

# Shooting space, tracking time: the city from animated photography to vernacular relativity

David B. Clarke and Marcus A. Doel

Department of Geography, Swansea University, UK

The article reflects on the visualization of the city in the late 1890s and early 1900s, with reference to English animated photography and film: two media that are intimately related in terms of technology but worlds apart in terms of form. While both animated photography and film shared an elective affinity with the city, each was drawn to the urban environment for different reasons. Anima-photographers were particularly concerned with the movement and pace of the city and endeavoured to capture the 'true motion' of such a dynamic space. Film, by contrast, began to probe the 'optical unconscious' of urban space as a way of drawing out its undisclosed potential. Consequently, concerns with rendering 'true motion' gave way to an appreciation of modernity's 'vernacular relativity', especially in the form of montage. It was this shift that enabled filmmakers to re-engineer space and time, developing all manner of editing techniques with which to rearticulate the world. Hence the revolutionary potential of film. To demonstrate the significance of this shift, two recent projects that rework animated photographs taken in the 1890s and 1900s are explored: Patrick Keiller's *The City of the Future* (2005), which splices together a number of animated photographs to create a work of narrative cinema; and Gustav Deutsch's *Welt Spiegel Kino (World Mirror Cinema)* (2005), which uses archival panning shots of city squares as the basis for a hypertextual montage. The article concludes by outlining the specificity of the ways in which animated photography and film, respectively, envisage the city.

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There must be a little time to capture the rhythms, a sort of mediation over time, the city, people.<sup>1</sup>

## City visions

Wayne Wang's (1995) *Smoke*, a largely improvised filmic collaboration with the novelist Paul Auster, includes a scene based on a short story that Auster wrote for *The New York Times* in 1990. Entitled 'Auggie Wren's Christmas story', it begins with a disconcerting revelation.

In a small, windowless room at the back of the store, he [Auggie Wren] opened a cardboard box and pulled out twelve identical photo albums. This was his life's work, he said, and it didn't take him more than five minutes a day to do it. Every morning for the past twelve years, he had stood at the corner of Atlantic Avenue and Clinton Street at precisely seven o'clock and had taken a single colour photograph of precisely the same view. The project now ran to more than four thousand photographs. Each album represented a different year, and all the pictures were laid out in sequence. ... As I flipped through the albums and began to study Auggie's work, I didn't know what to think. My first impression was that it was the oddest, most bewildering thing I had ever seen. All

the pictures were the same. The whole project was a numbing onslaught of repetition, the same street and the same buildings over and over again, an unrelenting delirium of redundant images.<sup>2</sup>

Like someone suffering from an obsessive-compulsive disorder, Auggie appears to have devoted himself to a seemingly meaningless task of empty repetition. When Auggie enjoins the bewildered narrator to take his time over the sequence of photographs, however, he realizes that Auggie has been engaged in recording the potentiality of time: not times past but the passage of time; not spent moments but lived durations.

I picked up another album and forced myself to go more deliberately. ... Eventually, I was able to detect subtle differences in the traffic flow, to anticipate the rhythm of the different days. ... I was no longer bored, no longer puzzled as I had been at first. Auggie was photographing time, I realized, both natural time and human time, and he was doing it by planting himself in one tiny corner of the world and willing it to be his own, by standing guard in the space he had chosen for himself.<sup>3</sup>

Auggie's repetitive still photography animated this street corner. In the film's rendition of the scene, the distinction between the barren repetition of the same and the generative repetition of difference is underscored by the fact that the narrator is arrested by a chance photograph of his late wife. In a manner typical of Auster, the scene evokes the aleatory power of art to conjure up other worlds;<sup>4</sup> not simply to conserve past times and to preserve lost worlds (the persistence of visual memory) but to plot out what Giuliana Bruno terms 'emotional itineraries'<sup>5</sup> (which *move* us into different affectual states and different possible worlds). In other words, while for a long time the image remained burdened by the terrible labour of sciamachy – forced to play the role of a mere shadow of life – still photography should not be confused with mortified or dead time.

Indeed, Auggie's photographic practice and albums resonate with the now virtually abandoned technologies of chronophotography and 'animated photography', speaking not only to their original impulses but also their emergent limits and possibilities. In one sense, Auggie's project attests to the close affinity with the city enjoyed by animated photography in the 1890s and 1900s. The most commonly articulated conception of the city's animation was framed around the rendering of 'true motion',<sup>6</sup> through devotion to moving pictures that might be apprehended after the fashion of natural perception. However, the way in which Auggie attempts to will the world into the camera photographs time differently, pointing to other possibilities for, and conceptions of, animation. Just as there is more to Auggie's still photography than mere repetition, so is there more to film than a sequence of photographic stills. In this context, Auggie's project amounts to a slow-motion version of Eadweard Muybridge's celebrated high-speed chronophotography of human and animal locomotion, recalibrated to capture the pace of city life. 'Rhythms cannot be analysed when they are lived', write Lefebvre and Régulier, 'you have to be out of it. Exteriority is necessary'.<sup>7</sup> Auggie's photographs, like Muybridge's chronophotography, are not only naturalistic. They disclose something that was imperceptible at the time, graphically dramatizing the existence of an 'optical unconscious' and highlighting the technical substrate of unconscious memory.<sup>8</sup> For, as Walter Benjamin proposed, 'it is another nature that speaks to the camera than to the eye: other in the sense that a space informed by human consciousness gives way to a space informed by the unconscious'.<sup>9</sup> Auggie's project effectively demonstrates the power of the optical unconscious to reveal that 'everything is suspended in movement'.<sup>10</sup>

The relations between visualization and movement can be better appreciated by distinguishing between the specificity of film *qua* film, especially as it came to be known in the opening decade of the 20th century, and the earlier technologies of chronophotography and animated photography, often referred to as film before film. The latter's initial fixation on conceiving of matters in terms of immobile images to which movement could be added, rather than as 'movement-images' per se, is, for Deleuze, a matter of evolution from a set of initial technological conditions, paralleling the way life struggled to distinguish itself from matter:

On the one hand, the viewpoint [*prise de vue*] was fixed, the shot was therefore spatial and strictly immobile; on the other hand, the apparatus for shooting [*appareil de prise de vue*] was combined with the apparatus for projection, endowed with uniform time. The evolution of cinema, the conquest of its own essence or novelty, was to take place through montage, the mobile camera and the emancipation of the viewpoint, which became separate from projection. The shot would then stop being a spatial category and become a temporal one, and the section would no longer be immobile, but mobile.<sup>11</sup>

Just as Auggie's stills are always already mobile, the creative evolution of cinema saw a transition from moving images to movement-images, from an attempt to conjure 'true motion' to an appreciation of 'vernacular relativity'<sup>12</sup> – for film *qua* film both exposed and expressed a new sense and a new experience of space and time: a disadjusted space–time that was encapsulated in the form of montage and in the technique of editing. What is at stake here is the configuration of the subject under the socio-technical conditions inaugurated by urbanization and modernity, for the new technologies of vision mobilized the subject even when the subject was at rest. Hence, for Virilio, cinema amounted to 'the first static vehicle'.<sup>13</sup>

In this article we attend to the differential relations between the city, animated photography, and film. Animated photography, we argue, enjoyed an elective affinity with the city to precisely the same extent as cinema. However, it was the *movement* of the city that lent animated photography its favoured urban orientation. Film, in contrast, opened up a different set of relations to the city. Dispensing with the initial preoccupation with true motion, film both contributed to and dramatized a thoroughly relativized conception of space–time. It made the abstract, formulaic notion of relativity both visible and tangible. Indeed, the cinematic form projected this relativity into the realm of everyday life, wherein erstwhile certainties regarding space and time could no longer be taken for granted. To the extent that it brought into the movement-image, moreover, film was necessarily concerned with the *engineering* of space and time.<sup>14</sup> All manner of editing techniques were employed as a means of working with space and time in ways that were previously unthinkable. As a way of demonstrating the significance of the distinction between animated photography and film, two recent projects using 'found footage' are explored. Both recast early animated photographs in a new context and provide a valuable retrospective glance at animated photography from a world in which the cinema has become second nature. The first of these films is Patrick Keiller's (2005) *The City of the Future*, which splices together a number of animated photographs in order to create a work of narrative cinema, to some extent effacing the distinction that we are attempting to accentuate here. The second is Gustav Deutsch's (2005) *Welt Spiegel Kino* (*World Mirror Cinema*), which uses panning shots of three city squares, each containing a cinema, as the occasion for a hypertextual montage.<sup>15</sup> Thus, on the basis of a discussion drawing on historical evidence and contemporary filmmaking practice, we offer an exploration of the specificity of animated photography and of film in relation to the city.

## Suspended animation

The future will see the replacement of motionless photographs, frozen in their frames, with animated portraits that can be brought to life at the turn of a handle.<sup>16</sup>

When Louis Le Prince took his experimental shots of the bustling traffic on Leeds Bridge in 1888, shots that have frequently been celebrated as the first photographed moving images, he sought out a scene containing ‘the greatest possible accumulation of human movement’.<sup>17</sup> Yet in 1897, ‘The Showman’ found ‘a want of beauty in animated photographs from the fact that they depend on the reproduction of street scenes and others in which moving objects predominate – simple landscape subjects, which are perhaps the most beautiful of all, being quite out of the question’.<sup>18</sup> As the English film pioneer Cecil Hepworth later recalled, in 1917, ‘The films consisted in the old days of pictures of railway trains in cuttings and of omnibuses in Piccadilly – any little thing which tended to movement. ... Any form of movement satisfied us, because it was a miracle to see moving photographs, and that was what people were asking for’.<sup>19</sup> In other words, neither the technological accomplishment of the Paul-Acres camera and a host of similar devices, nor the public exhibition of the Lumière Cinématographe in 1895, spelled the birth of cinema. Before the advent of film *qua* film, animated photography thrived. And it thrived, above all, on city scenes – for the simple reason that what mattered to anima-photographers, exhibitors, and audiences alike was the *animation* of those one-to-two-minute-long animated photographs. What the Lumière brothers filmed in 1895 and 1896, therefore, was *action*: the *demolition* of a wall, workers *leaving* a factory, the *fluttering* of leaves, the *disembarking* of passengers, the *arrival* of a train.<sup>20</sup> From the outset, then, animated photography’s principle attraction was tautological.<sup>21</sup> Only gradually did films depart from the structure of the animated photograph *qua* living picture or moving *tableau*. This is not to say that animated photographs were atemporal, but that time was inscribed synchronically *within* the scene, rather than being fashioned diachronically *between* scenes through editing. Animated photography aimed ‘to present the totality of an action unfolding in an homogeneous space’.<sup>22</sup> That this homogeneous space was so frequently an urban scene was a direct function of the animated nature of the modern urban environment.

However, the status of the ‘animation’ of animated photography was subject to diverse and contradictory assessment. In particular, although the prefix ‘bio-’ (signifying life) was just as prevalent in the early years of filmmaking as ‘ciné-’ and ‘kino-’ (signifying movement), the relations between movement, visualization, and liveliness were much debated. A journalist working for *La Poste*, writing in the wake of the 1895 public début of the Lumière Cinématographe in Paris, claimed that: ‘When these cameras become available to the public, when all are able to photograph their dear ones, no longer merely in immobile form but in movement, in action, with their familiar gestures ... death will no longer be final’.<sup>23</sup> Having experienced the Cinématographe at the Nizhni Novgorod fair in 1896, however, Maxim Gorky famously opined: ‘It is not life but its shadow, it is not motion but its sound-less spectre’.<sup>24</sup> Writing in 1898, Wordsworth Donisthorpe – the inventor of his own motion-photography device, the kinesiograph – combined both sentiments, before finally concurring with Gorky’s view:

Shall we [ever] be able to glide back *up* the stream of Time, and peep into the old home, and gaze on the old faces? Perhaps when the phonograph and the kinesiograph are perfected, and some future worker has solved the problem of colour-photography, our descendents will be able to deceive themselves with something very like it: but it will be a barren husk, a soulless phantasm and nothing more.<sup>25</sup>

Soulless phantasms already featured in the ‘living pictures’ of the Phantasmagoria,<sup>26</sup> a magic-lantern-based attraction which, while manifesting a longstanding fear of the image in Western culture,<sup>27</sup> owed its popularity to the way in which science and magic remained intertwined in the Victorian imagination.<sup>28</sup> Yet despite the contradictory responses to the ‘living’ quality of the ‘living pictures’ we now call film, ‘animation’ seemed a particularly apt terminology for the new technology. While this would later become a mere matter of brand differentiation – with Charles Urban’s Bioscope becoming the major competitor to the Lumière Cinématographe in the United States – this hardly diminishes the favour the term found. ‘Bioscope’ was originally a Registered Trade Mark of the Warwick Trading Co. but its protection was withdrawn when the High Court in London judged the word to be ‘more or less descriptive’. Unsurprisingly, the company lamented the rapid appropriation of the name by its many competitors: ‘Rotomotoscope, Vitaflashograph, Flickerlessoscope, Vivascope, and other words with the suffixes “graph” and “scope” were immediately changed to “Bioscope”’.<sup>29</sup> Yet for all this, it was the supplementation of the life-like qualities of photography with *movement* – as the principal sign of life – that made the idea of ‘living’ or ‘animated’ photography stick, just as it was the fundamental dynamism of the urban scene that fashioned an elective affinity between medium and environment.

For still photography, the presence of the urban crowd had typically interfered with the photographer’s work.

Gustave Doré was once in Vienna with his friend Daloz, who intended to do photographic work in some of the picturesque streets. Of course, a great crowd of inquisitive idlers soon congregated, in spite of Doré’s efforts to keep them off. The more he shouted and gesticulated the larger grew the crowd. At last he had a happy idea. He took off his coat and threw it on the ground, then with his cap in his hand and a piteous expression on his face, he began to beg a collection from the onlookers. The effect was marvellous; in the shortest possible time the crowd had disappeared, and Daloz could photograph at his leisure in the deserted street.<sup>30</sup>

In 1906, a trade journal outlining the needs of cinematography similarly noted that ‘One of the first of these needs is deserted streets’,<sup>31</sup> anticipating the present-day requirement of major Hollywood productions for urban authorities to stop the traffic and bring the everyday life of the city to a temporary halt.<sup>32</sup> The Lumière cameraman, Eugène Promio, records one particular ruse for coping with the crowds that flocked to participate in the spectacle of filming: ‘I could not take a step in the town without being followed by a crowd desiring to take part in a scene so that they might then see themselves on screen. How many times have I filmed without film in the camera, people who came and placed themselves less than two meters from it?’<sup>33</sup> Yet it was not the presence of the urban crowd per se but rather its tendency to linger in front of the camera that caused problems for the anima-photographer. When Charles Moisson filmed people leaving Cologne cathedral in 1896, he ‘had at least two assistants at hand, standing right behind the camera, just outside of the frame, urging people not to stand and gaze at the recording device but rather to move on’.<sup>34</sup> In fact, the eagerness of the local populous to be caught on camera was far from undesirable to early anima-photographers, since it ensured a sizable audience when locally captured footage was subsequently exhibited within the locality.<sup>35</sup> ‘The showman who has not tried a “local” does not really know what success means’, reported one trade journal.<sup>36</sup> The well-documented excitement at seeing oneself or at least the chance of seeing faces one knew among familiar surroundings indicates a fundamental fascination with the *realism* of animated photography.

If the phrase 'living pictures' had already been widely used with respect to a range of pre-cinematic moving-image technologies, what made the label most fitting in respect of animated photography was its ability to convey movement in the *detail* of the image.<sup>37</sup> Movement per se was already a commonplace of the magic-lantern tradition, where, for example, 'slip slides' could be used to give the impression of a ship gliding over the ocean or a carriage traversing a landscape.<sup>38</sup> However, the movement of leaves, grass, dust, smoke, shadows, and water, along with the differential speed of moving vehicles, people, and animals, allowed the new technology to distinguish itself from the old. 'It would doubtless seem strange ... to have a street scene depicted on the screen, and for the spectators to witness the various horses and vehicles running past in all directions, persons walking to and fro, and dogs running along, all at varying speeds and with life-like motion, and not go past in a gliding manner – all this not as silhouettes, but with all detail', reported *The optical magic lantern journal and photographic enlarger* in 1889. William Friese Greene's 'startling optical novelty' was presented as the technology capable of marking such a dramatic advancement; of becoming 'a *sine qua non* as a recording instrument'.<sup>39</sup> Animated photography thus repeated the return to detail that had already been achieved by still photography and its immediate forerunners, such as the Daguerreotype. Reflecting on the Daguerreotype in a diary entry for 4 December 1839, Philip Hone noted how 'Every object, however minute, is a perfect transcript of the thing itself; the hair of the human head, the gravel on the roadside, the texture of a silk curtain, or the shadow of the smaller leaf reflected upon the wall'.<sup>40</sup> As Schivelbusch suggests, 'the intensive experience of the sensuous world, terminated by the industrial revolution, underwent a resurrection in the new institution of photography. Since immediacy, close-ups and foreground had been lost in reality, they appeared particularly attractive in the new medium'.<sup>41</sup>

Yet the movement-in-detail of animated photography also became a cause for concern, given the numerous optical oddities and technical difficulties to which it gave rise. It is here that animated photography reveals both its own discursive construction (in terms of the stark impossibility of thinking in terms other than those of rendering 'true motion') and the lines of fracture that would ultimately allow its metamorphosis into the cinematic form (defined by montage: the spatial and temporal relationship between that which is 'framed' and that which is 'out-of-frame'<sup>42</sup>). While widespread concern over the problem of true motion may not have directly anticipated the changed relationship to the city that would ensue in the wake of the development of film *qua* film, it nonetheless reveals the basis of the transition that saw film come to terms with its own novelty.

## True motion, false problem

That the present boom in these animated palsy-scopes cannot last for ever is a fact that the great majority of people seem to be losing sight of altogether, and yet it is only common sense to suppose that it will not be so very long before the great British public gets tired of the uncomfortably jerky photographs.<sup>43</sup>

Of the many technical difficulties that dogged animated photography, the tendency of hand-cranking during filming and projection to give rise to 'false movement' arguably aroused the greatest concern.

It is a well-known circumstance of Anima-photography, that unless the projecting of the subject upon the lantern screen is conducted precisely at a speed corresponding to that at which the negative picture was taken, false



representations of nature will result. ... Our beloved art becomes a cause for laughter when men march at a running speed; when artillery guns skate over the ground on carriages with stationary wheels; and when the wheels on the Royal carriage revolve backwards.<sup>44</sup>

Trade journals tried in vain for over a decade to convince the nascent film industry to adopt the more costly but 'flicker-free' rate of 24 frames per second as the industry standard, rather than the customary (and 'cost-effective') rate of 12 to 16 frames per second.<sup>45</sup> Time and again, the English trade journals made pronouncements to the effect that 'the various illusions to which the art is subject' means that 'it becomes a problem taxing the greatest genius, how best to avoid giving false effect upon the screen'.<sup>46</sup> They were especially scathing of that 'class of trickery' associated with comic subjects (reputedly the most popular genre of the time), in which 'the laws of nature are assumed to be set at variance', and they deplored the use of lenses whose focal length gave 'false perspective' and therefore 'false motion' upon the screen.<sup>47</sup> As late as 1908, the trade journals could still bemoan the fact that filmmakers had managed only to effect a 'continuity of impression' and not 'true motion'.<sup>48</sup> '[A]lmost every scene we witness furnishes subject matter for adverse criticism, insomuch as either optical or motional defects are sure to crop up'.<sup>49</sup> Such concerns were, at least in part, prompted by fears of waning public interest. Just a year after the public *début* of the *Cinématographe* in England, one leading trade journal opined: 'During the past year or so no novelty connected with optical projection has secured so much of the attention of the public as what are known as animated photographs. This attention has been due in no small measure to curiosity, and signs are not wanting that it has already begun to flag'.<sup>50</sup> Yet, ultimately, it was the inclusion of 'unnatural' effects by design rather than by accident that was to secure a fundamental break with the assumptions and preoccupations of animated photography.

The difficulty of coming to terms with the possibilities of film *qua* film is particularly well illustrated by a case of 'non-animated' animated photography, which arose from the fallout of the decision by Pathé Frères in 1906 to charge a universal rate of 4d. per foot for its films. Until then, films were typically priced according to the costs incurred. Yet the global dominance of Pathé Frères was such that all other producers were forced to follow suit. Once they began to pay for film by length, exhibitors became concerned that some footage did not contain suitably animated content: 'Chas. Lewis complains that in some films, after the action of handing a letter (in the scene) a great number of feet of film are used containing nothing but the repetition of this letter, the object being to enable the audience to read it. The part he objects to is that all this measurement is charged to him as so many feet, yet there is no action shown'.<sup>51</sup> The complainant suggests that rather than be charged for a contradiction in terms (non-animated animated photography), exhibitors should be supplied with a less costly magic-lantern slide to project in lieu of the inanimate sequence of film. Such discontent over static moving images indicates a more widespread concern, exemplified by the Charles Urban Trading Co. Catalogue of February 1905, which took pains to stress that 'all "padding" is eliminated' from its films.<sup>52</sup> Wherever 'true motion' failed to live up to the technological capabilities of motion-pictures and the demands of their audiences, it was becoming increasingly evident that it was reality itself that needed to be brought into line. Where the world was slow-moving and uninteresting, motion-pictures could edit out its unappealing qualities.

If economic pressures gradually forced filmmakers to think the unthinkable, we should not underestimate the initial difficulties involved in conceiving of animated photography without

recourse to the transitivity of real time. A suitably illustrative example is provided in the letters pages of one trade journal in 1897.

DEAR SIR, – Might it not be of interest to the temperance cause, by means of quick exposures and the cinematograph, to publish a roll of pictures showing the effect of alcohol upon the system by starting with a person perfectly sober, and plying him with drink until he becomes incapable, meantime taking pictures all the time so as to show the results until the patient, in common parlance, ‘falls under the table’. ... Yours, etc., BARTOS.

[Seeing that many exposures are made per second, and that the effects of which ‘Bartos’ speaks would take some considerable time, it is likely that a film to embrace this subject would have to be several miles long. ... –Ed.]<sup>53</sup>

Two months later, the journal reproduced an interesting aside that had appeared in the *Alliance News*, which once more underscored the inability of the contributors to conceive of the intransitivity of filmic space and time: ‘The editor is too humorous in his reply, and Bartos too wholesale in his suggestion to be practical. Photographs of a tippler gradually “getting forrarder” taken at quarter hour intervals, would answer every purpose of instructive illustration’.<sup>54</sup> That a technique as self-evident to us today as time-lapse was anything but self-evident to the world of animated photography speaks volumes. The task of rendering true motion within the confines of the image fixed the horizons of animated photography in such a way that only a set of contingent circumstances would be sufficient for an alternative future to be envisioned. Some of the earliest films to envision such a future were non-actuality films, which began to take great delight in the use of camera trickery, much to the chagrin of those purists convinced of the edifying potential of animated photography. Examples include W. R. Booth’s (1899) *Upside Down; or, the Human Flies*, which projected portions of the film upside down to depict humans living on the ceiling, and James Williamson’s (1901) *Are You There?*, which employed a split-screen to depict simultaneously both sides of a telephone conversation. Similarly, Robert W. Paul’s (1906) *How to Make Time Fly* used ‘speed magnification’ (time-lapse) techniques to convey an impression of an industrious office environment. Such innovative and creative uses of what were elsewhere regarded as simple faults would ultimately give rise to a host of editing techniques, creating a new grammar for articulating space and time. In the wake of this development the Cinématographe was no longer restricted to re-presenting slavishly an actual or staged instant that unfolded in real time. It became an apparatus that could function to manipulate and manufacture space and time: a space–time machine.

The moving images generated by one and the same technology could, therefore, cease to be a *referential* medium, bound to the Real, to become a *simulacral* medium, free to fabricate a reality-effect.<sup>55</sup> Such is the advent of hyperreality: ‘the real is not only that which can be reproduced, but *that which is always already reproduced*’.<sup>56</sup> The word that captured the new potential of film *qua* film was ‘montage’, a word drawn from the surreal world of paper-play but increasingly evident in the daily life of the city. Indeed, one might argue that montage grew out of the city. It was ‘a form which, if already visible in the early arcades [and the] fortuitous juxtaposition of shop signs and window displays, was raised by technology during the course of the century to the level of a conscious principle of construction’.<sup>57</sup> It is to this potential that we now turn.



## Vernacular relativity

The city is redundant: it repeats itself so that something will stick in the mind.<sup>58</sup>

‘Stop–motion’, ‘slow motion’, ‘speed magnification’, ‘reverse action’, ‘parallel action’, ‘point-of-view shots’, ‘reaction shots’, ‘continuity editing’, and a host of other techniques for re-engineering the spatiality and temporality of events recorded onto a strip of celluloid collectively serve to disclose that cinema is ‘a machine for constructing relations of space and time’,<sup>59</sup> rather than a means of dutifully reproducing ‘true motion’. Yet it was not assured that film would come to ape the ‘mechanization, jerkiness, and rush of modern times’ or to heighten the ‘public consciousness of differential speed’<sup>60</sup> that had seized urban space. With the benefit of hindsight, it seems self-evident that the ‘compacting of events in time was best suited for the new art form of the period – the cinema’.<sup>61</sup> At the time, however, it was far from obvious that film would expand ‘the sense of the present’ by allowing one ‘to splice open a moment and insert a number of simultaneous activities’<sup>62</sup> – and in so doing become a critical, explosive, and potentially revolutionary medium that would subsequently be muffled by the formation of continuity editing and narrative space.<sup>63</sup> Editing was a radical departure from the techniques associated with other 19th-century optical devices – such as multiple exposure in still photography and the animation of magic-lantern slides – and all manner of contingencies underlay the transformation of animated photography into a space and time machine that could reinvent and reforge the kind of affinity with the city previously enjoyed by animated photography.<sup>64</sup>

To take but one pertinent example, Georges Méliès claimed to have unintentionally invented stop–motion cinematography (*arrêt de caméra* or substitution splicing) when his camera jammed for a few moments outside the Paris Opéra. This inadvertent lapse of time had the optical effect of transforming an omnibus into a hearse, and men into women. As recent research has shown, Méliès’s chance discovery led to a meticulous concern with editing in his trick films, carefully trimming the developed film to perfect the screen transformations of the image to a standard well beyond the capabilities of the camera.<sup>65</sup> While stop–motion was especially associated with the phantasmagoric effects of appearance, transformation, and disappearance that Ezra dubs ‘fantastic realism’,<sup>66</sup> it also gave rise to time-lapse cinematography, famously employed in the 1901 American Mutoscope and Biograph film of the demolition of the Star Theatre in New York, where ‘speed magnification’ seemed to make the building melt into the ground in a couple of minutes.<sup>67</sup> Time-lapse cinematography was used as early as 1897, when Birt Acres filmed clouds at about a frame per second, ‘thus exaggerating the movement but retaining the form’<sup>68</sup> – the same year in which ‘Bartos’ *et al.* remained perplexed by the possibilities of reconfiguring cinematic space and time.

Given that early fiction films were ‘typically organized as a series of fixed scenes, with a strict unity of time and place ... [which were] simply joined the one after the other as so many *tableaux*’,<sup>69</sup> continuity editing emerged in the 1900s largely by happenstance, as filmmakers sought to stage increasingly elaborate chase sequences or to capture progressively more complex actuality footage.<sup>70</sup> As filmmakers shifted from painted backdrops to three-dimensional sets and location shooting,<sup>71</sup> the freedom of movement of both the camera and the action

began to necessitate the elements of continuity editing that would ultimately forge a cinematic grammar capable of expressing, articulating, and narrating a seemingly coherent screen space. This grammar converted 'seen into scene' in a way that 'contain[ed] the mobility that could threaten the clarity of vision' by constantly re-centring the viewer's point of view.<sup>72</sup> The coherence that continuity editing gave to cinematic space and time required the continual re-centring, smoothing out, and dissimulation of what is, after all, a disparate collection of shots. Cinema had, in other words, developed a means of handling the movement-image, where 'the identification of movement with action assures the continuous unfolding of adjacent spaces'.<sup>73</sup> The sequence of shots relayed action, depicting causality by means of temporal succession. Needless to say, such advances were initially seen as creating an uncomfortable, if not unnatural, experience. A classic instance is provided by Cecil Hepworth's seminal 1905 chase film, *Rescued by Rover*. Characterized by Barr as 'a precocious model of the cinematic system',<sup>74</sup> it represented a significant contribution to the creation of a coherent filmic space-time, since its sense of visual organization anticipated many of the later hallmarks of classic narrative cinema (despite the absence of parallel action and the fact that the camera remains almost totally immobile for the duration of each shot). Yet Hepworth would later express only revulsion at the continuity editing techniques that the film pioneered.

Smoothness in a film is important and should be preserved except when for some special effect a 'snap' is preferred. The 'unities' and 'verities' should always be observed, to which I should add the 'orienties'. Only the direst need will form an excuse for lifting an audience up by the scruff of the neck and carrying it round to the other side, just because you suddenly want to photograph something from the south when the previous scene has been taken from the north.<sup>75</sup>

While Hepworth's belated devotion to the transitivity of spectator and cinematic space harks back to the transitivity of animated photography and the presumption of a unitary subject untouched by the disadjustments of modernity, the newly invented techniques of montage and continuity editing were enabling the filmmakers of the 1900s to explore the essential *intransitivity* of cinematic space-time.<sup>76</sup> Accordingly, the essence of film *qua* film is articulated through its editing – through the cross-referencing of the momentarily 'framed', the contextual 'out-of-frame', and the expectant 'yet-to-be-framed'.<sup>77</sup> This cross-referencing can be either irregular (*à la* montage, with its explosive juxtaposition of dialectically charged images) or smooth (*à la* continuity editing, which links complementary images, such as entrances/exits and actions/reactions, into a seemingly seamless whole). Hereinafter, filmmakers would be able to fabricate simulacral worlds through an assemblage of heterogeneous images, and in so doing attune themselves to the vernacular relativity of 20th-century modernity. Indeed, in the wake of the First World War, Berlin Dadaists regarded montage as the visual form most capable of expressing the traumatic impact of the industrialization of warfare, the dehumanization of work, and the urbanization of everyday life.<sup>78</sup> Montage directly expressed the kinaesthetic jolts, estrangements, and disfigurements of an increasingly unhinged modernity.

Through the juxtaposition of differentially charged images, the force of disjunction evident in montage opens up a supplementary dimension amidst everything that appears to be fully and irrevocably given. This is why montage is the essential gesture of non-representational styles of thought and action.<sup>79</sup> It makes the Open palpable. Through the dissimulatory power

of montage, the cinematic image is always already unsettled. With the advent of film, the image *qua* image ceases to be still. In other words, and contrary to received opinion, film does not mortify time. It is in this sense, moreover, that film works to open up the optical unconscious and hence to reveal the undisclosed potential and unforeseen possibilities of urban space. Accordingly, in the next section, we consider two recent attempts to attend to the afterlife of film before film – Patrick Keiller’s (2005) *The City of the Future* and Gustav Deutsch’s (2005) *World Mirror Cinema* – both of which evoke the notion of an optical unconscious through almost diametrically opposed treatments of memory.

## Moving still

Memory is redundant: it repeats signs so that the city can begin to exist.<sup>80</sup>

Patrick Keiller’s *The City of the Future* and Gustav Deutsch’s *World Mirror Cinema* are projects that take ‘found footage’ of the city as a means of bringing questions of memory to bear on contemporary urban experience.<sup>81</sup> Keiller’s project resonates with, but at the same time problematizes, Huyssen’s claim that the current penchant for ‘turning towards the past stands in stark contrast to the privileging of the future so characteristic of earlier decades of the 20th century’.<sup>82</sup> In effect, Keiller returns to historical footage of the city to reanimate a concern with and for the future. Deutsch, by way of contrast, offers a different return to the past, attempting to reawaken the possibilities of memory in an altogether more radical way. Nonetheless, both projects resist the presentation of historical urban imagery as purely nostalgic, as merely an opportunity for a trip down memory lane.

Keiller’s *The City of the Future* consists entirely of actuality footage of British towns and cities shot between 1896 and 1903. As a silent film it uses intertitles to create a work of narrative cinema by linking together an otherwise disparate selection of animated photographs. Yet these shots bear an uncanny resemblance to the *photogénie* of Keiller’s own film-making technique, exemplified in his earlier works such as *London* (1994) and *Robinson in Space* (1997), which utilize ‘long-held and enigmatically framed still [sic.] images’ and ‘unexpected juxtapositions between ... one image and the next’.<sup>83</sup> Keiller clearly detects an affinity between his own cinematography and the work of the early anima-photographers.

[A] significant proportion of actuality subjects were street scenes, railway and tram rides and other documents of everyday surroundings. ... [S]urprisingly few [later films] include as much imagery of ordinary landscapes. When they do, the shots are usually so short as to permit relatively little exploration even when examined frame by frame. The images of early film [i.e. anima-photography] are also less likely to direct the viewer’s attention to a single subject in the frame: one’s eye can more easily wander in their spaces.<sup>84</sup>

In other words, anima-photography’s presentation of urban space as a series of *tableaux*, preserving the unity of time and place, served to make the city readable. In Keiller’s hands, such material provides the occasion for an imaginary journey around turn-of-the-20th-century Britain, adopting the narrative device of a pursuit, undertaken to avert an undisclosed crisis. We learn that the unseen narrator, on the hunt for the maliferous Dr Carl Peters, is in fact a time-traveller, on a mission to divert the subsequent course of 20th-century history. While overtones of espionage motivate the fictional narrative – Dr Carl Peters is loosely based on a real historical

figure, Dr Karl Peters, who spent time in England researching material for his book, *England und die Engländer*, published in 1904 – this is merely a conceit behind which Keiller's concern with the present-day condition of British cities lies thinly veiled. The fact that the time-traveller's quest will ultimately have been in vain – that the course of history will not have been altered – is, however, revealed in a closing intertitle, which cites a well-known passage from Henri Lefebvre:

The fact is that around 1910 a certain space was shattered. It was the space of common sense, of knowledge (*savoir*), of social practice, of political power, a space thitherto enshrined in everyday discourse, just as in abstract thought, as the environment of and channel for communications; the space, too, of classical perspective and geometry, developed from the Renaissance onward on the basis of the Greek tradition (Euclid, logic) and bodied forth in Western art and philosophy, as in the form of the city and the town. ... This was truly a crucial moment.<sup>85</sup>

Although Keiller has since suggested that he may replace this final intertitle, which conflates his own motivation with that of the fictional narrative,<sup>86</sup> it makes the purpose of the film abundantly clear.

On first viewing early actuality footage, Keiller was struck by a sense of *déjà vu*: specifically, by the stark 'contrast between ... familiar-looking landscapes and the unfamiliarity of the society glimpsed in them'.<sup>87</sup> This uncanny effect is central to *The City of the Future*. As if to affirm Schwartz's contention that '*déjà vu* has become our line on place, time and the truth', promising 'to take us from repression through reassurance to revelation and redemption',<sup>88</sup> the incongruous familiarity of a built environment inhabited by an unfamiliar society is intended to prompt a double-take. It discloses a profound disjuncture between social and spatial development in the 20th century, bearing witness to a dual sense of loss: the loss of a humane city and the loss of a utopic future. All in all, 'This ghostly geography of the city suggests not so much presence as absence, so many spaces as allegories of time'.<sup>89</sup> As Keiller himself puts it:

Walking in the streets ... one detects (or at least I think I detect) an absence.... [D]espite suburban expansion and redevelopment during the 20th century, many UK town and city centres still consist largely of ageing fragments of late 19th- and early 20th-century landscapes, overlaid with a thin and often ephemeral layer of modernity. ... [T]he survival of quite so much ageing urban fabric, often in a rather dilapidated condition, might be seen as part of a decline: the failure of the space to properly renew itself. ... [I]t is clear that the various modernist projects of rebuilding epitomized by the Futurists' assertion 'Things will endure less than us. Every generation must build its own city' did not develop as anticipated.<sup>90</sup>

In the light of this failure of space to renew itself, the untimely afterimages exhibited by *The City of the Future* are intended to summon up a sense of an unreal city by means of its uncanny screen double, thus prompting recognition of a deficit in reality. Yet Keiller's recourse to narrative cinema arguably works against his intended purpose, not least because of the position that narrative cinema offers to the viewing subject, which serves to confirm the subject's misrecognition of itself as coherent and unified. In part, this arises as a consequence of Keiller's adherence to a certain Romantic sensibility, which also works to provide an imaginary sense of unity for the subject.

Keiller's Romanticism is mobilized in opposition to an underlying empiricism, which stands accused of contaminating English national culture. As Dave notes, Keiller's first feature-length film, *London* (1994), 'restates the crisis articulated by Nairn and Anderson',<sup>91</sup> which associated the backwardness of English national culture with its foundational commitment to empiricism.<sup>92</sup>

Yet in claiming the domain outside empirical knowledge as its basis – by appealing to a subjectivity that is capable of discerning introspectively what is unattainable to empiricism – Romanticism remains too much the flipside of this national obsession. Keiller's resort to Romanticism thus unwittingly reinforces empiricism's own authoritative self-conception by leaving intact the erroneous assumptions that are common to both. For in precisely the same fashion as empiricism, Romanticism disavows the sense in which the subject owes its identity to the Other. Both empiricism and Romanticism fail to appreciate that the subject can only imagine itself from the point of view of another.

Insofar as the subject can only achieve a coherent sense of identity on the condition that 'it emerges in the field of the Other',<sup>93</sup> the unity it imagines for itself is necessarily an instance of misrecognition. The Romantic subject, however, effectively bargains on a heightened self-consciousness – a self-conscious self-consciousness, so to speak – as a means of affirming its unity. To do so, it must seek to maintain that this 'self-consciousness will internalize the point of view of the Other, guarding ... against self-deception and guaranteeing the uncontaminated authenticity of ... experience'.<sup>94</sup> The narrative device deployed by *The City of the Future*, time-travel, amounts to a fantasy of seeing oneself seeing oneself; of imagining that it is possible to eliminate the gaze of the Other altogether.

[T]he subject is confronted with a scene from the past that he wants to change, to meddle with, to intervene in; he takes a journey into the past, intervenes in the scene, and it is not that he 'cannot change anything' – quite the contrary, only through his intervention does the scene from the past *become what it always was*: his intervention was from the beginning comprised, included. The initial 'illusion' of the subject consists in simply forgetting to include in the scene his own act.<sup>95</sup>

*The City of the Future* thus repeats a paradigmatic gesture of Romanticism. Whereas, classically, Romanticism played out a scenario in which 'a relationship of the subject toward itself' is achieved by borrowing 'the temporal stability it lacks from nature',<sup>96</sup> in *The City of the Future*, the urban environment supplies this support. Imposing the stability of a narrative on a selection of animated photographs, *The City of the Future* works to preserve the imaginary integrity of the subject in precisely the same way as classical narrative cinema does: by 'binding the spectator as subject in the realization of the film's space'.<sup>97</sup>

The limitations of Keiller's cinematic strategy relate to a failure to engage more fully with the structure of memory, relying instead on a tacit acceptance of the role of memory dictated by Romanticism. The classic example, here, is provided by William Wordsworth's *The Prelude*, where certain supposedly formative memories – 'spots of time' – are presented as affirming the essential continuity of the self through time. In this light, it is instructive to note that, in Keiller's *London*, the film's protagonists go searching in vain for 'the location of a memory'. Narratives such as *The Prelude* secure their authority from their *ex post facto* structure: 'what is narrated as a process of discovery, the narration takes as established fact'.<sup>98</sup> Narrativization disguises the possibility that memories might be retroactively constructed. As Freud maintained, however, all memory traces behave like 'screen memories' (*Deckerinnerungen*), which invariably distort the past: 'instead of the mnemonic image which would have been justified by the original event, another is produced which has been to some degree associatively displaced from the former one'.<sup>99</sup> As childhood memories, screen memories work after the fashion of dreams, disguising their true content because of their proximity to repressed material.

The same principle applies to memory as a whole. Memories are subject to the perpetual reworking that Freud names as ‘deferred interpretation’ (*Nachträglichkeit*), typically in imaginary confirmation of the integrity of the subject. While *The City of the Future* does no more than implicitly assume away the sense in which memory necessarily embodies a ‘structure of delay’,<sup>100</sup> the constraint this imposes becomes clear from the contrasting approach offered by Deutsch’s *World Mirror Cinema*.

For Walter Benjamin, the power of memory (*Eingedenken*, remembrance) lies in its potential to ‘make the incomplete (happiness) into something complete, and the complete (suffering) into something incomplete’.<sup>101</sup> Agamben comments:

If you think about it, that’s also the definition of cinema. Doesn’t cinema always do just that, transform the real into the possible and the possible into the real? One can define the already-seen as the fact of perceiving something present as though it had already been, and the converse as the fact of perceiving something that has already been as present. Cinema takes place in this zone of indifference.<sup>102</sup>

For Agamben, the image as such is charged with a potential that refuses to mistake reality as immutable. For as Deleuze and Guattari note: ‘The real is not impossible; on the contrary, within the real everything is possible, everything becomes possible’.<sup>103</sup> This is, of course, the explosive and revolutionary potential that Benjamin himself detected in ‘the dynamite of the tenth of a second’.<sup>104</sup> As Agamben notes, cinema derives its specificity from montage, the transcendental conditions of which (which is to say, cinema’s own conditions of possibility) are repetition and stoppage. The first of these relates to the power of memory to ‘open up a zone of undecidability between the real and the possible’ – for as Agamben points out, ‘repetition is not the return of the identical; it is not the same as such that returns’.

The force and the grace of repetition, the novelty it brings us, is the return as the possibility of what was. Repetition restores the possibility of what was, renders it possible anew. ... Here lies the proximity of repetition and memory. Memory cannot give us back what was. ... Instead, memory restores possibility to the past ... makes the unfulfilled into the fulfilled and the fulfilled into the unfulfilled. Memory is ... the organ of reality’s modalization; it is that which can transform the real into the possible and the possible into the real.<sup>105</sup>

‘Cinema will now be made on the basis of images from cinema’<sup>106</sup> Agamben proclaims, referring specifically to Guy Debord’s cinematic practice, but resonating equally with films constructed from found footage. It is no coincidence, therefore, that Deutsch’s *World Mirror Cinema* should use repetition as the formal basis of its tripartite construction. Each episode consists of an initial 360° panning shot of a city square or street containing a cinema: Episode 1 centres on footage of Vienna in 1912, and features the Kinematograf Theater Erdberg; Episode 2 is based on footage taken in 1929, featuring the Apollo Theatre in Surabaya in the Dutch East Indies; while Episode 3 uses footage shot in Oporto in 1930, showing the Cinema São Mamede Infesta. The initial panning shot of each scene is followed by a repeat circuit presented in slow motion. During this repetition, the film periodically homes in on different elements of the passing scene: a person, a vehicle, a cinema poster, etc. Each of these interruptions to the circuit of repetition affords the occasion for the interpolation of a montage sequence of further images. Such sequences thus offer ‘a starting-point for reflection on the relationship of everyday stories and cinematic machinery’,<sup>107</sup> before fading back into the slow-motion panning shot of the circuit. For montage is a form of differential repetition: a repetition of



difference rather than a return of the same.<sup>108</sup> Hence, ‘the passers-by become chance protagonists in a series of micro-tales, which report on both cinematic and world history’.<sup>109</sup> This cinematic strategy is effective to the extent that it suggests a ‘capacity to de-create the real’.<sup>110</sup> Through montage and memory, repetition opens up the actual (the matter of fact) to the undecidable pullulation of the possible (the adestation of the virtual).<sup>111</sup>

Repetition also possesses the quality that Agamben defines as the second transcendental condition of cinema: stoppage. ‘This is where the difference lies between cinema and narrative’, Agamben proposes: ‘stoppage shows us that cinema is closer to poetry than prose’.<sup>112</sup> Drawing an analogy with Paul Valéry’s definition of poetry as ‘a prolonged hesitation between sound and meaning’, Agamben suggests that ‘cinema, or at least a certain kind of cinema, is a prolonged hesitation between image and meaning’.<sup>113</sup> This is ‘not merely a matter of chronological pause, but rather a power of stoppage that works on the image itself, that pulls it away from the narrative power to exhibit it as such’. To bring the image to a stop ‘is to pull it out of the flux of meaning. [...] The image exhibited as such is no longer an image of anything; it is itself imageless’.<sup>114</sup> Rather than serving merely as a vehicle for meaning – a vanishing mediator – it becomes ‘a “pure means”, one that shows itself as such. The image gives itself to be seen instead of disappearing in what it makes visible’.<sup>115</sup>

What is in the present is what the image ‘represents’, but not the image itself, which ... is never to be confused with what it represents. The image itself is the system of the relationships between its elements, that is, a set of relationships of time from which the variable present only flows. ... What is specific to the image, as soon as it is creative, is to make perceptible, to make visible, relationships of time which cannot be seen in the represented object and do not allow themselves to be reduced to the present.<sup>116</sup>

In grasping the sense in which the image is not to be conflated with what it represents, Deutsch’s cinematic practice rehearses the connections between the aesthetics of early cinema and the *avant garde*.<sup>117</sup>

## Conclusion

I see things from the perspective of the space created by the film.<sup>118</sup>

This article has distinguished two principle ways of envisioning the city in the late 1890s and early 1900s. First, animated photography sought to capture a space of animation, which was exemplified by the tautological desire of early *anima*-photographers to render the ‘true motion’ of dynamic urban forms: crowds, traffic, encounters, etc. This way of envisioning the city privileged the actual, the matter of fact, and what will have been. Accordingly, animated photography lent itself to a consideration of urban imagery as a re-presentation of mortified time struggling for life. Second, with the advent of editing techniques, exemplified by montage, filmmakers increasingly sought to re-engineer space and time, and in so doing they discovered a space of radical potential and possibility. This way of envisioning the city privileged the virtual and explosive force of potential: what may have been and may yet come to be. Accordingly, film lent itself to a consideration of urban imagery as essentially non-representational, as an ideational repository for the production of simulacra. So, while animated photography fixated on the moving image – on the movement of the image as an index of the true motion of

the world – film alighted upon the power of the optical unconscious to reveal a dimension supplementary to actuality, a dimension in which ‘everything is suspended in movement’.<sup>119</sup> In other words, while anima-photographers dwelt on movement (actual content: the moving image), filmmakers returned to the suspense associated with still photography (pure form: the open frame). However, in stark contrast to the uncanny suspense of still photography, which has been indelibly inscribed with all manner of ghostly demarcations, filmmakers expressed a constructivist suspense. Consequently, for both Patrick Keiller’s *The City of the Future* and Gustav Deutsch’s *Welt Spiegel Kino (World Mirror Cinema)*, the world that will have been remains in the making. Such is the elective affinity of cinema and the city, which has manifested itself differentially from the late-19th to the 21st century, yet has remained a potent element in the creative evolution of both urban and visual culture.

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## Biographical note

David B. Clarke is Professor of Human Geography in the School of the Environment and Society and Director of the Centre for Urban Theory at Swansea University. His research centres on visual and urban culture, consumerism, and social theory. He is author of *The consumer society and the postmodern city*, co-editor of *The consumption reader*, and editor of *The cinematic city*. He can be contacted at: Department of Geography, School of the Environment and Society, Swansea University, Swansea SA2 8PP, UK. email: d.b.clarke@swansea.ac.uk

Marcus A. Doel is Professor of Human Geography and Director of Research in the School of the Environment and Society at Swansea University, where he is also Associate Director of the Centre for Urban Theory. His research focuses on poststructuralism, social and spatial theory, and visual and urban culture. He is author of *Poststructuralist geographies* and the co-editor of *The consumption reader*. He can be contacted at: Department of Geography, School of the Environment and Society, Swansea University, Swansea SA2 8PP, UK; email: m.a.doel@swansea.ac.uk

## Notes

- <sup>1</sup> H. Lefebvre, ‘Seen from a window’, in E. Kofman and E. Lebas, eds and trans., *Writings on cities* (Oxford, Blackwell, 1996), p. 221.
- <sup>2</sup> P. Auster, ‘Auggie Wren’s Christmas story’, in *Three films: Smoke, Blue in the face, Lulu on the bridge* (New York, Picador, 2003), p. 160.
- <sup>3</sup> Auster, ‘Auggie Wren’, pp. 160–1.
- <sup>4</sup> B. Jarvis, *Postmodern cartographies: the geographical imagination in contemporary American culture* (London, Pluto Press, 1998).
- <sup>5</sup> G. Bruno, *Atlas of emotions: journeys in art, architecture and film* (London, Verso, 2002), p. 15.

- <sup>6</sup> *The Kinematograph and lantern weekly* 2(37) (23 January 1908), p. 179.
- <sup>7</sup> H. Lefebvre and C. Régulier, 'Rhythmanalysis of Mediterranean cities', in E. Kofman and E. Lebas, eds and trans., *Writings on cities*, p. 229.
- <sup>8</sup> P. Clough, *Autoaffection: unconscious thought in the age of teletchnology* (Minneapolis, University of Minnesota Press, 2000).
- <sup>9</sup> W. Benjamin, 'A small history of photography', in E.F.N. Jephcott and K. Shorter, trans., *One-way street and other writings* (London, New Left Books, 1979 [1931]), p. 251.
- <sup>10</sup> T. Ingold, 'The temporality of the landscape', *World archaeology* 25(2) (1993), p. 164. With the cut between each still lasting 24 hours, Auggie's project is the diametric opposite of Douglas Gordon's 1993 screening of Alfred Hitchcock's (1960) *Psycho*, slowed down to span a duration of precisely 24 hours.
- <sup>11</sup> G. Deleuze, *Cinema 1: the movement-image* (trans. H. Tomlinson and B. Habberjam) (London, Athlone, 1986), p. 2.
- <sup>12</sup> I. Christie, *The last machine: early cinema and the birth of the modern world* (London, British Film Institute, 1994), p. 33. Christie's term owes something to Hansen's notion of classical cinema as 'vernacular modernism' but has a broader bearing: see M.B. Hansen 'The mass production of the senses: classical cinema as vernacular modernism', *Modernism/modernity* 6(2) (April 1999), pp. 59–77.
- <sup>13</sup> P. Virilio, 'The last vehicle', in D. Kamper and C. Wulf, eds, *Looking back on the end of the world* (New York, Semiotext(e), 1989), p. 110.
- <sup>14</sup> N. Verhoeff and E. Warth, 'Rhetoric of space: cityscape/landscape', *Historical journal of film, radio and television* 22(3) (2002), pp. 245–51; D.B. Clarke and M.A. Doel, 'Engineering space and time: moving pictures and motionless trips', *Journal of historical geography* 3(1) (2005), pp. 41–60.
- <sup>15</sup> *The City of the Future* received its premiere in Leeds on 24 May, 2005; the UK premiere of *World Mirror Cinema*, episodes 1–3, took place in Leeds on 13 November, 2005.
- <sup>16</sup> G. Demeny, 'Les photographies parlantes', *La nature 20ème année* No. 985 (April 1892), p. 315, cited in N. Burch, *Life to those shadows* (trans. B. Brewster) (Berkeley, University of California Press, 1990), p. 26.
- <sup>17</sup> S. Barber, *Projected cities: cinema and urban space* (London, Reaktion Books, 2002), p. 18.
- <sup>18</sup> 'The Showman', *The optical magic lantern journal and photographic enlarger* 8(97) (June, 1897), p. 105.
- <sup>19</sup> Cited in S. Herbert, ed., *A history of early film* (3 Volumes) (London, Routledge, 2000), p. xii.
- <sup>20</sup> M. Deutelbaum, 'Structural patterning in the Lumière films', in J.L. Fell, ed., *Film before Griffith* (Berkeley, University of California Press, 1983), pp. 299–310; L. Belloi, 'Lumière and his view: the cameraman's eye in early cinema', *Historical journal of film, radio and television* 15(4) (1995), pp. 461–74.
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- <sup>22</sup> A. Gaudreault, 'Temporality and narrative in early cinema, 1895–1908', in J.L. Fell, ed., *Film before Griffith*, p. 322.
- <sup>23</sup> Cited in S. Herbert (with M. Heard), *Industry, liberty and a vision: Wordsworth Donisthorpe's Kinesigraph* (London, Projection Box, 1998), p. 90.
- <sup>24</sup> Cited in C. Harding and S. Popple, *In the kingdom of shadows* (London, Cygnus Arts, 1996), p. 5.
- <sup>25</sup> W. Donisthorpe, *Down the stream of civilization* (London, George Newnes, 1898), p. 32, cited in Herbert (with Heard), *Industry, liberty and a vision*, p. 90.
- <sup>26</sup> R.D. Altick, *The shows of London: a panoramic history of exhibitions, 1600–1862* (Cambridge, MA, Belknap Press, 1978).
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- <sup>28</sup> S. During, *Modern enchantments: the cultural and secular power of magic* (Cambridge, MA, Harvard University Press, 2002).

- <sup>29</sup> *Cinematograph and bioscope magazine* No. 4 (July–September, 1906), p. 63.
- <sup>30</sup> *The photographic review of reviews: a synopsis of photographic literature of the world* 1(6) (15 June 1892), p. 212.
- <sup>31</sup> ‘The cinematoscope – a power’, *The optical lantern and cinematograph journal* 2 (March 1906), p. 94 (quoting an article by Mr. E.V. Lucas, published in *The outlook*).
- <sup>32</sup> P. Swann, ‘From workshop to backlot: the Greater Philadelphia Film Office’, in M. Shiel and T. Fitzmaurice, eds, *Cinema and the city: film and urban societies in a global context* (Oxford, Blackwell, 2001), pp. 88–98.
- <sup>33</sup> Cited in G.-M. Coissac, *Histoire du cinématographe: de ses origines à nos jours* (Paris, Editions de Cinéopse/Librairie Gauthier-Villars, 1925), p. 198.
- <sup>34</sup> U. Jung, ‘Local views: a blind spot in the historiography of Early German cinema’, *Historical journal of film, radio and television* 22(3) (2002), p. 253.
- <sup>35</sup> V. Toulmin, ‘“Local films for local people”: travelling showmen and the commissioning of local films in Great Britain, 1900–1902’, *Film history* 13 (2001), pp. 118–37; S. Bottomore, ‘From the factory gate to the “home talent” drama: an international overview of local films in the silent era’, in V. Toulmin, S. Popple and P. Russell, eds, *The lost world of Mitchell and Kenyon: Edwardian Britain on film* (London, British Film Institute, 2004), pp. 33–48.
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- <sup>37</sup> D. Rossell, *Living pictures: the origins of the movies* (Albany, NY, State University of New York Press, 1998).
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