Chapter 9 :: Off the Rails: Animating Train Journeys (pp159-177)

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In 2012 the average resident of the UK spent 361 hours travelling a total of 6,691 miles. 11 % of this travel was done by public transport.[1] During their travels, the experience that these average residents have of landscape is in movement, of passing through places before arriving at their final destination. This is an important point to stress, as the mobility paradigm in urban geography and sociology proposes that cities and society can be studied in terms of travel rather than stasis – through the movement of peoples, resources, data, finance – in order to better understand the formation of identity, ideology, power and society.

In accord with these ideas about mobility, this chapter will focus on animations that move between locations and are concerned with trajectory and locomotion rather than landscape as a static entity. After considering the connections between early cinema and the train, we will examine a body of works that are all thematically linked through their association with animated train journeys, although the individual pieces of work may take different forms – from pre-filmic moving panoramas, to phantom rides, to Ivor the Engine, Thomas the Tank Engine, Madame Tutli-Putli, transport information films, post-filmic subway zoetropes and railway simulation games. Through a discussion of diverse approaches to animated – and animating – train journeys, this chapter will explore the implications of the mobility paradigm in urban geography for animation, not just in terms of visual content or subject matter, but in terms of animation as a concept and the politics of animation.

Landscape and the Railway

It is no exaggeration to say that the advent of the railway fundamentally transformed the landscape. The thousands of miles of railway lines built all

over the world traversed deserts, mountains, forests and prairies; the result of countless hours of backbreaking and sometimes fatal work blasting through rocks and exposing layers of ancient, geological time.[2] Railway tracks, tunnels and bridges scarred the landscape and new station buildings were erected. In the USA, the construction of the Union Pacific Railroad through the territory of indigenous peoples led to raiding parties, sabotage, massacre and the displacement of the original inhabitants as well as the near extinction of vast herds of buffalo.[3] The experience of the countryside was brought within the reach of town dwellers, as tourism and walking for leisure began to emerge as forms of leisure and the land began to lose its meaning as a purely functional resource to be bought, sold and to bear fruit, instead being reinterpreted as 'landscape', scenic, to be looked at and contemplated for leisure purposes.[4] In our new millennium, it is easy to forget the extent of this feat of engineering and the impact that it had on people. Much smoother and faster than a horse-drawn carriage, the sustained speeds experienced in the journey by train were unprecedented and there was a seismic shift in the perception of speed. In 1830, the actress Fanny Kemble described her experience of travelling 35 miles per hour during her thrilling preview of the UK's first passenger railway from Liverpool to Manchester thus, 'When I closed my eyes this sensation of flying was quite delightful, and strange beyond description'.[5] Before the railroad, the extremely difficult journey across the continent of America had taken months by horse-drawn carriage – with the fastest times achieved being 6-7 weeks. After the opening of the Transcontinental Railroad in 1869, the same distance could be covered in under a week. Rebecca Solnit rightly claims that this achievement 'changed the scale of the earth itself'.[6]

It was not only the human experience of travelling through space that changed with the railway, but also time. Traditionally time was measured by the position of the sun in the sky and was subject to regional variation. The demands of national rail timetables, the need for competitive trade networks and streamlined schedules for efficient factory work led to the introduction of a standardization of time around 1847, when railways, Post Offices, towns and cities across the UK adopted Greenwich Mean Time, known colloquially as 'Railway Time'.[7] In 1883, four different time zones were introduced by North America's railroad companies to rationalize the difference in time between the vast territories they covered. Before this, a total of two hundred time zones had to be traversed during the train journey from San Francisco to Washington, DC.[8] The four time zones adopted by the railways were made official US

policy in 1908.[9]

Before mechanized transportation systems, distance was conceptualised by the physical limitations of the human body or the animals that people used to transport them – a week's walk from here, a day on horseback. Zygmunt Bauman argues that the separation and abstraction of time and space from lived experience defines the emergence of the modern era.[10] This sense of new way of being in the world can be seen in contemporary accounts from the 1800s, in which the railway was popularly seen as an 'annihilation of space and time' a transformative technology that changed the way people experienced the world in which they lived.[11]

Early Cinema and the Train

Film can also be seen as a transformative technology. In his books on cinema, Giles Deleuze argues that the cinema is a technology that fundamentally changes how things are, because it changes the way that people think and engenders a new perceptual model, a new way of thinking [12] The train ride and the film: both of these experiences mark a shift in our relationship to space and time; both of these experiences involve watching moving images. In the cinema and on a train, the viewer or traveller sits still while, caused by a mechanical process, an image moves in a rectangular frame before her eyes. She is mentally or physically transported to another location. However, it is important to note the different perceptions of time and space involved in these two different experiences. During the train journey, this encounter with moving landscape is synchronous: it happens now. There is a linear relationship to time and space (unless she falls asleep or her attention lapses) as she travels to a different geographical location. Her body moves in accord with the vehicle that is carrying her. She knows she is travelling *here* and *now*. While watching a film, her relationship to space and time is different. The experience of film is asynchronous – it was made in another location, *there,* and in the *past* to be recalled for viewing *now*. Unlike the train journey, film time and space can be presented non-linearly (i.e. time periods can be shown non-chronologically and multiple locations can be shown non-consecutively). Whereas the train journey offers the view of real, continuous landscape, with the live action film, although continuity of setting is an illusion, there is an assumption that there is an indexical link to a 'real' believable location, to a landscape that really exists or once existed before the camera during some pro-filmic event. What animation promises beyond the photographed, realist film is the representation of imagined landscapes with no indexical link to a pre-existing location being necessary.

It could be surmised that the novel experience of seeing moving scenery through the Victorian train window awakened a popular desire for moving images as a form of entertainment. Tim Cresswell suggests that the new experience of watching scenery moving past outside the windows of trains in motion coincided with the emergence of a 'new panoramic perception of space'.[13] Panoramic representations are, however, considerably older than this and yet did come into contact with the train.

The use of long linear paintings to represent historical and mythic narratives goes back at least 2,000 years with examples found in ancient China, Egypt, Babylon and Rome.[14] Emerging in the late 1700s in the form of backgrounds to peepshow boxes and toy theatres, moving panoramas became a popular form of entertainment in the English-speaking world around the mid 1800s as a sideshow in travelling fairs. Moving panoramas were painted on canvas like theatrical scenery and were moved through by being rolled and unrolled like horizontal rollerblinds. They were not only displayed, but also performed with variable speeds of hand-cranked unrolling, sound effects and the voice-over of a showman accompanist.[15] In his book, *Illusions in Motion: A Media Archaeology of the Moving Panorama and Related Spectacles*, Erkki Huhtamo considers the possible Asian influences on this tradition, including *wayang bèbèr*, a Javanese form of storytelling in which a series of panoramic scrolls are believed to have been unfurled to the accompaniment of music and a sung narrative; however, as Huhtamo warns, this remains in the realm of conjecture with no direct evidence found to date.[16]

Gaining in popularity during the 1800s, moving panoramas began to be displayed in theatrical presentations, such as Phillipe Jacques de Loutherbourg's Eidophusikon, which in 1871 combined moving panoramas, clockwork automata, lighting and sound effects to depict dramatic scenes on stage such as shipwrecks.[17] At the Paris Exposition of 1900, a Trans-Siberian Railway Panorama commissioned by the Compagnie Internationale des Wagon-Lits enabled visitors to sit inside one of three train carriages and view the scenery traversed during a fourteen-day trip move past the window in the compressed time of one hour. The scenery was created by theatrical scene painters Marcel Jambon and A. Bailley with three separate levels of distance moving at different speeds – going from foreground to background – and, thus, created a parallax effect familiar to viewers of contemporary animation. The seats in the carriage were mechanically manipulated so that they would jiggle up and down as if

in motion and could stop and start in accord with the scenery seen outside.[1819]A Trans-Siberian Railway Panorama by Pavel Pyasetsky has recently been preserved in the Hermitage State Museum, St Petersburg.[20] Interestingly, Huhtamo contends that two such attractions were on display at the Paris Exposition: the smaller-scale watercolour panorama by Pyasetsky, which won the Exposition's Grand Prix, in the Siberian section of the Russian Pavillion and the larger scale version by Jambon and Bailey as a passageway between the Russian and Chinese Pavilions. With the emergence of the cinema, popular forms of entertainment, such as the moving panorama, fell out of favour with mass audiences and yet the connections between trains and moving images continued.

The link between the advent of the train and the development of cinema is not only metaphorical. The railway informed not only the subject matter of early films, from the earliest shorts *A Kiss in the Tunnel* (1899) to the more fully developed narrative of *The Great Train Robbery* (1903), but also the technology of the early cinema in many different ways. For example, Eadweard Muybridge's zoopraxiscope, arguably one of the earliest examples of the recording and playback of actual motion, was due in part to funding he had received from the railroad tycoon, Leland Stanford for his motion studies of racehorses.[21] Travelling by train also helped Albert E Smith solve the technical problem of image flicker in films. Lynne Kirby cites an anecdote of how the solution came to him as he was looking out from a train window at a sequence of picket fences and telegraph posts. This inspired him to add extra blades to the shutter and he discovered that by multiplying the flicker, it would actually be eliminated.[22].

The experience of travelling by railway directly contributed to the subject matter of early films. In phantom ride films, which were created from 1898, the spectator sees from the point of view of a camera attached (with the cameraman) to the front of a moving train and feels as if, in the words of a contemporary review, they are 'part and parcel of the picture'.[23] The train itself is not seen. Starting out with local views, cameramen were soon dispatched to distant lands to create these popular films,[24] a precursor to the travelogue. As if gazing out of the window of a railway carriage, the viewer would watch the landscape passing by.

Reminiscent of the Trans-Siberian Moving Panorama, moving image footage was also combined with physical sensation to create popular attractions. In 1905, George C. Hale, a mechanical engineer, applied for a patent for a 'Pleasure

Railway'. The visitors would enter a railway carriage and watch phantom ride films of train journeys that were rear projected onto a large screen.[25] The carriage that they were sitting in would be jolted, sway from side to side and they would feel puffs of air – all synchronised to simulate the experience of what was happening in the film they were watching. Venues for the Hales Tours opened in amusements parks throughout America and there were four in the UK, including one in Oxford Street, that allowed visitors the virtual experience of travelling through far away places like Tokyo, Switzerland, Ceylon and Lourdes[26] until the novelty ran out around 1912. Phantom ride films shot from moving trains contributed to the development of cinematic tracking shots, with mobile cameras mounted on wheels that could move across tracks and were, thus, able to film while moving through space.

In the apocryphal tale of the origin of film, at the Lumière brother's first screening of film clips that took place in an underground billiard hall at the Grand Café in 1895, the audience fled screaming from the auditorium at the sight of a train hurtling towards them as it approached the station. They had confused the moving images of *Arrival of a Train* (1895) with real experience. It didn't take long for this founding myth to establish itself. As early as 1901 British filmmaker, Robert W Paul created the satirical film *The Countryman's First Sight of the Animated Pictures: A Farmer Viewing the Approaching Train on the Screen Takes to His Heels* (1901)[27]

Film historians argue that there is no historical evidence for this extreme reaction of panic and that these stories have become exaggerated.[28][29] Advertised as 'living photographs', what appeared initially as a static image on screen began to move, but not for long. The *Arrival of a Train* was a short black and white silent film with a great deal of flickering lasting just fifty seconds. The astonishment of the spectator was more likely to be for the 'unbelievable visual transformation',the sophistication of the visual trickery, rather than the spectator's inability to tell fact from fiction.[30] Martin Loiperdinger and Bernd Elzer consider the whole story to have been manufactured as part of marketing hype – indeed, in a New York publicity stunt paramedics with stretchers were stationed by the entrance to the place where the films were shown. Furthermore, there is no factual evidence of the *Arrival of a Train* even being included in the programme for the first film screening in 1895.[31] Rather than being naïve, the audience for the 'cinema of attractions'[32]- the films of 1895-1904 - were actually accustomed to theatrical illusionism in the magic shows, waxworks, panoramas, dioramas, magic lantern and lightning

sketch performances shown at fairs and variety theatre and craved ever more spectacular entertainment. Indeed, following the first head on train crash in 1896 at Crush City, Texas, train crashes became not only the subject matter of films such as Edison's *The Railroad Smash-Up* (1904), but train wrecks, for which 30,000 paid to see, were staged for the purpose of entertainment at county fairs in the USA from 1896-1920s.[33] Factual and fictional accounts of train journeys continue to the present day as subject matter for both film and animation.

Animation and Trains: Data Visualisation

The earliest example of an animation about a train journey that I have been able to find, *Cartoon Train Journey 1910-1920*[34], dates from just after the cinema of attractions period and is in the British Pathé archive. A short clip, under 2 minutes, designed to be shown as part of a programme of newreels, this stop-motion animation depicts a train journey from London to Edinburgh. It uses the train journey as a device to explore the geography of Britain and depicts the earth in cross section to describe the difference in geological make-up of the land traversed on this journey. The miniature steam train, which emits puffs of animated yarn to stand in for steam, is shown from above in plan view for the final section of the journey from Berwick to Edinburgh. Animation is used as a tool to express factual data in a diagramatic form, thereby expressing information about British geology that would have been much harder to communicate in the form of live action footage of a train journey. A purely quantitative/instrumental approach to the depiction of transport geography, however, gives a limited and narrow account of the rich experience of travelling by railway.

As previously discussed, a train journey involves much more than travelling from A to B in the quickest time possible. The passenger watches moving landscape out of the window. She eats, sleeps, reads, talks and daydreams. She has a time-based, qualitative experience. With the short film, *European Journey 2030* (2013), co-directed and animated by Birgitta Hosea and Steve Roberts, a team of researchers aimed to express the affective impact of a journey through the form of animation.[35]The SYNAPTIC project (Synergy of New Advanced Public Transport Solutions Improving Connectivity in North West Europe) focussed on the qualitative experience of international rail travel and made suggestions as to how this could be improved in a future journey

from Preston (UK) to Delft (the Netherlands) in 2030. Animation was chosen as the ideal medium in which to collate the findings of the four different research projects that made up the SYNAPTIC project into one seamless narrative – in the form of a journey. Using animation to disseminate the research findings enabled a complex collection of multiple data sets to be depicted audiovisually in order to make the research coherent and accessible to specialist and non-specialist audiences alike. The aim was to represent the process and experience of travel, in particular to emphasise the quality, comfort and convenience of the journey.

When presenting research findings, the use of diagrams to communicate instrumental data has value for the comprehension of quantitative, numerical information. However, it is a challenge to represent action, process or experiential data using a graph, a map or a scale diagram.[36] Animation as a form has more potential to describe the affective and qualitative experience of a journey than a static information diagram. In *European Journey 2030*, the technique of character animation was chosen as opposed to motion graphic moving diagrams. In the animation, painterly backgrounds created in Photoshop, humorous illustrations created in Illustrator and a rich soundscape heighten the sensual nature of the journey that is being depicted. Operating at a subliminal level to contribute to the atmosphere, the soundtrack comprises samples of real world sounds including recordings made at UK and European trains stations.

In addition to having the potential to express an affective and sensual landscape, animation has a capacity for the visualisation of proposals or hypothetical findings that have not yet been realised. The scenario in this animation is based in 2030. The background designs were inspired by architects' plans for buildings that have not yet been built, such as Delft Station, and imagined re-developments of existing buildings, such as Tulketh Mill and Preston Station. Using the device of train travel to structure the narrative, the film visualised the journey of Suravi Dumill-Douze as she travelled from Preston with her young daughter to a work meeting in Delft, enabling the traveller character to operate as an agent of focalisation[37] through whose subjective perspective the journey can be experienced by the viewer. This extended researcher Peter Hall's use of a fictional family in his work on transport planning to serve as a narrative device for a human centred description of the process of making a journey.[38]In the next section, I will consider animations in which the central agent of focalisation for the narrative is not a human character, but the train itself.

Train as Character: Regulation and Rebellion

Although both animations are series designed as entertainment for children and both are named after the trains that serve as their main characters, *Thomas the Tank Engine* and *Ivor the Engine* provide two very contrasting worldviews.

Thomas the Tank Engine was first shown on ITV in 1984. It was based on the Railway Series books by Reverend W Awdry that were inspired by a wooden train set he made for his son and the stories he made up about trains when his son was sick. These stories were so popular with his family, that at the insistence of his wife and son, he eventually sent them off to be published. TV producer, Britt Allcroft , was inspired to create the books as an animated series for children. Originally created in stop motion, the series continues its third generation and is now made in CGI by Hit Entertainment. It continues in popularity with a theme park in Japan and has spawned a number of games and toys.[39]

In the *Thomas the Tank Engine* stories, the trains operate in a milieu of strict rules and regulations on the island of Sodor. Watched over by the Fat Controller, these animations explore themes of hard work, compliance, orderliness and knowing your place. Life is not about enjoying the ride, but following the rules and being securely back in the station at night. For example, in *Thomas Comes to Breakfast* (1986), Thomas arrogantly assumes that he does not need his driver, to the great concern of his friends who ultimately have to haul him out of the Station Masters House that he crashes into after a careless cleaner meddles with his controls. He is in disgrace and in trouble with the Fat Controller, who temporarily replaces him with a much more obedient and compliant diesel train. In *Thomas and Gordon* (1984), Thomas cheekily shows off about being the most hard working engine. The young upstart is taught a lesson by Gordon, another train, who drags him along along so fast his wheels hurt. 'Now you know what hard work means,' says Gordon. 'Maybe I don't need to tease Gordon to feel important,' Thomas thought and, life lesson learnt, he puffed slowly home.

These animations show a world in which the vehicles have more personality than the human beings. In the limited stop motion technique used in the original series, use of camera movements, real smoke and water breaks up shots of static models. There is more motion used in the animation of the trains, particularly their faces, than in the human characters who are static figures without articulation. The personality of the locomotives and their movement

through space (integral to the staging of adventure in each episode) therefore become the features that are foregrounded.

A very different world is shown in another classic British animation, *Ivor the Engine*. Created from painted cut-outs animated by Oliver Postgate and Peter Firmin's Small Films Co, the series was originally made in back and white for Rediffusion in 1958 and then remade in colour for BBC in 1975. Adding to the charm of Firmin's designs, Postgate made the sounds of the train puffing himself. The series is now available as an iPad game. Whereas *Thomas the Tank Engine* largely focuses on trains as primary characters with narratives of compliance and control that end up with the steam locomotive firmly quartered back in his shed at night, *Ivor the Engine* is used as a delightful narrative device for exploring a range of characters that are encountered on journeys through the Welsh countryside, such as Idris the Dragon, the local choir, and Dai Station, the station master. It is an ensemble piece with a large cast of characters exploring the interconnected rural lives of Welsh villagers.

Ivor the Engine as a character is not as visually anthropomorphosised as the trains shown in *Thomas and Friends*, which typically have faces on the front of their boilers. An omniscient narrator has access to Ivor's feelings and Mr Jones 'the Steam' (his driver) can talk to Ivor, with Ivor's replies taking the form of tuneful sounds from his steam whistles. In the series, Ivor is shown as rebellious, kind and community spirited. He does not want to be constrained by the timetable, interacts with the local community by helping animals, doing favours and battling with the problems of health and safety regulations for the conveyance of dragons. The structuring narrative thread that runs through the series is that Mr Williams wants to make Ivor's branch line part of the national Welsh railway and follow conventional rules and timetables. Luckily for our hero, by the end of the series Mrs Potty, a rich local eccentric, buys the line so Ivor can continue to defy conformity and regulation to benefit others, for example by changing his route to stop and help an elephant.

Evoking a nostalgic vision of a bygone era of steam in which communities helped each other out, the episodes of *Ivor the Engine* focus on the experience of mobility - the journey itself rather than the end destination. Through the movement of the train through the landscape, different characters and stories in different locations are brought together. In the next section, the train will be considered as a location rather than as a central character.

Train as Location: Moving Through the Non-Place

The tourist, the travelling salesman, the itinerant circus performer, the tax exile, the cleared slum dweller – in our contemporary world people are on the move. In his study of mobility, Cresswell relates how in the field of anthropology it is recognised that communities grow, change and move. They may be diasporic and live in exile, holding a common cultural identity, but no longer living in the same mythic place of origin. In opposition to a fixed permanent place of residence, he cites Marc Augé's suggestion for a new type of place – a place of travellers and transients, a temporary place that people just pass through and do not live in – the non-place.[40] In the non-place, tradition and heritage are no longer relevant. It is a place of transit, to be occupied briefly and then passed through: like a train.

On the train, events, stories and strangers are brought together in a confined space for a limited period of time – the duration of the journey. Rather than being restricted to one social milieu, passengers on public transport encounter people from beyond their normalising geographic, professional, class, gender and race boundaries (within the restrictions of the class of carriage they have bought a ticket for). Doreen Massey argues that space is an open system, in which layers of co-existing stories coincide by chance.[41] This chance encounter of multiple narratives is particularly apparent in the non-place that is the train. Exploring this temporary clash of cultures in close proximity has provided a rich vein of storylines for film and animation.

Clearly inspired by *The Lady Vanishes* (1938), *Madame Tutli-Putli* (2007) is a stop-motion, film noir pastiche in which strangers are brought together on a train. In this National Film Board of Canada animation, directed by Chris Lavis and Maciek Szczerbowski, a female traveller boards a train. The main character is given an uncanny, emotional depth through film of real human eyes being skillfully composited onto the puppet's face. The subtle atmosphere of claustrophobia and unease is further heightened by a dramatic use of sound. The old fashioned compartment, reminiscent of *The Lady Vanishes*, has a retro, nostalgic design undercut by the use of a modern, plastic, disposable coffee cup as a prop. The carriage is packed with strangers and their possessions. The train is delayed during the night and two strange people get on, gas the passengers, steal their possessions and then start removing their organs. Madame Tutli-Putli wakes up and escapes to the restaurant car. However, the ending is left open and unresolved. Does she

escape or do they find her? Is it real or a dream? Is she doomed to stay onboard the train for all eternity? We don't find out. This film portrays a nightmarish sense of the train as an unfamiliar, non-place from which you cannot escape. As in Jean Paul Sartre's play *Huit Clos* (translated in English as either *No Exit* or *In Camera*, 1944), hell is the ultimate horror of being trapped with other people in a state of limbo for all eternity.

This state of being in a non-place, forever on a journey, not arriving or beginning but in an 'in-between' state of becoming is also explored in *Traion II (Train)* (2014). The *Traion* series of works use drawing to explore the trace of presence in motion. In *Traion II (Train),* the train journey is used as a metaphor to explore different aspects of movement. The animation loops continously, so the journey never ends. The process of making this animation, designed for gallery installation, involved the Maryclare Foá and Birgitta Hosea, sitting on a moving train and on each consecutive frame digitally tracing around a still photograph of themselves sitting on the very same train. As the motion of the train effects the accuracy of the drawing, adding unintended hand shake and variation, the resulting animation is a recording of the motion of the train itself. This process was inspired by the work of artist, William Anastasie. Starting in 1977, Anastasie started a series of drawings that used moments of chance motion from everyday life as the basis for mark making. Travelling on the New York subway, he would hold a pencil in each hand and lightly touch the surface of paper on his lap. As the subway moved and his whole body responded, he would create inadvertent marks on the paper.[42] In both *Traion II (Train)* and the work of Anastasie, the surrounding landscape of the train carriage becomes an animating force in itself.

In the windows of the train carriage depicted in *Traion II (Train),* hand-drawn scenery passes by as if landscape is being travelling through. This was created by the artists making very long, abstract, action drawings on the walls while walking around the studio, which were subsequently divided into foreground, midground and background and then animated. Thus, in this work, different levels of motion within the train carriage are evoked: the motion of the passenger's body while sitting on a moving train and the motion of an imagined landscape moving past the window in parallax. The irony being that, as the train itself is a location from whose perspective the viewer looks out, the motion seen out of the window is an illusion. It is not the landscape that actually moves, but the train itself. This perspective is considered in the next section, where we will focus on what is outside the train carriage: the landscape that travellers are transported through.

Speculative Landscapes

Landscape is often thought of as eternal and unchanging, but in reality it is changing all the time due to changing patterns of habitation, agriculture, industry and climate change as well, of course, as the slow shifts of the tectonic plates that hold our continents together. In her work on space, Massey argues that space is not fixed, essential and eternal, but plural, relational, in a state of flux, always in the process of being produced, subject to the result of interrelationships. [43]Using animation, future changes to the landscape as a result of its relationship with human beings can be hypothesised and depicted.

In the short animation *Speculative Landscapes* (2010), which was inspired by a journey on the futuristic Maglev train in Shanghai, original live action footage from this journey was reconstructed and re-imagined by specialists in architectural visualisation, Factory Fifteen. The rail journey is used as a premise for the depiction of imagined landscapes. A hyper-real combination of matte painting and CGI with live action footage is used to present a landscape that becomes increasing industrial, barren and devoid of natural vegetation, until it degenerates into apocalyptic piles of industrial waste. Thus, the film makes a poignant and effective comment on the ecological issues that could effect a hypothetical future society.

CGI animation can be used to portray photo-real journeys through hypothetical landscapes and, in combination with games engines, this can be extended to allow the viewer control over user generated journeys. In *Train Simulator 2014*, for example, the fantasy of being a train driver is offered with the opportunity to experience limitless travel throughout a virtual model of world-wide, iconic train routes. The virtual landscape that is being travelled through is modelled with extreme attention to the detail of actual locations. Although reminiscent of the phantom ride films discussed earlier, *TS2014* offers much more than a fixed view of a journey. Multiple view points are available while driving the train – from inside the driver's cab, the passenger's view from inside the carriage or helicopter views from above. Marketed as much more than a game, rail fans can make and share routes and components. They can contribute improvements to the scenery and customise their journeys. On fan forums there is great importance placed on making minor amendments to routes in order to improve their veracity to real world locations.

The voiceover for *We Are Rail Fans* (2013), the promotional film for *TS2014*, offers a seductive glimpse into the pleasure afforded from playing this game:

> They take you for granted, the travelling hordes. To them, you're just crowded and dirty, functional, a means to an end …. Their lives move too fast to stop and look, to sit back and enjoy the view. It all flies past in a blur …. They want the destination: we want the journey …. We look at the world outside, along the backs of other lives: a face at the window, a broken bike in the yard, vast fields, rivers wide, in and out of cities, towns and countryside …. We have a place where time is our own, where steam, diesel and electric are king.[44]

The experience is one of being mobile, of enjoying the encounter with different types of landscapes and yet, like in model railway building, being in control of the landscape, able to alter and perfect the model to make it more 'realistic'. This is a continually evolving process with new versions of the game and new add-on routes or train models being offered for sale. Updates will always be needed to satisfy the demand of fans for a real-world experience as the railway environment itself changes over time.

This section has considered the animated encounter with train travel through landscape as subject matter. In the next section, it will be through the motion of the actual train journey itself from which the animation is created.

Screen-Less Animation[45]

From the earliest optical toys (such as the zoetrope) to the work of contemprary artists, screen-less methods of creating animated images have been explored that work on the principle of optical illusion. When travellers on the Manhattan bound B or Q train in New York pass DeKalb Avenue station, they are confronted by animation in the subway tunnel itself. Bill Brand's artwork *Masstransiscope* (1980) consists of a 300 foot painting illuminated by flouresent light and encased in 228 metal slits. It is located on the platform of the abandoned Myrtle Avenue station [46]The animated images are not mediated by film or video – the passengers see the original painting rather than a photograph or digital scan of it. Based on the principle of the zoetrope, the conventions of the cinematic context are reversed when these moving images are viewed. As opposed to a sequence of images moving through a film projector, the painting is still and it is the audience who move past a sequence of images. As the images are viewed

by the passengers through the metal slits that stand between the painting and the subway train, there is an illusion of motion created by the actual motion of their bodies through space. Rather than landscape seen as continuous space outside the train window, graphic forms appear to dance and change form on the subway walls in real time.

Conclusion

The theme of trains connects a body of animated work that is extremely diverse in approach and form. What is central to each of the works discussed in this chapter is the journey. The animated railway journey can be read as a metaphor for the transience and flux at the root of contemporary society that Bauman has termed liquid modernity. Our globalised contemporary world is fluid, flexible and globalised. We consume mass media, cheap flights, the Internet, global brands. People eat international cuisine, experience media or buy goods from around the world, travel for work or pleasure, change their jobs, become obsolete, re-train, move between professions and disciplines, relocate for economic reasons or because of political conflict or slum clearance. Multinational corporations take advantage of trading around the world to defy national laws and tax regulations. National borders are disputed leading to war and the displacement of people. Bauman suggests we are in an age of flux, change and continuous obsolescence. As opposed to the solid, modern age held together and made coherent by belief in grand narratives, we are in a new age of liquid modernity where interdeterminacy and uncertainity are key to our consumerist state: 'Liquid modern life is a daily rehearsal of universal transcience. Today's useful and indispensible objects, with few and possibly no exceptions, are tomorrow's waste. Everything is disposable, nothing is truly necessary, nothing is irreplaceable.'[47]

Our societies have global issues, but these, Bauman suggests, are drifting, aimless without vision. Perhaps we are in a transitionary phase between epochs or perhaps we have lost our way:

> I am increasingly inclined to surmise that we presently find ourselves in a time of 'interregnum' – when the old ways of doing things no longer work, the old learned or inherited modes of life are no longer suitable for the current condition humana, but when the new ways of tackling the challenges and new modes of

life better suited to the new conditions have not as yet been invented, put in place and set in operation[48]

It's a constant process, there is no goal of 'progress' and we haven't reached the 'future'. In the age of Modernism, there was a goal in sight, the ideal future, but liquid modernity is a state of constant change for change's sake: 'To 'be modern' means to modernize – compulsively, obsessively; not so much 'to be', let alone to keep its identity intact, but forever 'becoming', avoiding completion, staying undefined.'[49]

Power has become disassociated from politics, the individual feels disenfranchised, unable to influence world events or the flow of capital. Notions of territory, disciplines, meaning and boundaries are permeable. Since the advent of the computer, this sense of change and fundamental, ontological uncertainty has been apparent in the field of animation.[50] At the crossroads of many artforms, traditional techniques and rapidly evolving technical processes, animation is an ideal candidate to be considered as a liquid artform.

Using the thematic taxonomy of train journeys permits a comparison of a range of practices that might be considered pre-cinematic animation, cinematic animation and post-cinematic animation. The breadth of these practices show that the idea of animation is in flux, not static, an intermedial crossroads re-invented by each successive generation. From moving panoramas and phantom rides through to childrens' TV series, subway zoetropes and railway simulation games, what these works all have in common is that artificial movement is recorded/encoded, stored and then played back.[51] They do not all use film as their medium of encoding, storage and playback. Considered in relation to the processes of mobility, the reproduction of artificial movement via animation can been seen to have implications for a consideration of time and space, whatever the form by which this movement is stored.

Animation visualises mobility and yet also has mobility at its core as a form. Beyond relating to a discipline changing how it sees itself, the mobilities paradigm raises other issues for animation. Cresswell argues that geographical concepts are not neutral, but are both social and political. They have consequences for how we conceptualise the world that surrounds us, for how we 'structure and enable practice in the world'.[52] Although the ability to move is at the basis of all humanity, mobility is 'socially produced motion' and requires detailed interrogation. While mobility may appear to be at the very heart of what freedom means, Creswell warns us that there are restrictions as to how mobile we can really be according

to class, race, gender and physical ability.[53] To have mobility – to be free to move as we choose – implies economic, political and gender privilege – to afford the cost of a ticket, to have the correct visa or travel permit, to be able to roam freely in the city at night without fear.[54]

As we theorise and gaze at the navel of our liquid modern artform, it is easy to neglect the political implications that result from a mobilities perspective on animation. We all need to take a global perspective on our industry and its use of resources: the out-sourced 'cheap' labour-forces who make our animations for wages that would not be acceptable in the Western world; the mountains of discarded plastic cartoon toys that are currently not biodegrading on rubbish heaps around the world; the electricity used to power our gadgets and cloud computing; the wars fought over the rare mineral coltan used in our electronic devices and the dire conditions of the workers who make these devices for us. I would like to argue for more politics in animation. Not a politics at the level of representation, but at the material basis of what we actually do, at the level of tools, supplies, technology and distribution. For the responsibility we bear for the global patterns of production and consumption that result from animation.

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[111] Department for Transport, *National Travel Survey: 2012* (UK Government, 2013).

[2] Cf. Henning Mankell's chilling account of the contribution of indentured Chinese labour to the building of the American railroads in his novel *The Man From Beijing (2011)*.

[3] Rebecca Solnit, *Motion Studies: Time, Space and Eadweard Muybridge* (London; Berlin; New York; Sydney: Bloomsbury Books, 2004), 62–5.

[4] John Urry, *Mobilities* (Cambridge: Polity Press, 2010), 102.

[5] Solnit, *Motion Studies: Time, Space and Eadweard Muybridge*, 9.

[6] Ibid., 4.

[7] Urry, *Mobilities*, 97.

[8] Tim Cresswell, *On the Move: Mobility in the Western World* (New York; London: Routledge, 2006), 6.

[9] Solnit, *Motion Studies: Time, Space and Eadweard Muybridge*, 61.

[10] Zygmunt Bauman, *Liquid Modernity* (Cambridge: Polity Press, 2013), 9.

[11] Solnit, *Motion Studies: Time, Space and Eadweard Muybridge*, 11.

[12] Gilles Deleuze, *Cinema I: The Movement Image*, trans. Hugh Tomlinson and Barbara Habberjam (London: Continuum Books, 2012), 8.

[13] Cresswell, *On the Move: Mobility in the Western World*, 5.

[14] William Uricchio, "A 'Proper Point of View': The Panorama and Some of Its Early Media Iterations," *Early Po pular Visual Culture* 9, no. 3 (2011): 3.

[15] Erkki Huhtamo, *Illusions in Motion?: A Media Archaeology of the Moving Panorama and Related Spectacles* (Cambridge, Mass.; London: MIT Press, 2013), 8–15.

[16] Ibid., 32–34.

[17] Uricchio, "A 'Proper Point of View': The Panorama and Some of Its Early Media Iterations," 5.

[18] Ibid., 6.

[19] Huhtamo, *Illusions in Motion?: A Media Archaeology of the Moving Panorama and Related Spectacles*, 310–1.

[20] State Hermitage Museum, "Restoration of Pyasetsky's Great Siberian Railway Panorama (1894-1899)," *Hermitage News*, 2007, http://www.hermitagemuseum.org/html_En/11/2007/hm11_3_35.html.

[21] Solnit, *Motion Studies: Time, Space and Eadweard Muybridge*, 4–5.

[22] Lynne Kirby, "Male Hysteria and Early Cinema," in *Male Trouble*, ed. Constance Penley and Sharon Willis (Minneapolis: University of Minnesota Press, 1993), 68–9.

[23] Lynda Nead, "Velocities of the Image C. 1900," *Art History* 27, no. 5 (2005): 758.

[24] Christian Hayes, "Phantom Rides," *BFI Screen Online*, accessed July 7, 2014, http://www.screenonline.org.uk/film/id/1193042/.

[25] Raymond Fielding, "Hale's Tours: Ultrarealism in the Pre-1910 Motion Picture," *Cinema Journal* 10, no. 1 (1970): 39.

[26] Ibid., 44.

[27] Martin Loiperdinger and Bernd Elzer, "Lumiere's Arrival of the Train: Cinema's Founding Myth," *The Moving Image* 4, no. 1 (2004): 91.

[28] Tom Gunning, "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator," in *Viewing Positions*, ed. Linda Williams (New Brunswick: Rutgers, 1995), 116.

[29] Loiperdinger and Elzer, "Lumiere's Arrival of the Train: Cinema's Founding Myth," 94.

[30] Gunning, "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator," 119.

[31] Loiperdinger and Elzer, "Lumiere's Arrival of the Train: Cinema's Founding Myth," 99-102.

[32] Gunning, "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator," 121.

[33] Kirby, "Male Hysteria and Early Cinema," 74.

[34] The British Pathé archive gives only an approximate date and the original title is unknown.

[35] Robin Hickman et al., "Animating the Future Seamless Public Transport Journey," *Built Environment* 39, no. 3 (2013): 370–1.

[36] Edwards Tufte, *Visual Explanations: Images and Quantities, Evidence and Narrative* (Cheshire, CT: Graphics Press, 2005).

[37] This concept is taken from Mieke Bal's work on narratology Mieke Bal, *A Mieke Bal Reader* (Chicago, IL: University of Chicago Press, 2006), 270.

[38] Peter Hall, *London 2001* (London: Unwin Hyman, 1989); Peter Hall, *London 2000* (London: Faber & Faber, 1963).

[39] "The Story of Thomas and Friends," *Thomas & Friends*, accessed June 7, 2014, http://www.thomasandfriends.com/en-gb/About/index.html.

[40] Cresswell, *On the Move: Mobility in the Western World*, 44.

[41] Doreen Massey, *For Space* (London; Thousand Oaks; New Delhi: Sage Publications, 2005), 111.

[42] William Anastasi and Margaret Iversen, "Interview with Thomas McEvilley//2005," in *Chance, Documents of Contemporary Art* (London; Cambridge, Massachussetts: Whitechapel Gallery; MIT Press, 2010), 107–8.

[43] Massey, *For Space*, 9.

[44] Train Simulator 2014, *We Are Rail Fans*, 2013, http://youtu.be/C12aycIepqA?list=PLvUwWjZgALPWvOt-_ZIl0T-eT5-89yw7b.

[45] I have taken the term 'screen-less animation' from the spectacular work of Trope, who work in this area by animating light over sequential kinetic sculptures to create animation in the environment. Cf. http://www.trope-design.com.

[46] Jo Brand, "Masstransiscope," *Artists website, Bill Brand*, (2013), http://www.bboptics.com/masstransiscope.html.

[47] Zygmunt Bauman, "Liquid Arts," *Theory, Culture & Society* 24, no. 1 (2007): 123.

[48] Bauman, *Liquid Modernity*, vii.

[49] Ibid., viii.

[50] Hosea, "Substitutive Bodies and Constructed Actors: A Practice-Based Investigation of Animation as Performance," 11–23.

[51] This idea is further developed in my PhD thesis, Hosea, "Substitutive Bodies and Constructed Actors: A Practice-Based Investigation of Animation as Performance."

[52] Cresswell, *On the Move: Mobility in the Western World*, 21

[53] Ibid., 265.

[54] Ibid., 3.