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Drones Over Pompeii: Cinematic Perspectives on Antiquity in the Digital Era

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Abstract

Cityscapes have always been an important part of films set in antiquity, but little attention has yet been paid to the way in which digital cinema uses the ancient city to offer different kinds of access to the past. This article explores how 21st century cinema sees the city and apprehends history in new ways in films including *Pompeii* (2014), *Agora* (2009), and *Gladiator* (2000). It focuses on how digital cinema affords the opportunity to 'see' the past from above, a quintessentially modern perspective which prompts a range of important questions about the viewer's relationship to history. The aerial view of the cinematic city encourages reflection on our familiarity with an ancient city, by utilising the imagery and techniques of digital mapping and Virtual Reality reconstructions; and it explores our ability to gain mastery over the past, privileging godlike omniscience over the immersiveness that usually characterises contemporary film. Finally, adopting the perspective of the drone, it suggests a more disturbing, dehumanised version of the past – and future. The discourse around these cinematic cities prompts important and timely consideration of whether digital technology necessarily improves our access to the past, or rather compromises it.

Ever since the earliest days of cinema, when D.W. Griffith built his towering Babylon for *Intolerance* (1916), or Giovanni Pastrone's *Cabiria* (1914) flaunted its grandiose recreation of Carthage, the cinematic city has been a star of mainstream ancient world films.[1] Cities are an ideal vehicle for the spectacular display on which most epic films rely as both generic marker and commercial guarantee (Paul 2013: 214-216). But the spectacle of the city serves more than just the box office. Recent scholarship has shown how reimagined and reconstructed ancient cities reveal a great deal about cinema's reception and interpretation of antiquity, mapping out a particular kind of relationship between contemporary popular culture and the ancient past.[2] In *Gladiator* (2000, dir. Ridley Scott), for example, we have seen how the stereotypical image of Roman power and brutality is made manifest in the urban fabric of the city, underpinned by its recourse to Fascist iconography, and fetishized by withholding our first glimpse of Rome until nearly an hour into the film. Yet much more needs to be said about the relationship between the modernity of cinematic urbanism, and the antiquity of a film's historical content – a relationship of considerable importance for bringing forth new understandings of the representation of the materiality of the ancient past. In what follows, I argue that the access to antiquity granted to twenty-first-century moviegoers now differs considerably from that

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[1] On *Cabiria*, see Dorgerloh (2013).

[2] The cinematic city has therefore played an important role in studies of cinematic receptions of antiquity: the recent *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (García Morcillo, Hanesworth and Marchena 2015), for example, surveys the multiple screen depictions of more than a dozen ancient cities, from Troy to Rome, Alexandria to Carthage, and makes a convincing case for cinema's role in creating and fixing the public's perception of what ancient cities and civilisations were like. For a comprehensive assessment of the production design of Hollywood's antiquities (including costumes and casting) through to the mid-20th century, see now Llewellyn-Jones (2018).

enjoyed by their twentieth-century predecessors. With the digital era come new ways of seeing the city and new ways of apprehending history – and a friction between modern technology and ancient narratives that can be both productive and provocative. This friction is expressed most powerfully in a distinctive and in many ways new perspective on antiquity: that of the aerial view. Digital cinema (and other digital technologies) have afforded us the opportunity to 'see' the past from above, a view which can enhance our knowledge of that past, but also raise uncomfortable questions about our mastery over time and space, and – by adopting the perspective of the drone – even the very place of humankind within it. I will primarily use *Pompeii* (2014, dir. Paul W.S. Anderson) as an illustration of these arguments, but films such as *Gladiator* and *Agora* (2009, dir. Alejandro Amenabar) will play an important role too.

The City From Above

Gladiator, in fact, is widely regarded as the film that ushered in a new digital era for recreating an ancient cityscape. Although it still built sizable physical sets, for example at Fort Ricasoli in Malta, it made considerable use of computer-generated imagery (CGI) in its depiction of Rome. On a practical level, CGI is an exciting prospect. No longer constrained by what can be actually built, or by the physical limitations of camera or compositing equipment (Prince 2019: 96-99), a wealth of new possibilities for recreating ancient worlds are open to filmmakers.[3]

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[3] Recent studies have considered digital technology's impact on many aspects of the ancient world film, though often focusing on its rendering of people as much as its locations: Whissel (2010) examines the narrative role of the 'digital multitude' in a film like *Troy*, while Thompson (2011) explores digital depictions of the hero and 'the mass' in *Alexander* (2004). The detailed discussions of digital technologies and their impact on contemporary historical epics in Burgoyne (2008: 74-99) and Elliott (2014) pave the way for my analysis here, while Foka (2018) is a useful recent evaluation of how 'digital tools offer new opportunities for representing the past, mimetically and schematically' (188).

Cities can be bigger and more ambitious when the size of the backlot or the skill of the matte painter are no longer an issue; detailed digital rendering can enhance the sense of verisimilitude;[4] and digital technologies can lend cinematic antiquities distinctive new aesthetics, as in the comic-book styling of *300* and its successors (Prince 2011: 89-90).[5] The claim that CGI is a precondition for historical epic films to be made *at all* in the 21st century ('CGI enabled the revitalization of a vanished genre', suggests Thompson (2011: 41)) may be too blunt, though.[6] Elliott's argument against technological determinism instead allows the possibility that the narrative and aesthetic needs of filmmakers drive technology as much as vice versa, and proposes 'a model in which the return of the epic is not preconditioned by technological advances, but one in which the aesthetic is nevertheless augmented and improved by those same technologies' (2014: 130). In this section, I will consider how (or indeed whether) digital technologies 'augment and improve' our view of an ancient city on screen, by reflecting on how they increasingly allow the viewer to slip the bonds of the earthbound perspective, through the use of the aerial view.

Such views are far more than a simple visual leitmotif. If 'seeing from above' can justifiably be called the 'emblematic visual form' of modernity (Dorrian and Pousin 2013: 1)[7] – because it is properly enabled only by human flight – then any attempt to adopt an aerial view

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[4] Elliott (2013: 72) argues for the CGI in the HBO *Rome* series functioning in this way, through its seamless integration with the huge physical sets.

[5] See Maurice (2016: 116) on *300*'s influence on the urban aesthetic of the STARZ *Spartacus* series.

[6] See also Jancovich (2014: 59). In turn, it is argued, digital technologies may be showcased particularly effectively by spectacular historical epics, in line with assessments of 1950s ancient world epics, which also 'provided a site for the display of the new technologies developed by the Hollywood film industry', such as CinemaScope (Wyke (1997: 31).)

[7] Mark Cousins observes that, with human flight and the ability to view from above, 'No greater change in the history of looking has taken place' (2017: 211).

of a reimagined *ancient* city becomes especially intriguing. Screened antiquities are already rich sources of classical reception because they present ancient urban space through a quintessentially modern medium; so if that screened cityscape is viewed from an angle that is equally constitutive of modernity, then we need to pay particular attention to the narrative and ideological effects, both positive and negative, of consciously adopting an elevated viewpoint. The lure of an upwards trajectory is neatly encapsulated in some well-known sequences in *Gladiator*. As Maximus and his fellow gladiators enter Rome, we are given glimpses from above of their convoy's journey, teasing us with brief panoramas of Rome's majestic urban bustle. For the onscreen characters, it is only when they leave their carts that they fully understand how far above street-level this city reaches. The camera adopts the gladiators' perspective as they look up at the immense Colosseum rearing above them, panning upwards in a shot that lasts several seconds, and culminating in a flock of birds passing across the frame (Fig. 1), as if to emphasise the sheer height of the structure; the sense of awe is clear in Juba's exclamation, 'Have you seen anything like that before?'. But while this shot suggests an urge to leave the ground, the gladiators of course cannot – only the camera can, taking us, the external viewing audience, with it as it goes. A little later, we then see the arena from a true bird's-eye perspective (Fig. 2), which provides us with our own awe-inspiring and privileged view of the Colosseum – but one which could only be afforded by modern digital technology, far exceeding what was available to Maximus.
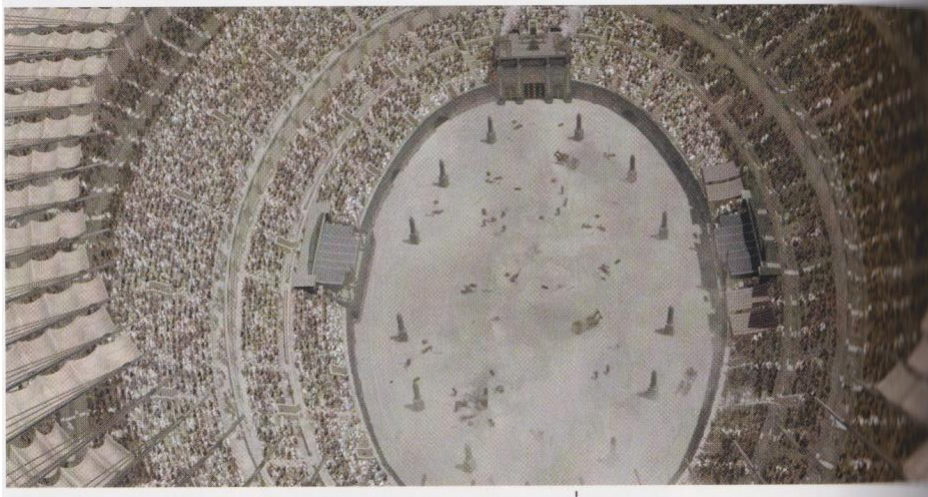
Figure 1. The Colosseum in *Gladiator* (2000)

Figure 2. Overhead shot of the Colosseum, *Gladiator*

The fact that Maximus can only look *up* is, of course, an authentic depiction of the reality for a second-century Roman. (The shot is, in fact a striking cinematic echo of Ammianus Marcellinus' account of the emperor Constantius II's first visit to Rome in 357 CE, which describes him walking through the city and gazing in amazement at its sights, including 'the mass of the amphitheatre…to whose top [*summitatem*] human vision can barely ascend' (16.10.14; see Vout 2012: 196-199).) But we must pause to acknowledge that the concept of the aerial view is far from absent in antiquity. There is plenty of evidence in ancient literature of aerial views at least being imagined: regularly associated with a god, they manifest an omniscient divine perspective. For example, Zeus sits watching a battle 'aloft on top of the highest summit (ἀκροτάτης κορυφῆς) of timbered Samos, the Thracian place' (*Iliad* 13.12, trans. Lattimore), from where all Ida, Troy, and the Achaean ships are plain to see. As Helen Lovatt points out, Zeus' divine gaze and bird's-eye view signals both omniscience and narrative control, 'the power of the gods over what they watch' (2013: 43) – an important point to which we will return. Poets may convey the view a god or hero enjoys as he or she flies through the air in a winged chariot, as in Ovid's account of Ceres' flight over the known world in search of her daughter, Proserpine (*Fasti* 4.497-574; Manioti 2017); and even mortals may adopt elevated viewpoints, as when Helen looks down on the action from the walls of Troy in the *teichoskopeia* of *Iliad* 3. As Caroline Vout has shown, there is also a wealth of literary evidence for the benefits of viewing Rome's chaotic sprawl from one of its seven hills (2012: 188-226). Martial 4.64 praises the view from a friend's villa on the Janiculum, from where 'it is possible to see the whole of Rome' (*totam licet aestimare Romam*, 12), while fifth-century panegyrics give their subjects a commanding view of the city, as in Claudian's account of Honorius gazing down on Rome from the Palatine (Vout 2012: 214-220; see also Roberts 2001: 547). Here, the narrative control is over the city itself: the 'overview' provides the opportunity

to 'capture the city's complexity in a single frame or portrait' (Vout 2007: 321), to render the city legible in a way that a ground-level perspective cannot.

Fraught with potential hubris, suggests Vout (2012: 123), this god-like perspective on Rome itself is restricted to literary rather than visual culture. But still, artists certainly could conjure aerial panoramas of other cities – perhaps real, perhaps imagined ones – in Roman wall-painting, as in the large-scale first-century fresco dubbed 'La Città Dipinta', discovered on a wall beneath Trajan's Baths in Rome (la Rocca 2001)[8]; or a view of a port (sometimes identified as Stabiae) in Pompeii's House of the Little Fountain. But such bird's-eye views, while 'one of the major innovations of the Roman wall painter', according to Bettina Bergmann, remain 'an impossible and purely abstract concept' (2010: 65). While we might contemplate an elevated view from a hilltop or a tall tower – Trajan's Column, perhaps – truly aerial views were impossible to achieve in antiquity. The lived daily experience of the city, for the vast majority of people, was firmly at street-level.[9]

This remained the case until the late 18th century, when the Montgolfier brothers' first manned hot air balloon flights, in 1783, coincided with the earliest years of Pompeii's excavation. It would seem, though, that several decades passed before this new aviation technology allowed a new view of ancient ruins. Early paintings of Pompeii – such as J.P. Hackert's *Le rovine di Pompei* (1799) or Samuel Palmer's *The Ruins of the Amphitheatre at Pompeii* (1838-9)[10] – sometimes adopted a slightly elevated perspective, from the view of the

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[8] See also Pasqua (2016) for a summary of townscape depictions in Greek and Roman visual culture.

[9] Consequently, a flourishing trend in recent scholarship aims to unpick the lived, sensory experience of the ancient city at street level: see, for example Betts (2011), Hartnett (2017), and Poehler (2017).

[10] Fino (2006: 103); Liversidge and Edwards (1996: 113); though Saiello (2015: 50) describes it as a bird's-eye view. The large-scale panoramas of Pompeii on display at this time (such as John Burford's, exhibited in London in 1824) seem to have adopted a similar, slightly elevated viewing perspective (Yablon 2007: 196-7;

higher ground on the edge of the excavations, but it was not until 1848 that the French artist and architect, Alfred Guesdon, used a balloon to obtain a striking panoramic perspective that he reproduced in a lithograph, the view stretching from the theatres in the foreground to the Bay of Naples in the far distance (Fino 2006: 177-8). Ballooning was a rare privilege, though. Others continued to lament the lack of high-points in the immediate area from which to gain an overview of Pompeii, with the result that the large cork model of the city commissioned by Giuseppe Fiorelli in 1861 (and added to until 1930) was explicitly celebrated for being able to offer a bird's-eye view of the entire excavations.[11] Indeed, some photographs of the model even tried to depict it as if it were a genuine aerial panorama of the city, by setting it on a rough, earthy surface.

Within a few decades, both aviation and photography had developed sufficiently that aerial photography proper was now possible, as demonstrated by a view of Pompeii composed from a series of photographs taken from a balloon in 1910 (Osanna 2017: 90). Aerial views of modern cities became ever more common, too, in cinema as in photography, demonstrated in such famous examples as the prologue to *West Side Story* (1961), which takes the audience on a flight over New York City. But when it came to cinematic recreations of *historical* cities, it

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Moormann 2015: 380-381). The effect seems to have been one of immersion as much as privileged overview; a comment on an 1848 addition to Burford's panorama described the spectator as being 'in the very midst of the ruined streets' (*The Spectator*, 23 December 1848, p. 9).

[11] Johannes Overbeck, in his *Pompeji in seinen Gebäuden, Alterthümern und Kunstwerken* (1866), wrote 'Il nostro disegno [del plastico di Pompei] rappresenta il quartiere della città attorno al Foro Civile, naturalmente solo una piccola parte, ma molto importante, e ne fornisce una panoramica che nessuna eccellente veduta sulla stessa città – ad esempio in fotografia ve ne sono parecchie sotto il nome di "panorama di Pompei" – è capace di dare'; cited by Malfitana et al. (2016: 214–215). See Kockel (2015) for an overview of Pompeian models, including Fiorelli's. This model has now itself been digitally rendered in a 3D reconstruction (see https://www.cnr.it/it/evento/14924), in a kind of double archiving of the original archaeological objects.

remained difficult to offer a view from above: the scale of set construction that was required to make antiquity look convincing even from ground level made the prospect of taking a camera fully above the set a largely unrealistic one. That is not to say that elevated perspectives were impossible: D.W. Griffith experimented with elevating his camera for spectacular views of Babylon in *Intolerance* (1916) (Llewellyn-Jones 2018: 141), while the matte paintings of Peter Ellenshaw made high-angle views of the Roman forum in *Quo Vadis* (1951) one of the most spectacular parts of the film. Aerial shots of a scale model could also offer a sense of viewing the city from above. A number of films in fact used the famous model of Rome built by Italo Gismondi for Mussolini, now housed in the Museo della Civiltà Romana.[12] It stands for Nero's model of Rome in *Quo Vadis* (1951), and starred in Italian-made *peplum* films, notably *La leggenda di Enea* (1962) and *Costantino il Grande* (1961) (Prieto Arciniega 2015: 175); and finally appeared in *Gladiator*, whose panoramic aerial shot of the city, at the beginning of Commodus' triumph, was based on Gismondi's model (Pomeroy 2005: 113). But it was only the digital technologies also available to Ridley Scott that facilitated sufficiently convincing and truly aerial views of antiquity, as in *Gladiator*'s innovative 'blimp shot' of the Colosseum (*Fig. 2*) and surrounding city, which, as noted above, enthralled audiences with an entirely new cinematic perspective on the arena (Landau 2000: 86-89).

Subsequent films and TV productions have employed digitised aerial shots with increasing regularity: these include echoes of the urban views of *Gladiator*, as in the shots of an amphitheatre from overhead in the opening minutes of *Spartacus: Blood and Sand* (2010) (Maurice 2016: 117), and flights over battlefields, as in the aerial shot of the Greek armada approaching shore in *Troy* (2004), or the literal bird's-eye view of the battle of Gaugamela in *Alexander* (2004), in which we share the perspective of an eagle swooping over the action

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[12] Tschudi (2012) provides a comprehensive account of the model and its history.

(Thompson 2011). But the film which makes most enthusiastic use of the trope – exploiting its particularly heavy use of CGI[13] – is the 2014 *Pompeii*. Roughly every ten minutes, and certainly every time an establishing shot of the city is needed, we see Pompeii from an aerial perspective: sometimes through a soaring long shot, at an oblique angle, other times from a strictly bird's-eye, vertical viewpoint (Figs. 3a-c).[14] Its recreation of the city, and the regularity with which it adopts an aerial view, therefore repays serious examination (despite the fact that this film did not enjoy great critical or commercial success).[15] Indeed, the formulaic, unoriginal narrative

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[13] In a documentary ('The Journey') on the film's DVD release, its visual effects supervisor, Dennis Berardi, explains how scans of 35,000 still photographs taken at the ancient site were used to digitally recreate a virtual city, a process which began four months before principal photography. Although the documentary also relates Paul Austerberry's account of his painstaking production design, even he has to admit that hardly any physical set was actually built. For brief scholarly discussions of the film, see Rovira Guardiola (2015: 187) and Moormann (2015: 385-386). Earlier Pompeii films are treated at length in e.g. Wyke (1997: 147-182); Hobden (2013) discusses depictions of Pompeii in television documentaries.

[14] Although Anderson was keen to stress that 'every time you see an aerial shot of the city, or anytime you see a shot of the volcano, that is based on real photography' of the ruins, the shots were all completed using 'computer-generated image[s] over the top of the real photography.' (Alejandro Rojas, 'Interview With Paul W. S. Anderson, *Pompeii* Director, on the Film's Scientific and Historical Accuracy', *Huffington Post* 21 February 2014, http://www.huffingtonpost.com/alejandro-rojas/paul-w-s-anderson-pompeii-scientific-historical-accuracy_b_4827109.html; accessed February 2018).

[15] Although many reviewers were of the opinion that the film's B-movie tropes made it 'explosively stupid' and 'laughable rubbish' (Mark Kermode, *The Observer,* 4 May 2014), it was also deemed 'cheerfully enjoyable' if approached with minimal expectations (Peter Bradshaw, *The Guardian*, 1 May 2014). Box-office takings were also in the B-movie league: although the $100 million budget was recouped once worldwide grosses were taken into account, its opening weekend performance (in the US) of a little over $10.3 million puts it on a par with *Ben-Hur* (2016) or *The Legend of Hercules* (2014) rather than the much more successful *300* (2007) or *Troy* (2004), which took over $70 million and $46 million on their respective opening weekends (all figures from boxofficemojo.com, accessed September 2018).

noticed by many reviewers is reflected in the fact that a number of Anderson's aerial motifs are also derivative. A few minutes into the film, the first bird's-eye view shows the young protagonist Milo emerging from a pile of victims of the Roman massacre which killed his family, in a brief shot which recalls the longer, more shocking aerial view of the dead Leonidas amid his fellow Spartans at the end of *300*[16] – whilst also echoing the short overhead view of the Pompeian body casts which have just appeared at the end of *Pompeii*'s title sequence. The next notable aerial shot, a few minutes later, is a brief panorama of Londinium, announcing Milo's arrival there, seventeen years after the massacre; viewed through rain, and saturated in dark grey and blue tones, it closely resembles *Gladiator*'s aerial view of Rome prior to Commodus' triumph.

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[16] The shot of further victims of the massacre hanging from a tree also evokes *300* and its grotesque 'Tree of the Dead' scene.

Figure 3a, 3b, 3c. Aerial shots in *Pompeii*.

But while these initial sequences lack originality, the frequency with which aerial views of Pompeii then punctuate the film draws attention to their presence, and prompts us to question the effects of regularly granting us a view of an ancient city which its inhabitants were not privy to.[17] Any decision to adopt a particular perspective on the past – whether literally or figuratively – has implications for how we interpret that past. Just as *Gladiator*'s view of Rome from above at Commodus' triumph was interpreted as an allusion to the aerial shots of Nuremberg in the Nazi propaganda film *Triumph of the Will* (1935; Pomeroy 2005: 114-117) – thereby reinforcing the film's depiction of a corrupt, totalitarian Rome – so *Pompeii*'s aerial shots are not innocent of meaning. Rather than being overtly politicised, though, *Pompeii*'s aerial views are implicated in discourse about contemporary relationships with – and mastery

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[17] As *Gladiator* emphasised the contrast between the views afforded its characters and its audience, so *Pompeii* emphasises the earthbound perspective of its female protagonist, Cassia, by having her leave her cart and walk into her beloved Pompeii, when she returns to the city from a stay in Rome. This allows her to fully immerse herself in and repossess her city – a true Pompeian *flâneuse*. On the *flâneuse* in modern culture, see Elkin (2017). The significance of 'women who walk the city' in receptions of Pompeii – exemplified by Freud's Gradiva, 'she who steps along' – is ripe for further exploration.

over – the past, to the point of even disrupting our sense of time itself. Three main effects of these views can be identified: first, they render the cinematic city in terms of the (digital) maps that are an increasingly common way of accessing ancient landscapes; second, they challenge us to reconsider assumptions about historical film's capacity to immerse us in the past; and third, they potentially destabilise our certainty over humankind's mastery of the future.

The first effect hinges on the visual associations triggered by *Pompeii*'s aerial views: they appear familiar to us, recalling other ways in which cities, including ancient cities, can be viewed in the digital era. The strictly perpendicular bird's-eye shots (Fig. 3a) strongly resemble a city map, presenting this cinematic city in the visual language of a platform like Google Maps.[18] Whether as tourist attraction or archaeological resource, Pompeii almost invariably invites – even requires – us to engage with it through a map. The film's use of this motif therefore bespeaks the city's familiarity, by showing us Pompeii in the form that we regularly see it elsewhere, and is the first hint of the modern audience's capacity to navigate and thereby exert some control over the site, a theme to which we shall return shortly. Other aerial views in the film suggest comparisons with other kinds of digital Pompeiis: oblique-angle overhead views of the city's buildings (and indeed many of the ground-level shots too) recall various digital reconstructions of buildings in Pompeii (and other Campanian sites), such as the multimedia installations at Herculaneum's Museo Archeologico Virtuale (http://www.museomav.it), or the detailed visualisation of a Pompeian house by a Lund

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[18] On Google Earth's role in establishing the aerial image in popular culture, see Dorrian (2013). The most significant recent project that digitally maps Pompeii is the Pompeii Bibliography and Mapping Project; see the blog post by Eric Poehler at https://digitalhumanities.umass.edu/pbmp/?page_id=273 for an account of and link to the Project's second map.

University project.[19] Like the maps, these reconstructions facilitate remote navigation of Pompeii, while also raising complex questions about the relationship between digital copy and analogue original.[20] Their ambitions extend further than being mere 'digital surrogates' for the physical world: since the archaeological object – Pompeii – is degraded and fragmented, reconstructions typically seek to restore and repristinate the city, providing apparently enhanced and privileged (but just as likely idealised or even misleading) access to a lost city.[21] They may even take on the urgent task of preserving fragile or already-lost remains against the ravages of time, natural disaster, or manmade destruction.[22] Scholarly digital reconstructions of Pompeii, then, set out to improve on analogue reality, offering viewers a glimpse of a restored past (or, as Bernard Frischer would describe it, 'exploit[ing] digital technology as a new form of external memory' (2014: 162)); the action film's appropriation of this same visual toolkit arguably seeks to borrow the authority of the scholarly approaches, while

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[19] https://www.lunduniversity.lu.se/article/researchers-reconstruct-house-in-ancient-pompeii-using-3d-technology. See also Zarmakoupi (2010).

[20] Rapid technological advances mean that scholarship in this area can quickly become dated, but the essays in Smiles and Moser (2005) remain useful, as do the overviews of relevant issues in Forte (2014) and Olson & Caraher (2015).

[21] Hales and Paul (2011: 7-8). Foka (2018: 195-198) summarises the transition from 'virtual archaeology' to 'cyber-archaeology' and assesses the extent to which television documentary draws on these approaches.

[22] The work of the Institute for Digital Archaeology (digitalarchaeology.org.uk) addresses itself to this 'safeguarding' function, though see Kamash (2017) for sensitive discussion of the political implications of projects like the reconstruction of a triumphal arch from Palmyra. Hales and Earle (2017) describes a fascinating multi-layered digital reconstruction of Pompeii, in which the Pompeian Court at the Sydenham Crystal Palace (built for the Great Exhibition of 1851) was reconstructed in the virtual reality platform Second Life.

simultaneously expanding upon them by offering a much more fully-realised and action-packed digital version of the city.[23]

By integrating fully-realised 3D reconstructions of the city with the narrative of its demise, *Pompeii* also prompts reflection on the nature of the audience's relationship with the past, even our potential control over it. Digital maps and reconstructions assert our ever-increasing ability to explore an ancient city on our own terms. No longer are we expected to blunder through the 'chaos of ruins', to borrow Byron's phrase, that might have characterised an 18th century visit to Pompeii or Rome; instead, our digital mastery over the city renders it, and its history, ever more legible – or at least presumes to.[24] The second effect of the film's aerial shots, combined with a digital aesthetic, is therefore to underscore and exploit this mastery. They grant the audience not simply a bird's-eye view of the city and the events unfolding within it, but place them in a position of *god*-like omniscience – a privileged perspective which makes particular sense given the nature of Pompeii's narrative arc. The ending of mainstream ancient world films is often predictable (the hero triumphs, villainous emperors or mythical monsters are vanquished), but the spectacular inevitability of Pompeii's end is especially marked. The eruption begins less than halfway into the film, and given how central the events of 79 CE are to any narrative of Pompeii (rare is the novel or film which isn't set at this time), there is little point in trying to pretend that the audience doesn't know what is

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[23] Though Vitale (2017) rightly challenges the scholarly authority of many 3D visualisations, pointing to the lack of transparency in their use of sources, for example.

[24] So, for example, a recent *Rome Reborn* app markets itself with the claim that the user can experience a 'Flight Over Ancient Rome' in a hot air balloon, experiencing the ancient city 'in a way that not even the ancient Romans could do […] (we did use the word "magic", didn't we?)'. It promises that its virtual reality technology 'brings it [the city] all together' and provides 'the big picture' necessary to understanding the overall urban organisation of Rome. (https://romereborn.org/content/flight-over-ancient-rome)

going to happen. The aerial views therefore function as an acknowledgement of our omniscience, and the narrative's pathos is increased through these regular reminders of the contrast between our privileged knowledge, and the ignorance of the Pompeians.

Of course, a god's-eye perspective, especially when turned on an ancient city, summons the idea of 'actual' divine omniscience and narrative agency (whether pagan or Christian) in the eruption – a connection made in ancient texts and modern receptions alike, whether implicitly or explicitly blaming the disaster on divine intervention.[25] But while it is possible to equate the aerial shots with what *Film Comment* described as 'the absent gods of *Pompeii*, who invisibly watch their subjects incinerate from afar' (Sweeney 2014), the film itself does not emphasise this theological interpretation; noting the use of similar shots elsewhere in Anderson's catalogue (for example the *Resident Evil* franchise), the same review points to how the aerial views also – and I would argue more importantly – 'emphasize the ironclad control the Mabuse-like villains of these films have over the heroes, whom they move around like chess pieces.' In *Pompeii*, unsurprisingly, it is the Romans (chiefly represented by Senator Corvus) who attempt this manipulation of our protagonists, transporting Milo from his northern home to gladiatorial slavery, and pestering Cassia for marriage. The gaming motif emerges most strongly in the use of miniature urban models; as noted above, a surprisingly common trope in ancient world films, and one which often has narrative as well as spectacular functions. The model cities employed by Nero in *Quo Vadis* and Commodus in *Gladiator*, hubristic god-emperors in the extreme, enable them to look down on their (imaginary) creations with ease, their divine ambitions to create and control new worlds seeming at least plausible, even if they remain unfulfilled. *Pompeii*'s use of this trope plays out slightly differently. Here, the model is displayed by Severus, Cassia's father and the 'governor' of Pompeii, showing Corvus his

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[25] Cooley & Cooley (2013: 32-43) collects the relevant ancient sources, while Moormann (2015: 215-256) presents an array of modern receptions dealing with Jews and Christians at Pompeii.

plans for new buildings in the city; but it is no more than an ill-fated and pathetic attempt to gain mastery over a city which will never compete with the greater might of Rome, let alone that of Vesuvius. Real power is reserved for the digital capabilities of the filmmakers.

By conjuring up this panoramic view of history, the filmmakers confirm the audience's omniscient perspective on events, granting them access to what Roland Barthes called, in his 1954 essay on the widescreen technology of CinemaScope, 'the Balcony of History' (Barthes 1954). This format of the epic film, he argued, brings the viewer into a new relationship with history, in which he or she can 'move effortlessly', and 'freely pick out what interests' them, instead of being the passive recipient of images. Recent challenges to Barthes, however, suggest that the historical epic gains most power not by positioning viewers on this 'balcony', but by facilitating a 'being in History' (Sobchack 2006: 348-350). Watching epic, suggests Robert Burgoyne (2011: 93), grants 'a way of accessing the somatic, physical apprehension of being in history, the burning in of experiences in a way that links us to other times and places.' Barthes' formulation of Cinemascope's effects had raised the prospect that screened history could be an immersive experience for the mid-twentieth-century filmgoer, but it is still history at 'arm's reach'; in the twenty-first century, it becomes yet more carnal, the spectator placed even more firmly within the historical setting. *Pompeii* certainly fulfils this promise in important ways: much of the camerawork places us at ground level in the city, while the film's 3D distribution offers its own distinctively immersive experience (albeit a restricted and transient one, given the limited reach of 3D into domestic screening technology).[26] But the

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[26] Claims for cinema's 'immersiveness' are made particularly regularly at the time of writing, and not only in the context of 3D: Christopher Nolan's *Dunkirk* (2017), for example, was frequently described as 'wholly', 'thrillingly', 'truly', even 'overwhelmingly' immersive, especially when presented in 70mm Imax. 4DX auditoriums, which use devices such as moving seats, scented air, and water sprays, are also appearing in more cinemas – although such effects are less original than media reports imply; 'Smell-o-Vision' accompanied films

repetition of the aerial shots significantly undercuts the sense of immersion, taking us up, up and away from events on the ground – with, perhaps, a feeling of relief, for would we not *rather* witness the eruption of Vesuvius from a distant 'balcony of history', at far more than a mere 'arm's reach', instead of being swept up in the pyroclastic flow, like the doomed Milo and Cassia?

So, in one way, affording the cinema audience an aerial view of Pompeii grants us a privileged panorama of city and history, allowing us to imagine ourselves watching the drama from a safe distance; perhaps even giving us the illusion of some kind of control, by placing us alongside the omniscient gods. But in another way, far from granting us omnipotence, the aerial view speaks of human obsolescence: the very opposite of a carnal immersion in history, it wrenches us away from the side of Cassia, the Pompeian flaneuse, and instead takes the body, the subjective experience of the city and of history, out of the picture. The third effect of *Pompeii*'s aerial shots is therefore to undermine our sense of mastery over the past not only by radically distancing us from history 'on the ground', but also by evoking a dystopian and dehumanised world-view, one which has no need of humans (and thereby compounding the associations with a posthuman world already established by the use of synthetic digital images, 'free of the limitation of both human and camera vision' (Manovich (2001: 202); see also Foka (2018: 195).) As Paula Amad (2012: 69) explains, this dystopian mode 'dominates our contemporary understanding of aerial vision' even in the twentieth century. Human flight

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in the 1960s, for example, and 3D screenings were common in the 1950s. Increasing attention is now being paid to ways in which scholarly digital reconstructions of antiquity can offer a fuller sensorial, and so immersive, experience; see Foka and Arvidsson (2016). Williams (2017: 251-257) analyses how the 3D rendering of *Pompeii* creates a particularly objectified view of the bodies around which *Pompeii*'s narrative hinges, those of Milo and Cassia, and their eventual immortalisation as the petrified body casts that appear at the beginning of the film.

facilitated the aerial view, making it symbolic of modernity, but that view also quickly became associated with warfare and military reconnaissance. Now, in the twenty-first century, an aerial perspective can exist largely independently of humans, and the negative, dystopian connotations of the view from above become yet more pronounced: it is the eye of the drone that looks down on the city in *Pompeii*. Drones may have many positive practical applications in our study of the past,[27] but the even closer associations between this technology, surveillance, and remote-controlled warfare can make the drone's-eye view a troubling one. This 'revolution in sighting' (Chamayou 2014: 38) and the drone's 'dreams of achieving through technology a miniature equivalence to that fictional eye of God' (*ibid*. 37) speak less of placing humans alongside the divine, and more of surpassing human capability – neatly captured in the mythological naming of military surveillance drone systems such as Argus and Gorgon Stare, 'winged and armed panoptics' (*ibid*. 44) who, like the Gorgon herself, kill (even if not directly) with their look.

Not only can the mechanised view of the drone operate without direct human involvement, it also reminds us that the distanced, aerial view often captures a world seemingly uninhabited by humans; as Mark Cousins observes (2017: 213), 'to be airborne is to detach, to lose human contact, to see process rather than people.' People can be made out in *Pompeii*'s aerial views, but in ant-like proportions, and we are not invited to share their subjective

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[27] The first drone photographs of Pompeii were taken in 2012 by a team from the University of Helsinki (https://blogs.helsinki.fi/pompeii-project/pompeii-aerial-survey-project/). In 2015, a French collaborative project unveiled 'Digital Pompéi', a 3D visualisation of the ruins which was based on thousands of aerial shots of the city, many taken from a drone (https://www.inria.fr/en/news/mediacentre/digital-pompei-a-massive-3d-model-rendered-in-microsoft-edge). Aerial footage taken from a drone is also used frequently in the 2017 concert film, *David Gilmour: Live at Pompeii*, including in its opening shot, a 30-second glide over an amphitheatre twinkling in the dusk, Vesuvius looming in the background.

experience. In the same year as *Pompeii*, *Soleil Noir*, a video installation by the French artist Laurent Grasso, offered a strikingly similar account of the city:[28] over 11 minutes and 40 seconds, it splices together bird's-eye views of Pompeii and shots of Stromboli, taken using drone technology. No people can be seen in any of the shots: in this ancient city, 'humanity exists only in the negative, the absent mode';[29] the drone's-eye view captures a 'post-human landscape… [an] ode to obsolescence'.[30] In a similar vein – and lending them a particular narrative purpose – the aerial views of *Pompeii* can be seen to prefigure the devastation that Vesuvius will shortly wreak on the city. Adopting the perspective of the drone, they allow the possibility that this aerial view will lead to death and destruction, and their distant views of a dehumanised city foreshadow the civilizational collapse in the dystopian aftermath of the eruption.

Digital deceptions, analogue antiquities

The aerial view, then, proves a powerful locus for reflecting on different approaches to cinematic antiquity, prompting us to reconsider our own immersion in or distancing from that past, even presaging the very end of history. Similar concerns are much in evidence in the 2009 film *Agora*.[31] This account of the philosopher Hypatia, and her death (in c. 415 CE) at the

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[28] *Soleil Noir* was exhibited at the Montreal Museum of Fine Arts 'Pompeii exhibition' in 2015, and in 'The Silent Echo' at the Museum of Baalbek in 2016.

[29] https://www.perrotin.com/artists/Laurent_Grasso/190/soleil-noir/29340.

[30] 'The Silent Echo' exhibition catalogue,

http://media.wix.com/ugd/8574eb_6f15e879c68642afadd03d37fe93ae51.pdf.

[31] See Paul (2013); Carlà-Uhink (2017: 321-323).

hands of Christian fundamentalists, also made notable use of aerial shots.[32] On several occasions, we see the city of Alexandria from above (Fig. 4)

Figure 4. Aerial shot in *Agora*.

before the camera pulls further and further away in an ever-expanding bird's-eye perspective, until it reaches a striking view of the earth from space. More than in *Pompeii*, these shots were motivated by an obvious narrative purpose, illustrating *Agora*'s focus on Hypatia's astronomy, and its commentary on the futility of religious conflict. *Agora* also has an interesting relationship with the digital technologies that facilitated these shots. Whereas, as we have seen, *Pompeii* relies heavily and unashamedly on CGI, Amenábar apparently sought to limit its use, regularly commenting in interviews on how he 'tried not to do anything you could not do physically' (Olsen 2010). The DVD documentary on *Agora*'s building of Alexandria focuses on the extent of the physical sets that were built (at Fort Ricasoli, as with *Gladiator*), and accounts of digital processes are this time conspicuous by their absence, mentioned only briefly in the context of the post-production phrase in which, it is claimed, they are used simply to

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[32] Garcia (2015: 127-129) offers an overview of *Agora*'s depiction of the city. Prieto Arciniega (2015: 169) identifies a similar shot at the end of the 1961 *peplum* film *Romolo e Remo*, in which a bird's-eye view zooms out from the dead Romulus, until it shows him as a small figure lying in the midst of 'the still virgin landscape'.

enhance and extend certain aspects of the sets. This downplaying of digital technology may be slightly disingenuous, given that it clearly was necessary in some shots, but it was praised by more than one reviewer; Charlotte Higgins, for example, commented on Agora's 'minimum CGI nastiness' (*The Guardian*, 18 May 2009). It arguably forms part of *Agora*'s self-presentation as facilitating a particular *kind* of access to antiquity, one which exploits the prevailing discourse that CGI is a vehicle for cheap, insubstantial thrills. As critic Peter Bradshaw remarked, in his review of *Agora* as a 'sword'n'sandals movie with a brain', this film, 'unlike most toga movies, […] doesn't rely on CGI spectacle, but real drama and ideas.' (*The Guardian,* 22 April 2010) On this view, digital technology is not the springboard for exciting, sometimes challenging, new visions of antiquity, as the last section's discussion of aerial views seemed to suggest, but is rather resisted, even rejected, as somehow inimical to the pure, authentic re-enactment of the past that cinema has so often claimed as its special preserve. Mark Jancovich (2014) has shown how regularly critics have complained about CGI in epic films, since the release of *Gladiator*, and though he argues that the technology was steadily gaining acceptance by 2005, the case of *Agora* still suggests that resistance to CGI was likely to meet with critical approval.

But why should this be so? Unpacking this discourse around digital antiquities indicates that the principles and practices that underpinned the recreation of antiquity in a pre-digital era have not gone away. It still seems that, if audiences are to believe and feel fully immersed in a cinematic vision of the past, it helps if they can understand it as a real, tangible object. Film makers and marketers therefore direct considerable press attention to the physical undertaking of building a cinematic city. Productions from the silent era through to the golden age of Hollywood epics set the scene for this effusive rhetoric – the 1959 *Ben-Hur*'s account of 1,000 workmen building the five-acre, $300,000 Antioch Circus is just one example (Paul 2013: 226; Llewellyn-Jones 2018: 106-108) – but they continue in the digital age, with *Agora*'s DVD

features describing the six-month set build for Alexandria, or the 8,000 scrolls painstakingly made for the Library; or those of the HBO TV series *Rome* emphasising the five-acre, six-soundstage extent of its Cinecittà set. Such rhetoric is a way of not only quantifying the amount of research undertaken (Rosen 2001: 158) and the labour invested in recreating antiquity (thereby guaranteeing authenticity and authority), but also of calling attention to the substantive way in which antiquity is made physically *present* again. It has been argued that mainstream Hollywood strives towards an 'invisible style' (King 2000: 51), but in fact, ancient world epics often proudly call attention to what we might call their necromantic summoning of antiquity, especially when they can boast of having actually recreated a city.[33] This is not to say that films such as *Pompeii* – and indeed predecessors like *Gladiator* – do not enthusiastically vaunt their digital achievements too, but calling attention to digital artifice seems a much riskier venture, and less likely to meet with critical approval. And for filmmakers like Amenábar, digital technologies are resisted because they undermine the 'direct', experiential encounter with the past that they promise their audiences, with actors as their proxies: 'To me it was important to think we had the privilege of going back to the past for a few days', he says. 'It's perfectly honest trying to do that digitally, but for me I wanted to see the actors interacting with space […] I wanted them being there. I know it's going backwards with what's being done today, but you get a different feeling.' (Olsen 2010)

Amenábar's comments align neatly with recent scholarship on digital cinema, which has explored the reasons why the digital extravaganza of *Pompeii* might be rejected in favour of *Agora*'s analogue approach. Scholars such as Lisa Purse see this 'nostalgia for celluloid' as a consequence of a fixed idea that analogue filmmaking has an 'indexical connection to the

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[33] As Steve Neale (1980: 35) observed, 'In the epic, these [spectacular] moments are part of an overall process in which cinema displays itself and its powers through the recreation of a past so distant that much of its impact derives simply from the evidence of the scale of recreation involved.'

real-world, profilmic referent' (2013: 5), which digital technology has ruptured – which means that, when moviegoers see a digital city in *Pompeii*, essentially they don't trust it. Crucially, though, she identifies this as a polemical opposition between analogue and digital, indexical and non-indexical, rather than a genuine or significant difference of technology or intention.[34] Celluloid films clearly don't have a straightforwardly indexical relationship to the world, but were and are *always* creating a fictionalised, illusory version of reality, even if they're selling it as 'real'; and especially if what they're depicting is a now-vanished ancient city. By the same token, digital films regularly strive for photorealism even when using CGI to depict ancient or fantastical worlds, or impossible special effects. Although, as Stephen Prince puts it (2019: 36), filmmakers' tools have changed drastically in the transition from analogue to digital, the fundamental conditions and objectives of much film-making have not; the goal remains the creation of 'a gestalt of wholeness and interconnection' (38) from an assemblage of fragments and illusions.

And yet the polemic against digital recreations, and the sense that they somehow hinder connection with or immersion in the world that they depict remains influential.[35] Fears persist that CGI, if regarded as synonymous with spectacle, threatens the unfolding of a satisfying narrative (Prince 2019: 17-18), and viewers are also quick to cry foul when its manipulation of the laws of physics results in unconvincing action sequences (*ibid.* 87-88); even though such charges are in no way unique to digital cinema. What is more, the 'nostalgia for celluloid' is

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[34] Thompson (2011: 42) also downplays the distinction, arguing that most contemporary films – as with *Agora* – now comprise both analogue and digital components; and see now Prince (2019) for an especially lucid and accessible account of the analogue-digital relationship.

[35] Even in the silent era, critics praised cinematic cities in whose 'solidity' they could trust; Dorgerloh (2013: 238) notes how, watching *Cabiria*, 'critics emphasised positively that the houses [on Sicily, destroyed by Etna] were not made of cardboard but solid material, as could be recognised when they collapsed'.

arguably repeated in a nostalgia for other pre-digital approaches to recreating (past) worlds, exemplified by the popularity of Lego versions of antiquity. The models of the Colosseum, the Acropolis, and Pompeii in the University of Sydney's Nicholson Museum are made not from millions of pixels but many thousands of these children's building blocks, projects which entertain through their explicit connection to childhood play, but which also prompt reflection on the tools and materials that might provide a satisfying encounter with antiquity.[36] The Lego Pompeii is, it could be said, another expression of allegiance to an analogue recreation of antiquity, celebrating the tangibility of this recreated and self-consciously *built* antiquity over the pristine emptiness of a digital world.[37]

Build it up, knock it down

Today's filmmakers, then, must decide not only how much use to make of digital technology, and the dizzying new perspectives on antiquity that it offers, but also how much to draw attention to it, given the background noise around digital's inauthenticity and insubstantiality. Films which recreate antiquity bring these issues to the fore. Typically (though not always), they encourage audiences to believe in what they are seeing, but it is also impossible to fully pretend that what we are seeing is a live-action shot of a real city; as Andrew Elliott comments (2014: 141), such films 'shake the audience into a state in which they simultaneously accept

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[36] See http://sydney.edu.au/museums/exhibitions-events/lego-pompeii.shtml. Barker (2015) points out the continuities between the Lego Pompeii and the 19th-century cork models referred to above. Further Lego projects include 'Grand designs in Ancient Greece' at the University of Liverpool (https://www.liverpool.ac.uk/archaeology-classics-and-egyptology/research/projects/grand-designs/#d.en.916711), and the 'Lego Classicists' Facebook page (https://www.facebook.com/LegoClassicists/).

[37] A particularly thought-provoking aspect of the Lego Pompeii is its embodiment of the multiple layers of Pompeii's physical histories and reception histories: for example, in the amphitheatre, Nucerians riot and Pink Floyd rock, while Winckelmann watches over Andrew Wallace-Hadrill being filmed for a documentary.

the world on offer while admiring the craft on offer'.[38] The question is whether it is digital, or analogue craft that most deserves that admiration, by making the ancient world present for its moviegoing audience.

If a sense of presence and solidity, of the film actors inhabiting real space and interacting with real (if reconstructed) ancient structures, is what is required, then it is perhaps ironic that so many cinematic ancient cities end up in ruins. Many ancient world films are as preoccupied with wrecking their ancient cities as they are with painstakingly rebuilding them, making the ruined city a generic convention that gets played and replayed endlessly. In both *Pompeii* and *Agora*, as in earlier films from *Quo Vadis* (1951) to *Troy* (2004), urban collapse provides a powerful narrative denouement, and a neat moral ending in which the desolation of an individual city symbolises the broader theme of an empire or civilisation's decline and fall (hence the particular prominence of the ruined city in late antique movies (Carla and Goltz 2015: 207-11).) Visually, the city's destruction is a prime opportunity for epic spectacle, particularly in *Pompeii*, which employs a multitude of disaster-movie motifs in its depiction of the eruption, from fireballs to earthquakes and tsunamis;[39] the digital fragility of the reconstructed city is confirmed and played out at length as Pompeii's buildings shatter and crumble, just as *Agora*'s Library is revealed to be no less susceptible to destruction, as its scrolls are scattered and overturned.

At the same time, the films are a constant reminder of the possibility of the regeneration and return of these lost cities. Start the film again, and the same technology that destroys the cities, whether analogue or digital, has also rebuilt them. But as this discussion has shown, the process and implications of screening an ancient city in the digital era are very far from simple.

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[38] See also Elliott (2013) and Thompson (2011: 42) on the distinctions between invisible and seamless digital effects.

[39] Hobden (2016: 121-6) explains how Pompeii documentaries are also patterned on the disaster movie genre.

The methods that filmmakers use to build them, and the viewing perspectives that audiences are offered, are implicated in questions that go to the very heart of the contemporary world's relationship with the ancient past.

References

Amad P., 'From God's-eye to Camera-eye: Aerial Photography's Post-humanist and Neo-humanist Visions of the World', *History of Photography* 36:1 (2012), pp. 66-86.

Bergmann B., 'Painted Perspectives of a Villa Visit: Landscape as Status and Metaphor' in Gazda E. (ed.), *Roman Art in the Private Sphere: New Perspectives on the Architecture and Decor of the Domus, Villa, and Insula* (Ann Arbor: University of Michigan Press, 2010), pp. 49-70.

Betts E., 'Towards a Multisensory Experience of Movement in the City of Rome' in Laurence R. and Newsome D. (eds.), *Rome, Ostia, Pompeii: Movement and Space* (Oxford: Oxford University Press, 2011), pp. 118-132.

Burgoyne R., 'Bare Life and Sovereignty in *Gladiator*' in Burgoyne R. (ed.), *The Epic Film in World Culture* (New York and London: Routledge, 2011), pp. 82-97).

Burgoyne R., *The Hollywood Historical Film* (Malden, MA and Oxford: Blackwell, 2008).

Carlà-Uhink F., 'Thinking through the Ancient World: "Late Antique Movies" as a Mirror of Shifting Attitudes towards Christian Religion' in Pomeroy A. (ed.), *A Companion to Ancient Greece and Rome on Screen* (Malden, MA: Wiley-Blackwell, 2017), pp. 307-328.

Carlà F. and Goltz A., 'The Late Antique City in Movies' in García Morcillo M., Hanesworth P. and Marchena O. *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (New York: Routledge, 2015), pp. 202-226.

Chamayou G., *A Theory of the Drone* (New York and London: The New Press, 2014).

Cooley A. and Cooley M. (eds.), *Pompeii and Herculaneum: A Sourcebook* (London: Routledge, 2013, second edition).

Cousins M. *The Story of Looking* (Edinburgh: Canongate, 2017).

Dorgerloh A., 'Competing ancient worlds in early historical film: the example of *Cabiria* (1914)' in Michelakis P. and Wyke M. (eds.), *The Ancient World in Silent Cinema* (Cambridge: Cambridge University Press, 2013), pp. 229-246.

Dorrian M., 'On Google Earth' in Dorrian M. and Pousin F. (eds.), *Seeing From Above: The Aerial View in Visual Culture* (London: I.B. Tauris, 2013), pp. 290-307.

Dorrian M. and Pousin F., 'Introduction' in Dorrian M. and Pousin F. (eds.), *Seeing From Above: The Aerial View in Visual Culture* (London: I.B. Tauris, 2013), pp. 1-10.

Elkin L., *Flaneuse: Women Walk the City in Paris, New York, Tokyo, Venice and London* (London: Vintage, 2017).

Elliott A., ''And all is real'. Historical Spaces and Special F/X in HBO's Rome', *Critical Studies in Television* 8:3 (2013), pp. 65-77.

Elliott A., *The Return of the Epic Film: Genre, Aesthetics and History in the Twenty-first Century* (Edinburgh: Edinburgh University Press, 2014).

Fino L., *Herculaneum and Pompeii in the 18th and 19th Centuries: Water-colours, drawings, prints and travel mementoes* (Naples: Grimaldi & C. Editori, 2006).

Foka A. and Arvidsson V., 'Experiential Analogies: A Sonic Digital Ekphrasis as a Digital Humanities Project', *Digital Humanities Quarterly* 10:2 (2016).

Foka A., 'The digital aesthetic in 'Atlantis: the evidence' (2010)' in Hobden F. and Wrigley A. (eds.), *Ancient Greece on British television* (Edinburgh: Edinburgh University Press, 2018), pp. 187-202.

Forte M., 'Virtual Reality, Cyberarchaeology, Teleimmersive Archaeology' in Remondino F. and Campana S. (eds.), *3D Recording and Modelling in Archaeology and Cultural Heritage: Theory and Best Practices* (Oxford: Archaeopress Archaeology, 2014), pp. 113-127.

Frischer B., 'Cultural and Digital memory: Case Studies from The Virtual World Heritage Laboratory' in Galinsky K. (ed.), *Memoria Romana: Memory in Rome and Rome in Memory* (*Memoirs of the American Academy in Rome, Supplementary Vol. 10)* (Ann Arbor: University of Michigan Press, 2014), pp. 151-162.

Garcia N., 'City of Lights: Ancient Alexandria in Cinema and Modern Imagination' in García Morcillo M., Hanesworth P. and Marchena O. *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (New York: Routledge, 2015), pp. 113-134.

García Morcillo M., Hanesworth P. and Marchena O. *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (New York: Routledge, 2015).

Hales S. and Earle N., ''A copy – or rather a translation…with numerous sparkling emendations': Re-rebuilding the Crystal Palace' in Nichols K. and Turner S. (eds.), *After 1851: The Material and Visual Cultures of the Crystal Palace at Sydenham* (Manchester: Manchester University Press, 2017), pp. 179-208.

Hales S. and Paul J. (eds.), *Pompeii in the Public Imagination from its Rediscovery to Today* (Oxford: Oxford University Press, 2011).

Hartnett J., *The Roman Street: Urban Life and Society in Pompeii, Herculaneum, and Rome* (Cambridge: Cambridge University Press, 2017).

Hobden F., 'The archaeological aesthetic in ancient world documentary', *Media, Culture and Society* 35:3 (2013), pp. 366-381.

Hobden F., 'Between media and genres: Pompeii and the construction of historical knowledge on British television today' in Jaki S. and Sabban A. (eds.), *Wissensformate in den Medien: Analysen aus Medienlinguistik und Medienwissenschaft* (Berlin: Frank & Timme, 2016), pp. 119-138.

Jancovich M., ''There's Nothing So Wrong with a Hollywood Script That a Bunch of Giant CGI Scorpions Can't Solve': Politics, Computer Generated Images and Camp in the Critical Reception of the Post- Gladiator Historical Epics' in Elliott A. (ed.), *The Return of the Epic Film: Genre, Aesthetics and History in the Twenty-first Century* (Edinburgh: Edinburgh University Press, 2014), pp. 57-73.

Kamash Z., ''Postcard to Palmyra': bringing the public into debates over post-conflict reconstruction in the Middle East', *World Archaeology* 49:5 (2017), pp. 608-622.

King G., *Spectacular Narratives: Hollywood in the Age of the Blockbuster* (London and New York: I.B. Tauris).

Kockel V., 'Models of Pompeii from the Eighteenth Century to the "Grand Plastico." The Three-Dimensional Documentation of Ancient Ruins' in Osanna M., Caracciolo M. and Gallo, L. (eds.), *Pompeii and Europe 1748-1943* (Milan: Electa, 2015), pp. 267-275.

Landau D. (ed.), *Gladiator: The Making of the Ridley Scott Epic* (London: Boxtree, 2000).

Liversidge M. and Edwards C. (eds.), *Imagining Rome: British Artists and Rome in the Nineteenth Century* (London: Merrell Holberton, 1996).

Llewellyn-Jones L., *Designs on the Past: How Hollywood Created the Ancient World* (Edinburgh: Edinburgh University Press).

Lovatt H., *The Epic Gaze: Vision, Gender and Narrative in Ancient Epic* (Cambridge: Cambridge University Press, 2013).

Malfitana D. et al, 'Il plastico ottocentesco di Pompei al sorgere della fotografia: un "doppio" archivio 3D?', *Quaderni Friulani di Archeologia* 26:1 (2016), pp. 211-224.

Manioti N., 'Circles and Landscapes: Ceres' Flight over the Greco-Roman World', *Mnemosyne* 70:1 (2017), 79-93.

Manovich L., *The Language of New Media* (Cambridge, MA: MIT Press, 2001).

Maurice L., 'Building a New Ancient Rome' in Augoustakis A. and Cyrino M. (eds.), *Starz Spartacus: Reimagining an Icon on Screen* (Edinburgh: Edinburgh University Press, 2016), pp. 111-130.

Moormann E., *Pompeii's Ashes: The Reception of the Cities Buried by Vesuvius in Literature, Music, and Drama* (Boston: De Gruyter, 2015).

Neale S., *Genre* (London: British Film Institute, 1980).

Olsen M., 'Indie Focus: In 'Agora,' a faceoff between faith and science', *Los Angeles Times*, 30 May 2010.

Olson B. and Caraher W. (eds.), *Visions of Substance: 3D Imaging in Mediterranean Archaeology* (The Digital Press @ The University of North Dakota, 2015).

Osanna M., 'Pompei: la prossimità del passato' in Osanna M. and Villani A. (eds.), *Pompei@Madre. Materia archeologica.* (Milan: Electa, 2017), pp. 91-101.

Pasqua, R., 'La Città Rappresentata. Contribuo all'analisi dell'immagine della città nella cultura figurative Greca e Romana', *Thiasos: Rivista di Archeologia e Architettura Antica* 5:2 (2016), 49-62.

Paul J., *Film and the Classical Epic Tradition* (Oxford: Oxford University Press, 2013).

Poehler E., *The Traffic Systems of Pompeii* (Oxford: Oxford University Press, 2017).

Pomeroy A., 'The Vision of a Fascist Rome in Gladiator' in Winkler M. (ed.), *Gladiator: Film and History* (Malden, MA and Oxford: Blackwell Publishing, 2005), pp. 111-123.

Prieto Arciniega A., '"Rome is no longer in Rome": In Search of the Eternal City in Cinema' in García Morcillo M., Hanesworth P. and Marchena O. *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (New York: Routledge, 2015), pp. 163-183.

Prince S. *Digital Visual Effects in Cinema: The Seduction of Reality* (New Brunswick and London: Rutgers University 5Press, 2011).

Prince S. *Digital Cinema* (New Brunswick and London: Rutgers University Press, 2019).

Purse L., *Digital Imaging in Popular Cinema* (Edinburgh: Edinburgh University Press, 2013).

Roberts M., 'Rome Personified, Rome Epitomized: Representations of Rome in the Poetry of the Early Fifth Century', *American Journal of Philology* 122:4 (2001), pp. 533-565.

Rosen P., *Change Mummified: Cinema, Historicity, Theory* (Minneapolis and London: University of Minnesota Press, 2001).

Rovira Guardiola R., '"It Is like Soho, only Bigger". Doctor Who and Modern Interpretations of Pompeii' in García Morcillo M., Hanesworth P. and Marchena O. *Imagining Ancient Cities in Film: From Babylon to Cinecittà* (New York: Routledge, 2015), pp. 184-201.

Saiello E., 'Painters and Travelers at Pompeii, from the Real to the Imaginary' in Osanna M., Caracciolo M. and Gallo, L. (eds.), *Pompeii and Europe 1748-1943* (Milan: Electa, 2015), pp. 47-53.

Smiles S. and Moser S. (eds.), *Envisioning the Past: Archaeology and the Image* (Malden, MA and Oxford: Blackwell Publishing, 2005).

Sobchack V., '"Surge and Splendor": A Phenomenology of the Hollywood Historical Epic' in Grant B. (ed.), *Film Genre Reader IV* (Austin: University of Texas Press, 2012), pp. 332-359.

Thompson K. '"Philip never saw Babylon": 360-degree vision and the historical epic in the digital era' in Burgoyne R. (ed.) *The Epic Film in World Culture* (New York and London: Routledge, 2011), pp. 39-62.

Tschudi V., 'Plaster Empires: Italo Gismondi's Model of Rome', *Journal of the Society of Architectural Historians* 71:3 (2012), pp. 386-403.

Vitale V., *Rethinking 3D Visualisation: From photorealistic visual aid to multivocal environment to study and communicate cultural heritage* (PhD thesis, King's College London, 2017).

Vout C., 'Sizing up Rome, or theorizing the overview' in Larmour D. and Spencer D. (eds.), *The Sites of Rome: Time, Space, Memory* (Oxford: Oxford University Press, 2007), pp. 295-322.

Vout C. *The Hills of Rome: Signature of an Eternal City* (Cambridge: Cambridge University Press, 2012).

Whissel K. 'The Digital Multitude', *Cinema Journal* 49:4 (2010), pp. 90-110.

Williams M. *Film Stardom and the Ancient Past: Idols, Artefacts and Epics* (London: Palgrave Macmillan, 2017).

Wyke M. *Projecting the Past: Ancient Rome, Cinema and History* (New York and London: Routledge, 1997).

Yablon N., '"A Picture Painted in Fire": Pain's Reenactments of The Last Days of Pompeii, 1879-1914' in Coates V. and Seydl J. (eds.), *Antiquity Recovered: The Legacy of Pompeii and Herculaneum* (Los Angeles: The J. Paul Getty Museum, 2007), pp. 189-205.

Zarmakoupi M., 'The virtual reality digital model of the Villa of the Papyri project' in Zarmakoupi M. (ed.), *The Villa of the Papyri at Herculaneum: Archaeology, Reception, and Digital Reconstruction* (New York: De Gruyter, 2010), pp. 181-194.