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Ritual Fire at Virtual Stonehenge

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The research project team has explored multimedia experimental archaeology in a 21st century context. The team includes Dr. Ertu Unver, Andrew Taylor from the 3D digital research group and Dr. Rupert Till is a music technologist from School of Music, Humanities & Media to create a accurate 3D model of the Stonehenge stone circle for anthropological and virtual archaeological studies. Previous research in this area by Till focused on investigating prehistoric ritual performances and experiences through acoustic modeling and Taylor & Unver published their 3D environments which included work with 3D scan data, modelling and rendering. Through the collaboration 3D model of Stonehenge has become more archaeologically accurate through use of digital tools such as LIDAR (Light Image Detection and Ranging) data, virtual physics systems adding sun, wind, rain, and the introduction of virtual human characters. These developments in the project are enabling a phenomenological, immersive, archaeological, educational experience that can encourage viewers to explore with their emotions and bodies, with their aesthetic senses as well as their brains.

In this phase of the project the research team have constructed an extension of previous depictions of art, that explores sacred ritual practices throughout history of the site. This work asks whether, virtual experiences and models are as able to transport the viewer around a space as paintings and drawings, and see they more readily believable as a physical interpretation. A painting can be seen as an artist’s impression, a rendered 3D computer graphics model may well be seen as more ‘scientific’ approach although the team believes 3D modelling and animation is expressed by artists re-shaping experiential spaces. This work theorises that the origin of ceremony and ritual are inseparably linked to art. There is a great deal of interest in 3D virtual reconstruction of archaeological sites for education and promotion to allow the public to interact with and experience a site as it may have been in the past. This project explores virtual reconstructions and evaluations and environmental physics tests of how virtual fire and smoke behave in and around the stones and across the site and this is now being further explored through further investigation of historic and archaeological data research into ritual behaviour, ceremonies and sacrifices.

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