

Rehumanization of Humans through Literature in the New Industrial Revolution Era

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Abstract: This paper was triggered by the concern of dehumanization caused by very rapid technological developments in the fourth phase of the industrial revolution. This paper investigates the contribution of literature in re-humanizing humans deemed to be affected by increasingly sophisticated technological advances, especially looking at what must be done by those involved in the study of literature. This study employs a descriptive qualitative method by employing literary works and theory on literature as the objects of investigation. Responding to Klaus Schwab's challenge that people should be given priority and that the invention of technologies is to serve people, tracing back to the response of literary men to the earlier phase of industrial revolution, and taking into account the evolving characteristic of literature this paper proposes two points namely machine in literature and machine as literature as the keys of the contribution.

Keywords: literature and industrial revolution; rehumanization; machine in literature; machine as literature

1. Introduction

The industrial revolution is believed to have a tremendous impact in all aspects of life. Since the first phase in the 18th century to the last phase which is widely known as the fourth industrial revolution, it has attracted much attention from experts from all disciplines to convey concepts and strategies in dealing with them. There is a belief that each stage has its own peculiarities and has different effects. The fourth is characterized by Networking and exchange of information between human and machine. Therefore, it is sometimes referred to as "The Second Machine Age", referring to Brynjolfsson and McAfee's book which managed to attract the attention of those who have great concern about the implications of digital technology for future life (Spencer, 2017), especially for human resources (Harahap & Rafika, 2020), morality (Yusnita, Prasetyo, Hasanah, Octafiona, & Rahmatika, 2023; Hakim, 2022) and ethics (Zvereva, 2023; Green, 2021).

Some of the characteristics of technology deal with the physical, digital and biological changes and give impacts to economics and industries; and one way to respond to this condition is to make a human-based industrial revolution and to achieve that direction requires a collaborative action that involves many parties. In the fourth industrial revolution people are encouraged to improve the collaboration among all parties from all over the globe to benefit themselves from the process of transformation (Schwab, 2016). The captivity of the potential of artificial intelligence lead the debate on humanity which challenge the people' identity, creativity and consciousness (Thornhill, 2019). In this respect Brynjolfsson (2015) asserted that the second machine age helps unleash the power of human ingenuity. In the second machine age, therefore, Brynjolfsson suggested that we need to think much more deeply about what it is we really want and what we value, both as individuals and as a society. He used the term "Ideation," or coming up with new ideas or concepts, especially the good one, where humans have a comparative advantage over machines.

This is a challenge that must be responded wisely by all disciplines including those involved in the study of literature. Until now, literary theory always leads to two poles; namely the poles of those who believe that literature must be studied from within the literature itself without being associated with things outside the

work itself and other poles assume that literary works will be more beneficial if associated with other factors such as the author, the reader and whatever underlies the creation of the work. The second pole is believed to be especially true when it is related to the idea that literature has close relationship with human being and its special natural characteristics show that it is inseparable with anything concerned with the activity of human being. Naturally literature is always up-to-date, evolving and grasping the whole aspect of life. Literature developed in line with the development of human civilization. Horton in Hariyanti and Sudjito (2018) mentioned that literature is a reflection of life in a particular era and develop over intellectual, social and moral ferment basing upon the sensibilities of an artist. Thus, literature can be collaborated with other disciplines.

Studies concerning literature and the industrial revolution are nothing new. But their findings actually reinforce the argument of this study. There have been many studies ever since the first stage of industrial revolution. To take some, Rani (2019) and Devi (2016) explored the positive and negative impact of Industrial Revolution on Victorian literature. Sawin (2019) studied the influence of Industrial Revolution on Literary and Artistic Movements.

Several studies linking the industrial revolution with literary education gave rise to various ideas that literature should be used as the first and main doorstep to achieve a superior generation with a cultural literacy mentality (Pambudianto, 2019) and that the study of contemporary literature will help the millennials in understanding the cultural tourism in that it needs to be developed by considering the disruptive mindset and leveraging technology in a globalized world, shows the importance of creative industries (Surbakti & Sebayang, 2018); the role of the Industrial Revolution 4.0 for literature is limited to distribution through cyberspace literature (Manugeran, 2019); and to fulfill career prospects nowadays should put more emphasis on digitalization and Artificial Intelligence (Devi, Annamalai & Veeramuthu, 2020).

In line with concerns about dehumanization as a result of the Second Machine Age and the desire to promote the contribution of literature to shaping human-based industrial revolutions and to re-humanize them, this study focuses on 2 problems, namely in what way does literature re-humanize humans caused by the forces of the industrial revolution and how does literature contribute to shaping human-based industrial revolutions. There will be two main points that will show the contribution of literature to the industrial revolution, that is first by tracing the machine in literature in the past, exploring it now and empowering writers to make it more significant in the future, and second by viewing machines as literature.

2. Research Method

This research was conducted with a qualitative descriptive method because it deals with social problems that connect at least three components consisting of literary writers, texts produced, and the public and which have been directly involved in the Industrial Revolution.

The method used in this research is descriptive qualitative because it is related to the phenomenon in the community; namely the existence of dehumanization as a result of the Industrial Revolution 4.0. The Industrial Revolution 4.0 itself is no longer merely a phenomenon in society, but has even become a social reality, where everyone is directly or indirectly involved in implementing technological development. This method was taken to describe facts which are then followed by breaking down the data to the stages of explanation and understanding. Data were collected from various industrial literary works, including machine literature and references related to the study of literature in the industrial revolution and especially by tracing back what has been done by those who are involved in the process of creating literary works and study of literature. Data analysis was done using analytical methods which rely on polyhierarchical or faceted approaches. Data analysis is going to involve identifying common patterns within the resources and critically analyzing them in order to achieve research aims and objectives.

3. Result and Discussion

3.1. Machine in Literature

Dehumanization as the effect of very rapid technological developments in the fourth phase of the industrial revolution can be overcome or at least reduced by empowering literature through the authors with their works. Tracing back to the historical facts, the literary responses to the industrial revolution were reflected in their works. English literature in the Victorian era clearly shows a picture of people's response to the early industrial revolution. The rapid development of industry in the United Kingdom and America provides great opportunities for authors to express their ideas and at the same time show their criticism.

The literary critic responses to the industrial revolution itself vary. Observing the early industrial novels in England, Colby (1995) argued that they have the same features such as how the poor is prescribed in detailed, how the dialect of the working class differs from others, how the industrialism is criticized, how the contemporary reform movement is discussed etc. In this respect Diniejko (2010) asserted that they endeavored to accept social conscience by empathizing social iniquities and injustices. The novels have been the first to

document in detail how industrialism, urbanism gender and class conflict happened. The novels gave first-hand detailed observations of industrialism, urbanism, class, and gender conflicts. Zlotnick (2001) pointed out that male British authors responded to the early industrial revolution with pessimism while female authors seemed to be more optimistic. Similarly, American writers gave various response to the early Industrial revolution in the United States.

The critical response to the tremendous growth of technologies also varies. Leo Mark wrote that the themes in literature of the nineteenth century were mostly deal with the dialectical tension between the pastoral ideal in America and the rapid and sweeping transformations wrought by machine technology. He argued that the role of literature is to expose the problem of such contradiction. However, he believes that the writers do not offer any solutions of the problem: "They have 'clarified our situation' but have not created the 'new symbols of possibility' we need (Marx, 2000, p. 265)." Indeed, at first some British and American authors saw the machine as useful. As machine and its technology developed, some deemed machine as a threat. Friedrich Schiller (qtd in Evans & Onorato, 2020) argued that machine is not a culture friendly, suggesting that it is a threat to an existing culture. It may ruin the mind. Therefore, Ketabgian (2011) offered alternate cultural history searching the harmony among human, animals and machine in the literary works and cover all sides of life, domestic, musical, scientific and philosophical.

The illustration of the invention and the power of machine in literature can be traced back especially to the last decades of the nineteenth century up to the present time. Machines have been used as sources of inspiration for the creation of literary works since their first invention. Machines with the development of technology have been used as a means of developing themes either literally or metaphorically. The invention of Artificial Intelligence inspired the writer to make use of artificially intelligent machine robots as protagonists or antagonists in their works. Machines have also been used as settings. The condition and placement of machine for example, can provide a variety of settings.

Among the most popular works with the theme of the machine and the use of machines as protagonists or antagonists, for example, can be seen in *Twenty Thousand Leagues Under the Seas: A World Tour Underwater* by French writer, Jules Verne in 1870 and published in English in 1872 and *The Time Machine* written by G.H. Well in 1879. These early pioneers were deemed to transform science fiction into modern fact, which in turn gave birth to more fiction, which we call science fiction. The fascination of the potentiality of Artificial Intelligence resulted in the creation of , for instance, *Iron Man* (1963), American science-fiction serial films *The Terminator* the first of which was released in 1984 and the last was in 2019, and the *Matrix* (1999) which was followed by two film sequel in 2003. Other works with the theme of engine power are also seen in *Frankenstein* written by Mary Shelley in 1881 which describes a young scientist who creates a hideous sapient creature in an unorthodox scientific experiment. *The Octopus* (1901) written by Frank Norris illustrates the power of a train engine that has a strong grip like the octopus tentacles. In his novel *Poor White* (1920), Sherwood Anderson tells a darker tale, the betrayal of man by his own machines. The newest novel, *Machine Like Me* (2019) written by Ian McEwan challenges the reader to think about what would happen if humans were defeated by their machine. In the form of a short story, *The Flying Machine* written by Ray Bradbury in 1953 illustrates the authorities' concerns over the misuse of the invention of the flying machine and the death sentence for its creator. Machines in poetry can be seen for example from Rudyard Kipling's work entitled *The Secret of the Machines* which deals with the problem of modern technology and automation, and Margaret Rhee's debut collection of poems *Love, Robot* (2017) which depict the speculative love between human and robot. Digital poems on machine are now flourishing. Machine in Drama is seen for example in *The Adding Machine* (1923) by Elmer Rice which depicts a dehumanization, mechanical society dominated by commerce Ali & Saleh, 2018) and other realistic drama such as *Death of Salesman* by Arthur Miller and *The Glass Menagerie* by Tennessee William. The new technology in drama is seen especially in the setting of the performance, especially on the stage spectacle and special effects.

Based on the facts above, and remembering that one function of literature is to encourage people to do something, and the fact that Literature has a consistently inventive capacity to adapt and thrive to new material conditions, Literature has the opportunity to make its contribution significantly. Science-Fiction emerged along with the development of science in the late nineteenth century. In the digital age we can see that literature is fluid, it adapts to changes in society, including technology. Therefore, literature is also expressed in online websites and available at all time. History also shows that the definition of literature developed in line with the times. Literature also not only refers to the so-called "Great Book" or canon but also to what came to be known as popular works. Canonization is believed to be the result of politicization because when viewed from the contents, both those belonging to the canon and the popular ones contains the very essence of the human experience.

Recently the coverage of literature expands from written into audio, visual, and audio visual forms such as comic strips, speeches, movies etc. In its development the term grey literature emerged. Grey literature deals

with both electronic and printed good quality documents of academics, government, industry and business which has intellectual property rights and are preserved by credible library or repositories but not controlled by commercial publishers (Savić, 2018).

Based on the natural characteristic of literature and its extensive coverage, the empowerment of literature can be done collaboratively and comprehensively. With their genius and creativity, novelists, cartoonists, poets, playwrights, film writers and other writers of literature should stop or at least minimize the portrait of the lament, alienation and dehumanization or even more seriously showing their anger or denial of science and the advance of technology, but instead they should maximize the portrait of what is meant to be human and of how humans with their creative power manage the machines of their creation; and of how they become masters of the engine of creation instead of being slaves to their creation through the characters in their stories.

Likewise, the fact that naturally literature grasps the whole aspect of life, the authors also have the discretion to address issues of regulation and law in relation to the creation of machines in their works, by so doing collaboration will occur with policy makers in both the industrial and state spheres. Government written documents, especially those relating to the regulation of laws and other policies relating to technological developments, must be based on the idea that all regulations are made for the benefit of humans, not for the benefit of technology. The same actions need to be taken by the business and industrial world. All policies concerning the relationship between machines and humans must be more human-based.

All of these activities require people who are able to make use of their multiple quotients known as not only intelligent quotient, emotional quotient, and spiritual quotient but also the transcendental quotient which is closely related to one's ability to interpret life in a religious perspective. In this respect, sermons can also be empowered significantly. Sermon itself has been empowered by the British and Americans since before the industrial revolution. In the United States of America, the sermon was the dominant literary form in the American colonies. The sermon played an important role in the Revolution. Most clergymen published their sermons to justify the war effort by a rationale that was more political than religious (Green, 2015). Digital preaching is becoming more widespread and preachers must tackle the context of this digitized audience with careful preparation (Samson, 2019). Thus, from now on the sermons could be much more empowered to remind humanity that all technological advancements are made solely for the benefit of humans, that the creation is not appropriate and may not be able to outwit its creator. As such, it is impossible for humans to surpass the Almighty God as the creator. In other words, the sermon makers need to make their sermons to justify human grace compared to the machines created.

3.2. Machine as Literature

The relationship between machines and literature is very unique and growing. Besides being connected with the process of creating and publishing literary works, in its development, the machine became a medium for writing and data sources for research and study of literature (Brnabic & Hess, 2021). Lately relationships have become increasingly challenging and even considered worrying when the machine turns into a writer.

The machine is connected with the process of writing and publication of the work. Typewriters and printing machines were used to be the main devices for publishing authors' writings. In their development, their role began to be replaced by a new discovery engine. Computer began to replace the typewriter; and printing presses are no longer the sole means of publishing authors' writings. In the digitalized era, the term digital literature emerged. This genre, however, does not include printed works that have been digitized but rather refers to works that are indeed written with digital equipment that is difficult to print or rather deliberately intended not to be printed. It is meant to be read on computer. Digital literature provides a way to explore, understand and further develop the way digital culture, its ways of reading and writing are formed (Pold, 2019). Digital literature is used to improve our understanding on digital technology; from different phases of interface to link texts in internet technology including how texts is shared socially virtual. Some studies assert the advantages of digital literature over the printed ones especially for youngsters (Astuti, Fauzia & Yuhafliza, 2019; Susilowati, 2021; Muryati, Agustin, & Putri, 2019). This genre makes it possible for writers to collaborate on the writing of their work and even at the same time can invite readers to get involved in creation.

In addition to being a means for writers to write their literary works, machines in the digital age make it easier for researchers and those who are studying literature to get abundant data quickly and also make it easy to write their reports. Initially the use of computers in the study of literature reaped controversy and hostility and only a few conducted computer-based literary studies, but now most academic researchers make use of them. This, to some degree, due to the fact that machines are becoming more friendly and easier to use and encourage inexperienced people to try to use them. Documentation becomes easier because the language used is closer to the types of languages that are familiar with humanists and there will be developments in computer technology that provides unlimited processing power for researchers. Some studies argue that literary Review could be done

easier and more effective based on machine learning (Bacinger, Boticki & Mlinaric, 2022; Madakam, Uchiya, Mark, & Lurie, 2022; Issah, Peter, Appiahene, & Inusah, 2023).

The relationship between machines and literature is becoming increasingly complex, as technological developments enable Machine Learning programs and Deep Learning programs which is deemed as the smarter AI (Sarker, 2021) to perform any variety of human tasks, including writing. Deep Learning gives better performance than ML in for instance, natural language processing (Alzubaidiat et al., 2021). The machine turns into a creator of works (Gervais, 2020) There are concerns from the writers that artificially intelligent robot machines will take over their jobs because AI machines create material that has economic value and that competes with productions of human authors. However, some studies and experiments have shown that machine creations cannot outperform human authors because “writing is not data, it is a means of expression, and a non-sentient computer program has nothing to express (Poole, 2019);” and regardless of its potential usefulness (Gayed, Carlon, Oriola & Cross, 2022) machine suggestions do not necessarily lead to better writing (Clark, Ross, Tan, Yangfeng Ji, & Smith, 2018).

This study shows that thinking of machines as literature is worth considering.

The machine can be analogous to literary works. Both are human creations for certain purposes. As a creation both have similarities in various aspects such as the existence of various forms from simple to sophisticated with special components in each form, and the language used. Just as literature uses languages that are considered different from everyday language, machines also have special languages. Machine language is the language understood by a computer. The languages used could be divided into four levels: low-level language, specific language, assembly language and high-level language (Pei, 2018). High level languages may use natural language elements which are closer to human daily languages which make them more friendly to humans and easy to understand (Parveen & Fatima, 2016).

Unlike the literary language which tends to be connotative which can lead to multiple interpretations, machine languages tend to be denotative, at least in the preliminary stage of invention. Connotative words or phrases can lead to unsatisfactory results or even the worst danger. However, if then the machines could conduct complex, language-based tasks such as translation and text summarization, it is because they are programmed to do so. Likewise, the development of Natural Language Processing (NLP) in 1960s was designed to make better the performance of computer in understanding and processing the natural language that humans do. Therefore, from the perspective of the use of language, the ability of machines to respond to commands with more complex languages and the possibility of machine language ability that exceeds human ability is very dependent on the human ability to provide input data on the machine and foremost on the good will of humans themselves.

Machines can also be seen, studied, and treated in the same way as literary works. We can study the machine itself without being associated with the creator and its users as literature can also be seen solely from the work itself without paying attention to the writer and reader. However, it could be more useful only when viewed from how much the benefits for the creator and especially for users.

As with the creation of literary works, machine creation also needs to be linked to the creator and the benefits that will be obtained by its users. Behind the sophistication of the engine there is a human who created it. Smart machines are created by smart people. The sophisticated machines known as AI with its application such as Machine Learning and Deep Learning and Robotic Process Automaton were obviously designed and created by human. Machines are not created by themselves; automatic machines that seem to work without human intervention are actually also the result of human creation. The inventors or the creators, however, should consider the benefits of their creation. Alluding to Art for the sake of art which is not recommended, technology for the sake technology is not either. Technology for the sake of technology as stated by McKenzie (2013) is false promises, false prophets and false notions. Automation, robotics and artificial intelligence should not be the goals. They are merely tools. The goal of Automation, robotics and artificial intelligence are to make easy human task. Even if then they are designed to work like the human brain they are basically created as machines that are smart enough to follow orders. If the inventors, machine programmers, and their users have an awareness of the use and benefits of these machines for humanity, then dehumanization will erode or at least decrease in degree.

4. Conclusion

By tracing back to what the literary writers and critics have done since the first phase of Industrial Revolution up to the present time, Literature can contribute to counter or at least eliminate dehumanization as a result of technological progress in the fourth phase of the industrial revolution by empowering them to collaborate with lawmakers and policy makers concerning the manufacture and use of sophisticated machinery, and priests or clergymen. Literary writers and critics should produce more works that show what is meant to be human, showing figures capable of managing machines, and addressing issues of regulation and law in relation to the creation of machines in their works. Law and policy makers should also produce more human-based laws

and policies. Through their sermons, clergymen could remind humans of the position of technology as a human creation and a tool. Machines can be analogous to literary works because they are the results of human creation with a specific purpose. Both also have various similarities such as the existence of different types with their respective components that are specific, the use of different languages, and their relation to the makers and users. Behind the creation of machines that are increasingly sophisticated there are people who conditioned them. Concern about the possibility that the Artificially Intelligent machines will defeat humans in the future depends very much on the awareness and good will of humans themselves. The Transcendental awareness that humans will not be able to defeat God as their creator will more or less give human awareness that the intelligence of their creation machines cannot surpass their intelligence. Therefore, to re-humanize people requires people who have multiple quotients, who not only have Intelligence Quotient, Emotional Quotient, and Spiritual Quotient but also Transcendental Quotient.

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