

Video and Discussion Guide



American
Spaces

TED Talk: ***Ancient Wonders Captured in 3D***



Speaker: Ben Kacyra

Year made: 2011

Length: 12:20 min

English level: Medium

Themes: Cultural Preservation, Science & Technology

Link https://www.ted.com/talks/ben_kacyra_ancient_wonders_captured_in_3d

TED is a nonpartisan nonprofit devoted to spreading ideas, usually in the form of short, powerful talks. TED began in 1984 as a conference where Technology, Entertainment and Design converged, and today covers almost all topics — from science to business to global issues — in more than 100 languages. (From <https://www.ted.com/about/our-organization>)

Please note:

- **American Spaces Coordinators should work together with their Public Affairs Sections** in planning programs for the American Space, and to determine appropriate programming themes and content.
- **Ted Talk videos are available for download.** This is recommended for American Spaces with low or unstable bandwidth.

Context (from Ted Talk summary)

Ancient monuments give us clues to astonishing past civilizations -- but they're under threat from pollution, war and neglect. Ben Kacyra, who invented a groundbreaking 3D scanning system, is using his invention to scan and preserve the world's heritage in archival detail.

About the Speaker (from https://www.ted.com/speakers/ben_kacyra)

Ben Kacyra is an Iraqi-American engineer who founded CyArk, a nonprofit organization engaging in 3D digital preservation of cultural heritage sites worldwide. CyArk's concept stemmed from Mr. Kacyra's work as co-founder of Cyra Technologies, a San Francisco Bay Area technology company responsible for developing the first fully integrated laser 3D imaging, mapping, modeling system used worldwide in the architectural, engineering and construction industries as well as the automotive, entertainment and crime forensics fields. Mr. Kacyra holds a MS degree in engineering from the University of Illinois.

Context

It is critical that cultural heritage be preserved. The United Nations Educational, Scientific and Cultural Organization or UNESCO says that heritage can be seen as a continuum between what we inherit and what we leave behind. "It is our legacy from the past, what we live with today and what we pass on to future generations." UNESCO's criteria for designating a World Heritage

Site is the site must be of "outstanding universal value" and meet at least one of ten criteria showing its significance to humanity. World Heritage Sites are protected by international treaties.

Digital imaging has created a huge advancement in the preservation of cultural heritage sites and artifacts in the sense that it creates detailed - three dimensional - representations of the objects to be preserved. Additionally, digital imaging allows increased accessibility for the conservation and sharing of these images, which further enhances preservation and research pursuits. While the preservation of actual sites and objects may not always be possible, if digital images have been created, an actual representation can be preserved for future generations.

Key Vocabulary

- **3D** – or 3 Dimensional, is an object with height, width and depth.
- **3D Laser Scanning System** – a device that utilizes lasers to analyze something to collect data on its shape. This data can then be used to create digital 3D models
- **World Heritage Site** – selected by UNESCO for having historical, cultural, or other reasons for significance. The Great Wall in China, the Acropolis in Greece and the Statue of Liberty in the United States are just three of the more than one thousand sites so designated.

Discussion Questions

1. Why should we preserve cultural heritage?

2. Do you remember the story Mr. Kacyra gave for why he and his wife expanded the mission of their foundation to include digital heritage preservation of world sites?

At the time he and his wife started their foundation, the Taliban blew up the magnificent Bamiyan Buddhas, which stood at 180 feet tall, in Afghanistan. This devastated him, and he and his wife feared that other cultural heritage sites all over the world would be lost.

3. What are the ways that the world is losing cultural heritage sites?

Natural phenomena – earthquakes, floods, tornadoes, as well as human-caused destruction with wars, terrorism, arson, urban sprawl, etc.

4. How does digital imaging help preserve World Heritage sites?

While digital imaging can't preserve the actual physical site, it can preserve the site's memory through 3D data collection. This digital preservation allows for heritage sites to be reconstructed if necessary.

5. What is the CyArk 500 Challenge that Mr. Kacyra talks about?

CyArk stands for Cyber Archive. The CyArk 500 Challenge is the project he is undertaking to digitally preserve 500 World Heritage sites in five years. As of the Ted Talk date, they have completed close to 50 projects.

6. What are some of the cultural heritage sites in your communities and countries? Are any of these UNESCO World Heritage Sites?

This TED Talk is translated into 32 languages. A transcript of the talk is also available here:

https://www.ted.com/talks/ben_kacyra_ancient_wonders_captured_in_3d/transcript

OTHER RESOURCES FOR YOUR PROGRAM ON CULTURAL PRESERVATION

IIP's Share America Stories on Cultural Preservation:

- <https://share.america.gov/technology-lets-us-see-inside-a-mummy/>
- <https://share.america.gov/cultural-heritage-priceless-gift-to-world/>
- <https://share.america.gov/following-afghan-silk-road-with-satellites/>

These are short articles that provide additional information and background on the topic of cultural preservation.

Consider incorporating these written articles into your program on cultural preservation:

- Print out 1-2 stories in advance for program attendees.
- Give attendees about 2-5 minutes to read each article (the timing will depend on your target audiences).
- Ask for volunteers to briefly summarize the article(s).
- Go over 3-5 key vocabulary words per article that would be important for comprehension of the article (facilitators should prepare in advance).
- Ask some detailed questions about the article itself – these questions can be a launching point for further discussion about how the topics relate to the program attendees' communities.
 - For example, for the first Share America story on "***Technology Lets Us See Inside a Mummy***," you can consider asking the following questions:
 - Other than computerized tomography (CT) scans, what other tools and technologies are scientists using to learn about ancient cultures?
 - Are there local museums where visitors can learn about the ancient cultures of this region?
 - What are some of the ways that our communities or governments preserve ancient culture?
- Wrap up program and tie Share America article(s) back into overall program theme and discuss key take-away points.

UNESCO list of World Heritage Sites – see what sites are listed for your country

- <http://whc.unesco.org/en/list/>

CyArk – founded by Ben Kacyra in 2003 to ensure that cultural heritage sites are available to future generations:

- <http://www.cyark.org/>