rd</sup> century B.C., the Greek philosopher Eratosthenes, chief librarian at Alexandria, not only understood that the world was round but went on to construct an ingenious experiment that yielded a remarkably reliable estimate of the circumference of the earth. Eratosthenes was a founder of geography, hypothesizing a grid over the earth that established latitude (north-south) and longitude (east-west).
- The man often considered the father of geography, Ptolemy, also used Eratosthenes's models and sought to find ways of representing the earth's curvature on maps. The Greek Herodotus, the father of history, was quite an explorer of foreign cultures. Born in Asia Minor in the 5<sup>th</sup> century B.C., Herodotus trekked to Egypt, Libya, Babylon, Tyre, and even southern Russia.

### **Pytheas the Greek**

- One man with the courage to venture beyond the civilized world was Pytheas the Greek, also called Pytheas of Marseilles.
- The port city in southern France that is called Marseilles today was known to the Greeks as Massalia and had been founded around 600 B.C. by Greek colonists. The Greek port cities were key links in trading networks around the Mediterranean that stretched far inland into northern Europe—into shadowy barbarian countries without Greek culture or language. (*Barbarian* literally meant someone who could not speak Greek—someone who made nonsense sounds: “bar-bar-bar.”)

- After his travels, Pytheas returned home to Marseilles and wrote up his experiences in a book titled *On the Ocean*. Although no copy exists in the present, because many later scholars have quoted the book, we have a good sense of its contents.
- The journey of Pytheas, which took place around 340–325 B.C., was the first scientific exploration. He was a keen observer and scientific in his instincts. For example, when the sun was at its height during the summer solstice, he took measurements of shadows, then compared these to measurements in his hometown, allowing him to calculate how far north he had traveled.



© R.valette/Wikimedia Commons/CC BY-SA 3.0.

**Even after seeing Thule, Pytheas kept traveling, heading along the east coast of Britain, perhaps moving toward the lands of amber.**

- Pytheas reached Brittany in northern France, then sailed across the English Channel to Cornwall. There, at Land's End, he reached a traditional center of tin production. To this point, Pytheas had followed established trade routes. Now, he was about to go beyond them. Traveling from Cornwall, he journeyed along the west coast of Britain northward to Scotland.
- Pytheas's estimate of the circuit of Britain is unerringly accurate. As he traveled, Pytheas continued making calculations of latitude. He reached the Orkneys, islands north of Scotland, where he was amazed at the height of the tides—rising up to 50 feet. Pytheas may have been the first scientist to note the connection between the moon and tidal movement.

### **Ultima Thule: Beyond the Edge of the World**

- Pytheas observed not just nature but also the “barbarian” peoples he ventured among. In Britain, he found people living in arduous conditions. Some scholars drawing on Pytheas later celebrated the British as people who were untainted by vice and corruption. This is an abiding theme in exploration—what came to be called the myth of the “noble savage.” A powerful counterpoint to the idealized noble savage, however, is the concept of “the Other”—someone who is irredeemably strange and outside civilized bounds.
- From the British Isles, Pytheas ventured to the edge of the world—and beyond. Sailing six days from the British Isles, Pytheas says, brings one to Thule, an island in the icy north. He noted that seawater “congealed” there; nights lasted only a few hours; and there were six months of day and six months of night.
- These kinds of stories formed the “ultima Thule” legend. Later, Latin writers used the expression *ultima Thule* to mean “outer limit.” The term implies the end of the cosmos—the end of order.

### **Alexander: Discovery through Conquest**

- Pytheas made his journey at a key moment in history, when an explosion of Greek geographic knowledge was pushing forward the borders of the known world. About the same time that Pytheas was journeying north, the Macedonian prince Alexander was headed eastward, carving out the mightiest empire in his time. Alexander’s achievement was discovery by conquest and war. He came to the throne in 336 B.C., consolidated control over Greece, invaded the Persian Empire, conquered Egypt and the rest of the Middle East, and then strode into India.
- Alexander’s restlessness was epic and part of the image he cultivated. The result was a massive empire extending from Greece to Egypt to the Himalayas. And, because Alexander insisted on cultural fusions, his empire radiated a common Hellenistic culture, uniting the known world. In an important and interesting

afterimage, during the Middle Ages, in both Christian and Islamic traditions, Alexander came to be seen as a wise man, a scientist and explorer, a seeker after knowledge.

- A lasting legacy of Alexander's empire was to bequeath to later Europeans an undying fascination for the East. India and China were exotic realms of fantastic wealth. This mythical dream would inspire such adventurers as Marco Polo, Vasco da Gama, Christopher Columbus, and Ferdinand Magellan. Although Pytheas himself did not seek out wealth and power, by heading out alone and looking for knowledge at the outer edge of the habitable world, he set a bold precedent for the epic journeys of later explorers.

### Suggested Reading

Cunliffe, *The Extraordinary Voyage of Pytheas the Greek*.

Fernández-Armesto, *Pathfinders*, pp. 25–30.

### Questions to Consider

1. Why do you think Pytheas was not believed by other authors of the classical period?
2. Given that Pytheas has been called the original scientific explorer, what is the most significant contrast between him and scientific explorers today?

# St. Brendan—The Travels of an Irish Monk

## Lecture 3

In this lecture, we consider the lives of devout men whose motivation for exploration was religious—to seek God, flee the world’s corruptions, and perhaps find paradise. We will discover how St. Brendan, an Irish Christian monk, set out into the Atlantic Ocean in a small leather boat and discovered holy lands; in the process, this factual figure became a myth and a legend. It is difficult to disentangle the accounts of the real voyages from the legendary adventures. But that is precisely the point: The legends that built up around Brendan and his brethren created a significant legacy for further exploration.

### The Restless Faith

- Christianity arose from humble beginnings to become one of the most influential global religions. It originated in a dusty corner of the Roman Empire, where a Jewish teacher, Jesus of Nazareth, proclaimed a message of salvation. At first a small persecuted community, Christianity grew exponentially; then in the 300s, under Emperor Constantine, it was made the official religion of the mighty Roman Empire.
- The worldview of Christians was evidenced in their maps. *Mappae mundi* (“maps of the world”) were not accurate geographic renderings but, instead, portrayed what was spiritually important. They showed Jerusalem in the middle of the map because it was at the center of the drama of salvation. Christian maps were oriented toward the east, not north, because that was where paradise lay.
- Christianity has been called a restless faith. Many believers are driven to become missionaries, to spread the gospel—announce the “good news”—as they were commanded by Jesus. For example, St. Peter and St. Paul traveled around the Mediterranean world preaching. And in the Middle Ages, Christian tradition included pilgrimage to sacred places and journeys to trace the routes of saints.

### Irish Monastic Tradition

- After the sack of Rome in 410, Roman civilization was overwhelmed by barbarian tribes who did not comprehend the empire’s culture and religion. It has been said that at this time, the Irish “saved” civilization. One historian notes, “For a time around 600, Ireland was the cultural leader of Europe.”
- Ireland became a haven for the Christian faith and the classical learning associated with monasteries. The Irish readily embraced Christianity. Their pagan Celtic culture, fused with the new Christian faith, was vigorous and fresh. Within the Irish tradition, ancient pagan stories told of legendary lands to the west, where the souls of the dead went. Indeed, “to go west” is still used as a synonym for death.
- These pagan legends were now fused with the Christian monastic tradition of *peregrinatio*—walking around in imitation of Christ. For the Irish monks, this meant to go to a western or northern island as a hermit.
- Irish monks settled in the Faroe Islands, and by the 790s, there were monastic settlements in Iceland, until the time of the Vikings’ arrival. The Irish monks went so far north that the sun went down only briefly. In many unforgiving corners of the North Atlantic, on islands or rocky peninsulas, holy hermits lived—those who had gone not to seek but to get lost.



**The Book of Kells, with its astonishing decorations and symbolism, is an outstanding example of the symbiosis of pagan Celtic and Christian cultures.**

## St. Brendan the Navigator

- The most celebrated of these seekers of exile—and one of Ireland’s most famous saints—was St. Brendan. A 9<sup>th</sup>-century text titled *The Voyage of St. Brendan (Navigatio Brendani)* recounts the amazing religious sea voyages of this Irish monk.
- Brendan the Navigator was born after 480 in County Kerry in southwest Ireland. He studied under several Irish saints and became a celebrated churchman. Brendan founded the monastery of Clonfert and traveled extensively. After he died, around 575, legends grew up around him, some of which drew on earlier Celtic hero epics.
- Composed several centuries after Brendan’s death, the *Navigatio* tells a story of his voyages that was designed not to deliver a factual account but to reveal a spiritual reckoning.

## The *Navigatio*

- At the start of the *Navigatio*, an Irish priest tells Brendan of a holy land to the west—the “promised land of the saints.” Brendan orders a ship built out of leather, in the traditional style. He sets sail with 17 monks for a trip that will take seven years. That magical number seven already tells us that this will be a voyage rich in symbolism. A common thread in the *Navigatio* is that significant events happen about every 40 days; that number is a common biblical trope for sacred time, and any listener would have understood the significance immediately.
- After a long time at sea, the monks land on an island in the middle of the waters. What they do not know is that this island is, in fact, the back of a “great fish,” or whale. The monks light a fire to warm themselves. This wakes the beast, and it begins to move; the explorers only just manage to jump off the fish and board their leather vessel in time.
- The story of encountering the whale fits into a long tradition of stories of sea monsters—as in the adventures of Sinbad the Sailor in *The Arabian Nights* and in the tale of Leviathan, the great creature of the

deep, in the Bible. Early explorers expected to encounter monsters, whether at sea or lurking on land. The word *monster* is related to the Latin verb *monstrare*, meaning “to show” or demonstrate.

- A monster, therefore, was not simply a pointless abomination but, rather, served as a demonstration of some spiritual fact—what sin is like, what depravity means, how many dangers beset humans. Early maps depicted monsters in the margins to enliven the drawings. Interestingly, even down to the modern period, explorers often assumed they would encounter monsters in their travels.

### Did St. Brendan Discover America?

- Each detail in the *Voyage of St. Brendan* has a hidden symbolic meaning or import. Some descriptions, however, hint at actual sights observed during the voyage. For example, at one point, the monks find themselves adrift with no wind, and the sea is so smooth that it seems coagulated—perhaps, frozen. At another point, the monks witness a huge floating crystal pillar, which could be an iceberg. The monks arrive at islands where natives throw burning coals, which could have been a volcano in Iceland.
- After seven years of travel, without finding the blessed land in the west, the crew heads back to the Isle of Sheep, which they visited at the start of their voyage. There, they obtain supplies for 40 days. After 40 more days of sailing, they reach, at last, their destination—the promised land. The monastic crew then heads for Ireland again. They all return home safely, tell their brother monks the story, and then St. Brendan dies.
- Did St. Brendan discover America? A number of people have argued that he must have reached the Azores, the Bahamas, Bermuda, or Newfoundland in Canada. Although there is no archaeological evidence to date that suggests the presence of Irish monks in those places, there is one fascinating rumor from centuries later that intrigues: When the Vikings reached Newfoundland, they heard stories told by the Native Americans of white men in white robes who had already been there and left.

## **Voyage of the *Brendan***

- The accounts of St. Brendan and his monks prompted a modern voyage that in some ways resembled the adventurous projects of Thor Heyerdahl in *Kon-Tiki*. In 1976, in order to test if the journey to the New World was possible, Irish writer Tim Severin reconstructed a ship called the *Brendan*, which was built using ethnographic evidence and close reading of the sources and based on ancient carvings of Irish leather ships on stone monuments.
- With five men aboard, the *Brendan* set out north from the west coast of Ireland to the Hebrides, then to the Faroe Islands, then to Iceland, hopping from island to island, until it successfully reached Newfoundland. The success of the expedition was remarkable, as was the fact that the men encountered many sights mentioned in the *Navigatio*.
- The legends surrounding St. Brendan created an important legacy for further exploration. An enduring mythology was the legend of the enchanted lands to the west. This belief was so pervasive and long-lasting that centuries later, these legendary places were still included on navigational charts and maps. In fact, a St. Brendan's Isle and a fabled Brendan's Rock remained on the charts of the British Admiralty into the 19<sup>th</sup> century.

## **The Consequences of Legends**

- Another legend from the Middle Ages parallels the Celtic legends about enchanted western islands and perhaps was inspired by St. Brendan's Isle, a fabled place of refuge from religious persecution. This is the legend of Antillia, also known as the island of the seven cities of gold.
- The stories of Brendan's Isle and Antillia form a bookend to the fantasies of wealth in the east. In the west were new promised lands; this was believed even before the Americas were encountered. The oldest surviving globe, the Behaim globe from 1492, does not show North America or South America, but it does show Brendan's Isle and Antillia.

- Later explorers, including Columbus, treated legends, such as that of St. Brendan's voyage, as part of their current geographic knowledge. The legends seemed real and authoritative and exercised an attraction that would impel further journeys for a remarkably long time.

### Suggested Reading

Barron and Burgess, eds., *The Voyage of St. Brendan*.

Severin, *The Brendan Voyage*.

### Questions to Consider

1. What were St. Brendan's journeys meant to symbolize?
2. Why do you think the narrative of St. Brendan's voyages was so popular?

# Xuanzang's Journey to the West

## Lecture 4

In this lecture, we consider the Buddhist monk Xuanzang, a man whose explorations were both geographical and religious, as he set out on a quest to acquire holy texts. As a result of his travels, in the 600s, this pilgrim monk increased awareness of Buddhism in a Chinese Empire steeped in Confucian traditions. At the same time, Xuanzang became a cult figure, lifted up into literature and legend, revered as a Buddhist saint across several Asian cultures, and celebrated as the central character in the great classical Chinese novel *Journey to the West*.

### **Buddhism and the Silk Road**

- By the time of Xuanzang, Buddhism was already 1,000 years old. It had originated in the Ganges River Valley in India, where its founder, known as the Buddha, had lived around 500 B.C. The Buddha, whose name means “the enlightened one,” had a revelation after meditating under a tree at Bodh Gaya: Suffering was caused by desire. The answer was to break free of the cycles of suffering and rebirth and achieve unity with nothingness: to attain nirvana.
- From India, Buddhism spread to Afghanistan, where from the time of Alexander the Great, a fascinating hybrid culture of west and east had developed at Gandhara. To this day, one can see extraordinary statues combining Greek Hellenistic and Asian elements and styles—among them statues of the Buddha that seem to bear the idealized face of Alexander. Ancient statues of the Buddha in Afghanistan, in Bamiyan, were destroyed by the Taliban in 2001.
- From Afghanistan, Buddhism spread farther afield, extending to China in the 100s. Later, Buddhist monks expanded to Southeast Asia, Sri Lanka, Tibet, and Japan. Strangely, Buddhism largely vanished from India, where it had originated.

- Over time, Buddhist culture and monasteries formed a network across Central Asia, from China to India. Another crucial linkage in this area was through trade. Indeed, Buddhism and trade were frequently connected: Monasteries along the caravan routes served travelers and were supported by them. The greatest of these trade routes was the Silk Road, stretching from China to Persia and the Middle East.
- This trading network should really be called the Silk Roads, because there were multiple routes and detours to cover the massive sweep of territory. What's more, the routes carried not only silk but also grain, glassware, jade, and prized horses. Marco Polo, as we will see in a later lecture, traversed these routes.

### **A Quest for Certainty**

- Xuanzang was born in Henan Province in China around 600. He was educated in the Confucian tradition but was converted to Buddhism when an older brother kindled his interest in Buddhist teachings and scriptures.
- As Xuanzang studied, however, he became alarmed at inconsistencies, ambiguities, and contradictions in the Buddhist texts that were available to him. Thus, Xuanzang decided to go to the source, to India, where the Buddha had lived. Heading west, he would be able, he hoped, to find more authoritative versions of the scriptures and achieve certainty.
- To leave China at that time, one needed official permission from the imperial court, but in 629, Xuanzang slipped out of the country illegally. The story goes that there was an arrest warrant for him waiting at the border, but a Buddhist border guard looked the other way and let him pass.

### **Pilgrimage to India**

- Xuanzang embarked on a holy pilgrimage to India that was destined to span 17 years. He first crossed Central Asia, traveling across deserts and mountains south of the Gobi. He visited the

mighty cities of Tashkent and Samarkand and continued across the blizzard-whipped Hindu Kush to Gandhara. He crossed through the Khyber Pass, moved on to Kashmir, and at last reached the eastern lands of the Ganges that had been the Buddha's home.

- As he journeyed, Xuanzang sought sacred manuscripts. His initial aim had been to obtain the entire Yoga Shastra compendium, because only excerpts of them had reached China. To access these writings, however, he had to take lessons in Sanskrit and study Indian logic. It was a great challenge of cultural mediation.
- As Xuanzang traveled from monastery to monastery, he learned the different languages of the subcontinent. He clearly had a tremendous linguistic gift, because he not only learned to speak these languages, but he actually became famous as a debater.
- Wishing to translate all the texts he acquired, Xuanzang left India in 643, and two years later, he was back in China. He brought back with him 657 texts, as well as pictures and relics of the Buddha, all packed in 520 cases. Xuanzang also included in his luggage medicines, plants, and flower seeds that he wanted to introduce in China.
- Stopping at the Chinese border, he wrote a formal, flowery note of apology to the emperor, begging forgiveness for breaking the law in leaving. In his defense, he noted that he had achieved much on this trip of more than 15,000 miles: "I have seen traces not seen before; heard sacred words not heard before; witnessed spiritual prodigies exceeding all the wonders of Nature."

### **Tripitaka**

- On his way into the interior of China, Xuanzang stopped at another Buddhist holy site, the Dunhuang grottoes. Here, rooms had been hollowed out of the cliffs as places of meditation and worship, then covered with splendid paintings.



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The Caves of the Thousand Buddhas, also known as the Mogao Caves, are today enjoying renewed fame as a celebrated location of Buddhist art.

- These grottoes came to be known as the Caves of the Thousand Buddhas. Of these chambers, Cave 17 was walled up and hidden for some 900 years until it was rediscovered in 1907. The treasure inside included translations by Xuanzang.
- Although he had left China as a simple monk, breaking out of the empire illegally and then traveling alone in extraordinarily harsh and dangerous conditions, by the time of his return, Xuanzang had become an international celebrity. At the request of the Chinese emperor, Xuanzang wrote an account of his travels, titled *Records of the Western Regions of the Great Tang Dynasty*.
- Following his travels, Xuanzang devoted himself to translating the texts that he had brought back from India. He was given the honorific Tripitaka as a special distinction. The word is Sanskrit, meaning “three baskets,” and symbolizes the triple canon of Buddhist sources.

## **Xuanzang's Legacy**

- The Tang emperor Taizong supported Xuanzang's translation project on an impressive scale. Xuanzang hired a large staff of monks to help with the work. The next 20 years went to this effort, which resulted in the translation of more than 70 Buddhist texts.
- Xuanzang was also offered a high-ranking religious post: to become the abbot of the new Da Ci'en Monastery. But Xuanzang declined, although he did agree to move there for his work. In 652, an Indian-style stupa monument was established there, marking it as a spiritually significant site.
- When the stupa broke down in the 700s, it was replaced by the Giant Wild Goose Pagoda of seven stories. The pagoda was the Chinese version of the stupa and illustrates the international connections and influence that proved so important in the life and legacy of Xuanzang.
- The "consciousness only" school of Buddhism that Xuanzang and his disciples founded became influential and was carried to Japan by a Japanese monk, Dosho, who had in turn traveled to China to study under Xuanzang. The school grew to be among the most influential in Japan.
- When Xuanzang died in 664, the Tang emperor halted all audiences for three days to show respect for the man who had done so much to elevate the stature and influence of Buddhism.

## **Xuanzang's Legend**

- Even after his death, Xuanzang lived on in memory and grew into a legend. Images and stories about him proliferated throughout East Asia. A frequent image shows him as a pilgrim and wandering holy man, shod in sandals, bearing a heavy backpack full of sutra scrolls. In paintings, certain items came to be associated with him, similar to the attributes of saints in Christian tradition. These items included the backpack on a bamboo wood frame, a parasol to shield from the sun, a fly whisk to shoo away flies or evil spirits, and sutras as reading material.

- In addition to this visual tradition, there was an oral one as well, as people told stories about Xuanzang and plays and operas were performed about him. Perhaps the greatest achievement in this literary tradition was the comic novel *Journey to the West*, an anonymous work written in the 16<sup>th</sup> century—900 years after Xuanzang lived.
- *Journey to the West* tells the marvelous story of Xuanzang's trek to India in the company of his fictional sidekicks, including Monkey. On their way to India and enlightenment, the travelers have 81 adventures, which collectively celebrate human endurance and determination.
- In addition to being the most celebrated Chinese comic novel, *Journey to the West* continues to be popular right up to the present. As recently as 2013, the opening act of the New York Lincoln Center Festival was Chen Shi-Zheng's new opera *Monkey: Journey to the West*, a modernized reimagining of the adventures of Xuanzang.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 30–38.

Waley, *The Real Tripitaka*.

Wong, "The Making of a Saint."

### Questions to Consider

1. Would Xuanzang approve of his being immortalized in a comic novel?
2. What similarities and contrasts emerge between Xuanzang and St. Brendan?

# Leif Eriksson the Lucky

## Lecture 5

In this lecture, we will study Leif Eriksson and the Vikings—explorers from Europe who reached North America around 1001. The Norsemen’s motivation to explore arose from their culture of adventure, which was reinforced by values that pressed them onward and outward, often in violent ways. We’ll engage the story as a task of historical detective work and look for clues in what the texts say about the exploration, especially the *Saga of the Greenlanders*.

### Masterful Navigators

- The Vikings are properly called Norsemen—people of the north. Originating in Scandinavia (what is today Denmark, Sweden, and Norway), they were fierce, warlike pagans at the time they descended onto Europe. The word *Viking* is more of a professional label; to go on a *viking* means to go on a raid. A *vik* is an inlet or fjord, and *viking* was the expression for stealthily moving a ship close to the shore, then attacking.
- Beginning in the 700s, the Vikings terrorized significant parts of Europe for two centuries. What made the Norsemen’s attacks so fearful was that they were able to cover long distances and often appeared without warning. What’s more, they sailed across large expanses of open waters without land in sight—a bold move at the time.
- The Norse culture possessed a strong sailor ethos and maritime tradition. Their “dragonships” were lean craft, 80 feet long, that could be rowed or navigated with sails. Ships built for long sea voyages were the *knarr*. Both dragonships and *knarr* were “clinker built,” using overlapping oak planks with iron rivets.



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The Europeans who saw the dragon-headed ships of the Vikings approaching from the sea were well advised to flee.

- The Norsemen were masterful navigators, but they did not use maps or compasses. Instead, they used dead reckoning—assessing distance by estimating speed over elapsed time and through keen observation of the stars, clouds, and wave patterns. In place of the magnetic compass (which originated in China in the 1100s), the Norsemen used a type of sun compass that allowed them to sail along a given latitude by taking measurements of the sun when it was visible.

### Vikings in Europe

- According to one source, the Norsemen's motivation to explore lay in "man's threefold nature. One motive is fame, another curiosity, and a third is lust for gain." As they ventured forth, Norsemen engaged in raiding, trading, and searching for new lands. Rapid population growth in the wild and harsh Scandinavian environment meant that there was a dire shortage of farmland at home, and this drove a need for new lands, settlements, and resources.

- From the 790s, Vikings raided western France and began settling there in the 840s. The king of France finally was forced to give the Norsemen the duchy of Normandy in exchange for their agreeing to Christian baptism; in fact, “Normans” means “Norsemen.”
- The Vikings invaded Ireland from 830, establishing a great trading city, Dublin. They also occupied England and took York, which became the center of Viking rule. In 1016, the Norse hero Canute the Great became king of England. And, from France, those one-time Vikings—the Normans—invaded England under William the Conqueror in 1066.
- Although many Vikings ventured west, others journeyed east to what is today Ukraine, Russia, Turkey, and Iraq. In Constantinople, they acted as mercenaries, serving as the famed Varangian guard of the Byzantine emperors. The Vikings accepted Christianity about the time of Leif Eriksson, around 1000.

### **Erik the Red**

- While the Vikings in Europe were settling down, other Norsemen were still venturing westward, continuing a series of expeditions across the North Atlantic. From the Faroe Islands, the Norse moved to Iceland around 860 and populated that territory with considerable speed. Around 900, there were an estimated 2,000 settlers in Iceland, but a generation later, in 930, there were already 20,000.
- Then, between 900 and 930, Greenland was discovered by accident when a storm blew a Norse sailor off course. Greenland was the ultimate destination of the patriarch of the Norse families who ventured west: Erik the Red, so-called because of his vivid hair color.
- Erik’s father had been expelled from Norway after a feud, and he took the family to Iceland. Once there, Erik the Red killed a man and was exiled from Iceland for three years, around 980. Following reports of new lands, Erik sailed onward to Greenland, explored its coasts, then returned to urge others to join him as settlers. In 986,

Erik the Red brought a series of settler ships to Greenland from Iceland, establishing a community that would last for more than four centuries.

- Soon after, another chance encounter provoked more journeys. Around 985–986, Bjarni Herjulfsson set off to join his family in Greenland. As it turned out, Bjarni’s ship was blown off course in northern winds and fog; after many days, the crew chanced on what was likely southern Labrador in Canada—a richly forested area. Although Bjarni did not even land there, other Norsemen were determined to explore.

### **Leif’s Discovery and Return**

- Certainly, the attraction for new lands was great for Leif Eriksson, son of Erik the Red. Leif, a convert to Christianity, had been sent to Greenland as a Christian missionary by Olaf I of Norway. The journeys that followed were recorded in *Saga of the Greenlanders* and *Saga of Erik the Red*, oral traditions written down around 1250.
- To find this mysterious new land that Bjarni had stumbled upon, Leif set out around the year 1001 with 35 men. He wanted his father, Erik, to come along as the man with the best fortune in the family, but an omen intervened when Erik fell from his horse, and the patriarch declined to go. In Viking culture, fortune or luck were of tremendous value.
- After sailing several hundred miles, Leif’s expedition reached land. *Saga of the Greenlanders* notes, “Their curiosity to see the land was so great that they could not be bothered to wait for the tide to come in and float their stranded ship.” Instead, they jumped in a small boat and rowed ashore.
- There, they built houses to overwinter and called their discovery Vinland—“land of berries” or “land of wine grapes.” The ambiguity here comes from the fact that the Norse called berries and wine grapes by the same name, and some scholars believe it was actually cranberries they found. It remains unclear precisely where

Vinland was—locations from Newfoundland to Georgia have been proposed. Leif’s crew then returned home on the prevailing westerly winds.

- On the way back to Greenland, Leif and his men rescued another crew stranded in the ocean, the incident that gave Leif his nickname, “the Lucky.” With his sharp eyesight, Leif spotted a wrecked ship ahead and cautiously edged closer to have the advantage if the strangers were hostile but then saved them all.
  - This story tells us something about the Norsemen’s understanding of luck. It was not an individual characteristic but a kind of quality that radiated out to the community.
  - It was considered a reward for capability, skill, and talent. Leif the Lucky became rich and highly respected.

### **The End of the Adventure**

- In Greenland, word spread of the discovery. Although Leif apparently never returned to Vinland, his brother Thorvald journeyed there a year or two later. When Thorvald arrived in Vinland, he had a disastrous first encounter with Native Americans and slaughtered them. For the Vikings, meeting a new people meant testing them.
- The Norsemen called the local people *Skraelings*, a pejorative meaning “wretches.” Then, in 1006, a colonizing expedition followed to Vinland. The settlers met more Native Americans and traded with them. But increasing violence with the Native Americans convinced the settlers that they should abandon the site and head home. A later expedition, around 1014, was also abandoned.
- And there the historical record peters out. There may have been other trips for timber, but the Vikings did not announce the news of their discoveries more broadly, so that other Europeans did not hear of them. Eventually, the Greenland colony, which at its height had some 4,000 people, also withered and died—too dependent on ships to bring supplies as the climate cooled around 1200.

## The Vinland Map

- Where is the proof of the Norse discovery of America? In 1892, in the United States, celebrations of Columbus's voyage prompted some Swedish Americans to claim that Leif had made the discovery first—the sagas said so. But concrete evidence that the Vikings had reached the New World was lacking.
- A famous piece of evidence is the Vinland Map, which is held at Yale University. The document, which first appeared in 1957, supposedly dates from 1440 and shows Vinland. But doubts arose both about the chemical makeup of the ink and the general style of the map. Recently, analysis of how geographic features are drawn on the Vinland Map pointed to its likely model, which dates from the 18<sup>th</sup> century.
- Finally, in 1960, archaeologists found proof of the Norsemen in America. The Norwegian explorer and archaeologist Helge Ingstad and his wife, archeologist Anne Stine, discovered the remains of a settlement on the northern tip of Newfoundland.
  - It was clearly Norse because it included a blacksmith shop, longhouses of Norse style, jasper from Iceland or Greenland, a pin with a ring head in Norse style, and a spindle for weaving.
  - Ringed pins were typical of the Viking city of Dublin; thus, here at last was a link across the North Atlantic to Ireland. And because weaving was done by women, the spindle points to the presence of women, an indication this was meant to be a lasting settlement, not just a temporary outpost.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 50–59.

National Museum of Natural History, *Vikings*, <http://www.mnh.si.edu/vikings/start.html>.

Sigurdsson, ed., *The Vinland Sagas*.

## Questions to Consider

1. Why did the Vikings kill Native Americans in their first meeting?
2. How did the familial character of Norse exploration shape its results?

# Marco Polo and Sir John Mandeville

## Lecture 6

**F**rom the time of Pytheas the Greek and Alexander the Great, there persisted the conviction that exotic riches were to be found in Asia. Although traders had journeyed the Silk Road from the time of the Roman Empire, however, most of the world never had more than a dim awareness that something astonishing lay at the other end of those trade routes. What's more, few specifics were known about the people of Asia—their daily lives, their social practices, their religious beliefs. Marco Polo would reveal to Europeans the mysterious and exotic world of the Orient—and bring to light the entire civilization of China, whose achievements dwarfed those of Europe and whose luxurious riches would prove a lasting lure.

### The Medieval World

- Before we consider Marco Polo's remarkable journey east, we need to examine the structure of the medieval world. From the 600s, a new religion arose in the Mediterranean world: Islam. Muslim armies conquered large parts of the Middle East, including the Holy Land, where Christian shrines had attracted pilgrims.
- Beginning in 1095, Christians in the west launched the Crusades to regain the shrines in the Holy Land. During the First Crusade, Jerusalem was captured and Crusader kingdoms were established. Over time, however, these kingdoms were increasingly embattled, and the last of them fell to the Muslims in 1291.
- But even during the Crusades, Christians and Muslims continued trading. In particular, Italian city-states built up maritime trading empires around the Mediterranean Sea. Venice, Genoa, and Pisa had lucrative businesses both ferrying Crusaders and trading with Arabs. Moreover, during the 1200s, Italy developed a banking network that gave more mobility to capital.

- The Crusades, expansion of trade, and the mobility of capital through banking networks all served to acquaint Europeans with the east and its treasures.

### **Prester John**

- During the Middle Ages, Christian Europe welcomed news that the Mongols were attacking the Muslims from the east. The Mongols were ferocious, fast-riding fighters from Central Asia. On their tough little ponies, they swept across the steppes, sacking cities and destroying kingdoms, and established an empire that stretched from Hungary to Russia to China.
- The Mongols created an order and stability, known as the Pax Mongolica (“Mongol peace”), that lasted from about 1260 to 1368. At first, Christians believed that the Mongols were potential allies against the Muslims, but they experienced a rude awakening when the Mongols also tore into central Europe.
- Another potential ally against the Muslims was the apocryphal Prester John, a priestly king said to be descended from one of the three Magi. The legend of Prester John originated in 1165, when a forged “letter of Prester John” appeared in Europe.
- This letter claimed to be from an unknown monarch who could assist the Christians. Legend had it that Prester John was a Christian king of immeasurable wealth, living in an Indian kingdom rumored to border on Paradise. Such was the promise of the east for medieval Europeans: a land of spices, riches, and perhaps even a powerful ally in Prester John.
- Into this fabled east journeyed Marco Polo, who eventually spent 24 or 25 years there. His adventures were recorded after his return, when he was a prisoner of war in Genoa in 1296. The account of his journey, written by a fellow prisoner, is known in English as *The Travels of Marco Polo*. Considering the narrow worldview of medieval Europeans, the *Travels* was like a transmission from intelligent life in outer space.

## Marco Polo

- Marco Polo was born around 1254 to a merchant family in the rising seafaring empire of Venice that had business interests in the east. In 1260, Marco's father and uncle headed east and were given an audience with the Mongol emperor of China, Kublai Khan. Two years after the father and uncle returned to Venice, in 1271, they headed east again, with Marco Polo, who was then 17 years old.
- The travelers passed through Armenia, Georgia, and the Pamir mountain region and crossed the fearsome Takla Makan Desert, where evil spirits allegedly lured travelers off the trail. The Polos finally arrived at the khan's summer palace in May 1275. They had covered 5,600 miles in three and a half years. Their travels were made possible by the Pax Mongolica, during which communications were established and travel and trade routes were guarded.
- The Polos were welcomed in the khan's court in what is today Beijing. Marco, adopted as a favorite of the khan, showed remarkable talents in cultural adaptation, soon learning four languages. The khan sent Marco Polo on special missions to other parts of China, Burma, and India. In the *Travels*, Marco claimed he was made a member of the khan's privy council in 1277 and served as a tax collector for three years.



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**Kublai Khan took an instant liking to Marco Polo, and that fact opened doors everywhere for the young man to travel and observe.**

### *The Travels of Marco Polo*

- *The Travels of Marco Polo* is full of local color and details, especially the information that a merchant would want to know about wares, local specialties, and politics. Marco Polo speaks of

places completely unknown to Europeans: Japan, Indonesia, and the islands of the China Sea. He also details unknown religions, such as Buddhism and Hinduism.

- Marco Polo writes about unfamiliar resources and technologies: coal, asbestos, and paper currency, used since the 600s in China. He recounts in detail the local people's unfamiliar ways of life, noting their customs as an early anthropologist might. He covers the specifics of sexual mores, delighted by people who customarily lent their wives to travelers.
- In 1324, Polo died in Venice at age 70. According to legend, on his deathbed, when urged to confess that his stories were inventions, Marco replied, "I have not told the half of what I saw!"
- For more than two centuries, Marco Polo's *Travels* was the chief authentic source on the east. And yet, even today, there is debate about whether he actually made the journey or whether he simply repackaged stories he had heard. Some have observed that Marco Polo did not describe noteworthy features, such as the Great Wall, printing, tea drinking, foot binding, or calligraphy. What's more, there is no record of him in Chinese sources.
- Many others, however, accept Marco Polo's stories as remarkably accurate and genuine and consider them entirely too specific and detailed to be invented. Marco Polo's message was revolutionary; he told of an entirely alien civilization that was in many ways more advanced than that of medieval European Christians. In so doing, he rocked the established view of the world.

### **A Fabulous Fake**

- The explorations of Marco Polo underscore one of the themes of our lectures: The fact that an explorer returns does not mean that he or she is believed. As a contrast, we turn to a man whom we might call Marco Polo's evil twin: the infamous author of *The Travels of Sir John Mandeville*.

- Mandeville's *Travels* was a bestseller and was read far more than Polo's *Travels*. It first began to circulate between 1356 and 1366 in manuscript form; by 1400, it had been translated into every major European language. Today, some 300 manuscripts survive; Christopher Columbus and other later explorers owned copies. There was only one problem: *The Travels of Sir John Mandeville* was a fake.
- John Mandeville, the alleged author, claimed to be an English knight who traveled in Africa and Asia. But to date, there is no convincing evidence that such a person existed. The book contains marvelous stories, many pirated from other sources. Some experts assert that the author traveled only as far as a good library.

### ***The Travels of Sir John Mandeville***

- *The Travels of Sir John Mandeville* begins as a manual on how to conduct a pilgrimage to the Holy Land. The author claims that he went to Egypt and served the sultan there, then traveled on to Mongol lands and China to serve the khan.
- Most of all, Mandeville tells of marvels—an Egyptian phoenix that immolates itself every 500 years and is reborn, giant one-footed people in Ethiopia, a land of Amazons in the Middle East, yellow and green people in India, hills where diamonds grow, seashore cliffs that are magnetic and attract ships with nails, spicy pepper forests, and a fountain of youth. And then fable meets legend: Mandeville visits the kingdom of Prester John.
- Some scholars have suggested a wicked irony here. The fact that Mandeville has more fantastic stories than even Polo made them more believable for medieval readers, who expected monsters and marvels at the margins of the known world.
- The deeper meaning of Mandeville's *Travels* is a religious one. Mandeville uses his story to criticize fellow Christians for lacking faith. He asserts that Christians have a duty to regain the Holy Land,

but they can do so only when they have become morally worthy. Mandeville uses stories of virtuous non-Christians to criticize the failings of Christians and the Church.

- Mandeville's bestseller had a tremendous influence on the Renaissance worldview. Its information was used in maps and on the oldest surviving globe, the 1492 Behaim globe. Mandeville also seems to have motivated further travel. Columbus's main sources were Polo, Ptolemy, and Mandeville. It's even possible that the voyages of Columbus were prompted by Mandeville's tale of global circumnavigation.

### Suggested Reading

Bergreen, *Marco Polo: From Venice to Xanadu*.

Fernández-Armesto, *Pathfinders*, pp. 71–106.

Mandeville, *The Travels of Sir John Mandeville*.

### Questions to Consider

1. What characteristics possessed by Marco Polo were essential to his success?
2. Why do you think Mandeville was more popular than Polo for centuries of readers?

# Ibn Battuta—Never the Same Route Twice

## Lecture 7

When Ibn Battuta left Morocco in 1325, his stated purpose was to make a pilgrimage to the holy city of Mecca. But in fact, he would not see his hometown or family again for 24 years, during which time he covered an astounding 75,000 miles. Everywhere he went—the Middle East, India, Asia, eastern Africa, or Spain—he remained within the network of Muslim civilization. The journey of Ibn Battuta illustrates how the traveler binds together the world. He reported on the vastness and diversity of the Islamic world, including Arab and non-Arab cultures. He traced a sacred geography—visiting shrines and holy places associated with Islamic saints. For Ibn Battuta, travel was a spiritual experience.

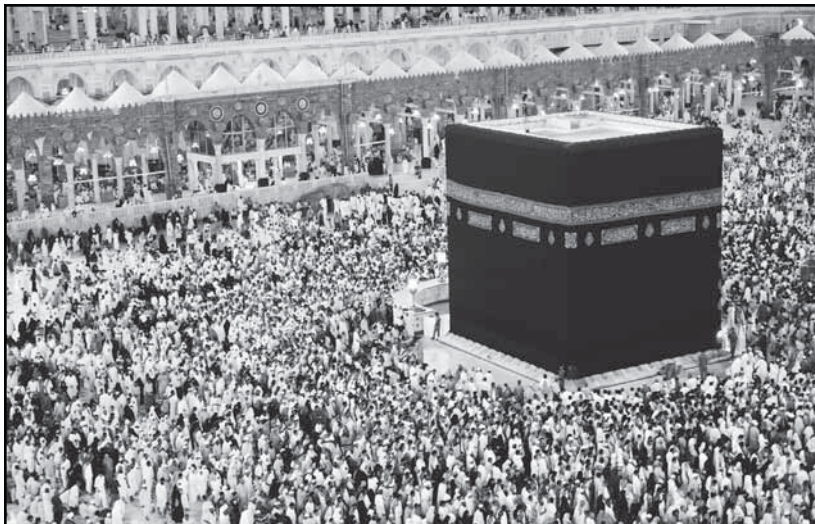
### The Islamic World

- By the 600s, Islamic civilization stretched from western Asia (as Turks and Mongols increasingly converted) to Spain, eastern Africa, and India. Muslims called this vast realm the *ummah*, the “community of believers.” Territories where Muslims were dominant were called the Dar al-Islam, the “house of Islam”; at its borders was the Dar al-Harb, the “house of war.”
- The Islamic world was not monolithic; it had doctrinal splits, such as those between Sunni and Shiite Muslims. Even within the practice of orthodox religion, there were different schools and traditions. A key example was the Sufi movement, whose adepts believed in the ecstatic experience of God.
- Despite religious differences, one group of individuals bound together the Islamic realm in a practical way: Muslim merchants. Indeed, Islam did not spread by conquest alone; it also spread along the routes of trade, carried by merchants.
- The metropolises of Islamic states gained fame for their commerce. Baghdad, built by the Abbasid caliphate in 762, became a large

trading center. Muslim merchants expanded their commerce to India's Malabar Coast, and by the 800s, their network included the ports of China. The Indian Ocean became essentially a "Muslim lake"; it would be centuries before Europeans challenged the monopoly of these merchants.

### The *Hajj*

- Muslim religious practice enjoined the *hajj*, or pilgrimage to Mecca. Even before Muhammad, Mecca had been a site of pilgrimage, drawing visitors to the mysterious Black Stone of Mecca. With Muhammad, the duty to travel to Mecca was made a core responsibility.
- On the seventh day of the last month of the Islamic calendar, the pilgrims converge to make the prescribed round of rituals at holy sites. Wearing white robes, pilgrims walk seven times around the shrine called the Ka'bah in the Great Mosque, touching the Black Stone, which legend states was given by God to Adam to absorb sins.



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Today, three million Muslims make the pilgrimage to Mecca each year, touching the Black Stone as they walk around the Ka'bah.

- The need to know the direction of Mecca for daily prayer and to observe the calendar of the *hajj* helped advance Islamic science. Baghdad won fame for its astronomy studies and established a “house of knowledge” to collect ancient texts, preserving much of the classical Greek heritage.

### Ibn Battuta

- Ibn Battuta was born in 1304 in Tangier, in present-day Morocco. He was ethnically Berber, not Arab, but he identified himself with Arab culture and Islamic civilization. Trained to be a *qadi*, or Muslim judge, he followed a long line of legal officials in his family.
- In 1325, at age 21, he felt the urge to go on pilgrimage, to make the *hajj*. The book that recounts Ibn Battuta’s travels actually begins with this moment. He notes that he set out because of an “overmastering impulse within me.”
- He traveled through Tunis, Alexandria, and Cairo, then to Mecca. In his book, Ibn Battuta declares that among the greatest marvels was the fact that God had implanted in people a longing to journey to sites associated with holiness. On reaching Mecca, he was filled with joy; he had completed his pilgrimage. But then something odd happened: He realized that he wanted to keep on traveling.
- A mystical story lay at the heart of this decision. In passing through Alexandria, Ibn Battuta had encountered the holy man Burhan al-Din the Lame. Burhan al-Din said to Ibn Battuta, “I see that you are fond of traveling and wandering from land to land.” Burhan al-Din then asked Ibn Battuta to do him a favor—to pass along greetings to one of the imam’s brothers in India, to another in Pakistan, and to a third in China.
- From that moment, Ibn Battuta says, he could not shake the idea of going to these places to make the prediction come true. And, just as the imam said, Ibn Battuta miraculously did meet up with each of these men.

- After the *hajj*, Ibn Battuta continued to travel. He journeyed for 24 years, from 1325 to 1349. Indeed, he even established a personal rule that he would never retrace a route.

### **A Spiritual Quest**

- Religious faith and identity played a significant role in the journeys of Ibn Battuta. For example, as a *qadi*, he was able to obtain employment wherever he went. Ibn Battuta was a Sunni Muslim, certain of his own correctness in doctrine, and in his travels, he often criticized what he saw as incorrect or lax practices. Moreover, where Marco Polo carefully traced trading networks, Ibn Battuta outlined a mystical map of miraculous sites.
- Everywhere he went, he sought out the graves of saints and collected stories of their sayings, their deeds, and the miracles faith they had performed. He made a special effort to meet with local hermits and holy men. One of these holy men, in fact, he met in a variety of different places.
- A constant theme in his travels is that Ibn Battuta repeatedly met and re-met people or their relatives; in his writings, there is a deep sense of the connectedness of the Islamic world in the 14<sup>th</sup> century.

### **Royal Management Consultant**

- Ibn Battuta traveled throughout Egypt, Syria, Saudi Arabia, Persia, eastern Africa, Anatolia, and the Byzantine Empire, then on to what is today Russia and into the Mongol Kipchak Khanate of the Golden Horde. Like Marco Polo, he witnessed the damage the Mongols had done in their conquests. He traveled on the Silk Road to Turkestan and Afghanistan, then to India. At Delhi, the sultan made him the *qadi* of the city, a post he held for nine years.
- Ibn Battuta maintains that he was sent by the sultan of Delhi on a diplomatic mission to China. If this claim is true, here again, his paths would have crossed Marco Polo's. But there is historical debate about Ibn Battuta's visit to China. Some historians read his account and doubt that he really went to China—there seems to

them too little detail, and there is no record of him in Chinese or Indian documents. Ibn Battuta also journeyed to the Maldives and Ceylon, where again, his travels overlapped with Marco Polo's.

- A recurring theme in Ibn Battuta's travels is an energetic love life. As he travels, he takes wives (seven, by the best count), but then they simply drop out of the narrative. The same goes for slave girls he buys or is given and even his own children by these women.
- Ibn Battuta experienced much of court life. In his travels, we see a pattern: He arrives, visits mighty rulers, gives presents, and receives even more gifts in return. Historian Stewart Gordon, at the University of Michigan, has observed that an etiquette of royal gift-giving was a common pattern throughout Asia.
- Because he had traveled to so many courts, Ibn Battuta was conversant in the ceremonies and customs of many rulers. Gordon calls Ibn Battuta a kind of royal "management consultant," sharing the "best practices" and protocols of the typical monarch.

### **"The Traveler of the Age"**

- After years of travel, Ibn Battuta returned home to North Africa in 1348. As he approached home, he saw the first instances of the Black Death—the plague—spreading along the Silk Road. In Europe, the plague would go on to kill perhaps half the population. Ibn Battuta was among the first to describe this disaster, which proved that the connectedness signified by the Silk Road had its potential downside, as well—as a vector for disease.
- Remarkably, even after coming back to Tangier, Ibn Battuta proved once more that he could not sit still. He would make two more trips—one to Muslim Spain and the other across the daunting Sahara to western Africa, to Mali and Timbuktu, an impressive trading center that was on its way to becoming one of the richest cities in Africa.

- Upon his return to Morocco, the sultan ordered Ibn Battuta to write up his experiences. Thus, the great traveler spent the last years of his life on his memoir. He worked with a scribe, Ibn Juzayy, on a massive manuscript called *A Gift to Those Who Contemplate the Wonders of Cities and the Marvels of Travelling*. The thousand-page text has been called the “biggest travel book ever written” in terms of ground covered.
- Ibn Juzayy wrote that Ibn Battuta “had encompassed the earth with attentive mind and travelled through its cities with observant eye, and ... had investigated the diversities of nations and probed the ways of life of Arabs and non-Arabs.” He declared Ibn Battuta “the traveler of the age.”

### Suggested Reading

Ibn Battuta, *The Travels of Ibn Battuta*.

Gordon, *When Asia Was the World*, pp. 97–115.

### Questions to Consider

1. Do you think Ibn Battuta lied about being in China?
2. Would Ibn Battuta approve of having a mall named after him?

# Portugal's Great Leap Forward

## Lecture 8

**A**t the beginning of the European Age of Discovery, the kingdom of Portugal took to the seas, rounded the continent of Africa, took over the Indian Ocean, and established an expansive trading domain—the first global empire. The timing was crucial. Many think of the 1500s, after Columbus, as the height of European exploration and discovery. In fact, the exploration movement began a century earlier, in the late Middle Ages. In a way, Columbus arrived toward the end of this story, not at the beginning. And the Portuguese were in the vanguard.

### A New Route to Asia

- Despite the fact that the last Crusader stronghold fell in 1291, the crusading impetus endured for centuries afterward. In the case of Portugal and Spain, there was a special intensity to this impulse. The Iberian lands had experienced the Muslim conquest in the 8<sup>th</sup> century, which was followed by the 700-year Reconquista, when Christian armies fought to expel the Muslims, or Moors.
- A persistent goal of the Iberians was to outflank the Muslims in the Middle East. Another important dimension was an economic one. Spices that were traded through the Middle East passed through the middlemen of Venice and Genoa, sometimes increasing prices as much as 500 percent. A new route to Asia would be of immense value.
- Finding such a route was fraught with danger, however. The geographer Ptolemy, whose works had been preserved by Arab scholars and later translated into Latin, warned that it was too hot to travel in the Southern Hemisphere. Ptolemy also believed that the Indian Ocean was landlocked and that Africa connected to the bottom of the world. Challenging such a hallowed authority would not be easy.

## A Race to Africa

- By the early 1400s, Portugal and Spain had both moved on Africa and islands in the Atlantic Ocean. In 1415, Portugal captured Ceuta in Morocco, a territory that later fell to Spain. Spain and Portugal struggled over the Canary Islands, off the coast of Africa, from around 1402, and Spain won. In 1419, Portugal claimed the Madeira Islands, which would become a way station for discovery and trade.
- In the 1430s, the Portuguese found the Azores archipelago, 700 miles from land, another useful base. Then, in 1456, Portuguese mariners claimed Cape Verde, which proved a key global trade hub for sugar, textiles, and other goods.

## Henry the Navigator

- The patron of the Portuguese voyages of exploration was a prince in the Portuguese royal family, Henry the Navigator. Born in 1394, Henry cultivated a program of navigation and encouraged his countrymen to sail south. As a prince in a poor kingdom, Henry knew that Portugal would need to use the seafaring skills of its people to advantage. Gathering skilled captains and navigators to his court at Sagres, near Cape Saint Vincent, Henry sought new geographic knowledge and even built an observatory.
- Portuguese navigators also made use of new technologies, including the compass, the astrolabe, and portolan charts—seafarers' guides to coastlines—which were much more realistic and practical than medieval mappa mundi drawings.



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The astrolabe, an instrument for calculating latitude, had been invented by the Greeks, improved by the Arabs, and was used by the Portuguese in their 15<sup>th</sup>-century voyages of exploration.

- Armed with these technologies, the Portuguese mariners were able to accomplish an amazing feat: They passed Cape Bojador, off the western Sahara, a place that earlier was thought to be the outer limit of what could be reached. This achievement demonstrated that it was possible to sail farther down the African coast.
- By the time Henry died in 1460, the Portuguese were well on their way to charting the western coast of the African continent. Without ever putting to sea himself, Henry the Navigator had inspired a movement that endured for centuries.

### **The Treaty of Tordesillas**

- Bartolomeu Dias discovered the new route to Asia in 1488. Dias, a nobleman, launched his expedition from Lisbon around August of 1487. Daringly, he went farther south than any of the earlier ventures and got caught in a storm for 13 days. When the storm calmed, Dias saw something astonishing: The African coast was to the west of his expedition, where earlier it had been east. Dias's expedition had rounded the southernmost tip of Africa, naming it the Cape of Storms.
- When the discovery was reported to Portugal's King John II, he renamed the new geographic feature the Cape of Good Hope and commanded a new venture to follow up. Before it could set out, news arrived that Christopher Columbus, sailing on behalf of Spain, had found land in the west, across the Atlantic Ocean.
- The news of Columbus did not worry the Portuguese; they had their own route—perhaps a better one. Thus, Portugal and Spain agreed to divide up the world. In 1494, in the Treaty of Tordesillas, they drew a line across the Atlantic Ocean. Any new lands to the east were to be Portugal's; lands to the west were Spain's.

### **Vasco da Gama**

- With the division of the world settled, the Portuguese commander Vasco da Gama made the first successful sea voyage from Europe

to Asia. Da Gama had been born around 1460; exploration was a family business, as it had been for the Polos.

- Instead of hugging Africa's coast, da Gama's ships headed due south, sailing for 4,000 miles out of sight of land. For 93 days, they were entirely at sea—which was unusually long for this era. Then, in November 1497, they rounded the Cape of Good Hope and headed for India.
- During this long sea journey, da Gama and his crew made a shocking medical discovery: scurvy—the disease of maritime exploration. Near Mozambique, they experienced the results of vitamin C deficiency without understanding the cause. Sailors fell ill, with swollen feet and hands, bleeding gums, and aching teeth.
- After almost a year of sailing, da Gama's ships reached India, arriving in the splendid city of Calicut on the Malabar Coast, where the pepper trade was located. When they went ashore, they were astonished to meet two Muslims who spoke to them in Spanish. (These Muslims were from Tunis, which demonstrates the extent to which the Indian Ocean trade was dominated by Muslim connections.) The Portuguese told them, “We come in search of Christians and spices.”

### **Monopoly on the Indian Ocean**

- The Portuguese clashed with their rivals, the Arab merchants. They also faced a larger problem: Many Indians scorned the shoddy goods the Portuguese had brought to trade. At last, however, the Portuguese bought a load of pepper and cinnamon, and da Gama returned to Portugal.
- The entire voyage had taken two years and covered 24,000 miles. Even though da Gama lost two of his four ships and two-thirds of his men, the spices he brought back paid for the expedition 60 times over. Da Gama was made a noble and rewarded.

- When da Gama returned to Portugal, showing off his goods to King Manuel I, the king quipped, “It would seem that it is not we who have discovered them, but they who have discovered us.”
- Among the discoveries the Portuguese had made was that many valuable spices were not actually grown in India but farther east, in Indonesia. In particular, cloves, mace, and nutmeg came exclusively from the Moluccas, which they called the Spice Islands.
- To consolidate what had already been gained and to seize control of the Indian Ocean and its shipping, da Gama was sent out with another fleet in 1502. He bombarded Calicut and captured a ship of Muslim pilgrims returning from Mecca. The Portuguese now had a monopoly on the Indian Ocean and its trade—to their immense profit.

### **Zheng He, the “Chinese Columbus”**

- Decades before Vasco da Gama arrived in India, China had been expanding its power in the region. Between 1405 and 1433, the celebrated admiral and explorer Zheng He had embarked on a series of seven ambitious naval expeditions.
- Later called the “Chinese Columbus,” Zheng He and his men sailed to Melaka, Java, Sumatra, Thailand, Sri Lanka, India, the Persian Gulf, the Red Sea, and eastern Africa. They covered a distance of 9,000 miles and visited more than 30 countries. Given that these were well-known routes for Chinese merchants, Zheng He was not exploring so much as projecting Chinese power and influence.
- Weighing as much as 7,800 tons, the ships of Zheng He were five times larger than Portuguese vessels of the time. In fact, these were the largest ships on the seas until the Industrial Revolution. Each of Zheng He’s expeditions involved some 300 ships, with about 30,000 participants. Compare this to da Gama’s voyage 65 years later: 4 ships and some 170 men.

- But then, in 1433, these Chinese voyages were halted. Chinese court officials declared the voyages an unnecessary waste. Most records of Zheng He's voyages were destroyed, and laws were passed that made it illegal to build any ship to sail the high seas. Now, because China's voyages had ended, the Indian Ocean became a power vacuum into which Portugal moved.
- Capturing Melaka, gateway to the region, Portugal won the greatest prize: the Spice Islands. By the early 1500s, Portuguese pepper that sailed around Africa cost one-fifth as much as pepper shipped by the Venetians across the Mediterranean. Portugal had created, for the first time in history, a trading empire that would outlast any European realm—for six centuries.

### Suggested Reading

Cliff, *The Last Crusade*.

Fernández-Armesto, *Pathfinders*, pp. 109–151.

### Questions to Consider

1. What was the greatest obstacle to Portuguese exploration?
2. What factors were essential in Portugal's gaining control of the Indian Ocean?

# The Enigmatic Christopher Columbus

## Lecture 9

In this lecture, we encounter the enigmatic person of Christopher Columbus. Through a series of mistaken assumptions, Columbus launched what he called the “enterprise of the Indies”—to reach Asia by heading west. By doing so, he stumbled on the Americas, and the world has not been the same since. The resulting Columbian Exchange—of peoples, plants, commodities, and diseases—was enormously significant, with consequences that reverberate to our times.

### Preparation for the Enterprise

- Christopher Columbus was born Cristoforo Colombo (as his name was rendered in Italian) in 1451 in the city-state of Genoa. Genoa was one of the successful mercantile republics of the Mediterranean. Like its rival, Venice, Genoa was dependent on trade. Columbus was largely self-educated and shipped out on Genoese trading ventures in the Atlantic Ocean and Mediterranean Sea.
- In 1476, his ship was wrecked off Portugal. Once safely ashore, Columbus established himself in Lisbon, a center of expansion into the Atlantic Ocean. There, he learned new nautical techniques and sailed, he claims, to England, Ireland, and Iceland. At the same time, Columbus conducted a vast and eclectic self-study of geographic knowledge and texts.
- By the 1480s, Columbus had conceived a plan, which he called the “enterprise of the Indies,” to reach Asia by sailing west. “Indies” here meant not India alone, which the Portuguese were about to reach, but Asia in the broadest sense, including the legendary Cathay and Cipangu described by Marco Polo: China and Japan.
- As we have seen throughout this course, one journey often prompts another. Columbus was an ardent reader of Marco Polo’s *Travels*. He also carefully annotated a copy of Sir John Mandeville’s *Travels*.

Columbus referred to St. Brendan and his legendary voyages in the Atlantic—with good reason because maps and globes still depicted the island of St. Brendan. Based on his reading of these earlier travel accounts, Columbus was convinced that his enterprise of the Indies would work.

### **A Flat Earth**

- A myth that persists about Columbus is that, in his time, everyone thought the world was flat, and Columbus proved them wrong. In fact, this is a surprisingly late legend about Columbus crafted by the American Romantic writer Washington Irving.
- In his 1828 biography of Columbus, Irving portrayed Columbus as a man of science and skepticism, who boldly fought against traditional authority, especially the Catholic Church. Indeed, in Irving's account, Columbus comes across as a Protestant hero of individualism. But in fact, going back to the ancient Greeks, who had already conceived of the earth as a sphere, almost no educated person maintained the idea of a flat earth.
- Columbus's conclusion, however, was that the world was much smaller than others thought. By overestimating the size of Asia and underestimating the globe's extent by about 20 percent, he believed that Asia lay 2,400 miles to the west, although the real distance was 10,600 miles.

### **Religious Motivation**

- Columbus's motivations to explore were partly religious ones. The enterprise of the Indies, he believed, was part of his greater destiny: to carry Christianity to others, to fight the Antichrist (identified with the Muslims against whom the Crusades had been waged), and to regain Jerusalem.
- Columbus reckoned that the end of the world was only some 155 years away. With urgency, he sought sponsorship for the enterprise of the Indies, but the result was a frustrating eight years of lobbying

at royal courts. He sought help in Portugal, then Spain in 1485, then England, France, and Portugal again.

- Spain at first was not interested because it was busy waging the continuing religious wars of the Reconquista. For centuries, Christian monarchs of Spain had been occupied with fighting to regain Spanish territory from the Muslims. By 1492, however, the Reconquista on the Iberian Peninsula was at last finished. The remaining Muslim kingdom, Granada, had been taken.
- At this moment, Columbus was summoned to the Spanish court; now, there was a renewed interest in catching up with Portugal. Columbus at last got the sponsorship he needed. He was given titles, such as Admiral of the Ocean Sea, and was allowed to claim foreign territories for the crown, over which he would be governor and his heirs after him.

### First Voyage

- On August 3, 1492, Columbus set sail from Palos de la Frontera, Spain, with three ships and 85 men. The *Santa María* was his flagship, a tiny vessel that was slower and heavier than the others. The *Niña* and *Pinta* were smaller still. Past the Canary Islands, Columbus continued. Although he was a talented navigator, he could not completely calm the fears of his crew. Every night, Columbus led the sailors in prayer.
- Then, on October 12, 1492, the expedition spotted land and went ashore on a Caribbean island. Historians are still not sure exactly



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**Columbus, who was credited with making known the Americas, did not want that honor and was the loudest in insisting he had not done so; he claimed that he had reached Paradise.**

where this was. Columbus was certain he had found Asia and remained convinced until his death. The Spaniards immediately enacted a ceremony of taking possession: In a boat flying the royal flag of Spain, Columbus disembarked, followed by the royal notary with pen, ink, and paper. A deed of possession was written up on the spot, and the crew signed to witness this act of ownership.

- The expedition ranged about the area and reached what the explorers called Hispaniola (today's Haiti and the Dominican Republic). Columbus made a strange comment in his report: "In the islands so far, I have found no monsters." Instead, he found fellow human beings.
- Columbus called the locals Indians, and the name stuck for centuries. The crew included a converted Jew, who could serve as a translator because he spoke some Arabic. However, he could not communicate with the locals. Also puzzling was the nakedness of the natives—the first feature Columbus noticed about them.
- From the first, Columbus had a starkly contrasting double-edged image of those he called Indians. On the one hand, he declared they were natural candidates for Christianity—peaceful, good-natured, unspoiled by civilization. On the other hand, Columbus considered these people primitive, in part because they lacked clothes and iron weapons and because some were cannibals.

### **The Columbian Exchange**

- This first encounter was only the beginning of something momentous—an event with consequences that would resonate over five centuries. Historian Alfred Crosby labeled the development the Columbian Exchange: the transfer of crops, people, diseases, ideas, and much else—both ways across the Atlantic—once these previously largely separate hemispheres were brought into contact.
- Staples of our lives today that were found in the Americas were new to the Europeans: potatoes, tomatoes, corn, tobacco, cocoa, vanilla,

rubber, peanuts, turkeys, and many other products. Europeans, in turn, brought over horses, sheep, and pigs.

- Europeans also brought diseases, including colds, measles, and smallpox, which devastated local populations that lacked immunity. Debate still continues on the subject of syphilis, with differing opinions as to whether it headed east or west. The demographic disaster was massive: Some 85 to 90 percent of Native Americans were wiped out in several generations.

### Second and Third Voyages

- Exulting in his belief that he had found Asia, Columbus left a colony behind and set off for home. Only two ships returned because the *Santa María* had been wrecked off Haiti.
- Columbus was sent out on his second voyage in 1493. This expedition was on quite another scale, intended for colonization, with 17 ships and a delegation of priests. On returning to the colony he had left behind, Columbus discovered that it had been wiped out in conflict with the locals. In 1496, he again returned to Spain.
- The goal of Columbus's third voyage, in 1498–1500, was to reinforce the new colony and to explore farther. Again showing his mastery of navigation, Columbus arrived at the coast of South America, in what is today Venezuela. Ecstatic, Columbus was sure that this was the edge of Paradise. Rivers of fresh water spilled into the Gulf of Paria—waters he believed were the four rivers flowing out of the Garden of Eden, described in the Bible.

### The New World

- When Columbus returned to Hispaniola, he found the colony in rebellion, with colonists criticizing him to the court. A court official was sent out, arrested Columbus in 1500, and sent him back to Spain in chains. Once in Spain, Columbus was freed, but his offices were not restored to him. Pleading his case, Columbus wrote a book in which he collected all the contracts and broken promises authorities

had made to him, hoping to have them validated. He also started writing a strange document called *The Book of Prophecies*.

- Before he finished this apocalyptic book, however, Columbus was dispatched one last time, for his fourth voyage, from 1502 to 1504. But this proved another disaster. Columbus died in 1506, at the age of 55. He was buried in the robes of a Franciscan monk and left his remaining money to help finance a Crusade to regain Jerusalem.
- Given that Columbus claimed to the last that he had reached Asia, it is just as well that the Americas do not bear his name. That honor goes to a contemporary of his, Amerigo Vespucci, a fellow Italian, who sailed first in Portugal's service, then in Spain's. Vespucci penned a letter about his travels, claiming to have made four voyages to South America, although we have evidence of only two.
- A clever writer took Vespucci's letter, added spicy stories about cannibalism, body piercings, and sexual customs, and published it in 1504 under the title *Mundus Novus*, meaning "New World." Based on this bestseller, the German monk and cartographer Martin Waldseemüller, in his globe map of 1507, lent Amerigo's name in a Latinized form to the continents: America, the New World.

### Suggested Reading

Crosby, *The Columbian Exchange*.

Fernández-Armesto, *Pathfinders*, pp. 153–190.

### Questions to Consider

1. If Columbus supposed he was in Asia and near the great khan, why did he claim territory for Spain, risking conflict?
2. Ultimately, was the promise of monetary reward or religious motivation primary for Columbus?

# Magellan and the Advent of Globalization

## Lecture 10

In this lecture, we will follow the voyages of Portuguese navigator Ferdinand Magellan, sailing in the service of Spain, who in 1519 led an expedition that—for the first time in history—circumnavigated the globe. Magellan actually accomplished what Columbus had originally set out to do: reach Asia by sailing west from Europe. Magellan’s journey had consequences down to our own times, because it opened the way for globalization and signaled the beginning of a world economy.

### Spain and Portugal: An Intense Rivalry

- For Spain, the quest to reach Asia by sailing west from Europe was especially urgent. Under Vasco da Gama, the Portuguese had pioneered the route to India by way of rounding Africa, in 1497–1498. That lead was decisive; Portugal quickly set about eliminating the competition—the Arab merchants—from the Indian Ocean and monopolizing trade.
- For the challenge, the Spanish court found a Portuguese navigator, Fernão de Magalhães, whose name is often rendered in English as Ferdinand Magellan. Magellan’s service to Spain was an example of the international character of exploration in the early modern period; we have also seen the Italian Columbus in the service of Spain. There were limits to that internationalism, however, because some Spaniards resented serving under Magellan. Interestingly, the man who completed Magellan’s mission after he was killed was a Basque navigator.
- There was also another international dimension to this quest that had to do with borders and claims on land. After Columbus’s return to Europe in 1493, Portugal and Spain had tensely negotiated the Treaty of Tordesillas, which put a dividing line in the Atlantic Ocean. But the treaty did not state clearly what happened on the other side of the globe.

## Magellan on the Side of Spain

- Magellan was born around 1480 in Portugal, the son of a noble family that claimed Crusader ancestors. In 1505, he signed up to join Portuguese naval forces headed for the Indian Ocean. He took part in the great Battle of Diu in 1509, which battered the Muslim navies and won dominance of the Indian Ocean for Portugal.



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- The climax of these campaigns was a siege at a strategic location at the Strait of Malacca, a key access point to the sea corridors of Malaysia and Indonesia. Among those captured during the battle was a boy named Enrique, who became Magellan's slave and would later accompany the explorer on his journeys. After returning to Portugal in 1513, Magellan was angered that the king was not inclined to give him more honors or missions; thus, he transferred his loyalty to Spain.

**Magellan made his name through naval warfare; he showed great strength of character, a kind of charisma of command, but also great ambition and desire.**

- Magellan's transfer of alliance proved to be a coup for Spain, because he possessed proprietary knowledge of Portugal's new empire in the Indies. Leveraging this "insider knowledge," Magellan proposed to Spain's King Charles I to travel west to the Spice Islands to prove that they were on the Spanish side of the line. In other words, if it were possible to sail around the Americas

to the south—which was not clear—he would find the passage to do it, giving Spain access to Asia.

- From the perspective of the Spanish crown, the risk was worthwhile, because the gains could be tremendous. Magellan was given five ships and a contract that gave him a period of monopoly rights on future trading voyages to the region.

### **Armada de Molucca**

- Under the grand designation of Armada de Molucca, on September 20, 1519, Magellan's expedition set sail with five ships: *Victoria*, *Trinidad*, *San Antonio*, *Concepción*, and *Santiago*. The trip would last three years, but Magellan would not see its end.
- In fact, in retrospect, it's amazing that anyone survived, given the harshness of the conditions and the precariousness of these ships. Each of the ships was only about 60 feet long. The staple food was hardtack, a plain biscuit made with flour, salt, and water. Its main virtue was that it was remarkably durable and would keep for years under ideal conditions. But imagine the ordeal of eating hardtack while also battling scurvy, which made gums swell and teeth fall out.
- Westward and south into the Atlantic the ships sailed. An epic moment came when they crossed the equator. South of the equator, however, they could not steer by Polaris, the North Star. Losing their stellar guide was disorienting, and now they had only increasingly sketchy geographic knowledge to guide them. The ships traveled down the coast of South America and wintered near Argentina.

### **Through the Strait of Magellan**

- Throughout the difficult Atlantic sailing, murmurs and resentment against Magellan grew. Facing a mutiny, Magellan executed the ringleaders, then put the other ships under Portuguese captains, further increasing discontent.

- One ship, the *Santiago*, wrecked; the *San Antonio* then defected and headed back to Spain. The remaining ships under Magellan's command kept looking for the fabled westward passage to Asia. At last, with great difficulty, they found one, a winding channel between South America and the island of Tierra del Fuego, whipped by intense winds. This channel is known today as the Strait of Magellan.
- It took 38 days to navigate past Tierra del Fuego. Finding the strait and winding through it has been called “the single greatest feat in the history of maritime exploration.”
- At last, in November 1520, Magellan and his sailors slipped out of the eastern end of the strait and into the Pacific Ocean. Magellan called the sea they now were sailing the Pacific, or the “peaceful sea,” because of its mild weather and balmy winds. Peaceful or not, the ocean's massive size proved a profound shock to the European explorers. The Pacific Ocean is twice the size of the Atlantic and covers a third of the globe.

### **Full Circle to the Philippines**

- Instead of a speedy arrival at the Spice Islands, Magellan and his crews sailed onward for 99 days. Supplies ran out, hardtack crumbled, and scurvy set in. Finally, the sailors were reduced to eating leather, which they soaked for days and then grilled to make it more palatable.
- Up in the nighttime skies, the men spotted unfamiliar galaxies, which to this day are called the Magellanic Clouds. From the Strait of Magellan to the eventual landfall, this Pacific voyage extended 7,000 miles, then the longest on record.
- Magellan and his men first made landfall at Guam, where they clashed with native people. They then sailed into the Philippines and claimed them for Spain; these islands were later named after King Philip II.

- Now that the men were again on land and had access to fresh food, the scurvy that had plagued them abated. As they sailed onward, island by island toward their goal, they witnessed an amazing occurrence. At one point, when locals in a boat passed by the *Trinidad*, Enrique shouted out to them in his native language, and the locals responded. Magellan's voyage had brought Enrique home to the land from which he had been captured.

### An Economic Triumph

- To gain influence for Spain in the Philippines, Magellan sought alliances. At Cebu island, he was successful in getting the king and his chiefs to convert to Christianity. To impress others, Magellan promised to conquer the enemies of the Cebu people. In one battle, Magellan and his men fought fiercely and without help, and Magellan was killed.
- Half a world away from home, the remaining crew now improvised. Wandering about in the many islands and archipelagoes, the men finally reached the Spice Islands and were able to buy some of those precious wares, a shipment of cloves. Two of their three remaining ships were lost; only the *Victoria*, commanded by the Basque captain Juan Sebastián del Cano, headed home, westward, bound for the Cape of Good Hope.
- Although Magellan himself did not make it back to Spain, his expedition did. The *Victoria* had traveled 15 times the distance of Columbus's first voyage—some 60,000 miles. The circumnavigation had taken three years, and the survivors noted a strange fact: They had somehow lost a day in the process. They had crossed what today we call the International Date Line in the Pacific Ocean.
- Although the voyage had a mortality rate of more than 80 percent, it was an economic triumph. The spices that lay in the hold of the *Victoria*, battered as it was, were sold for a fabulous sum that covered the entire cost of the voyage and left a profit.

## A Global Worldview

- A significant outcome of Magellan's venture was a new perspective on the world—thinking globally. He changed the way our world is visualized. This new kind of thinking or visualization of our home as a globe has been called by historian David Wootton “the most remarkable development in the whole history of cartography.” What's more, Magellan's undertaking helped bind the world together in the many journeys and trading ventures that followed.
- Even after the return of Magellan's expedition, wars raged between Spain and Portugal over the Spice Islands. Finally, in 1529, the Treaty of Zaragoza was signed, which settled the matter: Portugal got the disputed Moluccas, while Spain kept the Philippines.
- In the Philippines, Manila went on to become a linchpin in the global trade that was now emerging. Indeed, a useful date for the birth of the global economy is the year 1571, when the city of Manila was founded.

### Suggested Reading

Bergreen, *Over the Edge of the World*.

Chaplin, *Round about the Earth*.

### Questions to Consider

1. Do you think Magellan was abandoned by his men in combat, leading to his death?
2. Why did fearful mortality rates, such as those experienced by Magellan's expedition, not bring these voyages to a halt?

# The Ruthless Ambition of the Conquistadors

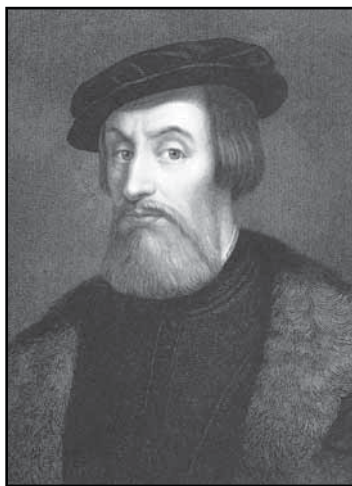
## Lecture 11

In this lecture, we consider the conquistadors, Spanish military entrepreneurs motivated by conquest and the pursuit of gold, who voyaged to the Americas in the 16<sup>th</sup> century. These men were not directly controlled by the monarchy but, instead, journeyed to the New World as freebooters, with royal sanction, to seize wealth and lands. The conquistadors conquered entire civilizations and toppled empires—with only a handful of men and with astonishing speed, effectiveness, and brutality.

### Early Conquests of Hernán Cortés

- The archetype of the self-made conquistador commander was Hernán Cortés. He was born in 1485 to lower nobility in Extremadura, then a poorer area of Spain. At first, he was trained as a lawyer, but he found himself wanting a more exciting and lucrative profession. Thus, he did what many adventurous young men of that era did: He set off for the New World.
- Cortés arrived in Hispaniola in 1504 and took part in the brutal conquest of Cuba in 1511. Once established in Cuba, he could have settled down to the easy life of a rich landowner—but he wanted more. He had heard the stories of a wealthy and mighty civilization on the mainland, awash in gold.
- The Aztecs were relatively recent empire builders, who had conquered other peoples in the Valley of Mexico. The Aztecs' own campaigns of conquest, subjugation of neighboring tribes, and demand for sacrificial victims produced a latent reservoir of resentment against Aztec rule. The Spanish governor of Cuba dispatched Cortés on a mission to the mainland to challenge this mighty civilization.
- In February 1519, Cortés left Cuba for the mainland, accompanied by 600 Spaniards armed with metal weapons and 16 horses. The

horses would prove terrifying for people who had never seen such a creature and who assumed that the horse and its metal-clad rider were all one fearsome beast. Cortés landed at Cozumel, off the Yucatán, then marched on the mainland. A little more than two years later, he would defeat the Aztec Empire, 4 to 6 million strong.



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### Cortés and Montezuma

- After landing on the mainland, Cortés began his venture inland with a dramatic gesture: As his men looked on, he deliberately sank his entire fleet. He and his men would now have no choice but to conquer or die. The Spanish and their local allies marched on the mighty capital of the Aztec Empire, Tenochtitlán, more than 400 miles away, in the location of what is today Mexico City. When the news reached the emperor Montezuma II, he dithered and did not make a clear decision, when a quick attack could have crushed the Spanish near the coast.
- The Spaniards reached Tenochtitlán in November 1519. They looked out over its stepped pyramid temples, its palaces, its colorful marketplaces, unable to believe their eyes. One account declares,

When we saw so many cities and villages built in the water and other great towns on dry land, we were amazed and said that it was like the enchantments they tell us of in the legend ... And some of our soldiers even asked whether the things were not a dream.

- Now, at long last, Cortés met Montezuma, who received the Spanish as guests and lodged them in his palaces. But Cortés, using the element of surprise, seized Montezuma and made his host into a hostage. Now Cortés held Tenochtitlán with a force of 400 Spaniards and a host of American Indian allies, but they were in the middle of a city of some 300,000 people.

### **The Conquest of the Aztecs**

- After seizing Montezuma, Cortés heard news from the coast. There, the Cuban governor was landing a force to arrest Cortés. The commander rushed out to meet this threat, leaving his aide, Pedro de Alvarado, in charge. At the coast, Cortés defeated the force sent against him and recruited the survivors to his cause.
- But while Cortés was gone from Tenochtitlán, Alvarado massacred hundreds of Aztec nobles during a festival at the main temple, and the population turned against Montezuma and the Spanish. Many Aztecs now saw their emperor as a weak collaborator with the alien enemy. After returning to the city in July 1520, Cortés made a fighting retreat to evacuate his men. As the Spanish fought their way out, more than half of Cortés's men were killed; Montezuma died, as well.
- Once out of the capital city, Cortés regrouped and prepared for a massive assault. Then, in 1521, Cortés returned with 100,000 Tlaxcalan warriors and, after a siege of 93 days, destroyed Tenochtitlán.
- Having achieved his conquest of the Aztecs, Cortés was made governor of this huge region of New Spain in 1523. In 1524, he launched another campaign into Honduras, but after two years in the jungles, the campaign ground to a halt. In addition to damaging his health, the failed expedition in Honduras also compromised Cortés's authority in New Spain. He was removed as governor and, in 1528, was forced to return to Spain for investigations. Cortés died in modest circumstances in 1547.

## Francisco Pizarro

- Cortés's astonishing victory in Mexico inspired other voyages, as well. In the 1520s, Francisco Pizarro explored down the western coast of South America, looking for opportunities for wealth and fame. He set out to track down rumors about Peru, the mighty empire in the New World ruled by the Incas. There was a vast realm along the Andes, well-organized and sophisticated, of some 14 million people. In 1529, the Spanish crown gave Pizarro permission for a campaign. He and four of his brothers would set out to invade the Inca Empire.
- In 1531, Pizarro left Panama with three ships and about 180 men and 27 horses. By chance, at precisely the time when Pizarro arrived in the Inca Empire in 1532, several factors had weakened it. Diseases from Mexico had swept through, ushering in a demographic catastrophe. The empire also had just ended a civil war; thus, it was destabilized from within.
- When the new Incan emperor Atahualpa graciously welcomed Pizarro and his men, the Spaniards did just what Cortés had done to his host: The conquistadors grabbed Atahualpa and killed 7,000 Incas, suffering no fatalities of their own. The Spaniards simply overwhelmed the Incas, who had no defense against steel swords, guns, cannon, or fast-charging warhorses.

## *Requerimiento*

- Wherever they went in the Americas, the conquistadors asserted their sovereignty by the official ritual of reading the *Requerimiento*, or “the demands.” This was a peculiar bureaucratic process that had been developed by a Spanish royal lawyer in 1514 and was intended to legitimize the seizure of other people's lands.
- The *Requerimiento* was read aloud to assembled local peoples in Spanish—whether they spoke it or not. It explained that the Americas had been assigned to Spain (and parts to Portugal); the local people faced the choice between submission to the Spanish crown and baptism or war and enslavement.

- The conquered peoples were invited to agree, yet the text warned,

But if you do not do this, and wickedly and intentionally delay to do so, I certify to you that, with the help of God, we shall forcibly enter into your country and shall make war against you ... we shall take you and your wives and your children, and shall make slaves of them ... and we shall take away your goods, and we shall do all the harm and damage that we can.

### Failed Conquistadors

- Although Cortés and Pizarro succeeded in their conquests, a series of less-fortunate Spanish conquistadors failed dramatically. Juan Ponce de León landed in Florida in 1513 in search of the Fountain of Youth, perhaps inspired by the stories of that great fake, Sir John Mandeville. Ponce de León searched in vain.
- In 1528, Panfilo de Narváez invaded Florida with 600 men—and was shipwrecked and lost. The survivors walked back through what is today the southwest United States to Mexico, which they reached eight years later with only four survivors. Narváez was not among them.
- Another Spaniard, Hernando de Soto, wandered from Florida across the southeastern United States, searching for wealth and lands. He and his men marched through present-day Georgia, Tennessee, Alabama, and Mississippi. Hernando de Soto died somewhere in Louisiana, and the survivors of his failed enterprise drifted down the Mississippi River and were able to reach Mexico.
- Francisco Vázquez de Coronado searched fruitlessly for the fabled Seven Cities of Gold in New Mexico during the 1540s. Legends of these golden cities reached all the way back to the Middle Ages, when they were associated with islands in the Atlantic Ocean.

## A Mountain of Silver

- Over time, the Spanish crown established its control over many of the areas invaded by the conquistadors, introducing organized government and religion. Royal authorities called viceroys and the institutions of the Catholic Church were established in Central America and South America. The New World empire—the viceroyalties of New Spain, Peru, New Granada, and Río de la Plata—yielded vast wealth to the Spanish monarchy.
- One source of that wealth was almost beyond belief. It was a mountain of precious metal. In 1545, the Spanish discovered one of the largest silver deposits in history at Potosí in the Andes, in today's Bolivia.
- To this day, in Spanish, *Potosí* is an expression for a great fortune. The silver of Potosí enabled a thriving Spanish trade with Asia. In fact, much of that silver ended up in China—payment for luxury goods. And, of course, this trade fed an increasingly global economy, which in turn sustained a century of Spanish dominance in Europe.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 193–242.

Todorov, *The Conquest of America*.

### Questions to Consider

1. What motivated Doña Marina to help the Spaniards in their invasion?
2. What factors made the conquistadors so brutal?

# Henry Hudson—Death on the Ice

## Lecture 12

Competing with Spanish and Portuguese merchants, who dominated the trade routes to Asia, the English were on a quest for another passage to Asia—one to the north. In a centuries-long effort, the English sought the fabled Northwest Passage—a route from the Atlantic to the Pacific through the Arctic archipelago of Canada. In this lecture, we'll discuss an incident during the quest for the Northwest Passage that ended in a wrenching tragedy—a haunting failure involving death on the ice. It is the story of a confident expedition that ended in mutiny, murder, and a mystery that endures to this day.

### John Cabot and Sir Francis Drake

- Along with many other European countries, England rejected the division of the world that Spain and Portugal had negotiated with the 1494 Treaty of Tordesillas. The English declared that this line did not apply to them and sent out explorers of their own.
- The first of these was John Cabot, an Italian from Venice, who sailed in the service of Henry VII. Cabot followed the lore of English cod fishermen who had sailed out into the Atlantic and returned with stories of seeing a rugged coastline in the distance—in fact, Newfoundland. Sailing from Bristol, Cabot reached the North American mainland in 1497 and returned with news of Canada. Cabot was the first European since the Vikings to land there.
- Several decades after Cabot's accomplishment, another English nautical celebrity emerged: the dashing Sir Francis Drake. In 1577, Admiral Drake circumnavigated the globe while acting as a privateer, terrorizing Spanish ships with the tacit approval of his monarch, Queen Elizabeth.
- Such explorers as Drake and Cabot became celebrated national heroes in England. Writers proclaimed that it was England's

destiny to rule the waves, and indeed, this fervor helped launch the extraordinary phenomenon that was British sea power.

- In England and elsewhere, companies were organized for trading and colonizing, and business owners proudly called themselves “merchant adventurers.” Among the first colonizing venture was that of the Jamestown Colony in Virginia—the first permanent English colony in North America—established in 1607 by the Virginia Company of London.

### **The First Multinational Corporations**

- English explorers pressed on to find a Northwest Passage, which would be a triumph for English commerce, opening up a northern trade route that was much closer and cheaper for England.
- Three possibilities presented themselves: a northeast passage above Scandinavia and Russia, a northwest passage above what is today the United States and Canada, or a route that reached the west by sailing over the North Pole. In 1527, English geographer Robert Thorne argued that one could take an Arctic route to the east, because there is no “sea innavigable” over the pole. Indeed, maps from the 16<sup>th</sup> century hinted at sea routes through the Arctic.
- The foremost seekers for the Northwest Passage were the trading companies founded by merchant adventurers—the first multinational corporations. In 1600, the English East India Company was established; in later centuries, the East India Company would conquer much of India for England.

### **Dutch East India Company**

- The prominent rival of the English East India Company was the Dutch East India Company, which was known by the acronym of its Dutch name, VOC. Its Asian headquarters were in the East Indies; from 1618 to 1629, the Dutch had violently expelled the Portuguese from the Spice Islands. This was the age of the trade wars—literally, commerce alternating with combat on sea and land—for market share and business advantage.

- The Dutch created plantations to cultivate tea, sugar, coffee, and tobacco. Established in 1602, the VOC had capital resources 10 times greater than the English East India Company. Its power reflected the tremendous wealth and achievements of the Netherlands. At this time, the Dutch had the most commercially oriented society in the world, pioneering a new form of modern social organization.
- Although the English East India Company and the VOC were bitter rivals, they had several areas of agreement. They agreed that Portugal and Spain held too much of the world's riches and that the seas should be free for trade, unhampered by the Treaty of Tordesillas line. And they agreed that the English navigator Henry Hudson was a talented navigator and explorer—because they both hired him.

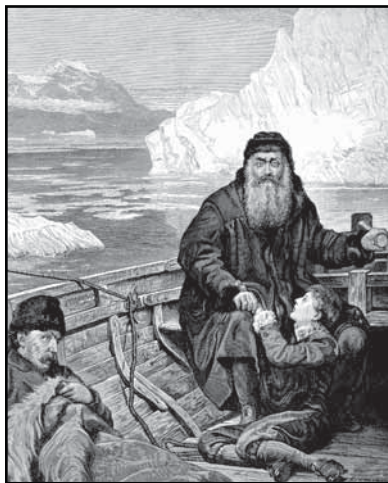
### Henry Hudson

- Henry Hudson's origins and youth are obscure; he was probably born in the 1560s. In 1607, he embarked on a failed expedition funded by the Muscovy Company, an English trade organization, to sail northward over the North Pole and then to China and Japan.
- In 1608, Hudson sought a northeast passage over Russia, a voyage that also met with failure. In spite of this lack of success, however, Hudson gained a reputation as a sensible, careful, and effective captain because on the first two voyages, he had no losses of men.
- In 1609, the Dutch VOC hired Hudson to seek a northeast passage again. When he encountered harsh storms, he reversed the original project and instead had his crew sail westward for another try at the Northwest Passage, over North America. Upon reaching the North American coast, Hudson sailed up the river that now bears his name. He and his men continued to present-day Albany until it was clear that this watercourse was not the passage; they then turned around and sailed back home.
- Hudson's fourth (and last) voyage began in 1610, funded by the English East India Company and the Muscovy Company. He set out from London in a ship named *Discovery* with 22 men and 2

boys, one of whom was his son John. The crew also included a mathematician to aid in charting the impressive geographic discovery Hudson hoped to make: the Northwest Passage.

### Mutiny and Murder

- Hudson's ship sailed through the Hudson Strait into the vast Hudson Bay in August 1610. But it was an open question whether there was enough time to keep exploring further westward, or whether they should head for home before the waters iced up.
- Meanwhile, tensions were growing among Hudson's crew. We do not know precisely what prompted the hostility, given that Hudson had a reputation as a skillful captain. Later testimonies suggested growing conflicts between the crew and an increasing skepticism on their part of their captain's abilities and integrity.
- At Hudson's orders, the ship headed to the south part of Hudson Bay, now called James Bay, where the men would spend the winter. In November, in James Bay, they had to run the *Discovery* aground so that the hull would not be crushed by the ice sheets that were building up.
- Weeks passed and food stores dwindled. Outside, snowdrifts massed up to 30 feet. Sub-zero temperatures chilled the crew to the core. The crew had seen some traces of native people who populated this challenging environment, but except for one Cree man who came twice to trade, the natives kept their distance.



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**The boat in which Hudson and others were set adrift apparently tried to follow the *Discovery* for a while but then disappeared.**

- It seemed that Hudson was planning to continue searching westward once spring came. Then, on June 22, 1611, when the ice was melting and the ship was breaking free, his crew mutinied. The crew seized Hudson and his son John and put them and seven other crewmen adrift in a small boat. They were never seen again.

### **An Enduring Mystery**

- The events in Hudson Bay and what followed are still shrouded in mystery. The *Discovery* returned to London, arriving there with a much-reduced crew and blood-stained decks. The survivors all claimed that they had not been part of the mutiny.
- Later expeditions looked for Hudson or, at least, traces of his fate. In 1631, stakes were found driven into the earth; in 1670, a shelter was found by another expedition. Nearby were human bones.
- Rather than being jailed, the survivors of the *Discovery* were valued for their experience in exploring northern Canada and were hired for more expeditions. When, after an interval of years, the High Court of Admiralty did take up the case in 1618 and tried the men for murder, they were acquitted.

### **Henry Hudson's Legacy**

- The quest for the fabled Northwest Passage continued, but more disasters would follow in the costly search for this geopolitical and economic prize. The real Northwest Passage was pinpointed in the 19<sup>th</sup> century, but because it was often iced up, it was navigable only with great difficulty. Much later, from 1903 to 1906, the Norwegian explorer Roald Amundsen was the first to traverse it by ship. The Northwest Passage winds its way 900 miles from north of Baffin Island to Alaska.
- In 1670, English merchants set up another trading enterprise, named the Hudson's Bay Company, chartered by King Charles II of England, with an ambitious mission: to engage in commerce with all regions that had waterways flowing into the Hudson Bay.

Hudson's Bay Company trading posts and forts became fixtures of this new economic activity in the most remote areas of Canada.

- The Hudson's Bay Company organized extensive trade with local Native Americans for furs in exchange for weapons and other goods. The company still exists today, one of the oldest incorporated joint-stock companies in the English-speaking world.
- Despite the dire fate of Henry Hudson and his men, a great deal of geographic knowledge was won by their efforts. Additionally, the experience gained on the voyages in search of the Northwest Passage helped future sailors navigate waters infested with icebergs and survive in frozen wastelands. In short, the entire venture of polar exploration benefitted from Hudson's expedition.

### Suggested Reading

Lehane, *The Northwest Passage*.

Mancall, *Fatal Journey*.

### Questions to Consider

1. How would locating a navigable Northwest Passage have changed the modern world?
2. Henry Hudson had a reputation as an effective captain, but what went wrong on his last voyage?

# The Jesuits on a Global Mission

## Lecture 13

In this lecture, we'll consider an entire brotherhood for whom cultural discovery was a means to a higher religious goal. The Jesuits, founded in 1540, engaged in global cultural exploration and sought to proselytize other cultures by using the local peoples' own languages and cultural concepts. Jesuit missionaries fanned out across the world on an ambitious enterprise to transmit ideas and beliefs across cultural divides. In fact, the Jesuit undertaking was part of a broader intellectual shift, a recognition of cultural relativism, that came about as a result of discovery and exploration.

### Founding of the Jesuits

- The Jesuits emerged in an era of fragmentation and conflict, a time when the Reformation and religious wars were disrupting Europe. The order was founded by St. Ignatius of Loyola, a Spanish soldier who had a conversion while wounded in battle.
- Ignatius's aim was to become a soldier for Christ, and his order would bear the marks of strict organization and discipline. He created a drill of meditation and training called *The Spiritual Exercises*. In 1540, Ignatius and his



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**For the Jesuits, founded by St. Ignatius of Loyola, missionary work was the response to Christ's message to "go ... and make disciples of all nations."**

group of followers were granted permission by Pope Paul III to form the Society of Jesus, as the Jesuits are formally known.

- Their missionary work started at once, as Ignatius sent one of his original company, St. Francis Xavier, to India. The Jesuits also set to work battling the rise of Protestantism in Europe. The growth of the order was remarkable. By the time Ignatius died, 1,000 Jesuits were already at work in Europe and in the missions. By 1626, there were more than 15,000 Jesuits, and in 1749, more than 22,000 brothers could be recognized by the initials S.J., “Society of Jesus,” after their names.
- The historical record of the Jesuits showed instances of remarkable determination, self-sacrifice, and intellectual sophistication. Jesuits went through rigorous training, lasting 15 years. They founded schools, colleges, and universities, believing that if they could provide religious education to young children, the children would stay with the Church forever. Education was also an effective weapon in religious conflict.

## **Enculturation**

- Missionary work was seen as key to the Jesuit identity. To the Jesuits, spreading the gospel involved the process of enculturation, which means the assimilation of another culture’s values and concepts. In the 16<sup>th</sup> century, enculturation was a topic of intense debate within the Roman Catholic Church and within the Jesuit order itself. A group of Jesuit missionaries spearheaded enculturation and fanned out across the globe, learning foreign languages, preaching to populations in their own language, and using images and concepts from those cultures to spread the faith.
- As Catholic Christianity expanded in Central and South America, a watershed moment of enculturation arose in 1531, with the news of a miraculous appearance of the Virgin of Guadalupe in Mexico. A Mexican peasant, Juan Diego, declared that the Virgin Mary had appeared to him—but in the form of a Mexican girl, not as a

European. Excitement over this news led to some 8 million converts in the next decade.

- About 1549, the Jesuits arrived in Portuguese Brazil and the Spanish colonies. Jesuit missionaries founded separate cities and farms for the American Indians, where they could live free of European rule. By 1700, some 100,000 South American Indians lived in these self-ruled and self-sustaining communities, called *reducciones*.

### **Pursuit of Geographic Knowledge**

- While Spanish and Portuguese priests and monks pursued missionary work in the south, French Jesuits took a leading role in North America. Following French colonization in Canada, or New France, they made the fortress city of Quebec their center.
- The fact that French settlers had established peaceful ties with the Hurons made them enemies of the Iroquois. Thus, it was into a rather tense landscape that the “Black Robes,” as the Jesuit fathers were called, set out to preach. Eight Jesuit missionaries were murdered when they entered Iroquois enemy territory; they came to be called the North American Martyrs.
- Besides the risks of martyrdom, missionary work was made practically difficult by the nomadic ways of many tribes. In the process of following these tribes, however, Jesuit missionaries explored territory and gained wide geographic knowledge. Jesuit Jacques Marquette was a missionary explorer who led an expedition down the Mississippi, investigating and mapping its course.

### **St. Francis Xavier**

- Christian missionaries approached Asia very differently than they proselytized the New World. Asia comprised mighty and wealthy civilizations that could not be subordinated, as the Native American tribes had been. The Asian civilizations were literate, with ancient traditions and sophisticated philosophies and cultures; they had to be met on different terms.

- After the voyage of Vasco da Gama to India, the city of Goa became the headquarters of a mighty Portuguese empire in the Indian Ocean. It would now become the center for missionary efforts, headed by St. Francis Xavier.
- St. Francis Xavier has been called the greatest Christian missionary since St. Paul. As the closest friend of St. Ignatius, he was sent as a Jesuit to Goa in 1541, just one year after the order was sanctioned. There, he sought to spread the message to the Indian population. His poverty, his simple sandals, and his act of begging fit in well with traditions of Hindu holy men.
- St. Paul's College in Goa trained native priests, encouraging the process of enculturation. From Goa, St. Francis Xavier traveled down the coast in southern India to what today is Sri Lanka. Then, he kept traveling, leaving for Malaysia and the Moluccas in 1545 and eventually reaching China and Japan.

### **Missionary Work in Japan and China**

- Many Jesuits saw Japan, which they idealized, as the greatest prize in Asia. St. Francis Xavier arrived there in 1549 and spent three years preaching. The Christian community in Japan grew quickly, and at one point, the Jesuits were actually put in charge of administering the port of Nagasaki.
- Remarkably, there were 30,000 Catholics in Japan by 1570, and by 1582, there were an estimated 200,000. Alarmed by this rapidly growing foreign influence, the shogun banned Christianity and expelled the missionaries in the early 17<sup>th</sup> century. Some 2,000 Japanese were killed for refusing to give up their religion, and 62 missionaries were martyred. In a rebellion that followed, Christians were targeted and nearly 30,000 were killed.
- China was equally difficult to approach: It was a celestial empire that saw itself as the center of the world. Christian monks had visited China after Marco Polo, but now they came in greater numbers and

in earnest. The Jesuits' strategy in China was to engage the upper levels of Chinese society and its learned elite.

### **Cultural and Intellectual Exchange**

- Matteo Ricci, an Italian who joined the Jesuits in 1571, performed missionary work for four years in Goa, then continued on to China, arriving in 1583. He worked there for 27 years, gaining fame under his Chinese-language name, Li-ma-tou.
- Ricci used science and technology as a cultural bridge. He imparted the latest knowledge of astronomy, shared maps to illustrate the world beyond China, and discussed philosophy with the Chinese Confucian scholars. He also translated Western mathematics books into Chinese. Other Jesuits introduced Western painting techniques, such as perspective, which astonished Chinese artists. Yet other Jesuits shared medical knowledge.
- The exchange was not only one way, however; Jesuits in China also recorded and sent news to Europe of the Chinese practice of inoculations against disease. Similarly, Jesuits translated works from Chinese and sent them back to Europe. Ricci argued that Confucianism and Christianity were ideal complements and that Confucian philosophy could be enlivened by faith. At the time of his death in 1610, Ricci was translating the Bible into Chinese. In 1605, there were 200 converts in Beijing. About 50 years later, some 150,000 Chinese were Christian.

### **Changes in the Medieval Worldview**

- From our modern perspective, the Jesuit missionaries were not early anthropologists, exploring other cultures for their own sake; rather, their aim was to understand cultures in order to convert people of different races and ethnicities. Even so, we must acknowledge the unique achievement of the Jesuits. Their aim was to globalize Christianity—not as a faith with a European God but as a worldwide religion.

- The ideas and practices based on enculturation were part of a broader cultural and intellectual shift brought about by the process of exploration and discovery worldwide. From 1492 on, explorers encountered a much wider range of human cultures and traditions. This expanded the sense of what was possible. Indeed, in Asia, entire civilizations were encountered—civilizations that often were at a higher level of organization. This, too, furthered changes in the medieval worldview of Christendom.
- Collectively, these experiences led to a growing cultural relativism. The term is not the same as moral relativism. It is not the assertion that there is no truth or morality; rather, it refers to a growing appreciation that there are many ways of being human.

### **Myth of the “Noble Savage”**

- The many ways of being human are celebrated in the works of the French writer Michel de Montaigne, who with a signature light touch relentlessly questioned almost everything. In his 1580 essay “On the Cannibals,” for example, Montaigne overturns European concepts of the inferiority and primitivism of Native Americans in Brazil and argues that they were superior, while Europeans were the true barbarians.
- He observes, “I find ... that there is nothing savage or barbarous about those peoples, but that every man calls barbarous what he is not accustomed to.” Montaigne denied that being close to nature meant inferiority; the cannibals have stayed “close neighbors to their original state of nature.” Montaigne’s conclusion was stark: “It is no lie to say that these men are indeed savages—by our standards; for either they must be or we must be.”
- Later Enlightenment thinkers and Romantics celebrated the uncivilized, the natural, as the so-called “noble savage,” the mirror image of our civilized selves.

## Suggested Reading

Montaigne, “On the Cannibals.”

Worcester, *The Cambridge Companion to the Jesuits*.

## Questions to Consider

1. Compare how the Jesuits propagated their message in India and in North America. How did they adapt to their audiences?
2. Is Montaigne being serious in his defense of cannibals?

# Captain Cook Maps the World

## Lecture 14

Captain James Cook was an explorer of heroic stature, who in many ways epitomized the age of scientific discovery, which coincided with the Enlightenment. This was an age that promoted exploration not for wealth or power but for new scientific knowledge. Captain Cook, although of humble birth, was a self-made man who achieved international celebrity. His voyages were characterized by tolerance toward foreign peoples, and he vastly expanded the scope of our geographic knowledge. Paradoxically, some of his information could be categorized as “negative exploration”—that is, confirming what was not out there. By filling in many blank spots and correcting faulty maps, Captain James Cook significantly advanced the representation of our world.

### Measuring Longitude

- Even with advances in scientific knowledge and apparatus, exploration on the high seas remained a daunting undertaking in the 18<sup>th</sup> century. Technical challenges abounded, especially the difficulty of determining longitude, or positions east and west. Latitude, or positions north and south, could be derived by observing the sun.
- As the leading naval power of the age, Britain was especially concentrated on solving this technical problem. In 1714, after several naval disasters were caused by ships’ miscalculating where they were, the British Parliament offered £20,000 as a prize for the person who found a way of measuring time more exactly, so that a sailor could accurately compare his current time to the time of the ship’s departure place. However, using a mechanical timekeeping device or chronometer on a ship was challenging because of the movement of the ship, moisture, variable weather conditions, and temperature.

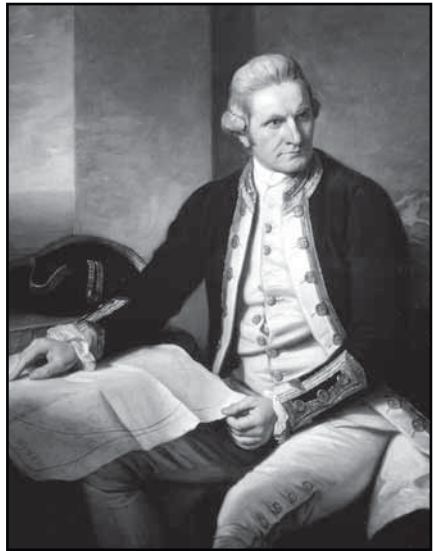
- A brilliant British clockmaker, John Harrison, worked for decades on the problem and created a small chronometer that kept the time correctly and, thus, indicated longitude precisely. Administering the new knowledge of longitude became the task of the Royal Greenwich Observatory, where the Prime Meridian was set. Greenwich Mean Time was established as the standard.

### **Captain James Cook**

- Captain James Cook would use the new maritime technologies to map the globe in ways more accurate and telling than ever before. Cook, the son of a farmworker in Yorkshire, went to sea as a youth and learned navigation skills on the ungainly coal ships that sailed off the eastern coast of England. After apprenticeship and further education, he entered the Royal Navy.
- Cook served in the Seven Years' War, which raged between France and Britain from 1756 to 1763 (known to Americans as the French and Indian War). Cook's extraordinary skills in crafting nautical charts were noticed by his superiors. They were struck by his accurate mapping of Newfoundland, and indeed, Cook's surveying of Quebec helped the British capture that French colonial capital.
- For centuries, people had been convinced that somewhere in the Pacific Ocean—somewhere between the Strait of Magellan and the Cape of Good Hope—there must be a vast landmass. Even skilled mapmakers included its alleged outlines on their maps and globes, sometimes calling it Terra Magellanica in honor of Magellan.
- The argument for this vast landmass hinged on symmetry. If there were continents in the Northern Hemisphere, it seemed an offense against global equilibrium if there were not a balancing massive landmass to the south in the Pacific—if only to prevent the earth from tilting wildly.
- Here is where Captain James Cook made his name. In 1768, although he was only a 39-year-old lieutenant, Cook was made commander of the H.M.B. *Endeavour* and sent on the first of three

epic voyages to the Pacific. Aboard the *Endeavour* was a large team of scientists (known at the time as natural philosophers), led by Joseph Banks, already a famed naturalist and a fellow of the Royal Society. A key task of the expedition was to observe the transit of Venus from the Pacific.

- Several years earlier, the 1761 viewing of Venus had involved 120 scientists from nine countries; this united effort became a crucial precedent for later



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**James Cook used the new technologies of his day, especially the solution to the longitude problem, to map the globe in ways more accurate and telling than ever before.**

international scientific cooperation. Captain Cook took the British scientists to make the 1769 Venus observation from Tahiti. Tahiti had first been visited by Europeans in 1767, but this first meeting had led to an armed clash. Cook wanted to make a fresh start. In his journals, he expressed a more tolerant attitude toward local peoples, very different from the days of the conquistadors.

### **Terra Australis Incognita**

- After observing the transit of Venus, Cook continued on a second, secret task he had been assigned by the Royal Navy Admiralty—to search for the fabled landmass, which they called Terra Australis Incognita. In crisscrossing the Pacific Ocean searching for the theoretical continent, Cook landed in New Zealand.

- Cook continued west to New Holland—what we now call Australia. In April 1770, Cook navigated with considerable skill through the Great Barrier Reef and explored Botany Bay, so-named because of the enthusiasm for flora of Joseph Banks and the naturalists on board. There, they encountered for the first time local people, or “aboriginal Australians.”
- In this journey, which ended with Cook’s circumnavigating the globe, Cook accomplished something that astonished contemporaries: He completed the trip without losing a single man to scurvy.
- Cook had noted that diet could make a significant difference in treating the condition. He fed his men portable concentrated vegetable soup and huge quantities of pickled cabbage, or sauerkraut.
  - This was a major breach of a centuries-long dining tradition for ordinary sailors, and some of them refused to sample it. Cook showed his cunning by giving a new order: From now on, the sauerkraut was to be for officers only. The sailors clamored to be allowed the same fare.

### Voyage to Antarctica

- In his journals, Cook revealed his own character and goals. He declared that “ambition leads me not only farther than any other man has been before me, but as far as I think it possible for man to go.” At the same time, Cook was self-aware, reflecting that any explorer was often in a double trap. If he ventures and fails, he is accused of temerity and incompetence. If he is careful, “he is then charged with Timorousness and want of perseverance and at once pronounced the unfittest man in the world to be employed as a discoverer.”
- In 1772, Cook embarked on a second voyage on the H.M.S. *Resolution*, again to search for the mythical southern landmass. Over three years, Cook and his men searched but did not find Terra Australis Incognita, thus establishing that it did not exist. Venturing ever farther south, Cook and his men became the first to cross the

Antarctic Circle. Cook observed that there were rocks embedded in the icebergs, proving there was land underneath.

- Cook doubted there would ever be much use for Antarctica, saying, “I will be bold to say that the world will not be benefited by it.” He also predicted that no one would ever venture farther to the south and that those Antarctic lands would not be explored. On this score, he was, of course, wrong. Cook should have known that others would be driven by the same ambitions that motivated him.

### **Cook’s Ongoing Legacy**

- Finally, in 1776, Cook was sent out for a third voyage, once more in command of the H.M.S. *Resolution*. At this time, the captain was so celebrated internationally that Benjamin Franklin insisted that even though the American war for independence was ongoing, Cook’s ships should be spared if met by Americans. This time, Cook’s mission was to look for the Northwest Passage—from the Pacific, not the Atlantic, side.
- Sailing north through the Pacific, Cook landed on what we today call Hawaii. He called it the Sandwich Islands, after the British first lord of the Admiralty, the fourth earl of Sandwich, who already had won lasting fame as the inventor of the sandwich. Cook continued to the Bering Strait and again achieved negative discovery: He showed that there was no passage visible there, only a wall of ice.
- Then, Cook and his men returned to their recent discovery, Hawaii. A fierce historical debate still rages on what happened next—events that led to Cook’s death in 1779.
  - Some scholars maintain that the Hawaiians saw Cook as a god and killed him in a ritual, expecting his resurrection. But this theory has been refuted by a Princeton anthropologist, Gananath Obeyesekere. He argues that Cook was seen as an important chief, not as a god. He did not look Hawaiian or speak the language, as any self-respecting Hawaiian god would have.

- If one takes this perspective, the true explanation for Cook's death may be much less mystical: The Hawaiians no longer wanted to host this large company of demanding strangers, and Cook's increasing rage with locals' thievery provoked a reaction.
- Captain James Cook's legend lives on. A contemporary legacy of Cook can be detected in the echoes of his life and character in the popular space drama *Star Trek*. There, Captain James Kirk commands the starship U.S.S. *Enterprise* to "boldly go where no man has gone before."

### Suggested Reading

Cook, *The Journals of Captain Cook*.

Fernández-Armesto, *Pathfinders*, pp. 245–307.

### Questions to Consider

1. Why do you think Cook grew increasingly impatient in dealing with locals?
2. Is "negative exploration"—Cook's disproving the existence of a huge southern continent—an undertaking that ranks lower than discovery?

# Alexander von Humboldt—Explorer Genius

## Lecture 15

Called by Charles Darwin “the greatest scientific traveller who ever lived,” Alexander von Humboldt was a gifted polymath who devoted his entire life to science. He was fluent in many languages; was expert in numerous fields of science—many of which he himself pioneered—and above all, was a scientific explorer, observing and performing science in the field. Humboldt was the embodiment of the second great age of discovery, which was dedicated to advancing scientific and geographic knowledge. His goal was to understand how scientific facts and recorded realities fit together, forming a coherent whole. With an intense intuitive conviction in the interrelatedness of natural phenomena, Humboldt shaped how we view the world today.

### Humboldt’s Early Career

- Alexander von Humboldt was born in 1769 in Prussia, in northern Germany, into a noble family. He loved science as a boy, but his mother sent him to the University of Göttingen to study law and finances as a gateway to a career as a government official. Humboldt continued to be drawn to the sciences and, for a time, found a way of pleasing everyone by studying mining, which would allow him an administrative career in the government mining industry.
- At Göttingen, he met a man whose travels would inspire his own: Georg Forster, writer, naturalist, and later revolutionary. Forster had been on Captain James Cook’s second trip and had written an exciting bestseller about that journey titled *A Voyage Round the World*. With Forster, Humboldt went on hiking trips throughout Europe, talking science and keenly observing the natural world.
- The pair traveled to London and met the famous botanist and naturalist Joseph Banks, who had accompanied Captain Cook on his first trip to the Pacific. Banks showed Humboldt his collection of dried botanical specimens from the journey, at that point the largest such collection in the world.

- From 1792, Humboldt worked in Prussia's mining administration but was able to use inspection tours to mining enterprises as an excuse for his nature studies.
  - He wrote up his research on these observations and his travels within Germany—writings that came to be admired by Germany's celebrated Romantics, including Johann Wolfgang von Goethe and Friedrich Schiller.
  - Goethe reported that talking with Humboldt was exhilarating but also exhausting because he knew so much. Goethe estimated that one hour of talking with Humboldt was equal to eight days of reading books.

### **Petition to Spain**

- When his mother died in 1796, Humboldt's inheritance allowed him to quit his job in mining administration and travel full time. He contacted his friend, the French botanist Aimé Bonpland, and the two of them struck out on their own. Together, they traveled to Madrid, Spain, where they petitioned King Charles IV for permission to journey to the South American lands controlled by Spain.
- In fact, it was remarkable that Humboldt was allowed to travel to Latin America. The Spanish Empire had kept its lands there almost completely closed to foreigners, not wanting to disclose proprietary information. The result was that South America remained largely unknown to the non-Spanish world. The last exploration expedition mounted by outsiders had been about 60 years before.
- But in this case, the Spanish imperial authorities had their reasons for giving Humboldt permission. They believed that his mining expertise might turn up new wealth for them by identifying mineral deposits and perhaps finding another Potosí, that celebrated mountain of silver.

## Travels in South America

- In June 1799, Humboldt and Bonpland set out for South America. On the long sea voyage, Humboldt measured wind currents and sea currents, ceaselessly theorizing. Five weeks later, they arrived in what is today Venezuela and disembarked with a mountain of luggage containing scientific equipment: clocks, telescopes, reference works, a magnetometer, a rain gauge, a barometer, a collection of notoriously fragile mercury thermometers, and a bin full of chemicals for experiments and analysis. They even carried a device for measuring the blueness of the sky.
- Once in South America, Humboldt and Bonpland almost went wild with the marvels of the environment. Humboldt wrote to his brother:

We are here in a divine country ... what colors in birds, fish, even crayfish (sky blue and yellow)! We rush around like the demented; in the first three days we were quite unable to classify anything; we pick up one object to throw it away for the next. Bonpland keeps telling me he will go mad if the wonders do not cease soon.

- After arrival in Venezuela, they traveled inland, up the Orinoco River. This was a contrast with previous scientific explorers; those earlier scientists had sailed around and inspected coasts, whereas Humboldt aimed to move beyond the coast, to penetrate what lay in the interior. He also observed people, not just nature, and deeply hated the slavery he saw in Latin America. In all, Humboldt and Bonpland traversed 1,700 miles.
- From South America, the pair sailed for Cuba. Returning to the mainland again, they went over the Andes and then to Quito, Ecuador, in 1802. Humboldt and Bonpland climbed nearly to the top of the highest mountain known at the time, Chimborazo, reaching 19,286 feet without special equipment. That was a world record that lasted for 30 years. Humboldt also studied volcanoes and correctly theorized that they appeared at geological fault lines.

- Proceeding north to the United States, Humboldt visited with American President Thomas Jefferson. These two leading scientists of their day discussed the Lewis and Clark expedition, which had left for the West a few days before. Finally, in August 1804, Humboldt and Bonpland returned to Europe as international scientific celebrities.

### Phenomenal Scientific Results

- The results of their travels were phenomenal. Over the course of five years, the pair had covered 5,950 miles and collected or catalogued 6,300 species of plants and animals. It has been estimated that Humboldt's plant collection doubled the number of known plants in the world.
- Humboldt and Bonpland also proved that the Orinoco and Amazon rivers were linked. Humboldt's research identified a key aspect of the Pacific Ocean's internal dynamics, the Humboldt current, a northward surge along the Pacific coast (today also called Peru current).
- On his return to Europe, Humboldt settled in Paris and devoted himself to writing up his fieldwork—for the next 27 years. His account appeared in 30 volumes, completed in 1834. It was published in French, the *lingua franca* of intellectual life of the day, for maximum impact. Humboldt ended up spending his entire personal fortune on the publication.

### The Unity of Nature

- Humboldt possessed a distinctive and unprecedented approach to science and the natural world. His research aims were revealed in a letter he wrote just before leaving Europe: "I shall try to find out how the forces of nature interact upon each other and how the geographic environment influences plant and animal life. In other words, I must find out about the unity of nature."
- Humboldt has been called the first ecologist. Fired by Romantic ideals, he responded emotionally to nature and was able to write about it in inspiring ways. His view, moreover, was decidedly

universal. For him, the emotional or aesthetic response that nature created in the human observer was crucial. This links Humboldt to the Romantic movement of the 19<sup>th</sup> century.



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**Alexander von Humboldt shaped our modern view of the environment: as an ecosystem of tremendous complexity and fragility.**

- The Romantics, reacting against the intellectual certainties and schematic concepts of the rational Enlightenment, believed in the power of emotion over reason. They believed both in unities and in celebrating the particular, the individual. Humboldt paralleled these impulses both by seeking general laws and by trying to understand the uniqueness of regions where the individual was expressed.
- Humboldt said he sought a “universal, synthetic science” that would comprehend both unity and diversity in the natural world. Applying this concept to all aspects of the natural world, he had a significant impact on many fields: geography, plant ecology, climatology, geology. For a time, he was the most famous natural scientist in the world.

### **Travels to Russia**

- Humboldt’s labors to publish his research finally threatened to bankrupt him. Thus, in 1827, probably with the greatest reluctance, he returned to his native Prussia. There, Humboldt served as a royal court official, chamberlain to Friedrich Wilhelm III of Prussia and counselor of state to Friedrich Wilhelm IV.

- In 1829, at the age of 60, Humboldt set off on another extensive journey, a Russian expedition of 9,300 miles, which included travels to Central Asia and Siberia. He published his account of his observations there in 1843.
- While traveling in the intensely autocratic and repressive czarist empire, Humboldt had to keep quiet about his political views. He identified himself with the ideal of a republic, not a monarchy; in fact, in his personal letters to friends, he did not use the noble prefix *von*. In Russia, the price paid for permission to travel widely was silence.

### Humboldt's Legacy

- In 1834, Humboldt set out to craft his masterpiece, the definitive statement of his worldview. His project was to write a complete natural history of the entire universe. The result was a series of books called *Kosmos*, published in five volumes—the last of them posthumously, in 1862. The work was a bestseller.
- For his explorations and scientific discoveries, Humboldt was sometimes called a “second Columbus.” Some went even further in their praise. The South American revolutionary and leader Simón Bolívar declared, “Humboldt was the true discoverer of America because his work has produced more benefit to our people than all the conquistadors.”
- Humboldt himself viewed all of it—fame or obscurity—with calm and sardonic humor. He is quoted as making this observation about the history of exploration: “There are three stages in the popular attitude toward a great discovery: first, men doubt its existence, next they deny its importance, and finally they give the credit to someone else.”

## Suggested Reading

Humboldt, *Personal Narrative*.

Rupke, *Alexander von Humboldt*.

## Questions to Consider

1. What was the basis of Humboldt's reputation?
2. Why do you think Humboldt's reputation was eclipsed by other scientists in our own time?

# Jefferson Dispatches Lewis and Clark

## Lecture 16

The journey of exploration we'll discuss in this lecture began as a covert operation. President Thomas Jefferson had a plan he had been cultivating for years. He was convinced that the destiny of the United States was to be a country of imposing size—continental in scale. He had his eye on the vast expanses in the West, unmapped areas that were then claimed by France, Spain, Britain, even Russia. Jefferson appointed Meriwether Lewis and William Clark to lead what he termed a “scientific and literary undertaking”—a designation meant to mask its true geopolitical and strategic importance. Remarkably, Lewis and Clark made their journey with only minimal supplies and the most essential scientific equipment—and they succeeded in reaching the other side of a massive continent.

### Jefferson's Secret Proposal

- In January 1803, President Thomas Jefferson sent a secret proposal to Congress, urging that an expedition be funded by the government to travel beyond the boundary of the United States to chart and explore the western areas, most of them claimed by France. For this undertaking, Jefferson requested that Congress authorize the vast sum of \$2,500.
- In spite of the huge expense, Congress agreed. Jefferson already knew who the leader of this ambitious expedition should be: his personal secretary, Meriwether Lewis. Intelligent and resourceful, the 29-year-old Lewis was, like Jefferson, a native Virginian and had been an officer on the Ohio frontier.
- Jefferson sent Lewis to Philadelphia for a crash course in botany, zoology, mineralogy, medicine, and astronomy. As a man of the Enlightenment, Jefferson himself was deeply preoccupied with science and urgently wanted to know what the western expanses held from the perspective of natural science. In Philadelphia, Lewis began buying the supplies he would need for this westward

expedition, including scientific equipment, weapons, medicines, and trade goods and gifts for the Native American tribes encountered along the way.

- Understanding that the challenge would be formidable, Lewis wrote to an old friend, asking if he would partner in leading the expedition. This was William Clark, another Virginia-born army officer who had frontier experience. Lewis and Clark proved to be a most successful partnership. Once the expedition began, Lewis was formally in charge, but they worked as equals. Something about their temperaments complemented each other, and this human connection proved crucial to the success of the journey.

### **Louisiana Purchase**

- On July 4, 1803, at the White House, Lewis was given a long list of tasks to accomplish. The priority was to “explore the Missouri River and such principal stream of it as ... may offer the most direct and practicable water communication across this continent, for the purposes of commerce.” Besides this, the expedition was to map land and waterways, assess the quality of soil for future agriculture, collect samples of animal and plant species, record rainfall and temperature, and gather information about the Native American tribes.
- With his orders in hand, Lewis went off to finish preparations, then received astonishing news. The successful negotiation of the Louisiana Purchase with Napoleon I meant that the expedition no longer had to be kept secret. The U.S. government had purchased nearly 1 million square miles of territory for \$15 million, which worked out to less than \$0.03 per acre.
- In a single stroke, the Louisiana Purchase had doubled the size of the United States. And, with this addition, staking a definitive American claim would be crucial.

### **U.S. Corps of Discovery**

- Formally named the U.S. Corps of Discovery, the expedition set out from St. Louis, Missouri, in May 1804. The party included 29

men and some additional recruits for the first stage of the trip. Their voyage would last from May 1804 to September 1806 and would cover some 8,000 miles, to the Pacific Ocean and back.

- From St. Louis, the Corps moved upstream along the Missouri River on a 55-foot keelboat and a set of smaller ships. Going upstream was backbreaking work, involving tugging the boats from the shore with ropes or pushing them along with poles.
- Moving west, Lewis and Clark observed the expansive prairies, then arrived in Great Plains country. As they traveled, often at a pace of 15 miles a day, they documented their results in journals, recording nearly 200 new plants and more than 100 new animals. They were astonished at the vast underground towns of prairie dogs. Farther west, they were amazed by the size of grizzly bears and the abundant buffalo herds grazing on the plains. At first, food was not a problem; every day, they consumed nine pounds of buffalo meat.
- Lewis and Clark sought out local Native American tribes and gave them peace medals that showed Jefferson's profile on one side and two hands, white and Native American, clasped in friendship, on the other side. Contact with these communities was politically important for the future, especially with those tribes already trading with the British.
- By late fall of 1804, the expedition had reached what is today North Dakota, near Bismarck, the country of the Mandan and Hidatsa tribes. This was already near the edge of where fur trappers and traders had ventured. The group spent the winter in a shelter named Fort Mandan. From there, they sent a unit back eastward to deliver preliminary findings, including scientific samples and specimens, to President Jefferson.
- While the men overwintered at Fort Mandan, the expedition acquired two new members: a French Canadian trapper named Toussaint Charbonneau and his Shoshone wife, Sacagawea ("Bird Woman"). Because Lewis understood how important her help could

be, he hired them both. Sacagawea was pregnant, and that winter gave birth to her son, Jean Baptiste.

- As it turned out, at many junctures in the future, when the expedition passed through the territories of suspicious tribes, this one detail was decisive. Seeing that this unknown group had in its forefront a young mother and her baby convinced many of the peaceful intentions of the expedition, because no war party would have included them. As Clark wrote, “Sacagawea’s mere presence reconciles all the Indians as to our friendly relations.”

### **Off the Map**

- In April 1805, the Corps was ready to leave Fort Mandan and resume its journey west in smaller boats. For the leaders, this was an epic moment. Earlier, they had traversed areas that were known, and at Fort Mandan, they were at the far edge of the familiar. From now on, they would be going off the map.
- As they traveled farther west, the men reached a fork in the river that they had not been told about by the Mandan. Fortunately, the leaders picked the right route, to the south. Two weeks later, they reached the Great Falls of the Missouri River, a series of waterfalls in north-central Montana. They had to make a portage to get around the falls, taking an entire month when they had originally hoped to clear the obstacle in a day.
- As the expedition headed west, Sacagawea began to recognize locations from her youth. The men crossed the Continental Divide and were astonished to see row upon row of mountains facing them. They finally met members of the Shoshone tribe, and Sacagawea was reunited with her brother, Cameahwait, who was now a chief. The Shoshone gave them horses for their journey and guided them onward.
- The Nez Percé tribes also supported the expedition. The explorers left their horses behind and built canoes, using the method the Nez Percé had showed them: hollowing out pine trees with fire to shape

the vessel. In these new canoes, they headed down the Clearwater and Snake rivers, ultimately reaching the Columbia. By the middle of November, they had reached the Pacific Ocean.

### **Profound Scientific and Political Significance**

- The Corps of Discovery overwintered in what is today Astoria, Oregon. Initially, the hope had been to locate European ships along the Pacific coast and sail home. Indeed, President Jefferson had provided the men with a personal letter of credit so that they could pay for their passage home. Not spotting any vessels, however, the Corps headed back overland, starting out in March 1806.
- Later, the expedition split in two so that the men could survey more territory on the way back. Having split up, Lewis and his unit clashed with Blackfeet Indians in Montana. This was the only fighting on the entire trip, though there had been tense moments and standoffs. The two units joined up again on the Missouri River and headed home.



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Because Lewis and Clark had been gone for more than two years, many back east had concluded that the men had perished; when they returned to Washington, DC, they were celebrated as heroes of the nation.

- In the long term, the expedition had profound scientific and political significance, establishing the disputed claim of the young republic to the northwest, today's Washington and Oregon. William Clark's maps of the west were the state of the art for a long time. Lewis and Clark had blazed what later became the Oregon Trail—the route for massive western migration.
- After their remarkable journey of exploration and discovery, some members of the expedition returned to the West. William Clark became governor of the Missouri Territory, and from 1822 to the time of his death in 1838, he was Superintendent of Indian Affairs. Meriwether Lewis was appointed governor of the Louisiana Territory in 1807, but he met a tragic end. His death at the age of 35 remains a mystery, although the memory of the expedition endures. In 1978, Congress set up the 3,700-mile Lewis and Clark National Historic Trail, so that Americans today can trace this landmark journey.

### Suggested Reading

Ambrose, *Undaunted Courage*.

Bergon, ed., *The Journals of Lewis and Clark*.

### Questions to Consider

1. How would Lewis and Clark's expedition have fared without the help of Native Americans?
2. What were Sacagawea's motives?

# Sir John Franklin's Epic Disaster

## Lecture 17

In this lecture, we confront the fate of the British expedition of Sir John Franklin, who disappeared in 1845 while searching for the Northwest Passage—a Canadian Arctic waterway connecting the Atlantic and Pacific oceans. Although Franklin's journey had all the benefits of sophisticated equipment, modern technology, and the collective knowledge of the Industrial Revolution behind it, it still ended in spectacular failure. Ironically, it was Franklin's epic disaster that helped advance a “culture of adventure”; after his expedition, a cultural phenomenon emerged in which exploration was considered its own reward and the explorer was assigned hero status—even in failure.

### Search for the Northwest Passage

- After its defeat of the French Empire and Napoleon in 1815, Britain again took up one of the oldest traditions in the history of exploration: the quest for the Northwest Passage. Although previous expeditions had ended in failure, British naval authorities had tantalizing new hints that a Northwest Passage might yet be feasible.
- By 1817, reports circulated that harpoons marked with the names of ships sailing in the Atlantic Ocean had been discovered in the bodies of whales taken in the Pacific Ocean. This seemed proof that the whales had traversed a Northwest Passage.
- A series of British naval expeditions was dispatched; two of these expeditions were led by Sir John Franklin, a veteran of the naval war against Napoleon. Franklin's first voyage was from 1819 to 1822, and the second was from 1825 to 1827. Then, nearly two decades after Franklin's second voyage, the Admiralty organized yet another effort to chart a Northwest Passage. For that task, Britain wanted a commander who already had experience in the Arctic.

- Sir John Franklin had recently ended a seven-year stint as governor of Tasmania and felt that he was the right man to lead the mission. He volunteered enthusiastically, although he was at the advanced age of 59.

### **Sophisticated Equipment and Modern Technology**

- In May 1845, the Royal Navy sent Franklin and his crew out in two ships, the *Erebus* and the *Terror*. Both vessels, retrofitted warships, had served as mortar ships to bombard coastal fortifications during the war against Napoleon. Both had also been used in a mission to the icy Antarctic; thus, they had been tested in that extreme environment.
- Both ships were outfitted with steam engines and seven-foot propellers, the latest technology. The ships were covered with extra plates of sheet iron to strengthen the wooden hull, and the *Erebus* had extra planking to resist pressure from the ice. The *Erebus* and *Terror* were fully stocked with enough supplies to last three years, including a new invention of the Industrial Revolution: food canned in tins that were soldered shut to remain airtight to aid preservation.
- The expedition brought along an organ, a camera, and an extensive collection of scientific equipment. Franklin and his crew headed west, across the North Atlantic toward the Canadian Arctic, in high spirits and endowed with the fullest confidence. Then, in July 1845, the explorers passed a whaling ship from Aberdeen ... and that was the last report of them alive.

### **The Tragic End**

- What happened next was reconstructed later, with great difficulty and with many remaining mysteries. Through Baffin Bay, then north of Baffin Island, the expedition sailed along inlets and channels and overwintered at Beechey Island. Three men died and were buried there.

- Then, the following spring and summer, the *Erebus* and *Terror* continued their search. By September 1846, the ships were locked into ice 15 miles from shore. There was little food to be gained by hunting. The men waited for a thaw that never came. The ships remained trapped, and hopes of any rescue were remote.
- Then, in June 1847, Franklin died. In April and May 1848, the surviving 105 men tried to walk overland southward. They loaded a sled and began the march. In the days that followed, that desperate march disintegrated. Some men fell ill and lay down to die, exhausted. Others decided that it was all pointless and simply headed back to the ships. Others trudged on, leaving the weak and sick behind. Some bones found later showed signs of cannibalism.
- Debate still rages on the reasons for the collective collapse of the crew. Some theorize that they were disoriented in their decision making by lead poisoning from the tinned food. Others speculate that the disease of exploration—scurvy—had left the men increasingly debilitated.

### John Rae and the Inuit

- A series of rescue missions was sent out from England—a recovery effort that would last 10 years and include 40 expeditions. Lady Jane Franklin crusaded for this cause and personally funded four ventures to find her husband. Even the Americans got involved, responding to Lady Franklin's personal plea to President Zachary Taylor. The British Admiralty offered a reward for information and £20,000 for a rescue. Yet none of these missions found the men.
- Some years later, John Rae, a surgeon for Hudson's Bay Company, found decisive clues. Rae walked through the region in 1854 and took the time to talk to the local people, the Inuit. One Inuit told him that years ago, 40 white men had traversed the region and died. The Inuit had seen this happen but would not have been able to save such a large a group of people given the scant resources of their small hunting bands.

- The Inuit also passed to Rae some of the relics they had picked up from that doomed march. Among them was Franklin’s medal. At last, this was proof of the expedition’s demise. Even with this evidence, however, Lady Franklin would not give up; in part, she seems to have wanted to vindicate her husband as the man who had in fact discovered the Northwest Passage, even if it meant that he and his men had not survived.

### A Haunting Note

- At last, in 1859, searchers came across a pile of stones heaped together; among these stones was a haunting note that revealed the fate of the expedition. The note was written on an official form that was issued by the Admiralty to British ships. Instructions on the form were printed in several languages, all of which politely stated, “Whoever finds this paper is requested to forward it to the Secretary of the Admiralty, London, with a note of the time and place at which it was found, or if more convenient, to deliver it for that purpose to the British consul at the nearest port.”
- This official form had two sets of handwriting on it. One, dated 1847, was optimistic: Lieutenant Graham Gore of the *Erebus* reported that the ships had wintered and that Sir John Franklin was in command; it concluded: “All Well.”
- The second set of handwriting, dated a year later, was scrawled around the margins of the note, and its tone was despairing:

H.M. Ships *Terror* and *Erebus* were deserted on the 22<sup>nd</sup> April, 5 leagues NNW of this, having been beset since 12<sup>th</sup> of September 1846. The officers and crews, consisting of 105 souls, under the command of Captain F. R. M. Crozier, landed here ... Sir John Franklin died on the 11<sup>th</sup> June, 1847; and the total loss by deaths in the expedition has been to this date 9 officers and 15 men.

- The note was signed by James Fitzjames, captain of the *Erebus*, and indicated that on the following day, the men planned to start walking.

## A Romantic Hero

- The mystery, now at least partially solved, gripped the British Empire and beyond. A Romantic legend rose up around Sir John Franklin, the icy desolation of the Arctic, and the perils of polar exploration. He won a kind of fame that success alone would not have brought him.
- Romantics were extremists at heart, and the extremes of nature thrilled them. The Romantic movement was centered around the concept of the “sublime”—which transcended the ordinary and inspired admiration and terror. A key text of the Romantic movement was Mary Shelley’s novel *Frankenstein*, which begins and ends in scenes of desolate Arctic wastes.
- American painter Frederic Edwin Church created a sensation in 1861 with his painting *The Icebergs*, tapping into the fascination with the doom of the Franklin expedition. Church had traveled to the north in 1859 to sketch and paint icebergs. In his monumental painting, he depicted a landscape without people, only icy crags floating on a desolate shore. On the canvas, the overwhelming presence of nature looms over the insignificance of humanity.
- Then, when this sensational painting was taken to be exhibited in Britain, Church got out his brushes and paints and added to it. He painted in a smashed mast of a ship in the lower left—an unmistakable reference to Franklin and other perished explorers.

## Discovery of the Northwest Passage

- Given Franklin’s popularity and the public fascination with the Arctic, it is little wonder that his defeat was vividly memorialized. According to the monument erected to Franklin in London, he did indeed complete the discovery of the Northwest Passage—a version of the story that Lady Franklin sought to propagate.
- Interestingly, it was Franklin’s disastrous expedition that prompted a later attempt on the Northwest Passage that finally succeeded. For three years, from 1903 to 1906, the Norwegian explorer Roald

Amundsen threaded his way through in a small fishing boat, until at last he emerged in the Pacific Ocean. In describing his motivations for this arduous journey, Amundsen wrote: “Strangely enough the thing in Sir John’s narrative that appealed to me most strongly was the sufferings he and his men endured.”

- Amundsen then went on to become a key explorer of both poles and led the first expedition that reached the South Pole in 1911.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 307–332.

Spufford, *I May Be Some Time*.

### Questions to Consider

1. What doomed the Franklin expedition?
2. Did Romanticism make explorers more prone to heroic risks and disaster?

# Ida Pfeiffer—Victorian Extreme Traveler

## Lecture 18

Ida Pfeiffer was a true extreme traveler of the Victorian age. Called “the first woman to make travelling her life’s work,” Pfeiffer became an international celebrity and inspired women worldwide. During a time when women were expected to occupy a domestic role, Ida Pfeiffer left home, traveled around the world twice, and became a bestselling travel author. Pfeiffer, in all her individuality, was also a representation for many other women of the Victorian era—who took to exotic locales in bustle dresses and high-button shoes and who, by their very explorations, shattered stereotypes and blazed new trails.

### Wanderlust

- What sets the Austrian-born Ida Pfeiffer apart from earlier women travelers was that she was neither wealthy nor prominent. She was significant as a woman explorer, but she also demonstrated that world travel was possible for ordinary people.
- In these lectures, we’ve studied the many motivations of explorers: the quest for wealth, a desire to spread religion, devotion to science. What drove Ida Pfeiffer was, in German, *Fernweh*—literally, “farsickness.” We know it as “wanderlust.” As Pfeiffer stated, she was motivated by “the inborn desire for travel ... As the painter is driven to paint a picture, as the poet is driven to express his thoughts, so I am driven to see the world!”
- Pfeiffer was born in 1797 in Vienna to a middle class family. She had five brothers, and she insisted on being treated as their equal, even wearing boy’s clothes and joining in their rough adventures.
- When Ida’s father died in 1806, her mother tried to impose more conventional rules and roles, but Ida rebelled against wearing women’s clothes and taking piano lessons. She fell in love with her

tutor, but they were not allowed to marry because he was not of her station and had no prospects for prosperity.

### **The Biedermeier Era**

- The Victorian Age embodied a cultural atmosphere that emphasized social respectability, middle-class values, rigid class distinctions, and strict expectations for men and women.
- In the German-speaking lands, including Vienna, this period is often called the Biedermeier era. The Biedermeier era, like the Victorian, emphasized restraint and practical virtues. In many ways, it was a reaction against the emotionalism and extremism of the Romantic movement.
- A key concept of the Victorian and Biedermeier worldviews was the notion of “separate spheres,” which meant that men and women had distinct areas where they were to be active, dictated by biology and divine will. Men were to strive in the public sphere, in business, the professions, and academia. Women, by contrast, were limited to the domestic sphere of “children, kitchen, and church.” Ida Pfeiffer would break out of these boundaries.

### **Success as a Travel Writer**

- After her disappointment in love, Ida fell ill and spent some time as an invalid. In 1820, she agreed to the marriage proposal of an older lawyer, Mark Anton Pfeiffer. In 1831, her mother died and left Pfeiffer a legacy. Pfeiffer and her husband separated in 1835, and she returned to live in her native Vienna with her sons. By 1842, the boys were grown and out of the house. Finally, at the age of 45, Pfeiffer could pursue the dream she’d had since childhood—to travel.
- Pfeiffer journeyed to the Middle East to visit the Holy Land. After visiting sacred places and shrines in Jerusalem and Nazareth, she decided to keep going. She took a trip to Egypt and Rome, lasting nine months, then returned to Vienna in December 1842.

- Once at home, she sat down and, in a blaze of inspiration, compiled all the observations she had made in 14 notebooks and shaped them into a two-volume work that was published in 1843. Here was the formula that she would use from now on: Writing of her travels sold well, and she could use the proceeds to fund further travel.



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- Pfeiffer's debut book, *The Journey of a Viennese Lady to the Holy Land*, was praised for its simple, matter-of-fact reporting and keen eye for detail. The books could be read as tour guides for trips—real or vicarious—to these destinations.
- Her next trip, in 1845, took Pfeiffer to Iceland. She toured for six months, witnessing volcanoes, geysers, and the midnight sun. She also used the opportunity to collect natural history specimens. Even without formal scientific training, she thought she might have something to offer specialists back in Austria. From Iceland, she traveled to Scandinavia before heading home, where she again published her travel notes as a book.

**For her first journey, Ida Pfeiffer chose to visit the Holy Land, in part because this religious destination suggested the respectability that was required of women in the Victorian Age.**

### Around the World

- Pfeiffer set off in May 1846 on a much longer trip—this time, to circle the world. She boarded a Danish ship bound for Brazil. When the ship hit terrifying storms off the east coast of South America, Pfeiffer had herself tied to the mast to experience the full measure of the tempest, rather than cower in a cabin below.

- When taking an excursion through a rainforest, Pfeiffer was suddenly confronted by a bandit with a knife. She reacted as any Victorian lady traveler might have done: She pulled out her own knife and stabbed him. After that incident, she carried pistols.
- Notable is the fact that she always dressed in women's clothes on her travels, believing that she would then merit the consideration that women deserved in the Victorian Age. She even developed a feminine explorer outfit of her own design, with a shorter skirt, mosquito net, and broad-brimmed hat.
- Often, women in the places Pfeiffer visited took a special interest in her, curious about where her husband was and why she was traveling alone. The conversations she had with women in kitchens and around campfires gave her writings a perspective no one else had.
- Pfeiffer's world tour took her to Chile, then into the vast Pacific Ocean, to China and Ceylon (today's Sri Lanka). Next, she was off to India and to Baghdad, where she visited a harem—something no male European would have been permitted to do and sure to be a sensation for her reading public.

### **Worldwide Celebrity**

- In 1850, Pfeiffer again published the notes from her trip: *A Woman's Journey Round the World*. Now she was in the full flower of celebrity. Alexander von Humboldt praised her achievements as a geographer, even though she lacked formal education. What's more, she found another source of income: Upon returning with natural specimens and ethnographic artifacts, she offered them for sale to European museums.
- Celebrity also had other benefits. As she became internationally renowned, steamer ship companies and railroads offered her free tickets because of the publicity they would get—as having carried the famous Ida Pfeiffer.

- In March 1851, she departed for London, launching what would become her second trip around the world. It would be more than four years before she returned to Vienna. She traveled to Singapore and to the Malaysian archipelago, where she spent two and a half years.
- Pfeiffer ventured into places that even colonial administrators feared to go, including Sarawak on the western coast of Borneo, home to a fierce headhunter tribe called the Dayaks. After sojourning with the Dayaks, Pfeiffer continued to Indonesia, explored Java, and ventured into Sumatra. She visited the Spice Islands, which for so many centuries had been the idealized destination of Europeans seeking vast riches. Then, she sailed to San Francisco, toured Mexico, visited Niagara Falls and New York City, and finally returned across the Atlantic, reaching home in 1855.
- Following her next book, *My Second World Trip*, which appeared in 1856, Pfeiffer's fame continued to grow. Her books were translated into English, French, Russian, Malay, and Dutch. In Vienna, she opened a museum of her own to show off the artifacts and specimens she had collected. International honors were showered on her. She was inducted as an honorary member into the geographical societies of Austria, Prussia, and France.
- An exception was the Royal Geographical Society in London because its rules formally excluded women from membership. Pfeiffer was bitter about this afterwards and correctly pointed out that as more women traveled, including women trained in science, such policies would be unsustainable.

### Travel for Ordinary People

- Pfeiffer once wistfully commented that she wished she were 10 years younger to have more time for travel. She was struggling with the malaria she had picked up during her travels, but one last journey awaited her. She chose a place still largely unknown in this time of aggressive imperialist expansion: the independent kingdom of Madagascar, off the east coast of Africa. Both France and Britain

were interested in seizing this land for their empires. As Pfeiffer journeyed there in 1857, both sides suspected she was a spy.

- Without meaning to, Pfeiffer found herself entangled in a coup attempt against the Madagascar queen. Pfeiffer only narrowly escaped with her life and traveled to the British colony on Mauritius in the Indian Ocean, deathly ill. She died in Vienna in October 1858.
- Pfeiffer helped usher in an age where even ordinary people could travel and explore. Those who read her books saw a world of possibilities opening to them—a world that was not the unique preserve of the wealthy and powerful or celebrated explorers. Her career also embodied the rise of modern celebrity to the point where a travel author could support herself and her future travels. Most of all, Pfeiffer demonstrated in action what she claimed as a maxim—that one person with a will can accomplish the impossible.

### Suggested Reading

Steffoff, *Women of the World*.

Watt, “Ida Pfeiffer.”

### Questions to Consider

1. What was Ida Pfeiffer’s most impressive achievement?
2. Could Pfeiffer have accomplished her travels a century earlier?

# Japan Discovers the West

## Lecture 19

In the late 19<sup>th</sup> century, the Iwakura mission of Japan set out to learn everything it could about the West in military, education, and civic matters. Foremost was to understand what had made the West so successful. For the Japanese, this was a radical political and cultural exploration of an unfamiliar world. But in the 1870s, what was at stake was the survival of Japan, which had long been self-contained and isolated from foreign influence. The Iwakura mission was an occasion of mutual approach, if not a case of perfect mutual understanding; it at least gave both sides of the exchange an enhanced appreciation of the “other.”

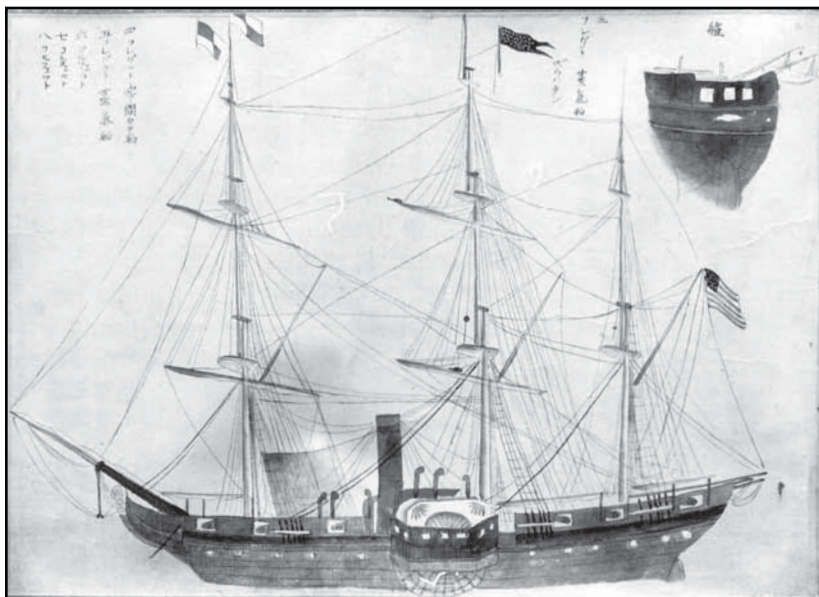
### An Isolated Island Nation

- Early in its history, Japan had looked to China as an influence on its civilization, from Confucianism to Buddhism. In 1549, St. Francis Xavier and the Jesuits had traveled to Japan and sought its conversion to Christianity. Alarmed by the growth of foreign influence, the shogun banned Christianity in 1614, expelling the missionaries and persecuting local Christians.
- After that, the island empire of Japan closed itself off to outsiders and their influence, trade, and ideas. This was done through a series of laws issued during the 1630s by the Tokugawa shoguns and known as the seclusion edicts.
- The seclusion edicts restated the ban on Christianity and cut off contact between Japanese and Westerners by banning travel abroad. Under the Tokugawa shoguns, Japan was meant to be a peaceful and harmonious realm, stable and unchanging, hierarchical and orderly. Samurai, once mighty warriors, turned to scholarship and the arts.
- From their isolated perspective, Japanese leaders looked on with horror at what was happening elsewhere in Asia. From the 1830s on, Britain had fought a series of wars to force the Chinese to

acquire opium in exchange for tea and to give up treaty ports and cede control over them. During the latter part of the 19<sup>th</sup> century and up to World War I in 1914, three-quarters of the globe was seized by European powers. Japan was determined to avoid that fate.

### The Meiji Restoration

- Then, in 1853, American ships suddenly appeared off the coast of Japan. Commodore Matthew Perry, commanding this squadron, carried a letter from President Millard Fillmore seeking trade relations. Perry had “opened” Japan to the outside world after 200 years of self-containment.
- In 1868, a bold group of Japanese reformers undertook a coup against the shogun in an event that came to be celebrated as the Meiji Restoration. *Meiji* means “enlightened rule”; during the



The so-called “black ships” of the U.S. Navy that appeared off their coast in 1853 made clear to the Japanese that closing themselves off to the outside world was no longer an option.

Meiji era, a generation of young Japanese rallied to the 15-year-old emperor Mutsuhito as a symbol of a national undertaking to resist outside pressure by adapting Western successes.

- The strategy of the reformers was to borrow economic, educational, and political guidance from the West, even as they sought to uphold distinctively Japanese aspects of society, culture, and religion. Interestingly, though, the appeals to tradition actually masked a determination to innovate and, in particular, to “learn from the barbarians.”
- As the Meiji Restoration took shape, young Japanese were proud of what they saw emerging: a Japanese modernity—not merely wholesale adoption of Western ways. The point of this remarkable movement was to ensure Japan’s survival in the age of imperialism, by becoming an imperial power itself.

### Quest to Discover the West

- Before its emergence on the world stage, however, Japan sent a series of missions abroad to discover the West. The most prominent of these was the Iwakura mission. Comprising a number of top government officials, the mission bore the name of its leader, Iwakura Tomomi, who at age 46 was the second-ranking official in the Japanese administration.
- The Iwakura mission was sent to America and Europe with a stated diplomatic goal: to insist on revisions to treaties that had been imposed on Japan. But beyond this, its purpose was to learn all it could about what had made the West so successful. In that sense, it was a shopping expedition, to bring back ideas and expertise.
- The mission was huge, carrying more than 100 people in all. In December 1871, the mission left Yokohama on a U.S. steamship, crossed the Pacific Ocean, and reached San Francisco in January 1872.

- Once in America, the officials on the mission changed into European dress and cut their hair short to adapt to Western ways. Iwakura, however, remained in Japanese attire and impressed witnesses with his personal dignity and composure. Members of the mission toured everywhere they could, visiting factories, mines, farms, and railways. Then, they headed east. In Chicago, which was still recovering from the fire of 1871, the Iwakura mission presented the mayor with a large check to aid in recovery.
- From there, the Iwakura mission journeyed to Washington, DC, for negotiations with American counterparts in the government. But once there, an unfortunate diplomatic surprise awaited. American diplomats told the Japanese officials that they did not have the proper form of plenipotentiary rights—that is, authorization from their emperor to negotiate with the United States. Two Japanese officials hurried home to obtain it. After touring cities and factories during the day, members of the mission studied the U.S. Constitution and civics textbooks at night.
- Next, they traveled to Britain, arriving in August 1872. They were flattered by some experts' designation of Japan as the “Britain of Asia.” The idea was that both were island nations, and both had limited land and resources. The comparison was flattering because Japan was neither a naval power nor an industrial power, yet on these grounds, one Japanese official concluded that Britain, not America, would be the power to imitate.
- The delegates experienced culture shock while traveling in America and Europe. Western clothes with buttons were difficult to wear, and Western food seemed greasy and flavorless. Ice in drinks was an unfamiliar custom. At hotels, guests had to ring a bell rather than clap their hands for service. Shockingly, in hotels, people walked around with their shoes on. Knives and forks proved clumsy to use, and one Japanese traveler was spotted drinking from his finger bowl. However, the delegates took a distinct liking to ice cream and champagne.

- In fact, the endurance of the Japanese representatives was heroic. A San Francisco newspaper commented:

The Japanese have worn well. Those of our citizens who have unwittingly confounded them with the Chinese have not only been corrected and thoroughly enlightened on the subject, but have received impressions which will be lasting and probably beneficial to all parties concerned. ... Self-reliance seemed to be a feature of their character, a self-reliance which never rejected advice nor countenanced discourtesy.

### Diversity in the West

- On its return to Japan, the Iwakura mission shared lessons learned from the West, publishing an overall Foreign Ministry report with accompanying materials in 27 volumes. The narrative of the expedition was compiled by Kunitake Kume, a samurai who served as secretary to the mission. It was based on his own notes and the journals kept by other members of the delegation.
- All manner of observations worked their way into the report. Kume described the diversity of races in America. He was enthusiastic about the public institutions of museums and zoos, believing that the popularization of technical knowledge was crucial to the power of Western science.
- On the other hand, Kume and his colleagues found the status of American women and their manners shocking. To them, public displays of affection and the mingling of the sexes at social occasions were distasteful. But Kume derived a lesson here: If the Japanese showed as much respect for their parents as American husbands showed their wives, he noted, this would be a great gain.

- Kume found the fervor of religion in America surprising and commented on Christianity and the Bible. He concluded,

In the teachings of Christ, there is much that is bizarre. ... However, when it comes to earnestness of practice, we must blush with shame. Everyone from kings and princes to servants and small children understand what is said in this one book, the Bible ... [and] they are enveloped in its teachings until they depart from this world.

- Of the many insights offered in the report, the most significant lesson was that there was no monolithic West but, rather, a striking diversity in its forms of society, government, and culture. The Japanese observed that all the nations were proud of their own distinctiveness. This yielded a hopeful message: Given that there was no one master model of the West, Japan did not have to give up its culture wholesale to conform.

### **Lessons in Economics and Politics**

- In California, the delegation learned an important economic lesson. The Japanese visitors had seen winemakers using European corks. This surprised them, given that local wood could have been used, but they were told by the manufacturers that the European cork was superior. This led the Japanese to conclude that business success depended on a reputation for high quality in goods. “Made in Japan” had to become synonymous with top quality and prestige. What’s more, the delegates understood that commerce as a profession had to be raised in social status for Japan to become an economic success on an international scale.
- In observing the military establishments of different countries, the mission members concluded that effective military power was not just about hardware but also about organization and training. This would become a hallmark of Japanese efforts in the future.

- In the political realm, the visitors observed that representative forms of government had a special strength: They ensured a “unity of high and low,” rather than maintain feudal divisions that kept people apart. This convinced the Japanese leaders that national unity was preeminent.
- In Germany, the delegation was reassured that Japan could be selective in its adaptations. Bismarck, Chancellor of the German Empire, told the delegates that Japan should disregard international law and should choose its friends wisely. The Japanese took this advice to heart—in their determination not to become victims of imperialism but rather imperialists themselves.

### Suggested Reading

Duus, *The Japanese Discovery of America*.

Kume, *The Iwakura Embassy, 1871–1873*.

### Questions to Consider

1. What was the single greatest challenge faced by the Iwakura mission?
2. What is the most disorienting aspect about being immersed in a different culture?

# Dr. Livingstone and Mary Kingsley in Africa

## Lecture 20

Quite possibly the most famous moment in the history of exploration took place on November 10, 1871. In the remote town of Ujiji, north of Lake Tanganyika in Africa, a Scottish explorer and missionary, Dr. David Livingstone, lay gravely ill. Suddenly, out of the wilderness, a convoy approached under an American flag. The story goes that the leader of this expedition, the journalist and adventurer Henry Morton Stanley, walked up to Dr. Livingstone, raised his pith helmet, and said, “Dr. Livingstone, I presume?” In this lecture, we’ll study the remarkable travels of both Dr. Livingstone and Mary Kingsley and come to understand how they both fell in love with Africa.

### Search for the Source of the Nile

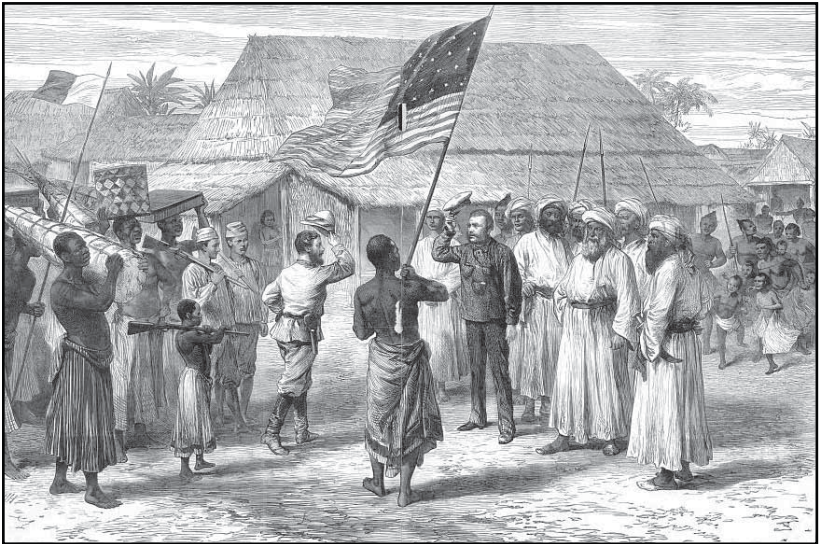
- The interior of Africa resisted outside encroachment for centuries. Even as the coasts of Africa were explored, the interior of the continent remained unknown to the outside world. Tropical diseases, fevers, and parasitic infections against which Europeans had no resistance also discouraged exploration. Thus, Africa for many centuries remained, for outsiders, the “dark continent.”
- But there were some who had the special fortitude to venture into that darkness. In fact, for some reason, a succession of Scottish explorers was drawn to Africa.
- In 1768, the Scotsman James Bruce, who was British consul in Algiers, set out to find the source of the Nile—a perennial mystery. He started from Cairo and trekked to eastern Africa. Traveling through Ethiopia, he reached Lake Tana, the source of the Blue Nile, one of the tributaries of the Nile River. On returning to London, Bruce announced his discovery, but many thought he had invented his travels.

- To encourage further exploration, the Africa Association was founded in 1788 in London. This society planned to send out an explorer with a mission to chart the continent's interior, in particular, to follow the course of the Niger River through western Africa. The man they chose was the Scotsman Mungo Park. Sailing from Portsmouth, Park reached the coast in 1795, but his mission was unsuccessful.
- Others followed to explore the course of the Niger, including the Scottish-born Hugh Clapperton, who reached Lake Chad. In 1856, the Royal Geographical Society charged two British army officers, Richard Burton and John Speke, with locating the Nile's source. After their group split up, Speke found the source in Lake Victoria in 1858.
- By the late 19<sup>th</sup> century, the dynamics of movement into the interior of Africa changed dramatically—largely because of technological and medical advances. Steamships made inland navigation practical, where earlier sailing vessels could not go. European firepower was able to crush local resistance. Quinine gave protection against malaria.
- All these factors meant that Africa became the victim of a quick and ruthless scramble for empire among Europe's colonial powers. In 1875, European colonies made up less than 10 percent of Africa. Twenty years later, that figure was more than 90 percent. Europeans claimed that they were bringing progress and modernity to Africa in a so-called "civilizing mission."

### Livingstone's Explorations

- At a time when European imperial powers were preparing to carve up Africa, Scottish explorer and missionary David Livingstone had a different agenda. He spent much of his adult life in Africa, in interior areas that were not under European rule, seeking to convert locals to Christianity. He saw this spiritual mission as integrally linked to his goals of exploring. In the final analysis, however, Livingstone proved a much better explorer than missionary.

- Livingstone was born into poverty in Lanarkshire, Scotland, in 1813. In his limited free time, he studied at Glasgow to become a doctor; his fervent hope was to become a missionary with medical skills.
- Ordained as a missionary by the London Missionary Society, Livingstone was sent out with his family to South Africa in 1841. Once there, they trekked to the fringes of the Kalahari, then Livingstone moved farther into the interior to set up his own mission. As he preached and taught, he also explored. Then, he sent his family back to Scotland and moved even farther into the interior. There, he hoped to find a river course through Central Africa, connecting the Atlantic and Indian oceans.
- From 1853 to 1856, Livingstone gained fame for crossing Africa from coast to coast, the first European to do so. While on his coast-to-coast trek, he became the first European to see the majestic waterfall that he—as a loyal subject and proper Victorian—named Victoria Falls. He set out on yet another journey in 1866, to nail down the source of the Congo, Zambezi, and Nile.
- This trip turned horrific. Livingstone fell ill and often had to be carried on a stretcher. To his dismay, he had to accept help from slave traders and accompany their caravans. He lost touch with the outside world; no one knew that he lay in the little town of Ujiji, sick with dysentery, fever, ulcers, and bleeding.
- Sensing the ultimate human interest story, the *New York Herald* sent British-American journalist Henry Morton Stanley to track down Livingstone in Central Africa. His editor told him to find Livingstone no matter the cost, and—heading the largest expedition into the African interior to date—Stanley achieved that goal.
  - Stanley was a fascinating and paradoxical character and not particularly reliable. He essentially invented himself as an adventurer.



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**Henry Stanley's famous greeting to David Livingstone reflected the need to maintain Victorian propriety, even in the heart of the "dark continent."**

- He was born illegitimate, with the name John Rowlands, in Wales; he emigrated to New Orleans, took the new name Henry Stanley, fought for the Confederacy in the Civil War until taken prisoner, then fought for the Union side, and subsequently became a New York journalist. After finding Livingstone, however, Stanley's fame was assured.
- In 1873, two years after the meeting with Stanley, David Livingstone died near Lake Bangweulu. His African staff carried his body to the coast so that it could be sent back to Britain to be buried in Westminster Abbey among the pantheon of heroes. But his heart was buried in Africa.
- Livingstone's legacy as an explorer was to enrich the world's knowledge of Africa's interior. But even beyond this, his writings raised the consciousness of Europe, accomplishing much to mobilize

public opinion against the slave trade. Perhaps his greatest regret, however, was that his vision of a Christian Africa was not realized.

### **Mary Kingsley**

- A traveler in the spirit of Ida Pfeiffer, the Englishwoman Mary Kingsley shattered expectations of a woman's role in society and, in the process, revealed much about western Africa to her European audience.
- Kingsley did not seek to judge the Africans by the standards of her own culture. Indeed, in her famous book from 1897, *Travels in West Africa*, she avowed that she loved the place, with its great forests and rivers and pagan peoples, and—shockingly—was “more comfortable there than in Britain.”
- Born in London in 1862, Mary Kingsley had an unhappy Victorian childhood. Her father, a doctor, married her mother, his cook, just days before Mary was born. Denied the chance for formal education, Mary spent many years at home taking care of her sick mother.
- After both her parents passed away, Kingsley was free to set her own course. Age 30, a single woman, she set out from England and traveled along the Atlantic coast of Africa to Angola.
- Before going, she had inquired with the British Museum about what would be most useful to collect and was told fish and insect specimens. As she traveled through the region, she engaged in small-scale trade, exchanging glass beads, wire, and cloth for ivory and rubber, to finance her trip. At the same time, she sought out specimens and artifacts.
- In the process of traveling, Kingsley found that being a trader had distinct advantages. In spite of linguistic or cultural differences, people understood trade. She came to have a great fondness for other coastal traders she met in Africa, often a rough bunch who were the opposite of Victorian respectability.

- When Kingsley returned to England toward the end of 1893, the British Museum’s naturalists were impressed with the fish specimens she had brought back. Later, a species was named after her, and the museum even offered her equipment for her next trip. By December 1894, she was ready to head out again.

### *Travels in West Africa*

- Returning to Africa, Kingsley trekked through the mangrove swamps of Nigeria, explored rivers in Gabon, and climbed Mount Cameroon. Often, she traveled alone. Kingsley advised other travelers to follow her lead: Always have a pistol and knife at the ready.
- As she ventured, she observed local religions and customs. She rejected the common view that Africans were “awful savages or silly children—people who can only be dealt with on a reformatory penitentiary line.” This view, she stated emphatically, was not hers.
- Kingsley was an imperialist and a promoter of the British Empire, but she believed it should concentrate on economic imperialism—arguing that Britain needed markets, not colonies. She saw commerce as a positive influence: British economic imperialism would allow Africans to maintain their own individual cultures.
- Returning to Britain, Kingsley wrote her famous book, *Travels in West Africa*, published in 1897 and still well worth reading today. Although she would have loved to travel more, her entire voyage of exploration and discovery was concentrated in eight active years.
- In 1900, she returned to Africa as a volunteer nurse to care for British soldiers wounded in the Boer War. But after only a couple of months in Cape Town, she contracted a fever and died. Kingsley’s life ended precisely where she said she felt most comfortable and at home—in Africa.

## Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 332–356.

Jeal, *Explorers of the Nile*.

Kingsley, *Travels in West Africa*.

## Questions to Consider

1. Do such explorers as Kingsley and Livingstone bear responsibility for the imperialist partitions of Africa?
2. Was Kingsley or Livingstone the more accomplished explorer? Explain why.

# Arctic Feats and Fates

## Lecture 21

**W**hy would anyone seek the North Pole? What would drive explorers to venture onto the frozen surface of an Arctic sea, 450 miles north of Greenland, on a quest for a location that is simply a geographic coordinate and marked by intense cold, searing winds, and desolate emptiness? The very fact that so many set out to reach the North Pole alerts us to something new in the history of exploration—a shift in the dynamics of discovery. Now, explorers sought places without human presence, and their ventures would require modern technology, not simply courage. Rather than a search for gold or conquest, the endeavor became a race against rivals for scientific preeminence and international fame.

### Early British and American Arctic Exploration

- The first explorers to attempt the North Pole were part of an expedition that set off 1818, commanded by the English explorer John Ross, but was forced to turn back. In 1819, Englishman William Parry led another, which also had to turn back because of ice.
- Parry then went back in 1827 on another mission, one that would use specially designed boats that could be converted into sleds with runners. The contraptions imitated the dogsleds of the Inuit, except that instead of dogs, the explorers intended to use reindeer. Because the reindeer refused to cooperate, however, Parry's men had no choice but to drag the sleds themselves, even though some of the vehicles weighed half a ton.
- The mission to the North Pole forged ahead, until Parry noticed something disturbing. When he took measurements of their location, Parry found they had actually moved backward. They were struggling against a drift of four miles south every day as the ice pack shifted and moved, borne along by strong currents below. As a result, the trip was called off 435 miles away from the North Pole.

- In 1871, an American ship, the *Polaris*, headed for the North Pole but ran into disaster. Striking an iceberg, the hull of the *Polaris* was punctured. The ship needed to be evacuated, and men climbed out onto the ice nearby, but then the ice floes broke apart. As a result, 19 people drifted on an ice floe for more than six months, southward some 1,300 miles, until they were rescued. What saved them were the Inuit hired by the expedition, whose skills in shelter building and hunting helped them survive.

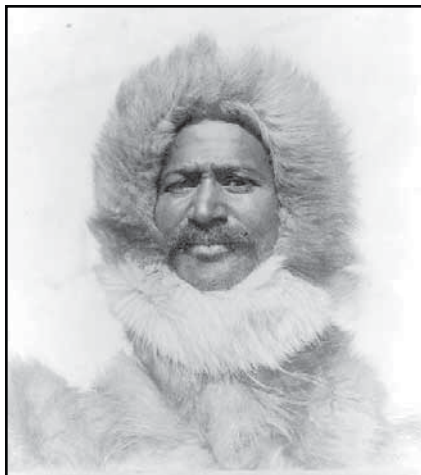
### **Nansen and the *Fram***

- Many countries followed the lead of the British and American ventures. Even the Austro-Hungarian Empire, which had no notable history of exploration, got into the act. Its expedition in 1873 explored a large island archipelago north of Russia's Novaya Zemlya, naming it Franz Josef Land.
- In 1875, one of the leaders of that expedition, the Austrian explorer Karl Weyprecht, proposed the idea of an International Polar Year, which would unite scientists in a common mission. This mission was taken up enthusiastically and took place in 1882, with stations coordinating measurements in both the Arctic and Antarctica. International Polar Year inaugurated a new age of international scientific cooperation.
- A notable Norwegian explorer took an entirely different approach to Arctic exploration. Fridtjof Nansen conceived the idea of reaching the North Pole by not moving.
  - In 1879, an American ship, the *Jeannette*, had gotten stuck in ice at the Bering Strait, in the northernmost part of the Pacific Ocean. Parts of the ship then showed up off the coast of Greenland in the North Atlantic, wedged in drifting ice.
  - In 1893, Nansen designed a new kind of vessel, the *Fram*, to purposely get trapped in the ice. He and his crew sailed north from Siberia and wedged themselves in. Then, they waited through the rest of 1893 and all of 1894 as the ice moved. For a time, it seemed as if the plan was working.

- By the end of 1894, however, the *Fram* was still 500 miles from the North Pole. Nansen decided to make a dash for it, with one fellow explorer, on skis. They made it to within 224 miles of the North Pole before being forced to turn back—the closest anyone had come so far. The two men then headed for Franz Josef Land, where they spent the winter. Afterward, against all odds, they were rescued by a passing British explorer.

### Robert Peary

- The 20<sup>th</sup> century arrived, and still no one had made it to the North Pole. But then, in 1909, the American Robert Peary claimed that he and his men had trekked there with sleds.
- Peary was a U.S. naval officer who loved the Arctic and lived for fame. He explored Greenland and was the first, in 1892, to prove that Greenland was an island, not part of an Arctic landmass. In his Arctic voyages, Peary spent time with the Inuit, cognizant of the tremendous value of their experience.
- Peary wrote eloquently about the dangerous attraction of the Arctic: “It was a strange and powerful thing. More than once I have come back from the great frozen spaces, battered and worn and baffled, sometimes maimed, telling myself that I had made my last journey.” But once back in civilization and polite society, Peary would grow restless again: “I



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**Matthew Henson had originally been hired as Robert Peary's valet, but he ultimately accompanied Peary on seven Arctic expeditions.**

began to long for the great white desolation, the battles with the ice and the gales, the long, long Arctic night ... the silence and vastness of the great, white, lonely North.”

- Peary made three attempts to reach the North Pole, emulating Inuit skills and with Inuit helpers. In 1908, he made what he knew would be his last attempt, given that he was in his 50s. The dash for the North Pole would be prepared for in advance with auxiliary parties and prepositioned supplies to allow Peary and his team to travel quickly. On April 6, 1909, Peary took measurements and announced that his team had arrived at the North Pole. He wrote in his diary, “The Pole at last! The prize of three centuries, my dream and ambition for 23 years. Mine at last.”
- But vigorous debate continues to this day about whether or not Peary actually reached the North Pole. No one on his team could confirm his measurements, and historians have raised doubts about whether it was humanly possible for anyone to travel as quickly on foot as he claimed. Moreover, when his diary was examined in the 1980s, it showed navigational errors, and some conclude that he was still 30 or more miles away from the North Pole.

### **Air Crossing**

- The first official and confirmed crossing of the North Pole took place from the air in 1926. Aboard the airship *Norge* was the famed Norwegian explorer Roald Amundsen. The airship was steered by the Italian pilot and airship engineer Umberto Nobile. The venture was financed by an American millionaire explorer, Lincoln Ellsworth.
- Even the *Norge*'s overflight of the North Pole was surrounded by dispute—as was so often the case in Arctic exploration. Three days earlier, the American pilot Richard Byrd claimed to have flown over the North Pole and, in fact, was awarded the U.S. Congressional Medal of Honor for this action.

- The Italian authorities ordered Nobile to fly over the North Pole in 1928, but this trip turned into a disaster.
  - With a crew of 16, Nobile's specially built airship, the *Italia*, crossed the North Pole on May 25, but then, caught in powerful air currents, it crashed. The survivors set up a red tent and radioed a distress signal, waiting for help to come. Weeks after the crash, an Italian rescue plane spotted the red tent and dropped supplies.
  - Five days later, a Swedish plane landed on the ice but could take back only one person. Nobile did not want to leave his crew, but he was convinced to go. Then, 19 days later, a Soviet icebreaker reached the rest of the men.
  - Nobile was subsequently denounced for having abandoned his men. In the Norwegian press, he was blamed for the death of a national hero, Roald Amundsen, with whom Nobile had first flown over the North Pole in 1926. Amundsen had joined the sweeping rescue effort to find the *Italia* and was on a French plane looking for survivors when that plane vanished. Amundsen's body was never found.

### Underwater Mission

- Decades later, the North Pole was reached underwater. In 1958, the world's first nuclear submarine, the U.S.S. *Nautilus*, under the command of William R. Anderson, dove into the Arctic waters. Weaving its way through ranges of massive underwater mountains, the *Nautilus* moved stealthily and silently under the pack ice. The crew of the *Nautilus* had torpedoes at the ready to blast through the thick ice in case of an emergency. But then, after 62 hours spent under the ice, on August 3, 1958, they radioed their position at the top of the world.
- It has been estimated that perhaps "13 percent of the world's undiscovered oil and 30 percent of its undiscovered natural gas" might lie in the Arctic. In 2007, a Russian submarine dropped a Russian flag in a capsule onto the Arctic Ocean seabed, laying

symbolic claim to the territory there. But that raises questions of exploitation of newly revealed natural resources in the region. Perhaps we are about to see a scramble for the Arctic in the next decades—which brings new meaning to the term *Cold War*.

### Suggested Reading

Fernández-Armesto, *Pathfinders*, pp. 378–385.

Spufford, *I May Be Some Time*.

### Questions to Consider

1. How do you explain the sometimes fatal lure of the Arctic?
2. What was the biggest mistake an Arctic explorer could make?

# Antarctic Rivalries

## Lecture 22

Even the formidable explorer Captain James Cook predicted in 1775 that Antarctica was inaccessible. Indeed, he prophesied, “No one will ever venture farther than I have done,” and “The lands which lie to the South will never be explored.” Antarctica was a very late object for exploration; in fact, explorers set out to tackle Antarctica three centuries after Arctic exploration had begun. In this lecture, we’ll study the international rivalries in the race for the South Pole and the arduous journeys of the Antarctic explorers.

### Early Antarctic Exploration

- Antarctica is an immense continent, covering 5.5 million square miles. It is home to the world’s lowest recorded temperature,  $-128.6$  degrees Fahrenheit, and winds can reach 185 miles an hour. In a sense, Antarctica combines blizzard with desert. Its land is 98 percent covered by ice; flora and fauna on land is sparse, while its oceans teem with life.
- The Antarctic Circle was first crossed by Captain James Cook in 1773. On his second voyage, he sailed all around Antarctica, demonstrating that it was not connected to any other continent. In 1820, the Russian warship *Vostok* circumnavigated the continent and came to within 20 miles of the Antarctic mainland but was unable to land.
- The first confirmation of Antarctica’s outlines beyond the seas of ice surrounding it came in the 1840s. In 1839–1843, the expedition of James Clark Ross reached the Antarctic ice pack, but closer approach was barred by a massive ice wall floating near the land. Although a French expedition and an American exploration party sailed to Antarctica, there was a break in Antarctic exploration because of the disaster of Sir John Franklin in the Arctic. About 40 years passed before the next attempt.

- The Norwegian Carsten Borchgrevink finally accomplished the first landing on the Antarctic mainland in 1895. This ushered in a land grab of sorts, as countries suddenly began laying claim to stretches of Antarctic territory.

### **Robert Falcon Scott**

- Britain organized an expedition funded by the Royal Society and Royal Geographical Society, commanded by Robert Falcon Scott. The expedition set sail in 1901 with a navigational and scientific mission. Scott, along with a young member of the crew named Ernest Shackleton, ventured to the South Pole with dogsleds but had to turn back.
- In 1908, Shackleton was in charge of another Antarctic voyage. By January 1909, the expedition had reached within 100 miles of the pole and had located the magnetic South Pole but again was forced to turn back.
- Scott was now fully determined to be the first to make it to the South Pole. He commanded the British Antarctic *Terra Nova* Expedition of 1910–1913, with a large crew of scientists. As the expedition sailed for Antarctica, an unexpected telegram was received: “Beg leave inform you proceeding Antarctica.” The Norwegian Roald Amundsen was also headed to the South Pole.

### **Race between Scott and Amundsen**

- Roald Amundsen had hired a ship—Nansen’s especially sturdy ship, the *Fram*—but had kept his plans secret. He had even kept his own crew members in the dark, letting them think that they were going north and only revealing his true aim once they were on their way. Truly, the race was on.
- Amundsen was a keen and realistic planner. His expedition was leaner than Scott’s, with fewer scientific side activities. Amundsen also planned to use dogsleds, while Scott wanted to use man-hauling for the final sprint (although he had motorized sleds for the

start). Amundsen's men located their camp strategically, 70 miles closer to the goal than the British, and set out earlier.

- In late October 1911, Scott's southern team started off across the ice shelf and crossed it in 40 days, contending with blizzards and wind chill. On Christmas Eve, the men celebrated in their tents before continuing. By January 3, 1912, they were about 150 miles away from the South Pole. The race was on against the elements and time. On January 16, Scott and his team were exhilarated, convinced that they would reach the pole first. And then they had a nasty shock.
- As they neared the location of the South Pole, one of Scott's men saw what looked like a small hill in the middle of nowhere. As they got closer, they discerned that it was not a hill but an upturned sled with a flag flying on top.
- The Norwegians and Amundsen had arrived first. In fact, the Norwegians had reached the pole a month earlier, even though this was Amundsen's first attempt. The Norwegians had flown their national flag, securing it with two ski poles, and took group photographs of this unforgettable moment. Then, they headed back.



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**On reaching the South Pole, Roald Amundsen said that he was disappointed; his dream since he was a child had been to stand at the North Pole instead.**

### “I May Be Some Time”

- After this profound disappointment, Scott and his men prepared to drag themselves 800 miles back to safety. At first, they made good progress, but then bad weather hit. Their food supplies were dwindling, but they needed to keep up the pace of 20 miles a day to reach prepositioned stores.

- By March 1, the situation had become grave. As the team took stock in their tent while a blizzard raged outside, Lawrence “Titus” Oates, a former cavalry officer, struggled to his feet, and said, “I am going outside and may be some time.” With these words, he wandered off into the snow to die.
- On March 29, Scott wrote the last words in his diary:

Every day we have been ready to start for our depot eleven miles away, but outside the door of the tent it remains a scene of whirling drift. I do not think we can hope for any better things now. We shall stick it out to the end, but we are getting weaker, of course, and the end cannot be far. It seems a pity but I do not think I can write more. R. Scott.

- The tent with their bodies was found eight months later, along with Scott’s writings and photographs.

### **Ernest Shackleton**

- The experienced Anglo-Irish explorer Ernest Shackleton now took on the next Antarctic challenge: to cross the Antarctic continent from end to end. In August 1914, he set out on the ship *Endurance*, leading the British Imperial Trans-Antarctic Expedition. Just as Shackleton and his men prepared to head south, however, World War I broke out. Winston Churchill, First Lord of the Admiralty, told the explorers to proceed with the expedition anyway.
- Once in Antarctica, the *Endurance* drifted for 10 months and finally was crushed under pressure from the ice. For months, Shackleton and his 29 men dragged their lifeboats across the ice and, after reaching open water, rowed to desolate Elephant Island. In order to get help from a whaling station on South Georgia Island, 800 miles away, Shackleton and five other men traveled onward in a small lifeboat.
- The journey took more than two weeks, but the men finally managed to reach South Georgia Island. While struggling across the island, they experienced a mystical moment. As Shackleton and

two crew members stumbled in a haze, all of them felt the presence of a fourth man accompanying them, whom Shackleton identified as God's care.

- Later, a rescue ship was sent to pick up the others on Elephant Island. Amazingly, Shackleton and all his men from the *Endurance* survived. Roald Amundsen later declared, "Do not let it be said that Shackleton has failed. No man fails who sets an example of high courage, of unbroken resolution, of unshrinking endurance."
- Shackleton wrote a book about his experiences in the Antarctic, titled *South*. It is an examination of human character under extreme stress, pared down to fundamentals.
  - One of Shackleton's revelations was how little of civilization is truly essential. Shackleton called this the "pressure of the primitive."
  - He wrote, "Man can sustain life with very scanty means. The trappings of civilization are soon cast aside in the face of stern realities, and given the barest opportunity of winning food and shelter man can live and even find his laughter ringing true."
- Shackleton was determined to return to Antarctica—back to the place of his appalling privations and agonies. However, when he set out for Antarctica again in 1921, he had been so weakened that his heart failed, and he died in 1922.

### Antarctic Treaty

- Antarctic exploration was soon revolutionized by technical advances. Airplanes were used by the American Richard E. Byrd to put exploration of the region on an entirely new footing. Where Amundsen raced along at 25 miles a day, the planes flew 90 miles per hour. In 1929, Byrd overflew the South Pole and introduced more mechanized transport on land.

- Antarctica was spared the ravages of World War II because of its remoteness and desolation, and world leaders were prompted to devise ways to protect the continent. The result was the 1959 Antarctic Treaty, signed by a dozen countries. The signatories agreed that the territory of Antarctica would be demilitarized, that nuclear explosions or the dumping of nuclear waste would be prohibited, and that the continent would remain freely accessible for scientific exploration and discovery.
- Bolstered by this international accord, continuing scientific research in Antarctica has expanded the range of its inquiries. For instance, scientists have ascertained that under the ice sheets of the continent, there are underground liquid water systems, with subterranean lakes and streams. The effort to reach its subglacial environments is the focus of the Whillans Ice Stream Subglacial Access Research Drilling (WISSARD) project. WISSARD involves both U.S. and international scientists, who study samples collected by melting holes through almost a half-mile of ice.

### Suggested Reading

Larson, *An Empire of Ice*.

Shackleton, *South*.

### Questions to Consider

1. Do you consider Scott a hero or a failure?
2. Was Shackleton's ordeal a triumph in the end?

# A Deep-Sea Dive into the Mariana Trench

## Lecture 23

**R**oughly 70 percent of the world's surface is ocean, but we know little of the underwater world. From the earliest times, the sea's waves have conveyed explorers to distant lands, yet humans have come late to the exploration of the ocean depths. This lecture will take us into a world unfathomably alien to our own, with crushing pressure and darkness. We will study an exploration into the remotest depths of the oceans, the Mariana Trench, which is deeper than Mount Everest is high. And contained in the Mariana Trench is the Challenger Deep, a chasm within an abyss—nearly seven miles down.

### Sounding the Depths

- The quest for sounding the depths is an ancient one. Legend has it that Alexander the Great, reimagined as a celebrated scientist king, had explored the ocean floors by descending in a glass barrel, a primitive diving bell. Throughout the early modern age of exploration, navigators took soundings, or measurements of the ocean's depth. A weighted rope would be thrown overboard and allowed to sink until it reached the bottom. This was called "swinging the lead."
- In the Pacific Ocean, Ferdinand Magellan sought deep-sea measurements by having his men tie together six sounding lines—which extended 2,400 feet without touching bottom. Captain James Cook had his men dredge the bottom to find out what kind of ocean floor lay under them.
- Aristotle speculated on the possibility of diving bells. At its simplest, this was a vessel turned upside down that trapped air inside and could be lowered into the water. The first practical diving bells were designed in the 1500s and were used in recovering salvage from shipwrecks.

- As would be the case with space exploration, fantastic literature prepared the way for science by imagining and encouraging the age of submarine exploration. In his 1870 book *Twenty Thousand Leagues under the Sea*, Jules Verne invited his readers not only to consider technologies that would soon be realities but also to reflect on what these technologies might mean for the scope of human activity.

### **The Mariana Trench**

- Just a few years after the publication of *Twenty Thousand Leagues*, in a remarkable multidisciplinary effort of oceanography, the British laboratory ship H.M.S. *Challenger* cruised worldwide on exploratory voyages collecting deep-sea samples. In the western Pacific, the scientists of the *Challenger* encountered the greatest depth of them all—the Mariana Trench, whose floor is more than 36,000 feet down.
- The report of the *Challenger*'s research results was published in 50 volumes, and much of the data collected in that 19<sup>th</sup>-century expedition are still used by oceanographers today. The *Challenger* project also underscored what is distinctive about the scientific exploration of modern times: Later scientific ventures were of such complexity that they required large support networks and teams of scientists.
- In 1930, Americans William Beebe and Otis Barton developed the bathysphere, a word drawing on the Greek word *bathys*, meaning “deep.” Using this steel sphere with portholes of quartz, Barton and Beebe descended to 3,000 feet, the deepest anyone had ever gone.

### **Cousteau and Conshelf II**

- A name synonymous with underwater exploration is that of the French explorer Jacques-Yves Cousteau. During World War II, Cousteau served as an officer in the French navy. In 1943, he invented the Aqua-Lung, an automatic compressed-air scuba apparatus that allowed divers to swim underwater for extended periods of time and to make observations at depths of nearly 100 feet.

- Cousteau and his tremendously popular film documentaries introduced the underwater world to a global audience. Cousteau built underwater scientific stations on the continental shelves, where divers could live and work in a radically different physical environment.
- In 1963, he filmed a documentary on an experiment called *Conshelf II*, during which divers lived in an underwater house in the Red Sea for 30 days, a record. Since then, astronauts have trained in similar installations to become accustomed to the conditions in outer space.

### The Piccards and the *Trieste*

- A significant breakthrough in deep-sea exploration and discovery was made by a family with a multigenerational tradition of exploring: the Piccards. In the 1930s, the physicist Auguste Piccard built a special airship to study cosmic rays and became the first to reach the upper stratosphere in a balloon. His son, oceanographer Jacques Piccard, who was born in Brussels in 1922, helped with his father's work, which now had turned toward the seas. Auguste had invented the bathyscaphe, or "deep boat"—yet another term drawing on the Greek word *bathys*. Auguste named his vessel the *Trieste*.
- The *Trieste* was designed to reach the ocean depths in a way that differed from earlier attempts. Rather than being tethered to a ship and lowered down, the vessel descended by the controlled release of gasoline. Then, to return to the surface, it would release its iron-shot ballast, thereby lightening the craft.
- The *Trieste* was built to precise specifications, a matter of life and death considering the extreme conditions it would meet. It had a 300-pound door, like a bank vault. The space inside was tiny and cramped, with a diameter of 6.5 feet, room for only two pilots. On its sides, it had two pressure-resistant windows. In all, it tipped the scales at 150 tons.

- In 1958, the U.S. Navy bought the *Trieste*, which had demonstrated its ability to descend to record depths. The Navy also signed a contract with Jacques Piccard to be an advisor on Project Nekton, a plan to explore the bottom of the sea.
- Jacques Piccard avowed that deep underwater exploration was imperative. He stated, “Until man has placed himself on the bottom of the deepest depression on earth he [will] not be satisfied. There is a driving force in all of us which cannot stop, if there is yet one step beyond.”

### The Timeless World of Eternal Darkness

- The mission for the *Trieste* and Project Nekton was to plumb the depths of the Challenger Deep in the Mariana Trench. Piccard was part of a two-man crew that also included U.S. Navy Lieutenant Don Walsh. On the morning of January 23, 1960, the U.S. Navy’s reengineered *Trieste* was lowered into the waters 200 miles south of Guam. The night before, soundings had been taken by dropping TNT charges and timing their explosions; this had allowed the scientific team to locate the deepest part of the Challenger Deep.
- Piccard and Walsh began their long descent into the Mariana Trench. At first, the descent was smooth, but then, at 340 feet down, they experienced a bump and a kind of tumble as they hit the layer of seawater called the



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**After his historic dive into the Challenger Deep, Jacques Piccard (in headset) went on to work for NASA and attempted to popularize the field of underwater tourism.**

*thermocline*, where the density of colder deep water resisted the penetration of the *Trieste*. After releasing some gasoline to make the *Trieste* heavier, the team resumed progress.

- The water was saturated in light, but the surrounding ocean got dimmer the farther down they went. At 800 feet, as it was steadily darkening, Piccard switched on a light that shone from the front of the *Trieste* and looked out. In the beam of the searchlight, he saw what he considered a familiar illusion, the sense of being in an upside-down snowstorm. Plankton drifted upward, like snowflakes. Then at 2,400 feet, they encountered what Piccard called “the timeless world of eternal darkness.”

### Challenger Deep

- At 6,000 feet down, the air in the vessel grew much colder. A leak appeared, a trickle of water down the wall of the sphere, but then closed itself up because of the increasing pressure. A second leak then materialized, which also sealed itself.
- At around 32,000 feet, the *Trieste* was suddenly shaken by a “strong, muffled explosion.” The cause of the explosion was unclear, but later, they found that a crack had appeared in one of the outside windows. Still, Piccard and Walsh descended for a total of nearly five hours, until they reached 35,814 feet. They now sat seven miles beneath the ocean’s surface in the Challenger Deep. Here, the pressure was immense, eight tons per square inch, more than a thousand times the pressure at sea level.
- Originally, the plan called for them to be on the seabed for half an hour, but they were there for only 20 minutes. The sea floor turned out not to be hard but not a sink of mud either. The settling of the *Trieste* on the floor had swirled up a great deal of mud, and visibility through the windows was limited.
- But when Piccard and Walsh turned on the searchlight, they had a revelation: Living creatures moved about in the crushing pressure,

intense darkness, and bitter cold. Many had believed life could not exist in these extremes.

- In his memoir, Piccard noted that when he first looked out the window, he saw a flatfish, like a sole, lying near the *Trieste*. He observed it, and with large round eyes, the fish looked back at him. Then, it slowly swam away.
- Outside, the water temperature was warmer than it was in some of the layers of water higher up. A beautiful red shrimp swam by the *Trieste*. The seabed was ivory colored and seemed flat, without tracks of animal life.
- The *Trieste*'s dive has had consequences down to our own times. It has been said that the discovery of life in the Mariana Trench was a major influence leading to international agreements prohibiting the dumping of nuclear waste into the ocean trenches.
- The *Trieste* also presents us with another example of a voyage provoking further voyages. In 2012, the filmmaker James Cameron was determined to match the dive of the *Trieste*. In a project cosponsored by the National Geographic Society, Cameron completed the first solo mission into the Challenger Deep. He had an able advisor in this project—none other than Don Walsh, who had accompanied Jacques Piccard in the 1960 dive.

### Suggested Reading

Piccard and Dietz, *Seven Miles Down*.

Rozwadowski, *Fathoming the Ocean*.

### Questions to Consider

1. In what ways does underwater exploration most differ from outer space exploration?
2. What personal qualities are most essential for an underwater explorer?

# The Race to Outer Space

## Lecture 24

In our final lecture, we'll begin with the most singular moment in the history of space exploration. It is not the one that is the most well-known—that moment in 1969, when Neil Armstrong stepped out from the Apollo 11 spacecraft onto the surface of the moon. Instead, we return to 1968, when the American crew of the Apollo 8 spacecraft had been sent out to orbit the moon. In one memorable moment, the astronauts witnessed and photographed something that no one had ever seen before: earthrise. This legendary photograph gave humanity an entirely new perspective on our home planet. Looking at the image, we see where we all come from—and experience our world in a radically new way.

### Advances in Rocketry

- The space race that led to the Apollo space program had two motivations. In the context of the Cold War, it became a contest for prestige and power—and, quite literally, a competition over what the future of humanity would be.
- Apart from ideology and politics, there was also the sense of the sheer necessity of exploring space, of extending human reach, of accomplishing what had once been impossible. This motivation was in the spirit of British explorer George Mallory, one of the early climbers of Mount Everest. Asked why he took on the mountain, he replied, “Because it is there.”
- The concept of space exploration as a possibility had its beginnings in the early 20<sup>th</sup> century, when the Russian scientist Konstantin Tsiolkovsky explored some of the theoretical aspects of space flight, including the use of rockets to reach out into the cosmos. Tsiolkovsky also speculated on the prospects of alien life on other planets and famously announced, “The earth is the cradle of humanity ... but one cannot stay in the cradle forever.”

- In the United States, Robert Hutchings Goddard worked on liquid-fueled rockets, launching the first in 1926. Meanwhile, the home region of Alexander von Humboldt, near Berlin, became a testing site for rockets in the 1930s. Unfortunately, during World War II, the Nazi regime made tremendous advances in rocketry.

### **Cold War and the Space Race**

- Once World War II ended, it was the Cold War that truly launched the space age. In 1957, the Soviets leapt forward by launching the satellite *Sputnik*. The United States matched this feat the following year. The space race was on. Vast institutions were built up. In 1958, the United States founded the National Aeronautics and Space Administration (NASA), which grew to massive proportions.
- For a period, the Soviets' achievements appeared to outdistance the Americans' program. In 1961, the Soviet Union put the first human into space in a mission to orbit the earth. They followed with the first spacewalk, the first probe to the moon, and the first successful Venus probe.
- But the United States was not about to concede. On May 25, 1961, President Kennedy famously declared that the United States would reach the moon. He later added,

We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.

### **Apollo 8 and Earthrise**

- In the three years after Kennedy's announcement, NASA's budget increased five times over. In 1966, NASA accounted for 4.4 percent of the federal budget. The first manned Apollo mission was put into orbit in October 1968, and the crew of three circled the earth for 11 days. Their mission was to test the spacecraft whose destination was the moon.

- Then, on December 21, 1968, Apollo 8 blasted off, headed for the moon. Time was running out to realize President Kennedy's vow of putting Americans on the moon before decade's end. The original plan was to have multiple missions to test the lunar module. Instead, Apollo 8 would try out all the systems together, rather than separately in sequence. The risks were great.
- On Christmas Eve, the astronauts witnessed the earthrise, whose beauty stunned even the toughest test pilots. Frank Borman described the moment this way:

I happened to glance out of one of the ... windows just at the moment the earth appeared over the lunar horizon. It was the most beautiful, heart-catching sight of my life, one that sent a torrent of nostalgia, of sheer homesickness, surging through me. It was the only thing in space that had any color to it. Everything else was either black or white, but not the earth.

- After broadcasting back to earth, the Apollo 8 mission returned home, across a distance of a quarter of a million miles. The journey had garnered global attention. It is estimated that more than 1 billion people saw some television coverage of the mission. Back home, Borman told Congress that the ultimate lesson of the expedition had been that "Exploration really is the essence of the human spirit" and that the mission had been a "triumph of all mankind." On a celebratory tour in Europe, Borman visited Madrid and laid a wreath at the statue of Christopher Columbus.
- What followed soon after is well known. In July 1969, the Apollo 11 mission successfully landed on the moon, and Neil Armstrong took his historic step onto its surface.

### Commercial Space Ventures

- In the more than 40 years that have passed since the Apollo missions, however, no humans have left the orbit of the earth.

- We have seen a succession of unmanned spacecraft—the Mars Pathfinder, the Cassini-Huygens mission to Saturn, the Juno probe to orbit Jupiter, and the Hubble Space Telescope peering ever farther into the universe—all of which promise revolutionary research results. But without the human element, something is lost.
- Since the Cold War era, there have been new entrants in the move toward space. In 2003, China sent its first astronaut into orbit and is now the third country with a manned space program. In 2013, China also landed a rover on the moon. In 2013, India launched a spacecraft of its own.



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- By contrast, U.S. plans in 2006 to build a moon base were shelved in 2010, and more recent missions have focused on satellites and unmanned exploration. The International Space Station is expected to continue until 2024; since the retirement of the space shuttle program in 2011, however, U.S. astronauts have had to depend on Russian rockets to reach the station.
- As NASA funding has been cut, however, commercial space ventures have risen to new prominence. In 2012, the California corporation SpaceX for the first time sent up supplies to the International Space Station. British entrepreneur Richard Branson of Virgin Galactic is among those looking ahead to commercial space flight.

**The Outer Space Treaty of 1967 sought to encourage a shared effort among the nations of earth in space exploration.**

## International Cooperation

- The science fiction writer Arthur C. Clarke has argued that “interplanetary travel is now the only form of “conquest and empire compatible with civilization.” But Clarke, for all his enthusiasm, added a caveat, declaring, “We’ll never conquer Space.”
- Others have envisioned interplanetary travel as essential to humanity’s survival. For example, the British physicist Stephen Hawking advocates colonizing the moon and Mars. In a dire prediction, he has declared that without space colonization, humanity will likely perish, falling prey to biological dangers. On the plus side, he claims that a space colonization project could unite humanity as “a common challenge.”
- Among the challenges to Hawking’s vision is how to coordinate human exploration. In 1967, the Outer Space Treaty was ratified. Declaring that space is “the common heritage of mankind,” the treaty bound all its signatories (including the United States and the Soviet Union) to use outer space only for peaceful purposes. Specifically, signatories promised not to put nuclear weapons or weapons of mass destruction into orbit, on the moon, or elsewhere in space. Moreover, celestial bodies, including the moon, were not to be claimed as sovereign territory of nations.

## Interplanetary Voyages of Exploration and Discovery

- Technical and physical obstacles to interplanetary travel abound. The distances are literally astronomical—a spacecraft running at the top speed that any spacecraft has achieved to date would still take more than 17,000 years to reach the star nearest to our sun. The technological means to cover those immense distances to habitable planets outside our solar system are still far in the future, but experts have proposed nuclear pulse, nuclear fusion, antimatter, and beamed solar sails as vectors to reach the depths of space.

- Among the physical challenges is the unpredictable emergence of yet another disease of exploration: atrophy in muscles and bones due to prolonged absence of gravity. What's more, an ultimate question is what would humanity's reaction be to "the other"—alien peoples and civilizations. Herein is material for the richest speculation.
- A theme we have met time and again in this lecture series is that one journey leads to another. From that perspective, it would not be a fundamental break for future generations to move out into space. On the contrary, the discontinuity would be if human questing ended.
- Will humans resume our advance into outer space? This pivotal issue is really a question of the future of our species. It speaks to the ultimate question of self-awareness: Who are we? We are possessed of a longing for home and the familiar but also of curiosity and the need to explore. Since the first prehistoric wanderers walked out of Africa some 60,000 years ago, humans have been mobile creatures. However, most human movement throughout history has not been voluntary but, rather, migration impelled by necessity, economic pressures, and flight from war.
- To explore by choice is a great gift of freedom and answers some deep call within human nature. In his poem "Ulysses," Alfred Lord Tennyson describes how that famous traveler of the Mediterranean world, even after 10 years of desperate wandering, still urges his fellows: "Come, my friends, 'tis not too late to seek a newer world." To the very end, his will was "to strive, to seek, to find, and not to yield." The same might be said of humanity at its bravest and boldest.

### Suggested Reading

Cadbury, *Space Race*.

Poole, *Earthrise*.

## Questions to Consider

1. Is unmanned exploration fundamentally different from having a human presence in exploration?
2. Do you have memories of when you first heard of space exploration? What ideas did that stimulate?

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