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驅動《致命引擎》：解析菲利普・雷夫的蒸氣龐克幻想世界

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摘　要

菲利普・雷夫在其獲獎的青少年小說《致命引擎》中描述一個未來世界的末世景象，掠奪性的移動城市徘徊在荒原狩獵場上，假城市達爾文主義之名互相併吞以求生存。雷夫運用蒸氣龐克文體創造這個未來世界，但是甚少有評論家探究該小說的蒸汽龐克特色。本論文採用「齒輪」概念闡述蒸汽龐克的風格與特徵，並以蒸汽龐克哲學思維、維多利亞時代背景、虛構的技術與成長歷程故事等四個齒輪驅動《致命引擎》的運轉，旨在探討《致命引擎》中蒸汽龐克的元素，並檢視雷夫如何創造一個可以穿梭於過去與未來的空間，使讀者能在此虛構的未來世界中感知及批判當代社會。

關鍵詞：蒸氣龐克、維多利亞時代、虛構的技術、成長歷程故事、環境危機

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Making *Mortal Engines* Run: An Analysis of Philip Reeve's Steampunk Fantasy

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Abstract

In his award-winning YA novel *Mortal Engines* (2001), Philip Reeve posits a post-apocalyptic future where predatory Traction Cities prowl a Hunting Ground wasteland, "devouring" each other in the name of Municipal Darwinism. Reeve uses the steampunk genre to create this futuristic world, but few critics have examined the steampunk aspects of the novel. In this paper the style and features of steampunk are regarded as metaphorical "cogs", the elements in the machinery that make *Mortal Engines* run. *Mortal Engines* runs on four cogs: the steampunk philosophy, the Victorian era, a fictional technology, and a coming-of-age quest plot based on the conflict between progressive and reactionary politics. This paper aims to describe these elements of steampunk in *Mortal Engines* and see how Philip Reeve creates a space where readers can inhabit an alternate past and future, in order to perceive and critique familiar aspects of their own present, contemporary society as it appears in a futuristic world.

Keywords: steampunk, Victorian era, fictional technology, coming of age, environmental crisis

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Introduction

Mortal Engines (2001), Philip Reeve's first novel in The Predator Cities Quartet for young adults, won the Nestlé Smarties Book Prize Gold Medal and was shortlisted for the Whitbread Book Award in 2002,[1] was adapted to film in 2018, and was nominated for the Outstanding Model in a Photoreal or Animated Project award in 2019. *Mortal Engines* is set in a far future, one thousand years after the Sixty Minute War devastates earth, triggers volcanoes and earthquakes, and leaves humanity scrambling in the ruins. The traction cities have survived by becoming mobile, moving away from geological upheavals, foraging for resources, and "eating" each other (dismantling smaller, slower cities for "parts") when their resources run out. In this part of the world scavenging has become crucial, not only for goods to recycle or sell, but to regain access to the advanced Old Tech of the ancient civilization. The scavenger Thaddeus Valentine, the father the adolescent Katherine loves and admires, and a hero and father figure for the orphan Tom Natsworthy, has become the Head Historian of London because of the bits and pieces of Old Tech he has delivered to Mayor Crome and the Engineers Guild. Crome and his Engineers have learned enough from these fragments to recreate and even improve upon weapons from the ancient technology. They have re-invented Stalkers, or Resurrected Men, from the bodies and brains of dead men, and are nearly ready to unleash the super-weapon MEDUSA to destroy the Shield Wall of Batmunkh Gompa that protects the static cities and fertile farmlands of the Anti-Tractionists in the far east.

In *Mortal Engines* Reeve uses steampunk to imagine a horrifying future after an apocalyptic war. His futuristic world can stimulate young adult readers to deliberately ponder the present problems around them. As many educators, scholars, and authors have noted, apocalyptic tales are valuable teaching tools. Clare Bradford writes that cautionary tales of "various versions of our environmental future" promote environmental literacy, which is necessary for children who are growing up during the escalating ecological crisis (112). Lawrence Buell states that the "apocalypse" is "the single most powerful master metaphor that the contemporary environmental imagination has at its disposal" (285). Bradford et al. point out that the dystopian scenario offers an introspective space for its readers, but not a traditionally romantic one, since a dystopia does not envision the "benefits which might flow from positive environmental policies", but only "allude[s] to them as absence or loss" (80).

By using the steampunk genre to re-imagine London and the Victorian age of British imperialism, Philip Reeve subverts conventional ideology to stimulate YA readers into critical thinking about unexamined Victorian assumptions – like the myth of progress – that we continue to hold, and their consequences. This paper aims to describe the elements of steampunk in *Mortal Engines* and analyze the ways that Reeve employs them to question the past, the present, and the future. By examining the

[1] The sequels to *Mortal Engines* are: *Predator's Gold* (2003), *Infernal Devices* (2005), and *A Darkling Plain* (2006).

cogs in *Mortal Engines*, we can see how Philip Reeve creates a space where readers can inhabit an alternate past and future, in order to perceive and critique familiar aspects of their own present, contemporary society.

Mortal Engines

Reeve takes the title *Mortal Engines* from William Shakespeare's play *Othello*. In it William Shakespeare describes soldiers going into battle as *mortal engines*, filled with pride, accompanied by fife and drum, whose "rude throats" sound a battle-cry like "immortal Jove's dead clamors" (III. iii. 355-56). Reeve re-imagines *mortal engines* throughout his book: as the predatory mobile cities, that plunder as they go; as the Resurrected Men like Grike, who are dead soldiers turned into machines; and as the ancient weapon MEDUSA, which clamors even more loudly than men marching into war: "The rushing, whining roar grew louder and louder, higher and higher, until even with her hands clapped over her ears Katherine felt she could not bear a moment more of it" (Reeve 238-239). At the same time, the *mortal engines* metaphor applies to the people who inhabit the mobile cities, who watch from the top tiers and cheer loudly as they attack, "rude throats" drunk on their own glory. A mortal engine also symbolizes their whole way of life – which is only to keep going, to continue to take from those who are weaker, while always wanting more.

To explain the predatory behavior of the *mortal engines* that are the traction cities, Reeve uses an oversimplified Darwinism to show how the inhabitants of the cities justify their own behavior. As the book opens, the young apprentice historian Tom is watching a smaller town that London is about to "eat":

> The little town was so close that he could see the antlike shapes of people running about on its upper tiers. How frightened they must be, with London bearing down on them and nowhere to hide! But he knew he mustn't feel sorry for them: It was natural that cities ate towns, just as the towns ate smaller towns and smaller towns snapped up the miserable static settlements. That was Municipal Darwinism, and it was the way the world had worked for a thousand years, ever since the great engineer Nikolas Quirke had turned London into the first traction city. (Reeve 10)

Reeve references Darwinism in *Mortal Engines*, where the Sixty Minute War has destroyed much of the environment; the lack of resources implies the need for a kind of natural selection, and the plundering cities seem to imply that the strongest are also the fittest. But Darwin's theory of natural selection is about the small changes that, when passed on, allow a species to adapt and survive in their environment.[2] But the traction cities have not evolved in form or structure in a thousand years.

[2] Charles Darwin's 1835 expedition to the Galapagos Islands gave rise to his theory that the "natural selection" of incremental variations in an individual's characteristics, when inherited, allowed a species to change and

Instead they have continued on the same path, looking for even more destructive weapons to overcome their "prey".

As Reeve describes the traction cities and their aggression, it is less like predators being the "fittest" to survive the harsh environment, and more like an ancient food chain, with London City as the carnivorous predator and the immobile cities (like the Anti-Traction League in Batmunkh Gompa) as their herbivorous prey. But in Darwin's theory of evolution and the survival of the fittest, the fittest are the most adaptable. The biggest and strongest predator may be a dinosaur, doomed to extinction because it cannot adapt. Reeve's use of the term Municipal Darwinism points out the rationale the cities use to justify their actions, and also that scholarship has become so debased that it can be used in this way, applying species evolution to machine technology – as if the machine is a living creature, who is simply trying to survive. As well, the traction cities hark back to all the weaknesses of the Victorian era – the Industrial Revolution that brought wealth to the elites at the top while the poor died of disease at the bottom tiers; of the rigid class hierarchy that fostered it; of the pollution that resulted from the irresponsible use of new technology.

The Genre of Steampunk

Reeve portrays his futuristic world through steampunk, "a subgenre of speculative fiction, which includes science fiction, fantasy, and horror" (Gevers 7). In Salem Press Encyclopedia of Literature in 2020, steampunk is defined as "a subgenre of science fiction and fantasy literature named for its frequent inclusion of outdated industrial-era machinery in a futuristic or alternative history setting" (Caffrey s. 1). Darko Suvin explains science fiction as "science for cognition, and fiction for estrangement" (13), with science bringing the possibility of new technology and knowledge (including "sociological, psychological, historical, anthropological" knowledge (ibid.), while fiction brings estrangement by introducing a new and entirely different world.

Steampunk, which became popular in the late eighties and early nineties, is a nostalgic and retro subgenre, owing much to the historical Victorian era. Its imaginary steam-powered machinery is inspired by 19th-century industrial technology, not the advanced technology of the modern era that is pushed to its limit in science fiction. In steampunk the concept of the supremacy of the machine, as embodied in the Industrial Revolution, is pushed to the extreme. Rebecca Onion notes that "steampunks fetishize cogs, springs, sprockets, wheels, and hydraulic motion" (139).

Julie Anne Taddeo and Cynthia J. Miller describe the pseudo-Victorian worlds of steampunk as follows:

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survive in a particular environment. Thus environmental conditions determined the evolutionary path of a species.

> Imagine a Victorian world where colorful flying contraptions crawl across the skies, rockets propel wrought-iron velocipedes, and clockwork men clamber about in mechanical bodies. Jules Verne and H. G. Wells brought these "different engines" into their contemporary world, calling forth both gods and monsters in the machine and, in the process, creating the building blocks for countless alternate universes. (xv)

While the Victorian authors Jules Verne and H.G. Wells wrote some of the first speculative fiction, their aims were different: Verne wanted to make his machines "authentic", but Wells was interested in the "machine as art rather than a working thing", and used his writing "to critique the very Britishness around him" (Mielke and LaHaie 248). Wells called himself a journalist although he wrote speculative fiction, because he focused on social awareness, including issues of class and women's suffrage.

The renowned 20th century science fiction author Isaac Asimov, who was a professor of biochemistry, made a point to differentiate science fiction from fantasy: "science fiction, given its grounding in science, is possible; fantasy, which has no grounding in reality, is not."[3] Accordingly, steampunk can be described as fantasy, despite its machines; and its preoccupation with social issues puts it in the tradition of H.G. Wells.

In a tongue-in-cheek note to Locus magazine in 1987, author K. W. Jeter coined the word steampunk to describe the "gonzo-historical" fantasies he, James Blaylock, and Tim Powers were writing: "Personally, I think Victorian fantasies are going to be the next big thing, as long as we can come up with a fitting collective term [to describe its authors]… Something based on the appropriate technology of the era; like 'steampunks' perhaps…" (qtd. in Mielke and LaHaie 243).

Tammy L. Mielke and Jeanne M. LaHaie define steampunk as "past technologies (steam) and fashions (either real or pretend) that govern alternative settings (in both time and place) in order to critique and/or rebel (punk) against social, political, and cultural ideologies of the past, the present, and the future" (244). Mielke and LaHaie go on to note that steampunk belongs to "the postmodern literary movement, mixing alternate realities with fantasy, and engaging with technologies, both real and imaginary" (244).

John Coulthart, an English designer, has created an equation for steampunk:

> STEAMPUNK = Mad Scientist Inventor [invention (steam x airship or metal man/baroque stylings) x (pseudo) Victorian setting] + progressive or reactionary politics x adventure plot (qtd. in Vandermeer and Chambers 9)

While Coulthart's equation simplifies the steampunk storyline, it also indicates some of its

[3] https://www.ool.co.uk/blog/its-sci-fi-not-fantasy/

defining elements, like the mad scientist inventor, pseudo Victorian setting, and use of progressive or reactionary politics to make an adventure plot.

Four Cogs in *Mortal Engines*

To analyze the use of steampunk in *Mortal Engines*, I have turned the above descriptions into four defining elements, or what Mielke and LaHaie call "the cogs that make the engines of steampunk work."[4] In *Mortal Engines* the most significant cogs are: (1) the steampunk philosophy; (2) the Victorian era; (3) fictional technology (see Mielke & LaHaie); and (4) a coming-of-age quest plot that pits progressive vs. reactionary politics (Coulthart). The conflict between progressive and reactionary politics drives the plot, even as it initiates and informs the protagonists' coming of age. The first cog is my own addition. The second and third cogs are from Mielke and LaHaie. The fourth cog is inspired by John Coulthart's terminology.

Cog 1: Steampunk Philosophy

Hosting one of the largest online communities of steampunks, James Schafer and Kate Franklin write that the philosophy behind steampunk is part of its attraction:

> Steampunk's appeal was its inherent rejection of disposable consumerist culture and the dominance of our contemporary society by modern day robber barons… embracing steampunk [was] a way to deal with the pervasive unease experienced by nearly everyone raised in the West on a steady diet of ideas like "planned obsolescence"… ideas spawned by a 19th century capitalist ethos run amok with 21st century technology (qtd. in Mielke & LaHaie 249)

Using "rebellion against the cultural norms of the past to critique present day social issues" (ibid. 243), steampunk opens up a space where readers can consider their world from another viewpoint. According to Vandermeer and Chambers: "Social awareness is pivotal to the best practitioners of Steampunk, which has always been conscious of the nineteenth century's less inspiring moments. While that era featured great strides in aesthetics and technology, politically it was tainted by colonialism, imperialism, and racism…" (38). As we have seen, the young protagonists in *Mortal Engines* all become disillusioned with their way of life – as represented by Thaddeaus Valentine, London City, and the desire to find and use ancient technology – when they become aware of its "taint".

The tiered city of London, with elites at the top and lower classes farther down, represents the

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[4] In Tammy L. Mielke and Jeanne M. LaHaie's schema, the three cogs that make steampunk run are: "Victorian History," (244) "Cultural Memory," (247) and "Fictional Technology and the Roots and Forms of Steampunk" (248).

inequities of the Victorian era, even as it signifies modern existential problems, what Bruce Sterling calls "the instability and obsolescence of our own times" (13). The scene where Katherine Valentine prays in the nearly empty temple of Clio, the goddess of history, suggests a world that has lost touch with tradition as well as nature, as "the poor goddess was being blown constantly backward into the future by the storm of progress…" (Reeve 107-8). In this passage Reeve is also critiquing the myth of progress, one of the cultural norms that steampunk challenges, seeing it as a storm that blows history backward, into the reactionary politics and mind-set of the traction cities, where the Historians Guild is less interested in the lessons of history than in exploiting its artifacts.

In contrast to mobile, reactionary, predatory London, the Anti-Traction League in Batmunkh Gompa is a city built into a giant, fortified wall, which shields the "static" towns and forests and fields behind it. In these "rooted" towns people are self-sufficient; they grow their own food, and are set up to trade with each other instead of "eat" each other. Reeve presents London and Batmunkh Gompa as binary opposites: unstable vs. stable, insecure vs. secure, alienated vs. rooted, hierarchical vs. egalitarian, reactionary vs. progressive. Tom's journey to Airhaven (the traders' airship city in the sky) and Batmunkh Gompa introduces him to another way of life; by the time he returns to London his awakened social awareness reveals his "noble" and "elegant" city as hideous (Reeve 291).

The traction cities, in conflict with each other over resources even as they are set to invade the Anti-Traction cities of the east, might also be seen a metaphor for present-day wars and invasions waged under the banner of nationalism, when a desire for scarce resources is the unspoken reason for the conflict. The traction city conflicts also illustrate the mind-set behind constant movement, a "physical and metaphysical displacement from the earth's surface" (Curry 29). That this is the point – to move on ceaselessly, without looking back – becomes clear at the end of the book, when Crome reveals his master plan to build an engine that will move Earth from its orbit, so that Earth can eat the other planets in the solar system, and devour the sun, and then graze throughout space. At this evidence of the Mayor's profound dislocation, Valentine finally realizes that his daughter Katherine is right, and Mayor Crome is insane. But Crome is correct in realizing that London cannot survive without destroying other places and "eating" their resources, since it has no products or resources of its own. In a destroyed environment, even a mobile city must steal to live. In Crome's master plan, Reeve posits the Anthropocene era as a contagion, with humans using technology to plunder the universe, "eating" as they go, and presumably creating infinite wastelands in their wake.

The Sixty Minute War that has destroyed the environment points to the relationship between scientific technology used irresponsibly and our current environmental crisis. Since Mayor Crome's irresponsibility may lead to an even worse environmental crisis via the super-weapon MEDUSA, young adult readers may begin to evaluate our contemporary situation, and see the connection between a leader's irresponsibility and environmental crisis, in a new light. In *Mortal Engines*, the world-after-nature wasteland of the Hunting Grounds is one of those catastrophes that has been

accepted as inevitable. The traction cities prey upon each other in a form of "civic cannibalism" (Bullen and Parsons 129) as if there is no alternative. As Hester says, the traction cities were invented to move their inhabitants away from the earthquakes and glaciers that followed the Sixty Minute War, but "now they just keep rolling around and eating each other "cos people are too stupid to stop them" (Reeve 42).

Along with the damage done by weapons like the Stalkers and technology like the traction cities, much of the environment in the West has been rendered sterile by the Sixty Minute War.[5] But *Mortal Engines* goes beyond the problems of misapplied technology and its consequences. Troubling as it is when scientists make decisions for the rest of humanity, the likelihood of disaster through new, poorly understood, or badly implemented technologies is often exacerbated when commercial or monetary interests are at stake, to the point where not only the environment is threatened, but human life is valued less than profits. Reeve makes this connection throughout the book, for example: in the treatment of those who live on the bottom tiers of London; in Valentine's murder of his friends for gain; and in the actions of the human scavenger who finds Hester. When Hester first escapes from Valentine and goes to Earth on the shores of the Hunting Ground, the Stalker Grike and a human scavenger find her, but the human turns away, since "[h]e only wanted stuff he could sell, and there was no value in a half-dead child" (Reeve 96).[6]

Mortal Engines suggests that in a culture based on mobility and waste instead of conservation, and that uses technology without responsibility, its adherents will value "stuff" over the earth and its creatures. At the end of the book Tom and Hester witness the destruction that this way of life has brought. But since Tom and Hester survive, perhaps Reeve's point is that something can still grow, despite all the damage done, if, like Tom, we look at the ruined earth the way he looks at Hester's damaged face, as "wonderful" and worth saving, and if, like Hester, we have the courage to hope for something better than destruction.

Cog 2: Victorian Era

Another defining aspect of steampunk is its setting in a pseudo-Victorian era (as typified by England when Queen Victoria was on the throne [1837-1901]), that is also an alternative future.

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[5] The Hunting Grounds are a place of famine. In one of the tiny traction suburbs Tom and Hester eat "bluish muck" made from algae because they need the nourishment; London has chronic food shortages (Reeve 150) and even the special top tier "nibbles" have an odd taste, while the cosmopolitan cuisine in the floating city of Airhaven features dishes like "battered dormouse," "mashed locust," and "crooked blacklegs" (Reeve 109-110). Although Reeve seems to be having fun with the humor in this scene, readers might wonder if this is a preview of coming attractions. In our own era climate change already has caused food shortages and famines, and when combined with the ill effects of technological "advances" like GMO foods, and disasters like the widespread loss of bees (that pollinate a third of the earth's food) from pesticides, more shortages and worse famines seem inevitable.

[6] The monstrous Stalker Grike, on the other hand, retains enough compassion to rescue Hester, and then finish raising her.

Steffen Hankte notes that “what makes the Victorian past so fascinating is its unique historical ability to reflect the present moment” (244). Or, as Mielke and LaHaie point out, since the Victorian era is “the point at which modern western culture first emerged, it also marks the point at which *it could have been shaped differently* [italics mine]” (245).

One characteristic of the Victorian era that we are still dealing with today is the Victorian ideal of women, which was epitomized in a best-selling poem of the era entitled “The Angel in the House”. Written by Coventry Patmore in praise of his wife, it “became a convenient shorthand for the selfless paragon all women were exhorted to be, enveloped in family life, and seeking no identity beyond the roles of daughter, wife, and mother” (Auerbach 69). During this period divisions in gender roles became more pronounced, with men working outside the home and middle class women living a secluded existence within the home, where they were supposedly protected from the stresses of the workplace in return for reigning over their family’s welfare and spiritual values. Although this ideal could only be managed by those who could afford it, “the concept of two-parent homes and stay-at-home mothers became so embedded in western culture we still grapple with it today” (Mielke and LaHaie 246). While the theorist John Stuart Mill wrote *The Subjection of Women* in 1869, and saw Victorian women’s relegation to the home as a form of slavery, it wasn’t until late in the Victorian era that the gender/work divide between men and women was challenged, as Suffragettes fought for and won the right to vote, and the so-called New Woman appeared on the scene.

The females in *Mortal Engines* can be examined through this Victorian lens, falling within or outside of the ideal. Hester’s orphan status has left her completely unprotected, and at risk of murder from the “civilized” man, Thaddeus Valentine. She is saved by a Stalker, or Resurrected Man, and later learns to fend for herself in the wasteland. In this way her status is comparable to one of the outcast poor, living by their wits on the streets, that Charles Dickens wrote about. As an aviatrix and Anti-Tractionist Anna Fang has moved beyond traditional female stereotypes, partly because of what she does, and partly because by virtue of her race she is outside of the feminine ideal to begin with. Only Katherine conforms to the Victorian ideal. She is good-hearted, naïve, and innocent, and at the beginning of the book admires her father unreservedly. Her blind belief in Thaddeus is challenged and finally overthrown by her empathy. Although empathy and compassion are characteristics of the unworldly “angel in the house”, when Katherine sees how badly other people in London city are treated, she begins to think for herself.

Modeled on the Victorian era London of the Industrial Revolution, Reeve’s traction city embodies the inequities that have been built into the system since that time. While the Industrial Revolution brought prosperity and new scientific knowledge, the process of industrialization and urbanization had negative effects. Replacing human power, animal power, and wind power with steam-power, and manual tools with machines, had a devastating impact on the environment. At the same time, the Industrial Revolution widened the gap between capitalists and working classes. On the

surface steampunk appears nostalgic for Victorian culture, but as Margaret Rose writes: "[t]his nostalgia is tempered by constant worry over the consequences of scientific and technological progress, and of an untempered drive to mastery" (qtd. in Mielke and LaHaie 247).

In *Mortal Engines*, Reeve repurposes the Victorian era to make a point about the colonial expansion and intrusion of that time, and what it has led to in the present. During the Victorian era Britain expanded into Asia and Africa, and became the largest empire in history. London was the hub of that empire, central to its finance and politics, thus a fitting symbol for the largest, most powerful traction city in *Mortal Engines*. The Industrial Revolution that immediately preceded the era "had already caused large social and economic changes when Victoria took the throne in 1837" (Mielke & LaHaie 246), hard on the heels of those changes. In combination with the hierarchal hegemony needed to sustain it, the Industrial Revolution also brought environmental destruction, with water, soil, and air pollution, setting the stage for global warming.

Mortal Engines portrays environmental loss and a might-makes-right society from its opening image of the traction city of London "chasing a small mining town across the dried-out bed of the old North Sea" (Reeve 1), building upon this imagery throughout the book. As well, Reeve connects the loss of a healthy, life-giving environment with the rigid class hierarchy of the traction cities. Reeve imagines the mobile city of London as

> …a moving mountain of metal that rose in seven tiers like the layers of a wedding cake, the lower levels wreathed in engine smoke, the villas of the rich gleaming white on the higher decks, and above it all the cross on top of St. Paul's Cathedral glinting gold, two thousand feet above the ruined earth. (2)

In the above passage Reeve links the city's literal alienation from the earth to its tiered hierarchy, as well as to the smoking, unsustainable technology – the "mortal engine" – that powers it. In the seven-tiered city, those who are wealthy and powerful live on the top tier, the working classes live in the unsafe middle (where an accident called The Tilt killed Tom's parents), while slaves and prisoners labor on the bottom tiers, wading chest-deep through shit-reclamation tanks in the Gut.

As well as these obvious class distinctions, there are four major guilds in *Mortal Engines*: Engineers, Historians, Navigators, and Merchants. The guilds exist within the stratified tiers of the society, each fulfilling their own separate, but sometimes interrelated functions. It is Thaddeus Valentine's status as the Head of Historians that puts him on the top tier of London, but he has his own ideas about the innate superiority of the Historian's role, which he articulates in a speech that impresses Tom:

> Never forget, Apprentices, that we Historians are the most important Guild in our city. We don't make as much money as the Merchants, but we create knowledge, which is worth a great deal more. We may not be responsible for steering London, like the Navigators, but where would the Navigators be if we hadn't preserved the ancient maps and charts? And as for the Guild of Engineers, just remember that every machine they have ever developed is based on some fragment of Old Tech – ancient high technology that our museum keepers have preserved or our archaeologists have dug up. (Reeve 18)

Mortal Engines does not focus on Navigators or Merchants, whose guilds seem fairly self-explanatory. The Merchants, in particular, appear to have changed very little, except that they no longer wield the political clout they have today. Reeve is more concerned with Historians and Engineers, the scavengers and mad scientists respectively of his story. Despite what Valentine says about his power as a Historian, Mayor Crome, the Head of the Engineers Guild, rules the city. Crome decides where the city will go, commanding the Navigators who figure out how to get there, and Crome decides how the Old Tech will be used. Valentine might be the person who discovers (or steals) the artifacts that hold the secrets of ancient technology, but he brings them to Crome, like a dog fetching food for his master. By giving his finds to the Engineers, he also gives away any say in how it will be used.

While the Engineers are in charge of maintenance of the traction city, they are also the people who figure out how to reinvigorate the Old Tech, like the Stalkers made from corpses, or the super-weapon MEDUSA. That they do not even bother to call themselves scientists, but prefer to be Engineers, is a clue that they have no interest in discovering anything new, but only in figuring out how to use what the ancients invented. Historians are tasked with finding and retrieving the ancient artifacts, but without once considering the history of these artifacts, which brought about the ruinous present they inhabit. Interestingly, none of these guilds seems to have evolved or progressed beyond the Victorian ideal, and some have regressed. Historians do not learn from past mistakes, but only seek to repeat them; the Engineers "maintain" a city and a society so toxic that it brags about cannibalism. The Navigators do as they are told, and the Merchants make money.

Travelling across a wasteland called the Hunting Grounds, London runs on "huge caterpillar tracks" (Reeve 2) like a giant bulldozer or a tank. Like a bulldozer or a tank its purpose is to uproot or destroy whatever is in its path. Its mobility guarantees the absence of roots, literally and metaphorically, which means not only dislocation but also alienation from the Earth it traverses. This alienation extends to all other forms of life on Earth, including human life.

At the beginning of the book, as he watches a smaller city being "eaten" by London, Tom is suppressing his considerable natural empathy with the rationale that this is the way things have always

been, so it must be the best way. He is taking the adults' word for it. He is articulating a view of life that is essentially child-like, trusting that the authority figures in his world – in this case, Thaddeus Valentine and the Engineers – know what they are doing. What Tom has absorbed is also a worldview that denies connection with or responsibility for anything outside his own traction city. Tom's identity is bound up with his life as a Londoner; but because his city is mobile and rootless, this identity is itself a form of disconnection.

Because the city is hierarchical, many of its inhabitants do not even feel connected to each other, but regard their neighbors as competitors for the few benefits they can grasp. To live on the middle tiers is to risk death in an accident like the Tilt; to be on the bottom is certain death, sooner or later, in the reclamation tanks. Only the top tiers are "safe". Although initially Thaddeus Valentine, Katherine's father and Tom's role model, appears narrowly ambitious, Valentine is more than a social climber who craves the prestige of exalted status for his daughter and himself; being "on top" is the only way to survive in a place where being on the bottom means slavery or death. But without the people on the bottom, the traction cities cannot function at all. That inequity is built into their social and philosophical structure as well as their physical form. They are built on injustice, on an imbalance of power; in this way the seven-tiered wedding cake of the traction city of London is a steampunk representation of Victorian society.

Cog 3: Fictional Technology

The prevalence of steam engines in steampunk suggests the Victorian era concept of "the machine reigning supreme" (Miller and Riper 91). Steampunk texts tend to choose "the steam engine as the most appropriate icon of the past to describe itself" (Hankte 246), and to be "infused with Victorian visions of wildly anachronistic technologies" (Taddeo and Miller xv). Steampunk takes "an ironic and critical approach to historical and cultural material from the Victorian period, with especial focus on the technology and science of the Industrial Revolution" (Nally 1). The technology may appear Victorian, but only as seen in a dream. As in Tammy L. Mielke and Jeanne M. LaHaie's statement, the fictional technologies of steampunk are "depictions of machines, scientific discoveries, bodies, or mechanical techniques that might have been but will never be" (248). The technologies in *Mortal Engines* – the steam-powered airship, the traction city of London, the cyborg Grike – are wholly imaginary; they can only appear in the text we read (or the film we watch, where it was made with CGI); we can only be virtual or vicarious witnesses to it. In this way, though, steampunk creates the space for readers to imagine a fantastical technology.

As we have seen, Reeve's vision of the future is fantastical rather than scientific, owing more to H.G. Wells than Jules Verne. In a post-apocalyptic world of Victorian-era technology and so few resources that people can only survive as scavengers, the idea that "engineers" have enough technical expertise to create giant traction cities and enough fuel to keep them running for centuries is

fantastical rather than plausible.[7] But despite the impossibility of its technology, the predator city works as a metaphor, much as Mary Shelley's monster and his mad scientist creator worked in the (Victorian era) story of Dr. Frankenstein.

The mad scientist is another recurring technological element in steampunk; in *Mortal Engines* Reeve introduces a latter-day Frankenstein's monster in Grike. Jess Nevins notes that:

> The Faustian mad scientist, best typified by Mary Shelley's Victor Frankenstein, is dangerous because he is not equipped to handle his new knowledge….This is a typical attitude of the early Victorians. After midcentury, however, attitudes toward science began to change, so that it was not the knowledge itself which was dangerous, but rather what was done with the knowledge. (qtd. in Vandermeer and Chambers 37)

In *Mortal Engines* the super-weapon MEDUSA and the cyborg Grike are products of irresponsible Engineers – Reeve's version of mad scientists, who provide a focus for contemporary disquiet with the myth of progress, the idea that "new" is necessarily "better". Mayor Crome and his Guild of Engineers, who are ready to use a technology they barely understand, have decided Londoners' survival direction and future without considering the social risk that everyone in the city has to run.

MEDUSA is a super-weapon from the distant past. No one really knows what might come of using it; Crome keeps the Guild of Engineers and the other Londoners who follow him focused on survival by war and theft, instead of on possible consequences. His strategy works, since their survival is at stake. The traction city is running out of resources; breaching the shield wall of the Anti-Traction League at Batmunkh Gompa seems to be the only solution – and it is, as long as they hold onto the basic tenet of Municipal Darwinism, which is simply "might makes right" in another form. The wastelands landscape of Reeve's imagined future is the direct result of taking risks with technology without being guided by a moral compass of individual, social, or environmental responsibility. Another example of "the irresponsible use of technology" (Dawson 148) is Stalker Grike, a seven-foot tall nightmare man, made from the corpse of a soldier. A description of Grike that begins with repellant details like the "sluglike film of mucus" on its face, while "here and there a blue-white jag of bone showed through the skin" (Reeve 112) concludes with the expression of terror in Grike's eyes, "as if it had never got over the horrible surprise of what had happened to it" (ibid.). In this instance, readers get a visceral sense of the wrong done by those who would put a person's corpse to such use. That Grike retains a kind of innocence becomes clear when the scientist Dr. Twix has difficulty

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[7] The online version of Variety magazine wrote that the film lost money, and attributes its failure in part to the story of predator cities, which it calls "a mystifying bit of world building that was frostily received by critics." See https://variety.com/2018/film/news/peter-jackson-mortal-engines-box-office-flop-1203090907/

re-programming Grike to kill Hester Shaw; Twix, on the other hand, seems to have no conscience whatsoever.

Despite his depiction of the Engineer as an amoral mad scientist, in an online interview Reeve stresses that he is not anti-technology, but on the contrary believes that technology will help us survive the environmental crises he sees coming. In *Mortal Engines* he does imagine helpful technology, like the non-polluting airships that permit trade, and the Shield Wall that protects the static cities of the east from the predator cities of the west. The problem as Reeve sees it is not technology, but the people who abuse technology to make weapons like MEDUSA and Grike, and the mind-set that keeps the traction cities going. It is this mind-set that Reeve challenges in his coming-of-age quest plot.

Cog 4: The Coming-of-Age Quest

Steampunk texts make "the familiar unfamiliar, and in doing so, [create] worlds that empower young adult characters to discover themselves" (Mielke & LaHaie 244). The bildungsroman or coming of age theme is the core of the adventure-quest plot of *Mortal Engines*. Reeve employs both progressive (Anti-Tractionists) and reactionary (London City) politics; the conflict between them structures his plot, while the protagonists' experiences and observations in both societies initiate their own coming of age.

Mortal Engines explores coming of age – the progression from childhood innocence to adult responsibility – by following three of its characters, Tom Natsworthy, Katherine Valentine, and Hester Shaw, as they question values they have accepted uncritically at the opening of the book. As the three protagonists make their separate journeys from innocence to disillusion, and from awareness to action, readers vicariously make the journey as well. Through the "interaction between text and reader" readers learn new "socio-cultural values and ideological positions" (Pavlik, 420). The story of Tom, Katherine, and Hester's respective journeys is also the story of each one going beyond what they initially believe and feel about Valentine and the way of life he represents, which shows a sparkling "top" or surface, but is founded on the pain of others and destruction of the Earth – an apocalyptic version of colonial expansion and the mind-set that it fosters.

Tom's journey – across the Hunting Grounds, where he and Hester are enslaved by pirates, rescued by the aviatrix and Anti-Tractionist fighter Anna Fang, and subsequently visit the floating city of Airhaven and Batmunkh Gompa in the Shield Wall – changes how Tom sees the world. His experiences of other ways to live, in these two representations of progressive societies, expand his viewpoint and alter his philosophy until it becomes more in tune with his feelings. What changes Tom as much as meeting different people and seeing different ways of life is his deepening friendship with Hester. It is no coincidence that on his return to London, when his vision is so changed that he finds the "noble" city of his memory to be hideous, that he risks his life to aid Hester, with her "ugly, wonderful" face (Reeve 291).

For Katherine, Valentine's adored and adoring daughter, discovering the truth about her father can only bring pain; it is a measure of her courage that she perseveres. Without experiencing the progressive societies that Tom visits, Katherine's empathy – for the people who slave in the Gut, for the inhabitants of the traction city that MEDUSA turned to ashes – compels her to act. Her realization of the dark underside of her society instigates her own coming of age. Unlike her father or Crome, or a Victorian "angel of the house", Katherine takes social responsibility for dire consequences, and comes up with a plan to destroy MEDUSA. When she sees her efforts doomed to failure she continues to act, this time out of familial responsibility. She dies trying to keep her father from committing another murder, and in so doing involuntarily destroys MEDUSA as well.

Like the other two young people, Hester Shaw has been disillusioned by Valentine, but in her case this happened long before the book opens. Hester's innocence ends at age seven, when Valentine murders her parents, nearly kills her, and she becomes a displaced person with a disfigured face, who is saved by the Stalker Grike. Where Tom and Katherine's awareness comes from seeing through the assumptions they have made about Valentine and their society, Hester's task is to become aware of something to live for beyond her desire for vengeance against Valentine. Tom's friendship and loyalty, his commitment to her as a person, form the grounds for that change. While Hester sees Valentine more clearly with her single eye than Tom does with unimpaired vision, she cannot imagine a life after killing Valentine. Like the Earth, she is "ruined", and when Grike says he's there to kill her and then resurrect her as a walking horror like himself, she is willing to die; she already feels like a walking horror, and at least as a Stalker she wouldn't have to feel much of anything any longer.

But on her journey with Tom, who is loyal to her even when they disagree profoundly, Hester's imagination and hope for something better than vengeance and death are awakened. That Hester's mother was named Pandora makes symbolic sense, since Pandora opens the box that lets loose all the evils of the world, but the last thing trapped in the box is hope. To survive the devastation of her life Hester needs hope, just as the remnants of humanity need hope to survive the devastation of Reeve's futuristic world.

At the end of the book MEDUSA backfires, destroying London and everyone in it. Tom and Hester, escaping in Anna Fang's airship, are the only survivors. Unlike Crome and Valentine, who make excuses for their actions (Crome says he did everything for London, Valentine says for Katherine), Tom takes responsibility for the event, and is overwhelmed with grief and guilt. But Hester tells him:

> It was an accident. Something went wrong with their machine. It was Valentine's fault, and Crome's. It was the Engineers' fault for getting the thing to work and my mum's fault for digging it up in the first place. It was the Ancients' fault for inventing it… (Reeve 295)

In the above passage, Reeve (through Hester) articulates a way of looking at the past that illustrates one of the functions that steampunk performs best: presenting an alternate past and an imagined future that "renegotiate and rewrite or revalue our own, possibly troubled, cultural memory" (Mielke & LaHaie 247). In this way steampunk texts like the one above can generate a form of social awareness that gives readers "the chance to make different choices" (ibid. 247) or at least the idea that different choices exist.

Conclusion

In our present-day Anthropocene era, pollution, resource depletion, and species extinction attest to the degradation of the natural world and the ignorance that fosters its continued destruction. In the face of this kind of destruction, as symbolized in the futuristic world of *Mortal Engines*, Reeve stresses the need to act responsibly. He speaks to this need through the examples set by his three adolescent characters as they come of age.

Mielke and LaHaie have pointed out that the fantastical worlds of steampunk "give our predecessors [the Victorians] the chance to make different choices, and to see our collective selves as who we might have been instead of who we are, as the new choices lead to either a perceived better or disastrous present or future" (247). In other words, steampunk gives readers a way to re-envision both the past and the future.

To posit a future dystopia as cautionary tale, Reeve's *Mortal Engines* creates a society that exists in a wasteland, in what is nearly an absence of nature. But it is this very absence that, as Greta Gaard points out, functions in children's literature to give its readers "the capacity to analyze ecojustice problems… so that these problems can actually be solved"; to learn how to take "persistent action for social justice and environmental sustainability" throughout a lifetime; and to develop the "joy in nature and a connection [with other people] across cultures" (20) that will make such work endure.

Mortal Engines is Reeve's story of a human-made disaster brought about by poor judgment, disrespect for the Earth, and a lack of individual, social, and environmental responsibility. Using four elements of steampunk – the steampunk philosophy; the Victorian era setting; a fictional technology; and the conflict between reactionary and progressive societies initiating a coming-of-age quest plot – Reeve creates a space where his readers can vicariously inhabit an alternate future, in order to perceive and critique familiar aspects of their own present, contemporary society. Although categorized as a Young Adult coming-of-age novel, *Mortal Engines* can also be read as Reeve's story about humanity's need to come of age and take responsibility for themselves, each other, and the Earth.

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