The Clockwork Occult: Evaluating the Scientific Fantastic in Steampunk Cinema

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Introducing Steampunk

'Steampunk' is a term that has seen liberal use over the past two decades. Its cultural significance has developed well beyond its origins as a literary sub-genre of science fiction, becoming a retro-futuristic subculture in itself and a pop-cultural resource that has proved immensely successful within mainstream media. Whether represented through the pseudo-historical settings imagined within the movement's literature, or by the distinctive aesthetic that has been applied to a litany of films, video-games, and artworks, steampunk's millennial popularity can be evidenced through a widespread nostalgia for the technological materials of a previous age. "*First and foremost, steampunk is about things – especially technological things – and our relationships to them*", writes Stefania Forlini, noting the many adherents who have played a role in physically constructing the movement's imagined machinery, artists and designers who "*produce fanciful Victorian-like gadgets* […] *or refurbish contemporary technological objects to make them look and feel 'Victorian*'".[1]

[1] Stefania Forlini, 'Technology and Morality: The Stuff of Steampunk', *Neo-Victorian Studies*, vol. 3 no. 1, 2010, p. 72. I develop these ideas more fully in my book *Steampunk Film: A Critical Introduction*, London: Bloomsbury Academic, 2019.

Whilst many have explored the characteristics that have come to define steampunk as both a consumer and craft-orientated practice, much of the movement's identity can be understood through its many representations of mechanical materiality that are placed within the contexts of magic and the supernatural. In whatever time-period steampunk technologies find themselves set, their identification is dependent upon their open defiance of common expectations of rationality and historical canonicity. As I will go on to explore, the anachronistic status of these machines allows steampunk to occupy a distinct position between conventions typically used to distinguish the fantasy and science fiction genres. Many theorists have attempted to highlight how the "*imaginative or fantastic*" realms of fantasy and science fiction similarly emphasise a "*point* [or points] *of difference*" between the world that we recognise as 'ours' and that which is imagined.[2] It is often assumed that the distinction between science fiction and fantasy approaches to this difference is centred upon the "*imaginatively expansive, and materialist mode* [of science fiction]*, as opposed to the magical-fantastic, fundamentally religious mode that comes to be known as fantasy*".[3] The popular suggestion seems to be, therefore, that fantasy envisions acts that we know to be impossible, whilst science fiction imagines how the fantastic may be made actual (predominantly through technological means).

In this article I consider how steampunk cinema can be used to examine the complexities with which representations of both mechanical and magical acts are aligned with contemporary understandings of the world. These are the films that played a key role in bringing steampunk to the attention of mainstream audiences and popularised representations of an alternative industrial revolution where technological rationalities find themselves governed by fantastical impossibilities. From blockbuster juggernauts such as Sonnenfeld's *Wild Wild West* (USA, 1999) – a film that allowed the genre to "*go viral*"[4] – to the mechanical fetishisms of cult-favourite *Dark City* (Proyas, Australia/USA, 1998), steampunk's faux-histories delight in reconfiguring our expectations concerning what is mechanically possible. Films like Coraci's *Around the World in 80 Days* (USA/Germ/Ire/UK, 2004), Ritchie's *Sherlock Holmes* (USA/Germ/UK, 2009), and Anderson's *The Three Musketeers* (USA/Germ/Fr/UK, 2011) exemplify the film industry's propensity to use the movement's fantastical technologies to irreverently re-work beloved properties into special effects extravaganzas. Indeed, steampunk's spectacularly antiquated inventions have acted as an apt fit for a medium born of a 19th Century innovation that has so frequently been termed as a "*cinema of attraction*s"[5], a technology designed to showcase scientific wizardry. I propose that steampunk cinema's nostalgia for an age of past industry allows us to consider

[2] Adam Roberts, *Science Fiction*, London: Routledge, 2002, p. 6.
[3] Paul K Alkon, *Science Fiction Before 1900 Imagination Discovers Technology*, London: Routledge, 2002, p. xii.
[4] Jay Strongman, *Steampunk: The Art of Victorian Futurism*, London: Koreno Books, 2011, p. 38.
[5] Tom Gunning, 'The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde', *Wide Angle,* vol. 8 nos. 3-4, 1986, p. 63.

a number of debates that place mechanical 'know-how' at the very centre of the perceived struggle between empirical rationality and the unbound forces of supernaturalism.

Impossible Machines

It is worth noting that steampunk is not an exclusively neo-Victorian movement. Instead, the genre draws together machinery from a number of historical sources, imagining alternative visions of past, present and future where atavistic technologies have developed in place of their electronic and digital usurpers. Whether revisiting eras of industrial invention and imperial expansion in feature films such as Newman's *The Adventurer: The Curse of the Midas Box* (UK/Sp/Belg, 2013) or imagining apocalyptic futures in a short such as Acker's *9* (USA, 2005), steampunk exhibits an extremely playful and anachronistic relationship to historical periodisation. The genre's films are united in their reinvention of machines that evoke the parameters of a broader conception of both late modernity and the long 19th Century. Rather than being set amongst the rolling hills of J. R. R. Tolkien, or C. S. Lewis' fantastical realms of Middle Earth or Narnia, steampunk predominantly positions itself within metropolitan cityscapes. The genre's narratives emphasise the popular mythology of modernity as an era when "*rationality and the irrationalities of myth, religion,* [and] *superstition*" would find themselves opposed.[6]

When re-imagining its eponymous detective as a turn-of-the-century action-adventurer through sensibilities more common to the super-hero franchise, *Sherlock Holmes*, for example, pits its hero against a villain who blurs the lines between magical and technological innovation. Holmes is placed in direct conflict with the evil machinations of Lord Blackwood, a self-proclaimed master of the occult who has seemingly risen from the dead to seize control of the British Empire. In the requisite maniacal monologue, Blackwood states that "*tomorrow at noon, we take the first step towards a new chapter in our history. Magic will lead the way. Once the people of England see our newfound power they'll bow down in fear… We will re-make the world. Create the future*". However, rather than depending upon black magic, this neo-Victorian narrative relies on steampunk gadgetry to showcase both Holmes' and Blackwood's genius, with the hero's deductive abilities being required to uncover the mechanical apparatus that allows his opponent to complete his seemingly supernatural acts.

The film's final confrontation sees Holmes battle Blackwood atop London's Tower Bridge in mid-construction (upon completion in 1894, its bascules would be driven by steam and hydraulic motion), the fate of a modernising nation and its ever-developing industrial skyline hanging below them in the balance. Holmes and Blackwood represent quintessentially humanistic ideals as they struggle for power, control and, in no small measure, ego. Aesthetically, Holmes is evocative of Charles Baudelaire's 'modern hero', kitted out in funereal frock-coat and the self-same depictions of modernity that have made such a great

[6] David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*, Oxford: Blackwell, 1989, p. 12.

impact on the fashions of both the gothic and steampunk subcultures themselves: "*an expression of the public soul – an immense cortège of undertaker's mutes (mute in love, political mutes, bourgeois mutes* […] *great colourists know how to create colour with a black coat, a white cravat and a grey background*".[7]

By affording its 21st Century audience the privilege of hindsight with regards to the possibilities of technological development, the film offers the pleasure of revisiting the *fin de siècle* optimisms and anxieties of a historical period where the boundaries of magic and science were being redrawn. Encompassing an assortment of engineers, mechanics, linguists, and scholars, steampunk's protagonists embody what David Harvey defines as one of the primary tenets of "*the modern project*": the desire to use "*the accumulation of knowledge generated by many individuals working freely and creatively for the pursuit of human emancipation and the enrichment of daily life*".[8] Shining a light into the darkness of superstition, these heroes are defined by their pursuit of both knowledge and reason. Similarly, the enemies of steampunk fiction are not leviathans, dragons, and demons, but are most frequently humans who wield mechanical power for their own purposes. *The Adventurer: The Curse of the Midas Box* is another example of steampunk cinema that sees its antagonist use technology to perform seemingly supernatural acts. In this case, the film's hero reveals a demonic visage to be a great steampunk drilling machine – the fires of its engines acting as its eyes and maw.

Offering a variation of author Arthur C. Clarke's frequently cited adage that "*any sufficiently advanced technology is indistinguishable from magic*"[9], steampunk's romantic attitude to machines that verge on the supernatural connects the genre to cinema's own industrial heritage. Audiences are invited to enjoy and potentially 'decrypt' the many instances of CGI trickery that see period settings populated by overtly anachronistic technologies, drawing on a heritage of over a century of 'magical' prestidigitation within film. When Geoff King argues that modernity has often been perceived as reducing the world to "*the realm of empirical facts*", he notes that the contemporary blockbuster possesses a similar function to that of the medium's historical predecessors: that of magical re-enchantment.[10] For the audiences of 18th Century scientific demonstrations, he writes, "*such spectacles are experienced as quasi-magical, rather like cinematic special effects. The powers of science and technology appear to be a new form of magic*".[11]

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[7] Charles Baudelaire, 'The Salon of 1846: On the Heroism of Modern Life' (1846), in Francis Frascina, Charles Harrison and Deidre Paul, eds., *Modern Art and Modernism: A Critical Anthology*, London: Harper & Row, 1982, pp. 17–18.
[8] Harvey, *The Condition of Postmodernity*, p. 12.
[9] Arthur C. Clarke, *Profiles of the Future*, London: Harper & Row, 1973, p. 21.
[10] Geoff King, *Spectacular Narratives: Hollywood in the Age of the Blockbuster*, New York: I. B. Tauris, 2000, p. 56.
[11] King, *Spectacular Narratives*, p. 56.

Indeed, steampunk's cinematic expressions of industrial power recall the illusions pioneered by the likes of Georges Méliès and the Lumière brothers. Scorsese's *Hugo* (USA/UK/Fr, 2011), for example, uses its clockwork reconstruction of industrial spectacle to draw upon mythologised responses to screenings of the Lumière Brothers' *The Arrival of a Train at La Ciotat Station* (France, 1895). Celebrating cinema's legacy as a machine through which the sublime wonders and terrors of the supernatural could find themselves technologically enacted, the effect of an unstoppable mechanical juggernaut driving head-long into an unsuspecting audience is recalled through Scorsese's own arsenal of visual effects, re-imagined through millennial 3D technologies.

"*Turning technology into a spectacle of light, sound, and power*"[12], many steampunk films use their mechanical centrepieces to explicitly draw associations between cinema and traditions of stage magic. Making apt use of the films' status as special effects extravaganzas, characters are depicted as reeling from technologies that seem to defy credibility as they tower over the landscape. *Wild Wild West*'s enormous mechanical spider obliterates a number of American frontier towns with a volley of explosives, whilst similar examples spread across the entire steampunk genre, from an impossibly mammoth submarine (the Nautilus in Norrington's *The League of Extraordinary Gentlemen* [USA/Germ/Czech/UK, 2003]) to a fleet of 17th Century dirigibles (*The Three Musketeers*) to an army of clockwork giants (del Toro's *Hellboy II: The Golden Army* [USA/Germ/Hung, 2008]). Visualised through a considerable depth-of-field to highlight their massiveness in contrast to their human witnesses, these machines act as analogues to the wonders of cinematic spectatorship.

Despite existing within alternative histories, these machines are not the norm in their respective societies. Instead, their status as being 'out of time' gives them a semblance of the supernatural which allows their anachronistic Otherness to be easily mistaken for magic, a notion that is informed by their spectacular visual presence and narrative agency. It is not accurate, however, to argue that steampunk's representation of the fantastical is one where the supernatural is merely a mis-identified product of technological and scientific rationality. As I will now consider, many steampunk films depict their machines in relation to acts that are unquestionably of supernatural origin. In these cases, magic is not something to be mistaken for mechanical causality but a very real entity that is either hidden or in remission, threatened by the industrial marvels that signpost the birth of modernity.

The Defeat of Magic

Steampunk's temporal dislocation of machinery throughout various periods in history has allowed its narratives to explore many different dichotomies: "*utopian/dystopian;*

[12] Cynthia J. Miller and A. Bowdoin Van Riper, 'Blending Genres, Blending Time: Steampunk on the Western Frontier', in Gary Edgerton and Michael Marsden, eds., *Westerns: The Essential 'Journal of Popular Film & Television' Collection*, Abingdon and New York: Routledge, 2012, p. 245.

craft/industry; surface/whole; immediate communication/gradual handicraft".[13] Significantly, films in the genre often dramatise conflicts where supernatural forces are placed in direct confrontation with technological advances. Del Toro's *Hellboy* (USA, 2004), and more specifically, his sequel, *Hellboy II: The Golden Army*, offer a number of particularly prominent examples of this opposition in action. More faithful to the fairy-tale vernacular associated with its director than to its comic book source, *Hellboy II* uses its steampunk conventions to depict a war between humans and elves that is staged across a number of different industrial phases. The past is used as a source of wonder and horror that lies beneath the materialistic veneer of our contemporary experience.

In *Hellboy II*, for example, the eponymous protagonist saves a modern and urban cityscape (in this case New York) from the Forest God, an elemental behemoth unleashed by his supernatural nemesis, the elven Prince Nuada. As a beast of demonic origin himself, Hellboy hesitates before administering the *coup de grâce* to this threat to contemporary America. The vengeful Prince taunts him with the finality of such an act: "*What are you waiting for? This is what you wanted, isn't it? Look at it. The last of its kind …. Like you and I* [sic]. *You destroy it, the world will never see its like again.*" Yet the seeming divide between the technophobic elves ("*honourable, sincere, and purposeful*") and technophilic humans ("*materialistic, power-hungry, fearful*")[14] is complicated by del Toro's positioning of the elves as mechanically adept users of multiple steampunk devices.

The gulf between the elven forests and human cities is far from clear-cut, with the endangered fairy characters relocating their royal court to a machine-workshop and furnace-room that acts as a sanctuary positioned between the elven and human realms. Simultaneously reflective of both the mechanised conquest of the faerie kingdom and a bygone era of industrial production, these machines afford the elven king a world that is bound to – and simultaneously separate from – contemporary technological developments. The king's throne is embedded in the pipework of a colossal furnace, the glowing heat from its port-hole accentuating the fairy monarch's ethereal and magical identity. Similarly, the structure's rusted metal reminds us of the earth tones and tree bark that have also been abandoned by contemporary human civilisation. Typical of the atavistic production design associated with the del Toro *oeuvre*, the film's steampunk identity reflects a nostalgia not only for the fading wilderness, but also for 'lost' archaic technologies and communities. The elven acceptance of clockwork and metallurgy foregrounds the genre's anachronistic devices as gateways between a natural past and digitised present.

The investment of supernatural romanticism within technologies that have seemingly not yet been perverted by the mechanisation of 20th Century warfare and postmodern consumer

[13] Sally-Anne Huxtable, 'Love the Machine, Hate the Factory: Steampunk Design and the Vision of a Victorian Future', in Julie Anne Taddeo and Cynthia Miller, eds., *Steaming into a Victorian Future: A Steampunk Anthology*, Lanham, MD: The Scarecrow Press, 2013, p. 228.
[14] Tony Vinci, 'Remembering Why We Once Feared the Dark: Reclaiming Humanity Through Fantasy in Guillermo del Toro's *Hellboy II*', *The Journal of Popular Culture,* vol. 45 no.5, 2012, p. 1045.

culture is common to much of the broader steampunk genre. While Weitz's *The Golden Compass* (UK/USA, 2007) would, for example, be unfavourably compared to its literary source (by both numerous critics and even its director)[15], it remains a notable example of steampunk cinema's machines being valued through their relationship to magical practices. Many of the film's more fantastic and antiquated technologies are depicted with a reverence similar to that of del Toro's elves; devices such as an 'alethiometer' (the film's titular compass), and a haphazardly constructed airship owned by an aeronautical companion, act as quintessentially steampunk designs that aid the film's heroine in her journey. Far more threatening is the 'intercision' machine that the villainous Magisterium use to separate children from their dæmons, spirits that take the form of animal companions. In comparison to the neo-Victorian aesthetic used to render the film's romanticised technologies, the design used to depict a machine capable of desecrating the human interconnectedness with the spiritual is far more evocative of 20th Century design and minimalist modernism – a sleek black cage with no visible mechanical workings, sat within a sterile white room.

Steampunk cinema's production design invites us to imagine a mechanical modernity that has passed into the realm of nostalgia and is still capable of being informed by the beauty and dangers often attributed to magical heirlooms and artefacts. The genre acts as a millennial continuation of similar concerns encountered by the Victorians themselves: as Paul Aklon notes, "*a looming problem for writers in the nineteenth century was how to achieve sublimity without recourse to the supernatural. In 1819 John Keats famously complained in 'Lamia' that science was emptying the haunted air. The supernatural marvels that had been a staple of epic and lesser forms from Homeric times would no longer do as the best sources of sublimity*".[16] Steampunk technologies, therefore, often play the role as usurpers of magical traditions – machines that are capable of fulfilling many of the same functions as the supernatural forces that acted as their predecessors. However, these devices do not solely represent what Adam Roberts describes as a requirement of science fiction to depend on "*physical rationalisation, rather than a supernatural or arbitrary one*".[17] Instead of completely renouncing the supernatural, steampunk acts as a direct means of complicating the apparent divide between mechanical causality and fantastical impossibility, as many of the genre's technologies can be defined through their unquestionably magical properties.

Mechanising Magic

The most fundamental component shared by steampunk's representations of technology is their fantastically anachronistic status. Many of the genre's machines can not only be defined by the fact that they have been temporally relocated into alien eras, but also by their

[15] Josh Tyler, 'Comic Con: Chris Weitz Calls Golden Compass A Terrible Experience', *CinemaBlend*, 23 July 2009, http://www.cinemablend.com/new/Comic-Con-Chris-Weitz-Calls-Golden-Compass-A-Terrible-Experience-14059.html.
[16] Alkon, *Science Fiction Before 1900 Imagination Discovers Technology*, p. 2.
[17] Roberts, *Science Fiction*, p. 5.

seemingly indivisible relationship to magic; not the product of rational reasoning, but fantastical impossibilities that 21st Century viewers recognise as truly extraordinary. Ann Heilmann considers this specifically from a neo-Victorian perspective when she aligns the movement's authors and directors with the roles of conjurers and stage magicians. "*In both magic shows and cinema*", she writes, "*the audience is aware of the artificiality of the act, yet judge the quality of the performance by its ability to deceive and mystify us*".[18] This is a notion inherent in steampunk's anachronisms, as contemporary audiences have their understandings of technological causality severely ruptured. Heilmann turns to Christopher Nolan's *The Prestige* (USA/UK, 2006) as an exemplar of neo-Victorian performance, but we might equally consider the text as a product of quintessentially steampunk design. The connections between technology and magic lie at the centre of the film's narrative, where the rivalry of stage-magicians Alfred Borden and Robert Angier is contrasted with electrical pioneers Nikola Tesla and Thomas Edison – wizards of an alternative kind.

The narrative's centrepiece is a "*quasi-Frankensteinian electrical apparatus*"[19], designed by Tesla, that allows Angier to perform a trick that requires him to appear as if he has magically transported himself to a nearby location. Tesla's machine fulfils its purpose, creating an exact duplicate of Angier that allows him to perform the feat with his newly generated double. Considered separately by both mentor John Cutter and theatrical agent Ackerman as being "*real magic*", Tesla's remarkable machine is the only component of *The Prestige*'s story that is presented as overtly fantastical, deliberately countering its audience's expectations of the scientifically possible. Whilst Angier's neo-Victorian spectators witness an act that is the product of technology's unbound potential (it is after all a feat titled "*The Real Transported Man*"), the film's 21st Century audience's understanding of historical, technological and generic expectations is shattered: the mechanical action is completely out of sync with the depicted period. As Miller and van Riper suggest, "*the powers* [steampunk's] e*xtraordinary machines exhibit are so far beyond the capabilities of contemporary technology as to seem purely magical*".[20] It is *The Prestige*'s status as a steampunk text that allows Tesla's mysterious cabinet to function as a performance of both science and magic, drawing parallels between the knowledge (and awestruck responses) of both 19th and 21st Century audiences.

This is true not only of *The Prestige*, but the steampunk genre as a whole. Alice Bell defines the invention of the 'steamball' within Katsuhiro Ōtomo's *Steamboy* (Jap, 2004) as "*semi-mystical*"[21], whilst Tim Blackmore describes the retro-futuristic machines within *Dark City* as "*apparently magical*".[22] An excellent example of steampunk cinema's blurring of

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[18] Ann Heilmann, 'Doing It with Mirrors: Neo-Victorian Metatextual Magic in *Affinity*, *The Prestige* and *The Illusionist'*, *Neo-Victorian Studies*, vol. 2 no. 2, Winter 2009-2010, p. 18.
[19] Heilmann, 'Doing It with Mirrors', p. 18.
[20] Miller and van Riper, 'Blending Genres, Blending Time', p. 247.
[21] Alice Bell, 'The Anachronistic Fantastic: Science, Progress and the Child in `Post-Nostalgic' Culture', *International Journal of Cultural Studies,* vol. 12 no.1, January 2009, p. 16.
[22] Tim Blackmore, 'High on Technology; Low on Memory: Cultural Crisis in *Dark City* and *The Matrix'*, *Canadian Review of American Studies,* vol. 13 no. 1, 2004, p. 15.

science *as* magic can be observed through the genre's repeated representation of the mythos of flight, an act that is now an everyday occurrence but was once pure fantasy. Whether drifting upon airships or glider-mounted bicycles, the heroes of steampunk films such as Matthew Vaughn's *Stardust* (UK/USA, 2007), *The Three Musketeers*, *The Golden Compass*, *Wild Wild West* and *Around the World in 80 Days* all anachronistically depict the discovery or proliferation of a new form of flight as a central mechanism of the narrative and/or action. It is certainly not surprising, considering the fact that airships "*endow the most ordinary of settings with an air of spectacle*"[23], easily injecting increased levels of danger and exhilaration into the genre's action sequences.

Cynthia Miller specifically associates the magical spectacle of steampunk with "*the rise of technologies of flight … both as response to a collective yearning for magic and magical in its own right, casting scientists and engineers as modern-day magicians*". This is certainly true of the movement's cinematic protagonists who (like Tesla in *The Prestige*) seem to bridge the divide between sorcerer and scientist. In *Around the World in 80 Days*, Steve Coogan's Phileas Fogg is recast as the mad-cap inventor of a number of extraordinary contraptions, an eccentric who is seen not as an enemy to imaginative flights of fancy, but a proponent of the scientific-fantastic. Steampunk heroes such as Fogg utilise technology to achieve extraordinary feats that are as wondrous to their 19th Century contemporaries as they are to their 21st Century film audiences.

Significantly, the genre's depictions of fantastical anachronisms act as more than decorative baubles, drawing upon the shared understandings that we use to define both supernatural and rational causalities. As with the technology of science fiction, proposes Vivian Sobchack, "*magic, like science, depends on process and product*".[24] Just as magic's seeming irrationalism is frequently standardised within our various fictions – from itemising the ingredients of a witch's brew in Shakespeare's *Macbeth* (don't forget your "*finger of birth-strangled babe*")[25] to the proper phonetics of an incantation in Chris Columbus's *Harry Potter and the Philosopher's Stone* (UK/USA, 2001) – "*It's 'leviosa', not 'levi-oh-sar*'" – steampunk's fantastical technologies are able to perform seemingly impossible acts through imagined processes of measurable causality.

This can be directly observed through the emphasis on transparency associated with the workings of steampunk machines as they complete fantastical (and often remarkably absurd) acts. Unlike the enclosed and hermetically sealed digital devices of the 21st Century, audiences are allowed to marvel at the interconnected cogs and pulleys that cause these machines to function. The impossible qualities of H.G. Wells' time machine are only emphasised by the exploded view of rotary motion and gilded sprockets that bring it to life on-screen (in both

[23] Cynthia J. Miller, 'Airships East, Zeppelins West: Steampunk's Fantastic Frontier', in Taddeo and Miller, eds., *Steaming into a Victorian Future*, p. 155.
[24] Vivian Sobchack, *Screening Space: The American Science Fiction Film*, New Brunswick, NJ: Rutgers University Press, 2nd. ed., 1999, p. 59.
[25] William Shakespeare, *Macbeth* (1606), London: Penguin Books, 1967, p. 105.

1960 and 2002 versions). Similarly, when both Nolan's and Angier's audiences are invited to view the magical cabinet at the heart of *The Prestige*, it is stripped of its shell, a mass of uncoiled wires and electrodes laid bare on stage. Their transparency may make these machines seem enormously complex and intricate (foregrounding their impossibility), yet this emphasis on their inner workings also presents them as technologies that can be comprehended, taken apart, and then, if needs be, re-assembled. The effect is not dissimilar to the witches' brew in *Macbeth*, where pleasure is offered in imagining how such a magical act might be made possible through systems of cause and effect.

For Tzvetan Todorov, the fantastic exists within a state of hesitancy, where both characters and readers are unaware of the laws that govern the fiction's diegetic reality; "*uncanny*" if rationalised by our native understanding of the world and "*marvellous*" if governed by an invented and fundamentally supernatural order.[26] Steampunk's fantastical status emphasises how complex it can be to define this process of recognition within simple generic parameters, as the films often depict supernatural acts that are eventually revealed to be technologies dependent on coherent rationalities, while at other times representing machines that appear to follow no natural order at all, driven by utterly alien (or simply unexplained) systems of cause and effect. What remains cohesive amongst steampunk films is the demand that audiences recognise the dramatically reassembled nature of their alternative histories and – whether or not the mechanical processes of their fantastical machines are understood – that they are defined by both their commonalities and differences in relation to actual period technologies.

Just as Todorov suggests that the fantastic is determined by a reader's textual positioning, steampunk cinema's representations of both magical and actual rationalities are dependent on its audience's recognition of its films' production processes. It is notable that many steampunk films that dramatise "*the retreat of magic*" (which Martin Rusnak identifies in respect of *Stardust*)[27] represent these supernatural and decidedly non-mechanical acts through cutting-edge methods of digital construction that differ greatly from the worn and aged aesthetic attributed to steampunk's machinery. Rather than emulating physical manufacturing techniques, the aesthetic used to depict supernatural forces becomes intrinsically connected with the electronic advances of more recent decades. In two of the Disney millennial features, *Atlantis: The Lost Empire* (Gary Trousdale and Kirk Wise, USA, 2001) and *Treasure Planet* (Ron Clements and John Musker, USA, 2002), steampunk conventions are used to both dramatise and weather the storms of technological change that were re-shaping the animation industry at the point of their production. Depicting an early 20th Century expedition to discover the mysterious powers of the eponymous underwater city, *Atlantis* uses an assortment of fantastical technologies that are typical in tales of the

[26] Tzvetan Todorov, *The Fantastic: A Structural Approach to a Literary Genre*, Ithaca, NY: Cornell University Press, 1975, ch. 3, 'The Uncanny and the Marvellous', pp. 41-57.
[27] Marcin Rusnak, 'Blessings and Curses of the Silver Screen: Film Adaptations of *Coraline* and *Stardust* by Neil Gaiman', *Philologica Wratislaviensia: Acta et Studia,* vol. 6, 2011, p. 144.

colonial steampunk adventurer. The protagonist's boon is 'the heart of Atlantis', a mysterious technology that represents the power of this ancient civilisation. Quite distinct from the whirring gears of the hero's steampunk machinery, this translucent crystal possesses no working components, and simply radiates a powerful blast of light to perform its fantastical acts.

In a film which mixes traditional animation techniques with computer-generated imagery (in a similar manner to its successor, *Treasure Planet*), the digital effects in *Atlantis* mirror the characteristics of the crystal's own technological workings: invisible and devoid of the accountable evidence of construction and use that mark both hand-drawn animation and steampunk technologies. The film's magical effects act not only as an analogy for primeval supernaturalism, but also for the power of new advances in film-making, reflecting the developments in virtuality that the studio was itself attempting to navigate. The steampunk identity of *Atlantis* actively encourages its audience to engage with new forms of film-making and animation as a re-kindled form of magic – where shifts in industrial practice are tempered by the spectacular future-pasts envisioned through Disney's corporate imagineering.

Another steampunk production to feature characters who use rusted and creaking machines to unearth 'magical' objects that bear a resemblance to our own contemporary devices is *The Adventurer: The Curse of the Midas Box*. In this film the villainous Otto Luger uses his own array of steampunk devices to acquire an ancient technology that (like the heart of Atlantis) radiates unearthly light to perform impossible tasks. Foregrounding the genre's unusual relationship to both past and future, this antique weapon looks more science-fictional than historical, an energy blaster of sleek gold that is a far cry from the colossal rotating gears, pipe-works, and engines that constitute Luger's own neo-Victorian setting. Like the effects of both *Atlantis* and *The Prestige* (with its digitally constructed arcing electrodes), such seemingly magical technologies act as analogues to the very same contemporary techniques through which they are produced. They represent not only the 19th Century's mythical past, but the science-fictional futures that modern audiences now inhabit: Neo-Victorian magic has become 21st Century fact.

The Magic of Technology: *Oz the Great and Powerful*

Steampunk has become a popular resource for a number of conglomerate studios to mythologise cinema as a technology of magical spectacle, with Sam Raimi's *Oz the Great and Powerful* (USA, 2013) an eminent example. Despite the film's lacklustre critical reception, *Oz the Great and Powerful* possesses (like many steampunk productions) considerable value in evidencing how the film industry has used steampunk machines to position the medium of cinema amongst representations of both mechanical and magical rationalities. Continuing the retro-futuristic traditions of steampunk, this adaptation of L. Frank Baum's fictional realm of Oz not only acts as a corporate re-branding of a revered cultural classic (both as children's book series and 1939 MGM adaptation), but also a 'steampunked' re-imagining that echoes the techno-fantasy stylings of Disney's earlier *Return to Oz* (Murch, UK/USA, 1985).

Perhaps best regarded as a successor to Disney's other computer-generated/live-action adaptation *Alice in Wonderland* (Burton, USA, 2010), *Oz the Great and the Powerful* uses its steampunk identity to position director and studio alike as masters of mechanical wizardry. To understand such industrial self-promotion, we can observe the character of Oz himself: a protagonist who in L. Frank Baum's novel *The Wonderful Wizard of Oz* (1900) and Fleming's film *The Wizard of Oz* (USA, 1939) is regarded as the finest and most sensational mage in all the land. In perhaps one of the most famous fictional examples of a seemingly magical entity being debunked, Oz's magic is revealed to be fraudulent. Yet although Oz is presented as more scientist than sorcerer, unquestionably supernatural acts are frequently depicted within Baum's fictional realm. The villainous Wicked Witch is perhaps the most impressive performer of such arcane feats, although it is ultimately Oz's humanistic reasoning that gives Dorothy and her companions the assistance which they need in order to see their quest to its completion. *Oz the Great and Powerful* acts as a prequel to these events, depicting the origin of this charlatan-magician. In doing so, the film actively employs steampunk conventions to highlight cinema's role as a mediator between perceptions of science and magic.

Tapping into the cinematic imagery with which both reality and fantasy are so frequently represented, this 2013 production repeats and extends its predecessor's shift from black-and-white into colour, revealing 3D technologies and an expansion from a standard ratio to widescreen in order to contrast the mundanity of Kansas with the magical wonder of Oz. Yet it is the character of Oz himself that is used to manoeuvre steampunk's traditions into this text, depicted as a figure who uses his knowledge of turn-of-the-century machinery to perform feats that seem miraculous to the denizens of this fantastical land. Oz's technological proficiency makes him paradoxically extraordinary in a world that depends solely on magic, and when the Wicked Witch's supernatural forces lay siege to the Emerald City, Oz finds himself having to modernise and industrialise his new home if he is to repel the invading forces. For both the people of Oz and Raimi's own contemporary audience, technology must be re-enchanted and take on the form and presence of magic itself.

Equipping himself with the accoutrements of steampunk, Oz draws down his goggles and sets about industrialising this magical city, putting the population to work on Fordian production lines. The result is the construction of a giant projector within which Oz is able to house himself. Unmistakably steampunk in design, this machine utilises a cornucopia of gears, levers and pulleys to allow Oz to simultaneously act as projectionist, performer, and director, marvelling at the editing tricks and lenses that bring him in and out of focus as he does so. This contraption mimics and magnifies the imagery of the film's 1939 predecessor, projecting Oz's face upon the backdrop of Emerald City's skyline in an urban performance of truly metropolitan scale. In a grand show of technological force, Oz's own *faux*-supernatural presence is constructed through a quite literal display of smoke and mirrors, making him seem impervious to both a volley of spears and genuine magical attacks. *Oz the Great and Powerful* uses its hero's scientific spectacle to remind audiences of Disney's performative power and

to reassure them that true magic (or at least, the closest thing to it) can still be acquired through the technological innovation and nostalgic fetishism of cinema in which it specialises.

Emblematic of the role that steampunk has come to play in modern cinema, *Oz the Great and Powerful* highlights a romantic preoccupation with potentially low-cultural theatrics; re-imagined through blockbusters that similarly demand technological upheaval for the creation of more and more extravagant spectacles. As John C. Tibbetts writes of Karel Zeman, an adaptor of Victorian science fiction responsible for many of steampunk's proto-texts, "*Zeman envisioned the film apparatus itself as a kind of steampunk machine, whose mechanism of intermittent movements, interlocking cogs, gears, and escapement, transforms through the agency of light and chemistry Verne's printed page into celluloid fantasies that move and dream*".[28] When the fictional Oz discusses his own dreams and aspirations, he activates a zoetrope, casting the image of a dancing elephant upon the walls that surround him. It is the technological mythology of cinema that is recalled when he states: "*I want to be Harry Houdini and Thomas Edison all rolled into one*". This aspirational co-mingling of both theatrical and technological performance offers direct comparison with the popular mythology associated with the work of Méliès and other film-makers of the early period. As Brigitte Peucker comments: "*Méliès presents himself repeatedly as a conjurer or illusionist, often in conjunction with machinery of various kinds, thus drawing attention to a need to situate himself within the spheres of technology and imagination that together define cinema*".[29]

In its displaced, conflated depiction of rationalised modernity, the steampunk blockbuster attempts to trade upon the pedigree of its heritage and re-humanise an era of technological change that is as disorientating now as it was to the spectators of the Lumières' steam train. The genre's devotion to its wondrous machines reflects the cultural mystique that surrounds a technology of sound and vision that has been used to package our dreams and sell them back to us on an industrial scale. "*The cinema is a Fetish Machine par-excellence*", propose Mirko M. Hall and Joshua Gunn with reference to the spectacle of the steampunk blockbuster, "*generating an experience that we know is the product of a complex, technically administered mode of production that still has the power to enchant us and make 'the impossible' real*".[30] If the fantastic is indeed defined by "*an event* [that] *occurs for which it is difficult to find a natural explanation*"[31], then it is the subversion of an audience's understanding of industrial development that allows steampunk's mis-remembered representations of history to function.

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[28] John C. Tibbetts, 'Fulminations and Fulgurators: Jules Verne, Karel Zeman, and Steampunk Cinema', in Taddeo and Miller, *Steaming into a Victorian Future: A Steampunk Anthology*, p. 126.
[29] Brigitte Peucker, *Incorporating Images: Film and the Rival Arts*, New Jersey, NJ: Princeton University Press, 1995, p. 21.
[30] Mirko. M. Hall and Joshua Gunn, 'There is Hope for the Future: The (Dis) Enchantment of the Technician-Hero in Steampunk', in Barry Brummet, ed., *Clockwork Rhetoric: The Language and Style of Steampunk,* Jackson, MS: University Press of Mississippi, 2014, p. 14.
[31] Tzvetan Todorov and Richard M. Berrong, 'The Origin of Genres', *New Literary History*, vol. 8 no. 1, Autumn 1976, p. 167.

While paradoxically dramatising the demise of the supernatural, steampunk exists within a science-fictional tradition of imbuing privileged representations of science and technology with the sublime and fantastic qualities associated with magic and spirituality. By anachronistically conflating contemporary understandings of machinery with fantastical depictions of the past, the genre's machines fetishise the industrial revolution as both a period of magical defeat and yet also one of magical transference, where technologies that still seem capable of evoking uncanny or marvellous characteristics have inherited the responsibility of enacting our desire to be both awed and delighted by the supernatural. Furthermore, it is my contention that steampunk cinema's cultural significance reflects the industrial history of a medium defined within the traditions of magic, stagecraft, and performance: methods of production that Geoff King defines through the notion of "*magical spectacle*" – "*the basis of the appeal of the modern magic trick … ranging from the nineteenth-century diorama to contemporary science fiction cinema*".[32] By turning to the extravagances of both the movement's period and science-fictional legacies, steampunk's alternative histories have become an appropriate forum for the exploration and enactment of the industrial upheavals that can be traced across a century or more of film history.

[32] King, *Spectacular Narratives*, p. 55.