

Reclaiming the Machine: An Introductory Look at Steampunk in Everyday Practice

Rebecca Onion

(University of Texas at Austin, USA)

Abstract:

Steampunk, a multi-textual aesthetic which first began to form in the late 1980s, imagines the world as it was during the early Victorian era, when steam power still fuelled machines. The steampunk aesthetic was initially found in fiction, but has moved into film, graphic novels, music, and practices of vernacular craft. This paper traces the history of the genre and then moves into an analysis of these crafting practices, asking broad questions about what motivates those who make modern-day steampunk objects. Analysing blog entries, zines, and objects themselves, I posit that a desire to regain a human connection with the machine world underlies the work of steampunk practitioners, concluding that steampunk seeks to restore coherence to a perceived 'lost' mechanical world.

Keywords: blog, class, craft, gender, genre, machines, material culture, science, technology, zine

It is the physical nature of SteamPunk that attracted us to it in the first place, however we first hear[d] of it. We love machines that we can see, feel, and fear. (Margaret P. Ratt 2006: 2)

The technological advances of the first Industrial Revolution created legendary pollution and caused incredible hazard for the workers whose lives were transformed by them. The "dark satanic mills", as William Blake famously characterised them, also inspired the dingy street scenes of the novels of Charles Dickens, catalysed the theories of Karl Marx and Friedrich Engels, and, eventually, instigated the English and American reformers of the Progressive Era, who sought to alleviate the sanitary conditions and occupational hazards which were caused by the nineteenth century's patterns of development.

Currently, in the twenty-first century, a subculture calling itself 'steampunk' has laid claim to the technologies of this steam era, with the nineteenth century, not surprisingly, emerging as the favourite, though not exclusive, historical topos in which to re-imagine such reclamations of the machine. Steampunks seek less to recreate specific technologies of this time than to re-access what they see as the affective value of the material world

of the nineteenth century. The steampunk ideology prizes brass, copper, wood, leather, and papier-mâché – the construction materials of this bygone time. Steampunks fetishise cogs, springs, sprockets, wheels, and hydraulic motion. They love the sight of the clouds of steam that arise during the operation of steam-powered technology. Many of the people who participate in this subculture see reading, constructing, and writing about steam technology as a highly libratory counterculture practice (hence, the addition of the word “punk”). How did these technologies, once so reviled, enter back into the cultural lexicon as icons of a new utopian landscape?

This essay will briefly outline the major productions of literary workers, Hollywood, and anime, all of which shape our understandings of what it means to be “steampunk.” However, the analysis will also seek to emphasise that no matter how much it has spread through more traditionally literary/textual representations, steampunk culture is perhaps most defined by the object-based work of its fans. Many fan interactions are founded on the creation of these objects. Fan websites trade pictures of the finished creations and detailed blueprints; *SteamPunk Magazine*, the only magazine dedicated solely to the movement, publishes DIY articles; fans gather at steam museums to look at old steam-powered technology and get ideas for new projects (von Slatt n.d.). Individual projects vary in their scale and intent. The Californian artist I-Wei Huang, one of the heroes of this modification culture, makes steam-powered robots.¹ Several groups constructed steampunk assemblages to show off at the Burning Man Festival, including a steampunk tree house and a moving explorers’ vehicle.² Jake von Slatt, another oft-profiled steampunk modifier, shows his new inventions off on sites such as <http://www.boingboing.net> (see Berbegal; Kimric; Orlando; Brownlee). Technology and design, in addition to textual expression, are integral to the community of those dedicated to the steampunk aesthetic, and form the basis for many of its most profound statements on the nature of human interaction with craft and production.

Taking the productions of these steampunk practitioners as primary texts of analysis, this essay will explore several broad aspects of steampunk practice and its significance as social commentary and aesthetic movement.

1. A (Necessarily Condensed) Genre History

Cory Gross, a steampunk fan and genre critic, traces the origins of steampunk to the turn of the twentieth century, and specifically to the two

European authors H. G. Wells and Jules Verne (Gross 2006: 60-63). These two historical antecedents are generally acknowledged, though since Wells and Verne were writing about their own time period, they didn't quite fit in with the dominant steampunk affection for creative anachronism (though some might argue that Wells' *The Time Machine* [1895] could qualify as counterfactual or speculative futurism). Elsewhere Gross argues that what he calls the "varieties of steampunk experience" can also be traced back to these two authors, with the works of Verne inspiring a more kitschy, nostalgic Victoriana, while Wells' political works influence those steampunks who make socialist statements with their work (Gross 2007: 54-61). Following these terms of analysis, *SteamPunk Magazine*, for example, with its articles about squatters and anarchists, falls emphatically in the Wellsian category, whereas more mainstream productions such as the film *The League of Extraordinary Gentlemen* (2003), in which characters promise to do things "For the Empire!", could be called Vernian.

The middle of the twentieth century, Gross writes, saw a huge development of the science fiction genre, but few particular contributions to what would later become known as the steampunk aesthetic (Gross 2006: 61). Victorian sci-fi did have a revival in the movie theatres, however. Disney adapted Verne's *20,000 Leagues under the Sea* (1954);³ the Vincent Price movies *Master of the World* (1961) and *City Under the Sea* (1965) echoed the Vernian theme; and George Pal's movie versions of Wells' stories *War of the Worlds* (1953) and *The Time Machine* (1960) kept Wells' oeuvre in the public eye.

The genre came into its own in the late eighties and early nineties, when authors who were primarily invested in the cyberpunk genre, including K. W. Jeter, William Gibson, and Bruce Sterling, began to write alternate-history narratives set in familiar-yet-unfamiliar Victorian times and heavy on technology and anachronism. *The Difference Engine* (1990) by Gibson and Sterling is acknowledged to be among the genre's foundational novels, in which the authors play with a favourite steampunk speculation: they postulate that the computer was first conceptualised in the era of steam power (as it was, by Charles Babbage), and that it was actually built as a mechanical device, taking up a large amount of physical space. The novel takes as its main subject the societal changes that result from this technological intervention. Jeter's *Infernal Devices* (1987), in which a young man discovers that his clockmaker father has built clockwork

humans, plays with another popular plot-line of the genre: robot technology, but executed with nineteenth-century materials.

In the 1990s, following the success of Gibson and Sterling, Jeter, and other steampunk authors such as Michael Moorcock, the steampunk world expanded into other textual practices. Role-playing games, including *Space:1889* (1988), designed by Frank Chadwick to employ another common steampunk scenario in which outer space becomes accessible in Victorian times, allowed live-action game players to step into steampunk shoes.⁴ Graphic novels extended steampunk's reach into the visual, particularly works like *The League of Extraordinary Gentlemen* (1999) by Alan Moore, many of whose other works are set in Victorian times also, and *The Five Fists of Science* (2006) by Matt Fraction.⁵

Steampunk has also become an international genre. Japanese anime works include steampunk-influenced features such as *Steamboy* (2004), in which a boy inventor guards a powerful steamball from his corrupt inventor father, and *Casshern* (2004), in which a fallen soldier living in a highly mechanised future is given a new body in order to fight an iron aggressor.⁶ An Australian animated short, *The Mysterious Geographic Explorations of Jasper Morello* (2005), describing a young navigator's airship voyage to a distant island, garnered an Academy Award nomination in 2005.⁷ And the French film *City of Lost Children* (1995), in which a mad inventor steals children's dreams through the use of elaborate mechanical apparatuses, brought the steampunk style to a larger audience after it became an indie foreign film hit.⁸

Some mainstreaming of the steampunk aesthetic has occurred, although the reception has been mixed, both inside and outside of the subculture. The Will Smith/Kevin Kline summer blockbuster *Wild, Wild West* (1999) featured an elaborate steampunk scenario set in 1869, in which two cowboys try to stop a rogue Confederate general, Dr. Loveliss (a campy Kenneth Branagh), from holding the U.S. government hostage with his superior hydraulic and mechanical technology.⁹ Despite its huge budget, however, this film was not well received by critics, with Roger Ebert, for instance, calling it a "comedy dead zone" (Ebert 1999). *The League of Extraordinary Gentlemen* film (2003) deviated too far from the comic books for the taste of 'true' fans and fell flat with outsiders.

The 1990s also saw the founding of *SteamPunk Magazine* (henceforth referred to as *SPM*), articles from which form the basis of much

of the present analysis. *SPM*, which began publishing in 2006 and operates a website (<http://www.steampunkmagazine.com>) with a readers' forum, describes its mission as "putting the punk back into steampunk" – a stance which sets it firmly against "Hollywood" steampunk productions. *SPM* is a useful tool for the reader seeking a steampunk voice that is unafraid to intellectualise steampunk practice. Indeed, it is in *SPM* that some of the many inherent contradictions of steampunk – such as the question of how a utopian, forward-thinking movement can conscionably advocate a return to an era in which coal was the major source of energy – are developed and explored.¹⁰

2. New Era Anti-Moderns? Steampunk beyond Contrarianism

Steampunk, in some sense, stands outside of chronological periodisations of modes of thought – such as "modern," "anti-modern," or "postmodern" – and defies categorisation within the ideologies of previous technology-based social movements. For this reason, the analyst of steampunk practice sometimes finds her/himself left swinging between steampunk references to such diverse sources of influence as Dickens; futurist science fiction; cyborg theory; and modernist art. To some extent, steampunk is postmodern: it picks and chooses from previously existing styles of physical technology and ideological modes of technological engagement. In their love for the breadth and the perceived innocence of technological and scientific knowledge, exemplified by the figure of the gentlemen-scientist and/or tinkerer, steampunks look back to the Victorian era. In their disaffection for the technology of their own time, steampunks echo the anger of the anti-moderns of the late nineteenth and early twentieth century, who, through the Arts and Crafts movement, advocated a return to a pre-modern "middle" landscape (Lears 1989). Unlike these groups, however, steampunk also prizes the technological world over the natural one, visualising landscapes covered with "monstrous mechanical contraptions", rather than the agrarian fantasies of the anti-modern era (Ratt 2006).¹¹ In their love for the strength and sometimes dangerous power of machines, which I discuss below, steampunks begin to sound a bit like the Futurists, who, led by F. T. Marinetti, worshipped what they saw as the beautiful violence of the new technologies of transportation and production (Marinetti 1909). However, steampunks, unlike Futurists, are more

interested in the process of the making of machinery, rather than the experience of its use.

Marshall Berman, in *All That Is Solid Melts into Air*, describes an unusual category: modernists of the nineteenth century, among whose number he includes Marx and Nietzsche. These modernists, Berman argues,

understood the ways in which modern technology and social organization determined man's fate ... but they all believed that modern individuals had the capacity both to understand this fate, and, once they understood it, to fight it.... Even in the middle of a wretched present, they could imagine an open future (Berman 1982: 27).

Steampunks, then, could be viewed as comparable 'nineteenth-century modernists': enamoured of technology, and convinced of its ability to endow man with a stronger sense of his own humanity and his interconnections with the material world.

Some elements of the steampunk critique of contemporary technology may help clarify steampunk's utopian intentions. Steampunk visual ideology is often based in an anti-modern critique of the contemporary material landscape. Expressing a discontent with the developed landscape that is not exclusive to steampunk thought, Margaret P. Ratt, for example, writes in *SPM* that she believes that most steampunks "look at the modern world about us, bored to tears, and say, 'no, thank you. I'd rather have trees, birds, and monstrous mechanical contraptions than an endless sprawl that is devoid of diversity'" (Ratt 2006: 1). Incorporating mechanical production into a counterintuitive vision of a more "natural" landscape, Ratt gives her critique something of the flavour of an environmentalist polemic against overdevelopment and accords machinery (of the type favoured by steampunks, at least) the status that revered biological features, such as mountains, bodies of water, and trees, enjoyed in the pre-development landscape.

Some steampunk designers dislike what they see as the hegemonic grip of modern design. In an interview with Sara Brumfield, who operates the Steampunk Home blog (a home-décor approach to the genre), Andrew Meieran, the designer of Edison Bar, a steampunk-ish space in Los Angeles, criticises what he sees as the "ubiquitous design" of the second half of the

twentieth century. Meieran explains that by using an industrial aesthetic for his bar, he was trying to “bring a sense of the romance of design back” (Brumfield 2007b).¹² Jake von Slatt, in an interview with *The Boston Globe*, refers to current technology and engineering as “jellybeans” (everything is differently coloured, creating the illusion of difference, but is actually executed in fundamentally the same shape). “Steampunk is a backlash to the sameness of design. In Victorian times, decoration was integrated with the form and the function. Individual components were beautiful,” von Slatt claims (cited in Brownlee 2007).

Cyberculture, however, comes in for by far the most criticism.¹³ The pseudonymous Professor Calamity, one of the most articulate steampunk theorists writing for *SPM*, criticises the modernistic impetus of contemporary technological design, which he sees as a misguided attempt to give machines a status separate from the material world:

The so-called machines of this era seek the cleanness and sleekness of thought, platonic forms unsullied by the earth from which they come. Floating beyond us in mathematical ether far above us and the golems of iron. These abstract replicated technologies ultimately seek in their purity a Nirvana of emptiness. (Calamity 2007: 5)

Calamity proceeds to argue that “[t]he difference between the machines of then and now is the same as the difference between an old-growth forest and a soulless tree farm” (Calamity 2007: 5). Reflecting this animosity toward computerised sameness, various steampunk modifiers have directly attacked keyboards and monitors, retrofitting them with brass or copper keys (von Slatt n.d.).¹⁴ Another creative modifier changed an iPod, which for many steampunks is the ultimate exemplar of soulless, bland contemporary design, into an object that no longer plays music, but instead shows tin pictures when the attached handle is cranked (MeltedBrass 2007).

Steampunks express the sense that, when one is in the act of communing with a machine, one can access the pure pleasure of understanding. This steampunk striving for complete comprehension – and the idea that such a type of comprehension may indeed be possible – enthusiastically echoes aspects of Victorian thought.¹⁵ By ripping open, reconstructing, and inhabiting machines, steampunks hope to access the

unknowable terrain of postmodern material culture. This anti-postmodern instinct, appropriately enough for an ethos obsessed with physicality and reality, plays itself out in crafting practices.

3. Technological Physicalisation: The Reversal of Streamlining?

In *Science in Action*, Bruno Latour writes that one of the functions of twentieth-century “technoscience” is to construct “black boxes” – instruments, concepts, or laws that are immutable and unassailable. These “black boxes” are artificial – created by scientists or other authorities – but are treated as though they came into being as whole, functioning entities, and as such, must not be disassembled or questioned (Latour 1987: 13-15). The authoritarian implications of the “black box” are precisely the ones that the steampunk practitioners seek to undermine through their craft practices. Steampunks see modern technology as offensively impermeable to the everyday person, and desire to return to an age when, they believe, machines were visible, human, fallible, and, above all, accessible.

The similarity of steampunk machines to the individual human body is central to the steampunk philosophy. It is the motivating force of the Brooklyn-based Catastrophone Orchestra’s steampunk manifesto. In the Catastrophone formulation, the aspects of steam machinery that historically led to its obsolescence are re-cast as positive forces.

Steampunk machines are real, breathing, coughing, struggling and rumbling parts of the world. They are not the airy intellectual fairies of algorithmic mathematics but the hulking manifestations of muscle and mind, the progeny of sweat, blood, tears, and delusions. The technology of steampunk is natural; it moves, lives, ages, and even dies. (Catastrophone Orchestra and Arts Collective 2006: 4)

Sara Brumfield, on her Steampunk Home blog, echoes this interest in the human ability to hear or otherwise process the noises made by machines in operation. In a small-scale example of this interest, she rhapsodises over a lightswitch she has installed, a push-button hardware that makes “a delightful ‘clack’ noise” (Brumfield 2007a). On a small scale, this type of sound exemplifies the steampunk interest in the physicality of the machine.

Along with physicality and the transparency of motion functions comes the physical individuality of different pieces of machinery – an individuality that allows a closer physical bond between machine and person. Steampunk musician Thomas Truax, who creates fantastical instruments such as the Hornicator and the Spinster out of industrial and vintage parts, says of his machines, “I really do see [my instruments] as little beings, bandmates, if you will. We do spend a lot of time together” (Anon. 2006a: 52).¹⁶ The intensely personal manner of his construction, he says, leads to the individual physical nature of the instruments. When he interacts with people who do not understand such a non-Taylorised method of production, he has to tell them over and over again that he cannot re-create the process that led to the creation of his instrument:

People have asked me if I can make them a Hornicator or a Spinster, or even tell me flat off that they’re going to rip me off and make their own. What they don’t get is that what they’re seeing me do is an amalgam; the instruments are born of and interwoven with my personal obsessions and fascinations and accidents and experiences, etc. (Anon. 2006a: 53)

Professor Calamity reiterates this call for the individuality of machines in his manifesto ‘My Machine, My Comrade’. “Steampunk seeks to find a relationship with the world of gears, steel, and steam that allows machines to not only co-inhabit our world but to be partners in our journey,” he writes. “To be born, age, and die like we all must, that is not only true of humans, plants, rivers, animals, but also of machines” (Calamity 2007: 25). On his blog, the Professor describes the humanising possibilities of incorporating steampunk sensibilities into music.

We can return to a prior period before the crisp digitalization and manipulation of voices and sounds. We can use older technologies that allow incidental (random) noise to compete with the human voice and sometimes unexpectedly partner with it. We should not seek to exorcise all spontaneity or imperfection from our singing but unleash the means of

amplification, distortion and recording of the pre-digital age.
(Calamity 2004)

In this sentiment, steampunk argues for collaboration between the physicalities of human and machine, affording machinery more respect and dignity – a move that would, presumably, also re-humanise the human operators of machines.

Putting this philosophy into practice, steampunk modifiers articulate which types of materials they use to construct their machines. These tend to be materials that are historically accurate, but also which are seen to endow an elusive authenticity to the object. These fragile and breakable materials may not be efficient, but provide their own special qualities of ‘friendliness’ or accessibility. Plastic is universally reviled, as a scourge of the twentieth century (Anon. 2007c: 36). Most steampunks agree with Jake von Slatt, who writes that “[b]rass is sexy” (von Slatt 2006: 37). B. Zedan, in an article in *SPM* on the use of papier-mâché, declares: “From our perspective, the materials available to the Victorians were simple things: glass, wood, metals like brass and an exciting new invention called ‘vulcanised rubber’” (Zedan 2007: 8).¹⁷ He goes on to extol the value of these materials in steampunk creations.

The resulting products may be easily breakable, but this is seen as an advantage. Jonathan Danforth, a technician in North Carolina, promises to transform any picture into a daguerreotype for \$400, using copper plating.¹⁸ Danforth warns prospective customers:

The surface of the Daguerreotype plate is extremely fragile. The image is made up of, essentially, an extremely fine layer of dust that’s chemically bonded to the plate. You can obliterate the image by touching the surface of the plate, getting the slightest bit of water on the plate, etc. (Danforth)

This vulnerability adds to the physical experience of owning an embodied steampunk object.

Although steampunk machines are physically humanised through their added qualities of vulnerability and individuation, they are also humanised in the most literal of ways – through acting as mediators or modifiers in what could be described as steam cyborg creations. Many

examples of human bodies modified by steampunk machines can be found in filmic steampunk representations, such as the steam wheelchair which propels the legless Dr. Loveliss around in *Wild, Wild West*; the human being in *City of Lost Children* who is actually just a brain in a vat of bubbling liquid, attached to a camera and a gramophone in order to see and hear and the mad father in the anime *Steamboy*, who changes most of his body into an intricate mass of turning wheels.¹⁹

On the level of steampunk object modification, the popularity of headpieces is indicative of the contagious nature of the steampunk cyborg idea. Since it may not be actually possible to create a steampunk cyborg (the FDA [US Food and Drug Administration] would not be amused), modifiers working in this realm tend to ignore the general steampunk rule that things they build must actually work, in favour of the creation of fantastical sculptures. The English artist Alex CF, who classifies himself as a “steampunk cryptozoological assemblage artist”, makes a headpiece that he describes as “The Inquisitor”. In his description of the object, he writes:

Powered upon aetheric energies, and clock work mechanisms, [this headpiece] enabled scientists to view microscopic organisms like never before, allowing the first indentification [sic] of DNA in 1858. There were many models of the inquisitor, but most are now lost to time and rust, apart from this example. The item has an adjustable head strap and can be worn by anyone, the eye piece still contains a working, moving iris. Fashioned in brass and leather, glass and wire, this truly is a piece of steam punk history. (Alex CF 2007a)

Another Alex CF cyborgian sculpture is the “geometric extender glove”, for which Alex has created an elaborate mythology:

A device worn on the hand and forearm, acting as an extension of the wearer. The glove bore four sensitive probes which teased at the fibres of space time, searching for the attraction between the geometric forms housed in the spheroid engine held in place at the wrist. Once located, the probes could widen the void between the anomaly and the

geometric forms, allowing safe passage to the “plane without a surface” - a place unknown even now to science - for all those involved, the mathematicians, the inventors - even the investors - disappeared, leaving their families and belongings behind. (Alex CF 2007b)²⁰

Through these pieces, Alex explores the concept of human and machine not only literally working, but blending together.

Though steampunk cyborgs provoke the same kinds of questions about bodily modification as do more contemporary computerised cyborg objects, they tend, through their visual appearance, to remind the viewer of what used to be conceptualised as the mechanical nature of the human body. The moving parts of the machine are analogous to the moving parts of the body, making visible what, in the actual flesh, remains hidden behind a smooth, iPod-like surface. This visibility empowers the human mind, which seeks to be reassured that the functions of the body have a visible, comprehensible (and thus medically controllable) logic of their own.

4. Bringing Danger Back: Reinvesting Objects with Risk

The historian John Kasson claims that nineteenth-century Americans viewed some technological objects with emotions that were similar to the ones they felt upon viewing the large-scale landscape paintings created by Thomas Cole and Frederick Church. Both spectacles were thought to provoke feelings of sublimity – the famously mingled emotions of awe and terror. Kasson writes about the orator Edward Everett and others of the time who thought that “modern machinery ... became manifestations of the sublime, achievements of mind that challenged the powers of comprehension and description” (Kasson 1976: 47). Some of this sense of fear lay in the possible harm that technology could do to the human body. Steampunk seems to fetishise this possibility, re-casting danger as evidence of the aliveness or volatility of technology. Steampunk also sees danger as a reproach to a modern world, which is overly insured against catastrophe. In this aspect of their ideology, they most echo Marinetti’s Futurists, who declared as the first principle in their manifesto: “We want to sing the love of danger, the habit of energy and rashness” (Marinetti 1909).

Steampunk authors and creators are often interested in the spectacular failures of various nineteenth-century technologies, viewing

these disasters as evidence of the ‘daring’ of the people of the time. The zeppelin, otherwise known as the ‘dirigible’ or “airship”, is a prototypical example of steampunk interest in disastrous technologies. Although the zeppelin went out of favour as transport after the spectacular explosion of the *Hindenberg* in 1937, steampunk fictions imagine its resurgence, and steampunk visual art often incorporates its iconic tubular shape. Some steampunk fictions refer explicitly to the potential of these ships to explode (such as the *LXG* movie, in which a villain incinerates a whole hangar full of zeppelins with a harpoon gun), but more often, the ship is depicted in everyday use. Brumfield’s Steampunk Home blog, for example, has a section on making a room over with an airship theme (Brumfield 2007c).²¹ Artist Melissa Koch has designed an aeronaut boy’s room, mixing familiar aspects of child life (mobiles, toys, clothes strewn on chairs) with the riveted walls and curved windows of an imagined airship interior (Koch 2007).²² *The Mysterious Geographical Adventures of Jasper Morello* imagines a world with extensive and common use of airships. Steampunk jewellery creator DirtyBirdd offers a zeppelin bracelet for sale (DirtyBirdd).²³ In all of these ways, steampunk domesticates a technology that has proven devastating to human life, revelling in its imaginary controlled power.

Steampunk interest in the dangers of the uncontrollable object also extends out of the realm of hypothesis, where dirigibles remain, manifesting itself in the real-life objects made by modifiers. Several *SPM* articles that detail techniques for creating steampunk objects emphasise, and seem to delight in, the danger produced through these processes. *SPM* ran one article about the pyrophone, an obsolete technology invented by the presumably fictional German scientist and musician George Frederic Kastner which powers a keyboard using flames in tubes (the oscillation of air produces the sound). In this piece, the anonymous authors take the stance of the antiauthoritarian trickster, advising the reader to stick a propane torch into a metal pipe and observe what happens next: “Very quickly a sound will emerge. Very quickly, as well, security will emerge – if you’re still in the store.” Following the reader through the process of making the pyrophone, which the subtitle of the article nicknames ‘Thermo-Acoustic Flaming Organ of Doom!’, the anonymous writer advises the reader to remember that “fire is a chaotic force” and that s/he should “not expect this to work!” (Anon. 2006c: 7) Another *SPM* DIY article, this one written by Jake von

Slatt about electrolytic etching, described how to use D/C current and copper sulfate solution. “This is when the fun (read – mildly dangerous) part begins,” von Slatt chortles (von Slatt 2006: 38). A third article explained how to make an “ordinary” bicycle, describing the history of the object first: “Eventually the ‘dwarf safety’ (modern bike) was invented and the Ordinary fell out of favor, owing to its many flaws: a tendency to pitch forward, the inability to touch one’s feet to the ground (and thus come to a stop), fixed pedals, and a somewhat bumpy ride” (Payphone 2007: 35). Through recovery of the everyday danger of interacting with volatile objects, steampunk practitioners desire to re-engage with the physical world, subverting the sterile and safe relationships they perceive to exist between people and objects in contemporary society.

5. Emotional Mastery and the Return of the Tinkerer

A large component of the steampunk project of human reintegration with the machine lies in the ability of the bystander or self-taught tinkerer to master important pieces of machinery that, in the current technological landscape, would be the exclusive province of specialists. In the utopian steampunk world, knowledge about machinery would return to the hands of the people, subverting what steampunks see as an oppressive culture of specialisation. Terry Gilliam’s film *Brazil* (1985), which includes some elements that steampunks would claim as inspiration (particularly, the retro-futurist computers), also features a character who epitomises the value of general mechanical knowledge.²⁴ Tuttle, played by Robert de Niro, appropriates knowledge that the state has claimed for itself: the ability to fix the heating and cooling systems of homes. Although this knowledge may seem mundane, the film makes the point that *not* having this expertise leaves a person at the mercy of a bureaucratic apparatus –which is exactly where the apparatus would like the person to be. Other steampunk narratives also describe the dangers that result when knowledge is over-concentrated. Both the films *The League of Extraordinary Gentlemen* and *Wild Wild West* hinge on plots in which evil masterminds kidnap all of the nation’s scientific and technological experts and force them to create weaponry, in a very visual demonstration of the dangers of knowledge sequestration.

Many steampunks, both fictional and real, idealise ‘complete’ knowledge as the possibility of a bygone era. Thus, the Catastrophe Orchestra points to the ultimate Renaissance man, Leonardo da Vinci, as

their touchstone (Catastrophone Orchestra 2006: 4). Author Paul di Fillippo, whose *Steampunk Trilogy* imagines scenarios including a romance between Walt Whitman and Emily Dickinson that takes place on an airship, says of the Victorian era: “The entirety of knowledge could be almost apprehended by a single individual.... There were still frontiers. There were fewer laws and governing bodies. Who wouldn’t want all of those things back?” (cited in Berbegal 2007) Echoing this conception, Jake von Slatt argues that “[t]he Victorian era was really the last era in which a high school graduate was given the complete set of scientific concepts to fully understand the technology of the age” (cited in Brownlee 2007). Indeed, though some steampunk modifiers are engineers or computer technicians in “real” life, the rhetorical emphasis remains on the universal ability to acquire this knowledge. Musician Thomas Truax, for example, says of his background:

I’m not really an electrician or an engineer. I’ve always liked to build things ... I just feel a lot more comfortable with mechanics and visible physical reactions that I can grasp in my little ball of gray matter than I am with ones and zeros. I think a lot of people feel this way these days, and that’s why I’ve had luck with finding audiences. (Anon. 2006a: 52)

Steampunks derive emotional freedom in interacting with machines that they can understand completely, and see this knowledge as being available to any individual.

In utopic steampunk conceptions, part of the effect of this expanded capacity for mastery is that technological knowledge is available to the disempowered: women, children, and members of the working class. This availability results in empowerment of the socially marginalised. The daughter of an inventor in Will Strop’s steampunk short story ‘The Ornithopter’, who has moved to a distant laboratory to help her father build a flying machine, describes her sartorial alterations since her apprenticeship:

While she used to wear delicate necklaces in her youth, she had long ago replaced them with a pair of goggles, around her neck for easy access. Her hair, once perpetually in intricate braids that ran to her knees, was now a frizzy mess, most of it kept in a ponytail. She had no idea if she would

ever be able to get used to corsets again when she moved back to town. Indeed, aside from her lean physique and her modest assets, the last bastion of her outward femininity was the white ribbon she used to keep her hair up. (Strop 2007: 18-19)

Here, the ability to manipulate machinery allows this woman to step outside of Victorian gender roles. Similarly, Rachel Pollock's 'Reflected Light' is narrated by a woman who works with her husband in a machine shop, at which the upper class bosses "would never allow us to create abstractly, not in any official capacity" (Pollock 2007: 45). Nonetheless, she helps her husband in scavenging parts and creating machines, including a working phonograph; together they stage a miniature underdogs' revolution. The artist Alex CF has produced a series of illustrations of a "retrofuture society", showing "street urchins", "repair girls", and "backstreet reconstruction scientists", all of whom parlay their knowledge of machinery into survival skills (Alex CF 2007c).²⁵ And in the anime *Steamboy*, the child James Ray Steam saves a factory from a steam explosion by crawling underneath a boiler and fixing it. These expansions of mastery and agency to unlikely subjects create democratised emotional spaces around the technological objects of steampunk, widening the utopia that these objects seem to offer.

6. Restoring the Aura of the Object: Awe and the Sublime

Steampunk practitioners mix this interest in the democratisation of mastery with a restoration of what they see as a lost sense of awe in the face of technological achievement. This awe is the other component of the nineteenth century sense of the sublime, described previously in my discussion of danger. Kasson cites a guidebook which described the Corliss engine, which drove the machinery at the 1876 Centennial Exposition in Philadelphia:

Poets see sublimity in the ocean, the mountains, the everlasting heavens; in the tragic elements of passion, madness, fate; we see sublimity in that great fly-wheel, those great walking-beams and cylinders, that crank-shaft, and those connecting rods and piston-rods, – in the magnificent

totality of the great Corliss engine. (Kasson 1976: 164)²⁶

In these conceptions, “sublimity” depended upon the viewer’s visual experience of the object. This visual interaction, says steampunk, stimulates a more direct affect, a more intense connection than the intellectual detachment that accompanies twenty-first century technology, which is more likely to perform actions microscopically, inside sealed boxes, or even invisibly, in the air.

Like the Corliss engine in its nineteenth-century dominance, some steampunk objects, especially those in filmic expressions of the genre, stun viewers into experiencing sublimity with their absolute massiveness. In *The League of Extraordinary Gentlemen* comic book, Alan Quartermain, a recovering opium addict, viewing the emergence of the Nautilus submarine from the ocean, says to Mina Murray, whose back is turned to the sight, “Forgive me, but is it the opium ...or can you see that as well?” (Moore 1999: 43) Echoing Mina’s experience, the reader must turn the page before seeing the full-panel reveal that shows the bulk of the Nautilus rising up out of the sea. Many steampunk films also include moments in which characters crane their necks to take in the full expanse of the technological object they are confronted with. In *Steamboy*, a huge steam tower concealed by the shell of a conventional building shakes off its outside casing while viewers stare and gape. In *Wild, Wild West*, Will Smith and Kevin Kline have just assured each other that they’re in good shape to mount an assault on Dr. Loveliss’ base camp, when the doctor’s mechanical spider comes crunching up out of a canyon, towering stories above them.

However, steampunk objects also derive their ability to produce awe from their intricacy. These feelings of awe are more commonly accompanied by delight, rather than the fear produced by massiveness, as the viewer acknowledges the human accomplishment and/or genius that went into the creation of the object. A steampunk fiction published anonymously in *SPM* tells the story of a tribe of street ‘arabs’ living underground in a dismal nineteenth-century New York, who are in possession of a mechanical automaton who acts as their mother. When the ‘mother’ starts acting erratically, the children kidnap a mechanics expert, Chester Harlowe, and bring him to their den to fix her.

Spinner [the leader of the gang] slowly unbuttoned the mother's whalebone corset to reveal a frame of dull iron. Chester held a candle up to the lifelike doll, and in the dancing light he saw the most amazing constellation of gears and springs he had ever witnessed. They looked almost natural, like metallic moss, intricate and interconnected. He was overwhelmed by the hundreds of tiny clockworks, counterweights, and pendulums – and he had seen a great many machines in his time. (Anon. 2006b: 11)

The joke of this reveal, reiterating the steampunk theme of democratisation, is that an Italian clockmaker, “lacking in proper work”, had made the automaton from scrap, “so that the orphans could know the love they had never been spared.” Harlowe figures out that the “mother” had been made of various pieces of machines from all over the city: “telegraph striking-posts used as balance levers and mason jar locks twisted into springs ... bits of debris from all over the city cunningly arranged” (Anon. 2006b: 19). Harlowe's awe in facing this object is the awe of a practitioner communing, via the object, with the fellow practitioner who has created it.

7. Conclusions: Is Steampunk, like the Steam Engine, Doomed?

A social movement based around an aesthetic seems particularly vulnerable to imitation and misinterpretation. As a reader calling him/herself “Troubadour” posted at the end of the Jake von Slatt profile that ran on Wired.com, “Steampunk is boring fetishism. There's nothing transcendent or adventurous about brass filigree and clacking, it's just a cul-de-sac by unimaginative gearheads who prefer tangibility over intellectual exploration” (Troubadour 2007).

Although a glance at Professor Calamity's columns might change Troubadour's mind about steampunk's intellectualism or lack thereof, it is true that the “look” of steampunk is easily copied without maintaining what steampunk theorists would see as the more high-minded motivation of recreating a utopic relationship between human and machine. The more self-aware steampunks are already involved in policing the difference between their own interest in the genre and that of pretenders. A clothing and style article in *SPM* seemed to realise that it might be opening itself to accusations of slipping into this more superficial realm of charade, and the

author, Libby Buloff, hedges her bets at the outset: “Steampunk is not a commodity as far as I am concerned – it cannot be outright purchased at the local mall (yet, ahem) – and thus there is no disciplined uniform allotted when you purchase this publication, etc.” She then goes on to outline several different ideas of how to dress steampunk – “The Tinkerer/The Inventor”; “The Street Urchin/The Chimney Sweep”; “The Explorer”; “The Dandy/The Aesthete” (Buloff 2007: 8-13). Another light-hearted *SPM* article illustrated the kinds of facial hair a male steampunk might be interested in sporting (Anon. 2007b : 48-49).

Despite these articles’ careful work at conveying a sense of fun, some steampunks seem to sense danger in going down this road. Writing in to the next issue of the magazine, a reader stressed that

Steampunk is not a commodity, though the article is cute....
Steampunk can be (and is) everything Cyberpunk wanted to be. It has a tangible essence to it that Cyberpunk lacked in a time of overwhelming superficiality and blind consumerism. It calls out for us to have a place with hand tools in it that we use, to make things we need. Things that cannot be bought (TechnoAlchemist 2007: 4).

Even steampunks whose interests lie in the “softer” realm of home décor, rather than direct modifications of technology, police the boundaries between “real” and “commodified” steampunk, as Brumfield does in her blog entry on the Houston shop named Brown: “Their website describes their stock as lighting, furniture, industrial, didactic, and curiosities. There was a lot of lighting. It was very nice and very expensive, and not “raw” enough for me.” (Brumfield 2007d)

But perhaps the ultimate example of steampunk aesthetic stripped of its meaning is the Steampunk ‘skin’ for a Mac Powerbook, offered on etsy.com.²⁷ This decal gives your slick Mac, the bane of steampunk existence, an even slicker skin covered with fake ‘cogs’ and ‘gears’. It also epitomises the problems facing steampunks in their interest in creating a utopic movement around technology: misinterpretation of an aesthetic *movement* as simple aesthetics leaves the deeper relationship between human and object unexamined.

Notes

1. Images of Huang's robots are available at <http://www.craftsmanshipmuseum.com/IWei.htm>.
2. See participant photographs of the steampunk Burning Man assemblages at <http://tribes.tribe.net/neverwas/photos/95830211-9035-4818-8fcf-23a040008639> and <http://www.steamtreehouse.com/>.
3. See the poster for the 1954 movie *20,000 Leagues under the Sea*, considered to be a steampunk progenitor, at <http://en.wikipedia.org/wiki/Image:20000leaguesposter.jpg>. Notice the diving outfits and the submarine, which have both become steampunk icons.
4. See the cover of the role-playing game *Space: 1889*, at <http://en.wikipedia.org/wiki/Image:Space1889rpg.jpg>. Note the mix of Victorian style and fantastical flying machines, as well as the mythical canals of Mars – a Victorian obsession incited by the initial 1877 observations of Italian astronomer Giovanni Schiaparelli and amplified by the sci-fi conjectures of American contemporary Percival Lowell – visible in the background.
5. See the cover image from the first issue of the graphic novel *The League of Extraordinary Gentlemen* by Alan Moore and Kevin O'Neill (1999), at Win Scott Eckart's fansite, 'The Wold Newton Universe', <http://www.pjfarmer.com/woldnewton/Chron5.htm>. The Victorian costumes of the protagonists conceal their respective special powers. See also the cover image from Matt Fraction's graphic novel *Five Fists of Science* (2006), in which Mark Twain and Nicola Tesla team up to defeat the evil J. P. Morgan and Thomas Edison, at <http://www.mattfraction.com/archives/002695.php>.
6. See images of the young Victorian boy inventor James Steam at the movie *Steamboy*'s Yahoo fan page, <http://movies.yahoo.com/movie/1808630443/photo/565608>; images of the costuming and production design used in the film *Casshern* can be found at <http://www.cyberpunkreview.com/movie/decade/2000-current/casshern/>.
7. For a still from *The Mysterious Geographic Adventures of Jasper Morello*, see the film's website at <http://www.jaspermorello.com/gazette/>.
8. The *City of Lost Children* trailer can be found at <http://www.youtube.com/watch?v=CNYG9cXTSds>.
9. Many images of sets from *Wild, Wild West* can be found at the film's official website, <http://wildwildwest.warnerbros.com/cmp/sets.html#seven>.
10. See, e.g. Anon., 'O Coal, You Devil!', *SteamPunk Magazine*, 2 (Summer 2007a), 50-53.

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11. See, for example, the cog-dominated landscape envisioned by the animators who made *The Mysterious Geographic Adventures of Jasper Morello* (<http://www.jaspermorello.com/gazette/>).
 12. Images of the Edison Bar can be found at http://eecue.com/images_archive/eecue-images-29154-Edison_Furnace.html.
 13. This is, of course, somewhat of an internal contradiction, given that computers and the internet are the mediums in which most steampunks often operate.
 14. *The Boston Globe*'s article on steampunk, which ran in August 2007, carries several images of von Slatt's modified keyboards: http://www.boston.com/news/globe/ideas/articles/2007/08/26/the_age_of_steampunk/.
 15. On Victorians and the possibility of 'total knowledge', see Rauch 2001; Ritvo 1998; and Stocking 1991.
 16. To view images of Truax' 'bandmates', see <http://www.thomastruax.com/>.
 17. Another irony: vulcanised rubber was a precursor of modern plastics.
 18. Danforth's daguerrotypes can be viewed at <http://www.shinyphotos.com/>.
 19. See *City of Lost Children*'s brain-in-a-bubbling-box at <http://www.scifimoviepage.com/city.html>; *Steamboy*'s mechanical father can be viewed at <http://thecia.com.au/reviews/s/steamboy.shtml>.
 20. Alex CF's gauntlet can be found at http://alexcf.com/blog/?page_id=22; his headpiece can be seen at http://alexcf.com/blog/?page_id=26.
 21. View elements of Brumfield's 'Airship Fantasy Room' at <http://thesteampunkhome.blogspot.com/2007/10/airship-fantasy-room.html>.
 22. See Koch's vision of the boy aeronaut's room at <http://faryndreyn.deviantart.com/art/Boy-s-Room-68406860>.
 23. View the zeppelin bracelet at http://www.etsy.com/view_listing.php?listing_id=7132563.
 24. One steampunk modifier's version of a *Brazil* computer can be seen at <http://bifsniff.com/technology/steampunk-brazil-computer-i-want-one>. Even though films like *Brazil* and the earlier mentioned *Casshern* do not adopt nineteenth century settings, they may serve as illustrations of how the steampunk aesthetic ranges across and infiltrates different periods.
 25. Alex CF's 'Scenes from a Retrofuture Society' can be seen at http://alexcf.com/blog/?page_id=8.
 26. See images of the Corliss Engine on display at the 1876 Expo at http://www.eng.mu.edu/corlissg/gc_engine.html.
 27. The steampunk Powerbook 'skin' can be seen at http://www.etsy.com/view_listing.php?listing_id=7724359.

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