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9 *The Digital Aesthetic in 'Atlantis: The Evidence' (2010)*

Anna Foka

Over the many centuries since the Greek philosopher Plato committed it to writing, the story of Atlantis, the city destroyed by Poseidon, god of the sea, has captured people's imagination.¹ From the treatises of renowned thinkers to the jingoistic discourses of nation states to the explorations of adventure archaeologists, two questions in particular recur: did Atlantis exist, and where was it?² On 2 June 2010, 'Atlantis: The Evidence' (henceforth 'Atlantis'), an episode of the BBC2 historical documentary *Timewatch* series, set out to investigate. As the title suggests, the aim was to gather and evaluate clues: these were to reveal that the Platonic myth referred to the Bronze Age town of Thera, which was destroyed during a massive volcanic eruption towards the end of the second millennium BC. This theory was hardly new.³ However, in the use of digital technology in the assemblage and display of evidence, 'Atlantis' built a distinctive account of Atlantis-Thera before, during and after the eruption. In this, the programme conformed to the emerging digital aesthetics of historical documentaries on television. However, the scale and diversity of digital tools used for visualisation make 'Atlantis' an illuminating case study not only for the treatment of an ancient Greek myth on British television, but for the impact of digital technologies in the documentary genre.

Across the creative industries, digital tools have become ubiquitous in the production of audiovisual images, especially through CGI, by which means environments and their inhabitants – and therefore historical places and people – can be produced. At the same time, academics today use digital technologies to visualise places distant in

time and space via interactive mapping, 3D models and prototypes: techniques that are frequently described as ‘cyber-archaeology’.⁴ In both cases, digital tools offer new opportunities for representing the past, mimetically and schematically. The application may be for entertainment or for education, or both, but always the result is constructive of the past. So, for example, video games are increasingly analysed as forms of (hi)storytelling, by which players navigate landscapes and engage with narratives that immerse them in, and thereby develop a sense of, the past.⁵ Furthermore, as Bettany Hughes, the popular historian and presenter of the *Timewatch* ‘Atlantis’ programme, notes, the application of digital technologies in the construction of knowledge about the past by archaeologists raises the possibility that ‘History . . . should be discovered not just *via* TV, but *thanks* to TV.’⁶ By this interpretation, transposed onto television, the audiovisual reconstructions facilitated by digital technologies provide opportunities for historical exposition and explanation.

In the light of these trends in the application of digital technologies, it may seem unsurprising that television documentaries – themselves a mode of historical representation crafted out of words and images that combines entertainment with education⁷ – follow suit. In particular, for ‘Atlantis’ a digital approach was facilitated by its co-production with the BBC1 drama *Atlantis: End of a World, Birth of A Legend* (2010), the promotional material for which emphasised its use of cutting-edge technology to ‘[bring] viewers face to face with one of history’s greatest disasters’ and ‘immerse the viewer in a world they’ve never seen before, in a brand new, exciting way’.⁸ Transported into ‘Atlantis’, scenes from the historical drama realised in CGI potentially carry forward the immersive effect. Yet this very engagement raises questions beyond those that are sometimes posed regarding the integration of ‘fictional’ drama into a programme investigating ‘fact’,⁹ as a consequence of assumptions (like those expressed by Hughes) about the capability of digital technologies. As Landesman has argued for ‘digital documentaries’ more widely, the ‘conceptual and theoretical utopias . . . repeatedly proposed regarding digital visuals’ represented by such claims underplay the challenge posed to viewers by ‘digitality’.¹⁰ The digital age is delineated as ‘a historic break in the nature of media and representation’, emphasising the unprecedented capacities digital technology holds for visual manipulability.¹¹ For a genre like documentary that is devoted to careful crafting of reality – in this case the reality of Atlantis as Thera – this is particularly pertinent. By examining digital manipulations in the service of presenting evidence for a historical Atlantis, focusing on

their character and effects, this chapter considers the challenges of digitality to the depiction of the ancient world.

To this end, the present study thus approaches digital technologies in 'Atlantis' as elements in the documentary's *ekphrasis*.¹² Currently used to mean a 'vivid description' in specific reference to images and art, in ancient Greece *ekphrasis* originally referred to textual narratives 'rich in visual and emotional effects' that offered the reader/audience an immersive experience.¹³ Like those oral and written narratives that enact 'a mental representation of that subject', subjects rendered digitally are constructive and affective, as this chapter will show. In what follows I examine the Atlantis documentary as digital *ekphrasis* – an evocative representation on the audiovisual plane facilitated by digital techniques that generate a distinctive aesthetic and contribute to the programme's proposition regarding the relationship between Atlantis and Bronze Age Thera (its demonstration and interpretation of 'the evidence'). From the catastrophic eruption to the physical environment and the Minoan population of Thera, the experimental, interactive and collaborative CGI techniques familiar from television drama and cyber-archaeology construct the events and people of the distant past into a distinctive posthuman world.

FROM FICTION TO FACT: THE *EKPHRASIS* OF AN ANCIENT CATASTROPHE

When Atlantis appears for the first time in Plato's dialogues *Timaeus* and *Critias*, it is as an allegory of or warning for contemporary Athens as a city that falls out of divine favour and submerges into the ocean. While the story of Atlantis is widely regarded as a fictional tale and a rhetorical construct, what served as its inspiration remains debated.¹⁴ From the first, 'Atlantis' claims to know. For all that the promotional summary describes Atlantis 'as one of the most intriguing mysteries of all time', there are 'geological, archaeological and historical clues' that will enable the presenter, Bettany Hughes, to solve that mystery.¹⁵ These clues are the titular evidence, marshalled over the programme to support the contention that the 'tale' or 'myth' of Atlantis, as Hughes introduces it, was an allusion to the volcanic eruption of Bronze Age Thera. The shift from fiction to reality is reinforced during the programme's introduction. In a montage sequence of modern-day Athens, close-ups on contemporary inner-cityscapes combine with static high-angle and panning camera shots of the Acropolis, while in voiceover, Hughes explains: 'A thousand years before Plato lived, a truly amazing civilization thrived here in the eastern Mediterranean.'

But that civilization suffered a terrible catastrophe.’¹⁶ When Hughes utters that final word, three volcanic eruptions ensue. The footage is anachronistic to antiquity: the first low-quality colour clip of an eruption is followed by a close-up of bubbling lava and, in quick succession, a CGI eruption of ash clouds in black and white, giving the impression of film before the advent of 1950s technicolour. This sequence builds upon generic televisual experiences of volcanic eruptions, asserting through analogy what remains as yet unstated: the means by which Atlantis was destroyed.¹⁷ This inference is immediately confirmed: ‘Brand new scientific evidence suggests that this catastrophe was at least twice as disastrous as previously thought.’ The demonstrative, anaphoric pronoun ‘this’ links visualised eruptions to the stated destruction of Atlantis as ‘catastrophe’. Meanwhile images of underwater archaeology, lava stones, the bronze Poseidon statue from Sounion at Athens’ national archaeological museum, plus more CGI lava and tidal waves serve as depictions of science in action and its results. A question closes the introduction: ‘Could this tragedy be the basis for Plato’s story?’ The word ‘catastrophe’ is here replaced by ‘tragedy’, in order to encourage an emotional perspective, by inferring a human aspect to events. In large letters, the words ‘ATLANTIS, The Evidence’ appear on the screen during a long shot of the presenter walking on the beach at sunset. Thanks to visual sequences that combine images edited and in some cases created by computer software, the answer to the question is already apparent.

In so far as the introduction builds suspense towards an appraisal of the evidence, the programme proceeds to its evaluation, engaging with ancient textual sources and artefacts and conducting interviews in settings typical of ancient world documentaries. Thus, the narration begins with a long shot of Hughes standing before unidentified archaeological monuments, carrying a book, Plato’s *Dialogues*. The camera closes in on the cover of a standard Loeb edition of the text, with ancient Greek and English facing text. With a side-view camera angle the presenter reads a passage from Critias.¹⁸ While the presenter reads, Plato’s words are simultaneously visualised via a montage sequence of new media artefacts. Contemporary sounds of waves and seagulls, static photography of waves and CGI lava in close-up illustrate Atlantis’ maritime power and wealth and its vanishing following ‘portentous earthquakes and floods’.¹⁹ Thus, Plato’s narrative is made contingent through analogy. Sounds and images that capture the contemporary world bring Atlantis to life.²⁰

In what follows, digital technology contributes to the presentation of evidence that validate the programme’s hypothesis in a more direct

way. Moving location to Santorini (Thera), where ‘fresh scientific evidence buttresses the idea that Plato’s story was inspired by a real island’, volcanologist Dr Haraldur Sigurdsson (University of Rhode Island) is interviewed by the presenter about his underwater expedition in an attempt to establish that what the presenter claims to be the greatest volcanic eruption in the whole of the ancient world took place there. As Sigurdsson describes the process of the eruption, the screen is filled by images of scientific scans of the sea floor, underwater scanners and the interfaces of computer programmes. Scientific explanations are supported by illustrations of processes inferred to generate the knowledge upon which they are founded. However, these remain at the generic level: up-to-the minute technology and its digital end products demonstrate the tools of archaeological interpretation, contributing allusively rather than directly to the analysis. Strikingly, Sigurdsson further compares the eruption of Thera to that of Vesuvius in AD 79. Now older, archival footage of the Fiorelli casts, human figures covered in volcanic lava, appear on screen. These casts are usually part of the representation of Pompeii and Herculaneum, towns destroyed in that geological event.²¹ The famous disaster is drawn into the signification process for the eruption of Thera.²² Raw scientific data presented in a non-linear manner connect disparate information and events, so that Plato’s Atlantis is connected to Thera’s eruption, an event that is made comprehensible by reference to the more familiar events of Pompeii. Once again Plato’s fiction is positioned as fact, while the digitally inflected visualisation of activities and artefacts in the present substantiates a proposition about the past.

Next, Hughes visits the excavation site in Thera in order to examine geological data. Close-up shots of the area’s sedimentary and layered volcanic rocks appear on screen while Dr Floyd McCoy of the Department of Natural Sciences (University of Hawaii) assesses the likely human experience of the eruption. McCoy narrates in voice-over how the volcanic eruption began gradually with small earthquakes and sulphur emerging from cracks in the ground. This time, however, the CGI illustrates not the geological event, but its impact on the human world. CGI-based Thera walls appear to be shaken by an earthquake, while actors in sepia film run about at an eye-level camera angle.²³ The sounds of rolling rocks and actors’ screams embellish the visual cues. This is the show’s first attempt to digitally reconstruct the city as an architectural, physical and social entity, and it represents a shift in the focus of the story. As Christos Doumas, director of the Akrotiri excavation in Thera, explains in voice-over, after the earthquake people started rescuing things that were

needed. Simultaneously a drama reconstruction in sepia depicts the narration: pottery is placed by actors in safe positions, and original footage from the 1960s excavation depicts how pottery was found, thus connecting narration with conservation techniques. This dramatisation at once reiterates the tragic dimension of the eruption and legitimises this version of events, whilst also illustrating what ancient Thera looked like via physical sets and CGI. In fact, the scenes of human settlement and activity are drawn from another televisual interrogation of Atlantis, the BBC docudrama *Atlantis: End of a World, Birth of a Legend*, which illustrated the fate of Thera/Atlantis through extensive dramatisation and limited voiceover (discussed more below). Once again the boundaries between fact and fiction are blurred, this time by the presentation of snapshots from the fictionalised account of Thera's final day as evidence.

CGI: INVENTING POSTHUMAN MINOANS

In the sequences discussed so far, CGI is integrated into audiovisual sequences that resonate with statements, assertions and arguments elaborated by the presenter and interviewed guests on 'Atlantis'. The images act, therefore, as evidence. However, rendering the built and populated environment of Thera digitally also affects how we see Atlantis. Since the late 1990s, CGI has been utilised by film-makers to recreate populated environments. For the ancient world, *Gladiator* (dir. R. Scott, 2000) was particularly noteworthy. As Winkler has argued, the technological innovations in *Gladiator* incorporate spectacular and impressive artificial components made by CGI (large crowds, reconstructions of buildings and places and realistic instances of violence), thus portraying 'a kind of cyber-Rome'.²⁴ However, not only did this cyber-Rome act as a setting for the tale of rebellion against an oppressive regime, but its execution also achieved an 'unprecedented scale and detail for their display of the once-buried metaphors of the Roman spectacle'.²⁵ In the years since, film technology has been recognised as a potential marker of film innovation, often functioning as the main attraction of a film itself.²⁶

Since 2000, CGI has become cheaper and more efficient.²⁷ Beyond blockbusters, the HBO TV series *Rome* (2005), created by John Milius, William J. MacDonald and Bruno Heller, for example, used CGI to recreate an artificial ancient city: the 'artistic' sepia filter and moving graffiti in the opening title are a conceptual attempt at an 'authentic' architectural and pictorial representation. Similarly, the fiction-fuelled docudrama *Atlantis: End of a World, Birth of a Legend*

(8 May 2011, BBC1) that offers scenes for 'Atlantis' (as discussed above) adopted CGI so as to impress and 'immerse the viewers in a unique experience'.²⁸ These artificial details speak to the advent of a digital or posthuman aesthetic in audiovisual media.²⁹ The boundaries between existence and computer simulation are blurred.³⁰ 'Atlantis', although relying on typical documentary techniques, also embraces the posthuman turn in media aesthetics through CGI.

In 'Atlantis', CGI is deployed most notably in order to vivify Minoan civilisation during Hughes' visit to the archaeological site in Akrotiri. Before the site's gates, the presenter states that 'Theran Bronze age society is the most beguiling of all civilizations that ever walked the earth.' Regular close-ups on the colour restoration of Minoan paintings and Egyptian art are used as a point of comparison, as the presenter emphasises the 'sophisticated' civilisation of the former. She also pits the societal position of women in Thera (as portrayed in artefacts) against the allegedly secluded women of classical Athens.³¹ She concludes that in Thera 'women are conspicuous not by their absence but by their presence'. These elements of 'sophistication', defined as liveliness, individualism and gender equality, are further visualised with the aid of CGI. Again there follows the juxtaposition of ancient artefacts and drama reconstruction by actors in sepia, against CGI backdrops of 'Atlantean' buildings from the Atlantis docudrama mentioned above. The sequence alternates between a CGI backdrop of a port with montaged tracking shots in sepia of actors trading and carrying large pots (see Figure 9.1) and close-ups of restored Minoan pottery. The sequence further includes tracking shots of women, with characteristic Minoan hairstyles as previously shown in original artwork, succeeded by close-ups of their hands using scales to measure saffron, and painting ceramic pottery. Each of these filmed sequences is paired with close-ups of relevant original artefacts, such as scales, murals and pottery. Eventually, the presenter refers to a famous 'fleet fresco', followed by the director of excavation in voiceover discussing how Minoan society and economy had sailing, shipping and trade at their core. A CGI depiction of the harbour followed by static camera shots and close-ups of actors performing the roles of traders and rowers alternates with detailed close-ups of the fresco. Excavated artefacts are thus restored to life, as is the sophisticated Minoan civilisation of ancient Thera.

Finally, towards the end of the programme, the presenter returns to Plato's narrative. A montage sequence of static camera shots of large CGI waves in sepia appears on screen, while the presenter narrates: 'according to Plato, Poseidon was the master of Atlantis, and when its



Figure 9.1 CGI Theran Port: *Atlantis: The Evidence* (2010). Screenshots.

people fell foul of him, their island was swallowed by the sea'. As the narrative progresses, the CGI-montaged sequence incorporates gradually bigger waves that eventually alternate with high-angle shots of actors/Minoans in CGI-reconstructed streets attacked by waves. In the grand spectacle of destruction, the devastation and emotion of the moment for the community whose lives have previously been witnessed are realised.³² As in *Atlantis: End of a World, Birth of a Legend*, the combination of artefacts and CGI is key to credibility.³³ Drama and digital technology help bring the city of Akrotiri to life and then destroy it, at each moment serving the goal of validation.

CGI represents a new step in the history of visual simulation because it allows the creation of moving images of non-existent worlds. Digital technologies not only create new and imaginative virtual worlds, but also allow human positioning and mobility within those dimensions. As 'Atlantis' well shows, the use of CGI effects, with or without artistic touches, enhances narrative immersion. This combination of live action and CGI 3D has been termed 'synthetic realism'.³⁴ Achieving synthetic realism means attaining two goals: the simulation of the code of traditional cinematography and the simulation of the perceptual properties of real-life objects and environments. For the first goal, computer codes simulate a virtual camera that has lenses, depth of field, and lighting – the tools of traditional photography.³⁵ A goal of computer-generated graphics is photorealism, but CGI signifies the posthuman turn in the art of filming, since 'the synthetic image is free of the limitation of both human and camera vision with the potential of unlimited resolution and level of detail'.³⁶

In television productions, synthetic images appear to be like traditional film photography; their resolution diminishes their perfection as a way to match the details of the film's images by adding grain or diluting the colour of the image. The use of CGI in enacting Atlantis/Thera renders an 'aged' effect through sepia and grainy filters in order to create a sense of past times. The documentary's style is reminiscent of the mid-2000s landscape of ancient-world film that stresses the imperfection of the image rather than its precision. This is notable in the artistic sepia-grainy filters in, for example, the film *300* (dir. Zack Snyder, 2006) or the thirty-nine-episode television series *Spartacus* (STARZ Networks, 2010–13). The synthetic image then becomes posthuman, since it cannot be seen by natural means. From this perspective, digital technology can be seen to operate as optical digressions in 'Atlantis' that oscillate in a conceptual dialogue between decelerating the unfolding of time and space, and historical narrative. The warranting effect is carried over along with the object, as it moves from 'real-life' settings into digital worlds, placed alongside digital replicas. In this way, the digital aesthetic adds an extra layer of validation for the programme's hypothesis.

ATLANTEAN LIFESTYLES BROUGHT TO YOU BY CYBER-ARCHAEOLOGY?

Beyond television, digital visualisations have found prominent use within humanities research.³⁷ For example, the visualisation of raw data can provide historical insights into aspects of urban develop-

ment,³⁸ and may also facilitate critical discussions of the application of digital tools within the context of cultural heritage.³⁹ The majority of scholarly attempts to reconstruct ancient urban sites digitally rely on the visual representation of architecture (buildings, bridges or roads) through 3D and early virtual reality models for archaeology, also known as virtual archaeology (VA). As the present analysis shows, however, the common use of digital tools to represent the past also introduces issues. For example, it has been argued that visualisations, largely synonymous with reconstruction in 3D models, may present a photorealistic, pseudo-ideal vision of the past.⁴⁰

Earlier digital visualisations (1990–2000) intended for research have been criticised as maintaining static and sanitised historical-cultural ideals.⁴¹ In the mid-2000s, the evolution of VA, namely cyber-archaeology (CA), has recently challenged these ocular-centric modes of knowledge production by using participatory and interactive designs that enable reflection and cooperative efforts in investigations of sensory engagement with space, architecture and artefacts of the past.⁴² CA further promises, through interactive virtual immersion, to deal with the deeper and more difficult questions about the past. While CA is still largely experimental it is the new step in archaeological inquiry.

‘Atlantis’ adopts digital archaeology, specifically CA technologies which I address and analyse below. The experience of living in Atlantis in relation to architecture and urban planning is one of the central attractions of the programme and it is used to justify the identification of Bronze Age Minoans as the advanced civilisation in Plato’s account. On site and during a high-angle long shot that places her among ruins, Hughes explains that ‘like the Atlanteans, they [Therans] harnessed the landscape to create an architectural masterpiece in town planning’. She reads once more from the Loeb edition of Plato’s *Critias*: ‘And of the buildings, some they framed in one single colour, some were a pattern of many colours by blending the stones . . . some of them being white, black and red.’ The camera changes focus from Hughes to the stones of the Akrotiri site. The presenter continues, now filmed in a long shot, while pointing at the multicoloured stones: ‘Just look at the local stone that they still use here at the site of Akrotiri.’ She proceeds to show preserved buildings that were buried under up to sixty feet of volcanic ash. The presenter explains that, ‘even so, it’s been difficult to know what the place must have looked like in its former glory [pause] until *now*’ (spoken emphasis). In what follows, digital technology is used as a tool to

visualise how Therans may have been the creators of architectural masterpieces, just like the Atlanteans.

Next, Hughes and Professor Clairly Palyvou of the School of Architecture at the Aristotle University of Thessaloniki are filmed in a point-of-view shot before a computer screen. A close-up reveals that they are observing a software program for 3D architectural modelling.⁴³ Hughes' voiceover states: 'Palyvou has come up with a vision of Akrotiri in its heyday, before the eruption, where the buildings were intact.' While the camera navigates through and inside these generously decorated 3D buildings, Palyvou explains:

It is a very sophisticated architecture ... not only meeting everyday needs ... shelter or protection ... so many things that are there for the first time in the world ... two, three storey buildings on an earthquake sensitive region ... built in a style of architecture that involves a lot of openings back then ... that [windows] was something very innovative ... the architecture of an affluent society. This prosperity is shared by a large number of the community, it's not something that is kept only for the elite.

The virtual exploration of the 3D reconstructions (as for example in Figure 9.2) grants the viewer a navigable/interactive insight into the society of the Therans as a technologically advanced society. The 3D models used in 'Atlantis' are on a par with recent trends in archaeological scholarship.⁴⁴ The 'Atlantis' models could be classified under the CA wave, influenced by theory on human-computer interaction and gaming software that attempts immersive simulation.⁴⁵ It includes engagement with the user, in the form of first-person navigation. It pays more attention to the experience of place and space



Figure 9.2 Inside a Minoan house: *Atlantis: The Evidence* (2010). Screenshot.

than to static recreation. In other words, the user's interaction with the model potentially generates further archaeological observations. In 'Atlantis' this interaction between user and cyberspace is ruled by a kinaesthetic approach. Hughes and Palyvou exchange information with the environment by embodied navigation, and interpret the site for the televisual audience collaboratively. CA tools and methodology are then deployed to communicate space, light and quality of lifestyle. The collaborative analysis of the 3D visualisation sheds light on Minoan life via interaction, engagement and feedback, as CA epistemologies dictate.⁴⁶ The virtual environment is a simulation space of an archaeological site created by information with the help of software. Through this technologically advanced methodology, informed by current trends in archaeology, the programme validates once more the hypothesis that the architectural expertise of the Therans matches Plato's narration of the Atlanteans.

CONCLUSION: POSTHUMAN CLASSICAL RECEPTIONS

This chapter showed that while archaeology dominates the discursive techniques of the genre, digital technology is slotted in among more traditional modes of rendering the documentary's subject to justify the hypothesis that Plato's Atlantis corresponds to Bronze Age Thera. In order to legitimise fiction as fact, the programme visualises selected parts from Plato's *Dialogues* and evaluates scientific evidence through the indexical power of images, bringing together archaeological sites, original media footage, specialists and Bronze Age artefacts; it also incorporates digital tools known from popular culture and scientific research, such as CGI and 3D visualisations. This collection and organisation of disparate visual cues blend fiction into fact, narration into experience, and connect up ancient ideas with present epistemologies. The 'evidence' and its additional digital layer are placed to visually validate the ancient Greek narrative in immersively ekphrastic (and perhaps convincing) ways, as the programme's promotional material claims.

Specifically, the digital aesthetic of Atlantis brings to life Plato's tale of a long-lost utopian civilisation, and connects it with a real place: Thera.⁴⁷ This connection is made credible as it incorporates scientific evidence in justifying Atlantis' location in the Cyclades. Technology, conceptual art, narrative and science mingle to validate the documentary's hypothesis. In many ways, 'Atlantis' is a prime example of the interdisciplinarity that characterises current historical inquiry. It

shows how beyond the ‘wow’ factor of sophisticated reconstructions of the ancient world, technology allows the aggregation, subsequent extraction and visualisation of information about the past in ways which were previously extremely difficult to achieve due to the large scope and complexity of data. Plato’s narrative becomes visualised with the validating authority that science and digital technology allow, and the audience is led from fiction to reality, and vice versa. There are deeper epistemological problems regarding the relative value of the visualisation of the intersections between scientific and humanistic modes of knowledge creation.⁴⁸ However, by discussing digital technology as a tool for the visualisation of the mythical Atlantis, this study demonstrates how technology may contribute in the production of knowledge.

‘Atlantis’ is a particularly rich example of how historical documentary evolves as a cultural form. It combines, at the same time, human and posthuman elements and in so doing, it claims a right to make meaning about human experience, with tools beyond human experience. In documentary, technology is not neutral in the process of knowledge production: it defines the level and aesthetic of conceptualisation and recreation of a given culture and society. Furthermore, it creates affordances for authenticity. Digital tools are therefore central to how the imagined past is both rendered and received. Beyond quality and aesthetics, what we can do with technology decides the specifics of what we may visualise and, in turn, what we may claim about the past.

PROGRAMMES DISCUSSED

Timewatch. Episode: ‘Atlantis: The Evidence’. Prod. and dir. Natalie Maynes. BBC Northern Ireland. BBC2. Wednesday 2 June 2010, 7.00–8.00pm.

Atlantis: End of a World, Birth of a Legend. Prod. Detlef Siebert. Dir. Tony Mitchell. BBC Northern Ireland. BBC1. Sunday 8 May 2011, 9.00–10.00pm.

NOTES

- 1 See Vidal-Naquet (2005).
- 2 Described by Vidal-Naquet and Lloyd (1992).
- 3 See Pellegrino (1991) and Friedrich (2000).
- 4 See, for example, Schreibman, Siemens and Unsworth (2004); Mahony and Bodard (2010: 1–14); Barker et al. (2012). For 3D geospatial

- analysis see Landeschi et al. (2016). Cyber-archaeology is introduced more fully below.
- 5 For gaming as instrumental in mediating the past see Chapman (2016). See also current online initiatives from within and outside the realm of game studies, such as <<https://playthepast.org>> for history> and <<https://archaeogaming.com>> for archaeology (both last accessed 20 March 2017).
 - 6 See Hughes (2012: 10), cited by Hobden (2016: 134).
 - 7 On these qualities of historical television documentary, see for example Makrinos (2013: 368).
 - 8 See promotional material at <http://www.bbc.co.uk/pressoffice/pressreleases/stories/2010/02_february/26/atlantis.shtml> (accessed 20 March 2017).
 - 9 On dramatisation in ancient world documentaries, with references to the wider discussion of its place within the documentary tradition, see Hobden (2017: 503–11).
 - 10 Landesman (2008: 34–5).
 - 11 Rosen (2001: 302), cited by Landesman (2008: 34).
 - 12 On digital *ekphrasis* in relation to tactility see Lindhé (2013) and in relation to immersive sound see Foka and Arvidsson (2016).
 - 13 Theon, for example defines *ekphrasis* as ‘descriptive language, bringing what is portrayed clearly before the sight’ (Kennedy 2003: 45). Initially used within the practice of rhetoric, the origin of *ekphrasis* is documented in the Hellenistic schools during the first centuries AD in the compositional exercises *Progymnasmata*: four treatises attributed to Theon, Hermogenes, Nikolaos and Aphthonios. Cf. Webb (2009: 5, 128).
 - 14 For the tale of Atlantis and its later reception see Ellis (1998). In terms of what served as the inspiration for the tale of Atlantis see Friedrich (2000) and Vidal-Naquet (2005). For Atlantis as a rhetorical construct see Morgan (1998).
 - 15 A typical ancient world documentary technique. See the programme description at <<http://www.bbc.co.uk/programmes/boosl29f>> (accessed 20 March 2017).
 - 16 This is the script recording of the first broadcast, openly available under a presumption of ‘fair use’ on Dailymotion: <http://www.dailymotion.com/video/xt53xo_bbc-timewatch-2010-atlantis-the-evidence-hdvtv-x264-ac3-mvgroup-org_school> (accessed 20 March 2017).
 - 17 Post-processual archaeological theory emphasises the subjectivity and multiplicity of interpretations of the same artefact and events connected to it. See Hodder and Hutson (2003).
 - 18 The BBC sought permission to use the Loeb 1929 edition, translated by R.G. Bury. Hughes simplified the translation herself in order to make the text more accessible to the average viewer (source: personal email correspondence with the author). The Loeb series is a documentary staple.

- 19 Manovich (2001: 218).
- 20 This technique is often referred to as database narrative: when visual and narrative are not chronologically linear but an assemblage that may be geographically and chronologically disparate. See Manovich and Kratky (2005), with Murray (1998: 157). On the indexical power of images see Ward (2005: 11) and Hughes-Warrington (2009: 7).
- 21 See Hales (2011).
- 22 'Atlantis' survey of catastrophe departs from Mary Beard's *Pompeii: Life and Death in a Roman Town* (Lion TV, 2010) where catastrophe is restaged as archaeology in performance: Hobden (2013a). The docu-drama *Pompeii: The Last Day* (2003) and *Pompeii: The Mystery of the People Frozen in Time* (2013) does not deploy digital technology. For science and technology as a rhetorical trope in documentary see Hobden (2016: 131–4).
- 23 Sepia (the word derives from the Greek for 'cuttlefish') was used in antiquity as a colour and a drawing material; it remained an artist's drawing material until the nineteenth century. The colour connotes the past because it is associated with old-time photography and painting. See the entry for 'sepia' in Maerz and Paul (1930: 179).
- 24 Winkler (2004: 89).
- 25 Cyrino (2005: 224).
- 26 Paul (2010: 20).
- 27 Belton (1992).
- 28 See promotional material on the BBC website: <http://www.bbc.co.uk/pressoffice/pressreleases/stories/2010/02_february/26/atlantis.shtml> (accessed 20 March 2017).
- 29 See Warren (2000) for early work on the posthuman aesthetic in film, and Brown (2013).
- 30 Hayles (1999: xi).
- 31 Athens is canonised in documentary as a politically progressive city state: see Hobden (2013b).
- 32 For the emotional component, compare Hobden (2016: 121–6) on (CGI) spectacles of destruction in the BBC dramatised documentary *Pompeii: The Last Day* (2003).
- 33 See Hobden (2013a) for the programme as a form of dramatising archaeology.
- 34 Manovich (2001: 153).
- 35 Manovich (2001: 91–192).
- 36 Manovich (2001: 202).
- 37 Schreibman, Siemens and Unsworth (2004); Forte (2010).
- 38 Schreibman, Siemens and Unsworth (2004); Mahony and Bodard (2010: 1–14); Nygren, Foka and Buckland (2014); for mapping visualisations especially see Barker et al. (2012).
- 39 Giaccardi (2012). For an overview on technology and the potential of digital models to reconstruct the ancient space, especially regarding

Roman society, see Earl (2007) and Anderson (2004). For work on 3D geographic information systems and visibility of ancient home space see Landeschi et al. (2016).

40 Forte and Siliotti (1997).

41 Westin (2012); Tziolas (2014).

42 Forte (2010).

43 Mattis Lindmark, a 3D specialist at HUMlab, Umeå University, identified the program as a 2010-version Maya 3D or Max. The way the camera navigates in the virtual environment points towards a pre-rendered movie. This level of technical quality can easily be accomplished by any software today.

44 Forte and Siliotti (1997).

45 Forte (2010).

46 On the basis of the latest full-immersion screens and wearables (Oculus Rift etc.) it is estimated that frames separating cyberspace and reality will give way to augmented reality and so forth: see Forte (2010).

47 For a detailed discussion of the posthuman, see Hayles (1999: 2–33).

48 Smithies (2014).