Of Motion and Emotion: The Mechanics of Endurance in Peter Carey’s *The Chemistry of Tears*

Abstract

Guided by Jacques Derrida’s observations about the aporetic logic of the archive, this reading of Peter Carey’s novel *The Chemistry of Tears* (2012) relies on contemporary philosophical discourse about the human-thing interface to examine the correlations between practices of mourning, memory, and museology as unfolded in the narrative. The central image of an automaton operates as an extended metaphor both for the metafictional feat of the novel, and imagination in its broadest sense, wherein we are reminded of the ethical obligations that things, especially technology, call for. Above all, Carey reveals the porosity of the boundaries between organic and inorganic substance, tethering matter to metaphysics, desire to detritus, and the present to the past.

“Technology is a mode of revealing. Technology comes to presence in the realm where revealing and unconcealment take place, where *alētheia*, truth, happens.”

(Heidegger, “The Question Concerning Technology”)

1. Nostalgia and Neo-Victorianism

Contemporary literature in English nurtures a fascination, both aesthetic and intellectual, with the weight of the cultural legacy of the nineteenth century. The rise of neo-Victorian fiction in particular, as manifested in Rose Tremain’s *The Colour* (2003), Eleanor Catton’s *The Luminaries* (2012), Graham Macrae Burnet’s *His Bloody Project* (2015), and Sarah Perry’s *The Essex Serpent* (2016), to name but a few, speaks of the seductive charisma of the nineteenth century, on the one hand, and its pull towards an increasing need to recalibrate and readjust our moral
contract with the past, on the other. For Rosario Arias and Patricia Pulham, editors of *Haunting and Spectrality in Neo-Victorian Fiction. Possessing the Past*, the ubiquitous traces of nineteenth-century culture across the English-speaking world have a haunting quality that highlights the epistemic power of cultural accretions:

The spectral presence of the Victorian past is all around us: it exists in the municipal buildings of our major cities; it is visible in our education system; it informs the legacy of immigration; it underpins cultural tourism; it is ever-present in popular culture in fashion, film and television adaptations, and is evident in the ‘Classics’ section of every bookshop in the country where major novels by Dickens, the Brontës, George Eliot, and Thomas Hardy are always to be found. (xi)

While bringing forth the sedimental nature of cultural phenomena, these barnacles of time also get hold of the public sentiment and imagination regarding the different modalities of nineteenth-century life, aligning the call for remembering and understanding with the sense of longing and oblivion in an aesthetic guise of what Svetlana Boym in *The Future of Nostalgia* calls “armchair nostalgia” (15). Neo-Victorian novels themselves, as Nadine Boehm-Schnitker and Susanne Gruss point out, often are marketed as “pleasurable commodity objects inviting consumption” and promising “titillating entertainment” (4) that bring out the “internal conflict between critical thinking and emotional bonding” (Boym xvi).

As a structuring principle of historiographic (meta)fictions, nostalgia moves in step with the epistemological desire to restore and reform the intellectual, emotional, material, and moral bonds between the present and the past. Conceptually, however, the restorative gesture finds itself at odds with the imperative of critical reflection. It is worth recalling Boym’s distinction at greater length:

Restorative nostalgia stresses *nostos* and attempts a transhistorical reconstruction of the lost home. Reflective nostalgia thrives in *algia*, the longing itself, and delays the homecoming – wistfully, ironically, desperately. Restorative nostalgia does not think of itself as nostalgia, but rather as truth and tradition. Reflective nostalgia dwells on the ambivalences of human longing and belonging and does not shy away from the contradictions of modernity. Restorative nostalgia protects the absolute truth while reflective nostalgia calls it into doubt. (xviii)

In this respect, the clashes and crossovers between restorative and reflective nostalgia in neo-Victorian literature highlight the extent to which our relations to the past are fraught equally with affection and alienation. On the one hand, the Victorian world in contemporary fiction exerts its power of immersion, elevating to significance the novel’s affective economy with its emphasis on loss and longing; on the other, it directs a political eye toward the modern condition as a moral agent of nineteenth-century legacy, exposing thereby the mutual imbrications
of emotional absorption and intellectual alertness. This view echoes in Boehm-Schnitker and Gruss’s observation that “Neo-Victorianism provides the pleasures of immersion and enhance these by keeping us in the know of the how and why these pleasures are produced” (16).

2. Things vs. Objects: Ontology, Morality, and Social Mobility

The dialectical character of the nostalgic sensibility reverberates in modern-day textual revalorisations of nineteenth-century culture by way of examining its association with the advancement of rational thought, technology, and social emancipation, on the one hand, and the rise of industrial capitalism, imperialist expansion, and the consumerist ethos, on the other. Although the material turn across different disciplines, which began as a critical reaction to the linguistic turn in the 1980s, initially addressed the material histories of eighteenth-century British colonialism, more recently, to quote Frank Trentmann, “research has moved at once forward in time, highlighting the cult of home possessions in Victorian Britain, and outward, recognizing imperial and global points of exchange and transculturation” (285). It seems reasonable to note, therefore, that more often than not the immersive power of narratives attuned to the nineteenth-century aesthetic conventions derives from encounters with material culture, which prime contemporary readers for the processes of collection and recollection that shed light on the moral transactions between our material, social, and textual practices. As Boehm-Schnitker and Gruss reiterate, “Neo-Victorian texts frequently tap into all schemas of materiality, at once metafictionally highlighting their own status as artefacts, playing at the affective relations to things for characters and readers alike, and reflecting on texts as products and their implications within a late-capitalist marketplace” (10). To put it otherwise, aesthetic encounters with materiality in neo-Victorian literature simultaneously help recreate, albeit in narrative terms only, and re-examine the material contingencies of nineteenth-century social life as well as yield critical insight about the social formations that historically have contributed to the marketability of neo-Victorianism itself in the global capitalist economy of art.

The material side of cultural memory, of course, is not limited to the neo-Victorian aesthetic agenda. In the domain of theoretical reasoning more broadly, the revival of intellectual interest in the significance of material accounts has had major implications for the discourse on human subjectivity and agency. The intellectual impact of Arjun Appadurai’s *The Social Life of Things* deserves special attention here. His edited volume of essays has called for a revised attitude to things as active participants in social transactions, whose mobility in the network of social relations uncovers the ethical premises of human regimes of value, desire, and institutionalised power. For Appadurai, “even though from a *theoretical* point
of view human actors encode things with significance, from a *methodological*
point of view it is the things-in-motion that illuminate their human and social
context” (5; original emphasis). In other words, social history and anthropology
take the view that material objects, by way of circulating in culturally defined
settings and socially regulated exchanges, fulfil themselves as social actors that
unveil the ways in which humans give value to things and things give value to
social relations. In the context of studies of nineteenth-century culture, Janell
Watson’s *Literature and Material Culture from Balzac to Proust* proceeds along
similar lines in that, by examining the meaning and significance of the *bibelot*
in nineteenth-century French culture, it makes visible the social institutions and
practices that tied “valuable art objects [to] industrial reproductions, and worthless
junk” (6) and shows how material agency correlated with social values such as
daring, decadence, and domesticity. As a result, her analysis of nineteenth-century
commodity culture compellingly brings to light the durability of social relations
as measured against the moral transactions of material forms of knowledge.

While nineteenth-century material accounts show no lack of testimony to how
the new practices of commerce and commodification were co-dependent on the
social construction of value, to the extent of inaugurating a culture of consumption
and consumerism, Bill Brown’s reading of nineteenth-century American literature
in *A Sense of Things* considers the conceptual limitations of Appadurai’s approach
and draws our attention to an “indeterminate ontology” (2003, 13) where things are
not exhausted by the logic of capitalism, but have an interiority that challenges the
autonomy of human subjectivity. In his reasoning, the material parameters of the
object world are constitutive of human subjectivity as a materially embodied self
in that things participate in our intellectual processes and emotional experiences,
alerting us to how our desires for and needs of objects take possession of us so
that we lose our agency and become object-like. Brown’s notion of materiality as
a social agent which both recruits humans into action and transforms them into
things, is reminiscent of Trentmann’s observation that “Taking things seriously as
knots of social knowledge and action raises questions about the liberal paradigm
of politics associated with subject-centred forms of autonomy and critical reason”
(300). The conceptual seriousness that Brown argues for in *A Sense of Things*
exposes the interdependence of our ethical and economic imperatives by showing
that the obligations material culture imposes on human subjects demand a relation
of accountability and moral ought that inevitably accompanies the metamorphosis
of subject into object and vice versa.

Significantly, Brown’s critique of “the tyranny of use” (2003, 8) in *A Sense
of Things* builds its argument on the conceptual distinction between objects and
things, which he unfolds in his paper “Thing Theory,” published in *Critical Inquiry*
in 2001 and later republished in his edited volume *Things*. Here Brown borrows
the Heideggerian idea of how the being of material objects calls for our attention
by interrupting our habitual reliance on their instrumentality:
As they circulate through our lives, we look through objects (to see what they disclose about history, society, nature, or culture – above all, what they disclose about us), but we only catch a glimpse of things. We look through objects because they are codes by which our interpretive attention makes them meaningful, because there is a discourse of objectivity that allows us to use them as facts. A thing, in contrast, can hardly function as a window. We begin to confront the thingness of objects when they stop working for us: when the drill breaks, when the circuits of production and distribution, consumption and exhibition, has been arrested, however momentarily. The story of objects asserting themselves as things, then, is the story of a changed relation to the human subject and thus the story of how the thing really names less an object than a particular subject-object relation. (2004, 4; original emphasis)

What Brown suggests is that when thought of as a latency or an excess (2004, 5) which gives matter interiority, thingness has repercussions for our view of selfhood in that it makes us reconsider how nonhuman objects impede and structure human subjectivity and how they affect our relations with the world. In bringing together arguments from social and cultural studies, phenomenology, psychoanalysis, and literary scholarship, Brown’s thing theory illuminates the interdependence of the discourse of matter and the matter of discourse, tracing the collision of physical and conceptual things in the creative imagination as much as the physical act of writing and reading. To the extent that it acknowledges the epistemological limitations of theorising driven by the view of things as economic incentives, Brown’s reading of nineteenth-century American fiction calls for a materialist phenomenology which takes into account the metaphysical obscurity of things that underlies our interactions with the object world in the shared capacity for, among other things, memory and forgetting, intimacy and detachment, deception and truth. What is key to this approach to literary texts is the understanding that poetic representations have a double nature not unlike objects and humans, because in turning things into poetic images, the art of writing doubles the phenomenal world by adding its own artifice to it. This metamorphosis highlights the moral contract between the animate and the inanimate world and submits itself to the same “indeterminate ontology where things seem slightly human and humans seem slightly thing-like” (2003, 13). Arguably, then, the reasoning of thing theory thrives on the transformative promise of things in shedding light on how objects, by embracing verbal identity, confer upon words their own ambiguity and thus become a source of phenomenological fascination that has the power to reveal an unexpected human affinity to, which is to say a certain chemistry with, things.

3. Material Testimonies and the Archive Fever

The moral, material, and metaphysical bonds that structure human relations to the object world are pivotal to the narrative dynamics of Peter Carey’s neo-Victorian
novel *The Chemistry of Tears*. Seeing as the novel draws imaginary ties between Catherine Gehrig, a twenty-first-century female horologist, who is grieving the death of her secret lover, and Henry Brandling, a Victorian gentleman, who seeks to restore his son’s health by purchasing a mechanical bird, reciprocal implications between the flesh and the machine, death and durability, as well as loss and longing stimulate our critical attention to how historical relations become understandable through material objects. In formal terms, the narrative split between the worlds of the nineteenth and the twenty-first century, which is mediated in each storyline by the voice of the autodiegetic narrator, Henry and Catherine respectively, consists in *aporia* that accommodates the conceptual clash between the restorative and reflective impulses of the novel’s nostalgic sensibility. In the affective economy of *The Chemistry of Tears* the material artefact, a nineteenth-century automaton, which Catherine is asked to restore, becomes not only an object of epistemological and emotional transactions, but also a medium of resurrection by means of which the novel’s characters approach the issue of mortality and the mechanics of life. By foregrounding the emotional impact material legacy has on contemporaneity, Carey’s novel raises important questions about the role of technology in the culture of global transnational capitalism, the limits of human endurance and responsibility in the processes of commodification, and the power of material objects as agents of cultural legacy and critique.

It is significant that Catherine, the novel’s twenty-first-century protagonist, works as a curator at the Swinburne museum, a fictional institution in Carey’s London: “It was a beautiful world we lived in all that time, SWI, the Swinburne Museum, one of London’s almost-secret treasure houses. It had a considerable horological department, a world-famous collection of clocks and watches, automata and other wind-up engines” (4). To the extent that she is responsible for restoring the past in the form of mechanical objects, “counterfeits of life” (15), as she calls them, Catherine operates not unlike an *archon*, an agent of memory that organises the guardianship of historical legacy stored in the museum as an *arkheion* (Derrida 9). Importantly, as Jacques Derrida reminds us, the act of guardianship is coextensive with the feat of interpretation, which grants the archival principle the power of law. To quote Derrida, “The archons are first of all the documents’ guardians. They do not only ensure the physical security of what is deposited and of the substrate. They are also accorded the hermeneutic right and competence. They have the power to interpret the archives” (10). Arguably, then, the hermeneutic power of the novel’s *archon* has implications for how we understand the conceptual link between the present and the past, premised as it is on the correlations between man and machine, mind and body, life and death. By extension, Carey’s novel may be regarded as a figurative meta-archive in that it houses a Victorian account at the same time as it relies on museology to examine the significance of nineteenth-century past for the twenty-first century world.
The spectral nature of the archive foregrounds its aporetic nature, for as Derrida unfailingly shows, the archontic acts of consignment and interpretation are intrinsically haunted by the death drive, which “threatens every principality, every archontic primacy, every archival desire. It is what we will call […] archive fever” (14). In other words, the archive takes place at the breakdown of memory, where remembering exists in a double bind with the inherent threat of oblivion. In Carey’s novel, the museum curator is an embodiment of archive fever par excellence, for she is a bereaved archon, whose material acts of remembrance through repair call our attention to the reciprocity of death and desire in the effort of mnemonic recuperation. Catherine learns of the sudden death of Matthew Tindall, her co-worker and secret lover of thirteen years, at the beginning of the novel: “How had he died? How could he die?” (Carey 5). Unable to share her grief with others, she turns to mechanical objects for emotional comfort and relief:

It is what I had always done in crisis. It is what clocks were good for, their intricacy, their particular puzzles. I sat at the bench in the workroom trying to resolve an exceedingly whimsical eighteenth-century French ‘clock.’ My tools lay on a soft grey chamois. Twenty minutes previously I had liked this French clock but now it seemed vain and preening. I buried my nose inside Matthew’s hat. ‘Snuffle’ we would have said. ‘I snuffle you.’ ‘I snuffle your neck.’” (Carey 5)

Catherine’s admission that solving the puzzles of clockwork mechanisms always help her find her own resolve is characteristic of the emotional significance Carey attributes to material objects in the affective economy of The Chemistry of Tears. The fact that she attempts to repair a timepiece is somewhat ironic, seeing as her own relationship with Matthew has run out of time, so that the material restoration itself may appear to be not just vain, but in vain. In the emotional substitution of the clock for the lover’s hat we find a sensual trade-in, wherein the mourner opts for an object that bears the trace of her lover’s body, which has also turned into a material trace. By way of inhaling Matthew’s scent lodged in the hat, Catherine seems to recapture his breath metaphorized in the act of “snuffle” as a living, breathing self, a being in motion. In its power to recall Matthew’s presence, the hat becomes, what Steven Connor calls, a “magical object”: “One way of putting this is to say that such objects are invested with powers, associations and significances, that they are therefore not just docile things, but signs, showings, epiphanies” (2). Catherine’s emotional investment in Matthew’s possession follows her instinctive perception of the object’s ontological excess, which speaks of its resistance to time that turns humans into things. As Connor observes, “Precisely because we feel ourselves to be made of time, we need the solidifying supplements of things to mark and grasp its passage” (7). The metonymic gesture of the hat bears important recognition not only of how materiality mediates the process of mourning and memory, but also of how the architecture of human subjectivity constitutes an archive that shares its material destiny with the object world.
Which is to say that for Catherine, her restorative work at the museum archive is inevitably tied to her personal struggle with archive fever, both as a bereaved subject and institutional archon.

The conceptual link between humans and objects in The Chemistry of Tears is reminiscent of Brown’s observation about how we use physical objects “to arouse and organize our affection” (2003, 162). Carey highlights the convertibility of material and emotional values: the novel’s objects are shown to be able to stand in for humans, they are cast in the role of companions to the characters’ inner lives, bringing forth the issue of material anteriority of human subjectivity, to which we will come back later. Catherine’s emotional dependence on material objects goes in line with her lack of emotional literacy and strong social ties: “There was no one I dared turn to. I thought, I will work” (5). Because Matthew was married, she cannot grieve publicly and even skips his funeral: “They would all be there, his wife, his sons, his colleagues. I would be expected to go, but I could not” (10). Anticipating Catherine’s emotional breakdown, her supervisor, Eric Croft, the only other person who knew about her affair with Matthew, presents her with a task of restoring an automaton, which Catherine is reluctant to accept: “Eric, please. I can’t” (16). Her initial aversion stems from her earlier work on a clockwork Chinaman and particularly a mechanical monkey, which gave her “headaches and asthma” (15) and whose head had to be covered “with a paper bag” (15) for Catherine to complete the restoration: “Apart from the nasty way it lifted its lip to show its teeth, it was the silk velvet I had most hated about the smoking monkey – faded and fragile, cracked and bruised. When the clockwork turned it was this faded shabbiness that made the undead thing so frightening” (18). It is the uncanniness of the automata, their simulative nature that has important implications for Catherine’s work as a grieving horologist, for in retrieving, re-organising, and restoring the material structures of the past, she re-constructs the body of her own emotional archive, the archive that is her own mourning self. In this process, too, she has to reinterpret the material of her life and rethink death as a source of legacy and moral accountability.

It should be noted that before Catherine encounters the automaton in its full material presence, she first learns of it from the nineteenth-century diaries of Henry Brandling, the first owner of the automaton, which Eric gives her by way of enticement and introduction. Herein unfolds the novel’s metafictional conceit: the act of reading figured in the narrative amplifies the aporetic logic of the archive fever, conflating material restoration with critical reflection and calling attention to the conceptual frames of neo-Victorian fiction. As a reader, Catherine not only mediates our understanding of the footprints of nineteenth-century life in contemporary Britain, but also finds herself an emotional double in the figure of a Victorian gentleman. Presented as taking place in parallel to Matthew’s funeral, Catherine’s mourning is subsumed, suspended, and sublimated through her act of reading Henry’s diaries: “All my feelings were displaced, but it was
definitely this peculiar style of handwriting that engaged my tender sympathy, for I decided that the writer had been driven mad” (21–22). The arc of Catherine’s hermeneutic activity, which later comes to include the act of material restoration, conceives itself as a ligature of moral obligation to both the present and the past that organises and legislates the dynamics of reciprocity – the chemistry between subjects and objects – in the novel. The simultaneity of the acts of burial and exhumation is suggestive of the ambivalence of her own interpretive work in the archive figured as a crypt that has the power to conserve and consecrate as much as to squander. More specifically, though, Henry’s diaries and automaton provide Catherine with an objective correlative to her own emotions; her archival corpus replaces Matthew’s corpse, archival dust substitutes for the lover’s human remains.

4. The Materiality of Grief and the Mobility of Matter

Dust, as Carolyn Steedman observes in commenting on Derrida’s notion of the archive, is the inevitable companion of the reader of archival matter (17). As an epitome of durability, dust is the opposite of waste: “It is about circularity, the impossibility of things disappearing, or going away, or being gone” (Steedman 164). One may consider dust as a social agent that lays bear the axiological premises of the archival principle, insofar as it brings to light how human subjectivity defines itself by making sense of its own material residue. Conceptually, however, the notion of archival dust in The Chemistry of Tears draws our attention to the human-object relations, which can be accounted for neither by the social life of things as examined by Appadurai nor by their metaphysical opacity as argued by Brown. In Appadurai’s terms, the circulation of emotions in the novel aligns itself with the tides of the circulation of objects, in that the materiality of grief across time and space in The Chemistry of Tears allies itself with the social mobility of material culture. For both Catherine and Henry, the automaton is an elegiac object, associated with loss and longing; it is a catalyst for the emotional connection between the two. Henry, as we understand from his diaries, sought to purchase an automaton to help his son Percy fight consumption: “My son had been in the dumps with his hydrotherapy. It was awful to hear the little fellow’s shrieks and know the cold wet sheets were being wrapped around his fevered body and another day of treatment had begun” (23).

Having already lost his daughter, Henry departs to Karlsruhe in Germany to find an engineer who could construct a defecating duck based on Jacques Vaucanson’s instructions. The duck being a water bird invites a reading of the automaton as a metaphoric double for the son, who is exposed to hydrotherapy on a daily basis. Percy’s desire for the mechanical toy consolidates his father’s trust that the automaton would save the boy’s life: “Then I knew that he would live” (26). Thus immersed in Henry’s quest, Catherine identifies with his plight:
“The more I read the more I drank, the more I drank the more I was moved by Henry Brandling. He, like my beloved, suffered for his children heart and soul” (35). In this respect, the mechanical object becomes not only a prosthetic aid to her attempts to reconstruct the nineteenth-century past, but also a metaphorical conductor that moves “history into private time” (Stewart 138), wherein Catherine recognises herself as a split compound in the chemical reaction of love: “I was frightened of visiting the cemetery. But I would not abandon my beloved” (Carey 49). Henry’s wife’s refusal to embrace the eschatological promise of the mechanical toy only adds to our reading of the two protagonists as fellow emotional orphans, for though Henry’s journey to Germany served the purpose of buying Vaucanson’s duck, in effect, it constituted a form of exile and mourning for his failed marriage, an experience that lines up with the sad consequences of Catherine’s affair with Matthew. Curiously, like Catherine, Henry and his wife found solace in trinkets and clocks, whose arrangement in the nursery sanctified the space of their daughter’s life:

For instance (to take just one of twenty possible examples) the small brass lantern clock which had so soothed our daughter in her final stages – ‘Alice’s Clock,’ so called. My wife preferred this small memento to be positioned to left of centre of the mantel and, in her grief, she became quite fierce about what exactly was its place – just to the left of centre and then twisted on an angle so it could be seen clearly from the bed. (Carey 38)

For the bereaved woman, the familiarity and reliability of the ‘magical object’ (Connor 2) annexes time by substituting the face of the timepiece for that of the daughter in such a way that the brass clock converts grief as duration into the durability of love that, unfortunately, can no longer be reciprocated. This must be the reason why Henry’s wife was upset when the maids routinely misplaced “Alice’s Clock,” thus further disrupting the family’s emotional order. In both Catherine’s and Henry’s life material objects catalyse their reactions to the loss of love, making way for a condensation of emotions that otherwise remain secreted in the depths of interiority.

To the extent that the emotional transactions that underpin the ties between Catherine and Henry are brokered through their mutual investment in material objects, the social exchanges in which the diaries and the automaton participate foreground the moral implications of the nineteenth-century’s confidence in technological progress. In this respect, Henry’s mechanical bird stands both as a metonymic sign of Victorian Britain and the ethos of the Industrial Revolution, and, in a broader sense, a metaphor for human creativity and imagination. As the literary critic Susan Stewart points out, “The eighteenth and nineteenth centuries mark the heyday of the automaton, just as they mark the mechanization of labour: jigging Irishmen, whistling birds, clocks with bleating sheep, and growling dogs guarding baskets of fruit” (57). In *The Chemistry of Tears* the mechanisation of
labour that followed the Victorian attempt to save human costs at the expense of machine-driven production is shown to be a moral corollary of the liquidity of capital in the transnational market economy of the twenty-first-century world. Having walked in on her assistant, Amanda, crying over images on her digital device, Catherine discovers that a huge oil spill had taken place in the Gulf of Mexico the day before Matthew died: “Thus: Catherine Gehrig was the last person on the planet to learn that millions of barrels of oil were spewing into the Gulf of Mexico” (162). For Carey, the engine-driven bird offers a conceptual link between our blind dependence on the modern-day oil industry and our myopia as regards environmental pollution. This is why Catherine muses: “When they invented the internal combustion engine, they never envisaged such a horrid injury. It did not occur to anyone that we would not only change the temperature of the air but turn the oceans black as death” (163).

As we learn from Henry’s diaries, Herr Sumper, the engineer he meets in Karlsruhe, who promised to produce Vaucanson’s defecating duck, took his inspiration from the Victorian inventor Albert Cruickshank, who shares his surname with a famous 19th-century caricaturist and is a fictional counterpart of Charles Babbage, the inventor of the analytical engine. In fact, Sumper sought to rescue Cruickshank’s work after Queen Victoria withdrew her financial support: “It had been his personal ambition, Sumper continued without drawing breath, to retain all twenty-five thousand elements of Cruickshank’s Engine in his mind” (216). Banished from England, Sumper did not abandon his interest in engines, even though the only assistance he found came from a French silversmith called Arnaud and a German boy called Carl, who drew beautiful plans of the city of Karlsruhe and constructed elaborate forms of artificial life. It is understandable, then, that Sumper saw the building of Henry’s automaton as a celebration of Cruickshank’s genius and the mystery of life he espoused in his book Mysterium Tremendum: “These are creatures far superior to any idea your human imagination can conceive” (170). For Sumper, Henry’s automaton was an opportunity to show how the spiritual dimension of human life may be perceived through an aesthetic form of artificial intelligence, opening a relay from the visible to the invisible: “‘You,’ Sumper pointed to Henry Brandling, ‘are in the same state as a fly whose microscopic eye has been changed to one similar to a man’s’” (170). As readers of Henry’s diaries, we are courting the same promise of epiphany, literalised in the silver inlay on the under-beak of the mechanical bird: “Illud aspices non vides” (251). The Latin phrase, which means “You cannot see what you can see,” pertains directly to the mobility of material forms of knowledge that paved the way from the analytical engine to the internal combustion engine. Towards the end of the novel, Catherine’s assistant produces a visual representation of the plan of Karlsruhe she found in Henry’s diaries and calls it ‘Home of Karl Benz’ (268). In suggesting that Sumper’s child assistant was Karl Benz, the inventor of the internal combustion engine, Carey’s novel mourns the irony of Victorian
values, which, in seeking to improve the social circumstances of human beings, inadvertently contributed to the rise of consumerism and the capitalist indifference to the perils of organic life. In the service of capitalist industry, Cruickshank’s and Carl’s mathematical imaginations are shown to be divested of their material agency and objectified as but a resource of intellectual bargaining, whose material effects are treated as ancillary to market forces.

The causal relation between Cruickshank’s invention and environmental pollution that the novel explores gains its intellectual momentum and moral resonance in light of Martin Heidegger’s observations about technology in his essay “The Question Concerning Technology.” For Heidegger, the essence of technology is that it is “a mode of revealing” (223), giving us access to unconcealment, i.e. truth: “Technē is a mode of alētheuein. It reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another” (222‒223). In this respect, technē is linked up with epistēmē, both being terms for knowing and giving us a sense of how technology participates in the questions of epistemology. Modern technology, however, Heidegger notes, poses a challenge to our contract with nature in that it engages with nature not as an object, but as “the standing reserve” (225), which is to say the capacity of nature to be unlocked, transformed, regulated, and used up. More crucially, in revealing and ordering the standing reserve, modern technology draws human beings into its own project and prompts them to seek out the standing reserve and see nature only as a “calculable coherence of forces” (228) where humans themselves are revealed as the standing reserve destined for an eclipse of truth. Arguably, in Carey’s novel the seductive power of technology that makes us lose sight of other modes of revealing announces itself in the Latin inscription on the automaton’s under-beak: “Illud aspices non vides” (251). Catherine’s inability to see what is revealed to her through the mechanical bird as technē speaks of the degree to which modern human beings have embraced the exploitative attitudes to the natural world and man’s own being, so that chemical pollution itself attains the character of revealing the moral myopia of humanity hijacked by the notion of the standing reserve. Unsurprisingly perhaps, as Catherine examines people’s online responses to the oil spill, she unlocks her own capacity for empathy, finally finding a way to release the waterworks of her own grief: “I didn’t know it had affected me. I didn’t even know that all this saline was washing down my cheeks, but when Amanda’s arms came around me, hugging from behind, I began to cry in earnest” (256).

In exposing the uneasy relations between man and nature, chemistry and physics, process and product, techne and truth, Carey shows how technology has coalesced with the disembodied forces of global transnational capitalism and deprived us of political agency in our relations with the natural world and each other. Seen in this light, Henry’s automaton appears as a metaphorical Trojan horse, calling for ethical vigilance in the face of the material promise of wealth and pleasure associated with technological marvels. Ultimately, it seems, what
we cannot see is our own blindness to the duality of human nature, its simultaneous capacity for (often destructive) creative greatness and vulnerability to moral poverty.


While the social life of Henry’s automaton exposes the moral ties that bind today’s world to the nineteenth-century scientific prowess, ontologically, it also literalises the novel’s concern for what makes us human in parallel to animals and things. Here the fact that Carey recalls Vaucanson’s defecating duck as an iconic form of synthetic life is of no small importance. As Jessica Riskin reminds us, “Vaucanson’s automata were philosophical experiments, attempts to discern which aspects of living creatures could be reproduced in machinery, and to what degree, and what such reproductions might reveal about their natural subjects” (102). In other words, Vaucanson’s mechanisms were primarily manifestations of his interest in the mechanical capacities of the body and the organic principles that comprised the natural order. Crucially, this involved not just an act of mimesis, but of simulation: “By imitating the stuff of life, automaton makers were once again aiming, not merely for verisimilitude, but for simulation; they hoped to make the parts of their machines work as much as possible like the parts of living things and thereby to test the limits of resemblance between synthetic and natural life” (Riskin 107). In the network of referentiality in *The Chemistry of Tears*, Vaucanson’s duck, whose image is visually reproduced on the page, aligns the novel’s critique of commodity capitalism with its interest in the moral amplitude of artificial intelligence. Throughout the novel, characters speak of their circumstances and their own humanity in mechanical terms. For example, Henry, exasperated by Sumper’s decision to produce a mechanical swan rather than a duck, says of himself: “I was Percy’s engine, his pulse, his voltaic coil” (192). Similarly, Catherine comments on Henry’s handwriting as “slightly mechanical” (127), her own dental apparatus is “the work of fifteen different mediocre technicians over the course of twenty years” (94), and her motions are not unlike those of Vaucanson’s duck: “I would cook. Dry pasta, sardines, capers, stale bread, olive oil. I would eat, macerate, excrete” (164). The museum she works in assumes the character of “the great mechanical beast” (98). Even more dramatically, in her memory of her days with Matthew, Catherine thinks of the planet itself as a machine: “Swimming off Dunwich beach, we had been aware of our skin, our hearts, water, wind, the vast, complex machine of earth, the pump of rain and evaporation of tide, timeless wind to twist the heath trees” (172).

The figure of the automaton as a metaphor for organic life ties in with Brown’s distinction between object and thing as measured by their readiness to hand. In light of *thing theory*, seeing as objects reveal their thingness by way of breaking
down, it seems critical that before it is fully restored, Henry’s mechanical bird exists more as a thing than an object. As Catherine and Amanda gradually reconstruct the mechanism, they reconsider the significance of every piece in the composition. Our particular attention is drawn to the hull, which keeps the engine afloat and contains a blue cube made of oak: “I thought only of Carl’s blue block, his clever trick. It took my breath away to find him buried in the hull” (137). In an outburst of enthusiasm comparable to Sump’s, Amanda offers her own archival reading, endowing, as a result, the machine with the gift of spiritual inwardness: “‘When a cube is unfolded,’ she insisted, ‘it forms a six-part Cross. The Cube is Yahweh concealed. The Cross is Yahweh revealed’” (140). Although Catherine rejects Amanda’s interpretation, the enigma of the cube remains and the automaton resists the assaults of human intellect. In correlation with the silver inscription, the hidden cube consecrates the automaton as “a magical object” (Connor 2), whose presence can only be accessed through reverie rather than logical reasoning or material use. The “magic” of the automaton seems coextensive with its agency as a toy meant to restore Henry’s son’s health by way of daydreaming, for, as Stewart aptly notes, “just as the world of objects is always a kind of ‘daydreaming,’ the toy ensures the continuation, in miniature, of the world of life ‘on the other side’” (57). As Sump tells Henry: “It is made to be a child’s enchanter. It will be beautiful and friendly. No one will be hurt” (155).

The physical and emotional fragility of the characters in *The Chemistry of Tears* further reinforces the parallels between humans and mechanical devices. Read along the lines of *thing theory*, man is a broken thing: Percy suffers from consumption, Henry and Catherine are overcome with grief, Amanda has a medical condition, and even Carl is “partly lame” (32). The capacity for thingness seems inherent in the physical parameters of human mortality. To use the words of the philosopher Michel Serres, “The body is composed of apparatuses: respiratory, digestive, locomotive, etc” (97). Inevitably, then, the process of material restoration has significance for how we think of the novel’s characters as human agents in the material universe. Both Catherine’s and Henry’s narratives reveal the interiority of experience in which the automaton participates as a substitute for a human subject (Matthew in Catherine’s case, Percy in Henry’s) and an objective correlative to their emotional anxieties. Above all else, though, the mechanical bird is a figure of durability, which epitomises the human desire for immortality. In improving on Vaucanson’s duck design and constructing a mechanical swan, Sump eliminates the aspect of waste associated with the digestive process of mortal bodies: “Even the fish it eats will rise up from the dead and swim again” (155). Arguably, the German borrows his sentiments from his teacher, who created his analytical engine to eliminate human error after his family drowned at sea because of faulty calculations: “The machine would add and add and add, like the most dogged man, but without our species’ relentless tendency to error” (198). For Cruickshank, like for Henry and Catherine, the automaton is a material
site of resurrection, where humanity’s correlation with things gives access to our understanding of desire and death. All the more ironic that the engine which was meant to remove human error lay the foundations for the engine that has put the survival of humanity itself into question.

6. The Automaton and Material Reveries

Although Appadurai’s and Brown’s conceptual frameworks offer important insights into the human-object relations in *The Chemistry of Tears*, they cannot fully account for the *archive fever* that sustains the novel’s aesthetic sensibility. As a figure of archival dust, the automaton reminds us that the archive “is also a place of dreams” (Steedman 69) and the reveries that the mechanical swan elicits speak of the material imagination that exceeds the object world. Carey may think with objects, but he dreams with substances. As Gaston Bachelard puts it: “One cannot dream profoundly with objects. To dream profoundly, one must dream with substances” (Bachelard 2006, 22). The key substances that give weight to the novel’s material world are water and earth, both of which are inextricably connected to the images of mortality. Images of water recur in Catherine’s drinking and crying, Percy’s hydrotherapy, the oil spill, and most prominently, in the mechanical bird itself. Other than a subtle allusion to Zeus: “The swan was Zeus” (Carey 261), who used the guise of a swan to seduce Leda and father Helen, the reason for the Trojan War, the mechanical swan calls for the material reveries of water tied to the phenomenology of death and resurrection. As a substance of melancholy, water is “an invitation to die; it is an invitation to a special death that allows us to return to one of the elementary material refuges” (Bachelard 2006, 55). Henry’s narrative draws its melancholic energy from his experience of loss. Likewise, Catherine measures her own subjectivity as a grieving lover by participating in the aqueous imagination associated with the mechanical swan. For as Bachelard memorably remarks, “As soon as the swan image presents itself to the imagination as a form, water must well up and everything which surrounds the swan must follow the impulse of the water’s material imagination” (2006, 41). Acting as “a universal glue” (Bachelard 2006, 107), the chemical substance of water binds Catherine and Henry not only in their shared experience of bereavement and relief, but also in formal narrative terms, resulting in a few sections of the novel narrated from a third-person point of view and headlined by both of their names.

For Bachelard, while water speaks of the reveries of passing animated by the characters’ emotional purgation when faced with the imminence of death, the terrestrial imagination inherent in the archive offers an experience of duration in the forms of resistance and repose (2002, 7–10). Serres shares Bachelard’s phenomenological view of the archive: “The authentic archives sleep in the earth and not in libraries” (123). As an earthly figure of archival dust, the automaton
both resists Catherine’s intellectual investigations and awakens her to the durability of cultural memory as a process of caretaking for the dead. The mechanical bird elicits material reveries that, through the process of material and oneiric restoration, the transmutation of death into life, bring her own being to repose, where Catherine can be at peace with herself and others: “And then the three of us are, standing, crouching, united and I am not certain of very much at all, only that our essence is enveloped by the largest sensory organ, a universe itself, our human skin” (Carey 271). In reimagining the life of Henry Brandling, she learns how material imagination renews memory, recalibrates ethical vigilance, and human commitment to cultural continuity. The testimony of the *archive fever* is that the dead are resurrected in their human subjectivity not only as things of memory, but also as our guardians, for, as Robert Pogue Harrison remarks, “We give them a future so that they may give us a past” (158). We are bound to things by way of being born and reborn from the dead, from that which has passed; that is why we are “creatures of legacy” (Harrison Pogue 39).

More importantly still, the material reveries of the archive in *The Chemistry of Tears* invite a phenomenological reflection on the material bonds to human inwardness. In phenomenological terms, humans are primordial earth: we come from *humus* and return there. Serres may have put it best by emphasising the thingness of our earthly destiny: “The experience of the object approaches the experience of death. Same earth for the thing and the body. Just as the name ‘human’ says ‘humility’ [...]” (121) To the extent that “The living subject and death are enveloped in the object” (161), the novel’s automaton lends itself to the conceptual analogy with a statue, through which Serres thinks the body’s vicinity to death and the cultural practice of substitution that re-inscribes the dead into the community of the living. If we accept his reasoning that “The subject comes out or resurrects from the object” (134), then Catherine’s reassembling of the automaton, a Cygnus, a sign for the many dead in her archive, is an exercise in humility, a shared capacity for being with *humus*. To put it otherwise, in being subjected to an object, Catherine resurrects not only the past, but also herself as a subject who finally accepts her archival responsibility for phenomenological presence and material absence: “I hold Amanda’s hand as I once touched Matthew’s skin as I now touch his son’s wet cheek. Machines cannot feel, it is commonly believed. Souls have no chemistry, and time cannot end. Our skin contains four million receptors. That is all I know. I love you. I hold you. I miss you forever. *Mysterium Tremendum*. I kiss your toes” (Carey 271).

What makes the novel’s ending particularly resonant is its emphasis on material bonding through the experience of mortality, which stands at the core of the stupefying mystery of human selfhood. Carey thinks not unlike the philosopher Dylan Trigg, who argues that the body, as a premise of human subjectivity, is tied to the world, which is both historically and biologically anterior to the human and thus stands for the nonhuman within the human (69). This is to say that insofar
as our humanity is prefigured by our material anteriority, we should also be mindful of how the human body contains a past other than its own. As a present site of lived experience, the human body is shadowed by and derives from an invisible past, which tethers man to the cosmic fabric of the world (Trigg 119). In this respect, Catherine’s emotional bonding with Amanda and Matthew’s son at the end of *The Chemistry of Tears* offers a sublime moment of realisation of the phenomenology of the body as an “archival and archaeological world” (Trigg 76). It is sublime because productive of an awe that recognises human kinship to automata as fossils of primordial time. Indeed, “time cannot end” because the material bonds of moral obligation by which the present is tied to the past, ensure the durability of passing on by way of infinite restorations through material reverie. Perhaps what we ultimately cannot see by looking is that our immortality as agents of cultural memory stems from our mortality as material things. Human nature is ontologically aporetic because it is archival.

**Conclusion**

The mechanism of Carey’s metafiction explores the bond between memory and materiality in terms of the solidarity between retention of lived experience and imagination. The novel’s neo-Victorian premise exceeds its seemingly nostalgic promise to restore the nineteenth-century past, in that by literalising the act of reconstruction, the narrative shows how the flawed materiality of human endeavours correlates with the phenomenological boundaries of embodied human subjects. Catherine and Henry’s emotional engagement (by means of hands as much as ruminations) with the automaton testifies to the durability of cultural forms and the transformative power of time as a material agent of animate and inanimate legacy. In reading *The Chemistry of Tears*, we are similarly welcomed into our kinship with the object world, for, to quote Stewart, “The toy is the physical embodiment of the fiction: it is a device for fantasy, a point of beginning for narrative” (56). In this sense, the novel itself operates not unlike Vaucanson’s duck, in that it has material presence, draws from death, digests the past, and passes it on in the form of fiction. In contrast to waste, though, Carey’s novel joins the league of archival dust, which engages the very depths of our being in its capacity to elicit empathy, reflection, and reverie.

**References**

Arias, Rosario and Patricia Pulham. eds. 2009. *Haunting and Spectrality in Neo-Victorian*