

## Introductory Audio Tour Transcript

**Introduction:** Welcome to the Bingham Gallery. *Roots of Knowledge* is a stained-glass mural depicting the progress of human knowledge. *Roots of Knowledge* was created by Holdman Studios for Utah Valley University and unveiled in November 2016 to celebrate the school's 75<sup>th</sup> anniversary. The windows remain a permanent showpiece at the Fulton Library, to help us learn from the past and to inspire optimism for the future. Spanning nearly 200 feet, *Roots of Knowledge* is composed of 80 windows with approximately 43,000 pieces of glass. Details, such as text and portraits, were carefully painted by studio artists. However, *Roots of Knowledge* is more than just glass. You can find authentic artifacts scattered through the windows, including fossils, gemstones, ancient coins, computer chips, a war medal, and even a shard of the Berlin Wall. The exhibit begins and ends with two towering trees. The tree on the left, or south side of the gallery, is the Tree of Knowledge. Its roots extend through all the bottom panels until reaching the Tree of Hope for Humanity, at the opposite end. Branches from the Tree of Hope for Humanity reach backward, through the top panels, connecting the events of today with the events of the past. The roots and branches represent the two constants humanity clings to – the knowledge we gain and the hope we have for the future.

*Roots of Knowledge* is organized as a series of 26 columns portraying prominent people, places, and events from different time periods. All of the top windows showcase different records and forms of the written word. The lower windows depict the contributions of different cultures and civilizations throughout history. As you explore the exhibit, you'll view the windows one column at a time, moving from left to right, with each column arranged alphabetically by a letter, from A to Z. If you would like to learn more about specific items in a panel, visit the virtual tour on the *Roots of Knowledge* website, where you can explore the exhibit window by window and item by item. As you go through this audio introduction, feel free to pause at any time before continuing on your journey. Let's begin with the first column on the far left, or south end of the gallery, where you will see the large bristlecone pine or the Tree of Knowledge.

**Column A: *Ex Uno Plures.*** This column shows the genesis of life on Earth and begins our journey with the Tree of Knowledge, a 5,000-year-old bristlecone pine found in California's White Mountains. The roots represent the growth and sharing of knowledge through the ages. Above the tree, a diagram represents how nature is organized by the laws of math and physics.

**Column B: *Origins.*** In the middle of this column, resting inside a Copernican model is the planet our human family calls home. The logarithmic spiral signifies the continuous expansion of the universe. The first signs of animal life appear in the lowest panel of this column, both as painted glass and as authentic artifacts, such as gemstones. On the far right, is a painted dinosaur fossil. Beside it is a large ammonite fossil with a shell that shows a naturally occurring logarithmic spiral.

**Column C: *The Kindling of a Flame.*** The central focus of this column is the Tree of Life, where the saga of the human family begins. Placed throughout these windows are images illustrating the dawn of man, whether that imagery is aesthetic, religious, or scientific. The top window

chronicles the first methods humans used to leave records. Petroglyphs form the earliest links in this evolutionary chain of ideas.

**Column D: *Seeds of Civilization.*** In the middle panel, the sunrise behind the pyramids signals the dawn of civilization. The Neolithic Revolution introduced farming to supplement hunting and gathering, thereby feeding and nourishing a growing population. Thanks to agriculture, people could focus on other areas that define civilization, such as building monuments, fortifying settlements, exploring seas, and developing languages.

**Column E: *Nobly Dare.*** As the Tower of Babel reaches into the red sky, it points to the key to understanding ancient languages – the Rosetta Stone – and the Code of Hammurabi. Until now, stone has been the universal writing surface. In the bottom window, an Egyptian papyrus maker introduces a new material to preserve the written word.

**Column F: *To Move a Mountain.*** Alexander the Great at the Battle of Issus has been recreated in mosaic style at the bottom of the column, made up of more than 2,400 individual pieces of glass. Above the mosaic are the Hanging Gardens of Babylon, a majestic marriage of architecture and horticulture, making it a wonder of the ancient world. The sophistication of ancient minds is represented in the top panel by Confucius, who continues to influence philosophical thought.

**Column G: *He Who Teaches, Learns.*** Civilizations developed ways to express their philosophies, transfer their knowledge, and immortalize their faith. This was done by building large monuments, as seen in the middle panel: the blue Ishtar Gate, the Pyramid of the Moon, and the Pillar of Ashoka. Cultural information has been shared orally for generations to pass on significant details, such as folklore and history, as characterized above by the shaman at the campfire.

**Column H: *The Examined Life.*** These windows convey the ancient wisdom of Greek philosophy, Chinese Taoism, and Varanasi medicine. Dominating this column is a recreation of *The School of Athens*, a fresco painted by the Renaissance artist Raphael to honor the Ancient Greeks. Among these eminent philosophers are Plato, Aristotle, and Archimedes, individuals who inspired the thinkers of Raphael's own time.

**Column I: *Instructed by Reason.*** This column showcases Classical antiquity such as the orator Cicero addressing an audience in the middle panel, and the Lighthouse of Alexandria which lights the way for ships approaching the city of learning. Below, the mathematician Thales presents his theorem on a scroll. Performing arts are emphasized by the Chinese dancer, musical instruments, and the theater masks, surrounding the stage. Consistent with the prevailing theme, a Mesoamerican stone relief in the top panel depicts what some archaeologists believe is a World Tree.

**Column J: *By Their Fruits. Roots of Knowledge*** now reaches what is sometimes called the Meridian of Time, because of the arrival of Jesus of Nazareth and the founding of Christianity. During this period, the Roman Empire reached the height of its dominion. However, the empire's vastness would also be a factor behind its undoing. In the background, scenes of destruction,

such as the burning of the Library of Alexandria and the Fall of Rome, suggest the future looks ominous for the pursuit of knowledge.

**Column K:** *The Ink of the Scholar.* The Dark Ages are symbolized here with a nighttime scene. While this period is often identified as a bleak period in European history, enlightened individuals were still hard at work. This was the case for the Islamic world, as it entered a golden age, sparked by the Quran, the open book in the top panel. The Byzantine Empire reached a high point as well, as evidenced by Hagia Sophia in the middle panel. Floating lanterns and explosive fireworks in China also hint that light was still to be found. In the bottom panel, the Venerable Bede sits at his desk to record unfolding events of his day.

**Column L:** *The Light Shineth in Darkness.* The rising sun behind the mountains heralds a new dawn, as civilization transitions from the Dark Ages to the High Middle Ages and the Renaissance. Thanks to tireless scribes and monks, knowledge was kept alive during this period in the form of illuminated manuscripts, such as the Book of Kells, as depicted in the top window. In the bottom panel, the Chinese invent movable type, a milestone in the spread of knowledge.

**Column M:** *Towering Ambitions.* Wars and disasters were characteristic of the medieval era, but in spite of such obstacles, humanity endured. The gothic cathedral, and the scenes unfolding inside of it, exemplify the efforts to edify civilization. In front of the Rose Window of Notre Dame are a pair of early opera singers. Located at the top, between the spires, we see Scheherazade entertaining the king with her tales of *One Thousand and One Arabian Nights*, an example of storytelling in the Middle Ages. In the bottom panel, King John stamps the Magna Carta. To the right, Scottish nobles draft the Declaration of Arbroath, while on the opposite side, resilient children dance to keep their spirits up during these trying times.

**Column N:** *Rebirth.* Knowledge and wisdom, lost to Europe after the fall of Rome, were rediscovered during the Renaissance. The top panel gives us a peek into the studio of a Renaissance man with sketches by Leonardo Da Vinci and a bust of Lorenzo de' Medici. Geniuses in the bottom panel, such as Gutenberg with his printing press and Michelangelo, chipping away at David, sculpted history. In the middle panel, cultures were developing in other parts of the world, as indicated by the Forbidden City in China and Machu Picchu atop the Andes.

**Column O:** *All the World's a Stage.* This scene portrays the dynamic Age of Exploration. Topping the column is a world map, which was included in the first modern atlas. The windows beneath display a tropical harbor with a fleet of ships, laden with goods and treasure from around the globe. The 1500s brought civilizations together, doing both harm and good, but undoubtedly shaping the fate of humanity. The two figures in the forefront of the bottom panel demonstrate this interaction. Shown are the Spanish missionary Bartolomé de las Casas, protector of the Indians, and Enriquillo, a chieftain on Hispaniola.

**Column P:** *Upon the Shoulders of Giants.* The 17<sup>th</sup> century saw the scientific revolution and baroque art movements. Galileo with his telescope, shown at the top of the stairs in front of the Taj Mahal, and Sir Isaac Newton, represented by the apples in the top panel, laid the foundation

for modern science. In the bottom panel, Vermeer paints the *Girl with the Pearl Earring*, while being serenaded by the music of Johann Sebastian Bach.

**Column Q: *Sapere Aude! Dare to Know!*** This column embodies the Enlightenment of the 1700s. The bottom window is occupied by great philosophers and statesmen, such as the American Founding Fathers, who dared to challenge conventional thought. In the center panel, aviation is born with the flight by the Montgolfier brothers in a hot air balloon. *Gulliver's Travels* by Jonathon Swift, and the architecture of St. Petersburg epitomize the enlightened thinking of the age. As shown in the top scene, Diderot's encyclopedia, Handel's *Messiah*, and Independence Hall are also highlights of this Age of Reason.

**Column R: *A Heart Untainted.*** The dawn of the modern era has arrived, as freedom movements shape nations and the last corners of the map are drawn. Documents displayed in the top window, such as the U.S. Constitution and the Napoleonic Code, define the evolving governments of the Americas and Europe. The lower window portrays Sacagawea leading Lewis and Clark into the wilderness to survey the land, study flora and fauna, and learn from the indigenous people.

**Column S: *Beauty is Truth, Truth Beauty.*** "It is a truth universally acknowledged" that Jane Austen's novels are some of the most beloved stories in literature. In the upper panels, we see Austen surrounded by other influencers of the Romantic period, such as Beethoven, Pushkin, Emerson, and Mary Shelley. While many dreamed of a simpler way of life, others continued to push forward. In the bottom panel, a steam engine cuts across the land, blazing the trail for the Industrial Revolution.

**Column T: *Unbounded Nations.*** The mid-1800s brought rapid progress to the world, as featured in the Great Exhibition of 1851 in London. Here, people from all nations showcased their inventions, ideas, and cultures. Above the Crystal Palace, the top panel displays key scientific breakthroughs. In the open book, Charles Darwin's *Origin of Species* fills the left page, and Gregor Mendel's work in genetics occupies the right. Meanwhile, the Emancipation Proclamation opens the door for major socio-political transformations.

**Column U: *On Wings of Passion.*** The Technological Revolution, arriving in the late 1800s, generated a wave of visionary achievement. In the top panel, Thomas Edison receives light from Van Gogh's *Starry Night*, Nikola Tesla generates illumination that is both literal and figurative, and the writings of Mark Twain and Rudyard Kipling spring to life. In the middle panel, the Wright Brothers' airplane soars between the Sagrada Familia and the Eiffel Tower, while on the right, Louis Pasteur, Marie Curie, and Guglielmo Marconi experiment inside the Singer House. Below, automobiles and telephones are introduced in the busy street scene, where a paper boy announces the morning's headlines.

**Column V: *Nothin' But Blue Skies.*** At the top of this column, historical figures and events, such as Albert Einstein and the discovery of King Tut's tomb, are displayed inside squares and rectangles inspired by a Piet Mondrian painting. Below is a bustling city in the early 1900s with several notable people, including Helen Keller, Louis Armstrong, and Emmeline Pankhurst, a British suffragette.

**Column W: *Worth the Fighting For.*** Through the 1930s and 1940s, the world community was tested through a series of disasters and conflicts. In the top window, we see a reporter's desk surrounded by maps, newspaper clippings, and photographs related to these tumultuous times. Shining above the cityscape, Art Deco rays of light signify the triumphant spirit of a free society. The scene below captures a celebration, with everyone from returning soldiers to world leaders.

**Column X: *Breaking Barriers.*** The post-World War II years brought new pursuits. Many of these endeavors are displayed in the top window, where a suburban home, built for the average family in the 1950s, chronicles the passage of time. Humankind pushes the boundaries of "the possible" in the lower panels. Space exploration is represented in the middle panel with the Apollo 11 rocket, launching into the night sky. The crowd scene below shows the advancement of human rights and civil liberties with key individuals in front of the Berlin Wall, including Rosa Parks and Oscar Romero, holding a banner featuring a quote by Dr. Martin Luther King, Jr., and Ronald Reagan shaking hands with Mikhail Gorbachev.

**Column Y: *Places You'll Go.*** The windows in this column move into the modern era, and a little bit beyond, with projections of the possible future. Rising above the cityscape is a multicolored building that has no limit. Upon closer examination, however, this structure represents something microscopic, a genome. This illustrates a prevailing theme throughout *Roots of Knowledge* – that big ideas are formed by tiny components. Another example of this concept below is a storyteller reading to a group of children, in effect perpetuating the spread of knowledge.

**Column Z: *Hope for Humanity.*** As *Roots of Knowledge* comes to an end, roots from the Tree of Knowledge connect to the Tree of Hope for Humanity. The torch forming this tree symbolizes the transfer of knowledge and wisdom to illuminate tomorrow. Its branches reach back through the top panels, linking the past, present, and future. The torch has been passed to you. It is now in your hands to continue this legacy and contribute in your own way to the world we live in. We hope you enjoy your experience and are inspired by these examples from the past. Thank you for visiting *Roots of Knowledge*, and please come again.