

AI GENERATED LANGUAGE: A CONTRIBUTOR TO HUMAN EXISTENCE

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Original Article

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Abstract

One tool for narrative initiation, understanding, interpretation, analysis, and (re)shaping is language, a phenomenon always considered as exclusively human and a phenomenon that gives its human users a superiority over other beings. However, human linguistic superiority seems to be threatened in the hyper- real twenty- first century. The threat is posed by the open AI systems which while collaborating with their human users display the capability to autonomously generate free and unconstrained yet coherent and meaningful language. Being contributors to the collaborative (re)shaping of nonlinear narratives in the digital medium, AI generated language needs to be qualified as presenting coherent and meaningful texts that logically connect to the human inputs and steer forward the narratives while maintaining their thematic unity. This study employs linguistic model proposed by Halliday and Hassan (1976) to study AI generated language as coherent and meaningful texts with an aim to strengthen the observation that AI generated language texts possess the attributes that are associated with human produced text and have the potential at conveying subtle meanings and suggesting underlying themes through wise use of cohesive devices and pertinent use of lexical choices. The dissertation also highlights the need to devise new theoretical perspectives and analytical tools to address the emerging phenomenon of a nonhuman AI agency capable of collaborating freely, meaningfully, and effectively with the human race.

Key Terms: coherence, meaningfulness, logical connectivity, thematic unity, transhumanism, hyperreality, posthumanism, blended workforce.

Introduction

With a belief that human race is at a very beginning stage of its evolution, science has always aimed at developing technologies that would help human race transcend its limitations. It is in the twenty- first century that the role of science is transformed from explaining and presenting knowledge about the world into a performing one, a role executed by technologies developed with an aim to help their users. Initially targeting to help reduce the burden of physical chores and perform cognitive tasks with ease and efficiency, AI systems are classical examples of science and technologies that have evolved into autonomously operating systems that generate free language to collaborate with their human users and assist them in ways that model human to human interaction. Virtual influencers, humanoids, robots, plot, script and poetry generators, drama and experience managers, google guide, voice bots, chat bots, virtual assistants are a few examples of the innumerable AI systems that, in response to human users' inputs, operate autonomously and generate free language under no constraints, hence practically demonstrating a performative role. The interaction and collaboration of human users with the autonomously

operating AI systems are a manifestation of the reality in which technology in the form of open AI systems has assumed a participatory role in giving human existence a new dimension.

AI systems have often been used as drama and experience managers by the authors of the interactive architectures with an affordance for user input. Most often, the author has already designed the responses in advance to the probable user inputs and the task of the AI as drama and experience manager is to generate the suitable response as and when required. The aim of such AI systems is to despite user inputs (i) keep the unfolding nonlinear interactive narratives within the boundaries prescribed by the author, (ii) maintain the smooth, coherent, and meaningfulness of the narratives being (re)shaped, (iii) ensure logical progress of the narrative, and (iv) keep the interest of the user intact. Often referred to as “ludo narratives”, nonlinear narrative (re)shaping in collaboration with the AI done within the interactive architectures designed with finite affordance for user inputs, has been the focus of multiple studies. However, there is another facet to the (re)shaping of nonlinear narratives done in collaboration with AI systems; a nonlinear narrative (re)shaping achieved through the autonomously operating AI systems such as virtual characters, assistants, chat bots, and fiction/ poetry generating AI engines. AI systems assisting their human users in real life by autonomously generating free and unconstrained contributions are often referred to as open AI systems. Such AI systems are programmed to generate their responses over an infinite interactive architecture i.e. for every human user input, they have a response and the narratives being (re)shaped can take any direction. There is no end to such interactive sessions and open AI systems can generate limitless language responses.

The capability of the open AI systems to interact and collaborate with their human users in real time in the digital medium as well as real physical world has an implication that they have become contributors in defining the present shape of human existence. This is only possible if AI generated language qualifies as coherent and meaningful texts that not only (re)shape nonlinear narratives logically but are also received, understood, interpreted, and responded to by the human users meaningfully and logically.

It is important to note here that where coherence and meaningfulness of human users' input are products of their language learning and usage capabilities learnt and influenced by multiple factors, the AI generated texts are products of AI operations carried out autonomously on the data available in the phase space and conceptual phase. This is especially true in case of language forms that are long and used for (re)shaping narratives in fiction. The aim of this paper is to study the coherence and meaningful of AI generated language to qualify it as texts. Through generation of coherent and meaningful texts while collaborating with their human users in writing fiction, the open AI systems can be called to have become co- sharers to a phenomenon that is traditionally believed to be a human forte.

Research Questions

1. Does AI generated language qualify as coherent and meaningful text?
2. How does AI generated language text contribute to human existence?

Objectives

1. To analyze the cohesive devices and the lexical choices that qualify the AI generated language as presenting coherent and meaningful texts.
2. To analyze the contribution of open AI systems through their generated texts to the present- day human existence.

Delimitation

For the purpose of this study, the focus is on the autonomously operating open AI engines that collaborate with their human users in writing fiction narratives.

Literature Review

Using deep learning models such as encoder- decoder, neural networks, adversarial, and transformer GPT models, Open AI systems are developed on patterns of human cognition to generate language. Collaboration of the open AI systems generating free and unconstrained language contributions for a coherent and meaningful narrative (re) shaping is analogous to “machine contributing in making art” (Meyer, 2000). Where, on one hand, use of the digital medium for human interaction and collaboration with the open AI systems is restricted to the digital medium to offer an immersive interactive experience, it is also the capabilities of the AI engines to generate coherent and meaningful language that keeps the interest of the user intact. Szilas (2007; 756) believes the credit of an engaging, cohesive, and meaningful user experience goes to the AI system that the author programs for a smooth flow of narrative (re) shaping.

Riedl (2009) observes that human users’ writing of fiction in collaboration with AI systems implies a “process of instilling an artistic vision and authorial intent into a computational system”. Akin to the patterned practices of Paleolithic era, Islamic civilization, jacquard looms, cave paintings, and archaeology, AI generated language can also be studied as products of autonomous operations that the systems perform on the data available in the phase and conceptual space (Galanter: 2016). Similar to the ways used for reading into patterns offered by geometries, architectures, symmetries, and number sequences, AI generated language despite being products of their programming are coherent and have meanings to convey (Meyer, 2000).

Where there always remain chances of the out of context use of words and sentences, inconsistencies in building sense of time, place, and development of characters, flaws in the connectedness of the settings, AI generated language always appear to “challenge the way [one] read[s] and offers new ways to think about language, literature, and computation” (Montfort, 2007). It presents AI as an intelligent agency with capabilities to understand syntactic, pragmatic, and semantic norms of human communication. And, it is the generation of coherent and meaningful language that enables AI systems to respond, “in seemingly human- like ways” (Ferrara et al, 2014; Guzman, 2018), and the “the human like ways” have their roots in the coherence and meaningfulness; the qualities that give AI generated language a seemingly natural quality. They present AI as “an embodied agency, embedded in the interactive settings, and has the abilities to effectively listen, think, and speak” (Mateas, 2002; 187).

Conceptual Framework

The marked characteristic of the AI generated language lies in its coherence and meaningfulness. It is through free and unconstrained generation of coherent and meaningful language by the AI that makes collaborative writing with human users a hyper-real experience; an experience in which the distinguishing lines between AI generated contributions and those produced by human users become blurred. Novel like “The Day a computer writes a novel”, screen play like “Sunspring”, chat bot like “Jessica”, and virtual assistant applications like “SIRI” are some of the innumerable interactive AI systems that defy the traditional divides between human and nonhuman, organic and inorganic, natural and artificial. Present study into the contributory role of the AI generated texts is guided by the conceptual framework that is triangulated as follows:

- i. Transhumanism: Human race is at a very beginning stage of its evolution and needs to be aided with science and technology to help transcend its limitations. AI is one such product of

science developed with an aim to help its human users perform seemingly impossible tasks not only with ease but also with speed.

- ii. Posthumanism: in contrast to transhuman school of thought that considers human race at the center of the universe and which has the right to utilize all available resources, posthumanism believes in the mode of existence beyond human capacities. Not plagued with old age, disease, and death, post humanism targets at creation of beings that have greater powers and capabilities than human beings. Open AI systems being focused on in this research are taken as posthuman beings that are not constrained by divides and dualities of human existence, have exceptional data analytical abilities, vast memory, precise decision taking powers, and enjoy morphological freedom away from the constraints of spatio- temporal situatedness.
- iii. Hyperreality: Despite the fact that AI generated language is the product of simulation of the concepts available in the phase and conceptual space, its coherence and meaningfulness make it appear so natural that it becomes difficult to distinguish it from human produced language. The hyperreality of the human AI collaboration in the digital medium for the (re)shaping of nonlinear interactive narratives lies in the seemingly natural quality of the AI generated language germinating from its coherence and meaningfulness.

Research Methodology

For this study, three different applications i.e. (i) Novel ai, (ii) Sudowrite ai, (iii) Hyperwrite ai were selected to collaborate with the researcher and participate in the (re)shaping of nonlinear interactive narratives through natural language generation.

- i. The AI engines were selected against the criteria of offering creative story or long narrative form template.
- ii. The study aims to focus on the AI generated language instead of human language contribution, so human language input was kept to a minimum.
- iii. The first user input by the human user served as a prompt to the selected AI engine to start generating text and was kept identical in all interactive sessions. It neither referred to any specific historical epoch nor did it place any specific socio- cultural constraints on text generation by the AI. The first human user input did not give any anchorage to the AI for text generation along any specific lines.
- iv. Subsequent user input was given to steer the AI for further text generation. Subsequent user inputs ranged from giving a mere click for further text generation or choosing a specific option from the options presented by the AI.
- v. Being products of autonomous operation on the data available in the phase and conceptual space, the AI generated texts can be checked for their uniqueness by using any plagiarism checking software.

Analytical Framework

In this study, the term text refers to the language not taken as random words used to construct a discourse presenting specific ideas but as coherent, meaningful, and logically connected chains/ sequences of language elements that aim to convey specific yet logical meanings. Presence of two or more ideas in an interactive session, and that they may or may not reinforce each other, may give a random effect to the language, and place it in a position of not making sense if they are not connected logically. Similarly, AI generated language needs to be qualified as a coherent and meaningful text which connects different ideas logically and convey the core ideas/ themes. Linguistic model proposed by Halliday and Hassan (1976) has been used as

follows to qualify AI generated language as text presenting ideas logically and conveying core themes.

- 1. Cohesion.** Analysis of the cohesive devices is conducted to help in qualifying the AI generated language as a text presenting different ideas logically and meaningfully. Analysis of the cohesive devices include analysis of the language in terms of use of (i) references, (ii) conjunctions, (iii) substitutions, and (iv) ellipsis to qualify it as a text.
- 2. Lexical Cohesion.** It is through the choice of lexicals that the generated language is analyzed to convey certain meanings and build narratives on specific themes. It is through the use of a variety of lexicals that are connected to each other in terms of their synonymy or anonymity, that serves to provide a smooth and interconnected flow of related concepts. The study would involve the examination of lexical choices used in the AI generated language from the perspective of (i) the frequency of the use of identical lexicals for the reiteration of a given idea, (ii) the inclusion of synonyms for the reinforcing ideas, (iii) the use of antonyms for referring to opposite ideas, and (iv) nouns used for treating the ideas belonging to the same head categories.

Data Analysis and key findings

Analysis of the cohesive devices indicate that AI generated language presented more than one idea. These ideas could be of the same nature and may even refer to the opposite meanings. It is through the extensive use of cohesive devices that the generated language qualified as presenting a meaningful text centered around a variety of themes and meanings. The language generated by the AI engine displayed a wise use of a variety of references ranging from personal to possessive to anaphoric to exophoric references, all used with knowledge inbuilt in them to help the receivers of the language know where to look for their meaning i.e. within the story world presented by the language or to the world present outside the frame. A variety of conjunctions including additive, causal, adversative, temporals, and demonstrative conjunctions are used to connect the similar ideas for avoiding boredom and monotony and maintaining a smooth flow in case of the presence of contradictory ideas. Additionally, it is observed that most of the AI generated sentences are complex compound indicating a variety of ideas, and it is through the use of references and conjunctions that a symmetry and balance is achieved to render the language qualifying as a coherent, meaningful, and logically rich text.

On the other hand, analysis of the lexical content of the AI generated language indicates that lexicals can be categorized into a number of head categories, each of which indicates one or more specific themes around which the language is generated. Many- a- times lexicals can be analyzed to be used in binary oppositions to one another so that the true meaning surfaces up through the relations of contritely and comparison and contrast.

Discussion

Wherein analysis of the cohesive devices helps in qualifying AI generated language as coherent and meaningful texts, it is the use of lexicals to which such language owes its richness of meanings. It is apparent that the first user input is the only available language data that was to be used by the AI engines for language generation; a language that qualifies as coherent and meaningful text contributing to a coherent, meaningful, logically connected, and thematically unified narrative (re)shaping. The first user input was based on five terms: (i) emerging digital technologies, (ii) relationship between Rex and Carroll, (iii) identities of Rex and Carroll, (iv) impact of emerging digital technologies, and (v) lives of Rex and Carroll. As a result of each interactive session, it was observed that AI interpreted each of these terms in a unique way and generated texts that not only contained lexicals related to the key terms, but it

is through the interpretation of each of the lexicals that different meanings and themes could be inferred.

For example, emerging digital technologies was interpreted as internet, a means of communication and it is on this interpretation that further language texts were generated. They contained related lexicals each reflecting themes like positive or negative impacts on internet on the lives, relationships, and identities of Rex and Carroll. The themes reflected in the AI generated language could be derived from the lexicals being used such as serving as means of easier and efficient connectivity, posing potential threats to individual's reputation, providing immense help in academics and professions etc., and it is through the use of the lexicals (may they be similar or in binary opposition) that the coherence and meaningfulness of the generated language as a logically connected text be traced.

Similarly, whereas Rex is a name most often used for male subjects, it is the name Carroll that was independently interpreted by the AI and was assigned at variance to male or female subjects. However, it is the interpretation of Carroll as belonging to a specific biological orientation that determined the lexical content of the language being generated further. Lexical content of the language generated further that reflected on theme of their relationship with one another and the subsequently related themes indicating emotions, thoughts, different stages of life, concerns like respect, reputation, insecurities, fears, reservations, planning, gender performativity, socio- cultural constraints, moral and ethical bindings etc.

Not only does the similarity or anonymity in the lexical choices serve as a cohesive bond in the generated language to qualify it as a coherent and meaningful text, but it is also through the lexical choices that narrative presenting a story world inhabited by specific subjects is not only created but (re)shaped as well. And it is also through the lexical choices that various themes and meanings reflecting human life emerge.

Results:

The study of the data sample indicates that AI systems not only interact, understand, and interpret lexicals presented to it through human user input meaningfully but also generate language that through the meaningful use of lexicals qualifies to be called a coherent, meaningful, and logically connected text. Wherein, on one hand use of cohesive devices and lexical choices help to qualify AI generated language as a coherent and meaningful text, they, on the other hand, point to a unique aspect. It is through such coherent and meaningful language text contributions that a thoroughly human context is created, and the narratives presented through it are logically and thematically (re)shaped. It presents AI as a being that has the capabilities to understand and interpret human context, subjectivity and intricacies of human thoughts, emotions, and bindings of the human socio- cultural context. It also highlights AI as capable of identifying, reflecting, and (re)shaping narratives on human life and its subjectivities meaningfully through a wise use of lexicals and pertinent cohesive devices. AI's choice of lexicals indicate its capabilities of presenting values and themes that endow human subjectivity to the characters that it generates.

Interpretation of the Results

It is in the logical connectivity achieved through the pertinent and related lexical choices and wise use of cohesive devices that the hyperreality of the AI generated language text lies. It is through the language it generates that AI reflects on themes and values that are thoroughly related to human existence.

Reflection of human values and themes revolving around human life and existence poses a unique phenomenon for where such choices can be justified in case of language produced by

human users, the interpretation and generation of further lexicals by an agency that is nonhuman becomes strange. There can be innumerable factors such as constraints placed by background, age, socio-cultural contexts, norms, values, ethics, and ulterior designs that influence human selection of specific lexicals but AI's selection of lexicals by an AI needs to be studied for AI is a being that is not human, lacks all sentience for human context, is unconscious of any binding, and remains unaware of the consequences that its generated language may produce.

The hyperreal collaboration of human user with autonomously operating open AI systems generating coherent, meaningful language that yields a logically connected text can be interpreted as a blended workforce. This blended workforce can be interpreted in the light of transhumanist and posthuman schools of thought. Human users constrained with their subjectivities derived out of their various contexts are present at one end of the workforce and at the other end are present the autonomously operating open AI systems that are nonhuman synthetic beings but because of their posthuman qualities are able to identify, relate, and generate coherent and meaningful language on human values. Together the two forces contribute to narrative (re)shaping i.e. where human users give subjective inputs, AI independently interprets and analyzes human input and generates coherent and meaningful language text output. It is the logical connectivity and thematic unity of the AI generated language text out to the human user input, that the entire process of collaborative (re)shaping of nonlinear narratives becomes a hyperreal phenomenon and the distinction between the two contributions cannot be made.

The blended workforce has grave implications such as (i) nonhuman and human come in equations with one another, (ii) being in equations imply that both human and nonhuman experience transformation in their collaborative venture, and (iii) both contribute to the production of a new context which is a product of hyperreal intermingling of the real with the virtual. Considering AI generated language to have its roots in simulacra with no real referent and being a unique and new response to the same human input in every interaction imply the transitory and evanescent nature AI generated contributions to nonlinear narrative (re)shaping.

Conclusion

Collaboration of human users and autonomously operating open AI systems for nonlinear narrative (re)shaping results in the production of a new context; a context which is the product of the blended workforce being produced by the nonhuman AI and the human users. Being products of lexical choices that have no real referents, the text resulting from such lexicals despite its coherence, meaningfulness, logical connectedness, and thematic unity becomes a source of pseudo traits of the new context. The new context reflects a new reality which is constantly evolving, emerging and remains in a state of flux. Where the resulting context is dynamic and progressive, it is, at the same time, evanescent and transitory.

Considering the new context as a product of the blended workforce, in which human race is seen as constrained by different subjectivities, and AI, despite being a technology developed to help human race transcend its limitations, has posthuman qualities enabling it to contribute to human existence even without any true understanding of what it is doing, calls for a new theoretical perspective. Also, the qualification of AI generated language as a coherent and meaningful text calls for sophistication in analytical frameworks and evaluation criteria. This is critical to address the nonhuman aspect of such texts for though they are generated by a nonhuman, they are, at the same time, in equations with the texts produced by the human users and have become contributors to the context of which one contributor is the human race.

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