

The Ghost in the Machine: Victorian Gothic as a Response to Industrial and Scientific Advancement.



Musarrat Jabeen	Lecturer in English, School of English Iqra National University, Hayatabad, Peshawar. musarrat.jabeen83@gmail.com
Dr. Mohammad Bilal	Associate professor, School of English Iqra National University, Hayatabad, Peshawar. muhammadbilal29@gmail.com

Abstract: *This paper delves into the Victorian Gothic genre not merely as a blend of speculative constructions or ethereal imaginings or Gothic Romances. Instead, it looks at it as a cosmopolitan and cultured acknowledgement of the angst of the Second Industrial Revolution. Departing from the conventional frameworks of "castles and ruins" toward the high-tech laboratory environment and the dense megalopas, Nineteenth-century novelists cast shadows of the "monstrous" to expose the reckless vanity behind the age's thirst for progress. Through a cross-examination of Mary Shelley's Frankenstein and Robert Louis Stevenson's Strange Case of Dr. Jekyll and Mr. Hyde, the present inquiry examines how the rise of galvanic science, chemical discourse, and the burgeoning metropolis synthesized into a cautionary literary framework. Rooted in the Freudian "Uncanny" and abreast with contemporary scholarship on atavism, the investigation shows how the emergence of the phonograph and the camera served to wear away the traditional demarcation between the living subject and the mechanical object. The paper concludes that these literary endeavors are emblematic of a built-in paradox that defined the era. It investigates the antithetical relation between scientific mastery and security, contending that as humanity intensified its hold on nature, it concurrently conjured new, uncontainable angst. By drawing a line from nineteenth-century anxiety to the current ethical intersection of AI and biotechnology, this academic work deems that our trepidation of the "technological uncanny" is an invariable unconscious subjective fixture.*

Keywords: Neo-Gothic, Industrial or scientific revolution, Robert Louis Stevenson, Mary Shelley, The Uncanny, Atavism, Techno-skepticism, Galvanism.

Introduction

Classical archives recognize 1816 as the 'Year Without a Summer,' an era of Ecological catastrophe that efficiently cast ashored a plethora of burgeoning intellectuals, stimulating a demiurgic strife and emulation based on the superordinary. The grotesque Gothic was the bairn of this early mood, yet the mid-Victorian era soon replaced spectral uncertainty with the rigid, gleaming reality of the Crystal Palace and the steam engine. The period functioned as the inception of a new machine age, a time when the sacrosanct certitude of the bygone was being

disheveled by the algid, refined mechanism of scientific artifice. Inside this groundwork, the Macabre Victorianism underwent a deep structural change. The Gothic imagination retreated from the decaying ruins of the past, re-emerging amidst the clinical brightness of the laboratory and the grim, smoke-shrouded realities of modern urban life (Punter 12).

In an age where nature was increasingly dissected by the cold instruments of materialism, authors explored a terrifying paradox - that our attempts to tame the wild only turned the world into a more sophisticated house of horrors. The

present inquiry posits that the grotesque figures in Shelley's and Stevenson's seminal works are not mere figments of a Gothic imagination, but are instead semiotic representations of the era's deep-seated anxiety over scientific and technological overreach. Through a comparative study of Victor Frankenstein and Dr. Henry Jekyll, this research illustrates how Shelley and Stevenson instrumentalize the 'monstrous' to interrogate the vainglory of Victorian advancement and the collateral anxieties of a mechanized society. Shelley, in *Frankenstein*, relocates the source of horror from the realm of the occult and ancestral maledictions to the clinical reality of galvanic reanimation - a contemporary scientific preoccupation (Baldick 34). In a parallel fashion, Stevenson's *Strange Case of Dr. Jekyll and Mr. Hyde* leverages the burgeoning metropolis alongside the nascent fields of psychology and chemistry to interrogate the 'atavistic' dread that human civility is merely a fragile mask for a primordial, regressive interior. Functioning as a reactive cultural 'warning system,' these texts suggest a recursive paradox: the systematic removal of the metaphysical from the mechanical only ensures its eventual reinhabitation of that very technology.

Methodology

This paper utilizes an interdisciplinary qualitative methodology, drawing upon the intersection of literary criticism, socio-historical inquiry, and psychoanalytic frameworks. This research primarily seeks to delineate how shifting Gothic conventions functioned as a mirror for the profound socio-technical upheavals of the nineteenth century. The investigation is systematically structured using the following theoretical and methodological lenses:

1. New Historicist Analysis

This study is theoretically anchored in New Historicism, an approach that treats literature as a vital archive of intellectual history. Through the contextualization of Shelley's and Stevenson's narratives, the research identifies how fiction both mirrors and shapes the scientific anxieties of its time. More specifically,

this inquiry examines the influence of galvanic experimentation - the application of electric currents to organic tissue - within the sprawling, transformative landscape of nineteenth-century London. The analysis focuses on the displacement of traditional Gothic artifacts; here, the talismans of the occult are replaced by the empirical tools of the laboratory and the precision of chemical reagents (Baldick 45).

2. Comparative Literary Analysis

Through a comparative lens, the study evaluates the evolution of the Victorian response to progress, specifically focusing on the disparity between the early industrial era and the late Victorian era. The foundational industrial era represented by Shelley, with an emphasis on the vitalistic 'spark' of innovation and the inevitable alienation from the 'monstrous' outcome of such progress. The late-century industrial epoch represented by Stevenson, focusing on the intersection of metropolitan deterioration and the atavistic collapse of the civilized self.

3. Theoretical Framework

The study employs the Freudian paradigm of the 'Uncanny' (*Das Unheimliche*) to evaluate the profound psychological anxieties elicited by the shift toward a technocratic society. This lens is applied to decode the psychic disturbance inherent in Victorian 'media' technology, which - through the reproduction of human traits - rendered the distinction between organic life and mechanical mimicry increasingly porous (Freud 132). Additionally, the paper leverages the discourse of atavism to analyze how Gothic narratives articulated a profound dread of biological reversal - a direct cultural byproduct of the Darwinian revolution.

4. Qualitative Synthesis of Primary and Secondary Sources

The methodological approach centers on a rigorous hermeneutic analysis of the primary texts, which is subsequently synthesized with a diverse range of secondary critical discourses. Primary Sources are analyzed as discursive artifacts, serving as conduits for the socio-technical anxieties of the nineteenth century. Secondary Sources such as the scholarship of

David Punter and Chris Baldick provides the essential theoretical scaffolding to substantiate the reading of the 'monstrous' as a potent socio-industrial metaphor, transcending the conventions of pulp horror (Punter 18).

II. The Spark of Life: Frankenstein and Galvanism

Context: The Specter of Galvanism

The emergence of electro-physiology in the early nineteenth century created a significant paradigm shift, challenging the traditional distinction between biological organisms and inert physical matter. Foremost among these investigations was Galvanism, a discipline named for Luigi Galvani. His work demonstrated that electrical stimuli could induce motor activity in the muscles of a dead specimen. The transition from amphibian to human subjects was well underway by the time Shelley conceived her masterpiece. A primary example is Giovanni Aldini's 1803 demonstration, in which he applied electrical currents to the remains of George Forster, a convicted murderer, to observe the physiological effects. Accounts from the demonstration describe involuntary muscular reactions to the battery probes: the jaw quivered, one eye opened, and the right hand was seen to rise and clench, creating the haunting impression that the subject was about to be reanimated. In the Victorian imagination, electricity was no mere utility but a formidable, quasi-divine energy. It was seen as the 'vital fluid' - a mysterious force that many suspected bridged the gap between the physical body and the eternal soul. By basing Dr. Frankenstein's work on the actual and often gruesome laboratory practices of the day, Shelley ensured her horror story felt alarmingly plausible to her contemporary readers. The character of Victor Frankenstein represents a departure from traditional necromancy; his methods rely on chemical reagents and the galvanic battery. Consequently, the 'spark of life' in the novel is presented as a legitimate scientific hypothesis rather than a supernatural phenomenon.

Analysis: Victor Frankenstein as the "Modern Prometheus"

The subtitle *The Modern Prometheus* serves as the vital key to unlocking the meaning behind Victor's scientific ambitions and their ultimate consequences. Shelley adapts the Promethean myth for the Industrial Age by substituting divine fire with the philosophy of Materialism. Here, the 'spark' Victor wields is not a gift from the gods, but a tool of physical science used to manipulate the material world. Shunning divine intervention and mystical rituals, Victor grounds his work in the material world. His reliance on 'instruments of life' and 'chemical apparatus' highlights his role as a technician of the physical rather than a master of the magical. He represents the secularization of the Gothic hero; he is the pivotal figure who shifts the source of power from ancient wizardry to technical expertise and industrial-age mastery. He is the original 'mad scientist,' a character who abandons the magic wand in favor of the scalpel, shifting the source of power from the supernatural to the surgical. In making Victor a scientist rather than a sorcerer, Shelley attacks the dangerous Enlightenment idea that nature is just a machine. She warns against the pride of the 'operator' who thinks they can master life by simply understanding its parts. Shelley presents the 'workshop of filthy creation' as a dark reflection of the Industrial Revolution. In this space, Victor acts as a foreman, treating organic matter as raw material to be processed and 'manufactured' into a finished, functional product.

The Gothic Twist: The Technological "Child" and Unintended Consequences

The novel's primary terror stems less from the Creature's physical deformity and more from the ethical negligence that succeeds its creation. The Creature functions as a potent allegory for the unforeseen repercussions and social disruptions triggered by the Industrial Revolution. Paralleling the emergence of the Victorian era's sprawling, unmanageable infrastructure from industrial hubs to rail networks Victor creates a conscious entity that he lacks the moral or logistical capacity to manage. The narrative's 'Gothic Twist' lies in the characterization of the Creature as a

'technological child.' By fleeing the moment his creation awakens, Victor personifies the collective apprehension of a civilization that develops formidable technologies without first devising the ethical or social 'parenting' such innovations necessitate (Baldick 36). As a tabula rasa, the Creature's descent into vengeance is a direct result of abandonment. This transformation serves as a warning that technology stripped of human empathy and moral duty will eventually manifest as a destructive, haunting force. By disowning his 'product,' Victor shifts his scientific success into a realm of total social and domestic ruin. This suggests that the 'ghost' haunting the machinery of his creation is, in fact, the externalized shadow of his own abandoned moral conscience.

III. The Fractured City: Jekyll and Hyde and Urban Decay

As the nineteenth century drew to a close, Gothic horror transitioned from isolated, peripheral landscapes into the very epicenter of the British Empire. Late-Victorian London evolved into a congested, interlinked metropole, characterized by the pungent 'Great Stink,' suffocating 'pea-souper' fogs, and a maze-like urban layout that offered a perfect shroud for anonymity. According to Roger Luckhurst, London functioned as a hub of technological contradiction; although the telegraph and the growing rail network accelerated the rhythm of daily life, they simultaneously fragmented the human experience, making it possible for citizens to maintain bifurcated identities (52-54).

Stevenson treats the London landscape as a psychological map; the city's geography serves as an externalization of the internal tensions and moral complexities of the Victorian era. Victorian London's material deterioration evidenced by its dilapidated districts and pervasive smog served as the ideal catalyst for the Urban Gothic. Within this landscape, the public persona of the Victorian gentleman functioned as a mere facade, while the city's impenetrable gloom provided a sanctuary for the emergence of suppressed, clandestine identities (42).

Analysis: The "Technological" Drug and Chemical Transformation

While traditional folklore relies on supernatural catalysts - like the lunar-driven shift of the werewolf - Dr. Henry Jekyll's transition into Edward Hyde is fundamentally a chemical occurrence, rooted entirely in pharmacology. Driven by his scientific background, Jekyll induces his shift through the use of a unique salt and a meticulously prepared medicinal draught. This establishes a clear boundary between Jekyll and the traditional occultist; he operates as a chemist who perceives the human spirit as a collection of molecular interactions capable of being separated and reconfigured. Jekyll's drug embodies the Victorian drive toward materialism - a belief system that sought to explain the human soul and morality through the cold, clinical lenses of biology and chemistry. Ultimately, Stevenson frames this scientific breakthrough as a fundamental tragedy. Jekyll's dependence on a synthetic agent underscores the volatility of the modern identity; his sense of self is stripped of its moral permanence, becoming instead a transient state dictated by a laboratory-engineered chemical (Punter 108-110).

The Gothic Twist: Atavism and the Repression of the Primitive

The core horror of Stevenson's narrative is rooted in the theory of atavism - the prevailing Victorian anxiety that the human race, instead of moving toward enlightenment, was susceptible to a 'reverse evolution' back into a primal, ape-like condition. Such dread was an immediate fallout of Darwin's theories. By establishing a common lineage between humans and 'primitive' species, he stripped away the wall separating civilization from animalistic instinct. By frequently characterizing Hyde as 'ape-like' and 'troglodytic,' Stevenson positions him as the embodiment of atavistic qualities - the very primitive instincts that the 'civilized' Victorian sought to suppress through technological advancement and rigid social codes.

According to Stevenson, there is a direct and chilling link between the pressures of a highly disciplined, technological culture and the latent violence of its subconscious; the more the

'civilized' self is policed, the more monstrous the hidden self becomes. The laboratory, originally dedicated to the curative arts, is perverted into a threshold through which ancient, primal forces re-emerge into the modern world. Instead of an externalized evil, Hyde represents the specter lurking within the sterile, clockwork routine of a Victorian doctor - the repressed byproduct of a life defined by cold order. The Gothic subversion lies in the revelation that technological evolution fails to eradicate our primal impulses; rather, it equips them with a more potent means of expression. This suggests the unsettling irony that the pursuit of 'progress' may actually precipitate a complete ethical and biological disintegration.

IV. The "Uncanny" Laboratory

Theoretical Framework: Freud and Das Unheimliche

Freud's seminal concept of the Uncanny (Das Unheimliche) provides the vital framework for understanding the deep-seated psychological tensions of the late Victorian period. Although Freud's treatise was published in 1919, its core remains deeply embedded in nineteenth-century Gothic sensibilities. He argues that the uncanny is not synonymous with the 'frightening' in a conventional way; instead, it is that which evokes terror specifically because it feels simultaneously intimate and alien (Freud 124-130). This dread stems from a disruption of the domestic; it is the haunting sensation that arises when the 'homely' is compromised by a long-hidden truth that was meant to remain secret, yet has surfaced to light.

At the heart of Freud's argument lies the concept of the 'doubled' identity and the 'automaton'—figures that represent the fracturing of the human ego and the blurring of the line between the living and the mechanical. Freud maintains that the uncanny emerges from a crisis of categorization: the chilling uncertainty that arises when the observer cannot distinguish between the biological and the mechanical. The Victorian lab became the site of a 'crisis of presence.' As mechanical processes began to simulate biological functions with unsettling precision, the human subject was forced to

confront the terrifying possibility that their own 'unique' consciousness was merely a sophisticated machine.

Application: Technology as a Ghost-Maker

During the late nineteenth century, the role of technology underwent a profound shift; it moved beyond the mere mechanical exertion of steam and pistons to the sophisticated 'capture' of the human essence through early media and psychological science. Far from being simple instruments of industrial advancement, the phonograph and the camera functioned as 'uncanny' apparatuses - technologies that destabilized the boundary between organic life and mechanical reproduction.

The Phonograph: Upon its debut, Thomas Edison's phonograph was often promoted through a macabre lens—marketed as a technological means of 'archiving' the voices of the deceased for posterity. This era marked the first time that speech, the very essence of human vitality, was effectively 'disembodied'; it could be severed from the speaker and reanimated by a machine, creating a ghostly, autonomous echo. According to Roger Luckhurst, this technological shift fostered a 'spectral' atmosphere; the apparatus functioned as a psychic conduit, essentially transforming the clinical laboratory into the equivalent of a séance room (148-150). The human voice of the departed projecting from a metallic horn represents the absolute pinnacle of the uncanny - an intimate, recognizable sound manifesting through a frigid, lifeless apparatus.

The Camera: Much like the phonograph, early photographic techniques and the 'spirit photography' movement manipulated the uncanny; they utilized the camera's power to freeze a moment in time, creating a 'double' that felt both lifelike and unsettlingly static. Photography creates a 'doubled' identity. It offers a preserved, frozen likeness that outlives its living counterpart, serving as a permanent record of a moment while the flesh itself decays. The mechanical replication of the human visage compelled Victorians to reconcile with an era in which their own identities could be detached from their physical forms - a fragmented

existence that mirrored the psychic split between Jekyll and Hyde.

Within the framework of the Victorian Gothic, the laboratory serves as the primary locus where these ontological boundaries dissolve and traditional distinctions are erased. No longer a mere sanctuary for logic, the lab becomes a site of technological haunting - a place where the boundaries of life are blurred by machines and chemistry to produce artificial spirits. Through the processes of sonic recording and mechanical duplication, Victorian science inadvertently revived the archaic terrors it aimed to extinguish; this suggests that a world demystified by technology is paradoxically more chilling than one governed by the unknown (Punter 115-116).

V. Conclusion

Far from being a mere collection of sensationalist tropes designed for shallow diversion, the Victorian Gothic - exemplified by the seminal works of Mary Shelley and Robert Louis Stevenson - acted as a profound cultural 'early warning system.' It provided a literary space where a society caught in the breakneck speed of industrial and scientific progress could externalize its deepest anxieties. These narratives functioned as diagnostic tools, reflecting the volatile fears of a civilization racing toward a future whose ethical and ontological boundaries were becoming increasingly blurred. In a definitive generic shift, Shelley and Stevenson transposed the locus of terror from the decaying, distant medieval castle to the sterile, immediate reality of the modern laboratory. This relocation was not merely aesthetic; it served to illuminate the profound psychological and ethical fissures emerging within the Victorian consciousness. By situating horror in the heart of the city and the scientist's study, these authors forced their audience to confront the 'Second Industrial Revolution' not as a triumph of progress, but as a disruptive force that threatened to fracture the human psyche and dismantle traditional moral frameworks. Mary Shelley's *Frankenstein* persists as the seminal indictment of scientific overreach, offering a timeless critique of 'hubris' - the dangerous pride that leads a creator to

pursue innovation for its own sake. As Baldick observes, the novel serves as a profound meditation on the catastrophic consequences that arise when the 'spark of life' is ignited without a corresponding framework of moral accountability (52-55). It suggests that the act of creation is not merely a technical triumph, but a lifelong ethical commitment; when Victor Frankenstein abandons his creature, he transforms a potential miracle of science into a vengeful manifestation of technological neglect. Stevenson's masterpiece captures the late-Victorian anxiety that the 'civilized' self is a profound fiction, maintained only by social pressure and precarious self-control. By utilizing the 'modern' sciences of pharmacology and chemistry, Dr. Jekyll unintentionally proves that progress is a double-edged sword. Rather than refining the human spirit, these technological breakthroughs provide a loophole for the emergence of 'atavistic' impulses - the violent, regressive traits that Darwinian science suggested were still lurking in the human genome. Punter's analysis underscores that urbanization didn't just build better cities; it built a labyrinth of shadows where the primitive self could commit acts of violence with mechanical efficiency (112-115). Ultimately, these Gothic narratives serve as a stark meditation on the limits of Enlightenment thought, suggesting that as the physical world was increasingly 'explained' through the cold lens of materialism, the human psyche became paradoxically more besieged by the very shadows those theories sought to dispel. By attempting to quantify the soul and reduce existence to chemical reactions and mechanical laws, Victorian science left behind a vast, unlit territory of the 'irrational.' These stories remind us that the more we shine the light of empirical data upon the world, the more we become aware of the profound, haunting depths that lie just beyond the reach of our current understanding.

The profound anxieties that haunted the Victorian consciousness find a startlingly clear echo in the twenty-first century, as we grapple with contemporary 'Promethean' breakthroughs that mirror the disruptions of the past. Today, our 'New Prometheus' does not emerge from a

steam-powered laboratory, but from the algorithmic depths of Artificial Intelligence and the precise molecular revisions of CRISPR gene-editing. Much like our nineteenth-century predecessors, we find ourselves standing at an ontological threshold, forced to reckon with the reality that our capacity to engineer life and simulate consciousness is rapidly outpacing our ability to govern the ethical consequences of such power. The 'uncanny' dread that once permeated the Victorian mind - triggered by the disembodied voices of the phonograph or the macabre possibilities of galvanic reanimation - has found a profound contemporary parallel in our current existential struggle. Today, modern society is forced to navigate the increasingly porous boundaries between biological cognition and synthetic logic. Just as the nineteenth-century observer felt a shiver of 'unhomeliness' when hearing a dead man's voice issued from a brass horn, we now experience a similar ontological vertigo as Artificial Intelligence achieves a level of mimicry that makes the distinction between human and machine intelligence almost indistinguishable. The contemporary discourse surrounding Artificial Intelligence serves as a striking digital reimagining of Victor Frankenstein's central crisis: the profound existential terror of birthing a sentient 'offspring' that inevitably transcends its creator's authority. Just as Victor's 'child' became an autonomous agent capable of independent action and unforeseen destruction, modern developers fear that an emergent AI might slip the leash of its initial programming. This 'Frankensteinian' dilemma highlights the precarious gap between the technical act of creation and the long-term capacity for stewardship, suggesting that our digital creations may one day possess a degree of agency that renders human control a mere illusion. In a similar vein, the ethical labyrinth presented by CRISPR and the burgeoning field of human enhancement serves as a modern resonance of the atavistic anxieties that defined the late nineteenth century. We are currently revisiting the central Victorian fear: the suspicion that our drive to 'improve' or 'perfect' the biological architecture of the human species might backfire. This modern 'Promethean'

pursuit forces us to question whether the mechanical manipulation of our genetic code will result in a superior being, or if, in stripping away our flaws, we might inadvertently erase the very vulnerabilities that constitute our fundamental humanity. Luckhurst posits that the 'Gothic' is never far from the 'technological'; specifically, whenever an apparatus achieves a convincing imitation of life, it awakens a primal fear within the human psyche (210). This reaction suggests that our dread is not triggered by the machine's failure, but by its success - the more accurately a tool mimics the human experience, the more 'uncanny' and threatening it becomes to our sense of unique selfhood.

In the final analysis, the specter of the 'Ghost in the Machine' is far from a relic of a bygone industrial age; it is a fundamental fixture of our collective consciousness. Whether we are confronted by the brass gears of a Victorian phonograph or the invisible algorithms of modern artificial intelligence, we are prone to the same 'Gothic' suspicion: that our machines possess a life of their own. This suggests that as long as we continue to build tools that mimic our own complexity, we will remain haunted by the shadows we have engineered into them. The Gothic grew up alongside the laboratory to show that the colonization of nature is a self-defeating project. It argues that the more we try to bind the world to our will, the more it haunts us through the 'ghosts' we inadvertently build into our machines. The sensory bridge between the nineteenth and twenty-first centuries is found in the 'living mechanical.' Whether it is the macabre sight of muscle fibers animated by an electrical current or the eerie flicker of sentience in an AI chip, the psychological shock is identical. In both instances, the boundary between the organic and the artificial dissolves, triggering a dread that is as ancient as it is modern. Rather than banishing mystery, every leap in human invention acts as a new invitation for the 'uncanny' to return. We find that the progress of science does not result in the disenchantment of our world, but rather in its re-haunting; as we build faster, smaller, and more complex machines, we are merely providing the 'ghost' with a fresh, technological skin. Victorian

Gothic serves as a perennial warning: our innovations are never solitary. In every lab and on every city street, the creatures born of our curiosity will continue to walk beside us. We are destined to share our future with the ghosts of our own making, proving that the price of mastery is a world that is permanently haunted.

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