

MANKIND

THE STORY OF ALL OF US™



H
HISTORY

A Newspaper in
Education Supplement to
The Washington Times



UNESCO: The World Heritage Convention

Throughout the world, there are many incredible sites that are part of the shared human story. These sites, known as World Heritage sites, are recognized by UNESCO (United Nations Educational, Scientific, and Cultural Organization) as special places for people to visit, learn about, and preserve for the future. Together, these sites help tell the story of mankind, and they offer important ways for all of us to understand our unique cultures and our common history.

2012 marks the 40th anniversary of the adoption of the 1972 UNESCO World Heritage Convention, an international treaty which outlined the value of preserving sites of importance throughout the world.

Sites are inscribed on the World Heritage List on the basis that they offer a significant contribution to the cultural and natural heritage of the world. Their outstanding universal value is considered to go beyond national boundaries and to be of importance for future generations. All member nations of the World Heritage Convention voluntarily nominate their own sites which they feel have superlative natural or cultural attributes. Among other requirements, the sites must be authentic and meet at least one of several highly stringent criteria for universal value.



Tower of London

As of 2012, there are 962 World Heritage sites in over 150 countries, with new sites added to the list each year. Over 189 states parties have ratified the World Heritage Convention, pledging to preserve and protect World Heritage sites on their territory.

In the context of the World Heritage List, cultural heritage refers to monuments, buildings and sites with historical, aesthetic, archaeological, scientific, ethnological or anthropological value. Natural heritage refers to outstanding physical, biological, or geological features and includes habitats of threatened species, as well as areas with scientific, environmental or aesthetic value. Mixed sites have both cultural and natural values.



Grand Canyon National Park

For example, the Tower of London, the León Cathedral in Nicaragua, the Asante Traditional Buildings in Ghana, and the Archaeological Ruins at Moenjodaro in Pakistan are all examples of cultural sites. The Central Amazon Conservation Complex in Brazil, the Gondwana Rainforests of Australia, and the Grand Canyon National Park in the United States are examples of natural World Heritage sites. Mount Taishan in China is an example of a mixed site, with important natural and cultural features.

World Heritage selection criteria:

- I: Represent a masterpiece of human creative genius.
- II: Exhibit an important interchange of human values.
- III: Bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared.
- IV: Be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history.
- V: Be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change.
- VI: Be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. criteria.
- VII: To contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance.
- VIII: To be outstanding examples representing major stages of earth's history.
- IX: To be outstanding examples representing significant on-going ecological and biological processes.
- X: To contain the most important and significant natural habitats for in-situ conservation of biological diversity.

- VIII: To be outstanding examples representing major stages of earth's history.
- IX: To be outstanding examples representing significant on-going ecological and biological processes.
- X: To contain the most important and significant natural habitats for in-situ conservation of biological diversity.

The protection, management, authenticity and integrity of properties are also important considerations. Since 1992 significant interactions between people and the natural environment have been recognized as cultural landscapes.

Every World Heritage site is inscribed with the World Heritage emblem. This emblem symbolizes the interdependence of the world's natural and cultural diversity. The central square represents the achievements of human skill and inspiration, and the circle celebrates the gifts of nature. The emblem is round, like the world, a symbol of global protection for the heritage of all humankind.

U.S. World Heritage Sites

What do national treasures like Yellowstone, the Grand Canyon, Independence Hall and Mesa Verde have in common with the Great Wall of China, the Taj Mahal, the Galapagos Islands and the Tower of London? They are all World Heritage Sites. They are such outstanding universally recognized natural and cultural features that they attract the admiration and merit the protection of all people worldwide.

The United States established Yellowstone as a national park in 1872 and initiated the worldwide movement to protect such areas as national treasures. One hundred years later, during the Nixon administration, the United States proposed the World Heritage

Convention to the international community and was the first nation to ratify it. The World Heritage Convention, the most widely accepted international conservation treaty in human history, is the American national park idea being carried out worldwide.

The Secretary of the Interior, through the National Park Service, is responsible for identifying and nominating U.S. sites to the World Heritage List. Proposed U.S. sites must be either federal property, such as national parks, or sites already designated as national historic landmarks or national natural landmarks. Properties not owned by the federal government are nominated only if their owners wish to do so and pledge to protect their property.

Most U.S. World Heritage Sites are administered by the National Park Service. The others are managed by states, private foundations, the Commonwealth of Puerto Rico, and an Indian tribe. Today, there are 21 World Heritage sites in the United States. The U.S. also has many sites on the World Heritage Tentative list, a list of candidate sites for inclusion as World Heritage Sites.



Yosemite National Park

See World Heritage sites featured throughout this supplement to learn more about many of these places

Exploring World Heritage

Most Americans recognize Independence Hall as one of the most famous symbols of Philadelphia, the nation's birth, and the freedom we share as a people. Philadelphians may know it as the top tourist destination in the city, attracting 3.7 million visitors who spend \$146 million every year and support more than 2,100 jobs. But we can do more to welcome tourists from across the country and especially around the globe to places like Independence Hall.

President Obama wants America to be the top tourist destination in the world, and Philadelphia's history and culture make it a great place to start. In 2012, we celebrate the 40th anniversary of the World Heritage Convention, which recognizes nearly 1,000 sites around the world for their natural or cultural significance. Independence Hall is one of just 21 UNESCO World Heritage Sites in America.

While many Americans may not be aware of the designation, it carries great weight internationally. In Europe and Asia, many families plan their vacations around World Heritage Sites, and communities and businesses develop marketing strategies to take advantage of the prestigious designation.

Unfortunately, even though the United States was the driving force behind the establishment of the convention in 1972, we haven't done enough to market our sites internationally. At Independence Hall, which isn't as well known to foreigners as the Grand Canyon or Yosemite, just 7 percent of the visitors are from other countries.

International tourists tend to stay longer and spend more than their domestic counterparts. In 2010, nearly 60 million foreign visitors pumped more than \$134 billion into the U.S. economy, making tourism America's No. 1 service export.

There's no reason we can't make it even bigger, creating more jobs at hotels and resorts, car rental companies, airlines, restaurants, and other businesses. If our economy is going to continue to get stronger, we must tap into every opportunity for growth. And the more people visit America, the more Americans we can get back to work.

Exploring World Heritage also provides excellent learning opportunities for our young people. I encourage teachers and students to learn more about the World Heritage sites in the United States and throughout the world. If possible, plan a visit and see them first-hand. Each World Heritage site, whether viewed in print or in person, opens up a window to our shared past.

Kenneth Salazar
Secretary
U.S. Department of the Interior



This educational supplement is published by The Washington Times and is not authored or otherwise endorsed by the National Park Service or U.S. Department of the Interior.

World Heritage Sites in the United States

Cahokia Mounds State Historic Site (Collinsville, IL)
whc.unesco.org/en/list/198

Carlsbad Caverns National Park (Carlsbad, NM)
whc.unesco.org/en/list/721

Chaco Culture (Nageezi, NM and Aztec, NM)
whc.unesco.org/en/list/353

Everglades National Park (Homestead, FL)
whc.unesco.org/en/list/76

Glacier May/Wrangell-St. Elias National Parks and Preserves (Gustavus, AK and Copper Center, AK)
whc.unesco.org/en/list/72

Grand Canyon National Park (Grand Canyon, AZ)
whc.unesco.org/en/list/75

Great Smoky Mountains National Park (Gatlinburg, TN)
whc.unesco.org/en/list/259

Hawai'i Volcanoes National Park (Hawai'i National Park, HI)
whc.unesco.org/en/list/409

Independence Hall (Philadelphia, PA)
whc.unesco.org/en/list/78

Mammoth Cave National Park (Mammoth Cave, KY)
whc.unesco.org/en/list/150

Mesa Verde National Park (Mesa Verde, CO)
whc.unesco.org/en/list/27

Monticello and the University of Virginia (Charlottesville, VA)
whc.unesco.org/en/list/442

Olympic National Park (Port Angeles, WA)
whc.unesco.org/en/list/151

Papahānaumokuākea Marine National Monument (Honolulu, HI)
whc.unesco.org/en/list/1326

Redwood National and State Parks (Crescent City, CA)
whc.unesco.org/en/list/134

San Juan National Historic Site (San Juan, PR)
whc.unesco.org/en/list/266

Statue of Liberty (New York, NY)
whc.unesco.org/en/list/307

Taos Pueblo (Taos, NM) whc.unesco.org/en/list/492

Waterton-Glacier International Peace Park (West Glacier, MT)
whc.unesco.org/en/list/354

Yellowstone National Park (Yellowstone National Park, WY)
whc.unesco.org/en/list/28

Yosemite National Park (Yosemite National Park, CA)
whc.unesco.org/en/list/308

Learn more about World Heritage sites

HISTORY® resources
www.history.com/mankind

UNESCO World Heritage Center and Interactive Map:
<http://whc.unesco.org/>
<http://whc.unesco.org/en/254>

National Park Service World Heritage site:
www.nps.gov/oia

Mankind The Story of All of Us, Premieres on HISTORY November 13 at 9/8C

Exploring Our Shared Past

The story of mankind is a story of survival. While nearly all species become extinct, humans have managed to thrive despite the odds. What are the keys humans have used to help ensure survival and innovation? From domestication of animals to harnessing technology, humans have forged ahead by unlocking critical keys at important turning points that have helped us not only survive, but thrive.

Mankind The Story of All of Us, an exciting 12-part series premiering on HISTORY on November 13th, outlines the keys Mankind has harnessed to achieve change and innovate. The series tells the story of why humans have survived despite great odds.

From humble beginnings, appearing in the Great Rift Valley of Africa 150,000 years ago, humans reach for the stars, risk everything in pursuit of dreams, and search for beauty in the world around them.

Humans develop features that help them survive harsh elements and difficult terrain. Mankind has stereoscopic vision to accurately judge distance and they form the most dexterous fingers of any species on earth. They start to run on two legs.

But they have none of the natural



Great Rift Valley: It is one of the geologic wonders of the world. The rift stretches 3,700 miles in length from Syria in Southwest Asia to central Mozambique in South East Africa. The rift is home to some of the highest bird diversities in the world. Learn more at: <http://whc.unesco.org/en/list/1060>

weapons of other predators. They can't sprint like a cheetah; they lack the strength of a lion, the crushing jaws of a hyena.

So man invents. Tools make him stronger. Weapons make him more powerful. Being on two feet freeing his hands to work with tools, changes life.

Man's ability to project power will transform his world. Using weapons to kill at a distance becomes a tactic mankind perfects over 100 millennia.

Mankind learns to rub sticks together to

generate friction and heat. At 300 degrees Fahrenheit — a spark — then fire.

Now humans can cook grains and tubers that were totally indigestible. Like developing an external stomach, cooking makes meat easier to chew and digest.

Easier-to-absorb protein feeds man's brain, boosting human brain size by 20 percent. The human brain becomes the most complex structure in the known universe, able to handle 100,000 times more processes per second than the average computer.

And the brain enables the most complex human process: communication — the ability to think, to talk, to write, and to love.

Fire also protects mankind from becoming prey to other animals. Still, people are lucky to reach the age of 30 and children have only a 50 percent chance of growing to adulthood.

The total human population in the early stages is just 10,000 — less people than are born in a single hour today.

Around 70,000 years ago, a few hundred pioneers wander out of Africa into the Middle East and Asia. A huge cross-section of those alive today are descended from these people.

This is the beginning of an extraordinary story: the spread of humankind across the planet. Curiosity is an essential part of being human. Taking risks pays off.

Over 50,000 years, humans settle in the Middle East, Asia, Australia, and Europe. They make better weapons and learn to adorn their bodies. They create art on cave walls. Tiny bands eke out a living in unpredictable environments.

And then the climate changes. Temperatures plummet by 14 degrees, covering a third of the planet in ice. Mile high glaciers advance across northern America, Asia, and Europe during this Ice Age.

Man innovates again. Animal bones become needles to make the first recognizable clothes. Stitching becomes one of the greatest inventions of all time: a matter of life or death.

Fire and clothing help insure man's survival.

Top of the Pack

Here in the cold, man may no longer be

top dog. The hunter is now the hunted. Weighing up to 80 pounds and with a top speed of 35 miles per hour, the wolf has jaws that can bite with 1,500 pounds of force per square inch, powerful enough to shatter bones.

Just like humans, wolves hunt in ruthlessly efficient packs.

The first contact is probably made by wolves, looking to exploit a new food source, that were able to tolerate being near people long enough to eat what was being thrown on the scrap heap outside the cave.

Perhaps one percent of Ice Age wolves have genes that make them tame. They will become the ancestors of all the dogs alive today.

The tamed wolves can hunt at night, can hunt by sound, can hunt by smell, and can hear herds over the horizon. The two species form an unbeatable team: humans and dogs together are unstoppable.

By 10,000 B.C. there are approximately a million people on Earth spread over six of the planet's seven continents.

Farming Mother

Scientists call her the Farming Mother. Her breakthrough will change everything. It will quicken the pace of the human story — giving birth to cities, technology, science and empires. But it will also bring crime, poverty, disease, and war.

Around 10,000 years ago, in the fertile hills of the Middle East, a woman stands on the threshold of starting a revolution that will give birth to the world's civilizations.

Where wild grains grow, humans settle. A woman gathers wild grasses laden with edible seeds. From a single acre of this wild wheat, she can gather half a ton of seeds a year. Abundant food means her people stay here year round.

There are more than 60 of them — bigger groups living together than ever before. They coexist peacefully with other groups. Men hunt, women gather.

Then one day she notices that discarded seeds take root in the family garbage.

It gives her an idea. She notices a particular plant likes to grow in a particular place and so she keep going back to that place to find food. In a fertile patch of ground she plants some of the best seeds



Vézère Valley, Lascaux Cave: The cave in southwestern France is famous for Paleolithic cave paintings. The paintings that reside there are estimated to be 17,300 years old. They primarily consist of images of large animals, most of which are known from fossil evidence to have lived in the area at the time. Learn more at: <http://whc.unesco.org/en/list/85>

Stonehenge

Some of the carved megaliths of Stonehenge weigh over 25 tons. They have been dragged here from over 150 miles away. It serves as a giant monument to the seasons – the cycle of life – and as a place to commune with the spirits of dead ancestors. It is the beginning of the concept of an afterlife.



Stonehenge: Stonehenge is a prehistoric monument located in the English county of Wiltshire. One of the most famous sites in the world, Stonehenge is composed of a circular setting of large standing stones set within earthworks. It is at the center of the most dense complex of Neolithic and Bronze Age monuments in England. Learn more at: <http://whc.unesco.org/en/list/373>

Activity: Stonehenge is just one example among 962 official World Heritage sites throughout the world. What are World Heritage sites? Visit <http://whc.unesco.org/en/list> to learn more about these sites. Visit bit.ly/VIZKCg to purchase a passport booklet created by the National Parks. This booklet describes the 21 World Heritage sites in the U.S.—place a stamp in your booklet each time you visit one of these sites!

she's gathered. The planting of these first seeds is the first step towards civilization. Humans can take the landscape and use it to their advantage.

She tends the plants, weeds around them, and waters them. She grows the world's first cultivated crop: wheat. She is the world's first farmer – the Farming Mother.

With farming, an acre of land can feed up to 100 times as many mouths as hunting and gathering.

Farming is a game changer, making the difference between there being only a few million humans on the planet and there being billions of humans on the planet.

In the space of a few thousand years, farming is invented independently in 5 different areas of the world. For the first time humans have the power to create their own bounty.

Agriculture changes who we are – and transforms the landscape. Wheat spreads out across the globe.

Domestication of Animals, and Disease

By 3000 B.C., wheat reaches southern England. Here native Britons make a new form of society where people live as farmers. And in this new world of permanent homes and communities, leaders emerge.

They've tamed new animals – domesticating pigs, sheep, goats, and cattle.

The domestication of animals for food, trade, and war changes the landscape of the planet. Many animals domesticated by man were tamed thousands of years ago.

The ability to selectively breed animals and plants increases the population tenfold. But this new way of life has a dark side. Living so close to animals also spreads disease. Diseases of all kinds threaten man's ability to survive.

Mankind catches influenza from pigs, measles and smallpox from cattle, and tuberculosis from cows and goats.

Warfare

The more immediate threat becomes other people. When the crops fail or disease kills the animals, people struggle to survive.

The struggle for food triggers the birth of warfare. One in ten skeletons show evidence of human conflict. Living on land he must defend with his life also changes how Stone Age man views death.

He develops new rituals to remember the loved ones he has lost and starts to bury the dead.

A priestly class begins to arise — shamans or priests — whose role it is to make sure that the rituals are conducted properly. New rituals require sacred places for people to gather and worship.

The Great Pyramid of the Pharaoh Khufu

Considered by many the greatest monument ever built in the history of mankind, the Great Pyramid of the Pharaoh Khufu remains the tallest manmade structure for 4,000 years.

Built in Egypt on the Nile River by architect Prince Hermiunu, 25 centuries before Christ, the structure requires 35,000 workers who toil to create the giant 480-foot-high tomb.

The workers have no pulleys, no wheels, no iron tools — just chisels and saws of soft copper. Using only muscle, determination and know-how, they quarry 800 tons of stone a day.

Workers live in a purpose-built town at the base of the pyramid. They even bury their dead here. One in 5 skeletons of the dead shows serious injury; many die from industrial accidents.

New Tool: Writing

Key to Hermiunu's success is a fundamental new tool: writing. For the first time, an order given by one man can reach thousands exactly as he wants it understood. Writing becomes an extension of man's brain. It overcomes great logistical and engineering challenges.

The power of writing allows thoughts to be shared over generations, creating a pool of knowledge that will accelerate human development.

Workers toil in shifts of about 10,000. Two million blocks, each one weighing more than a pickup truck, are pushed up an earthen ramp and moved into place high atop the pyramid and positioned with

millimeter precision.

Hemiunu's determination creates a structure that still stands today, 4,5 thousand years later – a monument intended to endure for eternity.



Great Pyramid: The Great Pyramid of Giza is the oldest and largest pyramid in the Giza Necropolis. It was originally built as a tomb for fourth dynasty Pharaoh Khufu and was finally finished after 20 years in 2560 BC. The most accepted construction hypotheses are based on the idea that it was built by moving huge stones from a quarry and dragging and lifting them into place. Learn more at: <http://whc.unesco.org/en/list/86>

Coated in polished limestone, the Great Pyramid is capped with gold. Deep inside, the Pharaoh Khufu will be laid to rest. His people believe he will be reborn as a god.

City Living, Trade & Industry

The rise of the first cities begins, enabling farmers and those who make their tools to live in closer proximity.

By 1850 B.C. in the Middle East, 80 percent of the population is now living in cities of more than 15,000 inhabitants.

Driving these large-scale settlements are two new keys to civilization: trade and industry.

In the past, everyone was a generalist, a Jack-of-all-trades, master of none. Now people start to specialize, which increases human productivity by 20 to 30 percent.

Traders – the first entrepreneurs — change the way people live.

Kanesh & the Bronze Age

Tin is the vital ingredient that turns the city of Kanesh (now part of Turkey) into the smelting capital of its day.

Metalworkers have created copper tools and weapons for millennia. But these were soft and wore out easily. By adding just 1 part tin to 9 parts copper, Kanesh's metal workers create a new and vastly superior alloy: Bronze.

Twice as strong as copper, bronze weapons and armor are a major upgrade. Bronze will change the face of warfare.

The tin mines around Kanesh fuel an economic boom, becoming the center of an industry whose furnaces produce 1,000 tons of bronze a year. Demand for bronze is so great that the local tin mines become depleted.

From this point harnessing natural resources becomes a key to controlling the world.

International Trade, Writing & Insurance

In order for industry in Kanesh to keep from going bankrupt, they must find new sources of tin. This is the beginning of international trade.

Writing also becomes essential to record stocks, take advanced orders, draw up contracts, and of course communicate with other traders in far away places.

People have to transport tin across vast distances. They can make an enormous return on their investment, but it is extremely risky.

They often have to pay local rulers along their trip of 700 miles or more. The rulers pledge in return to reimburse the trader

Activity: Trade has existed for centuries, and is central to our economy today. Find stories in the newspaper about trade in particular commodities or items that are sold across borders. What if trade was no longer possible between nations? Write a short essay about the importance of international trade.

if he is robbed on their land. This was the world's first kind of insurance policy.

This long-distance trade changes civilization and is the beginning of the modern economy.

Megiddo & Trade Routes

Entrepreneurs spread civilization along trade routes that extend 4,000 miles from

Spain through the Middle East all the way to the tin mines of Afghanistan and the flourishing new civilizations in the Indus Valley.

And right at the center of these flowing tributaries of wealth, writing, and ideas is the city of Megiddo. In the Bible it is called Armageddon.

Below the ground lie the remains of 34 battles over 4,000 years. In the deepest layers of bones are those of ancient Egyptians from the first and greatest battle of all.

In 1457 B.C., near the city of Megiddo, in present day Israel, the largest army the kingdom of Egypt had ever assembled gathers.

At its head is Pharaoh Thutmose III. He's young, ambitious, untested. Worshipped as a god, he trained as a soldier.

He has just taken the throne when a coalition of Middle Eastern rulers seizes control of Megiddo.

This represents a huge threat to Egypt's trade routes – especially its supplies of bronze. Whoever controls the trade in bronze controls the world.

Thutmose does something no pharaoh has ever done before. He leads 12,000 men on a march 500 miles out of Egypt. Supplying this force is a vast logistical challenge. The army needs 14 tons of grain and 95,000 liters of water a day.

But hundreds of years of pyramid building have taught the Egyptians how to create infrastructure.

He is supported by skilled troops. Within the pharaoh's army are fierce Nubian soldiers from lands south of Egypt. All await the God-King's orders.

Thutmose leads from the front to inspire his troops. He shows his commitment to the battle.

Egyptian scribes record the attack: the world's first war report: "His majesty issued forth at the head of his army. In a chariot of fine gold, adorned with the instruments of war."

Chariots were the state-of-the-art military technology. With a top speed of 25 mph, they act as lethal firing platforms for Egyptian bows. And the Egyptians have a thousand of them.

Arrayed in lines, squadrons of chariots go in and out of the battlefield, striking terror into the enemy.

The Egyptian infantry breaches the city's outer walls and then a four-month siege



Megiddo: An ancient tel in modern Israel, this site is renowned for its historical, geographical, and theological importance. During Ancient times, Megiddo was an important city-state and is strategically located at the head of a pass through the Carmel Ridge overlooking Jezreel Valley from the west. Learn more at: <http://whc.unesco.org/en/list/1108>

starves the city into surrender. This scale of bloodshed has never been recorded in history before.

Thutmose wins one of the greatest victories in Egyptian history. He now controls the Middle East, and all its rich resources.

His campaign expands Egypt's territory to its greatest extent: 2,000 miles, 5 million subjects.

He states "I have extended the dominion of Egypt as far as the circuit of the sun."

Thutmose makes Egypt an empire – a civilization that shapes the world and



Ancient monument to Thutmose's victory at Megiddo

endures for more than 2,000 years.

However, empires crumble when a new commodity is dug from the Earth's crust. Iron transforms human history – giving rise to new ideas, new technologies – a new

world and new people.

Iron Age

The discovery of iron is vital to mankind's story – a discovery so important that we are still in the "Iron Age" today. From more primitive beginnings, iron has been refined into steel, used in constructing buildings, cars, ships, appliances, and much more.

The Iron Age begins as the Bronze Age runs into resource problems. Cyprus, an island named for its rich resources of copper, is watching its supply of rare tin dry up. Tin is used to transform soft copper into harder, battle-worthy bronze. Faced with ruin, metalworkers make a discovery that will change the future of mankind.

Rusty red rocks, found all over the island, contain the most important raw material in history: iron — the most common mineral in the Earth's crust.

Born in the heart of a supernova exploding star, iron forms the Earth's molten core — larger than the moon, hot as the sun. Without that iron core, there would be no atmosphere, no magnetic field, no life.

Metalworkers need a much higher level of skill to work with iron than with bronze.

To forge iron, a super-fuel is needed: charcoal. Charcoal is wood that has been burned in kilns. With more carbon and more oxygen, charcoal burns hotter and longer than wood.

China

In the West, iron helps city-states fight for freedom. Four thousand miles to the East, it helps build the world's most enduring empire: China.

Shi Huang Di, the first Emperor of China, has been fighting for his throne since age 13. He has survived a coup and three assassination attempts. Now in his 30s, he is establishing an empire he believes will last forever.

Crucial to his success is a new type of iron technology: cast iron.

By superheating iron in a blast furnace, Chinese metalworkers open a new chapter in the story of Mankind. Liquid iron is cast into moulds to produce identical objects by the thousands. Two centuries before Christ, this is the birth of mass production.

This technological revolution is driven by one of the greatest game-changers: war. A sad, but inescapable, fact of human history is that war drives technology.

A new kind of weapon will transform the way they fight and help unify an empire: the crossbow.

The Chinese crossbow draws back nearly 24 inches, more than five times the pull of a European crossbow, providing five times the power and range. Mass-produced using cast iron, the crossbow fires iron arrows at high velocity that allows them to travel nearly a quarter of a mile. Easy to use with just a few days training, the crossbow transforms foot soldiers into killing machines.

This invention also features another innovation: standardized, interchangeable parts. The crossbow is the first modular weapon system in history, making it a weapon with spare parts.

Armed with the crossbow, the armies of the First Emperor storm across six warring kingdoms. In just 11 years, Shi Huang Di conquers 2 million square miles inhabited by 27 million people.

China's first historian writes: "His armies devour [the land] like a silk worm eats a mulberry leaf. Nothing will stop them."

To defend his new empire, the First Emperor begins perhaps the most ambitious engineering project in the story of Mankind: The Great Wall of China.

It is designed to hold back the nomadic hordes of central Asia.

But after 11 years of conquest, on a journey to find a legendary magical spring said to hold the secret of eternal life, Shi Huang Di – the most powerful man in the world – falls ill. Mercury tablets prescribed by his doctors to make him immortal are destroying his brain and body. Just 49 years old, the most powerful man on Earth dies.

He's buried in a massive mausoleum. Around his tomb, guarding their emperor, are arrayed an extraordinary force of 8,000 bronze soldiers: the terracotta army. Each statue is unique, believed to be modeled after a real person.



Great Wall of China: This structure was constructed as early as the 7th Century BC in order to protect the Chinese Empire and its states from intrusions from outside threats. It was originally set up as multiple walls until they were finally connected in order to produce what we currently know as the Great Wall. The Great Wall stretched from Shanhaiguan in the east, to Lop Lake in the west, along an arc that roughly delineates the southern edge of Inner Mongolia. Learn more at: <http://whc.unesco.org/en/list/438>

The metalworkers learn to smelt the iron ore by having it interact with charcoal. Great groaning bellows push air into the mixture. The heat will infuse the iron, forming chunks of metal that are hammered into wrought iron. Iron is harder than

Activity: Harnessing iron changed the course of history. Look for magazine or newspaper articles about a product that is made from iron. How is iron used in our world today?

bronze. It can hold an edge better, making it a superior material for weapons and tools.

Iron and charcoal transform the surface of the planet. In Europe alone, 70 million acres of trees are felled to feed iron foundries.

Persian Empire, Sparta, and Athens

On the plains of Greece, iron ushers in an age of warfare. Soldiers prepare to defend their small kingdom: Sparta, a society dedicated to war. Their leader is Pausanias, a prince of Sparta. Bearing down on them is the superpower of the day: Persia.

Sparta is just 3,000 square miles in area, while Persia measures more than a million square miles. The battle the Spartans face, seemingly against insurmountable odds, will shape the story of Mankind.

Pausanias is holding Sparta together after the death of King Leonidas, his uncle, who was massacred at the Battle of 300. They prepare for a final battle to defend Greece.

In Sparta, from the age of seven, boys are trained as warriors. At 18, they join Sparta's army — the most fearsome, most disciplined fighting force on Earth. They live what we call a Spartan life — a life without luxury, a life of deprivation, a life of training and testing their courage.

They wear bronze armor and carry iron spears and swords, but Sparta cannot fight Persia alone. Within Greece, Sparta's rival is Athens. Also small and vulnerable, it is a city of merchants, playwrights, and farmers.

Faced with a powerful enemy Athens must decide whether to accept Persia as its master – or make common cause with its bitter rival. The decision will determine the future of the Western World – and the story of all of us.

Xerxes, the Persian Emperor, offers the people of Athens a chance to surrender and



The Acropolis and the Parthenon in Athens:

The Acropolis of Athens is an ancient citadel located on the high rocky outcrop above the city of Athens, Greece, and containing the remains of several ancient buildings of great architectural and historic significance, the most famous being the Parthenon. The Parthenon is a temple dedicated to the Greek goddess Athena, whom the people of Athens considered their virgin patron. Learn more at: <http://whc.unesco.org/en/list/404>

avoid bloodshed. The cost: their freedom.

Male citizens of Athens gather on a rocky hill called the Pnyx. Among them is Sophanes. He is brave and outspoken, an ordinary citizen who will become a military legend.

The ability to express oneself freely is uniquely tied to the ability to defend oneself freely. The Athenians appreciate and value freedom, their ability to express their opinions and to have a say in their government. And they are willing to fight to preserve that freedom.

In Athens, political decisions are not made by kings, but by armed citizens – men like Sophanes. A new political system arises – a legacy still shaping civilization today: democracy.

Primarily, male landholders are able to vote. Women are not part of the process. Nonetheless this is a dramatic shift from rule by strong men and tyrants. People now have the ability of self-determination.

Vote yes and you've committed yourself to risking your life to fight. Vote no and you will be safe, but ruled by an emperor. A tough decision, but amazingly, it is being made by ordinary people. That is what the Greeks introduced to the history of humanity.

An Athenian records the will of the people: "Such is our love of liberty, we will never surrender."

In August 479 B.C., near the coast of Greece, bitter rivals lay aside their differences to defend their lands against a mighty empire.

The Persians have 100,000 conscripted soldiers from across the ancient world. On the other side are Greek patriots from Athens and Sparta. Pausanias leads a force of men whose entire lives are dedicated to the art of war. Joining the Spartans are citizen-warriors from Athens, men like Sophanes. Ancient records say they're outnumbered 3 to 1 as they prepare for the Battle of Plataea.

The Persian commander, Mardonious, believes superior numbers will be the key to an easy Persian victory.

The Greeks have halted the Persian advance for more than a week. The Greeks line up to face the enemy head-on. They are exhausted, outnumbered, exposed. But the Greeks unleash a secret weapon: a new tactic that will transform warfare: the phalanx. It is a human tank.

They lock their shields together and then separate just enough to drive a spear or sword into the enemy. They keep advancing and dominate the battlefield by working together as a coordinated team.

The Greeks smash the Persian advance and scatter their soldiers in defeat. Greece is liberated. Persia's ambitions to conquer Europe end here.

A generation after the war, Athenians vote to commemorate the victory with a monument: The Parthenon. The temple to Athena, goddess of wisdom, will become a symbol of democracy

Activity: The formation of democracies was one of the most important developments in history. What is the definition of democracy? Find some images from the newspaper that show democracy in action.

The Phoenicians

While in China the Age of Iron forges an empire, off the coast of Africa a fleet sails on an expedition that launches Mankind's first great age of exploration.

Leading the fleet is Hanno, King of Carthage, an adventurer and pioneer, who undertakes Mankind's first recorded voyage of discovery.

Hanno's people, the Phoenicians, are among the world's first ocean traders, traveling in the best-built ships in the world.

Iron tools revolutionize shipbuilding and leads to a transformative ship invention: the keel. Now ships can remain stable in

the roughest waters, the key to Mankind's future at sea.

Hanno has sailed from the Mediterranean into uncharted waters: the Atlantic Ocean. Hanno writes an account of his journey: "We saw at night the land covered with fire. In the middle was a high flame, higher than the others, which seemed to reach the stars. A high mountain, named the Chariot of the Gods."

This passage describes Mount Cameroon, the largest volcano in West Africa. It is recorded using a revolutionary new writing technology: the alphabet.

The Phoenicians invent 22 symbols or letters that can be combined to represent almost any sound in any language. Easy to learn, the alphabet puts reading and writing within everyone's reach. It is key to the future of communications.

The Phoenicians create colonies across the Mediterranean world, spreading trade and ideas to Lebanon, Tunisia, Cyprus, Sicily, and beyond – including Babylon, a great city in the Middle East, famed for its hanging gardens, one of the Seven Wonders of the Ancient World.

Spiritual revolutions are underway. The Age of Iron is an age of new people, new ideas, and new faiths that still dominate Mankind's world today.

Across the world, local religions give way to powerful new beliefs – spread by the written word. Hinduism unites much of India. From the foothills of the Himalayas, the words of Buddha spread out across Asia. In China, the writing of Confucius helps order the lives of one quarter of the world.

In Babylon's libraries, a group of Jewish exiles use their own alphabet, in Hebrew, to write down the history and the beliefs of their people. "By the rivers of Babylon, we sat down and wept, when we remembered Zion."

Babylonians conquered Jerusalem and destroyed its great temple. Now captives in a foreign land, the Jews compile what will become the most influential book in the story of Mankind: the Bible — the Old Testament.

But for the Jews of Babylon, the word of God is under threat. The armies of the Persian Empire besiege the city. If it falls, their fragile writings could go up in flames.

One man sees opportunity and seizes the moment, Zerubbabel, an exiled prince and descendant of Kings Solomon and David. He decides he will lead the Jews out of exile

and back to the Promised Land. But many don't want to go. They have lived their whole lives in Babylon.

He proclaims: "Go out from Babylon, flee from the Babylonians, declare this with a shout of joy, proclaim it, send it out to the end of the earth: say, 'The Lord has redeemed his servant.' ...Even if you have been banished to the most distant land under the heavens, from there the Lord your God will gather you and bring you back."

Their epic journey of 500 miles brings these exiles back to the sacred city they have never seen: Jerusalem. With them, they carry the words that will become the Bible, the most widely read book in world history.



Jerusalem: Jerusalem is the capital of Israel and one of the oldest cities in the world. It is located in the Judean Mountains between the Mediterranean Sea and the northern edge of the Dead Sea. The city also serves as a holy city to the three major Abrahamic religions of Judaism, Christianity, and Islam. Learn more at: <http://whc.unesco.org/en/list/148>

Christianity

Jerusalem in 33 A.D. is a city under Roman occupation.

Mankind has an innate need for religion and has invented gods to worship: many gods, pagan gods, more recently, the concept of a single God.

In 33 A.D., a new religion is born: Christianity.

The Roman Empire at this time spreads from the Middle East to the Atlantic Ocean. Its vast network of roads and trade routes facilitate travel as never before.

Christianity uses this network to become the world's first global religion.

Jerusalem is crowded with pilgrims during Passover – the Jewish holiday celebrating the Exodus from Egypt.

To his followers, Jesus is the Messiah – a savior – the Son of God.

To the Romans he's a nuisance, his teachings threaten the peace, and for that

he'll be executed — by crucifixion — the Roman punishment for pirates, slaves and enemies of the state.

The Romans could never imagine that the cross would become a symbol not of a despicable way of dying, but a symbol that completely changes the world.

His followers will re-tell Jesus' story and spread the word throughout the Empire and beyond.

Rome

Rome, 1400 miles from Jerusalem, is the imperial capital of the Empire, and the first mega-city.

With a population of 1 million, it is a melting pot of cultures — a city three times more densely populated than Manhattan today. They build mankind's first skyscrapers — six-story apartment buildings. Townhouses offer under-floor heating and the streets are paved.

For the first time, city administrators have to cope with an enormous demand for food, housing and employment.



Rome: This Roman Forum recreation offers a glimpse of how the public areas of Rome looked in ancient times. Learn more at: <http://whc.unesco.org/en/list/91>

Slaves do most of the work. Jobs are scarce, creating the first welfare state. A fifth of the population is on the dole.

Rome's Emperor is Claudius. Born disabled, he is unpopular and unloved. The most powerful man in the western world has an image problem.

Claudius tries to win hearts and minds by handing out free bread. But with 70 percent of Rome's population living below the poverty line, it's too little, too late.

Riots break out. The people send a message to their ruler that is ignored at his peril. The previous emperor was assassinated. Claudius fears the same fate.

To assuage the rioters, improve his image, and add to the glory of Rome, he

determines to build the greatest aqueduct in the empire.

As the city gets larger the demand for clean water has kept growing. Rome's best source is in the hills 46 miles away. The aqueduct needs to carry the water from there all the way to the city.

The Romans were incredible engineers. They tunneled through mountains, bridged across valleys, built vast structures across huge amounts of space without dynamite or any kind of modern tools, and yet they accomplished this with a level of precision that would be considered remarkable even today.

Concrete, The New Construction Material

Rome is surrounded by 50 volcanoes. Volcanic ash provides the secret ingredient behind Roman engineering. Mixed with lime, gravel and water, it creates a unique building material that is easy to mold but sets rock hard: concrete

To build the Empire and control it, a road system is constructed. The roads, built with concrete, carry heavy traffic, with chariots and armies marching six abreast. They stretch 23 feet across — a width like a modern two-lane interstate highway.

This was the start of the concrete age that continues to the present. Today, we make more concrete than any other material on earth. Two-thirds of us live in buildings made out of concrete. The modern world would not exist without this Roman invention.

The aqueduct costs the modern equivalent of \$9 billion, takes 14 years to build, uses 40 million blocks of stone, and ultimately provides Rome with 220 million gallons of water a day. But for the unpopular emperor it's worth every cent and all the effort.

He names it *Aquae Claudiae* — The Waters of Claudius.

The Games

Every day, somewhere in the Roman Empire, a life or death struggle plays out in front of a cheering crowd: The Games.

Gladiatorial games are the mass entertainment of the Roman Empire, the reality TV of the ancient world. The games are free for the public to attend based on sponsorship by wealthy politicians who want to be popular

The combatants are slaves, criminals, and prisoners, who fight for a chance for fame

Silk Trade

Wealthy Romans have an appetite for all things excessive and exotic. One product in particular will change the world: silk.

The shimmering beauty of silk is created by the triangular structure of its fibers, which refract light. In ancient Rome, silk costs as much as gold.

The Roman demand for this precious textile will take them to the ends of the earth and open up the world to trade as never before.

The ancient Silk Road to China might be comparable to our Internet age because it opened up communications among so many different peoples.

The Silk Road is a 5,000-mile-long network that connects east and west along which ideas and technologies flow, such as gunpowder, the printing press, and paper.



Silk Road Map - Credit: The Stanford Program On International And Cross-Cultural Education

and freedom.

Rome builds 400 arenas across the empire. Each year, 8,000 gladiators die, most at a young age.

A gladiator who does survive is like a rock star, worshipped by fans. Ancient graffiti still show love notes from women to their favorite gladiators.



The Coliseum, in Rome, was the central venue for The Games. A floor covered the circular center. Underneath were the staging areas for gladiators and animals. Learn more at: <http://whc.unesco.org/en/list/91>

Holy Roman Empire

Persecution doesn't stop Christianity from growing. Over the next century, the number of Christ's followers multiplies almost 30 times. Two hundred thousand Christians become six million, pushing the Roman Empire to a tipping point.

Three hundred years after the crucifixion,

Emperor Constantine, a 57-year-old military genius and visionary ruler of the empire, converts to Christianity stating: "The time has arrived which I have long hoped for, with an earnest desire and prayer that I might obtain the salvation of God."

The Emperor of the Roman Empire,



Constantinople: It was the capital of the Eastern Roman Empire, the Latin and the Ottoman Empires. It was founded in AD 330, at ancient Byzantium as the new capital of the Roman Empire by Constantine I. The region was the land route from Europe to Asia and the seaway from the Black Sea to the Mediterranean, and had in the Golden Horn an excellent and spacious harbor. Learn more at: <http://whc.unesco.org/en/list/356>

Constantine the Great, is baptized. This is the beginning of the Holy Roman Empire.

The number of Roman Christians skyrockets in one generation from 10

percent of the population to over 50 percent.

Constantine establishes a new imperial mega-city that replaces Rome as the empire's capital. It's called Nova Roma (New Rome), then Constantinople, today it is Istanbul, Turkey.

The greatest empire in the world is now Christian. The birth of Jesus Christ is a pivotal moment in human history — a calibration point for mankind's story.

There's time Before Christ (B.C.) and time after his death (A.D. – Anno Domini, Latin for "In the year of the Lord")

Fall of the Roman Empire

In Rome in 455 A.D. at the gates of the imperial palace, stands Gaiseric, known as the 'Spear King,' Chief of a tribe of Germanic warriors: The Vandals.

The Vandals have just crushed Roman armies in North Africa. Now they are going after the riches of Rome itself. Trapped inside the palace cowers the empress Licinia Eudoxia, daughter of a Christian convert, widow of the murdered emperor. She and her children represent the last of Rome's ruling family.

The imperial capital is under attack. Ruling a quarter of the world's population has stretched the empire to a breaking point. The Roman Empire is ready for a meltdown.

Gaiseric's men wreak havoc. There is no



Gaiseric sacking Rome in 455 A.D. by Mathiasrex

place to run or hide. The Vandals pillage and plunder, destroying Rome, leading to its collapse.

"Vandal" becomes the byword for wanton destruction. But the Vandals are no savages. They are educated and skilled in warfare – thanks to the Romans.

By the time the Vandals arrive in Rome, they have been living in the Roman Empire for a long, long time. They probably speak

Latin. They have served in armies alongside of Roman soldiers, acting as mercenaries, and engaged in trade with the Roman Empire. Still, they are willing to take on the weakening forces of Rome.

Gaiseric has been fighting the Romans since his teens. Now he finds himself in reach of the ultimate prize: Eudoxia, worth more to the Vandal chief than gold. Taking the empress as his hostage will bring him great status. He seizes the prize. Eudoxia will spend the next seven years at Gaiseric's side, the empress of Rome enslaved by a barbarian. Her daughter is forced to marry his son.

The Roman Empire has endured for five centuries. At its height, it ruled over 60 million people and two million square miles. As the empire disintegrates, barbarian tribes seize their opportunity. Angles and Saxons push into Britain. Franks sweep across Gaul, giving their name to modern France. Visigoths seize what is now Spain.

With the collapse of Rome, Europe reverts to the Dark Ages of war, famine and savagery. Many essentials of Roman life are lost for centuries: the technology to build aqueducts, the use of coins, even writing. Rome loses 95% of its population; London is abandoned.

With the fall of Rome, Europe will fragment and stay divided for 1500 years.

Two new forces emerge. From the frozen North: the Vikings. From the sun-baked south: the Arabs.

Gold

In the Arabian Desert, buried beneath the sand is gold. About 1,500 years ago, gold helps build a new civilization and a new religion: Islam.

The Mahad al Dahab mine, worked by a thousand slaves, is owned by Al-Hajjaj Al-Bahizi, from the same tribe as the Prophet Mohammed. He is a mining tycoon, worth many times his weight in gold.

Gold is an amazing metal. It is easy to work with, it doesn't tarnish, and it is so beautiful that it seems to symbolize wealth and royalty by its very existence.

All the gold that has been discovered on earth originally came from outer space, during a time almost four billion years ago known as the 'Heavy Bombardment'. Asteroids carrying traces of gold rained down on the Earth.

Fourteen million times rarer than iron, all the gold ever mined would fill just two

Olympic swimming pools. It would make a block a third the size of the Washington Memorial.

This mine alone will produce 50 tons of gold, worth two billion dollars today. A gold rush sparks a boom in trade.

Arabs and Islam

From the trading center of Mecca, a charismatic leader emerges, the Prophet Mohammed, and a new religion: Islam.

In twenty years, Islam unites the warring tribes of Arabia. The burgeoning Islamic state uses gold to fund a massive army that pushed beyond the Arabian Peninsula, to create a new, distinctly Islamic empire. From Mecca, in modern day Saudi Arabia, Islam spreads across North Africa, and into Europe, dominating lands once controlled by the Romans.

The Islamic civilization reaches Spain and builds a new city: Cordoba

Cordoba is home to half a million Muslims, Christians and Jews. In Europe's Dark Ages, it serves as a beacon of tolerance and learning. Within its 70 libraries, the knowledge of Mankind is rescued from ancient Greece and Rome.



Roman Bridge & Great Mosque: Cordoba's period of greatest glory began in the 8th century after the Moorish conquest, when some 300 mosques and innumerable palaces and public buildings were built to rival the splendor of Constantinople. Learn more at: <http://whc.unesco.org/en/list/313>

Arabs take a leap forward in astronomy, engineering, and medicine. They create algebra, and simplify math, creating the symbols for numbers zero to nine — still known as Arabic numerals.

The Crusades

As rulers of Christian Europe, the Vikings are on the front line in a clash of civilizations: the Crusades.

The Crusaders lay siege to Jerusalem. Inside its walls pandemonium reigns. Outside, 12,000 men stand ready, intent on butchery.

Spearheading the attack is Tancred de Hauteville, a Christian warrior descended

The Vikings and Early Trade Routes

Fifty years later, 2,500 miles away, another Arab pushes the boundaries of knowledge: Ahmad ibn Fadlan, a diplomat, chronicler, and devout Muslim.

His mission: to seek out new trade routes. In western Russia, he makes contact with pagan people who will dominate northern Europe: the Vikings.

He records: I have never seen more perfect physical specimens. They are big men with white bodies, tall as palm trees. But they are also the filthiest of God's creatures... Everyone carries an axe."

From their native Scandinavia, these Vikings have journeyed twelve hundred miles by sea and river, before settling in west Russia. In time, this country will even be named after them. The Vikings call themselves "the Russ — men who row".

The Viking trade network stretches across central and northern Asia. What they offer their visitor, in exchange for Arabian gold, is a rare luxury in Arabia: fur.

Ibn Fadlan arrives at a momentous time for these Vikings. Their chief has died. He records: "They told me that, before cremating their chieftain, they place him in a grave for ten days, while they make his funeral garments."

The dead Viking is destined for Valhalla, the legendary resting place of chiefs and warriors. The Viking chief takes his final journey on his most prized possession: his longship.

At the beginning of the medieval world, the Vikings are on the cutting edge of human exploration. Their longships are key to their exploits. Built with overlapping oak planks, riveted along the keel, these vessels are strong and fast. Powered by sail and oars, some can reach 20 knots — a good speed even for a modern racing yacht.

The Viking longship, being fast and stealthy, allowing them to sneak up unseen, unheard, and make their attack with incredibly devastating force. The Vikings launch raids along the coasts of Britain, Ireland, France, and Spain.

Vikings settle Iceland with about 30,000 people and also set up colonies in Greenland. From Greenland they push on to North America — the first Europeans to reach the continent — 500 years before Columbus. By 1000 A.D., Vikings settle among many of the communities they once attacked. Novgorod in Russia, Kiev in the Ukraine, Rouen in France, York in England, Dublin in Ireland, all are transformed into cities by the Vikings.

They convert to Christianity, replacing pagan shrines with great churches, reinventing themselves as knights. In Russia, they form a dynasty of princes. In France, they are known as 'Norsemen' and rule Normandy. The most famous of them, William the Conqueror, invades Britain, and becomes king of England.



Viking Longship

from Vikings. He plans to slaughter the city. He believes he is a knight on a mission from God, in the Holy Land to wage war against Islam.

By the 11th century, 600 years after the fall of Rome, the two religions are great

rivals. Christianity dominates in the west and north, Islam in the east and south. Determined to push back the advance of Islam, the Pope calls on Christians to take up arms. Their target: the Holy City of Jerusalem.

On the eve of the Crusades, Jerusalem under Muslim rule is actually a hotbed of creativity and inter-religious dialogue. There are Jews, Muslims and Christians. For the most part, they live in relative harmony.

But each group lays claim to the city. Jews revere it as their ancient capital, the heart of the land promised to them by God. Muslims know it as Al Quds — the Holy; from here the Prophet Mohammed journeyed to heaven. And for Christians, Jerusalem is hallowed ground — Christ was crucified here. None of them think about the fact that they are all the sons and daughters by faith of the Prophet Abraham.

To all who join the Crusade, Pope Urban offers eternal salvation, declaring: “The Lord beseeches you to destroy that vile race from the lands of our friends. All who die by the way, shall have immediate remission of sins.”

A knight can sin as much as he liked, and simply by going to the Holy Land, he has been given forgiveness by the Pope; he has been handed his passport to heaven. He can win fame, he can win glory, and he can come back with booty. With absolution assured, nothing holds back the Crusaders.

One records: “The streets were strewn with the dead bodies of men and women and the mangled limbs of infants ...It was a just and splendid judgment of God that this place should be filled with the blood of the unbelievers.”

The Crusades continue for two centuries and cost more than a million lives.

Genghis Khan & the Mongol Warriors

In Northern China in 1215 A.D., two ways of living are about to collide.

Across the planet great cities are on the rise, but nomad warriors are about to wreak vengeance and unleash a plague that will wipe out a fifth of mankind.

The leader of these 50,000 Mongol horsemen is the most ruthless warlord in human history: Genghis Khan.

Their target: the Chinese city of Chung Tu, known today as Beijing. One million people live behind Chung Tu’s walls. Surrounded by 18 miles of battlements, 40 feet high, this is a great city, but also a fortress.

The Mongols military power is not technology, but the most important animal in human history: the horse.

By horse, man can travel much faster

than he can run. The Mongols take it further and transform the horse into an all-terrain military vehicle, creating an army made entirely of cavalry.

When they encounter humans on foot, the pedestrians are like sheep; easily scared, bullied and forced to flee. Horses give the Mongols revolutionary power.

Mongol soldiers can sleep on horseback and cover a hundred miles a day, the fastest land army until World War II. They travel faster than the news of their arrival!

Three centuries of global warming bring the Mongols to China. In Mongolia, drought turns rich pasture into desert. To survive, the nomads sweep south. China, the most powerful empire on Earth, will provide land for grazing, and much more.



Mongol Horsemen

China is the land of infinite supplies of grain, silk, and tea. China is the richest prize that the Mongols can possibly take.

Chung Tu is well protected: 20,000 men, 900 towers, and three moats.

Genghis Khan has already destroyed 90 Chinese cities. Approaching the walls of Chung Tu, he warns residents: “All who surrender will live, whoever does not shall die.”

Mongol cruelty is now legend. Prisoners of war are boiled alive; pyramids are built of human skulls.

They capture Chinese engineers, and force them to build battering rams that are then manned with Chinese prisoners.

After taking Chung Tu, the Mongol army massacres a third of a million people, then torches the city.

In his lifetime, Genghis Khan will kill 40 million people — more than Stalin and Hitler combined. He conquers more land in 25 years than the Romans did in 400 — nine million square miles — the largest empire the world will ever see.

The Plague

Genghis Khan has been dead for over a century but his empire thrives. Mongol trade routes bring goods from Asia and Europe. But they also open the door to mankind’s deadliest foe and constant enemy: bacteria.

Seven centuries ago, the Plague obliterated 75 million people.

The bacteria outwit the immune system. Lungs dissolve under the assault. Skin erupts in giant pus-filled sores called Bubos. The disease becomes known as Bubonic Plague.



Peter Bruegel, ‘The Triumph of Death,’ depicting European life after the plague. Credit: The Granger Collection, New York

An almost invisible carrier transports it: the rat. Rats carry Plague-infected fleas. The fleas bite humans, regurgitating deadly bacteria into the bloodstream.

The trade routes of Genghis Khan’s empire become the conduit for the deadly disease.

Spreading eastward through India and China, the Plague kills an estimated 25 million people. Its next target is Europe.

One man will be responsible for bringing the Plague to Europe: Jani Beg, a direct descendent of Genghis Khan.

He has murdered his brothers to become the new leader. He wants to expand the Mongol Empire all the way to the Atlantic.

The city of Kaffa stands in his way, but he has a new weapon of war. The Mongol Army is carrying the Plague westward in its ranks.

It kills soldiers faster than they can be replaced, but the dead bodies are put to lethal effect: biological warfare.

One chronicler wrote: “What seemed like mountains of dead were thrown into the city. The rotting corpses tainted the air. The stench was overwhelming.”

The inhabitants of Kaffa have no choice but to flee 1,600 miles back to Italy. The plague is about to enter the world’s most densely populated continent: Europe.

When people are sick, they cough up the Plague. It becomes an airborne disease, and much deadlier. It kills half the population of Europe. Across the earth, one in five people die of the Plague.

Salt

In 1352 in the Sahara Desert, the Tuareg tribe knows the key to survival in the desert isn’t just water — it’s salt.

Salt was everything — salt was literally the difference between life and death. Every cell in our body needs salt to function. Without salt, the kidneys fail, the heart stops beating. We die in just 24 hours.

Access to salt is like access to gunpowder, it determines whether you are powerful or not.

The Tuareg find a rich supply right under their feet. One hundred million years ago, the Sahara was a giant sea that eventually evaporated, leaving behind huge inland salt deposits.

It is a valuable commodity that only the Tuareg can get their hands on. Pound for pound, its value is the same as gold.

But there are dangers in the desert besides heat. Sand hurtles at hundred miles per hour — hard enough to strip the paint off a car. And it’s easy to get lost in the featureless landscape.

The Tuareg carry salt across the Sahara to the Egyptian port of Alexandria.

Activity: Salt is everywhere in our lives today. Find newspaper articles or recipes that use salt. What are the attributes of salt, and why has it stood the test of time? Write a short article about salt, using the articles or recipes you found as sources.

Timbuktu

One of the places the Tuareg trade their salt is the fabled city of Timbuktu, Mali. The city’s secret — it’s awash in gold. The Niger River washes it out of the bedrock.

The empire of Mali is the size of Alaska and holds two-thirds of the then-known world’s gold supply. The Malians mine the equivalent of \$300 million of gold a year.

The abundance of wealth turns Timbuktu into the Harvard of the Sahara. A quarter of the population are scholars. In the most literate city on the planet, a giant library holds over 700,000 scrolls on religion, math, medicine, and law.

Scholars from all over come to study the scrolls. It was their world wide web, the

The Incas

Two hundred years after Genghis Khan, a young warrior has a vision. The sun god tells him he will triumph in a mighty battle, and create the largest empire on earth: the empire of the Incas.

His name is Pachacuti. He has an enormous sense of himself. He gave himself this name, which means, "I am the conqueror of the world."

The Americas are home to one third of the world's population — 90 million people. But they have been living cut off from the rest of the world since a land bridge between Siberia and Alaska sank below the waves 12,000 years before.

Two human traditions have grown up in complete isolation from each other for thousands of years. In the New World, horses have been hunted to extinction, iron is unknown and the wheel hasn't been invented.

The people find ways to succeed in spite of not having the latest and greatest technology.

The Incas cultivate something that humans rely on even more than iron or horses: the potato.

The potato contains almost all the vital nutrients needed for human survival. It yields four times more food per acre than wheat or rice. Using the cold mountain temperatures, the Incas freeze-dry the potatoes and can store them for years.

The Incas grow this mighty crop at 12,000 feet above sea level. They master high altitude agriculture, carving out elaborate terraces. They also cultivate tomatoes, corn, and peanuts. Their farming is far more productive than the techniques used in Europe and Asia.

This abundance makes the Incas strong. They become the Romans of the New World.

They create a network of paved roads that stretches for 25,000 miles over some of the steepest terrain imaginable. For the next 500 years, the Inca road will be the longest highway on the planet.

Modern day Peru, Chile, Bolivia and Argentina all come under Inca rule.

High in the clouds, Pachacuti builds a palace — Machu Picchu — with over 140 buildings, 8,000 feet above sea level. At its center is a temple of the Sun. It is the ultimate expression of the power of the Incas.



Machu Picchu: This is a 5th-century Incan site. Machu Picchu is located in the Cusco Region of Peru, South America. It is situated on a mountain ridge above the Urubamba Valley in Peru. The Incas started building the "estate" around 1400, but abandoned it as an official site for the Inca rulers a century later at the time of the Spanish Conquest. Learn more at: <http://whc.unesco.org/en/list/274>

place where information was stored.



Timbuktu: It is a town in the West African nation of Mali. Starting out as a seasonal settlement, Timbuktu became a permanent settlement early in the 12th century. After a shift in trading routes, Timbuktu flourished from the trade in salt, gold, ivory and slaves, and it became part of the Mali Empire early in the 13th century. In the first half of the 15th century the Tuareg tribes took control of the city for a short period until the expanding Songhay Empire absorbed the city in 1468. A Moroccan army defeated the Songhay in 1591, and made Timbuktu, their stronghold. Learn more at: <http://whc.unesco.org/en/list/119>

Great Zimbabwe

Gold fuels Africa's greatest age. In southern Africa, Great Zimbabwe is a city built of stone, the legendary capital of the Queen of Sheba. And on Africa's East Coast, Kilwa, Tanzania, the city of Sinbad, forges trading links to China. (Learn more at: <http://whc.unesco.org/en/list/364>)

Venice, Italy

In 1419, a daring idea is realized — a city built in the sea: Venice, Italy.

Venice becomes the epicenter of the global economy, the birthplace of capitalism. Five hundred years before



Venice by Bolognino Zaltieri, 1565: It is a city in northeast Italy sited on a group of 118 small islands separated by canals and linked by bridges. The traditional founding is identified with the dedication of the first church, San Giacomo at the islet of Rialto which is said to have been at the stroke of noon on March 25, 421 A.D. Learn more at: <http://whc.unesco.org/en/list/394>

Wall Street, Venice is home to a thriving commodities market — silk from China, spices from India, gold from Africa, and copper.

Sixty years earlier, this was where the Plague had entered Europe, wiping out half the population. A city once ruled by aristocrats now has a power vacuum.

The plague didn't spare the rich or the poor. The idea of class changed. People who once were peasants can now become merchants.

They mint their own currency: the Venetian Ducat. This is where modern banking is invented. The word bank comes from the Italian word for bench: banco.

Venetians trade gold for all known currencies and makes loans with a hefty commission.

Ming Dynasty

In China, a new invention is about to revive a nation and change the face of warfare forever. They call it Huo Chi — Human Thunder. We call it the gun.

China has been devastated by the Plague. Half the population has been wiped out. But disaster can bring opportunity. For over a hundred years, the Mongols have ruthlessly controlled China. But the Plague has loosened their grip. The time for rebellion is now.

In 1352, the Mongols control the city of Nanjing. Outside the city walls, a gang-of-three plot a revolution.

Zhu Yuanzhang, born into a family of destitute Chinese farmers, is orphaned by the Plague.

There's something inside certain people that makes them ambitious — that makes them want to rule the world.

Zhu is the leader of the Red Turbans, a secret society of peasants driven by the famine.

The people have nothing to eat. And when a rebel leader comes along and says, "I will drive out the Mongols," the message is received with universal enthusiasm.

By Zhu's side is his young wife, Ma. The daughter of a warlord, she keeps the mission on track, and is probably his most important advisor.

Their weapon's expert, Jiao Yu, is a man who will alter the battlefield forever. He has found a way to match Mongol horsepower-driven bow-and-arrow technology by harnessing the power of China's greatest invention: gunpowder.



Forbidden City: Seat of supreme power for over five centuries (1416-1911), the Forbidden City in Beijing, with its landscaped gardens and many buildings (10,000 rooms contain furniture & art), constitutes a priceless testimony to Chinese civilization during the Ming and Qing dynasties. Learn more at: <http://whc.unesco.org/en/list/439>

Gunpowder certainly has to be ranked among the most influential, most important inventions of man — the first chemical explosive.

Jiao's design combines a small stone with an explosive charge of gunpowder — the gun is born.

Zhu is quick to see the potential: "With these fire-weapons I will conquer the Empire as easily as turning the palms of my hands upside down!"

The problem with the gun is having the pellets leave the gun and go in the direction you want them too. Aim matters.

Gun maker, Jaio Yu's solution: shoot a hailstorm of bullets. "To annihilate the enemy, you must wait until just the right moment...the fire must be intense."

The Mongols have no idea what is about to hit them. The noise of the guns is unlike anything that anyone has ever heard before, incredibly confusing and incredibly frightening.

A small band of rebels now find itself on a level footing with the deadliest army in the world.

Victory is theirs. The Red Turbans' success sparks a nationwide uprising. Over the next 12 years, the Mongol invaders are driven north, back into Mongolia.

The gun brings down the greatest empire on Earth.

Zhu Yuanzhang, the peasant leader, becomes Emperor with Ma his Empress. He calls his dynasty Ming, which means bright. The Mongols are darkness and he is light.

Jaio Yu is put in charge of the first gun workshop in the world. Together they create a new world order.

The Ming Dynasty lasts for 300 years and creates the China we know today. They build the Forbidden City and complete the Great Wall of China.

The Renaissance

Renaissance means rebirth. It is the greatest flourishing of artistic talent in the history of mankind. Europe, a continent ravaged by the Plague, is reborn.

It is no coincidence that this is the

moment the word 'invent' enters our language. The Renaissance was an explosion of ideas, of mankind soaring to new heights of ingenuity.

In 1439 in Mainz, Germany, Johannes Gutenberg, goldsmith, entrepreneur and creative visionary, sees an opportunity. He creates one of the greatest inventions in history: the printing press.

Across the continent, the Plague has killed half the workforce. Manpower is now at a premium. Survivors can earn more than ever before.

No longer are people destined to live always as a serf or a slave or a servant. Now they can actually accumulate wealth and move up. Ordinary people seek to better themselves. The number of universities doubles in Europe. There's a thirst for knowledge and a demand for books.

But handwritten books are the preserve of the rich. It takes three years to make one copy of the Bible, and it costs a fortune.

Gutenberg's idea to industrialize writing by inventing the printing press frees up knowledge and makes a fortune for the inventor.

People knew how to press inked blocks of wood onto paper but Gutenberg's innovation turns printing into an industrial process. First he carves letters in metal to withstand repeated use. Then he modifies a wine press to exert greater pressure than by hand.

It has taken Gutenberg ten years to get to this point. Then he runs out of

money. But this is the new age of venture capitalists. Rich merchants like Johann Fust back his new invention.

Now 4,000 pages can be copied in a day instead of 2 by hand. Once the type was lined up, one person could print off a dozen pages or a thousand pages, it didn't matter.

Gutenberg prints 180 copies of the Bible, each one identical. This is the first production line.

In just 50 years, Gutenberg's invention prints 20 million books.

Ideas, experiments, discoveries are no longer the preserve of the rich and can be shared by all. Knowledge begins to spread and comes within reach of ordinary people.

And one book will inspire a journey that will open up new continents: the Americas.

Activity: The printing press changed the ways people communicate. Today, books are central to our lives. Scan the paper for book reviews and read a few of them. Then, write your own short book review about a book of your choice.

Unification of Spain

For 700 years Spain has been part of an Islamic Empire.

Gonzalo Fernández de Córdoba, a novice commander in the Spanish army, and a Christian, is trying to unify the country. He forces the Muslim army into the stronghold of Granada in the South.

His men surround the city, armed with the latest Spanish weapon: the Harquebus



Gutenberg Printing Press (replica), Credit: Passages: The Exhibition

Columbus and Exploration in the New World

In 1476 off the coast of Portugal, an Italian sailor is left to drown by French pirates. He swims six miles to shore. His name is Christopher Columbus. He'll go on to discover the New World.

He reads a book printed on Gutenberg's new presses: The Travels of Marco Polo.

At the age of 17, Marco Polo left Venice to explore the lands of the East. He traveled the world for 24 years to Japan, India, China, and beyond.

The tales of Marco Polo fire up Columbus. He's a classic example of someone inspired by literature to dream big. He wants to be the next Marco Polo.

There's one person who can help shape Columbus' dream — his brother, Bartholomew, a mapmaker.

Europeans who had just invented the technology that permitted their ships to go for long distances were now becoming dependent on these maps. Maps were vital pieces of information.

His brother puts a crazy idea in Columbus' head. The quickest route to the East is to head West. Not overland like Marco Polo — that's too slow — but by sea. Most people think the journey is impossible.

But the world is changing and opportunities await daring individuals who seize their dreams. For the indigenous people Columbus and other European explorers encounter in the New World, these developments are devastating. Disease brought by Europeans decimates native populations.



Granada (The Alhambra): In 711, the Moors conquered large parts of the Iberian Peninsula, thus establishing Al-Andalus (Moorish Spain - Islamic). The actual founding of present day Granada took place in the 11th century, during a civil war that ended the Caliphate in the early 11th century. Learn more at: <http://whc.unesco.org/en/list/314>

rifle, a huge improvement over the first Chinese gun.

The stock fits into the shoulder for stability. A longer barrel gives the bullet better accuracy and speed. The real breakthrough comes with a trigger mechanism, a lever that operates an arm bringing a burning match cord down into the priming. This is why we now say 'fire' before shooting.

Individual soldiers are now armed with weapons that are quite deadly, quite accurate, and extremely portable.

But the Moors are protected behind high walls patrolled by marksmen armed with crossbows.

Fernández becomes the father of trench warfare. A network of trenches protects the soldiers and provides them with cover to reload, as they keep moving closer. Between their new guns and trench warfare, they are able to win victory.

At The Alhambra Palace in 1492, Spanish Monarchs Ferdinand and Isabella celebrate their victory.

Spain now has a taste for conquest and decides to expend their new wealth and power to fund Columbus' exploration of the New World.

Aztec Capital & Human Sacrifice

The Aztecs have no iron tools or horses. They don't use the wheel. Yet they construct pyramids — some larger than the Egyptian pyramids — and map stars with accuracy unmatched in Europe. They build one of Mankind's greatest cities, Tenochtitlan, Mexico. Capital of the Aztecs, this metropolis is larger than London, Paris, or Rome.

At its center, where the sky, earth and underworld meet, stands a huge temple dedicated to blood.

The greatest act of piety or faith in the



Tenochtitlán – Historic Centre of Mexico City (artist Bernal Díaz del Castillo depiction): Founded in 1325, it became the capital of the expanding Aztec Empire in the 15th century, until captured by the Spanish in 1521. At its peak, it was the largest city in the Pre-Columbian New World. Today the ruins of Tenochtitlan are located in the central part of Mexico City. Learn more at: <http://whc.unesco.org/en/list/412>

Aztec world is human sacrifice. The more important the person, the more favorable the Gods will be to the sacrifice. Aztec priests sacrifice thousands of men, women and children each year, more than any other culture in human history.

The Aztecs are philosophical about death. Death gives meaning to life, and the idea of death makes the here and now sweeter and more beautiful.

In return for the sacrifices, they believe the Gods will provide a bountiful harvest, especially of a crop so productive it provides more calories per acre than any other: corn.

Over 6000 years, farmers have genetically modified a weed into the most versatile food on earth. Corn is complex with 50% more genes than a human being. Corn fuels the mighty Aztec Empire.

Fall of Constantinople & Expansion of the Ottoman Empire

In 1453, Constantinople reigns as the Eastern capital of the Christian world. For over 1,000 years it has been the largest city in Europe.

Constantinople comes under siege by the Ottoman Turks with an Islamic army 70,000 strong. Commanding them is Sultan Mehmet II, age 21.

Highly intelligent, secretive, and obsessed, he has been dreaming about this battle since becoming Sultan at age 12.

Like the Mongol hordes of Genghis Khan,

the Turks are marauding nomads from the East. Centuries of migration, conversion, and conquest have made them the most feared army in the world.

Sultan Mehmet wants to make Constantinople his capital since it is a key strategic port, a bridge between Europe and the East.

The city's lifeblood is the trade of exotic goods: spices. Nutmeg from Indonesia is marked up 60,000 times its original price.



Hagia Sophia, in historic area of Istanbul, Turkey. Learn more at: <http://whc.unesco.org/en/list/356>

One dried berry represents over two-thirds of the spice trade coming into Europe: pepper.

Over 500 tons of pepper arrives in Europe every year. It has become a status symbol in European society, valuable enough to be used as currency. A few ounces cost as much as an average monthly salary.

Constantinople is rich. The greatest symbol of this wealth is an architectural gem of epic proportions — mankind's then largest cathedral — St. Sophia.

A marvel of engineering, the great circular dome soars 180 feet above the floor and stretches 100 feet across. Built just 300 years after the life of Christ, it is an icon of Christian power in the East.

Sultan Mehmet vows to conquer all of Europe for the Islamic Empire stating: "There must only be one empire, one faith, and one sovereignty in the world."

Mehmet's big challenge: bringing down the walls of Constantinople — three walls, up to 100 feet high and four miles long. No one has ever defeated the walls of Constantinople.

Mehmet's campaign to take Constantinople hinges on a new deadly tactic: continual artillery bombardment.

The Turks use 68 cannons with teams of four, each with a specific task: cooling, cleaning, reloading, and firing. Working in shifts, Islamic warriors pound the city 24/7. Thousands of stone cannon balls traveling at 600 miles per hour are propelled into the

walls.

The people in Constantinople have never experienced anything like a cannon bombardment. This non-stop artillery barrage ushers in a new era of military hardware.

Great defensive walls are no longer enough.

This will change warfare forever.

The outcome of this battle will impact Mankind on a global scale, igniting an age of discovery unparalleled in human history.

After 53 days of round-the-clock bombardment the Turks break through and storm the city.

An eyewitness reports: "There were desperate wailings, cries and groans, everyone beating their breasts with their fists, tearing their hair and faces."

The trade routes are now controlled by an empire hostile to the west, forcing Europe to find a different route to the East — by sea. This will change everything as explorers find new lands and peoples around the world.

Christian Constantinople becomes Islamic Istanbul. St Sophia — the greatest church — becomes the largest mosque in the world.

Trade Route to the East

Thirty years after the fall of Constantinople, a ship heads into a storm off the coast of West Africa. In command, Bartolomeu Diaz is a wealthy nobleman, an expert seaman, and a risk taker.

Diaz is looking to trade directly with the East, bypassing Islamic Constantinople. He sails south, seeking a route around Africa, attempting to chart a new naval superhighway through some of earth's most deadly waters.

The boats are difficult to navigate, their navigational tools are crude, and yet people board ships and sail across oceans. One in 20 ships will be lost to the sea.

Diaz heads into a violent storm. He has been using the coast to navigate, but now his guide becomes his enemy, since being near the shore means being driven into the rocks.

They face a shipwreck in this violent storm. Diaz has to keep his wits about him and make a terrifying choice. He heads out into the Atlantic Ocean, a vast unknown. He risks everything. If he can't find his way back to shore all is lost.

He lowers the ship's square sails and puts

his faith in revolutionary new technology: the triangular lateen sail.

The sail acts almost like a wing. It actually develops lift much like an airplane's wing, and if you had a strong rudder able to steer the ship towards the wind, it transmits all that energy into forward motion.

Diaz survives the storm, but out of sight of land, he sails uncharted waters. Food and water are running low. His maps are useless. He's lost.

A force deep beneath the sea shapes his destiny: a gyre.

A gyre is a vortex of wind and currents that powers around the South Atlantic, driven by the spinning earth.

It's like giant conveyor belt and the South Atlantic gyre slingshots Diaz and his crew around the southern tip of Africa into the Indian Ocean.

Diaz claims the land in the name of God and Country: the Cape of Good Hope. He's opened a new trade route, bypassing the Spice Road and Constantinople entirely, a direct passage to India. It will become one of the busiest shipping lanes in the world.

Christopher Columbus & the New World

October 12, 1492 is a date seared onto the hard drive of Mankind. Spanish sailors sailing east discover land. Leading them is an Italian, Christopher Columbus, a visionary with a dream to find a shortcut to China.

Columbus had traveled all over Europe, begging for support for his journey. Finally, Spanish monarchs Ferdinand and Isabella throw a little money his way. Barely enough for the expedition, it affords three small ships with 88 men.

They never imagine the expedition will change the face of the globe.

Columbus calculates the journey from Spain to China will take just five days. He underestimates the distance by 9,000 miles. What is striking about this is that any educated person of that day would know that Columbus was wrong.

After ten weeks at sea, close to starvation, thousands of miles off course, he reaches land. Like the Vikings 500 years earlier, he has no idea he's discovered two vast continents: the Americas.

Discovering the Americas, mankind starts to connect the dots on planet earth. Not only a huge event in history, this is a huge event in the history of life.

Spanish Conquistadors

In 1520, Hernan Cortés, a devious, charming and ruthless conquistador, leads 1,200 men toward Tenochtitlan, Mexico, the heart of the Aztec Empire. The objective was to find gold.

Aztec Emperor Montezuma is the richest, most powerful man in the Americas — ruler of 25 million people.

Naively he welcomes Cortés and his cohorts into his palace. He thinks their numbers are small. How could they constitute a threat, when he leads an army that is ten thousand times larger?

Montezuma's gifts of gold are generous, but never enough. The Spanish lust for gold astonishes the Aztecs: "They snatched up the gold like monkeys... they were swollen with greed; they were ravenous; they hungered for that gold like wild pigs."

Cortés wants it all. He hatches an audacious plan — and kidnaps the emperor.

Part of his calculation is that if he shows that he can take over at this level — incarcerate the head of the empire — maybe the rest of the dominoes will fall.

With Montezuma captive, Cortés's cohorts empty his treasuries at their leisure. The Aztec people are not happy. They dub their emperor Cortés's whore. Skirmishes break out.

The fighting intensifies. Cortés is running out of time. He can't hold off the might of the Aztecs much longer.

Cortés' diary records: "We're in imminent danger. We'll all perish unless Montezuma commands the hostilities to stop."

Cortés has only one card left to play — Montezuma. He forces the Aztec emperor to address his people and put down the uprising, with the message, "The strangers are my guests. Lay down your arms."

But his people attack him with stones and arrows. His own people murder Montezuma, the most powerful ruler in the Americas.

Many Aztecs believe the Spaniards had murdered their emperor, and Cortés' force is nearly destroyed as they try to sneak out of Tenochtitlan at night.

The conquistadors are going to war with the Aztecs with the New World at stake. But their biggest weapons aren't guns or swords, but a virus in their bodies: smallpox.

Smallpox kills 80 percent of the city, making it easy to conquer. A year later, Cortés returns victorious. He's done it. He's hijacked an empire.

Over the next century the vast wealth of the New World transforms lives all over the globe — bankrolling empires. The New World jumpstarts the old.

The New World ushers Mankind into the modern age.



Cortés meets Montezuma

Slavery

In 1629, in the Kingdom of Ndongo, now Angola, Africa, one woman tries to turn the tide of history, spearheading resistance to European colonialists: Queen Nzinga, a warrior queen, skillful politician, and a slave trader.

Queen Nzinga sees Portuguese colonists take control of neighboring African states. She knows her Kingdom is next.

To keep her land, Queen Nzinga negotiates a peace treaty. The Portuguese agreed to respect her borders in return for slaves. But they break their promise. A rival tribe hunts down the Ndongo men. Every man they capture is sold to the Portuguese. This is the front line of a new global trade: slavery.

In the Americas, the Europeans have caused the biggest unplanned catastrophe in human history, wiping out 90% of the native peoples with diseases, especially smallpox.

Over 10 million have died in the New World alone. Without a work force of native peoples as slaves in their New World territories the Europeans find new workers in the form of Africans as their new race of slaves. Africans are captured and shipped to the Americas.

Queen Nzinga leads a successful military campaign against the Portuguese for nearly twenty years. She remains undefeated in her lifetime. The Portuguese must wait until after her death before they can push through her kingdom, deeper into the heart of Africa.

Over two centuries, European colonial powers send 15 million slaves to the Americas. This remains one of the most horrendous series of events in human history.



Slave House, Island of Goree, Senegal: From the 15th to the 19th century, it was the largest slave-trading center on the African coast. It was ruled in succession by the Portuguese, Dutch, English, and French. Learn more at: <http://whc.unesco.org/en/list/26>

Columbus thinks he's off the coast of Japan. He's actually in the Bahamas. The islands are inhabited by the Taino people.

He sees these people for the most part by European standards as very tall, very healthy, very good looking, living in a state of abundance.

Columbus records this first encounter: "The people kept calling to us and giving thanks to God...as if we had come from Heaven. ...I presented them with some red caps and beads, with which they were much delighted — and became wonderfully

attached to us."

For Europeans — and native people — a rare friendly encounter. Columbus has no idea he's launching a deadly attack of a lethal weapon: disease.

Europe is swarming with infection. Over centuries, people develop resistance.

But in the New World, the natives are defenseless. The Taino are doomed. Diseases like smallpox decimate over 90 percent of them, as well as other native peoples Europeans encounter.

Columbus searches for treasure in the

New World. "I kept my eyes open and tried to find if there was any gold, then I saw some of them had a little piece hanging from a hole in their nose. ...I gathered that by going further I'd find a king who possessed in great quantities of gold."

Columbus returns to Spain a hero, believing to his dying day he's found a new sea route to the East and an infinite source of gold.

The New World's wealth will tip the scales of Mankind's fortunes. Columbus' discovery will pave the way for thousands of Spanish desperados to go in search of gold in the Americas. The first will be the most audacious attempt to hijack the greatest empire in the Americas.

Silver

In 1554, in South America, one man makes a discovery that will change the lives of everyone on the planet — Spaniard Bartolomeu Medina, an experimenter, innovator, and entrepreneur.

Medina, a textiles trader from Spain, has traveled five thousand miles to make his fortune in Bolivia in South America. At the Potosí mines, the Spanish command a local work force of three and a half million Incas. It is a deadly business. About 50 people die each day.

The Spanish came in search of gold, but at Potosi they found silver.

Throughout history, people have used silver for currency because it is one of the few metals that retains its shine. Extremely malleable and easy to work with, silver is perfect for making coins.

But at Potosi, the Spanish have a problem. Almost all the silver has been locked inside solid rock for millennia. No one believes that the forces of nature can be reversed.

But Medina thinks differently. He's brought to the New World a technique of extracting silver from rock using mercury. But the mountain rock of the Americas is different. Medina knows to unlock the silver he'll have to discover a formula that works.

It takes him a year, but he comes up with the missing ingredient to release the silver: copper sulfate.

This discovery makes the silver mines of South America dramatically more productive, and the flow of silver going into global trade takes off.

And it makes Spain a world power and very rich.

At Potosi, in three giant silver furnaces, a team of just 40 men hammers out 25,000 thousand silver coins a year, all by hand. The Spanish coins are used everywhere in the world. They unite the world in a web of commerce. The use of silver coins changes the world.



Potosí, Bolivia: Founded in 1546 as a mining town, it soon produced fabulous wealth, becoming one of the largest cities in the Americas and the world, with a population exceeding 200,000 people. Most of the silver that shipped through the Spanish Main was from Potosi. According to official records, 45,000 short tons of pure silver were mined from Cerro Rico from 1556 to 1783. Of this total, 9,000 short tons went to the Spanish monarchy. Learn more at: <http://whc.unesco.org/en/list/420>

Pilgrims in the New World

Many people make the journey across the Atlantic — from the Old World to New — not as slaves or traders, but pioneers. They are following a new idea: freedom.

Because of the Protestant Reformation, which began in 1517 and extended into the 1600s, Europe now stands divided along religious lines. In each country, some groups are labeled heretics and outlawed. These religious outsiders flee west across the Atlantic, seeking a place where they can practice their beliefs without persecution.

In 1621, the first ship, The Mayflower, reaches Plymouth Colony, Massachusetts. Europeans have been here before, but these are the first to settle. This group of about 100 pioneers, which includes Puritan separatists who had to flee from England, call themselves Pilgrims.

Soon after their arrival, they struggle to survive, experiencing malnutrition, disease and many deaths. However, the newcomers' greatest fear is attack by Native Americans. The Pilgrims depend on two advantages — guns and a seasoned military commander: Miles Standish.

The Pilgrims are surrounded when Samoset, Chief of the Abenaki Indians, unexpectedly greets them, "Welcome! Englishmen Welcome!"

Three thousand miles from home; the first Native the Pilgrims encounter speaks English, which he learned from fishermen who visited the region.



Chief Samoset meets the pilgrims by Bryant, William Cullen, 1881

Samoset introduces the settlers to another native: Squanto. Squanto has been to England. Kidnapped and shipped to Europe as a slave, he won his freedom, learned English, and negotiated his way back home.

Squanto shows Standish and the Pilgrims how to use fish as fertilizer and how to plant a crop the Pilgrims have never seen

before: corn.

From a pilgrim's diary records: "We set some twenty acres of corn... according to the manner of the Indians... And now we began to gather up the small harvest. We were well recovered in health and had all things in plenty."

Corn becomes the settlers' staple diet, their foothold for survival.

From these seeds a nation based on new ideals grows. The Pilgrims helped define the culture and spirit of modern America.

The Wilderness, Frontiersmen, & Fur

A new breed of pioneer opens up the wilderness in search of profit: the hunter frontiersman. Seven out of 10 will die in the wilderness.

Much like today's explorers they have an adventurousness about them, but they are also driven by the desire to make money. This desire drives them to overcome strong fears about the wilderness.

One of the most remote spots on the planet is Siberia, making up nearly 10 percent of the Earth's land.

Semyon Dezyhnev is a hunter and ruthless explorer. He travels 1,000 miles from home in search of the world's most valuable commodity: fur.

Fur at this time is worth much more than gold. The world is in the grip of a mini ice age, the coldest conditions in 11,000 years. This creates an insatiable demand for fur to keep warm.

Dezyhnev's men require 6,000 calories a day just to stay alive. He recalls: "I suffered all kinds of want and destitution, ate larch and pine bark, and accepted filth."

Dezyhnev faces a more formidable threat. This is the home of the Evenki, tribal clans of hunter-gatherers. They have lived in isolation for 6,000 years.

The fact is there are no truly empty wildernesses. There are people already living there. And these people often prove an obstacle to those seeking out a commodity.

An Evneki diary relates their perspective, "We own the land here, we do not wish to become slaves." Evenki means swift and silent hunter. Their arrow tips, made from reindeer antler, are sharper than a surgeon's scalpel, but no match for a technology that is changing the future of mankind: mass production of guns.

Across the world, frontiersmen are clashing with ancient cultures. The gun,

Navigation, World Trade & the Scientific Age

When ships lost sight of land, they were in the unknown. The stars above offered the opportunity to change the course of sailing and trade through a new innovation: navigation

By the end of the 17th century, world trade was booming. Tens of thousands of ships carried goods worth over 16 billion dollars a year in today's values. Sailing charts were terrifyingly incomplete. One in 20 ships will be lost at sea.

The world's oceans are graveyards.

The new ability to navigate by the stars across the ocean produces trade routes that make individual fortunes and wealthy nations.

One man transforms navigation: Astronomer John Flamsteed. He cracks the code of the night skies and creates the world's first accurate star navigation charts.

Flamsteed is at the heart of a revolution that transforms mankind: the birth of the scientific age.

Discoveries in biology reveal single-celled organisms. Physical science discovers a new force called gravity that governs the universe. The earth, once thought to be the center of all creation, is proven to orbit around the sun.

For 14 months, Flamsteed builds a revolutionary device: the telescopic "mural arc".

It's the greatest breakthrough in navigation since the compass. His invention records the angle of the stars in the night sky more accurately than ever before. It charts each position so that mariners know exactly where they are on the earth's surface.

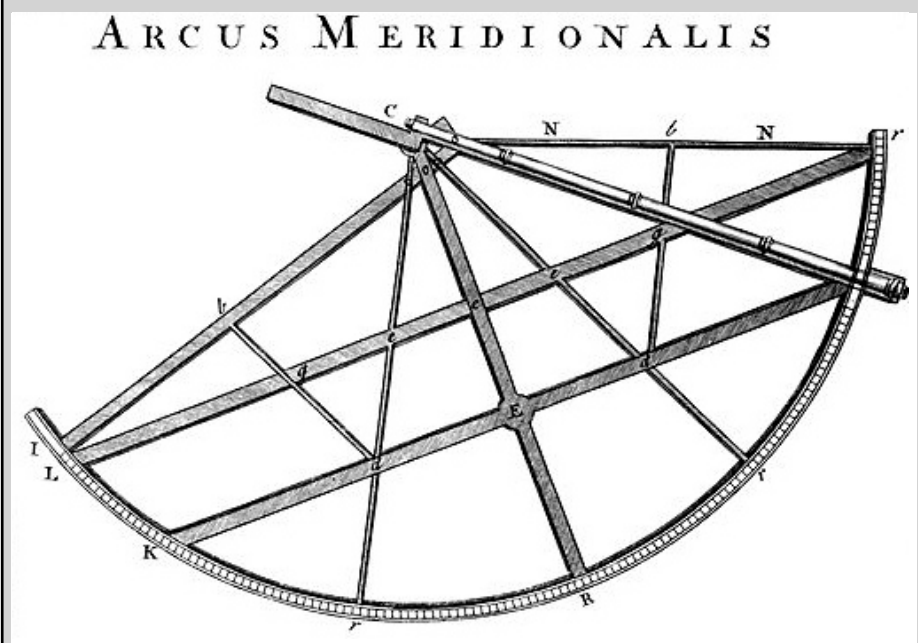
The mural arc is the 17th century equivalent of the Hubble telescope. It's 40 times more powerful than the human eye and able to measure the diameter of a coin the size of a quarter from nearly a mile away.

Flamsteed plots 28,000 measurements and charts 3,000 stars, three times more than previously recorded.

For the first time mariners have accurate star charts to navigate the ocean.

Within a century, Britain boasts the biggest Navy in the world with 16,000 merchant ships.

Even three centuries later, Flamsteed's discoveries laid the foundation for the star charts used by NASA to guide men to the moon.



Flamsteed's mural arc: Credit - Royal Astronomical Society/Science Photo Library. This diagram is from 'Historiae Coelestis Britannicae' (1725), by the English astronomer John Flamsteed (1646-1719 — first Astronomer Royal, 1675). It was published six years after his death and had nearly 3,000 star positions.

invented in China and developed in Europe, is now being mass-produced using cast iron. Production skyrockets 10,000 percent.

This process reduces the price

dramatically, so even a frontiersman like Dezynev can afford a gun. The muzzle velocity is 700 mph, seven times faster than an arrow.

Dezyhnev records the bloody battle in his diary:

"I killed some of their best men in that fight, and we wounded many others."

It's the beginning of the end for the Evenki, and other native peoples, a conflict playing out across the planet. In just three centuries, over 99 percent of the world's hunter-gatherers are wiped out.

Dezyhnev makes it home to retire a rich man.

The trade in fur opens up two continents. Russia seizes control of Siberia and quadruples its size. In North America, the fur trade blasts open the continent. Dutch traders establish a port to ship pelts to Europe. They call it New Amsterdam. Today we call it New York City.

Captain Cook, The Great Explorer

As Captain Cook describes himself, "... I had ambition not only to go farther than anyone had been before, but as far as it was possible for man to go..."

His journey creates the modern geography of the planet. Cook's ship, the Endeavour, carries a crew of 70 for a three-year journey.

On the last leg of his mission, Cook discovers the unexplored East Coast of Australia.

This is the native land of the Aboriginal people, who have lived in isolation for

70,000 years. The Aboriginal people of Australia have lived longer in one land than any other indigenous population in the world.

Sadly, like hunter-gatherers all over the world, they are forced to relinquish control of their ancient lands.

Cook's expedition includes some of Europe's finest scientists. Among them is a man who will become the world's greatest botanist: Joseph Banks.

After three weeks in Botany Bay, the Endeavour leaves Australia to return home with an irreplaceable cargo of more than 30,000 plants — 1,400 previously undiscovered. Banks catalogues more plant species than any other man in history.

Ahead lie 15,000 thousand miles of uncharted ocean. First they must cross a treacherous labyrinth: the Great Barrier Reef.

One of the seven natural wonders of the world, it stretches over 1,400 miles. Half a million years old, the reef is home to more than 2,000 species of coral and fish.

Two weeks into Cook's voyage home, disaster strikes — the Endeavour runs aground on the reef. Her hull is ripped open below the waterline; the vessel is sinking.

From Cook's diary: "We had thrown overboard 40 or 50 Ton weight ... we continued to lighten her by every method we could think."

Anything can be sacrificed, except one precious commodity — the scientific samples which were taken to safety above the water.

After 48 hours, the desperate effort to lighten the ship and the rising tide lifts the ship off the reef.

The Endeavour goes on to complete her voyage and deliver her precious cargo intact. Cook claims Eastern Australia for the British Empire.

Benjamin Franklin & Electricity

In America, the epic age of science inspires one man to unlock the secrets of lightning, laying the foundations for the invention of electricity: Benjamin Franklin, America's first storm chaser.

Throughout human history lightning has destroyed grain stores, houses, churches — anything that man built. People are powerless to stop it.

In the United States, lightning strikes 20 million times a year. Each strike unleashes as much energy as a ton of TNT, with



Benjamin Franklin's Lightning Experiment

temperatures up to 50,000 degrees — five times hotter than the surface of the sun. Every year, lightening kills 24,000 people around the world

Franklin writes in a letter: "I was never before engaged in any study that so totally engrossed my attention and my time. ... Surely the Thunder of Heaven is no more supernatural than the Rain, Hail or Sunshine of Heaven."

Franklin has an alternative theory — lightning was a form of electricity.

To test his idea he sends up a kite, attempting to draw a charge of electricity from the skies. The kite has a metal wire attached to the top, and a metal key attached to the base of its twine.

If Franklin's theory is right, the metal wire will attract an electric charge from the clouds and conduct it through the wet kite string down to the key.

But prying into nature's secrets is risky. Others have lost their lives experimenting with electricity. If the kite is struck by lightning, Franklin and his son could be killed.

As Franklin predicts, his experiment unlocks the secrets of the heavens. Sparks of electricity are extracted from the sky.

Of the experiment Franklin says, "When rain has wet the kite twine so that it can conduct the electric fire freely, you will find it streams out plentifully from the key at the approach of your knuckle."

Franklin turns his discovery into a practical invention: the world's first lightning rod. Its design, virtually

unchanged to this day, has saved countless lives.

From the first experiments with lightning came the birth of electricity, unleashing its power to the world so we could develop light bulbs, telephones, air conditioning, computers, and the conveniences of our present age. Every aspect of human life on planet earth has been transformed.

The American Revolution

What began as an act of rebellion by colonists in a timber yard triggers a war: the American Revolution.

In New England in 1770, Ebenezer Mudgett is a powerful, but rebellious, business tycoon. He's amassed property worth nearly \$1 million in today's money by exploiting timber, which could be considered green gold.

The vast forests that once haunted the dreams of America's settlers are now their greatest source of profit. With 950 million acres, more than 50 million trees, the land holds a timber treasure trove. Wood provides fuel, houses, tools, and furniture.

A third of all British ships are now built in New England and Massachusetts. Each Navy ship is constructed using 6,000 trees and costs nearly £65,000 — the equivalent of a modern aircraft carrier.

In Boston, Massachusetts, tensions run high with colonists rebelling against British rule. They are fed up with paying taxes imposed by a king three thousand miles away.

In Boston, there is one British red coat



Great Barrier Reef: The reef is located in the Coral Sea, off the coast of Queensland in northeast Australia. The Great Barrier Reef can be seen from outer space and is the world's biggest single structure made by living organisms. This reef structure is composed of and built by billions of tiny organisms, known as coral polyps. Learn more at: <http://whc.unesco.org/en/list/154>

for every four citizens. It's a city under occupation.

The conflict finds a new foothold. Ebenezer Mudgett is one of the biggest suppliers of wood to the ship building industry. A new law demands the tallest, strongest trees be marked for export to England — destined as masts for the British Navy.

The best wood in America would be off limits to the colonists.

Mudgett has broken the law and kept the wood for himself. The battle for green gold is about to turn deadly and tip America into war with the British.

County Sheriff and British Loyalist Benjamin Whiting has issued a court summons. Mudgett must face the consequences for stealing the King's wood.

Mudgett instead hatches a violent plan — a rebellion that will send the King a powerful, bloody message. This will be the first direct action against the crown.

Mudgett and a 20-strong mob close in on a small inn. Inside waits their target Sheriff Whiting. The Sheriff is given one whiplash for every tree for which the ax-men have been fined. This becomes known as the Pine Tree Riot.

In three years time, rebels in Boston will

destroy \$1 million worth of British tea: the Boston Tea Party.

In 1775, in Lexington, Massachusetts, American patriots gather to take on the military might of the British Army. No one knows who fires the first bullet, but it's the shot heard around the world. The American Revolution has begun.

Mudgett will one day join the rebels fighting for freedom.

The Continental Congress, headed by George Washington and scientist-turned-politician Benjamin Franklin, drafts a revolutionary speech denouncing the British Empire.

Thomas Jefferson writes The Declaration of Independence, our cherished symbol of liberty: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness."

After six years of hard fighting with thousands of lives lost, England surrenders at Yorktown, Virginia.

America is no longer to be ruled by a king. It's the only nation to win independence from the British through war. The news spreads like wildfire through



Independence Hall: *The building was completed in 1753 as the colonial legislature for the Province of Pennsylvania. It became the principal meeting place of the Second Continental Congress from 1775 to 1783 and was the site of the Constitutional Convention in the summer of 1787. It is known primarily as the location where both the Declaration of Independence and the United States Constitution were debated and adopted. Learn more at: <http://whc.unesco.org/en/list/78>*

the colonies. It also sends a shockwave of uncertainty through the Old World.

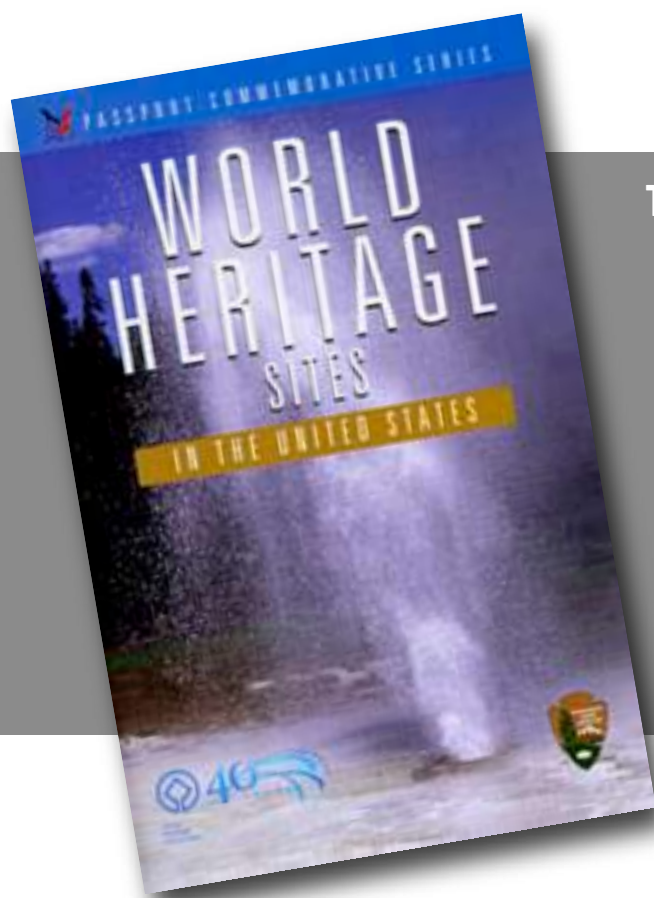
When the American Revolution succeeds, it puts abroad in the world the idea that people don't have to accept their governments, the political regimes that they were born into. They can take matters into their own hands.

The Founding Fathers revive a 2,000-year

old idea from Ancient Greece. It is now going to shape the world: Democracy — Government For the People, By the People.

This aspiration soon spreads across the world. Revolution spreads to France. Haiti follows, as former slaves throw off their chains. Revolutions carve Bolivia, Colombia, and Peru from the Spanish Empire in South America. And in the Old World, rebels take control of Greece, Poland, and Belgium from the old Empires of Europe.

As mankind continues to forge ahead, there will be countless hurdles to face. Advances in technology help humans produce new machines, new efficiencies, and allow us to create incredible new cities. Yet technology does not solve age-old problems of hunger, warfare, and disease. In the 21st century, as humans live in an increasingly globalized world, will we unlock new keys that help us solve these critical challenges? Only time will tell — and it is up to all of us.



The year 2012 marks the 40th anniversary of the adoption of the 1972 UNESCO World Heritage Convention. This booklet highlights the 21 sites in the United States that have been selected and inscribed on the World Heritage List.

Visit bit.ly/VIZKCg to purchase the booklet. Each page of the booklet features one of the 21 World Heritage sites in the U.S. with a place to put a stamp once you have visited! Learn more about World Heritage Sites in the U.S.

THE STORY OF ALL OF US

MANKIND™



THE JOURNEY BEGINS
NOVEMBER 13TH 9/8c

HISTORY.COM/MANKIND

