



## BRINGING HISTORY BACK TO LIFE

**Rose Robson explores how 21<sup>st</sup> century technology can help us step back in time**

When I was at school, studying history was knowing about things like the exact date of the fall of the Berlin Wall or being able to recite all six of Henry VIII's wives. During one test, I suddenly drew a blank – Which three astronauts first stepped onto the moon? Neil Armstrong, Buzz Aldrin and, er ... The passive memorisation of names, dates and facts and the focus on invasions, revolutions and the lives of kings and queens made history a subject that felt irrelevant and remote, and as dead as the people of the past. But in many classrooms today, the focus has shifted. Now, students are expected to think more critically about traditional versions of historical events, and to consider their wider social and cultural implications, helping them to recognise that there have always been many 'stories', as opposed to one. Moreover, new technology and media have allowed us to gain fresh insights into history, bringing the past to life in really dynamic ways.

*Time Team* was a popular TV programme that was helping to propel archaeology into the public consciousness. The specialists in the team spoke about each excavation with genuine passion, and translated the science in a way that meant audiences felt engaged rather than alienated. An ancient iron nail, a tiny piece of pottery, a mud-encrusted gold brooch – at the beginning of each episode the presenter, Tony Robinson, would ask who had owned the item and how it had ended up in that location. People wanted to know, and, at its peak, the show was so popular that the ratings grew to 3.5 million viewers who wanted answers. Although *Time Team* no longer airs, its legacy remains. A new generation of archaeologists is digging up muddy fields, piecing mosaic fragments together, examining old bones and holding up their finds to the camera.

Cutting-edge technology is helping us uncover even more of the past's secrets. Colorado State University archaeologist Christopher Fisher and his team, had been digging in Mexico at the site of an ancient and massive city hidden under jungle vegetation when Fisher had a revelation. As he was walking around the site, which was 26 km<sup>2</sup> and had as many buildings as Manhattan, it dawned on him that the excavation would take him the rest of his career and he thought 'there's got to be a better way'. There was. Fisher and his team used LiDAR, a high-tech laser mapping technique, to reveal in breathtaking detail the 1,000-year-old city. Typically used on drones and military helicopters, LiDAR was also used by Australian archaeologists to discover and map vast medieval cities long-buried in the forests of Cambodia. As well as lasers, archaeologists are using GPR (Ground Penetrating Radar) to enable them to 'see' what's underground. Just north of Rome, archaeologists from the University of Cambridge used GPR to 'uncover' an entire Roman city with no digging. The images showed incredible 3D shapes of public baths, theatres, shops and other structures. Although the use of equipment like LiDAR and GPR has caused an archaeology revolution, it doesn't mean that traditional, boots-on-the-ground, Indiana-Jones-style excavation has become redundant, but it has certainly sped up the process.

Other innovations are helping to bring the past to us. Virtual reality (VR) technology is used by museums and heritage sites to allow visitors to go back in time and experience important historical events first-hand. You can 'walk' around ancient Rome, or get an up-close look at a Viking battle in all its 360-degree 3D glory. Computer-generated imagery (CGI) is another way of taking our understanding of history a step further by bringing cities, buildings and even people 'back to life'. The quality of the visualisations that CGI technology produces, with realistic animation and 3D images, helps make history more relatable, particularly to younger people.

If innovations in technology also help to make the past more exciting, they are also providing solutions to help conserve it for the future. The Roman Baths in the city of Bath in the UK are an example. Glass walkways have been cleverly suspended above the Roman foundations so that no human foot will cause erosion. Lighting is deliberately softened, reflecting the moody atmosphere of a Roman sanctuary, and avoiding deterioration of artefacts that artificial brightness would cause. Before I visited last year, friends had advised me to expect snaking queues and rooms packed with slow-moving bodies. It was a description that turned out to be accurate. But the soundscapes and CGI reconstructions brought to life a Roman world beyond my expectations. I emerged in awe of this interactive journey. Many people believe that a good imagination is all that is needed to open a window into the past, but I suspect that the more we embrace the technology of the future, the closer we will become to our past.