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NATURE UNDER SIEGE: THE ENVIRONMENTAL TOLL OF INDUSTRIALISATION IN GASKELL'S *NORTH AND SOUTH* AND ZOLA'S *GERMINAL*

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ABSTRACT

The epochal conflict between nature and humanity is the struggle for survival and coexistence despite all the clashes that shape human life. As humans have pushed the limits of the boundaries of progress, nature has responded in its own unique and unpredictable ways, reminding us of its power and the costs of this skirmish. As we seek to harness natural resources for growth and development, nature has often manifested itself in disasters, climate change, and ecological collapse. The current paper explores the complex dynamics of this confrontation, focusing on the relationship between industrialisation and its impact on humans and nature in Elizabeth Gaskell's *North and South* (1855) and Émile Zola's *Germinal* (1885). Both novels provide strong criticisms of how industrial progress harms rural communities and nature. Gaskell and Zola reflect the deep disruption of traditional lifestyles for people separated from nature, experiencing both environmental destruction and exploitation in industrial labour conditions. By analysing these 19th-century works, this study draws parallels between industrialisation and ecological challenges, arguing that the environmental and social degradation depicted by Gaskell and Zola continues in contemporary debates on sustainability and environmental justice.

Keywords: Gaskell, Zola, industrialisation, nature, ecology

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DOĞA KUŞATMA ALTINDA : GASKELL'İN KUZEY VE GÜNEY VE ZOLA'NIN GERMİNAL ROMANLARINDA SANAYİLEŞMENİN ÇEVRESEL BEDELİ

Eren BOLAT²

ÖZ

Doğa ve insan arasındaki çağlar boyu süren çatışma, insan yaşamını şekillendiren tüm ihtilaflara rağmen hayatta kalma ve bir arada var olma mücadelesidir. İnsanlar ilerlemenin sınırlarını zorladıkça, doğa da kendine özgü ve öngörülemez yollarla karşılık vererek bize gücünü ve bu çatışmanın bedellerini hatırlatmıştır. Büyüme ve kalkınma için doğal kaynaklardan faydalanmaya çalıştıkça, doğa kendini sık sık felaketler, iklim değişikliği ve ekolojik çöküş olarak dışa vurmuştur. Bu makale, Elizabeth Gaskell'in *Kuzey ve Güney* (1855) ve Émile Zola'nın *Germinal* (1885) romanlarında sanayileşme ve bunun insan ve doğa üzerindeki etkisi arasındaki ilişkiye odaklanarak bu çatışmanın karmaşık dinamiklerini incelemektedir. Her iki romanda da endüstriyel ilerlemenin kırsal topluluklara ve doğaya nasıl zarar verdiğine dair güçlü eleştiriler yer almaktadır. Gaskell ve Zola, doğadan koparılmış hem çevresel yıkımı hem de endüstriyel çalışma koşullarında sömürüyü deneyimleyen insanların geleneksel yaşam tarzlarındaki derin bozulmayı yansıtmaktadır. Bu çalışma, 19. yüzyıla ait seçilen eserleri analiz ederek, Gaskell ve Zola tarafından tasvir edilen çevresel ve sosyal bozulmanın, sürdürülebilirlik ve çevresel adalet konusundaki çağdaş tartışmalarda da devam ettiğini tartışarak, sanayileşme ve ekolojik sorunlar arasında paralellikler kurmaktadır.

Anahtar Kelimeler: Gaskell, Zola, sanayileşme, doğa, ekoloji

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Introduction

The reciprocity between humanity and nature, including humanity's domination over nature and nature's retribution, has been the subject of long-standing debate. Despite ongoing discussions, one fact remains clear: humanity has not gained any benefit from this conflict. In particular, as humans have transitioned to mechanised and industrialised societies, they have begun exploiting natural resources to facilitate their lives, prioritising short-term gains over long-term environmental sustainability. As Nichols (2011) argues "[...] human beings might transform, contain, and control nature for their own purposes" (pp. 156-57), which underscores the pervasive belief in human dominion over the natural world. This anthropocentric perspective has historically driven many human endeavours, often leading to unsustainable practices and environmental deterioration, which is "threatening the continued balance of the world's ecological reality" (Bartosch, 2013, p. 9). However, contemporary ecological thought challenges this assumption, emphasising the interconnectedness of all living beings and the delicate balance of ecosystems. This shift in perspective accentuates the growing recognition of humanity's responsibility to preserve the environment and reconsider its ramifications on natural systems. Among the numerous factors inducing environmental corruption, industrialised urban areas, densely populated city centres, and the inappropriate settlement of riverbeds are peculiarly noteworthy. These human-driven changes to the landscape have shattered the sensitive dynamic balance that once existed between humanity and the natural world. As a result, nature has decisively responded to humanity's attempts to reshape it for its desires, rather than living in harmony with it. Humans have consistently been forced to pay a higher price for exploiting natural resources in ways that disregard the inherent balance of the environment.

One could carry on a long debate on who is right and wrong on this issue; however, one obvious fact, and the central focus of this study, is that industrialised societies, despite the benefits industrialisation has conferred on humanity, have inflicted significant blight on the environment. The complex interplay between industrialisation and the natural environment has been a recurring theme in literary discourse, with numerous novels exploring the cataclysmic aftereffects of industrialisation on ecosystems. Two of these novels are *North and South* (1855) by Elizabeth Gaskell and *Germinal* (1885) by Émile Zola. Gaskell and Zola's novels, which examine how the Industrial Revolution changed human society, unveil industrialisation's harms to both the environment and the people connected to it. Accordingly, this article investigates how industrialisation, environmental damage, ecological decay, and social change are inscribed in these two well-known literary texts. Consequently, this study aims to help the reader gain a better understanding of environmental problems today and to draw attention to the vital role of nature for humans and all other living beings.

Industrialisation and Ecological Decline: An Ecocritical Perspective

The Industrial Revolution of the 19th century, along with the accompanying process of industrialisation, stands among the pivotal events that epochally altered the course of human life. With the start of the Industrial Revolution, its transformative power is soon understood. This transformative force, shaping the environment, societies, and economies, has come at a considerable cost. The environment/nature has been the most adversely affected by this

transformation. Thus, the negative effects of industrialisation on the environment/nature have come to the agenda of theorists and scholars who are sensitive to these issues and aim to raise awareness. As a consequence, “contemporary writers have become increasingly engaged with ecological destruction and the potential harm to human communities because of such destruction” (Agofure, 2019, p. 187). In response to this growing concern, ecocriticism, which has served as a lens to analyse and criticise the environmental corollaries of industrialisation in the late twentieth century, adopts the role of a framework.

This framework illuminates the complex relationship between industrial growth and environmental degradation, revealing the hidden costs of progress. Industrialisation, despite its perceived positive aspects, has driven the rapid expansion of factories, mines, and urban centres. According to Riordan (2006), “Modernity – the social, political and cultural transformations wrought by rapid industrial and technological developments – had inevitable impacts on the natural environment, in ways that we would now recognize as having ecological implications” (p. 313). This rapid pace of progress has also led to the use of vast quantities of natural resources. Forests, one of the sources of life for people, have been felled for timber and housing; rivers have been dammed or polluted to power factories and dispose of industrial waste. People’s natural habitats have been altered to make way for roads and railroads. Tickell (1992) clarifies that “in the last 250 years the industrial revolution has changed the face of the planet. It is based on an unprecedented consumption of natural resources, especially fossil fuel which is only stored sunlight” (p. 66). These radical changes have resulted in an ecological catastrophe that will be irreparable in the years to come. Borlik (2011) notes that “At the dawn of the twenty-first century, modern industrialised nations have gradually begun to confront the fact that human actions can have a drastic and potentially catastrophic effect on the stability of the climate” (p. 121). This acknowledgement marks a critical turning point in environmental discourse, as societies begin to face the outturns of unregulated industrialisation and resource consumption resulting in a catastrophe for humanity. As the reality of these sobering results becomes undeniable, a more profound reflection on humanity’s role in environmental dilapidation is increasingly necessary. It is here that literature plays a crucial role, as it not only reflects these environmental concerns but also, as Bartosch (2013) reiterates, “can negotiate central dichotomies and propose its own imaginative solutions” (p. 18) to the environmental crisis. By exploring complex themes such as nature versus culture, human versus nonhuman, and individual versus collective responsibility, literature can push back against prevailing narratives and offer alternative perspectives. Through its exploration of complex themes and its ability to challenge prevailing narratives, literature, particularly through the lens of ecocriticism, has emerged as a vital platform for examining, critiquing, and proposing solutions to noxious environmental attitudes. To more comprehensively examine the role of literature in addressing environmental issues, it is crucial to engage with the field of ecocriticism. “The environmental approach to literature began to receive widespread public attention in North America, Western Europe, and East Asia in the mid-1990s, coinciding with the publication of *The Ecocriticism Reader*, edited by Cheryll Glotfelty and Harold Fromm, in 1996” (Slovic et.al., 2019, p. 3). In its strictest sense, as Glotfelty (1996) defines, “ecocriticism is the study of the relationship between literature and the physical environment” (p. xviii), which validates the inherently interdisciplinary nature of ecocriticism, drawing on both literary studies and

environmental sciences. Garrard (2004) further expands its paradigm and propounds that “ecocriticism is closely related to environmentally oriented developments in philosophy and political theory. Developing the insights of earlier cardinal movements, ecofeminists, social ecologists and environmental justice advocates seek a synthesis of environmental and social concerns” (p. 3). Garrard’s perspective encourages a more holistic approach to environmental issues, recognising the complex interplay between ecological, social, and political factors. Building on Garrard’s call for a holistic approach, Glotfelty further articulates the intricate relationship between nature and culture, focusing specifically on the way these interconnections are reflected and constructed through language and literature. For Glotfelty (1996), “ecocriticism takes as its subject the interconnections between nature and culture, specifically the cultural artefacts of language and literature” (p. xix). Glotfelty’s argument provides a valuable foundation for understanding ecocriticism as a field that explores the complex interplay between humans and the natural world through the lens of language and literature. By analysing the relationship between humanity and nature, ecocriticism not only scrutinises pernicious practices but also offers insights into how literature can inspire more sustainable and harmonious interactions with the environment. With this theoretical foundation, the following part turns to specific literary examples that render the environmental sequelae of industrialisation, focalising on the works of Gaskell and Zola.

Industrialisation’s Environmental Toll and the Disruption of Rural Communities in Gaskell’s *North and South* and Zola’s *Germinal*

Language and literature are cardinal tools for reflecting the human condition, and there is no better medium for articulating the devastating transformation of nature. In this context, Elizabeth Gaskell’s *North and South* is a remarkable examination of the critical social and environmental changes brought about by the Industrial Revolution. By juxtaposing the rural haven of the South with the inexorable realities of the industrial North, Gaskell’s novel divulges the sharp contrast between nature and industry. Gaskell was familiar with her society and its current condition because she “lived a large part of her life at Manchester, during the first period of the Industrial Revolution. And she was horrified by the bad conditions in which the poor lived, and by the unChristian spirit that possessed both employers and employed” (Cecil, 1948, p. 235). Cecil’s observation amplifies Gaskell’s intimate awareness of the social and economic phenomena of her time, evidently the ferocious conditions brought by the Industrial Revolution. Living in Manchester, one of the epicentres of industrial enlargement, Gaskell was directly exposed to the extreme poverty and anguish endured by the working class. Her horror at these conditions, as well as her dismay at the lack of compassion from both employers and workers, reflects the deep social and moral concerns that permeate her oeuvre. She “writes in a city in which industrial production and a dominant market are the determining features, and in which, in quite different ways from London, there is the new hard language of class against class” (Williams, 1975, p. 219). This experience informs her literary assessment of industrial society, making her novels important social commentaries on the dehumanising ravages of industrialisation.

Gaskell instantiates industrialisation as a force that disrupts the natural order and conveys to the reader the picture that emerges in the face of this force. The smoky, tainted city of Milton, representing the North, is the antithesis of the South with its green, blue, and pastoral

landscapes. Martin (1983) states that “The title itself stresses the contrast between the agricultural South of England and the industrial North” (pp. 91-92). This dichotomy serves as a central theme in the novel, reflecting not only geographical differences but also the broader social, economic, and cultural tensions between these regions. Gaskell utilises this contrast to explore the implications of industrialisation on multifarious facets of society, juxtaposing the pastoral ideal of the South with the grim realities of the rapidly industrialising North, thereby providing a nuanced critique of the social transformations of her time. Being aware of all these veracities, Gaskell touches upon the physical and psychological effects of industrial life, especially on the working class. She depicts the alienation of people from themselves and their surroundings in the city, where cramped, chaotic, and unhealthy living conditions are combined with prolonged labour hours. Gaskell disseminates her views on society through Margaret Hale, a young woman who has to leave her pleasant life in the south of England and move to the north, where she encounters the tough facts of the Industrial Revolution.

In her work, Gaskell (1934) urges upon the physical transformation of rural areas into industrial zones: “The lodge-door was like a common garden-door; on one side of it were great closed gates for the ingress and egress of lorries and wagons” (p. 131). She indicates the invasion of machinery and commerce into what were once serene environments. By describing the lodge-door as ‘like a common garden-door’ juxtaposed with the ‘great closed gates’ for industrial vehicles, she enunciates the encroachment of machinery and commerce into previously tranquil environments. This imagery pinpoints the contrast between the rural past and the industrial present, symbolising the sweeping environmental and social changes brought about by industrialisation. Gaskell’s reification of Milton is a living example of industrialisation in its purest sense: “[...] at Milton the chimneys smoked, the ceaseless roar and mighty beat, and dizzying whirl of machinery, struggled and strove perpetually” (p. 505). The imagery evokes a sense of overwhelming activity and mechanised energy that defines the industrial landscape. As Celeste (2012) elucidates, “Gaskell composes her novel during the rise of the age of mechanical reproduction - the era that first heard the modern problem of noise pollution. As the sonic balance of her world tipped from pastoral peace to urban roar, she textually catalogues her reactions in *North and South*” (p. 33). Her portrayal of Milton as a place of constant motion and noise reflects the dehumanising and alienating outcomes of industrialisation, where the natural environment and human experience are dominated by the demands of machinery. Through this vivid iconography, Gaskell interrogates the unchecked expansion of industrialisation, delineating its capacity to reshape both the physical and social fabric of life. Gaskell (1934) illustrates the change she hints at in the previous quote: “The air had a faint taste and smell of smoke, perhaps, after all, more a loss of the fragrance of grass and herbage than any positive taste or smell” (p. 67). She explicates the subtle yet pervasive pollution in the air, signifying the gradual erasure of natural elements in industrial towns. Her expression, ‘the loss of the smell of grass and herbs’ underlines the deleterious toll of industrialisation on the environment. In ecocritical terms, this loss is an erasure of ecological connection, where the organic world is supplanted by artificial elements, mirroring the displacement of natural landscapes by industrial development.

Mrs. Hale’s life in Milton is also markedly disparate from that in Helstone where she has lived “in and out perpetually into the fresh and open air” (p. 102). Mrs. Hale’s contrasting

experiences in Milton and Helstone reflect the far-reaching theme of industrialisation's fallout on quality of life. In Helstone, her life is characterised by freedom and access to fresh and open air, symbolising the rural idyll and the health and tranquillity associated with nature. The air in Milton is "deprived of all revivifying principle as it seemed to be here" (p. 102). This shows the contrast between Mrs. Hale's former life in Helstone and her new existence in the industrial town of Milton, illustrating the entrenched influence of environmental change on her well-being. Gaskell's phrases "fresh and open air" actually construe not only to ecological change but also to the limiting effect of industrialisation on women. Mrs. Hale, previously freer and healthier in her rural life, is worried about losing the blessings she had after moving to the city. On the other hand, Gaskell indicates that the industrial atmosphere is not only physically oppressive but also spiritually and emotionally corrosive. Mrs. Hale's nostalgia for her rural life and her subsequent illness in Milton can be seen as a symbolic reflection of industrialisation, which not only endangers nature but also the human spirit, a recurring motif in ecocritical analysis.

Noise and pollution are two of the most pivotal problems that are encountered with industrialisation. This is clearly understood from Mrs. Hale's statements: "[...] there is so much noise and dirt always. I remember once going in a lilac silk to see candles made, and my gown was utterly ruined" (p. 115). Mrs. Hale's statements illustrate the pervasive and intrusive nature of industrial pollution. Mrs. Hale draws attention to noise because she wants to show that the rural and quiet life in Helstone, where she used to live, is intrinsically divergent from the unfavourable soundscape of industrial machinery in Milton. Through Mrs. Hale's personal anecdote, Gaskell effectively transmits the pervasive environmental problems associated with industrialisation. In this heavily industrialised environment, it is not only the milieu that is mechanised but also human relations. Margaret's thought substantiates the state of constant busyness and limited communication that she has seen in Milton: "There were always at liberty to speak or be spoken to. But in Milton every one was too busy for quiet speech, or any ripened intercourse of thought; what they said was about business" (p. 411). Margaret's reflection on the atmosphere in Milton evinces the estranging impacts of industrialisation on human relationships and communication. Her observation overemphasises the relentless focus on work and efficiency that defines the industrial setting, leaving little room for meaningful interpersonal connections or thoughtful dialogue. The comparison between the ease of communication in other settings and the limited, business-centric interactions in Milton illustrates how industrialisation prioritises economic activity at the expense of personal and intellectual engagement. Gaskell deploys Margaret's thoughts to reflect the social changes in a rapidly industrialising society and to reprimand the superficiality of human interaction based on self-interest. Milton's industrialised atmosphere eliminates the possibility of meaningful and intense conversations amid rigorous work conditions. In other words, it becomes difficult for basic human qualities to manifest themselves in an industrialised climate. The hectic mode of labour that ensued with industrialisation has established a social order in which people have to constantly catch up on things, reducing communication to a minimum level. As a natural corollary, it is not possible to stay healthy in an environment of heavy machinery, noise, and dirt where basic human qualities cannot be realised. Mrs. Hale's rapidly deteriorating health after moving to Milton and her subsequent death after a certain period of time is a plain

manifestation of it. This decline in personal well-being mirrors the synecdochic consequences of industrialisation, where the relentless pursuit of progress often comes at the expense of human health and connection. As Easson (1980) suggests, “industry, labour, and capital are central to *North and South* and were intended to be from the beginning” (p. 39). Gaskell crafts her work not only as a narrative of personal development but as a profound exploration of the industrial age’s dynamics and the way they shape societal and individual lives. The industrial city of Milton becomes a sphere, reflecting the broader clash between rural traditions and industrial progress.

Gaskell’s *North and South* “unfolds, dramatises, analyses and combines a wide range of feelings and passions, personal as well as political” (Hardy, 2011, p. 19). With a multifaceted nature, her novel serves as a commentary on industrialisation, corroborating its detrimental reverberations on the environment, human relationships, and individual health. The transformation of the pastoral countryside into the marred industrial town of Milton functions as a microcosm of the larger ecological devastation wrought by industrialisation. Gaskell’s contrastive exigency of the north and south parts of the country mirrors an ecocritical concern with industrial ascendancy that erodes the natural world and disconnects humans from their environment. As David (1981) asserts, “Technologically armed man, in the shape of Thornton, battles with nature in the assertion of industrial power over her raw and crude materials, reinforcing this struggle between human ambition and the natural world” (p. 11). David’s assertion foregrounds the symbolic conflict between industrialisation and nature, embodied by Thornton’s character in *North and South*. With the character of Thornton, Gaskell alludes to the greed of humankind. She conveys how human beings harness the technological advances in their favour for their own comfort, which has become more and more powerful. This indicates that the struggle between human ambition and the natural world prioritises industrial augmentation at the expense of nature, reinforcing ecocritical concerns about the current situation. Gaskell’s novel also reflects significant emotional and physical costs induced by industrialisation, revealing the intricate interplay between human suffering and ecological destruction in the age of industrialisation. As Wright (1995) aptly observes, “*North and South* is a book full of pain [...], the pain of stress and disturbance, of pangs of conscience and sexual torment. It is also the pain of loss (p. 105). This emotional and physical pain resonates most strongly in the extirpative conflict between human ambition and nature, which cataclysmically alters the well-being of those caught in its midst, as exemplified by Margaret Hale and her family.

By illustrating Margaret Hale’s disillusionment and her family’s declining health upon their arrival in the industrial North, Gaskell denotes the physical and psychological costs of this estrangement from nature, a key point in ecocritical discourse which asserts that human well-being is intimately tied to environmental health. While Gaskell touches upon the tribulations experienced by people alienated from nature, she also re-emphasises the feeling of reverting back to nature. Margaret, now an orphan, returns to her town and finds everything as she left it. Margaret’s reflections on her lost rural home unfurl her heartfelt connection: “It hurt her to see the Helstone road so flooded in the sunlight, and every turn and every familiar tree so precisely the same in its summer glory as it had been in former years. Nature felt no change” (Gaskell, 1934, p. 465). This nostalgic memory epitomises the contrast between the serene, unchanged

natural landscape of Helstone and the rough, befouled environment of Milton. The novel's exposition of industrial Milton represents an environment devoid of natural life, with factories taking precedence over greenery and fresh air. This aligns with ecocriticism's scrutiny of the anthropocentric view of nature as a mere resource to be exploited for profit, without consideration of its intrinsic value or the long-term consequences of environmental degradation. The dehumanising conditions of Milton mirror the attrition of nature itself; as the environment becomes blighted and mechanised, human relationships and health deteriorate.

Shifting the focus from Gaskell's English countryside to the French mines, Émile Zola's *Germinal* furnishes a kaleidoscopic portrayal of the physical and psychological cost exacted by industrial labour. The protagonist of the novel is Étienne Lantier, a miner with a protest personality, who lives in Montsou, a bleak region in the north of France (as in Gaskell's novel, industrialisation and its damages are taking place in the northern part of the country). As Sara Pritchard (2005) asserts, "The focus of Zola's novel is the social dimensions of French industrialisation. It explores the growing tensions between capital and labour in one mine, the aptly named Montsou" (p. 731). By concentrating on the growing tensions between capital and labour, remarkably in the Montsou mine, Zola highlights the exploitative dynamics that arose during this period. As a microcosm of social conflict, the Montsou mine is a representation of the dramatic divergence and growing enmity between the rich mine owners and the poor working class. By establishing the mine as a central nexus, Zola shows that industrialisation creates wealth for a certain minority while causing poverty, disease, and misery for the vast majority of the people. Pritchard (2005) supports this argument and elucidates, "Without much subtlety he contrasts the miners' desperate poverty and their arduous working conditions with the mine owners' lavish houses, decadent meals, and condescending views of their workers" (p. 731). By juxtaposing the mine workers with the mine owners, Zola stresses the vast inequality between the working class and the bourgeois elite. This lack of subtlety in the narrative reinforces the oppressive nature of capitalism, illustrating how the wealth of the elite is built on the depredation and despair of the labour force. Zola makes a compelling and unambiguous denunciation of the exploitation and dehumanisation inherent in the industrial system.

The colliery that emblematises all these criticisms directed by Zola is the mine named 'The Voreux'. Zola (1942) characterises this mine as follows: "the Voreux, at the bottom of its hole, with its posture as of an evil beast, continued to crunch, breathing with a heavier and slower respiration, troubled by its painful digestion of human flesh" (p. 10). Zola's personification of the Voreux coal mine as a monstrous creature serves as a powerful and evocative image. This depiction transforms the mine from an inanimate object into a destructive force that engenders both humans and the environment. The ostensible impact of this deleterious entity on the city is visible to the naked eye. The following description in the novel apparently unshrouds the decimation generated by coal mines: "[...] the sky was earth-coloured, the walls were sticky with greenish moisture, and the roads were covered with pitch-like mud, a special kind of mud peculiar to the coal country, as black as diluted soot" (p. 61). This adulterated environment is a direct result of the mining operations, evincing the deep scars of industrialisation. With these descriptions, Zola manifests that industrialisation not only worsens human life but also destroys the environment, turning the natural world into a mirror

of the bleak and dirty interiors of the mines. The current situation extends beyond being a localised issue; it spreads nationwide. “Throughout the entire country, in fact, there was nothing but a long echo of ruin” (p. 264). This implies not only physical vitiation but also the deep-seated social and economic extension of industrialisation. Apart from this gloomy atmosphere surrounding the city, the presence of mines also catalyses landslips, “which were threatening everywhere” (p. 327). By abandoning the passages, the company creates the conditions for the disaster and then attempts to mitigate the despoilment through financial compensation rather than preventative measures. The collapse and the company’s attitude signify the fragility of the land under the weight of industrial plundering, illustrating how ecological deterioration and social inequalities are inextricably linked in the wake of corporate greed.

Along with the damages inflicted on nature such as landslides, mines also have a catastrophic effect on the labourers in the mines. Workers wrestle with various health problems due to the inconvenient working milieu. Zola exposit their plight as follows: “[...] the grandfather, coughing and spitting out the black phlegm, taken again by rheumatism which was turning to dropsy; the father asthmatic, and with knees swollen with water; the mother and the little ones scarred by scrofula and hereditary anaemia” (p. 181). By uncovering the grievous implications of the polluted environment of the mines on each family member, Zola propagates the inevitable and intergenerational abominable corollary of industrialisation. The suffocating atmosphere of the environment turns workers into hopeless and often apathetic individuals: “They only complained when the lack of food killed them off; and already they were falling like flies in the settlement” (p. 181). This quote suggests that survival is the primary concern, and even then, the response is limited to complaint rather than effective action. Zola delineates the dehumanising repercussions of poverty and exploitation and the extreme vulnerability of the miners, who are pushed to the brink of survival. As Pritchard (2005) expresses, “By the end of the novel, many miners and their family members have lost their lives to industrial accidents, starvation, sabotage, and military repression of the strikes” (p. 731). Pritchard’s observation underscores the novel’s exegesis of the harsh truths of industrial life, which is densely employed by Zola throughout the text. From an ecocritical perspective, the miners’ suffering parallels the devastation inflicted on the natural landscape. The disregard for human lives mirrors the disregard for nature.

Zola’s novel “offers, despite its limitations, an effective understanding of the social and economic and political problems which divide Europe now into two halves” (Goldberg, 1967, p. 505). Shedding light on the stark facts of his period, Zola, in *Germinal*, directs a severe criticism against industrialisation by representing it as a mechanism that devastates both human life and the natural environment. Zola’s *Germinal* presents an even more direct critique of industrialisation’s ecological and human cost by focusing on the calamitous impetus of coal mining on both the landscape and the labourers. The deployment of Voreux mine as a monstrous metaphor powerfully encapsulates the ecocritical idea that industrialisation is not merely an economic or social phenomenon but a violent assault on the natural world. Further, as Pasco remarks, “the mine represents man’s incursion into nature, a force that seems malevolent, perhaps only because it is mindless” (1973, p. 741). Zola deliberately embodies the mine as a scatheful agent to highlight the unfavourable aspects of industrialisation. The mine, often seen as a sign of human achievement and economic success, is shown as wreaking havoc. It upsets

the natural balance and brings pain to both people and nature. By describing the mine as a malevolent force, Zola not only denounces the negative effects of industrial growth but also prepares for a closer look at its environmental imprint. The polluted area around the mining town attests to the grave and sometimes permanent violation of the environment by such industrial actions. This imagery expounds the main focus of ecocriticism, which propounds that industrial practices can severely corrode ecosystems. Moreover, Zola's vignette of miners suffering from a seditious work sphere, where illnesses such as asthma, scrofula, and anaemia are common, shows an ecological perspective that exploiting nature for human benefit can critically exacerbate people's health. The mine's damage to the land, causing landslides and environmental problems, is similar to the physical and mental breakdown of the workers, adumbrating the close connection between environmental ruination and human misery. As Hewitt (1974) underlines, "In *Germinal* the earth eventually avenges itself upon the miners who have cut into its artery of coal" (p. 131), which highlights the symbolic retribution of nature against human exploitation. This perception encapsulates the environmental viewpoint in *Germinal*, where the earth is viewed not as a passive resource but as an autonomous entity that can retaliate. The miners' constant removal of coal, which can be seen as an infringement on the earth's unity/cohesion, leads to their own pain, showing a wider criticism of industrialisation. This pattern of depleting both the land and the workers' bodies manifest the strong link between environmental disservice and human wretchedness, preparing for Zola's larger social and ecological criticism. Moreover, Zola's criticism goes beyond the immediate aftermaths of industrialisation to show the long-term impact on both the environment and the working class, as seen in the miners' steady acceptance of their fate, with entire families grappling with the physical problems stimulated by their surroundings.

Conclusion

In the past, hardship moulded people into resilient and capable individuals who valued and were connected to nature. In contrast, modern humans, accustomed over time to the comfort of a variety of amenities, have abandoned the rudiments of life, including their connection to the natural world, for the sake of their convenience. Each convenience obtained has led to acute demolition in the natural habitat and, in parallel, to serious adverse consequences on human life. Industrialisation has been the leading tool for mankind to create a comfort zone. In this respect, this study has explored the ecological and social ramifications of industrialisation on both the natural environment and human communities through an ecocritical analysis of Elizabeth Gaskell's *North and South* and Émile Zola's *Germinal*. A comparative analysis of these two tomes paints an intricate tableau of the impacts of industrialisation on both human societies and the environment. Set in different industrial geographies, Gaskell's in the industrial north of England, Zola's in the coal mines of northern France, these works unravel that unrestrained industrial progress has reverberations, especially for ecological balance and social justice. Gaskell's novel presents the inherent tension between rural and industrial life by contrasting the peaceful, green countryside of Helstone with the dirty, noisy and defiled industrial town of Milton. Gaskell expends this contrast to reflect the physical and psychological effects of industrialisation on individuals, especially women, as seen in the character of Mrs. Hale, whose health deteriorates after moving to the industrialised North. Gaskell also castigates the alienation and emotional detachment instigated by the factory-

oriented atmosphere in which human relations are reduced to commercial exchanges in a mechanised environment. Her novel epitomises a weighty concern with both ecological degradation and the human cost of industrialisation. In fact, the origin of this concern stems from the ongoing conflict between nature and human greed, and Gaskell emphasises that in order to solve this problem, a balance between nature and human beings must be achieved and thus, natural harmony could be created. On the other hand, Zola's novel renders the coal mine as a nefarious catalyst that drains both nature and workers. The Voreux mine is a manifestation of the ecological and social annihilation triggered by industrial labour and is personified as a monster devouring nature and people. Zola's narrative accentuates the sharp gap between the rich mine owners and the poor and suffering miners. By addressing this distinction in society, Zola actually refers to the class struggle in his country, which accelerated with industrialisation and took a new form. The novel's sombre imagery of the miners' health and illnesses alludes to the physical decline that will last for generations, indicating that industrial domination extends not only to the environment but also to human bodies.

In their core essence, these two treatises examining the intervention of industrialisation on both people and nature in England and France show how cities alchemised into morphologically distinct forms due to urbanisation and industrialisation. Their stories portray the natural world worsened because of industrialisation. Both works deal with issues such as the uncontrolled depletion of natural resources, the growing gap between the rich and the working class, environmental depredation, and the social inequality fostered by capitalism in a more modern and industrialised globe. Thus, the writings of Gaskell and Zola not only crystallise criticism of their own era but also foreshadow the ecological and social problems of the future. Through their detailed descriptions and engaging narratives, these compositions reveal that industrial and economic increment, underpinned by the greed of the powerful class, is at the expense of the environment/nature and social welfare. Gaskell and Zola convey to the reader the ecological consequences of the Industrial Revolution through narratives that question man's subjunctive control of the natural and social structure.

Gaskell and Zola demonstrate that while industrialisation enriches some, it causes great damage to the environment and the lives of most people. This idea is in line with ecocritical theories that denounce the capitalist system for prioritising economic growth by manipulating industrial systems to their advantage while ignoring environmental and social problems. By referring to the havoc in their own societies, Gaskell and Zola promote the ecocritical idea that industrialisation leads to the exploitation of both natural resources and human beings. Gaskell and Zola's novels strongly criticise the anthropocentric view that nature exists only for human interests. The deterioration of the health and welfare of the mine workers trying to live against nature and the loss of health and peace of mind of the Hale family after they start to live in an industrialised city indicate that humans cannot live against nature. This view and the decay reified in the novels also imply the idea that it is misleading to perceive nature as something to be consumed and exploited, instead of seeing it as a living system that is an integral part of human life and sustains both humans and other living beings. As I mentioned at the beginning of the study, humans have never survived any struggle against nature. *North and South* and *Germinal*, anticipating the problems that today's world will face two centuries ago, corroborate this notion.

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