



## The Consumerisation of 360 Degree Imaging and the Impact on Culture and Heritage

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**Received:** October 01, 2021

**Published:** December 17, 2021

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### Abstract

Developments in communications technology are one of the most important drivers of culture and heritage. Improvements in the way in which we pass on knowledge and memories from generation to generation have had a major impact on the way in which we perceive the past, act in the present and shape the future. The major civilisations of the world and the ubiquity of languages can be traced back to leadership and innovation in communications technologies. Roman Roads, the printing press, canals, railways, photography, telegraphy, telephony, radio, cinema, television and the internet have all represented quantum leaps in the democratisation of communication.

With these developments, citizens have become increasingly empowered and influenced by information about the past and the experiences of other humans throughout history. We learn about our culture, heritage and religion through what we hear, read and see and this shapes our memories and perceptions of the past and our vision for the future. This article reflects on the impact of technologies like 360 degree cameras and virtual/augmented reality on culture and heritage.

**Keywords:** Culture and Heritage; Civilisations; Photography

### Introduction and Background

In early civilisations, knowledge and wisdom was transferred from generation to generation through storytelling and artefacts. The ancient paintings of cave dwellers from thousands of years ago gave us a glimpse of the animals and human hunters that existed at the time and our imagination was stimulated to form our own individual interpretation of what life was like in those days.

As humans improved their ability to interact and share stories with other humans through trade and travel, cultural influences spread with them and even in the majority of the 20<sup>th</sup> century, our perception of the past and the memories passed on were effectively shaped and distorted by the communications medium. As an ex-

ample, books and the printed word rely on the reader's experiences and culture to form a personalised interpretation of events. We can immerse ourselves in the written word but we cannot actually truly relive the situation.

Photography was an important development in this respect because, for the first time, humans could capture a moment in time which could be frozen and preserved for future generations. An unedited photograph is a validated representation of that moment which, in early days, was a precious influencer of our memories.

Video technologies and cinema added the dimensions of movement and sound, bringing alive stories and helping audiences to have a more immersive experience, which in turn has a greater impact on memory and cultural heritage.

## 360 degree imaging technologies



**Image 1:** A 360 degree image of the Flying Scotsman Railway Engine at Kings Cross Station.

One of the more recent development in our ability to capture events is the 360 degree camera which, used with a virtual reality headset, gives us the opportunity to actually relive moments in time with all the sights and sounds faithfully recorded. These cameras are increasingly affordable and when enabled by other emerging technologies like high speed 5G wireless networks enable us to share that living experience in real time with a global audience.



**Image 2:** A 360 degree image of the historic church in Grafton Regis.

The ability to be able to not only record and store digital 360 degree still images and videos in a virtual reality format but also to stream live 360 degree video over the internet brings an unprec-

edented ability to share genuine culture and heritage with a global audience.

As an illustration, the author made a presentation to a group of pensioners in 2018 at a luncheon held Grafton Regis village hall. Grafton Regis is a tiny village in the countryside in Northamptonshire but this rural location played a major role in English History as it was favourite haunt of King Henry VIII and Ann Boleyn and it was arguably in this spot that the Church of England was born. At this village luncheon presentation, the author was able to stream the presentation live in 360 degrees to viewers as far away as Brazil, Thailand and Lithuania.

## Culture and heritage applications

These emerging and enabling consumer technologies capture events in a format that enables present and future generations to relive them as if they were actually there. Through the internet, they can be shared with a global audience. Clearly the events which will be available in this format will be limited to the present day and their impact will be felt in the future.

However, for many existing cultural and heritage sites, 360 degree images and videos can be used to create virtual tours based around 360 degree images of the sites augmented with other digital media content.



**Image 3:** 360in360 Living Memorials Web Page.

A potentially important application for families with elderly relatives is the living memorials application in which precious family memories and occasions can be captured and preserved in a digital living memorial. This provides an opportunity for future generations to experience being the same room or at the same event as loved ones who have passed on. Some example demonstrators can be viewed at <https://www.360in360livingmemories.com/>

## Conclusion

In an age of social media and “selfies”, digital imaging and communications technologies such as smartphones and 5G bring an unprecedented avalanche of globally available photos and videos. As with any commodity, increases in availability of supply reduce the value of the commodity. The same is likely to happen with digital images and video stored on the internet. Unlike the precious photo albums, newspaper cuttings, scrapbooks and video cassettes of the last century, there will be so many photos and videos stored in multiple locations that their impact on the future of culture and heritage will be diluted.

For families and individuals however, the consumerisation of 360 degree imaging, creates an opportunity to choose the life events they most want to preserve and share with future generations and create their own personalised digital legacy.

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