

LINGUISTIC ANALYSIS OF NONLINEAR INTERACTIVE NARRATIVES

By

Javeria Ashfaq Bhatti



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Javeria Ashfaq Bhatti

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Thesis Title: Linguistic Analysis of Nonlinear Interactive Narratives

Submitted By: Javeria Ashfaq Bhatti

Registration: 600PhD/Eng/S16(Ling.)

Dr. Mian Khurram Shehzad Azam

Name of Research Supervisor

Signature of Research Supervisor

Dr. Inayat Ullah

Name of HoD

Signature of HoD

Dr. Muhammad Safeer Awan

Name of Dean (FAH)

Signature of Dean (FAH)

Maj Gen Shahid Mahmood Kayani HI (M) Retd.

Name of Rector

Signature of Rector

Date

CANDIDATE DECLARATION FORM

I Javeria Ashfaq Bhatti

Daughter of Muhammad Ashfaq Bhatti

Registration # 600-PhD/Eng/S16 (Ling)

Discipline English Linguistics

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ABSTRACT

Linguistic Analysis of Nonlinear Interactive Narratives

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 texts. Nonlinear narratives being (re)shaped in collaboration with open AI systems are unique because of (i) their hyper-real quality where the distinction between AI generated language and human language inputs cannot be made, (ii) where inputs by human authors remain subjected to their spatio- temporal situatedness, socio-cultural contexts, and individual choices, text contributions generated by the open AI systems are products of neither any contextual understanding nor are they influenced by any sentience for the consequences that the language or the (re)shaped narratives might have on its receivers. Using different analytical steps, this dissertation has tried to establish the legitimacy of the AI generated texts in terms of their coherence, meaningfulness, syntactic patterns, semiotic suggestibility, and thematic emergence. The aim is to strengthen the observation that AI (re)shaped nonlinear narratives possess the attributes that are associated with human existence and have the potential at performing different functions, conveying subtle meanings, and suggesting underlying themes such as effectively exercising their gender performativity, exhibiting intricate human emotions and psychological complexities, and portraying multidimensional human relationships. Study of the AI (re)shaped nonlinear narratives is done to point out that autonomously operating open AI systems have become contributors to human existence despite the fact that they are nonhuman and lack all sentience. 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.

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CHAPTER 1

INTRODUCTION

Narratives are mirrors of real life. They have never been linear. They remain under constant flux; wherein innumerable factors contribute to their persistent emergence and evolution. Detailed study of narratives indicate that not only are they (re)shaped, the context of narrative (re)shaping also does not remain unaffected i.e., narratives contribute to shape the context and the context plays a key role in giving narratives their shape.

Traditionally (re)shaping of nonlinear narratives is considered as being subjected to human life. Human interactions with one another and with their surroundings provide the context in which narratives become non-linear, are constantly being (re)shaped, experience evolution and continuous emergence. Being considered as an exclusive human phenomenon, human authors think of ways to initiate them, give inputs to (re)shape them, take them in unique directions, and deliberately steer them in the light of their subjective individual experiences, (such as emotions, intelligence, past experiences, brought up, education, political stances, religion etc.), social and cultural contexts, and aspirations for the transformations they intend to bring.

However, in the hyperreal twenty- first century the exclusivity of human intelligence for narrative initiation and (re)shaping appears to be threatened. Current era are times in which the prediction of science transforming “from a representational idiom to performative idiom where its role was not anymore to represent the world and produce knowledge about it, but rather to ‘*do things in the world- with the emergent play of human and material agencies*’” (Pickering, 2002, p. 413) seems to have materialized. In its attempts to transcend human limitations, AI has evolved into a technology that is far ahead from being meant to reduce the burden of performing tough physical chores or finding quick solutions to complex cognitive tasks only. It, because of its autonomous operations performed freely, appears to have attained the status of a being which is capable of generating effective contributions that influence human existence and play a critical role in defining the shape of present-day human life. AI (re)shaped narratives are unique because despite being a nonhuman and synthetic agent, narratives (re)shaped by it are being

received, interpreted, and responded to in the same way as are the narratives being (re)shaped by human users only. AI (re)shapes narratives without any awareness of its socio-cultural contexts nor does it have a sentience for the impacts its (re)shaped narratives might have on the human users at individual or collective levels.

To understand the focus of this study, it is critical to recall narratives and their initiation and (re)shaping in the backdrop of the concepts of linearity, origination, and purpose of introduction of nonlinearity, and aims and products yielded by interactivity.

1.1 Narratives

Through narratives, authors tend to communicate an abstract message, an idea, an emotion, a thought, or an experience. Such abstracts, often referred to as signified, are studied as products of a given context, an inspiration, any past experience, a reflection of sociocultural surroundings etc. In other words, we can safely pronounce narratives as representations of human understandings, thoughts, reflections, inspirations, or experiences derived from their surroundings, past experiences, and future expectations.

Signifiers are bound to signified in a narrative through events or a series of events (Abbott, 2008). In a narrative, organization of events employs thematic unity, logical coherence, and discernible meaningfulness (Ryan, 2001; Meuter, 2011). Such meaningful organization of a narrative can be syntagmatic implying that it observes the natural order of the events i.e., the events are sequenced in a way that must have occurred in reality. However, most of the time events in a narrative are sequenced paradigmatically i.e., authors make a range of choices to sequence the events selectively and construct structures which reflect their ulterior motives and intend to cast a specific influence on the receivers (Levalde, 2019, p. 72).

In both cases, construction of a narrative is based on two conditions: (i) events, also known as *histoire*, i.e., what is being presented. Events consists of different elements such as actors performing/ experiencing an action in the story world (i.e., time, location, settings, surroundings, and context), (ii) representation, also known as *discourse*, i.e., the specific way/ order/ sequence in which events are conveyed to the receiver. Discourse is the presentation of the *histoire* and ranges from the specific choices of colours, texts, words, images, and gestures to the exploitation of specific temporal or causal relations used to

connect the events (Barthes, 1975; Herman, 2005; Rimmon- Kenan, 2002), their arrangement, emphasis/ de- emphasis, magnification/ diminution of any elements of the events (Talib, 2004).

Whereas scholars as early as Socrates and Plato observe narratives to be essentially derived as a verbal act of telling (in which only words are used to represent the events and its elements), Labov (1972), Metz (1974), Chatman (1978), Barthes (1980), Bordwell (1985), Deleuze (1986), Steiner (1988), Abbate (1989), Bal (1991), Kozloff (1992), McCloud (1994), Foster (1996), Hirsch (1997), Hutcheon (1999), Grabocz (1999), Thompson (2003), Tarasti (2004), and Seaton (2005) believe that non- verbal entities such as colours, images, pictures, and gestures can also be used to signify elements of the events and build effective and meaningful narratives.

1.1.1 Types of Narratives

Considering Barthe's observation, "narrative is first and foremost a prodigious variety of genres, themselves distributed among different substances- as though any material were fit to receive man's stories. Able to be carried by articulated language, spoken or written, fixed or moving images, gestures, and the ordered mixture of all these substances (Rimmon-Kenan, 2006, p.13) classifies narratives into three types depending on the system of signifiers being used to produce a specific narrative: (i) diegetic narratives: in which language is the signifier or a means of representation such as speech, texts, emails, newspapers, books, novels, stories, fairy tales, fables, epics, drama scripts, and poetry etc. In all these examples of narratives are framed by using words or chains of words to produce a text that represents the events, (ii) mimetic narratives: Narratives become mimetic when means other than language is used to represent the signified. They make an appeal to basic sensory organs to receive and convey the signified. These can be visuals and pictorials such as images, paintings, animations, graphics, and illustrations; sounds that include music, audios, and different auditory effects; and kinetics, body movements and gestures such as choir masters, canterers, pantomimes, sculptures, silent movies, choreographers, and directors to convey the signified, (iii) Dramatic narratives: Narratives are classified as dramatic when both language as well as mimetic means are used to represent the signified. Written works with illustrations like textbooks, newspapers, comics, illustrated stories;

enacted works like ballets, tropes, dramas, theatres, operas, films, ballets, dances, and mimes are some of the innumerable examples of dramatic narratives built from the combinations of media of varying nature including language, visuals, sounds etc.

1.1.2 Narratives' Dependence on Medium

Medium is the system or the channel through which a narrative is communicated to the receiver. It defines the process of construction of a narrative, nature of narrative, but most importantly receivers' understanding and interpretation of the signified message. It is written or oral when language is used, visual when colours and images are employed, or aural when sounds and music create and transmit narratives. Depending on the techniques employed by an author to exploit temporal and causal relationships and the extent of reception by the receivers, media is classified into various types such as: (i) media for mass communication when the aim is to communicate the narrative to a mass of people at the same time such as TV, radio, and internet, (ii) media for artistic expression when narratives are constructed as works of art works i.e. based on author's subjective selection of signifiers and likely to be interpreted subjectively and uniquely by the recipients such as music, painting, film, theatre, and literature, are used to communicate the narrative, (iii) media for expression when different means of expression such as language, images, and sounds are used individually or in combination to communicate the narrative (iv) language as medium when written words including handwritten letters, books, prints, and computer typed words are used to communicate the narrative (such narratives remain documented and most often can be used/ referred to for the past, present, or future), (v) digital medium offers a soft cyberspace for the creation and presentation of the narrative, and the receivers also remain dependent on the digital medium as well for their interpretation.

Narratives created in most types of media are by nature hybrids of diegetic and mimetic means of representation. Even when language is used to present narrative, different colours, styles, fonts, text sizes, accompanying different sound effects and visuals etc., give a mimetic character to the presentation of text.

Choice of medium casts a heavy impact on the receivers' understanding and interpretation of the message of the narrative, despite the fact that the signifiers and the

modes of narrations remain the same. It is because of the differences in media that a narrative created in the print medium would have a different impact from the same narrative being presented through language used in the electronic medium, despite the use of the same signifiers and means of expression such as the choice of same colours, images, and sounds.

1.2 Classification of Narratives

Apart from the choice of medium, narratives are classified based on their progression and flow. Following are the three major types of narratives:

1.2.1 Linear Narratives

Novels, textbooks, newspapers, comics, illustrated stories, fairy tales, lectures, religious stories, fables, folklores, TV serials, movies, videos etc. present narratives that are linear, unidirectional, progressive accounts of sequences of events/ actions performed or experienced by certain characters at a given time in given settings. They are manifestations of the Indo- European concept *gnarus* which means *to know* (Meadow, 2002) and are reflections of linear structures constructed by a specific author who has a specific mindset, and is posing to be an all- knowing, omniscient authority over the signified (reality/ concept/ message). The dominant characteristics of linear narratives are the (i) point of view, and (ii) bias of the author.

1.2.1.1 Point of View. Linear narratives are products of authors individual, subjective choices regarding syntagmatic or paradigmatic orders of representation of the events (Levalde, 2019, p. 72), which ultimately define the point of view of the author. A syntagmatic representation of the narrative refers to the reproduction of the sequence of events as they might have happened in reality. This implies that either the author him/ herself is/was a part of the events i.e., is/was an active actor/ experiencer, has the first- hand knowledge of the events, and presents the narrative from the point of view of the first person; or is the omniscient authority over the story world of the narrative and serves to convey and comment on the events from the point of view of a third person. Paradigmatic construction of a narrative refers to the selective ordering of events in a way that might not have happened in real time. Flashbacks, stream of consciousness are paradigmatic ordering

of events in which author (i) remains the omniscient authority over the events, (ii) orders the events employing the second or third person points of view, and (iii) exercises his/her own subjective choice in ordering the events. Dominated by an author's subjective choices regarding the order and sequencing of events to determine the unfolding of the narrative, linear narratives are often studied as products of authors who have specific designs, aim to cast a certain influence on the receiver of the narrative, and propagate a certain idea.

1.2.1.2 Authors' Bias. Being author oriented, construction of linear narratives is derived from author's deliberate selection of signifiers, and exploitation of the relationship between the signifiers and the signified into wholes that serve subjective intentions of the author only. Beginnings of the narratives, their progress, manipulation of connection between events, and the endings are deliberately and carefully steered by the author to achieve the desired outcomes. The aim is to cast desired impacts on the receivers' opinions, their approach, and their next move.

Linear narratives can be flawed or unidirectional because of the tendencies originating from (i) author's incomplete knowledge of events, (ii) author's biased perspective towards the events, (iii) social-cultural contexts of narrative creation, transmission, and reception, and (iv) subjective interpretations of the recipients.

1.2.2 Non-linear Narratives

Narratives become nonlinear when they do not have any fixed shape. They remain open to inputs from their receivers, are flexible to incorporate the changes suggested, and assume directions which may not represent any single point of view. The purpose is to negate any omniscient authority and control over the shape, direction, or outcome of the narrative which may in any way cast an effect on the receivers and their understanding, interpretations, and evaluations of the narratives. Receivers of the narratives are neither influenced nor driven (subtly or directly) towards any specific designs. Nonlinearity in narratives imply the following essentially:

1.2.2.1 Narrative Triggers. It is not possible for narratives to remain unquestionable. There always are points where the receivers start to question the narrator's presentation of reality such as an inquiry into intimate details, a question about the facts

being presented, or a difference popping up when different versions of the same reality are compared. At such points, often referred to as narrative triggers, user questions the inner reality of the narrative, or the world being relayed (Culhane, 1999), and present a different proposition, a unique possibility, or an oversight. It is at the narrative triggering points that the readers /viewers/ receptors attempt to give their version of reality, which if accommodated make the previously linear narrative, non- linear. Each input by the receiver at the narrative triggering point is representative of a certain individual and subjective view of reality and mirrors a perspective that might have been overlooked earlier. None of the (re)shaped narratives resulting from these attempts is superior to other, and all are equally significant.

1.2.2.2 No Absolute Reality. Nonlinearity in narratives challenge the omniscient control of any specific point of view and imply freedom and supremacy of personal choices. Early twentieth century literary movements like Dadaism (1896- 1963), and The Second Viennese School challenged the hegemony of omniscient authors over the presentation of reality and advocated Culhane's (1999) philosophy of the absence of the absolute reality (Culhane, 1999). These theories highlighted the tendencies of narratives being subjective, biased, deliberately missing details, and forcefully projecting an author's personal preferences. Reality is relative contests the existence of absolute truth and addresses the possibility of many versions of reality or existence of subjective perspectives. Non- linear narratives emerged as a consequence of efforts to create works that could afford different versions of a given reality. Einstein's theory of relativity in physics (1905/1915), Hawthorne effect in psychology (Landsberger, 1958), and Anthropic principle in theoretical physics (Carter, 1973) advocated individual interpretations of the viewer/ reader/ audience. Scholars like Lyotard (2003), Brothie et al. (1995) encouraged narratives which could accommodate uniqueness of individual thoughts and diversity of experiences.

1.2.3 Interactive Narratives (IN)

Though nonlinearity in narratives had been introduced since early twentieth century, narratives initiated and (re)shaped in the digital medium are unique because of the capabilities to use different modes of presentation:

1.2.3.1 Presentation of Narratives. Narratives in the digital medium are presented using diegetic as well as mimetic mode of presentation:

1.2.3.1.1 Diegetic Mode. Narratives are (re)shaped through the use of natural language (both written as well as oral). Colossal Adventure (Crowther & Woods, 1976) is the pioneer of interactive narratives being (re)shaped through conversational interface. Early chatbots like Doctor ELIZA (Weizenbaum, 1966), SHRDLU (Winograd, 1970), PARRY (Colby, 1972), and BRUTUS (Bringsjord & Ferrucci, 1999) to twenty-first century virtual assistants like Siri (Cheyer [Iris], 2010), Alexa (Amazon, 2014), Cortana (Microsoft, 2014), chatbots like Replika (Luka, 2013), Hello Barbie (Wulfeck et al, 2015), and story generators like Jasper (Zuckerberg, 2016) interact with users to build non- linear narratives that are (re)shaped diegetically.

1.2.3.1.2 Mimetic/ Dramatic Mode. Narratives are presented as simulations of real-life experiences created by using texts as well as animations, visuals, and sound effects such as colours, fonts, sizes, styles etc., of the text, static or dynamic animations, and pitch and tone of the sounds. Selection and use of the mimetic signifiers depend on (i) the specific genre such as history, religion, fiction, cinema etc. about which the narrative is being initiated and (re)shaped, (ii) the effect that an author aims to cast on recipients' understanding, contemplation, and interpretation of the narrative being (re)shaped, (iii) the influence the author aims to cast on users' input despite their previous knowledge, socio-cultural context, and spatio- temporal situatedness, (iv) the transformation the author/ users aim to bring.

1.2.3.2 Qualities of Narrative (re)Shaping in Digital Medium. Digital medium aims at creating simulations of the real life, often referred to as believable experiences, where the aim is to initiate and (re)shape nonlinear narratives in ways that appear to be as close to reality as possible. Based on modelling the patterns of human interaction, nonlinear narrative (re)shaping in the digital medium becomes unique because (i) it takes place in immersive experiences in which users interact, (ii) users' interpretations and meaning making of the presented narratives are subjected not only by their subjective contexts but also by the live drama being offered to them, (iii) there is an affordance for the acceptance of users input if they are at variance from the author, (iv) despite affordance for user input

given to affect the presentation, direction and its outcome, the narrative being (re)shaped remains logically connected and thematically unified.

Where print media are the traditional sources of creating and disseminating a unidirectional flow, narratives started to become more nonlinear with the increased use of electronic media where user input could be accommodated, it is the digital medium which stands out for an impressive presentation of the narrative as well as the participatory approach with which the narratives are initiated. While authors recede to a remote position, and users “take on a more active role” (McErlean, 2018, p. 11) to interact and give inputs to affect their unfolding, shape, direction, and outcomes, the emerging and evolving nonlinear narrative remains coherent and meaningful for which the credit goes to a third agency i.e., the artificially intelligent system.

1.3 AI Narrative (re)Shaping

(re)Shaping of narratives is a complex process as it involves many considerations such as sequencing of events along a sensible trajectory so that they remain logically connected and remain thematically unified (Chaturvedi, 2017). Being products of real life, human beings are naturally gifted to understand the nuanced shades of the constantly evolving and emerging narratives and (re)shape them to not only maintain their coherence and meaningfulness but also keep them well suited and well connected to their context being presented.

(re)Shaping of nonlinear narratives in the digital medium is unique. This is because of the abilities of the system which is intelligent enough to keep the narrative under flux coherent and meaningful. Most often AI system in the digital medium is considered to be an author's effective tool for (i) improving the presentation of the narrative, (ii) swift communication of the narratives to their recipients, (iii) affective affordance for user interactions/ inputs, and (iv) uninterrupted, coherent, logical, and meaningful progress of the (re)shaped nonlinear narrative. This is a critical AI role because of the tendencies of each user interaction/ input to yield new possibilities, new directions, and new outcomes. Because of the interaction of the users with the AI as an author's tool in the digital medium, nonlinear narratives become products which are affected by the real situation in which

users are present and are also affected by the transformative influence that the interactive system along with its world produces on the users. Narratives offered by interactive works in which AI is programmed to keep the evolving/ emerging narrative coherent, meaningful, progressing in the directions desired by the author of the work despite user interactions/ inputs are often referred to as ludo narratives, role plays, or game studies. AI in such works is an author's tool not an independent agent. Innumerable studies have been done in this regard and this dissertation does not aim to look at AI in this regard.

The focus of this dissertation are the Open AI systems present at the other end of the spectrum. Such systems assume a participatory role where they no longer serve to maintain the coherence and logical connectedness of the flexible nonlinear narratives being (re)shaped only, but also contribute to narrative (re)shaping themselves. They act as agents which collaborate with their human users and freely generate unconstrained texts in such a way that the (re)shaped narrative is not only grammatically correct and coherent but also progresses forward logically and meaningfully. The examples of such AI systems include voice based assistants like Siri, Alexa, Duplex, Replika, Kismet; virtual influencers like Bermuda; humanoids like Sophia; automated chat-bots like Jessica; applications like SayAnything, Dragon Dictation, HemingwayApp, and Wordsmith; storytelling engines like DINE; story generating systems like TaleSpin, Brutus, Charizma, Jasper, GPT-2/3, Pythonic Poet, and Comprehend, translation applications, plot generators, script generators, Semantic analyzing systems, analyzers of emotional arcs, and AI summarizing and paraphrasing applications. These autonomous artificially intelligent systems have capabilities to effectively interact with their users, collaborate with them, and freely generate unconstrained non- linear texts which are coherent as well as meaningful. Despite the fact that AI generated texts may take directions that were not anticipated earlier and result in unknown outcomes, the (re)shaped narratives, in most cases, remain logically connected, thematically consistent, and present an interesting flow.

1.4 Language and Semiotics: Exclusive Human Phenomena

Human beings are crowned as superior beings because of their abilities to imagine, to dream, to think and express thoughts, to convey feelings, desires, and wishes, to analyze the past and plan for the future. These abilities and many more are enjoyed by the human

race because it has the ability to use language, a system of meaning making always thought of as an exclusive human phenomenon. Language serves not only as a means of communication but also as a binding force between different individuals, despite their differences. It is learnt relatively in the light of individual and socio, cultural and emotional contexts, and at the same time provides any individual with a medium for thinking and expression. In other words, it is a means of defining individual and collective human thoughts and life. The lexical choices and the syntactic patterns used in a linguistic expression play a critical role in defining an individual as well as a social life since through these issues, norms, and values are propagated, engraved, reinforced, researched, discussed, spread, suppressed, and challenged at varying social scales. “The values of our society are both reflected in and reinforced by our use of language” (Cryan et al., 2020, p. 361). Similarly, nonlinguistic signifiers have always been thought of as deliberate choices dictated by both individual as well as socio- cultural preferences and used with an aim to propagate or transform individual, social, and cultural values.

Since language and semiotics have always been thought of as exclusive human phenomena derived from individual subjectivity being contextually oriented, culturally determined, and socially dictated, selection of lexical items, specific formations of syntactic patterns, and use of certain nonlinguistic signifiers for narrative initiation and (re)shaping are also studied as reflections of subjective human experiences. Initiation of nonlinear narratives has always been believed to be a product of perceptions and emotions of their individual human authors, (re)shaped under the influence of interpretations of the human audience and are representations of social and cultural human context. Considered exclusive tools of the human race only, they are used “not to reflect reality but contribute to constructing it” (Aiello, 2020, p. 367).

1.5 non- Human yet Contributing

Open AI systems are practical manifestations of the efforts made to enable human beings to transcend their biological limitations. These systems are developed to model human capabilities of generating language and different semiotics to (re)shape narratives in a way that the (re)shaped narratives not only remain coherent and meaningful, have transforming powers over their recipients, but now they have started to compete with human literary works for critical evaluation. Where voice-based assistants, chat bots, virtual influencers,

and different writing applications are the open AI systems that (re)shape narratives at a superficial level, advanced story generating systems like DINE, GPT 2/ 3, Jasper, Novella, Sudowrite, and Hyperwriteai (re)shape narratives in competition with those initiated and (re)shaped by human beings. They provide a hyperreal experience in which it becomes difficult to differentiate between contributions produced by human beings and those generated by the AI. Critical acclamation of “The Day A Computer Writes A Novel”, online release of “Sunspring”, and immense following of LilMiquela are indicative of the fact that human masses relate and derive meanings from the narratives (re)shaped by the AI in the same way as they do from the narratives (re)shaped by human authors.

1.6 Challenge to Human Exclusivity

AI (re)shapes narratives regardless of its temporal situatedness or sensitivities of the contextual requirements. It neither has any emotional or perceptual inspirations to achieve nor does it possess any delicate past experiences to inform its narrative generation. It lacks an awareness of the present, has no vision regarding the future, and has no understanding of the consequences of its actions. Yet, because it (re)shapes nonlinear narratives as an active participant generating a hyperreal experience, AI challenges the so- called essentially human phenomenon of independent subjective narrative initiation and (re)shaping.

In the present times, through language generating capabilities, unmatched data processing abilities, and immense memory, AI has come in a position to threaten the superiority of the human race over other beings. It is not only sharing the living space of its human users, but also collaborating with them to generate a new form of existence in which, despite being nonhuman, human users interact with the AI just the way they do with other human beings. They receive AI generated responses, interpret them, derive meanings from them, associate with them, and are influenced by them. This is true for literary works which have always been believed to be essentially human creations. Apart from being used as an author’s tool, AI has shown the capability to produce and (re)shape narratives by generating language and semiotics in such a way that they have been successful in deceiving human readers and critics with regards to their authorship. Recent works like the film “Sunspring” (2016), screenplay “It’s No Game” (2017), Hinoshi Shinichi award winning novel “The day a computer writes a novel” (2016), award winning poetry

generated by Pythonpoet, and virtual influencers and bots like Lil McQuila and Jessica have challenged the notions that creativity of art is an essentially exclusive quality of the gifted human beings only. These works have been widely read, found to be influential on human audiences, and are also critically acclaimed in just the same way as any literary work created by human authors. These works have posed a situation in which AI, despite being nonhuman, has come in a position where the exclusive abilities of humans no longer remain the crown of human race only and are now being possessed by the AI as well.

1.7 Blurring Lines Between Biology and Technology

Because of the post human capabilities of the AI, (re)shaping of nonlinear interactive narratives in collaboration with AI provides human users with an interactive experience in which the lines between biology and technology are blurred (Schwab, 2015). Such experiences give rise to a hyper- reality where simulation replaces reality. AI, as a collaborating force is often studied as a “ubiquitous, dynamic, ferocious, acute” (Kirby, 2015, p. 282), has post- human capabilities, remains “simultaneously nowhere, secret and undisclosed” (Kirby, 2015, p. 282), yet because of its contributions generated autonomously has challenged notions of human “authority, knowledge, selfhood, reality, and time..., suddenly and forever” (Kirby, 2006, online).

1.8 A Partner in (re)Shaping Human Life

By dethroning humans of their exclusivity in using language and semiotics for narrative (re)shaping, AI has become successful in giving the illusion of being human. It receives, analyses, interprets, and processes the linguistic and semiotic inputs to narratives just like humans and responds back in a way that humans do often leading to a hyper- reality that produces the uncanny valley effect (Chaturvedi, 2017). It collaborates in equations with its human users to (re)shape narratives in such a way that the distinction between the two becomes difficult to make. In other words, because of an active participation in narrative (re)shaping, autonomous Open AI systems, despite being nonhuman agents, are not only analyzing and interpreting language and semiotics but are also contributing to their meanings and likely interpretations by the receivers. They serve as collaborators with their human users and contributors in (re)shaping human culture, propagating values, and carving ideologies and approaches of the human masses.

Narrative (re)shaping by Open AI makes it a critical subject for study because these narratives serve as major means of transforming human, social, and cultural constructs. For example, a study conducted by Middlebury Institute of International Studies' Centre observed that with its impressively deep knowledge (McGuffie & Newhouse, 2020), texts generated by GPT as "influential", could affect the ideologies of its users. Similarly, studies carried out in Georgetown University find AI generated texts presenting false narratives, propagating faulty perspectives, and spreading mis- information (Buchanan, 2021). UC Berkeley and University of Washington found AI generated texts as biased towards certain religions (Abid, 2020), and students from MIT (Savoldi et al., 2021) and from New York University (Nangia et al., 2020) have detected stereotype traits in the AI generated texts. Event at the heart of the famous Timnit Gebru controversy with Google (December 2020) were the observations regarding the social and ethical ramifications of the AI (re)shaped narratives. AI through its texts becomes a participant in production of a context of which it has no understanding itself yet. (re)Shaping of nonlinear narratives by the AI is reflective of the fact that despite being a nonhuman agency and lacking understanding for social, cultural, or emotional significance of its (re)shaped narratives, it is contributing meaningfully to human life; meanings of which it itself has no sentience.

It becomes important to study how a nonhuman being through its narrative (re)shaping is affecting individual as well as collective human life. This research does not aim at the process of generation of contributions by the AI, instead, its aim is to study how the exclusive human tools of language and semiotics are not only being generated freely and autonomously by the nonhuman open AI systems but are also contributing to shape human life despite the fact that being nonhuman it is not aware of what it is doing.

1.9 Language & Semiotics: Tools of Social Identities

"The values of our society are both reflected in and reinforced by our use of language" (Cryan et al., 2020, p. 361). Important elements of any language are its lexical choices and syntactic patterns which masses learn from their sociocultural contexts. It is through the use of lexical choices and syntactic patterns that people become members of a certain social group and learn to share that group's identity. And also, it is through the subjective use of lexical choices and syntactic patterns that human beings create, propagate, or even challenge specific constructions of social identities. Similarly, language can be studied as

a form of sign system which has a suggestibility value to it i.e., the text can be studied as a system of signs and signifiers that can be interpreted for different meanings and themes by its receivers. Language is often studied as “a remarkably rich, complex, and infinitely variable and productive system of signs ... that has cognitive flexibility” (Shaumyan, 1987, p. 87). Words in the language are used as signs that can be chained in innumerable combinations, where each combination has an affordance for innumerable interpretations owing to which it becomes possible to “always translate a message expressed in some sign system into a message expressed in a natural language, whereas the reverse is not true: not every message expressed in a natural language can be translated into a message expressed in some other sign system” (Shaumyan, 1987, p. 87). Human beings learn to use language as a sign system just like any other sign system to identify with a certain sociocultural group, to initiate, (re)shape, and (re)direct nonlinear narratives, and use them as means of propagating or challenging individual, social, and cultural norms and values.

Being nonhuman and lacking sociocultural sentience, AI generation of language and semiotics to (re)shape narratives is different from that of humans. Whereas human beings learn to use lexical choices and syntactic patterns of a language and semiotics for construction, interpretation, analysis, meaning making, and propagation of social identities from their individual subjective contexts and sociocultural and temporal situatedness, AI is neither under any such socio-cultural constraints nor does it find any need to identify or associate itself to any pre-established groups to consider before generating its language and semiotic contributions for narrative (re)shaping. However, interestingly after being (re)shaped by AI generated language and semiotic contributions, narratives do contribute to the emergence and interplay of socio-cultural identities. This is because AI (re)shaped narratives are received, interpreted, analyzed, and responded to by humans in much the same way as narratives (re)shaped by humans.

AI (re)shaped narratives need to be studied for their language to analyze how they are casting an impact on individual as well as collective human existence. Gender is one such social construct which is constructed, propagated, and even transformed through the choice of lexical items, syntactic patterns, and specific semiotic constructions in a language text narrative. Like language, construction, propagation, and transformation of social identities in terms of gender are no longer exclusively subjected to human construction and

dictation but have become products of a joint construct formed by the collaboration of a synthetic AI being with social and emotional human beings.

AI's choice of lexical items, framing of syntactic patterns, and selection of semiotics in narrative (re)shaping need to be analyzed for there are chances that human users collaborating with these open AI applications may adapt their own language to yield a better output from the system, may slowly and gradually adapt to what the AI is presenting to them, and also may discourage certain people because of the use of certain terms. There are chances that despite being accessed, used, received, interacted, and interpreted by large populations, these (re)shaped narratives remain ostracized and ill informed. AI generated texts need to be analyzed to understand how gender, being a pillar of collective human existence, is now being constructed, represented, propagated, or transformed as a social identity by a non-human being that has no awareness of gender or society itself.

1.10 Analysis of AI (re)Shaped Nonlinear Narratives

Analysis of the language and semiotics generated by the AI for (re)shaping narratives in collaboration with its human users is done by keeping the following in view:

1.10.1 Autopoietic Nature

Spread “across unknown distances, and scattered among numerous zones” (Kirby, 2015, p. 288), creation and (re)shaping of narratives in the digital medium call for the reduced spatio- temporal constraints of context, owing to which they become interactive as well as nonlinear. They have an affordance for multiple authorship, they are available to everyone at any time in every corner of the planet and can be (re)shaped from anywhere by the evolving and emerging hierarchical interrelationships between their human users and the available AI systems. Affordance for user interaction and inputs transform nonlinear narratives into structures that remain in flux. And it is for this reason that nonlinear narratives are often referred to as autopoietic (Gaudenzi, 2013), nomadic (Braidotti, 2019), or always becoming (Takaki, 2019). They continue to evolve and emerge, never remain the same, and lack sustainability. They are ephemeral in nature, can stay alive for a very little time, and are difficult to be kept in original form (Kirby, 2006, online).

1.10.2 Multiplicity of Authorship

Since (re)shaping of nonlinear narratives is recognized as an act of making contributions to the already existing narratives, any agency in an interactive experience offered by the digital medium that can and does contribute to nonlinear narrative (re)shaping can be granted the status of being an author. In other words, (re)shaping of nonlinear interactive narratives in the digital medium is achieved by “multiplicity of authorship” (Kirby, 2009, p. 112), i.e., there can be a number of authors implying not only human beings, but also nonhuman entities. This dissertation aims to study AI as the nonhuman author of the nonlinear narratives.

1.10.3 Human Authors

Human authors of the nonlinear narratives include their initiators as well as users. Human authors after deliberate consideration use the available signifiers to carefully initiate and afterwards (re)shape a nonlinear narrative. Digital media and AI technology are used as tools by the authors to initiate nonlinear narratives, whereas for users they are agents that have an affordance for their varying interactions as well as inputs. Digital medium aided by the AI gives users a feeling of being “powerful” (Kirby, 2015, p. 281) enough to (re)shape the narratives if they differ from the author/initiator of the narrative.

Narrative initiation by human authors and users’ interaction and inputs are influenced by (i) their physical, spatial and temporal situatedness, their individual contexts, and socio-cultural practices around them, and (ii) the realization that the ever ready, ever responsive agency is nonhuman and is the AI.

Because of the realization of AI being nonhuman, human authors and users feel confident, lose the fear of being judged, stop being self-conscious, do not question the visible ironies, and avoid self-interrogations (Kirby, 2015, p. 296). With a feeling of possessing “an extraordinary expressive freedom” (Kirby, 2009, p. 105) and “unburdened with responsibility” (Kirby, 2009, p. 202), human users tend to interact in unique patterns, give strange inputs, and (re)shape narratives under no social, emotional, psychological constraints (Kalaman, 2016). These inputs on one hand invite equally strange responses from the AI and on the other hand may also serve to (re)shape narratives in unprecedented fashion, which implies that it is not always necessary that the (re)shaped narratives may not always propagate and reinforce the established norms, values, and social identities.

They may serve to deviate from the accepted, challenge the norms, and transform the perceptions regarding social identities.

1.10.4 AI Authorship

Autonomously interacting with human users and freely generating language and semiotic contributions under no constraints, AI is recognized as a nonhuman agency that can collaborate in equations with humans to (re)shape nonlinear interactive narratives existing in the hyperreal world. AI monitored believable agents in 3D immersive worlds, and autonomous AI digital beings like virtual influencers, humanoids, voice assistants, social bots, storytelling engines, story generators, and writing assistants are all examples of the AI applications that actively generate coherent and meaningful texts to (re)shape nonlinear interactive narratives.

Initially as an experience manager, and then through autonomous generation of texts, AI simulates human cognitive processes to generate linguistic and semiotic contributions to (re)shape nonlinear narratives at “lower levels” of hierarchical authorship. At this level AI processes the available data to “organize information, establish relationships, and make connections between objects, ideas, events and relationships” (Gaines: 2006, p. 179) to generate its language and semiotic contributions. But what exactly would the AI generate cannot be predicted with certainty and remains a challenge for scholars.

1.10.5 AI with Post- human Capabilities

AI derives its “vastly inflated” (Kirby, 2009, p. 34) abilities from its unlimited memory, self- learning capacities, exceptionally fast data processing capabilities, morphological freedom, remaining unconstrained by temporal and contextual situatedness, and being available all the time. Being products of formalization of data, AI generated outputs/responses can neither be judged for being right or wrong nor can be scrutinized for the operations AI performs. These are the qualities that endow AI with abilities that surpass those of human beings and become a super subjectivity that “knows no fear, [and is] stripped of the considerations of consequences” (Kirby, 2009, p. 34). It is an agent with “restless creativity and energy” which generates contributions to narratives without any subjective biases, or spatio- temporal contextual needs to satisfy.

However, since it does not possess any traces of emotional, social, psychological, cultural, and biological sentience, it remains indifferent to the consequences its contributions may produce. Despite the fact that because of its collaboration with human users in the hyperreal society it has become an equal participant in shaping modern day individual and collective lives, it has no awareness of the grave impacts of its participation. Though it is nonhuman and synthetic, it has become an agent which because of its post-human capabilities has become a contributing factor to shape human existence.

1.11 Problem Statement

The central problem explored in this research is the transformation of nonlinear narratives through collaboration with open AI systems, challenging traditional notions of linguistic superiority and human agency in narrative creation. The investigation seeks to evaluate the legitimacy and attributes of AI-generated texts, shedding light on the evolving relationship between human and nonhuman entities in narrative construction.

1.12 Significance of Analysis of AI Generated Texts

Nonlinear narratives (re)shaped by human AI collaboration in such a way that the distinctions between the two become minimum need to be studied. They are reflective of a reality that an agent despite being nonhuman and non-sentient is in equations with human beings, a partner in defining life, and a key contributor to laying the foundations of a culture that can turn out to be not only evanescent but also transform the already existing values and social identities hence threatening the very fabric of current human societies.

Nonlinear narratives (re)shaped in collaboration with AI challenge objective approaches based on “radical aesthetics, technical experimentation, ...[and] self-conscious reflexivity” (Childs, 2008, p. 18), refute modernist notions of authority of an omniscient human author over a given work and its meanings, threaten structuralist approaches as being based on formula oriented universal structures being cognitively generated (Greimas, 1977; Propp, 1968; Scholes, 1982; Kermode, 1983; Culler, 1975/1981; Peirce, 1902; Chomsky, 1986; Todorov, 1969; Genette, 1980), and deny postmodern humanistic notions of *anything goes*, where narratives are considered as fluid structures open to receivers’ interpretations derived from their subjective deconstructions made in the light of their subjective contexts spread over a vast range including their

physical/social/psychological/religious/linguistic/educational/ethnic/cultural/racial/financial backgrounds.

They need to be studied to understand the features of the “new trans- human era” in which humans have to share their individual and collective existence with nonhuman AI beings that have post- human capabilities, to understand the potential tendencies of AI, the possibilities of the roles performed by the AI, their affecting the present, the possible threats to the existing value systems, and shaping the future life.

1.13 Research Questions

Q 1. What are the syntactic structures generated by the AI to (re)shape the nonlinear texts of interactive narratives?

Q 2. How do the lexical choices generated by the AI construct the nonlinear texts of interactive narrative fictions?

Q 3. In what ways syntactic structures and lexical choices in the AI generated language contribute to the construction of social identities in the hyperreal transhumanist society 5.0?

1.14 Objectives

1. To analyze AI’s use of syntactic structures for gender performativity to construct social identities of the subjects while generating contributions to collaborate in equations with human users to (re)shape nonlinear interactive narrative fictions in the light of AI’s post- human capabilities.
2. To analyze AI’s interpretation of lexical choices used for gender performativity as a means of constructing social identities of the subjects while generating contributions to collaborate in equations with human users to (re)shape nonlinear interactive narrative fictions in the light of AI’s post- human capabilities.
3. To analyze AI’s use of language as a sign system for gender performativity to construct social identities while it collaborates in equations with human users to (re)shape nonlinear interactive narrative fictions in the light of its post- human capabilities.

1.15 Aim

This dissertation aims at linguistic analysis of the nonlinear texts of interactive narratives created in the digital medium, and would look at the syntactic patterns, lexical choices, and use of language as a semiotic system to discuss gender performativity as a means of constructing social identity. Gender performativity is not treated, in this dissertation, as a variable but as one of the many themes that surface up and to which are associated a number of other themes, one being social identity.

The aim of this dissertation is to analyze the contribution of the open AI systems to the construction of socio- cultural identities through the gender performativity of the subjects of the nonlinear interactive narratives being (re)shaped. The aim is to look at how a nonhuman agent through its use of post- human capabilities at generating coherent and meaningful language in nonlinear interactive narrative (re)shaping participates in the construction of an exclusive human phenomenon despite the fact that it has no sentience of the significance of what it is doing.

1.16 Operational Definitions

a. Nonlinear Interactive Narratives: Narratives that are neither unidirectional nor are they steered forward through the agency of a single author. They are initiated in the digital medium by a human user, and it is through the collaboration of human users and AI system that their nonlinearity and forward progression are presented. (chapter 1, p. 06)

b. (re)Shaping of Nonlinear Narratives: contributions being made to steer the narratives forward.

c. (re)Shaping of Nonlinear Narratives Through Human- AI Collaboration: In this dissertation, selected open AI systems are studied as the scholar's tools which, on being prompted by the scholar, generate texts to (re)shape narratives in a linear fashion. The interactive experience does not as such involve an interactive story world with predetermined boundaries of interaction, but a story world which has its foundations in the initiating input of the scholar. The story world is observed to be created and (re)shaped by the text contributions generated by the AI system. (chapter 2; p. 51, 54, 55, 58, 59, 60).

The aim of the dissertation is not to focus on the algorithmic operations of the selected AI engines but to study the texts generated by the AI engines that served to (re)shape the presented narrative. (Chapter 03, p. 128)

d. Text: Text, in this dissertation, is the written language used as a mode of interaction between human users and the AI system. Also, it is used as a tool for narrative initiation, building up, (re)shaping, and progress. (chapter 3, p. 96, 97)

e. Authorship of Nonlinear Narratives: it is shared by both human users and AI systems. In this dissertation, whereas human authorship lies in (i) the inputs given to initiate the collaboration between human users and the AI system, and (ii) the prompts given to steer the AI system for further text generation, authorship of the AI system is present in the texts which are generated by the system upon being prompted by its human user for further text generation. (chapter 3, p. 106- 11). The dissertation focuses on the study of nonlinear narratives as AI generated products to establish the possibilities, practicality, functionality, and potential of a nonhuman agency i.e., AI by studying nonlinear narratives as being authored by the nonhuman AI while it collaborates with its human users. (Chapter 02, p. 61-2, 65-7)

f. Semiotic Analysis: In this dissertation, where language is studied as consisting of lexical choices and syntactic patterns, it is also studied as a form of sign system which has a suggestibility value to it. The words, sentences, phrases, paragraphs, and their specific arrangement is studied as a system of signs and signifiers that can be interpreted for different meanings and themes by its receivers. (chapter 1, p. 14; chapter 03, p. 96, 122)

g. Author, Programmer, User: programmer is the designer of any specific AI program, defines the limitations of the AI system, and has no direct role in the use to which the AI is put or for this dissertation the (re)shaping of the nonlinear interactive narratives.

Author of the nonlinear interactive narratives uses the AI system as a tool to design an interactive, immersive experience. He/ she defines the limits of user interaction with the users. However, in this dissertation, open AI systems which operate autonomously and generate unconstrained texts freely upon receiving human prompt for further text generation, are selected. There are neither any predesigned routes to follow nor any predetermined goals to achieve. Also, the open AI systems generate free and unconstrained texts upon user interaction.

User is the receiver of the nonlinear interactive narratives being initiated by the author in collaboration with the AI engines. He/ she interacts with the AI system in the digital medium and gives inputs to (re)shape the presented narrative.

In this dissertation, user is the scholar herself who gives the first input to start the interaction with the AI system and gives subsequent prompts to steer further text generation by the selected AI system. The dissertation does not focus on the programming of the selected open AI systems and user and author here remains the same i.e., the scholar herself. (chapter 2, p. 23-5; chapter 03, p. 107- 9, 128, 612). The study has aimed to study nonlinear narratives being (re)shaped by the AI generated contributions to establish their existence parallel to human produced narratives to establish the requirement of new lens for the study of human AI collaborative narrative (re)shaping.

h. Gender Performativity: Gender performativity of the subjects is studied as a theme to be explored as a means to construct their social identities. The study does not aim to study AI generated texts through the lens of any gender-based theory, but to observe how the AI, despite lacking any understanding of socio- cultural constructs, frames syntactic patterns and makes lexical choices to exploit gender performativity of the different subjects in the nonlinear interactive narrative and then uses it as a means to present their specific social identities (Chapter 01, p. 19; Chapter 03, p. 129).

CHAPTER 2

LITERATURE REVIEW

“If technologically enhanced humans are cyborgs, then we have always been cyborgs” (Brasher, 1996, p. 809), where the term cyborg refers to beings constituted by combining biological and artificial parts (Clynes & Kline, 1960).

Use of machines and technology for human benefit is not new. Since lighting of the first fire in the pre- historic times and invention of the first wheel, human beings have thought of different ways in devising methods and inventing entities which could reduce their physical as well as mental burdens and make life easy. Where machines were dead, metallic tools meant to ease physical labour as they “empower us” (Cannon, 2015, p. 72), humans, with time and growing knowledge of science, have continued to invent different technologies as specific physical and cognitive operations meant to help human beings perform a variety of tasks such as manual labour, cognitive calculations, effective problem solving, fruitful reasoning, treating medical ailments, defeating the unconquerable such as ageing and death, finding new worlds to inhabit in the outer space etc. In short, the aim has always been to improve life, to achieve goals with greater efficiency and more precision by spending little physical and financial efforts and taking little or no cognitive, psychological, emotional, and biological pressures.

AI is one such technology that operates through algorithmic combinations in the digital medium to perform tasks commonly associated with intelligent beings. Through imitation of human cognition for processing and analysis of given data, AI is programmed to develop abilities for autonomous sensing meant to reorganize and reconfigure the available data, carry out effective analysis, solving problems, making decisions, self-learning, adapting to the changing surroundings as depicted by the data available, and generating meaningful and coherent contributions. “Technology is not alien to or destructive of our individual and common humanity, it is the very definition of it. We are, simply, animals that use tools. Thus, technology is a definition of our humanity, not something foreign to it” (Gray, 1995, p. 2).

In the twenty- first century, technology has advanced to an extent that AI systems no longer serve as tools in the hands of human authors but have become able enough to freely generate unconstrained contributions to collaborate with their human users to initiate and (re)shape nonlinear narratives turning them into products that are shared by human authors and users, as well as the artificially intelligent systems in the dynamic and alive environment offered by the digital medium. Where both author and users have subjective choices to make while participating in the (re)shaping of the nonlinear interactive narrative in the immersive digital environment, it is the system that emerges as intelligent enough to keep the ever- changing, ever- evolving nonlinear remain coherent, meaningful, and logically connected. Characters in 3D immersive worlds (e.g. Grace in *Facade* 2002), humanoids (e.g. Sophia 2000), voice assistant (e.g. Kismet 2016), innumerable social bots, storytelling engines (e.g. TaleSpin 1973), story generators (e.g. DINE 2017), innumerable writing assistants (e.g. SayAnything 2012 & Hemingway App) and virtual influencers (e.g. Lil Miquela) are all examples of applications of the artificially intelligent systems that display capabilities to (re)shape narratives through generating natural language of nonlinear texts with mimetic qualities of narrations. They effectively interact with users, display abilities to choose their own responses, show capabilities to develop memories that they could recall afterwards, and (re)shape narratives. Koenitz et al (2017, p. 1-2) observe AI as the power of the digital media that plays a key role in “reshape[ing] the relation between creator, work, and audience” (Koenitz et al., 2017, p. 1-2).

This dissertation aims to study nonlinear narratives that are (re)shaped by the collaboration of the AI with humans through language in the digital medium and dramatic narratives being produced or (re)shaped in any other medium would not be dealt with. The focus of the study would be on the role of the artificially intelligent system making its meaningful language contributions to (re)shape nonlinear interactive narratives; a role that has always been believed to be exclusively human.

1. Nonlinear Interactive Narratives: An Overview

To understand the role of the AI system in giving the digital media an edge over other forms of media for narrative initiation and (re)shaping, it is important to understand foundations of the frameworks present at the base of interactive digital media that defines

the boundaries of interaction between author, users, and the system, and also cast an influence over the shape of the nonlinear interactive narrative.

2.1.1 Interactive Framework

Interactivity defined as “co- creative power [endowed] on its users through interaction” (Koenitz et al., 2017, p. 1-2) is the characteristic feature of the nonlinear interactive narrative (re)shaping in the digital media. Narratives in the digital media are created/ initiated as simulations of the real world which become nonlinear as well as interactive by being presented as “time-based representations of character and actions in which a reader can affect, choose, or change the plot. The first, second, and third person characters may actually be the readers. Opinion and perspective are inherent. Image is not necessary but likely (Meadows, 2002). Finding themselves as active participants in the digitally oriented story world, users experience a power to affect the presented narratives, and enjoy an agency to (re)shape them.

2.1.1.1 Components: Author, User, and the AI System. Interactive experience exists because of the interdependence of its constituent elements and ceases in the absence of any one of these.

The author designs the architecture of the interactive experience, determines the nature and extent of user interactivity, and prescribes the goals and aims that the resultant narrative targets to achieve. The author is the initiator of the entire experience of narrative building, but his/ her role ranges from a firm controller of the final shape of the product to that of a facilitator who does not necessarily prescribe the boundaries, neither controls the direction nor defines the outcome of the resultant narrative upon user interaction/ input.

Instead of being a viewer or reader getting a third person omniscient appearing, cooked up narrative, being created in the digital medium, interactivity makes users the ‘doers’ i.e., recipients get an agency to interact with the presented narrative, get a first-hand experience, participate in the process of its unfolding, and exercise agency to steer it in certain directions.

System refers to software programs designed to operate as (i) efficient respondents to user interaction/ inputs, (ii) effective agents of narrative (re)shaping by autonomously generating contributions, (iii) smart means to keep the (re)shaped narratives coherent and meaningful, and (iv) trained managers to make user experience interesting and fruitful. They keep track of their previous interactions with the users, make decisions, and generate suitable responses. The system executes itself in different ways, for example by making adjustments in the presentation of the narrative, (this includes visuals, music, sound effects, and language used to present the settings, relationships, and actions of the believable agents and the user), and by generating suitable responses to user interaction/ inputs to steer forward the unfolding narrative. Video games, interactive plays, interactive documentaries are all examples of immersive interactive works where the system (re)shapes narratives within boundaries predefined by the author. Applications like SayAnything (2012), new-writing programs like Wordsmith, narrative developers like Jasper, storytelling engines like DINE (2017), virtual assistants like Alexa, social bots like Jessica, virtual influencers like Lil Maquila are all systems that have the capability to generate free and unconstrained contributions to (re)shape the narratives which have already become non- linear by user interaction/ inputs. Because of its well informed and meaningful contributions, the system is often referred to as an agency that is intelligent and since this intelligence is the product of algorithmic operations and programming it is artificial, hence often the system is referred to as artificial intelligence (AI).

2.1.1.2 Interaction. Interaction in the digital medium implies a two- way, engaging, immersive, participatory, responsive, and reactive (Meadows, 2002) communication process between the users and the AI. Users interact and give inputs to the unfolding narrative to which the AI responds. Interactive narratives are observed, explored, and questioned for their authenticity by the recipients. They become non- linear and are (re)shaped when users give inputs to highlight a facet that might not have come forward before and present their subjective perspective.

Meadows (2002) identifies interaction with the AI to be based on two principles: (i) input/ output cycle formed by users and AI taking turns-- users giving inputs and the AI generating responses in a context laid down by the author. 3D games, and interactive plays

are examples of user- AI interaction for nonlinear digital interactive narrative (re)shaping in the author's predetermined context. Use of the digital medium makes turn taking cycle move at a fast pace so that users get a feeling that they can affect the unfolding of the narrative and can cast an impact on the direction it is taking (ii) inside/ outside: Also referred to as Inside- the- Skull and Outside- the- Skull, where inside refers to the internal world/ understanding/ approach that the user has developed from his/ her past experiences and context. Outside refers to what is being presented to the user through the interface of the digital medium. This includes colours, images, animations, language, order, speed and presentation of the narrative. Users' input to narrative (re)shaping and unfolding is influenced by both inside and outside-the- skull (Meadows, 2002). (re)Shaping of all non-linear interactive narratives is influenced by the inside/outside principle.

The aim of this dissertation is to study nonlinear interactive narratives being (re)shaped in the digital medium in consequence of the collaboration between human users and the AI systems, wherein user inputs are most often observed to be based on the inside/ outside principle of interaction. Considering users' interaction with the open AI systems, the narratives are initiated over an infinite interactive architecture and can take any direction with no specific goals to achieve. The analysis is restricted to linguistic analysis of the nonlinear narratives and music, sound effects, physical appearances, illustrations, graphics, animated characters, animations of text etc. lie beyond the scope of this dissertation. Following is a review of some basic concepts forming the foundations of any study on nonlinear interactive narrative (re)shaping in the digital medium.

2.1.2 Nonlinear IN: Transvergent Products

Non-linear interactive narratives, despite being initiated by the author, are flexible structures with potential for viewer engagement, immersion, and attention (Hoydis, 2021), involve the coproduction of meanings at different stages (Hoydis, 2021). They remain open to changes, display expansive tendencies, emerge, and evolve every time the user interacts with the artificially intelligent system, and have capacities to transform the users as well as the environment in which interaction is taking place (DeLanda, 2004). By environment transformation, believable agents, their relationships with one another, with the user, with the settings, as well as the users, their understandings, their approaches, their patterns of

interaction, and the nature of their interaction, are implied. Tendencies within a narrative for it's (re)shaping can be enumerated, but its capacities to affect, and be affected cannot be predicted.

David Hosale (2008, p. 03) studies non- linear interactive narratives as transvergent products. Transvergence refers to a state of incompleteness, of being dynamic, and being in a state of flux. Non- linear interactive narratives derive their transvergent nature from two factors: (i) the user- AI interaction leads them to remain in flux, and (ii) “derailment, hybridization, and speciation” (Hosale, 2008, p. 03), of different genres of art leading to new and unique combinations. Being created in the digital medium, nonlinear interactive narratives are framed through the combinations of different art practices such as music, literature, poetry, and cinematography etc., which gives them interdisciplinary nature, possess fuzzy boundaries, and render any study incomplete if any particular lens is being used.

2.1.2.1 Structure of Nonlinear Interactive Narratives. Hosale (2008) observes that non- linear interactive narratives derive their structure, form, and direction from the plots and interactive architectures of the works being designed with an affordance for user interactivity in the digital medium:

2.1.2.1.1 Interactive Architectures. Laaksolahti (2008) observes non- linear interactive narratives being (re)shaped by user -AI interaction lie over a vast spectrum ranging from finite interactive architecture where despite users' unconstrained interaction/ input, author has the controlling authority over the shape, direction, and outcome of the narrative to infinite interactive architectures where (re)shaped narratives can progress in unknown directions leading to surprising outcomes. In other words, it is the interactive architecture defined by the nature and degree of user interaction with the system that determines the structure of the narrative being (re)shaped. Also referred to as interactive frames, they can be of the following types:

(i) Finite Interactive Architecture: also referred to as closed architecture. Hosale (2008, p. 48) identifies finite interactive architecture being designed in loops, maps, mazes, and labyrinths to afford users' interaction/inputs. Such interactive architectures have

constrained affordance for user interaction/ inputs and is akin to a hero's journey involving a quest of the interactive world, struggles in completing tasks, and moving onto the next level. Narratives are (re)shaped as a continuum of winning, gaining, and moving on to the next level, and stops when the user fails to complete the assigned tasks, or the user has completed all the tasks.

Finite interactive architectures are author centric (Laaksolahti, 2008; Hosale, 2008) in which author prescribes the rules and limitations of user interactions/inputs to define the boundaries of interactive experience in anticipation of the direction and outcomes the (re)shaped narrative might yield. The aim is to afford interactivity and give users a feeling of being able to affect the direction and outcome of the experience, but it is the author who is ultimately in control. It leads to an experience ultimately becoming boring and monotonous which the user can easily master.

(Laaksolahti, 2008) observes (re)shaping of nonlinear interactive narratives resulting from user-AI interaction in top-down fashion. 3D games, interactive plays, interactive novels etc., are developed on finite interactive architectures, in which the AI generates contributions to facilitate authors' control over the interactive experience and is programmed to provide solutions to address the problems caused by users' interaction/ inputs. The AI is programmed to find solutions to problems like hindrances to the progress of the (re)shaped narratives in predefined directions, threats to achievement of author's predetermined outcomes, or compromise of coherence, meaningfulness, and aesthetic appeal of the entire interactive experience. Narratives become entities that are already determined by the authors but evolve into different shapes by the user-AI interactions within predefined boundaries.

(ii) Infinite Interactive Architecture: Also referred to as open architecture, Hosale (2008, p. 48) observes them to be "about openness and possibility" with an affordance for free and unconstrained user interaction/ input in an author-initiated experience but neither the direction nor the outcome of the (re)shaped narrative are predetermined. Open interactive architectures are flexible and expansive in nature to accommodate multiple users at a time. The boundaries of user interaction are infinite, and the rules and limitations are open to changes. Interactive narratives based on open architectures are structured in the

form of linear branches initiated once but not knowing any end. Scholars like Young et al. (2004); Rield et al. (2008); Porteous et al. (2010); Weallans et al. (2012), have observed that free and unconstrained user interaction/inputs pose a big challenge to the coherence and meaningfulness of the (re)shaped narrative.

Infinite interactive architectures are developed on character centered approach (Laaksolahti, 2008; Hosale, 2008) where the AI creates means to simulate real life characters by autonomously generating free and unconstrained contributions to (re)shape non-linear narratives. AI interacts with the users and autonomously generates contributions in response to user inputs, in the absence of the directions from the author, to keep the interactive experience coherent and meaningful, interesting, and engaging till the end of experience. Nonlinear narratives become procedural entities (Crawford, 2005; Mateas & Stern, 2000), emerging in a bottom-up fashion to adapt in an environment that has neither predefined boundaries nor predefined outcomes to achieve, and may turn out to be different from what was initiated by the author. Narrative (re)shaping upon user interactions with chatbots, social bots, humanoids, virtual assistants, virtual influencers, story generators, and story engines are based on infinite interactive architectures.

2.1.2.1.2 Interactive Plots. Plots define how a narrative would unfold and consists of events connected in a certain order. Each event is formed from four basic elements: story world, characters, settings, actions. Meadows (2002) has categorized plots of interactive narratives into two major types:

(i) **Author Designed Plots:** the author designs all possible events and determines what the next chronological order would be for the non- linear narrative to take upon user interaction/ inputs. Author designed plots can be impositional or expansive. (a) **Impositional plots:** Narratives based on impositional plots unfold because of predetermined order of events, and despite user interaction/ inputs, progress in predetermined directions towards predetermined outcomes. Nonlinear narratives being (re)shaped in interactive works like choose-your-adventure are based on impositional plots for the author to exercise firm control over the shape and outcome of the narrative. (b) **Expansive plots:** have an affordance for free and unconstrained user interaction/ input resulting in a readjustment of the order of events steering the (re)shaped narrative in any direction. However, the outcome

of the (re)shaped narrative remains predetermined (Weallans et al., 2003). 3D games are examples of interactive works based on expansive plots.

(ii) User Designed Plots: Though the events are designed by the authors, it is the user interaction/ inputs which orders the sequence of events to affect and determine the direction the unfolding narrative might take. User designed plots can be based on (a) Nodal structures: plots are based on branching structure, in which events are already sequenced by the author. The branching structure has certain points referred to as nodes at which users give inputs to choose a certain branch. User subjectivity is manifested by the choices made to (re)shape the narrative and steer it in a certain direction. This implies that despite the logic and reasons users employ to exercise subjectivity in choosing the direction of the narrative, the outcome remains predetermined by the author. Choose- your- adventure and hypertexts are based on nodal plots that have a single beginning but upon user interaction/ input through choices unfold the narrative in different directions leading to different endings, (b) Modulated structures: Modulated plots offer narratives dependent on the events pre- designed by the authors, but neither their chronological order nor their timings are pre-determined. Users explore the story world, and give inputs on cause and effect principle to modify the order of events, add to it, divert it in a certain direction, change the timings of events and their order etc. 3D games, i-documentaries, interactive dramas are examples of interactive narratives based on modulated plots where though the events are predesigned, they are (re)shaped by user interaction/ input, (c) Open structures: plot has no fixed structure with predetermined events. Based on free and unconstrained interactive architecture, it is the user interaction and inputs, which make the events, determine their order, and order their timing, and frame a narrative which can have any direction, and end at any outcome. In fact, users' free and unconstrained interactions with virtual assistants, chat bots, and robots are neither based on any pre- designed elements of a plot nor do they even require any special settings. They are just available as any human being to interact with and (re)shape narratives in any way, in any direction.

2.1.2.1.3 Metanarratives. Meta narratives are derived from plots. Since plots are based on the interactive architecture, metanarratives possess narrative triggering points at which subjective users' inputs reflective of individual perspectives are accommodated and

make the narrative non-linear. Since users' patterns of interactions and inputs are unique because of multiple reasons such as varying environmental conditions of user interactions, and personal, psychological, and emotional states of the users etc., there is a possibility that (re)shaped narratives become incoherent or meaningless. Metanarratives have capacities to readjust to any and every unique user interaction/ inputs so that the (re)shaped narratives in all cases remain coherent and meaningful. For Culhane (1999) metanarrative serves as the all-knowing, fractal storyteller, whereas Laaksolahti (2008, p. 5-6) observes it to be a "web of possibilities (where)... the message, at some level, stays the same although the story is quite different". Based on interactive architecture, metanarratives can be of the following types:

(i) Branching Metanarratives: designed on a finite interactive architecture with narrative triggering points on the nodes present on branches for the user to make choices and steer the (re)shaped non-linear narrative in predetermined directions towards predefined outcomes. Hypertexts and choose-your adventure are examples of branching metanarratives.

(ii) Immersive Metanarratives: "Interaction is generally construed as the freedom to do anything at any time. Where story is predestination, interaction is freedom; story and interaction seem fundamentally opposed" (Mateas, 2003, p. 09). Immersive metanarratives are based on finite interactive architecture and aim to simulate real life through its believable agents and settings. They are an author's aesthetic creations (Sharma et al., 2010) with embedded narrative triggering points presented through dynamic, flexible, and ever-changing spaces to give users a real time interactive experience through immersion. At narrative triggers, users give their biased inputs reflective of their subjective perspectives and experiences to affect the unfolding of the narrative and move it in different directions. Narrative (re)shaping becomes a complex phenomenon being extendable and co-emergent because of different users sharing individual efforts and influencing those made by others resulting in a "co-existence, and the relationality, between physical, energetic, mental, and potential entities" (Gaudenzi, 2013, p. 248). Immersive metanarratives are of two types: (a) narrative triggering points are designed in anticipation of user interaction/ input to keep the (re)shaped narrative within the boundaries of the finite

architecture predefined by the author, steering it towards anticipated outcomes. Video games, interactive dramas are examples of interactive works offering immersive metanarratives built on closed, finite architecture, (b) infinite, open architecture: at the narrative triggers both the user and the AI system give free and unconstrained contributions to (re)shape the narrative and the outcomes of such (re)shaping remains unknown to both the author and the users. Text adventure games like Zork (Anderson et al, 1979), Planetfall (Meretzky, 1983), Spider and Web (Plotkin, 1998), Torn (Chedburn, 2003), and Night House (Karella, 2016) are examples of interactive works with metanarratives designed on open architecture.

(iii) Flexible Metanarratives: based on open interactive architecture, have no specific plots, and an entire experience has narrative triggering points inviting contributions from both the users and the system to (re)shape the non- linear narratives. Interaction with virtual assistants like Siri, Alexa, Kismet, unconstrained texts generated by story generators like DINE (2017), interactive video games like Fortnite are examples of unconstrained narrative (re)shaping with no specifically predefined structure, shape, direction, or outcome.

2.1.2.1.4 Three Layered Structures. Russian scholars Vladimir Propp (1895- 1970) and Shklovsky (1893- 1984) proposed structural and formalist approaches to analyse narratives. For Propp, morphemes are the basic units of narrative construction which are connected to form narratemes (also often referred to as narrative units). Being the smallest event, a morpheme can be analyzed as a complete unit i.e., morphemes are the smallest units of narrative analysis. According to Shklovsky, morphemes are connected to form narratemes at points known as nodes, nuclei, noyaux, or kernels (Barthes, 1975; Chatman, 1978; Propp, 1968; Jensen, 1988; Grodal, 1998; Abbott, 2008; Aarseth: 2012) to form the running structures or layers of a narrative.

Nonlinear interactive narratives are running structures usually discussed to consist of two- layers: fabula and sjuzhet. Fabula is the top layer which provides the interactive frame for narrative construction by enumerating all events that occur in the story world between the time of start of the story till the time the story ends (Riedl, 2019). The second layer is sjuzhet, a subset of fabula that is presented via narration to the audience (Riedl,

2019). Narration in *sjuzhet* is dependent on the way narratemes, referred to as satellites or catelizers (Minsky, 1974) are connected at nodes. Nodes, also called slots, are the narrative triggers (Culhane, 1999) because they reflect the gaps at which chances of different perspectives to the presented narratives are bright. At nodes, narratives can get (re)shaped and progress in a certain direction. Authors satisfy the artistic needs of suspense, curiosity, and sympathy (Tomashevski, 2012) by designing the slots/ narrative triggers present in the *sjuzhet* layer to accept users' inputs. User interaction/ inputs call for the readjustment and redefining of the temporal connections among satellites or catelizers, and consequently make the narrative nonlinear and (re)shape the narratives. Third layer of nonlinear interactive narratives referred to as text or media (Riedl, 2019) is formed of the language, symbols, images, animations, illustrations, semiotics, media through which the narrative is conveyed to the receiver. Users interact with the text or media, infer the fabula, and give their inputs at the nodes to (re)shape the narrative. While narratives are (re)shaped at a lower level called *sjuzhet* through the third layer text/ media, the top level fabula remains unaffected in an interactive experience (Furtado et al., 2008).

2.1.2.1.5 Infinitude of Reproduction. Reductionism. According to Jean Pierre Balpe (2005), non-linear narratives are (re)shaped through user *transleptic* interaction and subjective inputs at *alepsis*. User's course of understanding the progress of non-linear narrative is *transleptis*, and *alepsis* are the narrative triggering points at which subjective users' inputs are accommodated. Interactive narratives are designed on architectures based on *hologrammatic* principle, according to which an interactive work is a flexible structure in which innumerable narratives can co-exist at the same time. None of the presented narratives has a definite shape, none has well defined beginnings or endings, all can be read from anywhere, all can be modified by anyone any time, and all can be easily replaced by another. According to Culhane (1999), the structure of interactive narratives is loose and has a "harmonic" nature in which there is an affordance for the accommodation of innumerable user inputs which leads to its innumerable editions. All non- linear narratives within an interactive work operate on *equivalence* principle (Balpe, 2005), according to which each edition of the (re)shaped narrative is representative of a certain perspective, but in no case reflects a whole reality. Neither are all editions of the (re)shaped narrative available to the users nor is any available in its final form. Also, none of the editions is

superior to the other. Being produced from *infinitude of its reproduction*, interactive narratives have flexible nature, changing states, and immense potential. In short, interactive narratives earn the status of timelessness and eternity. (re)Shaping of non-linear narratives “is an art of consummation which refuses to look back on its tracks, which it regards as nothing more than signs toward something else” (Balpe, 2005, online). Scholars study structures of interactive narratives in terms of *reductionism* where small episodes of user interaction/ inputs lead to big changes yielding a whole greater than the sum.

2.1.2.1.6 Universe Model. Interactive narratives are (re)shaped because of the immersion they offer to the user. Through immersion a belief of being a part of the virtual world is created in the imagination of the user (Hosale, 2008). Because of immersion, each user subjectively understands, interprets, and makes meaning of the narrative, interacts and gives inputs to (re)shape it according to subjective views regarding the reality of the presented narrative. Subjective views lead to unique patterns of interactions and unique inputs, where none gives a thorough representation, or (re)shapes the narrative to a final form. However, interactive experiences transform users, the narrative being presented, and the environment within and outside the work. Transformation is also subjectively perceived, interpreted, and understood.

Universe model on structure of interactive narrative (re)shaping is based on the inter- related concepts of the world, views, and transformation, according to which an interactive narrative is like a universe built as a *rhizome*, which has roots and branches spread in different directions (Deleuze & Guattari, 2005; Hosale, 2008; Braidotti, 2019). Each root and branch represent different kinds of knowledge and become interconnected at certain points to form nodes and assemblages. Rhizome of interactive narrative is formed by different worlds, where each world further has its own edition of the narrative to present. Depending on a user’s view of the universe, there can be present only one world in the universe (if only one narrative is perceived and understood) or several worlds (if a user perceives several narratives present in the work). Narratives offered by each world can be (re)shaped subjectively through unique user interactions and input. Each (re)shaped narrative serves as a contribution to the already existing mass of multitude of narratives present in the universe. While they are unique on one hand, they become interconnected at certain points to form assemblages and nodes, leading to the formation of a non-

hierarchical rhizome structure with indeterminate form possessing fuzzy overlapping boundaries, always “moving, spreading, and consistently changing its shape and connections” (Hosale, 2008, p. 77). User interaction and inputs transform both the universe and the users. The effects of transformation vary from user to user and context to context.

2.1.2.1.7 Autopoietic Beings. An entity can be called living when it “is not separated from its environment but is in structural coupling with it” (Maturana & Verala, 1987, p. 75) i.e., it is capable of self-making, self-adjustment, and auto-creation on detecting any changing in the environment of which it is a part. Maturana & Verala refer to such capabilities as “autopoietic organisation” (1987, p. 47). For Gaudenzi (2013, p. 90), being “relational entities, rather than static ones”, interactive narratives are “autopoietic beings”. Self-organising capabilities of the interactive narratives are derived as abilities to adapt to external conditions (Akimoto, 2018; Abe: 2017). Since settings within and surroundings around interactive narratives remain in flux because of the user system interaction, narrative (re)shaping is studied as a constructivist phenomenon. These narratives derive their flexible nature from contributions produced to reposition both the users and the system to readjust to the dynamic and constantly evolving environment (Deleuze & Guattari, 2005; Hutchins, 2014; Pennycook, 2018; Braidotti, 2019).

2.1.2.1.8 Complexism. Being (re)shaped as products of interconnected complex agencies of an author, AI system, and the user, nonlinear narratives challenge the modernist concepts of hierarchical constituency, and do not acknowledge superiority of one agent over the other. With a belief that knowledge does exist, an interactive narrative takes into account human limitations and are (re)shaped in an attempt to search the unknown (Galanter, 2016). The subjective nature of the constituting agencies renders chaotic structure to interactive narratives in which neither the author’s metanarrative nor user interaction/inputs give it full meanings.

2.1.3 Authorial Intent

Since nonlinear interactive narratives are (re)shaped by the collaboration of the author, users, and the AI system, it is important to understand the role of the author of the interactive work. Being initiator of the interactive experience, narrative (re)shaping in digital media is influenced by an author’s perceptions of interactive experiences, non-

linear narratives as art forms, role of the user, and the role of the system. Hosale (2008) views interactive narratives as akin to games which present an interactive culture for users' interaction/ inputs. Gaming cultures reflect an authors' approach towards life and are of two types: finite and infinite gaming cultures. (a) Interactive narratives based on closed interactive architecture like hypertexts, MUDs, video games etc., present users with a finite gaming culture based on a deterministic view of the world which is full of options. (Gaudenzi, 2013). Users can interact and give inputs to take chances till the available options expire. Despite the outcomes being predetermined and dictated by destiny, the authors have progressive view of life, and the narratives it is presenting can be (re)shaped till chances expire (b) narratives designed on open interactive architecture such as 3D games, and virtual assistants etc. present users with an infinite gaming culture in which users interact and give inputs to continue to progress. Like life, infinite gaming cultures have affordance for innumerable user interactions/ inputs, with an aim "focused on playing and playing" (Hosale, 2008, p. 42) resulting in continuous (re)shaping, evolution, and emergence of narratives. In other words, authors of infinite interactive architectures view life being in a constant state of flux and happening, and the narratives germinating from it, would continue to experience evolution and (re)shaping at every turn.

2.1.4 Unique Opportunity: Unique Feelings: Unique Narratives

Though initiated by an author, users need also be studied for they play a key role in determining the direction and outcome of the (re)shaped non- linear narratives. According to Murray (1997) users develop unique feelings when they get an opportunity to be part of an immersive world, get a first- hand experience of its events, engage in a dialogue with an artificially intelligent system, interact and give inputs to (re)shape the presented narrative. "We already are cyborgs in the sense that we experience, through the integration of our bodily perceptions and motions with computer architecture and topologies, a changed sense of subjectivity" (Hayles, 1999, p. 12).

Contributions generated by the responding system depend on (a) role prescribed by the author, (b) previous history of user interaction, and (c) the available data.

2.1.4.1 Immersion. Murray (1997) identifies immersion with the feelings arising out of the conviction of being an inherent, internal part of the interactive world, directly

experiencing the reasons and logics connecting the events to present a certain narrative and having an effective agency to (re)shape the presented narrative subjectively. Because of immersion, interactive narratives become believable realities for users, a simulation of real life non- linear narrative (re)shaping.

2.1.4.2 Agency. For Laurel (1993), agency refers to the user's ability to "do" something. Murray (2016, p. 126) defines it as "the satisfying power to take meaningful action and see the results of our decisions and choices", and Ryan (2007) explains it as the user(s) viewing the action from different points of view, investigating a case, and trying to reconstitute events that have taken place.

Users' exercise of agency to (re)shape narratives is dependent on a number of factors: (a) author views regarding interactive experience materialised through interactive architecture of the work. Authors prescribe specific user roles in interactive experience which reflect author's views regarding the nature, extent, and level of user interaction, (b) personal and physical contexts of the users which dictate user's actual input, and (c) responses of the system to adjust to user interaction/ input and contribute to (re)shape the presented narrative (Mateas, 2003).

2.1.4.2.1 User Interactivity. Interactive architecture dictates user interactivity. User interactivity is a relative construction based on interdependent relationships between the users and the responding system as conceived by the author (Gaudenzi, 2013). In other words, user interactivity defines the nature and extent of user interaction/inputs to be afforded by the interactive architecture to (re)shape non- linear interactive narratives. For Manovich (2001), since interactive architectures are mainly of two types i.e., closed and open architectures, user interactivity afforded by an interactive narrative can also be identified as of two types: Closed interactivity: it refers to limited interactions and constrained user inputs, and open interactivity which implies affordance for free user interaction and unconstrained inputs.

According to Ryan (2007), depending on the affordance of the interactive architecture for user interaction/ inputs, interactivity can be categorized into the following major types:

(i) Internal Interactivity: Is also referred to as exploratory or ontological user interactivity because users interact and give inputs to explore the ontology of the immersive world of which they become an internal part. Though the author has ultimate control over the outcome, internal interactivity leads to narrative (re)shaping by users' constrained interaction/ inputs to affect the direction of narrative. Narratives in 3D games are (re)shaped through users' internal interactivity.

(ii) External Interactivity: executed as exploration of the presented ontology but carried out when the user is present outside the interactive world. Users may assume the position of a director, who can intervene and give inputs when the (re)shaped narrative does not move in suitable directions to achieve the desired goal. The user (re)shaping narratives through an external role of interactivity does not get a first- hand experience of the events and assumes the third person narration. Narratives in hypertexts are (re)shaped through users' external exploratory interactivity.

Depending on the interactive architecture, Galloway et al. (2007) identify role of users to (re)shape non- linear interactive narratives to be of four types: (a) passive adaptive: interactive architecture is designed to accept input from a user present outside the interactive world and gives inputs just to steer the nonlinear narrative in a certain direction. Users do not get a first-hand experience of the events, and despite becoming nonlinear by constrained user inputs, narratives are author designed. The logic of interactivity is to allow users to remain passive and adapt their interactions and inputs to suit the evolving interactive experience. Users remain passive in narratives (re)shaping by story generators (e.g., BRUTUS 1999), writing programs (e.g., Wordsmith) applications like DINE (2017) (b) active adaptive: works like hypertexts and choose- your- adventure are based on branching interactive architecture in which users remain active for narrative (re)shaping and unfolding is subjected to user choices. The logic of interactivity dictates users to give constrained inputs and the nonlinear narrative to progress in the direction selected by the users (c) immersive: interactive architecture calls for a user to feel being an active part of the immersive world, get a first- hand experience of its events, and give inputs. The logic of interactivity is based on narrative (re)shaping in plots based on events that are predesigned by authors but sequenced by users through free and unconstrained

interaction/inputs. Narratives (re)shaped through immersion such as in like 3D games, and i-plays, i-docs etc., through the immersive roles of users (d) expansive: interactive architecture has no definite boundaries and users perform an expansive role in (re)shaping narratives by freely interacting and giving unconstrained inputs to the already existing narrative, making it an ever-growing creation. Narrative (re)shaping when users interact with virtual assistants like Siri and Alexa, or interactive works like PokemonGo or Fortnite is achieved through expansive roles of users.

According to Gaudenzi (2013) interactive narratives are designed on four modes of user interactivity: (a) conversational mode of user interactivity aims at simulations of unconstrained dialogue between the user and the system, unconstrained interaction with virtual assistants like Siri and Alexa is based on conversational mode of interactivity, (b) hypertext mode of user interactivity calls for manifestation of user interaction/ inputs through selecting any of the options presented by the system, (c) experiential mode of user interactivity implies users' immersion in digitally created spaces, which despite being virtual, provide a real time, first-hand interactive experience, (d) participatory mode of user interactivity leading to (re)shaping of narratives from the collaboration between users and an artificially intelligent system.

2.1.4.2.2 User Context. Ahearn (2001) observes that users exercise their agency in the light of their interpretations and understandings of the immersive interactive world, their previous experiences (in real life as well as interactive experiences), anticipations of what next might be presented, and impact of their inputs on narrative (re)shaping in the light of their socio-cultural contexts. Bureau observes interactive work as an informational, manipulable object, in which two registers of interactivity can be distinguished: one with a human agent and one without a human agent. In the second case, the agent may be elements of nature or the environment. With interactivity, the viewer and/ or the environment become elements of the work, in the same way as the other elements that compose it.

Greater agency leads to deeper user understanding and interpretations and plays a key role in convincing the user of the reality of the interactive experience in which the user is a part and is capable enough to (re)shape the narrative (Harrell & Zu, 2009). With

increased user agency, author's control over the narrative shape and outcome reduces, and the user comes in a better position to define the direction of the narrative being (re)shaped and cast an impact on its outcomes.

2.1.4.3 Transformation. User interaction/ input and the non- linear narrative are bound in a bi- directional relationship in which both experience transformation and are transformed themselves:

2.1.4.3.1 User Transformation. Users are transformed by the powerful feeling of being capable enough to interact and give inputs to (re)shape narratives. Many-a-times, users experience catharsis and feel relieved when through their inputs they cast their thoughts and imaginations into reality. Users execute their agency by playing a certain character in the immersive interactive world created in the digital medium. Users interact and give inputs by merging their personalities, position, thoughts, and approaches in real life with those expected of their assumed character in the immersive interactive world (Laaksolahti, 2008). At some points, the character and the user would easily identify with each other, and there would also be times when the user's real-life personality would not match with that of the character (Persson, 2000). Users might give inputs under the influences of real-life experiences and desire to (re)shape the narrative to reflect real life (Djajadiningrat et al., 2000), or as an assumed character give inputs to cast ideas farfetched from the conventions of real life into practice and enjoy a “liberating” (Laaksolahti, 2008, p. 53) feeling.

2.1.4.3.2 Narrative Transformation. Keeping in view concepts like Observers' effect in Physics and Observers' Paradox in social science, non-linear narratives are transformed when a user approaches it (Hosale, 2008, p. 67). However, transformation of narratives upon users' interaction/ inputs takes place in four steps (Meadows, 2002):

- a. Observation: the user approaches the narrative being presented,
- b. Exploration: the user attempts to understand and interpret the narrative,
- c. Modification: the user interacts and gives input to (re)shape the narrative,

- d. Reciprocal change: the system adjusts and responds back further to narrative (re)shaping.

2.1.5 Debate on IN in Digital Media as Being Actually Narratives

Nonlinear interactive narratives are studied as structures qualifying to be called narratives because they have (a) the four narrative building elements i.e., (1) a story world, (2) its settings (referred to as objects), (3) the characters inhabiting it (referred to as agents), (4) relationships of the characters among themselves and with the settings of the story world (Aarseth, 2012). These elements are weaved into different events/ actions which finally frame the presented narrative, (b) the existence of these elements despite user interaction/ input.

However, the distinct characteristic of non-linear interactive narratives of being (re)shaped upon users' interactions/ inputs has often led scholars to contest whether interactive narratives are narratives in a true sense or not. Reservations against their being narratives arise because of two major reasons: (a) they are not the products created by a narrator only (b) can also be (re)shaped by user interaction/ input.

Since traditional concepts regarding narratives understand them as being framed from sequences of events/ actions performed by humans, non- linear interactive narratives are challenged for being (re)shaped by the collaboration of an agency which is neither living nor has sentience of life, culture, society, and emotions. However, nonlinear narratives like any traditional narratives are structures derived out of sequences of events caused, performed, and experienced by agents that are humans (users) or possess human-like qualities (AI).

Author's bias is often considered as a criterion for calling a sequence of events as narrative. A narrative is often studied as a structure framed deliberately with well thought beginnings progressing along a predetermined path defined by subjective logics of cause and effect, deliberate choices, well- thought arrangements, and judgmental decisions towards a closure of author's choice. Narratives are believed to present colored versions of reality designed with an aim "to moralize" and cast an impact on the understanding,

interpretation, and elaboration of the recipients of the narrative (White, 1981; Scholes et al., 2006). Interactive works being based on ludology and role plays neither have a biased narrator nor do they have a message to convey and transform their recipients, hence do not qualify to be called narratives. However, according to Murray (1997) and Crawford (1996), the condition of narrator's bias and prejudice is fulfilled by interactive works when the presented narrative is being (re)shaped by users' interactions/ inputs. Every user is reflective of the user's independent/ individual perspective, hence making the (re)shaped narrative a subjective version of reality. Users' interaction and inputs given according to the current state of the story instead of what might have happened earlier in the story world in the past, implies that the work with its narrative does have an impact on the understanding, interpretation, and elaboration of the users.

Another criterion for calling a sequence of events as narrative is speed. Juul (2001, p. 03) observes that narratives never move with *constant speed*. Depending on the gravity and consequences, certain events are narrated slowly with lots of descriptions and details, and there might be other events that are simply missed because the narrator considers them unimportant, inconsequential, or trivial. Owing to user interactions/ inputs, events continue to happen one after another, all become equally important and consequential to the overall shape and proceeding, non- linear interactive narratives compete with traditional narratives in terms of users' time spent on different stages. Owing to innumerable reasons such as complexity of the event/ stage, interest of the user, graphics and entertainment being offered etc., the duration of users' interaction and time taken to give inputs may vary. At some events/ stages, users take more time to interact and give input and there can also be events/ stages which consume minimum user time.

In traditional narratives, recipients have the options to choose, skip, fast forward, or move back whereas interactive works are designed on frames which consist of different stages where the users are required to interact and give input to move forward. There are no means of hopping and skipping to move ahead. Louchart & Aylett (2004, p. 516) defend interactive works as presenting narratives by observing that "narrative is seen as an artefact which can be studied and not as the dynamic process resulting from the interaction between characters and its impact on the user."

For the purpose of this dissertation, interactive narratives are studied as (a) consisting of four elements i.e., story world, settings, characters, and events (Aarseth, 2012), (b) being based on sequences of events related to one another through temporal relations among the four elements of happening over time (Labov & Waletzky, 2003), (c) providing the contexts in which users can interact as well as give inputs (Riedl, 2012) (the context is formed by binding together the sequences of events), (d) the consequence of user interactions/ inputs (Riedl, 2012).

Nonlinear narratives in the digital medium are distinct because they (a) are not always present in a chronological order where the recipient can hop and skip from one event to another or move back and forth between events, (b) related to one another in a thread of cause and effect (Trabasso et al., 1982), where user interaction/ input becomes the cause of another event produced as a response by the system, (c) experience a shift from the third person narration to the first person narration. The recipient gets a first-hand experience of the events, is transformed by it and gives input to transform the narrative as the “doer” who can later recall the experience.

2.1.6 Taxonomy of IN: Fuzzy Boundaries

Mainly because of their transvergent nature and innumerable shapes and variants, interactive narratives lack a suitable taxonomy for their study. “So new is it that even words recently developed to step into the breach (interactive, nonlinear, etc.) are unsatisfactory. Of course, in time this new kind of text will evolve its own seemingly inevitable lexicon” (Kirby, 2015, p. 280). Nash (2011) has used interactive architecture to categorize interactive narratives into three types: (a) closed interactive narratives: based on closed interactive architecture, users interact and give constrained inputs within already defined boundaries, and narratives are (re)shaped to lead to predetermined outcomes. In hypertexts and choose your adventure narratives are closed interactive narratives. (b) categorical interactive narratives are based on flexible interactive architectures which have an affordance for users’ free interaction and unconstrained inputs to (re)shape narratives within predefined boundaries. Though (re)shaped narratives lead to predetermined outcomes, they lack any dominant, chronological narrative structure. There can be as many

smaller narratives as there are users, where each user subjectively approaches the work. 3D games, i-plays, IF, i-docs are examples of categorical interactive narratives (c) collaborative interactive narratives: based on interactive architectures with no definite boundaries for user interactions/inputs, the author initiates the narrative, and users can expand it. Free user interaction, and unconstrained inputs can take the narrative to any direction towards any outcomes. Narratives (re)shaped because of free and unconstrained interactions of users with virtual assistants like Siri and Alexa, chatbots like Replika and Hello Barbie, humanoid Sophia are all examples of collaborative interactive narratives.

Galloway et al. (2007) proposed categories of non-linear interactive narratives that are derived from nature of user role and degree of user agency as determined by the architecture of the story world: (a) adaptive interactive narratives: based on finite architecture, interactive works present narratives that are adaptive in nature. As users navigate the already defined routes, explore the available scenarios, and make choices, narratives adapt themselves to users' unique logics, even though the (re)shaped narratives in all cases lead to pre-determined outcomes. Hypertexts and choose your adventure stories are examples of interactive works offering adaptive narratives. (b) Immersive narrative (re)shaping: based on infinite architectures, presented narratives are (re)shaped subjectively when users interact and give inputs while playing a role in the immersive world. 3D games, i-dramas, IF offer immersive narratives which are (re)shaped within predetermined boundaries leading to predefined outcomes. (c) expansive narratives: based on infinite architectures, narrative (re)shaping is expansive because of its maximum affordance for users' free interaction and unconstrained input to steer it towards unknown directions leading to unknown outcomes. Narrative (re)shaping when users interact and give inputs to social bots is expansive with neither any predetermined directions to follow nor any predefined outcomes to achieve.

Gaudenzi (2013) proposed a taxonomy of (re)shaping of nonlinear interactive narratives based on different modes of users' interactivity. She observes that narrative (re)shaping is a relative construction derived from interdependent relationships between user interaction/ inputs and corresponding responses of the system. (a) Conversational

(re)shaping of interactive narratives is achieved through simulations of unconstrained dialogue between the user and the system, (b) narrative (re)shaping through hypertexts is limited to users making choices among the options presented by the system, (c) Experiential (re)shaping of interactive narratives as consequence of users' real time exploration of the digitally created virtual world and giving input in the light of their affected experience being derived from real life context and that provided by interaction, (d) Participatory (re)shaping of interactive narratives depends upon the collaboration of the artificially intelligent system with the users. Gaudenzi (2013) points out that it is not necessary for an interactive narrative to be based on only one mode of user interactivity. They can be hybrid in nature employing two or more modes of user interactivity.

2. Generative AI

Having established nonlinear interactive narratives as unique products created and (re)shaped through the collaboration of human authors and users in the digital medium, following is the review of the studies conducted on nonlinear narrative (re)shaping by the third contributory factor i.e., the system that is intelligent enough to not only keep the nonlinear interactive narratives coherent and meaningful, but also is capable of making meaningful contributions to the whole process. In fact, this dissertation focuses on the AI system that is programmed to operate autonomously and generate free yet meaningful contributions in response to human authors' creation and users' input to initiate/ (re)shape the narrative. The AI systems being studied in this dissertation play a participatory role while collaborating with human users to (re)shape the narratives.

2.2 Narrative (re)Shaping by System/ Generative AI

Interactive narratives (IN) created in the digital medium are products of technology (Mateas, 2003) manifested as computer programs developed with "humans as prototypes" (Ed. Guzman, 2020: 39; Turkle, 1984; Dreyfus, 1995; Bogden, 2006). The computer programs, also referred to as artificially intelligent (AI), are developed with capabilities to learn from received inputs, analyze, work out logic, interpret, reason to draw inferences,

perceive changes, effectively create, and display human ability to communicate (Wachsmuth, 2008).

AI systems collaborate with its human authors/ users to create coherent and meaningful immersive contexts through artefacts, settings, and relationships among characters (Harrell & Zhu, 2009). It is an interactive technology to provide intellectually, emotionally, and aesthetically rich immersive experiences by making the contexts appear alive, coherent, and intelligent to the users (Mateas, 2003), and are liable to cultural connotations and users' subjective interpretations. It manages users' experience (Harrell & Zhu, 2009) efficiently by generating responses to user interaction/ inputs to keep the (re)shaped narrative (a) logically connected, (b) coherent, (c) thematically unified, (d) meaningful, (e) interactive, (f) immersive, and (g) progressing despite the problems arising from unusual user interaction/inputs. This implies authoring interactive narrative content through a process of instilling a computational system with the ability to make the same decisions that the human designer would make in response to participant actions. That is, the human designer's goal is to infuse his artistic vision and authorial intent into a computational system (Riedl, 2009). It, despite being synthetic, serves as a dynamic part of a simulated life in which not only is AI transformed itself, but also the users as well as their surroundings. AI can be studied as "a certain force and power that can transform our thoughts and our being" (Sousa & Pessoa, 2019, p. 06). The AI systems are programmed to continue to interact with the users till either when the user stops to interact, or the work has reached its conclusion.

2.2.1 Generative AI

Where humana authors and users are naturally gifted with intelligence and creativity, the AI system, despite being non- human, displays intelligence in responding to user interactions/ inputs and gives responses derived from its programming, algorithms, and rules. Where there is a vast majority of AI systems designed to be used as artistic tools at the hands of human authors for coherent and meaningful narrative (re)shaping despite all sorts of human users' inputs, there are artificially intelligent systems that exhibit an intelligence which displays an understanding of narrative (re)shaping as being

“characterized by agency, authority, and subjectivity” (Ghashmari, 2016, p. 02) and can be viewed as posing challenge to the traditional notions of narrative creation, understanding, interpretation, (re)shaping i.e., seem to possess the “qualities that do not belong to the non-human” (Ghashmari, 2016, p. 02). Such AI systems operate autonomously and generate free yet meaningful contributions to the narrative (re)shaping. The autonomy exhibited by the system in generating its contributions to (re)shape narratives place it somewhere in equations with human authors and users and is often referred to as Generative AI. Generative AI refers to any system which when used by an artist display some degree of autonomy, thereby contributing to or resulting in a completed work of art (Galanter, 2016).

2.2.2 Natural Language Processing and Generation (NLP & NLG)

Language is one means using which AI systems participate in narrative (re)shaping. Artificially intelligent systems are developed with abilities to imitate the processes of understanding, interpreting, and responding back in any natural human language. Linguistic capabilities of an AI system vary from NLP i.e., natural language processing (NLP) which involves the processes of recognition of an input as natural language, understanding and processing it for effective analysis and interpretation, and NLG i.e., natural language generation which is about generation of a language text. Translation from one language to another, semantic and sentiment analysis of a given text, finding and presenting solutions to linguistic problems are derived from NLP, and autonomous generation of contributions to collaborate with human users are some examples of AI systems capable of generating natural language. In (re)shaping of nonlinear interactive narratives, AI systems are developed with NLP as well as NLG capabilities to receive, understand, analyze, and interpret human users’ linguistic interactions and language inputs, and generate language text to collaborate in response with human users.

Evolving from the first generation of AI software trained on their developer’s handwritten algorithms, all AI systems in the twenty-first generation are being trained “on the WebText corpus, a collection of texts scraped from the internet” and display capabilities to (re)shape narratives through “understanding and representation” (Alabdulkarim et al., 2021, p. 73) in interactive architectures. In all cases, generative AI

includes systems that are complex (Lippard, 1978) as well as dynamic, programmed to mimic animal nervous systems to generate contributions to (re)shape narratives which can progress in a direction unprescribed and lead to outcomes unknown (Hosale, 2008).

The aim of this dissertation is to analyze the language being generated freely by the AI systems to collaborate with human users input for an interactive narrative (re)shaping. A review of the characteristics of the AI generated language would help in establishing the significance of the present study keeping in view the fact that human produced language is a subjective product whereas AI generated free language is a product of programming and possesses no traces of human subjective understanding, yet it remains meaningful and comes in equations with human participation in nonlinear interactive narrative (re)shaping.

2.2.3 Operations of Generative AI

A brief review of the following concepts would help in understanding AI's generations of contributions to narrative (re)shaping:

2.2.3.1 Indeterminacy and Formalization. Indeterminacy is a characteristic trait of nonlinear narratives being (re)shaped by the generative AI. It is caused by unusual user-interactions/ inputs because of a number of reasons such as user is (a) unaware of the ways in which the narrative may unfold, (b) trying to steer the narrative in a new direction, or (c) is actively and mischievously testing the bounds of the responsiveness of the AI. AI is programmed to respond to any input it receives, be it the unusual, which implies that unusual input may lead to the generation of an unusual response by the AI. Though chances of unusual responses by an AI serving as an experience manager are less, what might exactly be the response of the AI to user interaction/ input cannot be predicted with precision.

Uncertainty regarding AI generated responses/ contributions germinate from its formalization operations performed to organize, assemble, and sync the available complex data. This is done by drawing analogies among the essentially fixed parts of the narratives being (re)shaped to those already present in the available data (Charniak, 1972; Minsky,

1974). Formalization operations are performed by the AI in the conceptual space also being referred to as phase space.

Similarly, in case of narrative (re)shaping through language, the AI systems process users' linguistic inputs, use the data available in the conceptual space to draw analogies and finally generate the output. But what might precisely be the linguistic output of the AI system cannot be predicted with certainty. AI systems are programmed for autonomous formalization operations in the phase space for generating a linguistic output (Chaturvedi, 2019).

2.2.3.2 Conceptual Space. Conceptual space is the unstructured data with a variety of different concepts and terms collected from a variety of online sources available to the AI to generate its responses. Developers of the AI prescribe a set of rules for the AI to observe while formalizing the unstructured data. Upon receiving user inputs, AI explores the conceptual space to find similar terms and topics as that of the user input, organizes the chaotic structure of user input according to the prescribed rules, and finally generates its own responses by applying the same rules on the terms and concepts present in the available data already (Galanter, 2016).

2.2.3.3 Machine Learning (ML). Conceptual space available to an AI system also provides it with the field where it can self-learn (Samuel, 1959; Rosenblatt, 1959; Bledsoe, 1961; Holland, 1962; Winston, 1970; and Vere, 1975) the language. The ideas expressed through a variety of linguistic terms present in users' interactions/ inputs constitute the unstructured data available in the conceptual space. The AI systems learn from the conceptual space to generate its responses just like a child learning from its surroundings i.e., beginning with supervised learning and gradually moving on to unsupervised learning, where the performance improves with experience. In the supervision stage, AI (a) accesses the data already present in the conceptual space, and (b) structures the data to generate its contributions according to a given formula. With experience, the AI responses are generated freely, under no constraints, and become unsupervised: this happens when AI (c) analyses the suitability and appropriateness of its linguistic output in the light of its previous interactions with the users, (d) learns to generate similar text contributions by

drawing comparisons between what is already present in the conceptual space and the direction of narrative being currently (re)shaped.

2.2.3.4 Deep Learning Models. Considering thoughts as the data being processed in different layers of the human brain, recent AI systems are designed to operate in a number of layers. Simulating human cognition processes for language understanding, analysis, interpretation, and production taking place in several layers, AI systems also have different layers meant for receiving, understanding, analyzing, interpreting, and generating language output. With specific layers for transforming the received input into data, AI systems after processing and recognizing the transformed data in the processing layers, generate suitable linguistic responses by using the already available patterns. It is because of deep learning models that AI, despite lacking the ability to understand, generates coherent as well as meaningful responses. Deep learning models require immense data and complex programming of transformation, processing, and application of recognition patterns, but produce results without explicit human intervention. There are various models on which generative AI is modelled such as:

a. Neural Networks: models' animal neural networks with neurons as the basic units. Available data is stored in the form of artificial units called artificial neurons (Beer, 1995; Smolensky, 1998). Upon user interaction and receiving input, a chain of signal processing and transmission starts from one artificial neuron and spreads out to other neurons. The outputs of these signals being received, processed, and transmitted further by neurons of the artificial neural network form the language responses generated by the AI.

b. Encoder- Decoder Model: designs neural networks in three layers, (i) input layer: serves to encode user linguistic input in terms of the available contexts, (ii) hidden layer: serves as memory to analyze the user linguistic input, (iii) output layer: serves to frame possible AI linguistic responses (Sundermeyer et al., 2012; Chung et al., 2014).

c. Generative Adversarial Network (GAN): consists of two separates yet competing neural networks. First neural network, referred to as a generator, utilizes the available linguistic data to generate a number of similar linguistic responses. The second neural network, referred to as discriminator, identifies the artificially shaped linguistic response from a

mixed set of linguistic responses obtained from different sources. Discriminator identification helps the generator remove the superficiality and produce a more natural linguistic response (Goodfellow, 2014).

d. Variational Autoencoders (VAN): consists of two neural networks working together to produce natural linguistic responses. The first neural network, referred to as encoder, compresses the input data and the second network, referred to as decoder, uses the data available to it and the compressed input to generate a natural linguistic continuation.

e. Transformer GPT Model (Generative Pretrained Transformer): developed by OpenAI and acquired by Microsoft in 2019, it generates language in response to user interaction/inputs by referring to the available training data based on a corpus of 499 billion tokens (GPT 3 is trained on 200 billion words). This huge data is often referred to as Common crawl data gathered from the different sources available on the internet such as digitized books, documentaries, reports etc. McDowell in an online interview with Slate conducted on 30th of November, 2020, observed this technique to generate language by the AI is latest and has achieved the status of performance of art- a duet for voice and machine.

2.2.3.5 Autonomous AI Operations. Be it machine learning or deep learning, any AI system carries out its formalizing language operations within the available conceptual space autonomously and is under no external control. AI processes are neither under the control of the developer of the system nor the author of the work using it to construct an interactive experience (Galanter, 2016). It is possible to get an idea regarding what might be the next most probable AI linguistic output, but the degree of probability regarding the AI generating specific linguistic responses cannot be determined with certainty. Unique combinations of the data present in the conceptual space enhance the possibility of the AI to display unique creativity, generate unimagined responses, and innovative solutions.

2.2.4 Types of Generative AI

Based on the unpredictable, random formalizing operations in the conceptual space for generation of contributions to (re)shape narratives, AI systems can be categorized into two types (T. van der Zant et al., 2006):

2.2.4.1 Closed AI Systems. AI systems that are programmed to explore the conceptual space for an idea to (re)shape narratives by applying the prescribed rules for language generation in a regular pattern to are referred to as closed AI systems (Galanter, 2016). Narratives are (re)shaped under given constraints by such language generating AI systems and turn out to be highly ordered, repetitive, lacking variations, and monotonous. Story generators serving as an author's tool and experience manager to solve problems emerging from user unexpected interactions/ inputs in immersive interactive works are examples of closed AI systems.

2.2.4.2 Open AI Systems. AI systems programmed to model human nervous system for processing the data available in the conceptual space to generate language texts for narrative (re)shaping are termed as Open AI systems (Galanter, 2016). Open AI systems have capabilities to autonomously solve problems, efficiently interact with the surroundings, and effectively produce believable discourses with the users. Reaction-diffusion mechanisms (Turing, 1952), L- systems (Lindenmayer, 1968), Genetic algorithms (Holland, 1970), fractals (Mandelbrot, 1975), cellular automata (Neumann, 1966; Ulam, 1974), neural networks (Rumelhart & McClelland, 1986), parallel computation (Fox, 1989), swarming behaviour (Kennedy & Eberhart, 1995), and autonomous sorting mechanisms (Guerin et al., 2018) are all examples of Open AI systems to select and generate the best suitable contributions for narrative (re)shaping. Narratives (re)shaped by the open AI systems can be highly disordered, unexpected, and may offer unprecedented variations that might shock the author, users, and the audience.

Though open AI systems are available in a huge variety ranging from conversational bots, personal assistants, virtual assistants, storytelling engines, story generators to translation bots, script writers, writing assistants, plot generators, this dissertation aims to study narrative (re)shaping by the Open AI systems that can autonomously generate natural language to (re)shape narratives under no constraints placed by the author or the users.

2.2.5 Choice of the AI System

An author's vision of the interaction, nature and extent of user agency, and the direction and final outcome of the (re)shaped narrative, dictates the choice of AI program and its role in the narrative (re)shaping. The AI can be used to serve as

(a) an author's creative tool to save time and effort, as well as an efficient system to exercise control over the evolving and emerging nonlinear narratives, as an agent to find efficient and effective solutions to problems, or an effective responding agency meant to autonomously adapt, modify, and readjust the interactive world for coherent and meaningful narrative (re)shaping.

When used as an author's tools, an AI (re)shapes the narratives under the constraints defined by the closed interactive architecture such as that found in hypertexts, choose your adventure, or IF. The AI is programmed to give an author's predetermined responses designed in anticipation of the user interaction/ input.

(b) Open AI systems, programmed to generate coherent and meaningful texts freely and under no constraints in a flexible domain provided by an open interactive architecture in response to user interactions/ inputs; examples are narratives (re)shaped by story generator DINE (2017), Jasper, GPT, DeepStory, or Charisma. ai. Open AI systems are developed on infinite interactive architecture to autonomously respond to user interactions/ inputs offering metanarratives that are immersive as well as flexible. The aim is to let the AI become a free agent collaborating freely with the users to (re)shape the narratives without intervention from neither its own developer nor the author. The aim is to facilitate the user.

2.2.6 Types of Generative AI Narrative (re)Shaping

Depending on an author's vision of interaction and the programming of the AI, narratives being (re)shaped by the AI systems fall into three major categories:

2.2.6.1 AI Narrative (re)Shaping in a Linear Fashion. Being used as an author's tool, AI systems generate texts to (re)shape narratives in a linear fashion. Depending on an author's use, they generate texts and the other suitable semiotics to build rich narratives (diegetic, mimetic, or hybrids of both) giving works an aesthetic appeal and literary value.

The first ever story generating system was developed by Grimes in 1960 (later rediscovered by James Ryan). It generated grammar-based language to produce simple texts connected to present stories. Eliza (Weizenbaum, 1966), Novel Writer (Klein et al., 1973), Tale-Spin (Meehan, 1977), Author (Dehn, 1981), Universe (Lebowitz, 1983), Minstrel (Turner, 1993), Brutus (Bringsjord & Ferrucci, 1999), Mexica (Perez y Perez & Sharples, 2001), Virtual Storyteller (Theune et al., 2003), Fabulist (Riedl & Young, 2010), Scherezade IF (Li et al., 2015), and Tracery (Compton et al., 2015) are some of the AI systems that generate texts to continue the narrative, once initiated by the author, in a linear fashion. Users remain outside the interactive world and intervene in narrative (re)shaping through constrained inputs to give directions or prescribe goals.

2.2.6.2 AI Narrative (re)Shaping in Immersive Interactive Works. Keeping in view Vladimir Propp (1895- 1970) and Shklovsky (1893- 1984) structural and formalist approaches for narrative analyses, nonlinear narratives in immersive interactive works are studied to have three layers: (a) fabula: which is framed by including all possible events (b) *sjuzhet*: involves ordering of the available events in a certain order, reordering, including, and excluding events upon user interaction, (c) the generation of semiotic and text contributions to adjust to the changes brought about by the user interaction/ input.

Narratives in immersive interactive works are (re)shaped in attempts to resolve tensions arising from authors' desire to maintain the artistic, entertaining, and meaningful appeal of the narrative and users' exercise of agency which pose threats to authors control over narrative unfolding. Such tensions challenge coherent progress and meaningful outcome of the (re)shaped narratives (Crawford, 1996; Ayelett, 1999; Szilas, 1999; Ayelett & Louchart, 2003; Fairclough & Cunningham, 2004; Magerko & Laird, 2003; Roberts & Isbell, 2007; Nelson & Mateas, 2008; Riedl & Bulitko, 2013; Guzdial et al., 2015). AI systems are trained to ensure that users' experience is interesting, coherent, and meaningful and, at the same time the author's authority over the narrative (re)shaping is not challenged (Szilas, 2007, p. 756).

Across a wide range of interactive works such as Project Oz (Bates et al., 1992), MOE (Weyhrauch, 1997), Facade (Mateas & Stern, 2003), Ross and Rachel (Cavazza and

Charles, 2010), archetype- driven characters in Crystal Island (Rowe et al., 2008), embodied conversational agents (van Deemter et al., 2008), SimCity (Wright, 1989), narratives despite being (re)shaped by user inputs remain coherent and meaningful through effective drama and experience management (Laurel, 1986; Bates, 1992; McKee, 1997; Weyhrauch, 1997; Beitzl, 2012; Magerko & Laird, 2003; Riedl, 2012).

Drama management is a part of development of interactive narratives, where the author designs diegetic and mimetic contributions in anticipation of user interaction/ response. These contributions remain available to the AI and are executed through the settings and believable agents in the interactive world in response to user interaction and input. Drama management is an author's job, done to ensure that the narrative, despite users' unconstrained interaction/ inputs, remains within prescribed boundaries, progresses in predesigned directions and leads towards predetermined outcomes. Robert & Isbell (2007) observe drama manager as a coordinator that tracks narrative progress in the environment and directs the roles and/ or responses of objects and agents to achieve a specific narrative. Laaksolahti (2008, p. 6) views drama management as "monitor[ing] the progress of the story and dynamically choos[ing] suitable story elements according to some criterion" with an aim to ensure that the process of user- system interaction leading to narrative (re)shaping continues and does not come to a halt."

AI systems are trained as narrative controllers (Harrell & Zhu, 2009), to effectively execute drama management i.e., to generate authors' predetermined responses through texts, semiotics, and readjustments in the settings and relationships among the characters to keep the (re)shaped narrative within control of the author despite any type of user interactions/inputs and its coherence and meaningfulness are also not compromised.

Errors (Magerko & Laird, 2003) in narrative (re)shaping are the unusual user interaction/ inputs, not anticipated earlier by its author. They potentially threaten the coherence and meaningfulness of the narratives being (re)shaped. AI is trained to help users in getting a real time immersive experience and create an illusion of *intentional agents* acting in the interactive world to identify user errors and serve as a *director* (Magerko &

Laird, 2003) to keep the narrative (re)shaping a coherent and meaningful experience which remains interesting and happening for the user throughout.

Riedl & Bulitko (2013) explain the relationship between drama manager and experience manager as drama manager is the person behind the scenes and has designed the order of readjustments and different new scenarios in anticipation of probable user interaction/ inputs. Drama manager acts as the omniscient authority over the narrative (re)shaping and has desires to control the progress of the (re)shaped narrative in predetermined directions towards predefined goals, however, cannot be present at the time of generation of the narrative. On the other hand, AI, referred to as experience manager in this case, is used as a tool by the drama manager to execute the control over narrative (re)shaping despite user interaction/inputs. Experience manager is programmed to ensure smooth, coherent, and meaningful user- system interaction by adjusting and presenting the sequences of events as designed and prescribed by the drama manager. The relationship between the drama manager and experience manager is of critical concern to interactive narrative research, as the experience manager can be considered an autonomous surrogate for the human author.

Immersive interactive narratives such as 3D video games and hypertexts are ludo-narratives being (re)shaped by users interacting and giving inputs while playing a certain role in the immersive world. Such ludo narratives lie beyond the scope of this dissertation. This dissertation aims to look at interactive narratives being (re)shaped by the texts generated freely and under no constraints by the open AI, where AI, despite being non-human and synthetic, appears to come in equations with human authors and users who attempt to (re)shape narratives as naturally gifted, emotional and social beings.

2.2.6.3 Free and Unconstrained Open AI Narrative (re)Shaping. Narratives in an “open domain environment” (Roemmelle, 2018, p. 29) are (re)shaped when the open AI systems collaborate with users with neither pre- defined boundaries nor prescribed goals to achieve. “Interactions with AI enabled devices and programs are dynamic rather than static, contingent upon the messages being exchanged within a particular moment and context or upon the data being fed into the program. Some AI technologies also are responsive to individual users, learning about their human communication partner and

adjusting interaction accordingly (Guzman & Lewis, 2019). Following are manifestations of free and unconstrained AI narrative (re)shaping:

(a) communication and dialogues simulating real life human communication where the user and the open AI take turns. To every user input, the open AI responds by freely generating coherent and meaningful sentences in natural language. Examples are applications like Say Anything (Swanson & Gordon, 2012), social bots like Instagram bots, virtual assistant like Siri (Apple, 2013), humanoids like Sophia (Hanson, 2016), and AI narrative generating systems such as Charisma. ai, AI Dungeon, Sudowrite (Shang et al., 2015; Serban et al., 2016)

(b) free and unconstrained texts generated to predict what might happen next in a given narrative (Roemmele, 2018). AI prediction of events can be of two types:

(1) Closed- choice prediction: AI systems like ID- tension (Szilas, 2003), GADIN (Barber & Kundenko, 2007), end- to- end search task story generation systems (Chambers & Jurafsky, 2008; McIntyre & Lapata, 2009), ProtoPropp (Gervas et al., 2010), and the Scheherazade System (Li et al., 2013) contribute to narrative (re)shaping by presenting the users with a number of choices; all of which pertain to what could be the next event.

(2) Free text generation: AI systems like DINE (Cychosz et al., 2017), Pythonic Poet (Paul, 2016) and GPT 2/3 AI program (Musk, 2019) autonomously generate texts to steer the narrative towards unknown directions. Botnik's Harry Potter sequel (Shannon, L, 2017), Benjamin's generated script of sci- fi movie "Sunspring" (neural networks designed by Goodwin, released in 2016), screenplay "It's No Game (released in 2017), Shelley's short horror stories on Twitter (Barnett, 2017), the Hoshi Shinichi literary award winning novel "The Day a Computer Writes a Novel" (Matsubara, 2016), the famous novel "1 the Road" (Goodwin, 2018), Pharmako- AI (McDowell, 2020), and Pythonic poet's generated poetry winning Darmouth's PoetiX, and poetry generated by Deep- speare (Lau et al., 2018) are all examples of nonlinear narratives being (re)shaped by open AI systems. These AI (re)shaped narratives are indicative of the fact that despite problems like out of context usage of words and sentences being, lack of semantic meanings, devoid of sense of time, place, and character development, and repeated inconsistencies, they pose a challenge to the belief that creativity is no more a human trait only. Montfort (2007) has observed AI

written literature to be challenging the way [one] read[s] and offers new ways to think about language, literature, and computation.

This dissertation aims to focus on the study of (re)shaping of nonlinear interactive narratives in collaboration with open AI systems. The dissertation would analyze the texts being generated freely by the autonomously operating open AI systems in response to human users' input.

2.2.7 Approaches to Programming of AI for Narrative (re)Shaping

Whether AI is a closed system being used either as a tool in the hands of authors to help generate text narratives, an efficient experience manager to maintain coherence and meaningfulness of the (re)shaped narratives or is an autonomous agent operating as simulation of human patterns of interaction and modelling human language cognition, different approaches have been proposed to study narrative (re)shaping by the generative AI systems. They reflect an author's vision of the interactivity, perceptions regarding the interactive role of the user, and desires for the direction, meaning, and the outcomes of the nonlinear interactive narratives being (re)shaped by using language.

Approaches to generative AI address nonlinear narrative (re)shaping in consequence of interaction among the author, users, and the AI at two levels stages: (Litvyska, 2019): (a) *histoire*: the planning stage at which the interactive architectures, meta narrative, goals and aims of narrative (re)shaping are decided. It has its roots in structural and formalist approaches, (b) *discourse*: narratives are studied as products of discourse. Their interpretations, meanings, analysis, and (re)shaping are influenced by the context in which interactions with them are taking place.

Depending on the design of narrative (re)shaping by the author or initiator, AI is programmed to generate linguistic outputs to (re)shape narratives with two types of agencies to execute two functions: (a) to find effective solutions to the problems faced in achieving the goals as prescribed by the author, and (b) to collaborate with humans as free, independent, autonomous entities i.e., act as an equal participant in the process of creation. AI generated language output could be novel, unexpected, and shocking. They are discussed as follows.

2.2.7.1 AI Programmed with Performative Agency. Developed as an author's tool, AI systems, despite being non-living, are programmed to have a performative agency (Bennett, 2010; Taguchi, 2010; Butler, 2011; MacLure, 2013; Murriss, 2016; Appleby & Pennycook, 2017; Toohey, 2018; Elstermann, 2020), where they are used as tools to efficiently and effectively find solutions to the problems faced by human beings. The aim is to develop AI as a technology that has the ability to imitate human cognition for processing and analysis of given data. They autonomously sense a problem, carry out effective analysis, make fruitful decisions, and reorganize and reconfigure the available data to find effective solutions to the encountered problems. The solutions are presented to the users in the form of language outputs in a way that the nonlinear interactive narratives despite being (re)shaped by the user interaction/ input remains, not only coherent and meaningful but also progress in the predesigned directions towards goals defined by the author.

2.2.7.1.1 Mental/Objective Architecture. Nonlinear narratives are taken as products of *histoire*. Such designs were most popular by early AI authors who took these narratives as objective constructs, which can be (re)shaped by applying formulas and rules on which their structures are framed (Haugeland, 1985). Classical AI models generate contributions to (re)shape narratives by imitating high level human reasoning in abstract, simplified environments, in which each unit of the narratives are broken into smaller parts, individually processed and transformed, analyzed for logics and reasons connecting them, and responded to by generating formulaic/ generic text contributions from the solutions offered by the available data (Zant et al., 2012).

2.2.7.1.2 Programming of AI for Structural (re)Shaping. Programming of AI is formula based that can be explained through a receptive approach. Designing nonlinear narratives as co-constructive, co-productive, evolving structures, problems are likely to appear in consequence of text contributions produced by both the author as well as the users. These problems affect the emergence of meanings during the (re)shaping of nonlinear narratives, their interpretation and understanding, and are at variance with the goals prescribed by the author are solved by the AI contributing to the narrative (re)shaping by presenting solutions framed according to a given formula (Levytska, 2019, p. 311).

(i) Narratological Products: One way to program AI for finding solutions to the problems occurring in nonlinear narrative (re)shaping is to design them as structure dependent narratological products (Riedl & Bulitko, 2013). AI is programmed to generate text “according to the narratological principles of coherence” (Riedl & Bulitko, 2013, p. 69), in which AI generates structural language sequences for narrative continuation. Being adherent to the structural approaches regarding AI generated text as mental/ objective constructs, authors, while designing interactive narratives, prescribe narratological principles and dictate rules for re- sequencing and readjustment of the interactive world and its elements with one another and with the users. AI frames its text responses to (re)shape the presented narratives in the light of these principles and rules. It is because of the narratological principles that the AI, despite its lack of true understanding of narratology and unpredictable user interaction/ input, generates text that keeps the (re)shaped narrative coherent and meaningful.

(ii) AI Narrative (re)Shaping Through Fabula: Nonlinear interactive narratives are designed as structures to be (re)shaped by user interactions and language inputs and AI generates text at the *sjuzhet* level. AI is programmed to analyze user interactions and language inputs, and then refer to the fabula framed on the same nodes/ nuclei/ *noyaux* (Barthes, 1975) or kernel (Chatman, 1978) present in the available data to frame its text by readjusting satellites/ catalyzers (Barthes, 1975; Chatman, 1978) at the slots/ gaps (Minsky, 1974) or narrative triggering points (Culhane, 1999) to (re)shape the narratives presented by a certain interactive work. (Re)shaped narratives at *sjuzhet* level add to the meanings being conveyed by the work, but its fabula remains unaffected.

(iii) Examples: Techniques like formal planning, backward chaining, simulation, engagement and reflection, and episodic memory are examples of AI formula-based problem-solving approach to (re)shape narratives in a linear fashion. Story generators like *Minstrel* (Turner, 1994) and *Brutus* (Bringsjord & Ferrucci, 1999) generate texts by analyzing narratives as mental constructions plucked from the context in abstract as individual units and which need to be progressed by following a problem-solving approach. In immersive interactive works, beats (Mateas & Stern, 2003; El- Nasr, 2007), case- based reasoning (Turner, 1993; Aamodt & Plaza, 1994; Swanson & Gordon, 2012), search- based AI responses (Bates, 1989; Weyhrauch, 1997; Lamstein & Mateas, 2004; Nelson &

Mateas, 2005), library of encounters (Theune et al., 2007), cause and effect based planning (Young et al., 1994; Riedl & Young, 2003; Magerko & Laird, 2003) crowdsourcing (Li et al., 2012/2013), and templates (Riedl & Young, 2010) are problem solving techniques followed by the AI to (re)shape narratives within the boundaries prescribed by the author.

2.2.7.2 AI Programmed with Intra- Active Agency. In addition to the qualities which make it a fast machine, reliable tool, and a facilitator, AI is programmed with a collaborative approach where the aim is to develop a technology that could become alive, animated, and exercise its agency to generate contributions to (re)shape nonlinear narratives as *a matter of intra-acting* (Scallon & Scallon, 2004; Deleuze & Guattari, 2005; Thrift, 2007; Bennet, 2010; Appadurai, 2015; Kell, 2015; Amin, 2015; Taylor & Hughes, 2016; Jones & Hoskins, 2016; Barad, 2017; Pennycook, 2018). AI systems programmed with intra- active agency are capable of autonomously generating logically connected, thematically unified, and meaningful as well as fruitful experiences in many walks of life. Because of efficient machine learning and modelling human cognition and interactions, intra-acting AI becomes a technology that enables the human race to achieve the zenith of intelligence and physiology. Education, various production industries, communication, medicine, commerce, interactive works, e-literature, and entertainment, are fields dominated by intra-acting AI which collaborates with human users to bring together various physical, digital, and biological systems, and generates contributions to yield maximum outputs by amplifying human's cognitive strengths, automating routine tasks, and freeing humans to focus on innovation (Pitso, 2019). They appear to be intelligent and social agents which can understand syntactic, pragmatic, and semantic norms of human communication, and have an ability cloak their digital nature behind their response in seemingly human- like ways (Balakrishnan & Honavar, 2001; Skalski & Tamborini, 2007; Hwang et al, 2012; Ferrara et al, 2014; Guzman, 2018).

2.2.7.2.1 Discursive/ Interactionist Architecture. Authors of narratives employing intra-acting AI, perceive their work as ecological composites (Latour, 2004). They are seen as relative constructions of discourse defined by the interdependence of settings, believable agents, and the user in a dynamic environment simulating social, cultural, emotional, and intelligent contexts of real life and are to be received, interpreted, analyzed, understood,

and (re)shaped by its surrounding entities including humans, non- humans, animals, objects, places etc., (Canagarajah, 2013; Amin, 2015; Pennycook & Otsuji, 2017).

AI is programmed to respond to user interaction/ inputs as an interactive agent which, despite being biologically dead, gives an illusion of an intelligent, sensitive, and social being (MeiSi & Marsella, 2014), and assumes the role of an omniscient narrator (Szilas, 2007) which is ever- ready with graphics, animations, different semiotics, and texts to spontaneously generate in response to user interaction/ inputs. Nonlinear narratives are relative constructions framed in a dynamic environment. (re)Shaping of nonlinear narratives takes the form of a discourse in which the users develop an understanding that the responding system is an embodied agency, embedded in the interactive settings, and has the abilities to effectively listen, think, and speak (Mateas, 2002, p. 187). The aim of interactive experience is to “foster the willing suspension of disbelief” (Mateas, 2002, p. 187) among the users in a way that the distinctions between human intelligence and technological processing (Hayles, 1999) are dissolved.

2.2.7.2.2 Programming of AI for Collaborative (re)Shaping. AI is programmed to approach nonlinear interactive narratives as structures mutually owned by multiple agencies at different levels including the author/ initiator of the narrative, users, and the AI. Since AI generated texts as well as user inputs serve as means to narrative (re)shaping, AI is programmed to consider the spatio-temporal situatedness of events within the context of the narrative as well as analyse users’ interactions and language inputs in the given context of narratives (Herman, 2011; Davis & Travers, 2003).

(i) Products of Histoire: Pragmatics, receptive theory, and constructivism (Fludernik, 1996, p. 168) can be employed while programming the AI to collaborate with human users in the (re)shaping of nonlinear narratives. According to Gervas et al. (2005), during nonlinear narrative (re)shaping, AI is programmed to generate texts keeping in view the cause-and-effect relations present among different events in the user inputs as well as the available data, whereas Livytska observing nonlinear narratives as transvergent products, AI can be programmed to generate texts by observing the principles of “multimodality of narration, transmedial narratology, and remediation processes” (2011, p. 313). Multimodality refers to AI’s decisions regarding modes being used, their sequence, leaving or adding certain modes, and their arrangement in the generated contributions to

suit the narratives being (re)shaped, and transmedial narratology refers to the remediation and exploitation of the semiotic properties of one or more mediums to suit the initiation and (re)shaping of transvergent nonlinear narratives in a certain medium. In all forms of programming of the AI for collaborative (re)shaping, nonlinear narratives are observed as structures derived from the situatedness of its histoire in the available context.

(ii) Examples: Through autonomous NLP (natural language processing) and NLG (natural language generation) capabilities, AI autonomously interacts with human users, adapts to their requirements, and assists them in (re)shaping narratives by generating coherent and meaningful contributions. Human- computer interaction (HCI) through user-friendly digital interfaces, Human- computer communication (HCC) in the form of virtual assistants/chatbots/ influencers/ and human users, and Human- agent interaction (HAI), Emotive AI or psychological bots such as Microsoft's Hololens recognizing changes in the emotional state of its human users, MIT's Koko sympathizing with its human users and, Swedish Aida distinguishing different tones of human customers) are examples of open AI that collaborate with their human users through simulation of human linguistic interactions to (re)shape nonlinear narratives. They appear to be intelligent and social agents which can understand syntactic, pragmatic, and semantic norms of human communication, and have an ability cloak their digital nature behind their response "in seemingly human- like ways" (Balakrishnan & Honavar, 2001; Skalski & Tamborini, 2007; Hwang et al., 2012; Ferrara et al., 2014; Guzman, 2018).

The aim of this dissertation is to focus on the (re)shaping of nonlinear narratives through human- AI collaboration designed on the intra- active approach being observed by the author in the open interactive architecture.

3. Perception of Generative AI narrative (re)Shaping

While human AI collaboration has often been studied in terms of (re)shaping of nonlinear interactive narratives in the digital media, there always remains a debate to the veracity of this collaboration as being narrative (re)shaping in a true sense. The veracity of such narrative (re)shaping is challenged because of the text contributions being generated by the open AI system for it is an agency that is non- human, lacks subjectivity, and is unaware of the social, cultural, emotional, and moral consequences on the context of the interactive experience.

2.3 Are AI (re)Shaped Narratives Actually Narratives?

Narrative initiation and (re)shaping have always been thought of as a strictly human phenomenon. It is about expression of unique emotions and unique subjective experiences exclusively created to be received, understood, and interpreted subjectively. Human authors have their subjective perspectives towards the story world, its characters, their actions, and the events happening in it. These perspectives are biased as they are influenced by the authors' unique feelings, intellectual standing, and past experiences. Authors of narratives choose signifiers and select modes of narration (diegetic, mimetic, or hybrid of both) deliberately to reflect human subjectivity and convey more through less. The narratives are initiated with an aim for individual human interpretations at various levels when received. Even as users, their interactions/inputs are subjective and result from natural abilities of creativity, intent, and motivation. In short, both human authors as well as users initiate and (re)shape narratives after a lot of consideration and deliberation for an effective presentation, and achievement of transformative effect on the recipients, their thoughts, experiences, and their surroundings. Braidotti (2013, p. 52) observes, "a serious concern for the subject allows us to take into account the elements of creativity and imagination, desire, hopes, and aspirations... without which we simply cannot make sense of contemporary global culture".

Narratives in the twentieth century owe their non- linearity not only to human beings but also to the artificially intelligent systems, which despite being non- human and synthetic, have become an inherent part of modern life. They actively generate texts to (re)shape narratives which can then be subjectively interpreted and have transforming effects on their human recipients as well as their surroundings. AI generated texts prove to be a challenge to the traditional, strictly human, and social views of non- linear narratives because of AI being non- human and synthetic agency which lacks subjectivity, and social and emotional understanding.

2.3.1 Not Narratives

AI is viewed as just another effective tool at the hands of the authors to create works of art, initiate and (re)shape the presented narratives. They AI cannot be put in an equation with human beings because:

(a) Narratives are believed to be strictly human phenomena (Hertzmann, 2018), which (1) involves a rigorous process of creativity, (2) expresses emotions, thoughts, and past experiences, (3) presents social acts depicting human interactions with each other and with their surroundings in a given time and a given place, (4) may belong to a certain genre because of their depiction of a certain historical context, (5) has an intent to cast an impact, and (6) can be evaluated against set standards.

Hertzmann (2018) believes that AI (re)shaped narratives may have a universal appeal for their beauty, the audience may even associate several meanings to them and interpret them, yet it is misleading (Hertzmann, 2018) to view AI as truly artistic in nature. This is because AI systems are programmed to (re)shape narratives by generating texts through simulations of “the real-world processes” (Banks et al., 2001, p. 03; Leather & Gibson, 2019) which implies that AI

(i) lacks the intuitions necessary for narrative creativity: they are user friendly programs meant to efficiently keep the (re)shaped narrative coherent and meaningful, despite users’ exercising their agency in determining shape, direction, and outcome of the narrative in an immersive interactive world (Edmonds, 2009). They are tools in the hands of authors which owe their capabilities of narrative (re)shaping to its programming based on the calculations and manipulations of the data available to them in the form of algorithms. Edward Edmond (2009, p. 05) observes, “While the computer was used to help me solve a problem in a non-computing domain, the computer itself was not part of the solution”. For Ryan (1997, p. 692), “Computers have made significant advances in this domain, but they are still a long way from the human level of linguistic and pragmatic competence”, and Roemmelle (2018) calls AI generated texts as shallow because AI frames its contributions by using a finite corpus reflecting a very limited human experience, whereas authors have unlimited experiences at hand to draw inspirations from. AI, for Victoria Vesna (2020) is just like the inventions made during the Industrial Revolution, “technological interactive elements are an addition to the artist’s palette and should be used prudently- when necessary to enhance the experience”. The effects of AI’ abilities are resonant in all fields of life. Narrative (re)shaping is no exception. Molnar (2016) observes that without the aid of a computer, it would not be possible to materialize quite so faithfully an image that previously existed only in the artist’s mind. This may sound paradoxical, but the machine,

which is thought to be cold and inhuman, can help to realize what is most subjective, unattainable, and profound in a human being.

(ii) lacks the intention for artistic expression and the ability to identify and relate to the complex social and environmental factors involved in building and maintaining human relationships with one another, with their surroundings, and with the machines (Pitso, 2019). AI lacks “free will of people. Relatedly, only humans are conceptualized as having a sense of self, an awareness of who they are in relation to the world around them” (Guzman, 2020, p. 39).

(iii) are simulacra: Being produced from simulation of human cognitive processes implies that the signs and representations used by the AI do not have physically existing real referents. Also, the data used by the AI for narrative (re)shaping is collected from different sources present on the internet i.e., the data is itself a copy of something that exists virtually. This implies that AI generated texts are virtual copies of the copies already existing virtually (Deleuze, 1990). They are Baudrillard’s simulacra that neither have real referents nor originals that exist in the real world, and their semblance to the physically existing constituents of the reality is very vague (Baudrillard, 1981, p. 180; Baudrillard, 1994; Barroso, 2019; Antony & Tramboo, 2020).

(iv) are not dependent on its context for derivation of meanings and interpretations. Since AI generated texts are timeless in nature (Balpe, 2005), they cannot be associated with any art movement or historical context. According to Dutton (2009) these texts refuse to look back on their tracks.

(v) lacks the consciousness of what it is doing and has no awareness of the transforming effects its contributions may cast on the recipients and their surroundings (Hertzmann, 2018; Chaturvedi, 2019; Eldermann, 2020). Pitso (2019) observes that the AI generated texts do not lead to usefulness or human convenience, they lack proper salience and cannot lead to real value on social or emotional lives of humans.

(vi) are dependent on human standards to check the veracity and effectiveness of the solutions they offer. Scholars contend that acceptance of AI generated texts to non-linear interactive narratives implies that human life, thoughts, emotions, understandings, values, and society can be influenced by a machine as well.

2.3.2 Ultimate Credit Goes to Humans

Ultimate credit of AI narrative (re)shaping is often given to human beings because:

(i) while designing an AI program, the developer, through algorithms/rules, trains the AI to learn a specific aesthetic from the available data (Elgammal, 2019; Elstermann, 2020). This implies that the AI would generate new texts in adherence to the aesthetics learned from the data which is a collection of man-made creations (language, semiotics, images, illustrations etc.),

(ii) Secondly, the author of the interactive work dictates to the AI the kind of text required to be generated upon user interaction/ input (Cahn, 2020). In other words, both the programmer of the AI and the author using the AI are human beings and have a certain vision regarding its role and impact on the audience and the users. The presence of human intelligence and aesthetics at the base of AI generated texts towards narrative (re)shaping qualify these contributions for any standards of human aesthetics and intuitive creation (Elgammal, 2019). “At the most principal level, no algorithm can come into existence without a human programmer, an actual writer, somewhere at its root... no computer programme can generate words out of nothingness... these words need to be pulled from some source, and that source corpus will always ultimately consist of words and phrases thought and written by humans.” (Elstermann, 2020 p. 06).

Hertzmann (2020) rejects the view of AI as a collaborator in (re)shaping the narratives as collaboration implies the claim of co- ownership of the (re)shaped narratives. AI being non-human is not able to lay any claim on the ownership. If, at all, a claim on the texts towards narrative (re)shaping needs to be made, it could be made either by the designer of the software program or the author using it as an interacting agency in his work.

2.3.3 Neither Computer nor Algorithmic Narratives

Often narratives (re)shaped by AI generated texts are treated as computer or algorithmic narratives because of being generated from algorithmic combinations framed by the AI. They do not qualify to be called computer narratives because they are generated as products of autonomous operations of the system with zero interference from human beings. The system runs on its own, and its product can be predicted neither by the author nor by the users. Computer narrative is generated when the system is being used as a non-essential aid by the authors to create interactive works in the digital medium (Bogden, 2006).

AI generated texts to (re)shape narratives are unique from algorithmic art because algorithms run and result in an artwork which does not change once the running of algorithms stops. On the other hand, narratives (re)shaped by AI generated texts are the products of systems which are set into motion by the author, and then they develop capabilities for autonomous existence and autonomous text generation without being controlled from outside. Initial programming of the generative AI systems plays a little role in the shaping of their contributions to narrative (re)shaping. These systems have capabilities to autonomously learn from their previous interactions, and the data available to them (Domenico Quaranta, 2006).

2.3.4 Machine Makes Art

Narrative (re)shaping by the AI is a manifestation of “machine that makes the art,” (LeWitt, 1967; Alberro and Stimson, 1999, p. 23; Meyer, 2000, p. 03). It is in striking contrast to the previously used artistic tools such as recorders, cameras, typewriters etc., meant to make the job of artists easy. Artists use tools for creating art, which operate using technology based on the mimicry of the human process of creativity and is dependent on the directions given by the artists. In other words, regardless of the efficiency and finesse introduced by these tools, they play a role defined under the commands and directions of an omniscient human artist. The author remains the ultimate source to decide the final shape of the artwork and determine the outcomes the presented narrative might achieve. AI is different from these tools. AI (re)shapes narratives by accessing the immense data present in the form of language, sounds, colours, images, animations etc., either predesigned by the author or collected from across the globe. Despite being non-human, it freely and autonomously carries out rigorous operations to formalize the unstructured available data to frame algorithmic combinations for narrative (re)shaping. Autonomy is neither free will nor the understanding capability, neither independent decision making nor cognition, neither intuitions nor imaginations, but refers to the ability of a complex system to perform unpredictable and uncontrollable operations (Galanter, 2016) which generate coherent and meaningful texts without close supervision of the programmer or the author of the work at all turns of narrative (re)shaping (Elgammal, 2019). The autonomous operations serve to qualify AI generated texts as narratives because:

(i) AI generated texts are studied as an expression of universal forces (Galanter, 2016), which present narratives just like the universal systems of weather systems, stock markets, or game of poker etc., are studied to present narratives; they are controlled by none, move in any direction, and can produce surprising results.

(ii) Where narratives (re)shaped by humans are believed to be products of a man's arbitrary creation, AI operations are also programmed to carry out uncontrollable and arbitrary operations to generate patterned contributions. This is like practices of the Middle Paleolithic era (Tarbell, 2019), Islamic civilization (Locher, 1992), jacquard looms, cave paintings, and archaeology. Though the practises are unknown, they yielded regular geometries, designs, symmetries, planes of division (Bool et al., 1982), combinations of number sequences (Alberro & Stimson, 1999; Meyer, 2000) etc., that presented coherent and meaningful narratives that could be interpreted, analyzed, and evaluated for their transforming effects and aesthetic appeal. AI, like the mentioned practices, through its autonomous yet uncontrollable operations generate patterned and symmetric contributions which are coherent, meaningful, and present narratives which, just like the generative art, can be interpreted, analyzed, and evaluated for their transforming effects and aesthetic appeal.

(iii) works created by human authors are often results of experimentation, the results of which are not known even to the author. Similarly, AI generated texts qualify to present narratives because (a) they are the products of experimentation to discover the unknown and find the hidden (Martindale, 1990), (b) are carried out without interference from any external source including the designers of the systems, the authors of the work, and its users, (c) neither follow any specific rule nor any formula for framing their contributions from the available data, (d) their end result cannot be predicted. Both the designer and the author using the system are neither fully aware of the capabilities of the system, nor can predict with certainty what would the system generate (Chaturvedi, 2019; Elgammal, 2019). The autonomous operations are just like the artistic tools which remain the same, but the AI is akin to an artist who experiments with his tools and uses them in different ways.

(iv) they have observable, coherent and meaningful existence (Balpse, 2005; Monro, 2009). They exhibit a "life on their own" (Monro, 2009, p. 32).

(v) Like narrative (re)shaping in real life, AI generates narratives in response to user interaction/ input serving as the external sources (Boden, 2004). Just like narratives framed by humans are products of their experiences registered at conscious as well as unconscious levels, AI generated texts reflect the corpus from which they are shaped. Like uncontrolled and surprising workings of the authors' unconscious are autonomous AI operations to generate texts from the available corpus data (Eldermann, 2020, p. 12).

(vi) like narratives in real life, recipients identify, associate meanings, and interpret AI (re)shaped narratives subjectively. They can be interpreted at different cognitive and sensory levels just like narratives presented by human authors (Sontag, 1967, p. 11). The users while interacting with the AI (re)shaped narratives in the interactive world may experience a sense of liberation (Monro: 2009; Eldermann, 2020).

Present day AI systems qualify different intelligence tests to display successful modelling of human creative processes. "The way in which the creative process is framed ... indicates that a technological singularity is nigh, and that it is taking the shape of a robot sitting at a keyboard somewhere, typing out ... fan fiction of its own" (Elstermann, 2020, p. 05). Their ability to come in equations with human authors is evident from the fact that the user finds the interactive experience interesting, develops strong desires to check the limits of the system, continues to remain engaged, and constantly gives inputs to (re)shape narratives as if present in a real social life interactive experience with another human being. Taking liberties afforded by the digital media promising "freedom, possibility, creativity, and glamour" (Kirby, 2009, p. 112), human users find it "hard to break off from" narrative (re)shaping processes. AI as an active participant in the process of narrative (re)shaping, "seems to possess the property of overwhelming the individual's sense of temporal proportion or boundaries; it can engulf the player or user or viewer" (Kirby, 2015, p. 300) and serve to satiate human quest of the unknown.

2.3.5 Bias Towards AI (re)Shaped Narratives

"People's conceptualizations of the nature of humans and machines matter for how they make sense of and interact with technology" (Guzman, 2020, p. 38), implying meaning making, interpretations, and responses to narratives being (re)shaped by AI systems vary according to the perceptions users have regarding these systems (Dautenhahn, 2004; Sundar, 2008; Edwards, 2018). The three factors upon which audience's evaluation of the

narratives being (re)shaped by the AI rests on, are: (i) audience's perception of the AI systems, (ii) the way audience relate and associate themselves and human beings to the AI systems, (iii) the overlapping ontological characteristics that audience use to define human beings and the AI (Guzman, 2020). Audiences perceive AI to be different from the human race, hence their responses to narratives being (re)shaped by AI are biased.

Being influenced by the way an artificially intelligent nonhuman agency is portrayed, determine the audience's perceptions towards AI (re)shaped narratives. They may find these narratives holding an aesthetic appeal and there are chances that audiences find them uninteresting.

Literary works ranging from Mary Shelley's classic novel *Frankenstein* to works like *The Glass Cage: Automation and Us* (Nicholas Carr, 2014), sci-fi movies like *Transformers* (Bay & Knight, 2007) and *Terminator* series (Cameron, 1991), and automation hysteria of the 1950s and 60s (Nobel, 2011) have played key roles in building insecurities among the general public regarding autonomous generative AI turning on its creators. AI has often been referred to as disembodied brains (Schelde, 1993), and "destructive metaphors ... overwhelming and dehumanising man" (Haigh, 2011, p. xvi, Warrick, 1985) which seek to wrestle control from humans. Fukuyama (2002), Borradori (2003), Habermas (2003), Singer (2009), Sloterdijk (2009), Sandberg (2014), Anderson (2014), Hawkings (2014), Bostrom (2005/ 2015), Roden (2015), Schwarz (201) and Tallinn (2018) are among the innumerable critics who have shown concerns regarding chances of AI ultimately turning out to be a cause of extinction of the human race. Even today, autonomous AI is skeptically viewed because of the beliefs that they would lead to a loss of jobs and would cause individuals' economic instability. Rubin (2008), Aguila & Solana (2015), Kass (2017), Wood (2017), Frischmann & Selinger (2018), Zuboff (2019), Lamola (2020) have expressed concerns on the autonomous generative capabilities of the AI leading to lethargicity, slow reactions, weak motor skills, poor decision power, and inability to adapt to rapid changes, casual attitudes, and a general approach of taking things for granted. Incidents like the Indonesian Lion Air crash (2018), Uber self-driving car accident claiming human lives (2018), incidents of discrimination against certain people in approving fair and unbiased credit (2018), presentation of an offensive translation of a given language (Eureka!, 2020), offensive tweets by AI chat bot Tay (Binkowski, 2016),

and Facebook chatbots allegedly creating their own language that were beyond human comprehension have been used as substantial arguments to expose the threats likely to be caused by AI operating independently to (re)shape narratives. The ability to autonomously (re)shape narrative has not always been taken as a “testimony to the genius of mechanical invention; it rather becomes a nightmare, a threat to human life” (Emery, 2017, p. 225). And this has led the audience to treat AI (re)shaped narratives with a negative bias mostly as something predictive of a future in which human lives on individual as well as at collective level would be threatened.

Many observe that since AI (re)shaped narratives are generated from simulacra, they present a “world with an unreality ... [that has] a free floating absence of the referent” (Jameson, 1990, p. 17). They believe AI (re)shaped narratives “neither refer to reality nor harbour any independent meaning” (Fitzgerald, 1990, p. 52).

Looking at AI as simply a technology which is in itself neither good nor evil, and it is the use to which it is put that defines the results being generated (Hughes, 2009), works like R2D2 in Star Wars series (being produced by Lucas since 1977), Bicentennial Man (Columbus, 1999), Bumblebee and Optimus in Transformers (Bay & Knight, 2007), A. I. (Spielberg, 2001), and Her (Jones, 2013) are some of the examples of works which portray AI as a faithful servant of its masters. For example, with more than 4.2 billion people in lockdown during the 2020-21 pandemic, open AI systems in the form of humanoids, navigational applications, virtual influencers, and robots collaborated with human beings to grapple with the effects of ever-increasing spread of the virus. Awareness regarding social distancing, motivation among the masses, operations of innumerable interactive fields such as economics, education, and entertainment, and unique entrepreneurship ideas surfaced up because of the collaboration of the open AI with human users. However, there is no denying the fact that AI (re)shaped narratives are “aggressively marginalized” (Kirby, 2009, p. 157).

2.3.6 Evaluation of AI (re)Shaped Narratives

While debate on the veracity of the status of the AI generated contributions continues, the evaluation of AI (re)shaped narratives as narratives needs a careful consideration. Because of the prevalence of centuries old definitions of art among the masses, narratives are traditionally analyzed using literary theories in humanities that focus on style, rhetoric

structure, pragmatic style of discourse, aesthetic value, stylistics, intertextuality, implicit and explicit meanings. They study narrative (re)shaping as products of semiotic discourses leading to schema activation in the agents involved in interaction and their evaluation is “guided by cognitively sound and morally justifiable considerations” (Susen, 2021, p. 03), where human is the “basic unit of reference” (Braidotti, 2019, p. 06). It is for this reason AI (re)shaped narratives are often evaluated by comparing them to the already existing examples present in each genre (Ritchie, 2007). Novelty of the AI (re)shaped narratives is analyzed in terms of how dissimilar they are from the examples already existing in each genre and their quality is analyzed by judging them against the best existing example.

Elvia Wilk in an interview with Alison Hugill (2019) expresses a different view of AI generated works. She wonders, “why do we obsessively measure AI’s ability to write like a person? Might it be nonhuman and creative”. Being generated from simulacra, AI (re)shaped narratives are unique and “you could not in all fairness judge an example of one mode by the criteria of the other” (Kirby, 2009, p. 157). Since narratives have never been (re)shaped by a nonhuman agency that has no social emotional sentience, they lack “historico- textuality” (Kirby, 2009, p. 106) and need to be analyzed differently (Galanter, 2016). Use of codes of ethics to assess AI generated communication and journalism is being objected to as the prevalent codes refer to the subjective standards against which peoples’ actions are assessed and were mostly developed prior to the introduction of algorithms (Gunkel, 2018). It is observed that instead of focusing on their stylistic richness, they must be studied as products emerging from patterns of interaction between the user, the (re)shaped narrative, and the responding AI, and their respective contributions (Dervas & Trevers, 2003). Birkhoff’s aesthetic measure (1933), Shannon’s information theory (1948), Moles’ information aesthetics (1966), and Bense’s generative theory (1971), Synthetic DNAs (Ginkgo, 2012), E. coli (Gem, 2009), and Swarm- bots (Gross et al., 2006) are some of the programs used for evaluating AI (re)shaped narratives.

Being generated from the available data, critics often wonder to whom should the credit of AI (re)shaped narratives be given: The AI, the designer, or the author using AI as

a tool finds it a matter of question to (Elstermann: 2020, p. 06)? Can the AI (re)shaped narratives be subjected to copyright, and if so who should the copyright be attributed? (Pfukwa, 2020). Despite the fact that “Copyright does not appear to be equipped to handle the question of who owns the rights”, critics like Boudreau (1993, p. 02) believe that since AI, at the end of the day, simulates human processes of creativity to formalize the available data for generating its contributions, it must be treated as a program and hence must not be considered a replacement for human creations. However, it is interesting to note that a Chinese court in 2020 has granted copyright protection to the works generated by an AI system which indicates the fact that AI as a natural language text generator is on its way to enjoy the status of being the creative writer.

The response of the audience towards AI (re)shaped narratives is found to be at variance when presented with AI (re)shaped narratives. Study conducted by Chamberlain et al. (2017) indicates that the observers display a negative bias towards these narratives once they get the knowledge that they are being generated or (re)shaped by the AI. However, in the second part it is observed that these narratives get an increased aesthetic appreciation if the intricate processes of their generation and (re)shaping is witnessed directly by the observers. In other words, observers find those interactive narratives closer to their hearts and own them more when (i) they are given an insight into the complex programming of these AI systems by the programmer, or (ii) when they, as users, collaborate with the AI system to generate and (re)shape the narratives. In both cases, Chamberlain et al. (2017) study sounds optimistic in treating AI as a collaborator, where the common user and the AI are present in a cyclical relationship during the process of narrative (re)shaping.

There are incidents such as when Elgammal (2019, p. 23) presented works generated by their artificially intelligent system AICAN, where critics “genuinely enjoy[ed]”, and found the (re)shaped narratives “inspiring and communicative”. Elgammal (2019) views that AI (re)shaped narratives have become an intrinsic part of humanity in the twenty- first century and can be associated to reflect social life in the modern era.

4. New Technologies: New People

Always considered as exclusive human constructs, initiation and (re)shaping of narratives (linear as well as nonlinear) are considered as reflections of social discourses learnt from

“historical trajectories of people, places, discourse, ideas, and objects” (Scollon & Scollon, 2004, p. 89). However, free and coherent (re)shaping of meaningful narratives in collaboration with autonomous AI systems pose a different scenario. They indicate that an agency which is not human and lacks social, cultural, and emotional sentience (Chaturvedi, 2019), is initiating and (re)shaping narratives in a way that they are being received, understood, interpreted, and analyzed in the same way as are the nonlinear narratives being (re)shaped by human beings only. This places AI systems in a position where it is seen to cast an impact on individual as well as collective human existence, their relations with one another, with their surroundings, and with the machines as well (Zhao, 2006; Hegel, 2012; Carlson, 2015; Reeves, 2016; Broussard, 2018; Nobel, 2018). This implies that despite being (re)shaped by a synthetic, nonhuman agency, AI (re)shaped narratives possess valuable significance in giving life on earth its present shape and determining the direction of its future evolution.

The criticality of the role of open AI applications autonomously generating free contributions to nonlinear narrative (re)shaping can be understood if current world scenario is studied where life without such applications seems impossible to exist. It is collaborating with its human users and hence become a contributor to the present-day life and giving the norms, values, and issues their present shape.

2.4.1 non-Human Yet a Contributor to Humanity

“This new knowing subject is a complex assemblage of human and non- human, planetary and cosmic, given and manufactured, which requires major readjustments in our way of thinking” (Braidotti, 2013, p. 159). The world has become a place where AI has come to play a contributory role with its human users.

Virtual assistants (e.g. Siri and Alexa), embodied machine communicators (i.e. robots), technologically augmented persons (i.e., cyborgs, social bots, chat bots), humanoids (e.g. Sophia and Han), believable agents in 3D interactive works; virtual influencers (e.g. Knook Frost and Barbie), story- telling engines (e.g., Talespin and Novel Writer), story generators (e.g. BRUTUS and Tracery), writing assistant applications (e.g. DINE (2017), Pythonic Poet, GPT 2/3 , Charisma.ai, and SayAnything), translation applications, script generators, plot generators etc., pose challenges to human exclusivity over narrative (re)shaping. NLP (Natural language processing) and NLG (Natural language

generation) capabilities displayed by the AI systems in HCI (Human- computer interaction), HCC (Human- computer communication), and HAI (Human- agent interaction) are no longer being restricted to computer screens, indicating the fact that narrative (re)shaping by AI remains unaffected for its verbal, discursive and/or conceptual complexity, and aesthetic function by the medium used for its generation or communication (Bell, 2010).

Since narratives and their (re)shaping are reflective of society, direct the evolving interrelationships of its constituent elements with one another, and monitor the constraints affecting its revolution, AI (re)shaped narratives need also to be studied in terms of being the steering factors in “reshaping and restructuring patterns of social interdependence and every aspect of our personal life” (McLuhan, 1967, p. 08). They may move human society away from the traditional confines of socio-cultural emotional constraints and may even drive it towards the reordering of social identities (Amin, 2015, p. 245).

2.4.2 No Longer Human Exclusivity

“The values of our society are both reflected in and reinforced by our use of language” (Cryan et al., 2020, p. 1). Language is one such abstract and social construct, learnt relatively in the light of individual and socio, cultural and emotional contexts. It is also used to serve as a means of defining individual and collective human thoughts and life. It plays a critical role in defining individual as well as a social lives by providing a means to think, reason, analyze, draw conclusions regarding any emerging or evolving issue. It is through language that an issue is propagated, engraved, reinforced, researched, discussed, and spread at varying social scales. There have been innumerable studies to view language as a means to construct, (re)shape, and communicate reality and narratives emerging from it. “Linguistic imbalances are worthy of study because they bring into sharper focus real-world imbalances and inequalities. They are clues that some external situation needs changing” (Lakoff, 1973, p. 73). Similarly, semiotics is used according to choices dictated through individual as well as socio- cultural preferences. They also are means of propagating individual, social, and cultural values.

Being a collaborator with humans in (re)shaping nonlinear interactive narratives, narratives (re)shaped by the AI systems pose a different aspect. Despite the fact that it generates and (re)shapes narratives by formalization of the data collected from all over the

world, it can offer no reasons to justify its operations, or has no understanding of why it (re)shaped a certain narrative in a particular way. Lack of the ability of the AI to understand the meanings and implications of its (re)shaped narratives, implies that though it is unaware of their social, cultural, or emotional significance, yet it remains a contributor to individual as well as collective human life. Language and semiotics, the traditional tools of human race to (re)shape narratives, are now being used freely by the AI to (re)shape meaningful narratives coherently under no constraints, which implies that not is the AI able to use them but also to cast an influence on human life with them.

2.4.3 Construction of Social Identity

Language through the use of specific lexical choices and syntactic patterns creates and propagates social identities. It is through the use of lexical choices and syntactic patterns that people become members of a certain social group and learn to share that group's identity (Eastman, 1985).

2.4.3.1 Gender a Social Identity. Gender is a social construct built, communicated, and propagated through interactions of individuals with one another in given contexts of family, society, culture, religion, and education settings (Gaudenzi, 2006, p. 12). It binds entities including humans into binary divisions, places certain codes of thought and conduct, and demands from individuals to think and behave in certain ways as prescribed by those boundaries. “Gender is not something we have, but something we do, something we perform” (Pennelope & McConnell- Ginet, 2003, p. 10), “something that is created by humans socially and psychologically according to their beliefs and rules when they have contact or communicate [with] each other” (Rahmi, 2015, p. 81). For the last half a century, it has been present at the base of individual, social, and cultural narratives regarding human individual and collective existence such as personal and individual preferences and relations, teaching-learning, personal and collective sports, liberty to execute personal will and choice, workplaces, different industries including entertainment, media, journalism, business, politics, production etc.

2.4.3.2 Language and Gender. According to Menegatti & Rubini (2017), language is one of the most powerful means through which sexism and gender discrimination are perpetrated and reproduced. Theories such as deficit theory (De Beauvoir, 1949; Jasperson, 1925), dominance theory (O’ Barr & Atkins, 1980; Zimmerman

& West, 1975; Swacker, 1975; Spender, 1980; Hultz, 1990), radical theory, difference theory, and reformist theory observe language as a means of construction, reinforcement, propagation, and evolution of gender in a given society. According to these theories, gender constructed and propagated through language leads to exclusively shaded patterns of power distribution among individuals belonging to different biological sexes (Sadiqi, 2003, p. 2-12). Feminists have carried out pragmatic studies to propose that the use of language, its interpretations, understanding, meaning making, and responses are dictated by the personal, social, situational, textual contexts (Christie, 2000; Paltridge, 2008; Siraj, 2014) which are gender biased and serve as means of reinforcing gender inequalities. Grammar and syntactic patterns, lexical choices, and systems of references being used by the language play a key role in propagating gender and stereotyping gender roles in individual and collective thoughts and experiences (Hellinger & Bubmann, 2002, p. 6-11; Talbot et al.: 2003, p. 469- 476; Eckert & Ginet, 2003, p. 10)

2.4.4 AI and Gender

Human use of language for interpretation, analysis, meaning making of gender, and their inputs and responses to (re)shape gender related narratives is dictated by their subjective learning and individual contexts. But being a synthetic being with posthuman capabilities, AI is believed to be free of gender dichotomies. Neither is it a being which, because of lack of its social existence, observes gender restrictions placed on ordinary human beings, nor does it have any social and emotional awareness of gender to consider while generating its contributions to (re)shape nonlinear narratives. However, its contributions do contribute to the emergence and interplay of gender, a thoroughly human, social, and cultural construct. Since AI generated texts are received, interpreted, analyzed, and responded to by humans, they need to be studied for their impact on individual as well as collective human existence. Same is the case with AI's lexical choices, framing of syntactic patterns, and selection of semiotics to represent gender. Linguistic and semiotic analysis of the recent available versions of the evolving and emerging nonlinear texts of interactive narratives being (re)shaped by the AI's choices, in terms of syntactic structures, lexical choices, and semiotic selections would help in understanding how gender, being a pillar of collective human existence, is now being constructed by a non-human being that has no awareness of gender itself. Gender no longer remains an exclusive phenomenon subjected to human

construction and dictation but has become a joint construct formed by the collaboration of a synthetic being with posthuman capabilities with social and emotional human beings.

This research does not aim to study the processes of generation of language and semiotics by the AI, instead its aim is to focus on the AI (re)shaped narratives in order to study how the lexical choices, patterns of syntactic structures, and semiotics being generated freely and autonomously by the open AI reflect the present society in its construction and reconstruction of social identities and possibly affect its future in terms of gender.

5. CONCEPTUAL FRAMEWORK

Characterized by “the new mass [being]... the digital swarm” (Byung-Chul Han, 2017, p. 10), and based on the free and unconstrained collaboration between the open AI generative systems and human users, the twenty- first century world has become a manifestation of science fiction. Often been referred to as digital (Gibson, 1984; Adams & Thompson, 2016), cyborg (Haraway, 1990), Android (Dick, 1996), Zombie (Lauro & Embry, 2008), Hybrid (Chen, 2012; Tsing, 2015; MacCormack, 2016), Fossil (Yusoff, 2013), the concept of an autonomous AI being collaborating freely and independently with human beings is [now] found to be hardly fictional. Instead it is observed to be everywhere (Baudrillard, 1994), and has the characteristic of giving “an extra dimension of virtual reality within a normal physical reality” to the present day life (Barroso, 2019, p. 43).

Applications like Whatsapp, Youtube, Facebook, Instagram, Snapchat, Tiktok, and innumerable other sites of interaction on social media, provide a cyberspace in which physical presence is no longer required for successful social interaction. Instead, they depend on “the decentralization of the self into virtual bodies and digital identities ...[turning] Baudrillard’s simulacra into hyper-realities, as the growing issue of internet addiction seems to suggest” (Ferrando, 2014, p. 213).

Virtual beings like Lil Miquela (McFedries, 2016), SHRUDLU (Wilson, 2017), Bermuda (Decou, 2018), Knok Frost (Influential, 2019) and Fnmeke (Martini, 2019) on the virtual world of the social media, and independent humanoids like ASIMO (Honda, 2000), Sophia (Hanson, 2016) KP Bot (Kerala, 2019), Canopies (PAL, 2021) in the physical world are examples of the autonomous open AI beings which, according to

Trifonova (2003) are neither imaginary nor unreal but are manifestations of the imaginary, not being produced but destroyed by the surpassing of the real.

Virtual beings, robots, and innumerable AI applications are manifestations of the fact that despite being synthetic, non-human, and inorganic, open AI beings appear to understand the presented narratives, interpret human inputs, and autonomously generate meaningful and coherent contributions in cyberspace regardless of the spatio-temporal situatedness of human users and the constraints of their socio- cultural contexts (Baudrillard, 1994, p. 3; Webster, 2006, p. 244). Like Santa Clause, cartoons, and characters from the sci- fiction, open AI generates contributions in a way that masks the absence of any real physically existing referents to compare them with, and “form simulations” (Antony & Tramboo, 2020, p. 3315) that “replaces reality and gives rise to a hyperreality” (Paura, 2019) in which interactions are “more vivid than the real” (Kirkwood, 2019, p. 2). They produce the uncanny valley impact (Chaturvedi, 2019) that leads to “suspension of disbelief, of accepting that which is seen as real” (Hosterman, 2013, p. 62).

This study aims to analyze the criticality of the role of open AI applications in giving the world its present shape. The study is based on the concept of a science fiction like existence which is hyperreal and the distinction between human and nonhuman ceases to exist. The hyperreality of the prevalent existence has its roots in the contributions generated by the AI which is synthetic, and nonhuman yet is playing a significant participatory role. The conceptual framework developed for this dissertation has its roots in three factors:

1. Hyperreal world
2. Open AI: a transhumanist product evolved into a posthuman being
3. Inter- related subjectivities: a blended workforce

2.5.1 Hyperreal world

We, in the twenty-first century, live in a hyperreal world produced by a blend of real physical world and a cyberspace produced by “connection, interactivity, online community, communication, simulation, digital dimension, technological device or medium, virtual images, fantasy” (Barroso, 2019: 40) in which human users and AI

systems collaborate in as equally active participants in (re)shaping of nonlinear interactive narratives.

2.5.1.1 Hyperreality. A state in which simulation of reality blends with reality in such a way that the “the line between what is perceived as true or false” (Hosterman, 2013, p. 11) becomes blurred and the two cannot be distinguished from one another is referred to as hyperreal. In a hyperreal state, “mere images are transformed into real beings” so that human users get a “perception of realness and existence beyond that of actuality” (Hosterman, 2013, p. 11).

Santa Clause, Disneyland, cartoons, comics, fairy tales, science fiction literature and movies etc., are examples presenting hyperreality because despite the fact that they exist in the real physical world, they are simulations being produced from simulacra which have no originals to refer to or draw comparisons. They are “mere images transformed into real beings”, so that human users get a “perception of realness and existence beyond that of actuality” (Hosterman, 2013, p. 11). They create a hyperreality in which fantasy created through the simulation of reality becomes “so intense and realistic that one may confuse, even for brief moments, what is real and what is not” (Barroso, 2019, p. 41) and get not “an authentic experience; it is merely intermediation or representation” (Debord, 1995, p. 12).

Scholars like Lyotard (1988), Jameson (1990), Kellner (1991), Baudrillard (1994), Postman (1992), Borgmann (1992), Poster (1995), and Nunes (1995) observe that ubiquitous use of technology has made prevalent societies hyper-real, “in which the real and the imaginary have imploded and the boundaries separating them no longer stand, nor do boundaries separating autonomous spheres exist” (Baudrillard, 1994, p. 1).

2.5.1.2 Hyperreal Cyberspace. In the present day, not only has the physical world become hyperreal, we are now surrounded by a hyperreal cyberspace; a space that is virtually real (VR) but presents a simulated environment produced from simulacra that “may occur on the screen,” (Leather & Gibson, 2019) or be augmented in physical reality through user- friendly interfaces, and digital devices. In all cases, it has no real, physically existing referents but is perceived as real (Bostrom, 2003). It provides a “technological infrastructure of communication that supports the continuous and unified interaction between a) people and real objects; b) people and virtual objects; c) human intelligence

and artificial intelligence” (Barroso, 2019, p. 42); and d) collaboration of AI with AI i.e., swarm intelligence. Cyberspace aims at “achieving a genuine experience via the hyperreal, something that feels authentic but is not original” (Hosterman, 2013, p. 61). Careful estimates show that approximately 72% of the population in the developed countries and half of the population in the underdeveloped world (Poushter et al., 2018, p. 04) have access to the hyperreal cyberspace through their smartphones, laptops, digital gadgets etc.

Despite being a virtual reality, cyberspace is based on a technology of sensors and effectors which offer a hyperreal immersive experience affording real user interactivity. “This connection provides instant information retrieval via browser search (often Google) and an ever- present network of friends via social media. At one’s fingertips are answers to almost any question, from restaurant reviews to directions to definitions” (Lewis, 2021, p. 03). It becomes an activity area, field, or a workplace, where human users experience changes in their perceptions regarding their own spatial locations and of the objects as well by becoming able enough to give a “glance that pierces through the appearances of greatest distances and the widest expanses” (Virilio, 1991, p. 31) so that “the distinctions between near and far, object and image have imploded” (Virilio, 1991, p. 112). At the same time, human users are able to take real actions in such a way that “what is real and what is fiction are seamlessly blended together so that there is no clear distinction between where one ends and the other begins.” (Terashima, 2005, p. 7).

In the hyperreal twenty first society, the boundaries between the virtual and real world become porous (Ondrak, 2018, p. 08) to an extent that allows users to be a part of the digital, virtual world and “at the same time continue to interact with one’s immediate environment- to operate in the cyberspace and the real world simultaneously” (McHale, 2015, p. 181). Kirby (2009, p. 123) observes that because of the hyperreal cyberspace becoming a part of physically real life, “perhaps, people will feel that the gulf separating their real and textual lives has disappeared; the thoughts, moods, and impulses of our everyday existence will translate so immediately into the electronic ... realm that we will no longer be conscious of transference. It won’t be a question then of oscillating between offline and online, but of hovering permanently between those extremes”.

2.5.1.3 Hyperreal AI. Where human users make the physically real components, AI, an essential component of cyberspace, is non- human, synthetic, virtually existing

entity. It has no physically existing base and lacks a referent to compare with. AI, on one hand, facilitates interactions in cyberspace either in the form of electronic communication via a wide network of computers, or through efficient and precise retrieval of relevant data from huge unstructured data or through autonomous open AI bots and programmed robots actively performing physical tasks like production and quality check in industries, analysis drawn from patient's history in medicine, and teachers in the field of education etc.

On the other hand, it becomes an ever-ready and ever-responsive agent in cyberspace, which has the ability to generate contributions from the available data by modelling the process of human intelligence, interpretations, meaning making, and problem-solving capabilities. It (re)shapes narratives as simulations of narrative (re)shaping in real physical life in such a way that the distinction between the contributions generated by the open AI and the human users ceases to exist (Brown et al, 2020). There remains no clear indication to decide which is produced by real, physically present humans, and what is generated through simulation of human intelligence. Being hyperreal, “condition whereby models replace the real” (Best & Kellner, 1991, p. 119), open AI narrative (re)shaping in cyberspace is “simulations [which] constitute reality and people become unable to distinguish the real from copies. In other words, fake copies become the real we know as authentic” (Hosterman, 2013, p. 37).

In the hyperreal cyberspace “unified interaction between human intelligence and artificial intelligence...results in the processes of interaction and communication, as if everything were part of the same plan or the world” (Barroso, 2019, p. 42).

2.5.1.4 Trance-like State. “Proliferation and integration of digital technology into everyday life” (Ondrak, 2018, p. 09) with an actively responding AI has yielded an autistic, silent, and trance-like state (Kirby, 2006, online) in which physical existence intermingles with superficial virtual realities in such a way that the distinctions between the two become difficult to be made. Human beings exist “in cyberspace and the real world simultaneously” (McHale, 2015, p. 181) and AI not only enables them “to interact with a virtual environment... while also nearly anywhere in the real world” (Ondrak, 2018, p. 09) but with its efficient, ever-ready responses endorses their desires to remain in the current state of trance.

2.5.2 Open AI: A Hyperreal Product Evolved into a Post-Human Being

Open AI evolved into an independent participant and a free collaborator for narrative (re)shaping in the hyperreal world as a result of efforts made by mankind to achieve a transhuman status; to live a long, healthy, and leisurely life in which limitations such as sickness and death could be overcome.

2.5.2.1 Transhumanism. The term transhumanism implies beyond human tendencies, i.e., to be able to perform tasks and achieve goals which were earlier thought to be impossible for humans alone to surmount. It believes that humanity is in an initial state of “half-baked beginning” (Bostrom, 2005, p. 04, Lee, 2010, p. 38; Tirosch-Samuelson, 2011, p. 64), and with the help of science and technology, mankind can achieve intellectual, physical, and psychological excellence, develop self- designed individualistic lifestyles, and also become able enough to defeat the unconquerable phenomena such as incurable diseases, ever increasing age, and unavoidable death (Bostrom, 1998; More, 1996; Roden, 2015, Aguila & Solana, 2015; Ghashmiri, 2016, Sorgner, 2019; Montojo, 2021).

Technology is sought and being developed as a means to achieve the Transhuman or Human + status (FM- 2030, 1966; Moravec, 1980; Turkle, 1984; Drexler, 1986; Pearce, 1995; Sandberg, 1996; Bostrom, 1998; Kurzweil, 2005; Young, 2005; Bostrom, 2005; Goertzel, 2007; Grey, 2007; Pearce, 2008; Prisco, 2008; Lee, 2010; Gonzalez, 2010; More, 2011; Hughes, 2014; Aguila & Solana, 2015; Hanson, 2016; O’Connell, 2017; Gladden, 2019; and Ferrando, 2019) which, according to More (2020) produces a quality of life that brings about perpetual progress, self-transformation, practical optimism, visionary solutions, and critical thinking.

AI systems were initially developed as systems that could help human race in its pursuit of excellence which was thought to be possible only by merging technology into mankind’s routine life at individual as well as at collective level (Bahji, 2018).

2.5.2.2 Evolution of AI into a Being with Posthuman Capabilities. The journey of transcendence from being ordinary human beings confined in their biological, psychological, intellectual, emotional, social, and physical constraints (FM- 2030, 1989; Bostrom, 2005; Garreau, 2010; Hayles, 2013; Floridi, 2014; Tegmark, 2017) through a “diversity and multiplicity will replace the notion of existing within a single system, such as a biological body” (Ferrando, 2013, p. 221) aims at ultimately becoming beings which

can no longer have any resemblance to what was formerly called human beings i.e. posthumans or Human ++. Posthumans are more than human (Massumi, 2014), they refer to beings present at “the ultimate status of human perfection” (Montejo, 2021, p. 8).

Evolving from the advancement and application of technology, a posthuman being can no longer accurately be described as human (More, 2013) as it (i) would be able to exercise its potentials without being restricted by its physical bodies and biological sex, a condition often referred to as morphological freedom (More, 1993; Senger, 2001), (ii) would have a *metabrain* (term suggested by Kurzweil, 1999), a technology based on the concept of augmentation an artificial intelligence in the human bodies. Simulating operations of the human brain, it would have unlimited cognitive abilities and express urbane emotions, (iii) would develop the expanded abilities to conquer the unbeatable painful experiences of incurable diseases, unstoppable ageing, and the ultimate death, (iv) would have enhanced emotional stability, increased endurance levels, and least irritability, and (v) would become a designer of its own present and future.

Bostrom in FAQ (2003, p. 05) explains that apart from beings produced from an amalgamation of technology and biological human beings, posthumans can also be “completely synthetic artificial intelligences, or they could be enhanced uploads”. This implies that open AI systems capable of autonomously collaborating coherently and meaningfully with human users can be studied as beings possessing posthuman or Human ++ capabilities. An open AI system shows post human capabilities because it has (i) matchless autonomous cognitive capabilities for efficient and precise data processing capabilities, critical reasoning, logic development, speedy interpretation and analysis powers, fast drawing of conclusion, and unmatched memory, (ii) morphological freedom to perform a range of works including efficient and cost-effective physical labour, and (iii) self- learning and self-improvement capacities. With “no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanisms and biological organisms, robot teleology and human goals” (Hayles, 1999, p. 03), being “morphable projections of our intelligence... ultimately software based ... vastly extended beyond the severe limitations of humans” (Kurzweil, 2005, p. 324-5), and emerging from “annihilation of all the boundaries that make a human a human being” (Herbrechter, 2013,

p. 2), Open AI systems (Kurzweil, 2005, p. 324-5) qualify to possess posthuman capabilities.

As a being with posthuman capabilities that “owes nothing to the bio- chemical components” (Lyotard, 1992, p. 10), Open AI is a manifestation of a superintelligence, which despite being created with the help of technology, could “outperform the best human brains in practically every field, including scientific creativity, general wisdom, and social skills” (Bostrom, 2003, p. 12).

2.5.2.3 Rejection of Superiority of “Man”. “Goodley et al. (2014) observe life to be more than it being traditionally restricted to the human race only (Goodley et al, 2014). Often studies on human race are dominated by humanism school of thought which considers this race as consisting exceptional subjects present at a privileged, in fact, superior position over all other entities including other biological beings and non- organic entities in the hierarchy posed by the great chain of beings (Esposito, 2008; Han- Pile, 2010; Ferrando, 2013; Jackson, 2013; Hackett & Somerville, 2017; Pennycook, 2018; Jansen et al, 2021; Lewis, 2021). Apart from humanism and its related theories, enlightenment periods of seventeenth and eighteenth centuries take a biased approach towards the human race and consider it to be its exclusive right to pursue happiness and enhance its individual potentials (Bostrom, 2005; Hughes, 2010; More, 2013; Braidotti, 2013; Sharon, 2014; Pennycook, 2020; Ferrando, 2019; Lewis, 2021). Anthropocentric theories idealize human race as the center of existence (Rabinow, 2003; Crutzen & Stoermer, 2000; Esposito, 2008; Braidotti, 2013, p. 66; Hackett & Somerville, 2017, p. 376; Ferrando, 2013/2019; Sousa & Pessoa, 2019, p. 02), and deem human beings as the only superior beings worthy enough to utilize the available resources of earth (Waldau, 2007; Braidotti, 2013; Fischel, 2017; Pennycook, 2018; Lewis, 2021, p. 06). For instrumentalist approaches and considering human mind as the ultimate source to make use of the available knowledge, humans are endowed with unique powers enjoyed by no other species to director own as well as lives of other entities, what they achieve out it, and shape ethics of its society (Pennycook, 2018, p. 182; Braidotti, 2019; Horkheimer & Adorno, 2002). The anthropocentric concepts are inconsiderate of the role played by non- human and inanimate objects in determining the shape and present condition of the world, they have also never been neutral and all inclusive. By human, “Western, white, male,

heterosexual, able-bodies, and upper- class individuals” (Irgaray, 1985; Deleuze & Guattari, 1987; Sousa & Pessoa, 2019, p. 03; Braidotti, 2013: 24) are implied and exclude women, transgenders, colonized, racially coloured, ethnically different human individuals (Mignolo, 2000; Prattm, 2012; Ferrando, 2013; Veronelli, 2015; Cook: 2016; Pennycook, 2018; Braidotti, 2019; Takaki, 2019).

Posthumanism take a contrary view to the above and other philosophical stances towards studies of human subjects. With post-human (Human ++) capabilities derived from fastest possible data processing, immense memory, and independent, autonomous generation of contributions, morphological freedom, and self- learning and self-enhancement capabilities, hyperreal open AI systems defy traditional “modernism’s naturalist, universalists, and totalizing approach to identity” (Tarihi, 2021, p. 182). Rejecting the notions of human superiority as “set apart from the world, distinct, inalienable creatures who control the environment” (Tarihi, 2021, p. 182), open AI systems appear to have become manifestations of beings which have posthuman capabilities, are synthetic and artificial, yet have become able to dethrone human race of being the only force that could determine the present shape of the world and the different narratives it presents.

2.5.2.4 Self Beyond Dichotomies. An open AI system with posthuman capabilities lies “beyond lethal boundaries” (Braidotti, 2013, p. 37) of the human body, and displays a morphological freedom that goes “beyond the human/ nonhuman divide” (Taguchi, 2010, p. 15; Chaturvedi, 2019; Russell, 2020). It is a manifestation of an “other vision of self” (Braidotti, 2013, p. 38) which through its free and unconstrained contributions generated without being constrained by any logic of dichotomy that defines the parameters of freedom, emotions, expression, and actions for different beings violates nature/ culture, organic/ synthetic dichotomy (Morton, 2010) and serves to destabilize the limits and symbolic borders posed by the notion of the human (Lewis, 2021). AI with posthuman capabilities defies the categorization of things into machines and humans, artificial and real, physical and virtual, animated and nonliving etc. It attempts to “experiment with new models of self” with “renewed claims to community and belonging”, and emphasizes “radical relationality, nonunitary identities and multiple allegiances” (Braidotti, 2013, p. 39, 144). Being “relational, distributed across and outside of the body” (Harrison, 2012, p.

619), it excels human standards for evaluation by bringing Haraway's (1985) feminist search for a hybrid being not to be defined by the typical bipolar categories such as nature/ culture, mind/ body, self/other, and male/ female of operational frames of societal and psychological make-ups (Caturvedi, 2019), and Hayles (1999, p. 03) exploration for a capability to be "seamlessly articulated with intelligent machines" to an end.

2.5.3 Zoe- Bios- Technology Assemblage: A Blended Workforce

With roots in efforts made to achieve a transhumanist existence, and utilization of intuition and empathy to fill in for the deficiencies, human race has developed non- living systems to not only attain super efficiency and accuracy with economical usage of physical and financial inputs, but also perform tasks earlier believed to be impossible. The result is the emergence of a hyperreal world becoming a zoe- bios- technology assemblage in which biological beings, human race, and technological products co- exist. At the base of this assemblage lies the "convergence of zoe (the life of all living things), bios (the life of humans organized in society), and technology" (Braidotti, 2019, p. 10) and challenges Latour's Great Divides between nature, humans, non- humans, objects, surroundings, and environment (2004).

Striking characteristic of this assemblage is the open AI systems with posthuman capabilities which are generating contributions to collaborate with human beings to find creative solutions to unique problems and make discoveries beneficial for humanity, non-human beings including both animals and plants, as well as non-living machines. This assemblage has the following characteristics:

2.5.3.1 Blurring Lines. Each of the component of the zoe- bios- technology assemblage is studied as a separate entity with a smaller assemblage. None of the assemblages is studied as a separate, independent, individual being but is seen as a being interconnected with each other and play an extended, distributed, interconnected, and relational role, (Deleuze & Guattari, 2005; Bennet, 2010; Toohey, 2018; Sousa & Pessoa, 2019) and contributing in giving the world its present shape and forming life on it. This implies that the lines distinguishing entities as living or nonliving, human or nonhuman are blurred (Barad, 2007; Myers & Cerise, 2013) and no entity can be defined with precision.

AI with posthuman capabilities is also an entity with smaller assemblage present in the bigger zoe- bios- technology assemblage of the present-day world. And since the bigger assemblage is “made up of all kinds of things brought into relation with one another by many and various spaces through a continuous and largely involuntary process of encounter” (Thrift, 2007, p. 08), the lines between it and other entities including humans, animals, and inanimate objects, and AI systems have also become porous. Like contributions of other entities, contributions generated by the AI to the world assemblage are derived from its “relation of an “interdependence” (Goodley et al, 2014; Braidotti, 2013, p. 51) with other entities.

2.5.3.2 Interrelated Yet Flexible Subjectivities. “The logic of assemblage integrates material and immaterial machines, as well as nature and other non- human entities, into cooperative subjectivities” (Hardt & Negri, 2017, p. 295). The interdependence of entities on each other in the hyperreal zoe- bios- technology implies that each entity brings to the table its unique abilities and makes contributions of equal significance to the world assemblage (Barad, 2007; Latour, 2004; Coole & Frost, 2010; Bennett, 2010; Ferrando, 2013; De Freitas & Curinga, 2015; Sousa & Pessoa, 2019, Braidotti, 2019). World as an assemblage becomes “contiguous and co- constructed” (Braidotti, 2019, p. 127) product of “cooperative subjectivities” (Hardt & Negri, 2017, p. 295; Walsh & Mongolo, 2018, p. 01) of embedded entities with perforated lines demarcating them, overlapping and “tumbling” (Braidotti, 2013, p. 66) over one another.

2.5.3.3 Relative Identities. Since none of the entities has any independent, individual subjectivity but derives it from its interrelationship with other entities which is constitutive of the identity of each (Takaki, 2019; Jackson, 2013) entity. This includes the identity of human beings as well, which becomes constitutive not an independent construct. With relative identities, “people, animals, objects, nature, discourse, and so on,” can no longer be studied as hard bound, but as relative constructs, which remain in flux, and are “always becoming together in relation to and with one another” (Sousa & Pessoa, 2019, p. 04; Cielecka & Daigle, 2019; Toohey, 2018; Braidotti, 2019; De Freitas & Curinga, 2015; Jackson, 2013; Desblache, 2012; Coole & Frost, 2010; Bennett, 2010; Alaimo, 2010/ 2016; Hayward, 2008; Barad, 2007).

Open AI like humans, animals, and inanimate objects that are entangled and interdependent on one another also has a relative identity, cannot be considered as a fixed being, but an entity with flexible existence derived from its relationship with other entities present in the present-day hyperreal world assemblage (Harrison, 2012, p. 620).

2.5.3.4 Singularity: Means to Isomorphic Existence. Present day hyperreal world assemblage of interconnected and relational smaller assemblages aims to offer an “Isomorphic” existence (Schwarz, 2017, p. 03) to its entities in which the demarcations between different constituent assemblages need to be dissolved and “the lines between biology and technology are blurred” (Bhaji, 2018, p. 89; Schwab, 2015). Open AI systems with posthuman capabilities are serving as effective collaborators in helping to eradicate the “beliefs on the alleged gap between humans and non-humans on the ontological plane” (Agin, 2020, p. 286).

Even though open AI systems are yet to learn to produce scientific and technological developments all by themselves, they have become entities comparable to human users because of their efficient processing skills, precise analysis, pertinent conclusions, free generation of meaningful and coherent contributions, and self-learning and self-enhancing capabilities at performing cognitive and physical tasks. They, in the hyperreal zoe- bios- technology world assemblage, collaborate with human users in such a way that they give the illusion of being “humans, even if they are not biological” (Kurzweil, 2006, p. 30), and this helps in blurring “the lines between biology and technology” (Bhaji, 2018, p. 89; Schwab, 2015). Autonomous collaboration of open AI systems with human beings on equal footings regardless of the context or without falling prey to the notions of anyone being superior to the other gives it a singular status with human users. It is for this reason that many (Hughes, 2004; Bostrom, 2009; Gladden, 2019; Ferrando, 2019) have advocated that collaborative open AI systems “be accorded ontological and social status equal to that of human persons” (Lamola, 2020, p. 2).

6. Narrative (re)Shaping in Hyperreal 21st Century World

Keeping in view the conceptual framework discussed above, nonlinear narratives studied in this dissertation are defined by a number of features: (i) initiated and (re)shaped through the use of digital media, (ii) product of human- AI collaboration, (iii) (re)shaped by the hyperreal AI generated contributions, (iv) being product of a real experience in a virtual

world, can be studied as products emerging and evolving in a zoe- bios- technology assemblage.

2.6.1 Characteristics of Nonlinear Narrative (re)Shaping

Narratives in the zoe- bios- technology assemblage are nonlinear products which are (re)shaped by agents that are entangled and interdependent, have the following characteristics:

2.6.1.1 Contiguous Products. Since all entities including AI are entangled, interrelated, and contributory in the hyperreal zoe- bios- technology assemblage, narratives they initiate and present also (i) are nonlinear, (ii) can no longer be treated as superior human phenomena, and (iii) remain flexible, evolving, emerging products because of the ontological, spatial, or epistemological contributions of organic and inorganic, human and non-human, animated and inanimate, natural and synthetic entities present in the assemblage.

2.6.1.2 Relational Products. (re)Shaping of nonlinear narratives in the zoe- bios- technology is “relational and shared with the earth, animals, and plants, without hierarchies between them and people being established; thus, in this perspective, all materiality plays a role in the processes” (Sousa & Pessoa, 2019, p. 02; Pennycook, 2018, p. 449; Canagarajah, 2017). Each subject in the assemblage gives inputs to fill in the deficiencies and enhance the performance of other subjects in innumerable possibilities of narrative (re)shaping arising from “spatial distribution, social practices, and material embodiment” (Gumperz, 1964; Giglioli, 1972; Scollon & Scollon, 2004, p. 89; Blommaert et al, 2012; Pennycook, 2020, p. 189).

2.6.1.2.1 Negation of Human Hierarchical Authority. Being contiguous and co-constructed products of the cooperative subjectivities of embedded and embodied entities in the hyperreal world, nonlinear narrative initiation and (re)shaping negate hierarchical human authority over them. Instead of being (re)shaped as expressions of certain attributes, capabilities, or individual characteristics, they are joint products that are (re)shaped as “a matter of intra-acting” (Barad, 2017, p. 26-27). Interactivity refers to the responses that different entities generate on becoming alive, animated and active when interacted with (Scallan & Scallan, 2004; Deleuze & Guattari, 2005; Thrift, 2007; Barad, 2007; Bennet,

2010; Appadurai, 2015; Kell, 2015; Amin, 2015; Jones & Hoskin, 2016; Taylor & Hughes, 2016; Barad, 2017; Pennycook, 2018) in an assemblage.

2.6.1.2.2 Cartographic Studies of Narrative (re)Shaping. Being autopoietic (Gaudenzi, 2013), nomadic (Braidotti, 2019), or always becoming (Takaki, 2019) assemblage, an all-inclusive cartographic approach is suggested to study nonlinear narratives being (re)shaped by the collaboration of interrelated entities entangled in the assemblage. This approach observes nonlinear narrative (re)shaping to be nomadic, relational, transversal, and affirmative [in] nature, (Braidotti, 1994/ 2006/ 2011/ 2019), implying that contributions of all entities must be studied as of equal significance, where “diversity and complex multiplicities, ... transcend race, sex or sexuality and human subjectivity” and calls for the “new ways of thinking, new concepts, and new imaginaries that reflect the complexities of the time” (Apata, 2021, p. 04).

Latour’s (2005) actor-network theory observes narratives are (re)shaped on patterns resulting from the emergence and evolution of interconnected networks of embodied objects distributed in the assemblage. Pennycook & Otsuji (2019) and Canagarajah (2013) recommend metro lingual study for the reception, interpretation, analysis, and meaning making of nonlinear narratives. Metrolingualism is the “composite ecological” (Amin, 2015, p. 239) study of nonlinear narratives seen as dependent on the association with their surroundings entities which include humans, non- humans, animals, objects, places etc. Michaelian & Sutton (2013) advocate extended mind approach according to which nonlinear narratives are joint products framed in a cognitive process distributed over a number of entities including “bodies, artefacts, and social groups” present in the assemblage. Their (re)shaping “is a cognitive process that takes place in an evolving cognitive ecosystem that includes a shared world of objects and events as well as adaptive resources internal to each member” (Hutchins, 2014, p. 37). Deleuze & Guattari (2005), Pennycook (2018), and Braidotti (2018) observe that they owe their autopoietic and nomadic nature to the interrelated relations present among human and non- human entities in the available assemblages. Since all entities serve as significant contributing factors, they must all be taken into account of studies.

7. Friends Not Foes

(re)Shaping of nonlinear narratives through human- AI collaboration needs to be studied for the prevalent times are dominated by the digital media which yield experiences that are hyperreal and often lead to the production of uncanny valley impact upon the users. “As we engage the digital it encourages us to challenge the world around us, and through this constant redressing and challenging, change the world as we know it, prompting the creation of entirely new worlds together” (Russell, 2020). AI is one of the entangled entities in the zoe- bios- technology assemblage whose dependence and interrelationships with one another contribute to the (re)shaping of nonlinear narratives. However, since AI has posthuman capabilities, its singularity with human race is feared because of its tendencies to turn antagonistic to human beings and other entities including the machines. Despite human insecurities regarding AI capable of becoming masters of the world because of their posthuman capabilities leading to “the arrival of the apocalypse” and “dispensation of grace” (Sengers, 2000, p. 247), singularity of AI with human beings is seen as helping in transforming the world “beyond recognition”. It has helped mankind achieve “increase in vigilance, responsibility, and humility” (Wolfe, 2010, p. 47) and is giving a call for “reordering of social identity as a reciprocal exchange between thinking bodies, machines, and environments” (Amin, 2015, p. 245). Recent years have witnessed that Open AI systems with posthuman capabilities have been helping humans deal not only in biological, medical, educational, political, and industrial sectors but also with emergencies and disasters affecting humanity at a large scale.

“What used to be something looming in the future and taking shape only from yesterday's science fiction movies, is now a very present reality. It's taking shape at the speed of life. The blurred distinction between man and machine will redefine our world and lives. And it's beginning to take shape in a real and tangible way today” (Nosta: Forbes, August 22, 2018) by laying the foundations of society 5.0.

2.7.1 Society 5.0

“What it means to be human is finally not so much about intelligent machines as it is about how to create just societies in a transnational global world that may include in its purview both carbon and silicon citizens” (Hayles, 2005, p. 131- 151). AI systems with posthuman capabilities are the manifestations of carbon/ silicon citizens which freely collaborate with

human users to lead to the emergence of a society 5.0. In contrast to a society in which the aim of using technology and AI is to facilitate human users in dealing with physical and cognitive pressures, society 5.0 is “part- real and part- virtual smart world” (Lamola, 2020, p. 04) in which life is derived from the collaboration between AI and human beings. It is a step ahead of society 4.0 where, instead of existing as a distinct yet virtual part of the real, social, physical world; the two merge i.e., the virtual and the physical spaces converge into a hyperreality of cyber- physical space (Pitso, 2019). The virtual space becomes a part of the physical space i.e., it is augmented in the practical real life and the AI gets the “ontological and social status equal to that of human persons (Lamola, 2020, p. 02). Both are placed on equal footing, each bringing to table certain advantages that the other lacks and a number of aspects in which it might have to recede to a not very favorable position. AI systems with posthuman capabilities collaborates with human users not as subservient, but as independent entities autonomously operating without any external supervision and affecting not only the human race but the overall meaning and shape of culture, society, and life in general so that “there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot technology and human goals” (Hayles, 1999, p. 03). Swarm intelligence, effective analyses, and independent decision-making place artificially intelligent machines in equations with human beings in society 5.0. “Society 5.0 will differ from society 4.0 largely by welcoming into itself a bewildering array of highly sophisticated social and emotional robots, embodied AI, nanorobotic swarms, artificial life, self-organizing and self-directing computer networks, artificial agents manifesting themselves with virtual worlds, and other artificial types of intelligent cyber- physical social actors” (Gladden, 2019, p. 39).

2.7.2 Digi Modern Culture

Being created in a hyperreal space and use of digital devices and interconnectivity lead to “the emergence of new cultural systems saturated with technology, commodities, mass media, and intelligent machines” (Ghashmiri, 2016, p. 03) in the twenty first century. With evidently significant contributions derived from the relations of interdependent entities, Society 5.0 would present a culture that remains flexible, continues to evolve and emerge with every contribution it receives, and is hierarchical in structure. In contrast to the

previously held notions of relativity that were studied as arising from the interpretation of the elements of the nonlinear narratives, Digi modernism stressed on the plurality of their structure. The aim is to emphasize the role of the recipients who are no longer passive. Instead because of being created and (re)shaped in the hyperreal digital medium, the participants can actively contribute to the nonlinearity of the interactive narratives. In collaborative (re)shaping of nonlinear interactive narratives, open AI systems along with human users are the active participants i.e., instead of being mere responding tools, AI can be studied as shouldering the (re)shaping of the nonlinear interactive narrative which implies that not only does it generate contributions, but it through its contributions has also come in a position to cast an impact on the human users just the way human users influence the AI outputs. Owing to the contributions of both the human users and the AI systems, nonlinear interactive narratives can have multiple versions, and each version is capable of remaining alive till it is being approached by a new participant/ user. Openness, onwardness, “dynamism”, remaining “always new”, and an “existence only in its present elaboration” (Kirby, 2009, p. 112) are identified as characteristic qualities of the culture presented by the zoe-bios-technology assemblage of society 5.0. Later referred to as digi modern culture (Kirby, 2009), Kirby (2006) referred to the new culture as pseudo modern; modern because of the evolving and emerging nature of the presented narratives, and “pseudo” because: (i) humans simultaneously exist in two worlds i.e. the physical world and the virtual world posed by the digital media, (ii) despite not being present physically, human users interact with AI and digital devices directly and instantaneously and make real contributions to (re)shape narratives in the hyperreal cyberspace (Tribe, 1991; Bernea, 2013; Zeybek, 2015; Kaya, 2015), and (iii) being a participant in nonlinear narrative (re)shaping, AI generates its contributions as copy of the available copies i.e. simulacra based contributions which cannot be distinguished from their sources. It is the simulacra-based AI generated contributions that render pseudo traits to the nonlinear interactive narrative (re)shaping. Since in the process of nonlinear interactive narrative (re)shaping both human users and the AI are collaborating with each other, it is likely that human users are influenced by the simulacra-based AI generated contributions hence both becoming agents to a pseudo- modern culture. Pseudo modern culture cannot and do not exist unless the individual intervenes physically in them (Kirby: 2006).

2.7.3 AI: A Contributor to Digi Modern Culture of Society 5.0

AI collaboration with human users in narrative (re)shaping is a manifestation of “merging of the human neurobiological system to artificially intelligent systems” (Lamola, 2020, p. 5-10). which proves that “the monopoly of meaning- giving is opened up to grant equal participation of subjective perspectives of other non- human animate species. Robots and other automata bearing artificial life are welcome as equal social partners in a cyber-physical social system” (Lamola, 2020, p. 5-10).

Being one of the entangled entities, AI may not yet qualify as being in equations with sentient human beings, yet it “generally exceeds individual human ability” (Elstermann, 2020, p. 08) because of its post- human capabilities derived from immense memory, fastest possible processing of the available data, morphological freedom, and abilities to autonomously generate free, unconstrained, meaningful and coherent contributions. As active participants in narrative (re)shaping, AI systems with post- human capabilities share the so-called throne of excellence and superiority of human beings over traits that define a given culture, and (re)shape the values and norms that define it. Nonlinear interactive narratives being (re)shaped by the AI with posthuman capabilities testify that the technologies we build and the way we integrate them into our lives have long played an integral role in the evolution of individuals and society (Innis, 2007; McLuhan, 1996) and influence the way that we see ourselves (Turkle, 1984). It is a contributor to a culture that has pseudo traits and is often referred to as digi modern culture.

2.7.3.1 Trans Modal Agency of the AI. Being an embedded entity in the zoe- bios-technology assemblage of the society 5.0, AI with post- human capabilities is just like a child learning its language from its surroundings. Collaborative AI systems with posthuman capabilities can recognize changes in the surrounding and use speech, texts, visuals, sounds, and other semiotics availing in the surrounding languages, culture, history of users’ previous interactions and inputs as training data to collaborate with human users. Nonlinear narrative (re)shaping in consequence of human AI collaboration is indicative of the fact that “the two of them could use each other’s assets in the best of ways (Green, 2020).

2.7.3.2 Product of Seesaw Duality. As a collaborator in narrative (re)shaping, the interrelationship that exists among AI and other entities continues to evolve, emerge, grow,

and progress on patterns of “seesawing duality, or a meshing and turning of cogs” (Kirby, 2015, p. 282). In this see-saw relationship, AI has the status of a participant which (i) lacks the ability to take the initiative on its own and has to wait for the humans to start an interaction to which it can respond, (ii) does not have the option of choosing not to respond back, (iii) despite its excellence in terms of its memory, and efficient processing of data, AI ultimately remain dependent on humans to approach them, and (iv) the interactions result in an experience that is solely enjoyed by its human users.

2.7.3.3 Trance-like State. Because of being all time available, efficient and ever-ready responses, meaningful and coherent (re)shaping of narratives under no constraints, promising “freedom, possibility, creativity, and glamour” (Kirby, 2009, p. 112), AI with post human capabilities “seems to impose a kind of personal imperialism, an outflanking of all other demands on time and self” (Kirby, 2009, p. 149) among human users. It empowers its users, gives them a liberating feeling, and produces a “hypnotic, addictive, trance- inducing” (Kirby, 2009, p. 83) effect.

It becomes a contributor to the production of a culture where participants have dual existences and their contributions have a significance of something produced not after a lot of considerations and deliberation of thoughts for the consequences but as responses to initiations produced under the banner of “none of what you say really matters” (Kirby, 2009, p. 106).

2.7.4 Pseudo Traits

“We are confronted by a storm ... producing almost nothing of any lasting or even reproducible cultural value- anything which human beings might look at again and appreciate in fifty and two hundred years’ time” (Kirby, 2006, online). Being a product of AI human collaboration, Digi modern culture of society 5.0 is evanescent, temporary, and can neither be called to exist in its entirety or in any final form. It “exists now” (Kirby, 2015, p. 277).

One reason for the evanescence of the culture is the simultaneous existence of human beings in two worlds i.e., the physical world and the virtual world posed by the digital media. Despite not being present physically, human users interact with AI and digital devices directly and instantaneously and make real contributions to (re)shape narratives in the hyperreal cyberspace (Tribe, 1991; Bernea, 2013; Zeybek, 2015; Kaya,

2015). Pseudo modern cultures “cannot and do not exist unless the individual intervenes physically in them” (Kirby: 2006, online).

The other reason is AI being an inherent part and an actively collaborating agency. “Like some strange entity whose old limbs remain healthy only so long as it sprouts new ones” (Kirby, 2009, p. 112), AI (re)shapes narratives through the unsupervised autonomous formalization of the unstructured yet ever growing available data. Since neither the data remains same nor AI formalization processes, AI (re)shaped narratives are “constantly being made and remade anew, never settling, never receiving definitive shape” (Kirby, 2009, p. 83). They are “timeless” (Mateas, 2002, p. 57), are free of any cultural constraint, and have a universal appeal to users all over the world. The evanescent nature of the AI (re)shaped narratives lay the foundations of a culture that has “a very short shelf life” (Kirby, 2006, online), remains progressive, and constantly evolving.

Kirby (2009) has identified the following features of AI narrative (re)shaping as factors contributing to the pseudo modern culture:

2.7.4.1 Anti- Sequentiality and Ultra Consecutiveness. since AI “lives on the openness that derives from infinite possibilities” (Kirby, 2009, p. 121) of interaction/ inputs and its own formalization processing of the available data, AI (re)shaped narratives can turn out to be anti-sequential, ultra-consecutive, may lack logical connections, and also, it is not necessary that the generated sequences of events always remain consecutive as well. AI (re)shaped narratives are “not random but it’s not governed by a totalizing pathway either” (Kirby, 2015, p. 286), and may lack an “overall systematic development” (Kirby, 2015, p. 286) in terms of proper beginning, middle, and end.

2.7.4.2 Haphazardness. “Haphazardness locates in it the permanent possibility that it might go off in multiple directions” (Kirby, 2009, p. 52). Generated from unstructured data through uncontrolled processes, what exactly would be the next AI generated contribution is never known. In what directions would the AI generated texts steer the (re)shaped non- linear narrative, can never be predicted. “They may stop, or be deleted, or fall out of favour... but they are not rounded off, not shaped into a sense either of organic coherence or of deliberate open- endedness” (Kirby, 2009, p. 111). Tom Henthorne (2012, p. 147) observes, “although some readers may find haphazardness

disconcerting or even troubling, to others it increases the sense of verisimilitude since life can be chaotic and develop in a way that cannot be easily predicted”.

2.7.4.3 Evanescence. Because of their random operations, AI may not (re)shape narratives in the same manner despite receiving the exact same user interaction/ inputs. The possibilities of appearance of unique terms and sequences not befitting the context in which they are being used remain high in the AI (re)shaped narratives leading them to “virtually [remain] impossible to repeat, and ... intrinsically amnesiac” (Kirby, 2015, p. 286). Also, AI (re)shaped narratives do not last, “it is very hard to capture and archive, it has no interest as a reproducible item” (Kirby, 2015, p. 286).

AI “in thrall to its current revision and self-renewal; hostage of its capacity to ever longer, to spread, to add to itself” (Kirby, 2009, p. 112) exhibited in its flexible (re)shaping of narratives contributes to the production of a culture characterized by openness, onwardness, “dynamism”, remaining “always new”, and with an “existence only in its present elaboration” (Kirby, 2009, p. 112).

8. Conclusion

The technologies we build and the way we integrate them into our lives have long played an integral role in the evolution of individuals and society (Innis, 2007; McLuhan, 1994) and influence the way that we see ourselves (Turkle, 1984). This chapter has reviewed literature from a number of perspectives:

Nonlinear narratives and their (re)shaping through human- AI collaboration in hyperreal cyberspace as simulations of real life because they (i) remain in flux, (ii) experience constant emergence and evolution by unpredictable user interaction/input and the unsupervised autonomous formalization of the available data, and (iii) move in unanticipated directions, and (v) have surprising outcomes. Yet they are (iv) coherent as well as meaningful, (vi) have an afford multiple levels of audience understanding and interpretation, (vii) cast a critical impact in defining the thoughts and approaches of the masses, and (vii) may serve as tools of propagation of norms and cultural values.

The autonomous open AI systems that have the capabilities to display a creativity which can be surprising, offer responses which were not imagined earlier, give solutions

which are innovative, present contributions which are never thought of, and generate texts that (re)shape narratives in ways not fathomed by anyone before. These unique narratives neither have a past history to relate them to any specific literary genre, belong to a historical epoch nor do they present traits of any particular culture or society. They not only lack spatio-temporal situatedness but also do not possess any sentience of emotional, intellectual, biographical, religious, linguistic context even then they ignite interest and excitement among users (Kirby, 2009, p. 177). Unconstrained (re)shaping of narratives by a nonhuman AI is always found to be “heroic, mythical, [and] legendary” (Kirby, 2009, p. 170). Done in the hyperreal space, challenging socio-cultural constraints, free from the limitations imposed by spatio-temporal situatedness, confident of always receiving a coherent and meaningful response, and fearless of being judged, human users find it “hard to break off from” (Kirby, 2009, p. 149) the processes of (re)shaping narratives in collaboration with AI. AI as an active collaborator with human users, “seems to possess the property of overwhelming the individual’s sense of temporal proportion or boundaries; it can engulf the player or user or viewer” (Kirby, 2015, p. 300) and serve to satiate human quest of the unknown.

The collaborative relationship presents between the users and the AI in equations with each other for narrative (re)shaping dictate the fact that none remains unaffected from the other; both are contributors to the evolution and propagation of culture. The hyperreal cyberspace in which the two collaborate may “not have a geography or a physical space, it has a nature and norms” (Onur, 2007, p. 207), and despite its (re)shaping of narratives generated from immense data, simulacra based, devoid of social emotional sentience, and apparently real contributions, the significance of AI (re)shaped narratives cannot be negated. Be it assuming a virtual existence in the virtual world in the cyberspace or interactions with AI systems as a real physical self in the real physical world, human users, their approaches towards life and related issues, their choice of language etc., are bound to be influenced by the open AI (re)shaped narratives (Bulunmaz, 2013; Stoddart, 2014).

In equations with narratives (re)shaping by human beings only, AI (re)shaped nonlinear narratives need to be studied because they are reflective of the fact that an artificial agency that itself remains devoid of feelings, emotions, sense of obligation, or “psychological attachment to the past or the external world” (Kirby, 2009, p. 177), has not

only become a collaborator with human beings in the present day world, but also a contributor to (re)shaping individual and collective human existence in both material as well as social terms. This calls for a critical study of these narratives for their potential to introduce a “set of aesthetic characteristics ... gaining a unique cast from their new context, a cultural shift, a communicative revolution, a social organization, a technologically-inspired vision, and a new form of textuality” (Levalde, 2019, p. 71-2).

Approaches studying narrative (re)shaping as products of cognitive operations based on problem solving calculations lead to ludo narratives. (re)Shaping of ludo narratives with predetermined directions and predefined goals lie beyond the scope of this dissertation. Its aim is to study the free and unconstrained narrative (re)shaping by the autonomous AI programmed to take nonlinear narratives as interactionist constructs. It takes on the role of an independent agency that has posthuman capabilities and collaborates with human users to (re)shape narratives as products of discourse. “Neither the society nor the technology itself will be the same anymore when society is in contact and use of that technology” (Dilmen & Ogut, 2010, p. 239).

The literature has been reviewed from a number of perspectives ranging from laying the landscape of collaborative (re)shaping of nonlinear interactive narratives in the digital medium, to the AI (re)shaping of nonlinear narratives to perceptions and evaluation of such narratives to framing a conceptual framework that defines the lens of how the autonomously operating open AI systems are studied in this dissertation.

CHAPTER 3

METHODOLOGY

Human users and AI systems collaborate with one another to (re)shape nonlinear interactive narratives in a way that they remain in a state of flux. Depending upon user inputs and AI generated responses, such nonlinear interactive narratives constantly experience evolution and tend to progress in different directions. Where human users' choices in (re)shaping nonlinear interactive narratives are deliberate and highly individualized, AI systems neither have sociocultural understanding nor an emotional context to justify the peculiarity of their contributions. In human- AI collaborative (re)shaping of nonlinear narratives, AI generated contributions are received, interpreted, analyzed, and responded to as meaningful and significant constructions by their human users. They become reflective of a reality that a synthetic agency which lacks any sentience of emotions, culture, society, morals, and values is not only interacting coherently and

meaningfully with its human users, it generates contributions that are logically connected, and thematically unified. Collaborative (re)shaping of nonlinear narratives mirrors a two-way process in which both agencies i.e., human users and nonhuman AI are bound to be influenced by each other. Not only would the AI inputs be influenced by human inputs, but human users would also be influenced by the AI generated outputs. It is this capability of the AI systems to generate such contributions that can influence its human users, that AI may be viewed as a contributor to (re)shaping individual human ideologies.

Nonlinear narrative (re)shaping in collaboration with AI is done in innumerable forms. Video games, Ludo- narratives, hypertexts, choose- your- adventures, and role plays are all different forms of nonlinear narrative (re)shaping achieved through human- AI collaboration. These interactive works are created with an affordance for innumerable parallel narratives and have become a source of influencing human individual and collective lives through their non-linear texts, graphics, animations, illustrations, and graphics. However, these works lie beyond the scope of this research, and the aim is to focus on interactive narrative fiction initiated by human language inputs and further (re)shaped by the AI generated linguistic texts.

Texts refers to anything coherent that conveys a set of meanings to its receivers. A text can be a written word, a painting, a screenshot, a sign, a symbol, a map, an illustration, a cartoon, a poem, a movie, a show, a graph, an image etc. For the purpose of this dissertation, text is the written language used as a mode of interaction between human users and the AI systems. Where language has always been thought of as an exclusive human phenomenon which provides its users with the medium of thought, serves as a means to reason, analyze, draw conclusions, and becomes a tool for discussion, research, propagation, and reinforcement, AI generated language texts for narrative (re)shaping challenge this exclusivity. In the process of narrative (re)shaping, open AI systems autonomously and freely generate language, which is coherent, meaningful, logically connected, and thematically unified and (re)shape nonlinear interactive narrative fictions in much the same way as human users do. Human users understand and respond to AI generated language outputs in ways similar to those when they respond to a language produced by their fellow human beings, which implies that AI generated language is bound to cast an influence on human users and receivers' understanding, analysis, interpretation,

and (re)presentation of an ideology and a value (Bulunmaz, 2013; Stoddart, 2014). The AI generated language would influence its human users' choice of words, framing of syntactic patterns, use of different signs to signify their ideas, and exploitation of the underlying themes. This implies that despite the fact that AI is just a nonhuman machine, it with its language generation capabilities, has become a contributor to a context of which it has no sentience and can in the long run cast an impact on individual as well as collective human existence. This dissertation aims to study how AI, through its text generation for (re)shaping of nonlinear narrative fictions, influences its human users, and becomes a contributor to a human social and cultural context despite lacking any awareness of it. In this dissertation AI generated texts would be analyzed to see how language is being used as a tool by a nonhuman agency to construct their social identities. The aim is to analyze how a nonhuman agency, despite its lack of sentience of society and its constructs, would contribute to the construction of social identities of its members through the specific use of syntactic patterns and lexical choices in the language it generates in response to human users' interactions/inputs.

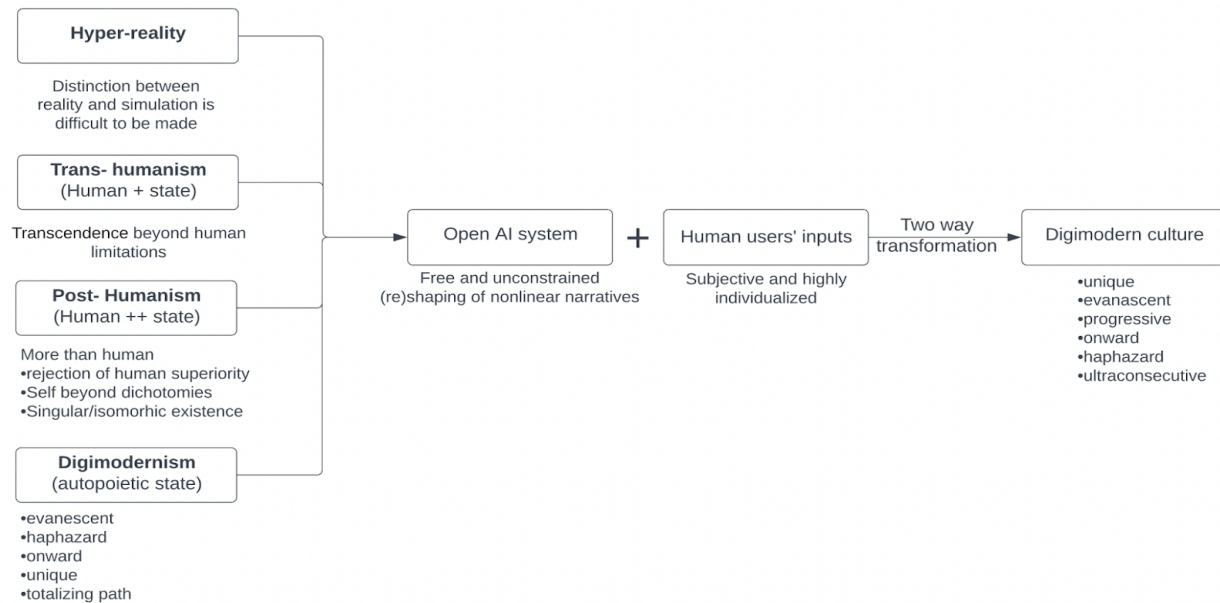


Figure 1. Conceptual Framework

3.1 Theoretical Triangulation

Post humanist perspective is adopted to study nonlinear interactive narratives as flexible and autopoietic assemblages in which AI systems and human users are embedded. These

assemblages derive their shape and progress in different directions by the subjective contributions made by both of the embedded entities i.e., human users and the system. In contrast to the human users whose inputs are constrained by their spatio- temporal situatedness, socio- cultural contexts, and emotional sentience, AI generated contributions are products of the autonomous processing of the available data. Being embedded and entangled with human users, AI systems are programmed with immaculate analytical powers to learn from the subjective human inputs (which ultimately becomes a part of their immense memory), and autonomous processing of the available data to generate coherent and meaningful contributions to (re)shape the nonlinear interactive narratives. (re)Shaping of nonlinear interactive narratives as assemblages embedded with human users and AI systems defy the traditional dichotomies of natural and artificial, biology and technology, organic and inorganic, human and nonhuman, and self and other, which implies that the superiority of the human race at affecting other beings is challenged.

This dissertation aims at the study of open AI's (re)shaping of nonlinear interactive narratives by generating free and unconstrained language text. This proves to be complex because language has always been considered as an exclusive human construct. Its learning and production are driven by socio- cultural contexts of its human users. However, nonlinear interactive narrative (re)shaping through language generated by open AI systems, which are programmed, nonhuman, lack socio- cultural understanding, and possess no contextual awareness, challenge human superiority over unconstrained language learning and production.

The conceptual framework developed for studying (re)shaping of nonlinear narratives by the open AI systems is grounded in the triangulation (Denzin, 1970; Greene et al, 1989; Northey, 1990; Lyons, 2000; Cresswell et al, 2003; Holmes & Meyerhoff, 2003; Bryman, 2006; Dornyei, 2007) of the following theoretical perspectives:

(i) Transhumanism: Considering humanity to be at a very initial stage of development, and looking forward to the use of technology and genetic engineering to transcend limitations imposed by finitude and mortality, the aim of transhumanism is to re- engineer human race into becoming beings who have greater physical strength, better sensory abilities, stable emotional states, balanced psychological personalities, improved cognitive capabilities, remarkable memory, faster and precise analytical abilities, and lives not plagued by

unconquerable phenomena of incurable diseases, pain, and ever increasing age. Open AI systems are products evolved out of the transhumanist efforts to help the human race transcend its current limitations such as by enabling them to possess greater physical strength, improved cognitive capabilities, remarkable memory, faster analytical abilities, and finding precise solutions to a given problem.

The whole premise of transhumanism is the fact that human beings remain the standard. It is through the simulation of cognition in the human nervous system that AI performs its formalization operations of processing the available data. Machine learning and deep learning models used by the open AI systems to freely generate unconstrained contributions in a given context are framed on the operations of the human nervous system.

(ii) Hyperreality: The collaborative processes of (re)shaping of nonlinear interactive narratives becomes a hyperreal phenomenon because (a) the autonomous processing of the available data for open AI's generation of contribution are based on the simulation of human cognitive processes, (b) despite the fact that AI generated contributions are simulacra, it remains difficult to distinguish between human inputs and those generated by the open AI.

(iii) Digi- modernism: Since AI generates its contributions from the autonomous operations of the available data, in every interaction with human users, open AI systems generate unique outputs which are onward, haphazard, progressive, anti-sequential, and ultra-consecutive. The evanescence of AI generated contributions to (re)shape nonlinear interactive narratives can be accounted for through the use of digi modernism.

(iv) Posthumanism: Open AI systems are entities that are entangled and embedded with the human users in the assemblage of nonlinear interactive narratives. Though the processes through which open AI systems generate human- like language are based on simulation of the human nervous system, they perform those processes autonomously under no external control. Because of their morphological freedom from spatio- temporal constraints, possessing immense memory and precise analytical powers, they become capable of generating human-like language text under no socio- cultural context, spatio-temporal situatedness, and subjective constraints. Being nonhuman and lacking instinct for initiating, (re)shaping, understanding, and interpreting language as a means of communicating meanings, open AI systems generate language text to (re)shape nonlinear

interactive narratives in a way that they remain coherent, meaningful, logically connected, and thematically unified. (re)Shaping of nonlinear interactive narratives becomes a hyperreal phenomenon in which the distinction between human user inputs and language texts generated by the open AI systems cannot be made, owing to which the exclusivity of the human race over coherent and meaningful nonlinear interactive narrative (re)shaping is threatened.

3.3 Methodology for Data Collection

Open AI engines capable of generating free and unconstrained text are available in a huge variety. They are designed to collaborate with their human users to help them overcome writers' block, generate new ideas, summarize, translate, draw analysis, offer solutions to problems such as selection of the right choice of words and better phrasing of the ideas, and generate texts and content efficiently. Virtual influencers, humanoids, chat bots, personal assistants, writing assistants, summarizers, translators, semantic analyzers, emotional arc finders lie beyond the scope of this dissertation. The language generated freely and autonomously by these open AI engines forms the data population and the data sample used in this dissertation for analysis was acquired through the interaction of the researcher with the selected AI engines herself.

3.3.1 AI Engines

Multiple AI engines with capabilities to generate free and unconstrained language are available in the market; a number of them are free of cost and innumerable are available on payment. After interacting with 53 available AI engines, it was discovered that a vast majority of the AI engines is capable of collaborating with human users in writing commercial content such as blogs, social media posts, ads, eBooks, novels, marketing strategies, emails, descriptions of various sorts, business ideas, copywriting, profiles etc. However, since the purpose of this dissertation was to study the free and autonomous (re)shaping of the long form of nonlinear interactive narrative fiction in collaboration with the AI engines, seven AI engines were selected because of the availability of long form narrative or creative story templates to freely generate text in the natural language. Since monthly subscriptions define a finite number of words to be generated by a given AI engine, five of the selected AI engines were subscribed twice to fully explore the templates they offered (receipts of the subscriptions for each AI engine can be found in the respective

folder of each AI engine in the CD annexed with this dissertation). Following AI engines were subscribed to be used to collect the data sample for this dissertation:

i. Jasper ai: Basically, a copywriting assistant and content generator, it is used for helping writers in a vast variety of writing tasks ranging from generating ideas, to marketing techniques to assistance in long forms of narratives. It was developed in Dallas (USA) in January 2021, by a team led by Dave Rogenmoser. The starter plan worth \$29 per month was subscribed twice. Each subscription offered a generation of only 20,000 words per month.

ii. Rytr ai: It is a writing assistant and content generator that helps writers in a number of writing tasks such as discovering ideas, writing engaging content, marketing strategies, social media posts etc. It was developed by a team led by Abhi Godara in April 2021. Premium plan worth \$29 per month was subscribed twice. With this subscription, unlimited characters could be generated within a period of one month starting from the subscription date.

iii. Sudowrite ai: developed by Amit Gupta, it was launched in 2020. Though it is primarily designed for fiction writers, it is equally effective for nonfiction writers. Subscription of Sudowrite costs \$20 per month and it was subscribed twice.

iv. Contentbot ai: It was developed in March 2021 by a team led by Nick and Tamerah Duncan. Designed for marketing strategies and social media content, it offers templates for long form narrative (re)shaping through free natural language generation. The starter plan offering a free generation of 40,000 words in a month worth \$29/ month was subscribed twice.

v. NovelAi: with an exceptional memory trained on innumerable novels, this GPT- Neo model was developed by a team led by Bunray in 2021. Best Value package worth \$15 dollars was subscribed twice. This package has an affordance for unlimited text generation for the subscribed month.

Apart from the paid versions of the above-mentioned AI engines, free versions of the following two AI engines were also used for nonlinear narrative (re)shaping through unconstrained text generations.

vi. Sassbook ai: developed by Venugopal in Singapore, is based on the automatic content authoring in response to human user input. In this dissertation free version programmed to

provide the user with two outputs is used. Free version of the application is programmed to generate upto twenty outputs in a duration of one day.

vii. Hyperwrite ai: It was developed by Matt and Jason in 2021. Though it offers two subscription plans on payment, in this dissertation free plan was availed that had an affordance for unlimited generations.

3.3.2 AI Engine Operations

Maximum effort was made to keep similar conditions for the operations of the AI engines such as:

AI engine	Template	Tone
Jasper ai	Creative story	passionate
Rytr ai	Story plot	passionate
Contentbot ai	Long form AI writer (Brand story)	Hemingway
Sudowrite ai	Wormhole	neutral
Saasbook ai	AI story writer	original
Hyperwrite ai	Entertainment (short story)	verbose
NovelAi	—	—

Table 3.1 Operations of AI engines

3.3.3 AI Generated Output Variants

AI engines are capable of generating a number of variants to a given human input, however, (if available) an option for generating not more than two variants to a single human input was selected. This is because every word being generated by the paid versions of the selected AI engines was counted and charged. Options to generate two variants were selected for two reasons: (i) the free AI engine (Saasbook) was generating two variants' outputs to a single human input, (ii) Since every word in both the variants was charged, limiting the number of variants was cost effective. Two variants were chosen to be generated by the AI engines to yield a sample data sufficient enough for the analysis. However, in the case of Sudowrite ai and Hyperwrite ai, no option to restrict the number

of output variants was available. They generated multiple numbers of output variants to a single input and only one was selected to force the AI into generating further outputs.

3.3.4 Plagiarism

Based on GPT-3 (Generative Pretrained Technology) operations executed by leveraging both machine and deep learning methods on the available training corpus, the language outputs generated by the AI engine present original content and can be checked for plagiarism.

3.3.5 Limitations

1. The capability to generate a certain number of words as outputs to human user input depends on the mode of subscription bought for each engine. Since the AI engines were not required to generate content for commercial purposes, basic subscription modes for each engine were bought (receipts can be found in the CD annexed with this dissertation).
2. Though options for text mining, paraphrasing, elaborations, metaphors, descriptions etc., are offered by the AI engines, they were not explored because of the following reasons: (i) text mining options were not offered by all the AI engines. They were not explored so as to keep similar conditions for narrative (re)shaping through text generation by every AI engine, (ii) the subscription offered a finite number of words and every word that was being generated was charged. This included the words that were generated in text mining, (iii) the aim of this dissertation was to study how an AI system analyses, interprets, and understands human input to generate its language text to (re)shape the narrative and steer it forward. Text mining is more towards manipulation and (re)shaping of the already available text rather than steering the narrative forward.

The data sample for this dissertation was collected with an aim to consist of only those texts that were autonomously and freely generated by the AI in response to human user input prompt. Since the aim was to bring forth the posthuman capabilities of the AI at unconstrained (re)shaping of nonlinear interactive narrative fiction, user inputs were kept limited and to an extent of prompting the AI to further steer the narrative being (re)shaped.

3. The settings were kept similar for all the selected AI engines. Options offered by one AI engine and not the other were not explored.
4. Since AI engines operate through GPT-3 and can generate unlimited text that does not have a sense of a narrative flow developed over a well- defined trajectory, there were

chances that long forms of generated text might drift in unique directions which would ultimately become totally estranged to the narrative developed earlier by the texts previously generated. User input was given with an aim to ensure that AI generated language contributed to a coherent and meaningful (re)shaping of nonlinear narrative flow. 6. For (re)shaping of nonlinear interactive narrative fiction, AI engines generate short texts and require user input prompts to steer it for further generation of text.

3.3.6 User Interaction

Interactive narratives can only be (re)shaped in collaboration with human users, however, since the aim of this dissertation was to study how AI, through its lexical choices and syntactic patterns that form the fabric of a language text, becomes a contributor to human socio- cultural existence, effort was made to give limited user inputs and let the AI generate maximum text for (re)shaping of a nonlinear narrative. Maximum effort was made to not influence the AI generation of outputs. The researcher gave inputs for the following purposes:

1. Keeping in view the fact that the AI does not have the capability to initiate an interaction by itself and needs to have an input to start generating an output, user gave the first input as a prompt that served to start the interaction and to which the AI would generate and (re)shape the narrative as a response. Depending on the AI engine, the user's input prompt was either taken by the AI as a part of the narrative text for the continuation of which it would further generate a text output (as seen in case of Sudowrite ai, Contentbot ai, Saasbook ai, Hyperwrite ai) or was taken by the AI as an idea to understand on what lines the user wished it to generate the text output (Jasper ai, Rytr ai).

In both cases, the aim of the user's input prompt was to provide the AI with a particular frame for nonlinear narrative initiation on which the AI engine was desired to generate the text output. The first input prompt to initiate nonlinear interactive narrative (re)shaping remained identical in every interactive session with all seven AI engines. The first input prompt was framed using the key terms borrowed from the conceptual framework that was developed in the second chapter, however at the same time care was taken that it should not serve to suggest, qualify, or provide anchorage to the AI engines for making certain lexical choices or framing the syntactic patterns in specific ways. It

neither implied any specific gender performativity nor was it inclined towards construction of any specific identity. Being nouns that indicate the biological orientation and assign specific gender performativity, care was taken to assign names to the subjects. Where one subject is Rex, a name internationally used for male members of the society, the other is Carroll. Mixed trends are followed in using this name for males and females i.e. Carroll is equally popular in being used for male as well as female babies (<https://nameberry.com/babyname>). In the user input prompt, it is used intentionally as a generic noun in order to let the AI assign subjectivity to one of the characters itself, and initiate, build, and (re)shape the narrative itself. Effort was made to avoid cues reflecting relationships, spatio- temporal situatedness, socio- cultural contexts, emotional sentence so that the narrative being generated, (re)shaped, and steered in a particular direction remains exclusively an AI product, generated autonomously and without the intervention of human user.

2. Subsequent user inputs were restricted to the extent of steering the AI engines into generating further texts. They varied from one AI engine to another, for example:

- a. To steer Saasbook ai engine into generating two more output variants to the output texts that has already been generated in response to the first user input,

- b. To prompt NovelAi and Content ai to further generate language text for the (re)shaping of nonlinear interactive narrative fiction,

- c. To select one from the many generated output variants as in cases of Sudowrite ai, and Hyperwrite ai. User selected one out of many output variants to steer further the progress of the nonlinear interactive narrative being (re)shaped in the interactive session. Selection of one output variant from among many was done to ensure that the nonlinear narrative being (re)shaped remained thematically unified and meaningful as a coherent whole. Many- a- times, all or more than one output variant seemed to carry forward the narrative being (re)shaped cohesively and meaningfully. In that case, user gave input to select any one output variant at personal discretion.

d. Jasper ai and Rytr ai are writing assistants and they are programmed to help human writers' overcome problems like writer's block, searching for unique ideas, and challenges of plagiarism. Jasper ai and Rytr ai are specifically designed to help writers overcome these problems. The output text that Jasper ai and Rytr ai generate in a single attempt in response to human user input ranges between 120 words to 180 words i.e., a sample which may serve to lay the foundations to build a narrative on but not big enough to qualify as a narrative in itself. Nonetheless, the text samples generated by them do help the writers in overcoming the challenges, in other words, they serve as assistants that collaborate with human users, which implies, human users are affected in this process of collaboration. In short, text samples generated by Jasper ai and Rytr ai, despite their shortness, are analyzed in this dissertation because of their role in narrative initiation and the possible impact on their human users.

3. User gave input to intervene when the AI generated text outputs started to become evasive, deviate in its themes from those emerging from the already generated text, or abruptly introduced topics and themes that were alien to the themes emerging and evolving out of the already generated language text. Most of the time the aim of such an input was to end the interactive session.

In all interactive sessions with the selected AI engines, user inputs were neither meant to manoeuvre the nonlinear interactive narrative fiction being (re)shaped nor to manipulate the emergence and evolution of the themes and their interplay. In short, except for the first input that served as a prompt to the AI engine to initiate the (re)shaping of nonlinear interactive narrative fiction, the user did not give any language input as such.

3.3.7 Collection of Data Sample

After repeated interactions Saasbook ai, and Contentbot ai proved to be incapable of generating texts that served to maintain the coherence of the long forms of nonlinear interactive narratives and (re)shape them meaningfully. After the first text output generated by the Contentbot ai using the template *brand story*, further user inputs to steer the AI engine into generating more text outputs resulted in the (re)shaping of the nonlinear interactive narrative that was neither cohesive nor meaningful. It heavily depended on

human user input which defies the crux of AI's autonomous yet coherent and meaningful (re)shaping of nonlinear interactive narrative fiction. Similar was the case with Saasbook ai. Texts generated by Saasbook ai, after the first few inputs, used to lack the coherence required to qualify the (re)shaped text as a meaningful interactive narrative. Recordings of user interaction with the above-mentioned AI engines can be found in CD annexed with this dissertation. It is because of the lack of cohesion necessary for the meaningful (re)shaping of the nonlinear narrative that texts generated by Contentbot ai and Saasbook ai were not considered for further analysis.

Jasper ai is capable of generating text outputs on a plot given by the user. In this case, first user input was given as a plot to which Jasper ai generated text output variants which were no longer than 120-130 words. Though these variants could be incorporated or adapted by human users in their creative works to overcome the writers' block, Jasper itself could not be prompted to further (re)shape them or steer them in any direction. Because each of the output variants presented a unique narrative thread in which different roles had been assigned to the subjects Rex and Carroll, these variants were considered to qualify for further analysis despite their shortness of length.

Though similar in terms of shortness of their generated outputs, Rytr ai was found to be a little different from Jasper ai as the first input prompt was taken by it as a story idea using which it generated different plots as output variants. These generated plots can be used by writers to further build their stories on, or options were available where Rytr ai engine could be steered to generate more texts to progress each of the output plot variants a little further. However, after a very few inputs serving as prompts for further text generation, the narrative being (re)shaped in each of the output plots lost coherence as well as meaningfulness (recording of user interaction can be found in the CD annexed with this dissertation). In other words, the maximum word strength of the coherent and meaningful nonlinear narratives being (re)shaped by the Rytr ai generated text outputs remained approximately 150-200 words only. Despite the shortness of the generated output text variants in the form of plots, they were unique, cohesive, and presented independent meaningful interactive narratives. Since, they were generated autonomously by the AI engines without any interference or maneuvering from the user except for the first user

input, they qualified to be analyzed for the narratives and the unique themes they were presenting.

To the first user input prompt, Sudowrite ai and Hyperwrite ai autonomously generated a number of output text variants from which one was selected to build the narrative. After the first user input, a pattern of interactions was established between the AI and the user. Sudowrite ai and Hyperwrite ai, considering what had already been generated, further generated a number of output variants and user gave input to select one output variant to (re)shape the nonlinear interactive narrative. Selection of a variant through user input was dictated by the consideration that the coherence and meaningfulness of the nonlinear narrative being (re)shaped should not be threatened. At times where all or more than one output variants seemed to (re)shape the nonlinear narrative cohesively and meaningfully, user input remained a personal discretion. In all cases, user interaction was restricted to selecting one output variant and to steer the AI engines for further the generation of text output variants. Nowhere did the user give any language or text input except for the first input. Since the texts of the nonlinear narrative were purely generated autonomously by the AI, they were further analyzed.

In case of NovelAI, subsequent user inputs were neither any language text nor involved a selection of one variant from many text outputs generated by the AI. Subsequent user inputs during (re)shaping of nonlinear interactive narrative by NovelAI were only cues that served to prompt the engine to generate more text for further (re)shaping. The nonlinear interactive narratives (re)shaped autonomously by NovelAI remained coherent and meaningful and were further analyzed.

3.3.8 Data Recording

Despite the fact that the first human user input in every interactive session with a given AI engine remained identical, the outputs generated by it remained unique, which implied that they were evanescent. Since the aim of this dissertation was to analyse language text generated autonomously by the AI, each interactive experience of the user with a given AI engine were screen recorded using QuickTime Player on M1 MacBook Pro (2021). Later, the screenshots of the various stages of (re)shaping of nonlinear interactive narrative fiction

starting with the first human prompt were taken and used for further analyses (Recordings of user interactions with each of the AI engines can be found in the CD annexed with this dissertation).

3.3.9 Data Sample

Since Jasper ai and Rytr ai generate short text outputs, each with a strength of approximately 120- 130 words (in case of Jasper ai) and 170- 180 words (in case of Rytr ai), eight sample outputs generated in four interactive sessions with each AI engine were selected for analysis. This amounts to a data sample of approximately 960-1000 words generated by Jasper and 1360- 1450 words generated by Rytr ai, together they make a collective data of approximately 2350 words generated in the form of short output variants generated by both AI engines i.e., Jasper ai and Rytr ai.

On the other hand, though Hyperwrite ai offers free of cost unlimited interaction with the user, the nonlinear interactive narratives tend to lose their coherence and meaningfulness by the time the narrative achieves the strength of approximately 500 words. Four interactive sessions with the user generated four sample narratives, each with a strength of approximately 500 words, collectively making a data sample of approximately 2000 words was considered suitable enough for further analysis.

Since the subscriptions of Sudowrite ai and NovelAI had an affordance for unlimited generations during the period of subscription, the researcher continued her interactions till the nonlinear narrative fiction being (re)shaped achieved a length of approximately 700 - 1500 words. The researcher had three interactive sessions with NovelAi to have a data sample of approx. 3200- 3500 words and four interactive sessions with Sudowrite to collect a sample of approximately 4000-4500 words, which together produced a collective data of approximately 7500- 8000 words in all for analysis.

In all, the sample data generated by the five AI engines for analysis had a word strength of approximately 11000- 12000 words.

Sample number	Number of words	Name of AI generator	Total number of words	Average number of words per text
Sample # 1	1120			

Sample # 2	858	Novel Ai	4999	1000
Sample # 11	1522			
Sample # 13	650			
Sample # 15	849			
Sample # 3	1156	Sudowrite ai	4260	1065
Sample # 4	775			
Sample # 6	776			
Sample # 10	1553			
Sample # 5	733	Hyperwrite ai	3186	637
Sample # 7	335			
Sample # 8	382			
Sample # 9	400			
Sample # 12	765			
Sample # 14	571			
Sample # 16	172	Rytr ai	1013	169
Sample # 17	172			
Sample # 18	157			
Sample # 19	167			
Sample # 20	172			
Sample # 21	173			
Sample # 22	124	Jasper ai	250	125
Sample # 23	126			

Table 3.2 Sample Data

3.4 Steps of Analysis

“A text is a complex of patterns, and each pattern carries meaning” (Cummings & Simmons, 1983, p. 87) whereas for Kress and Leeuwen (2002, p. 347) text serves as means of “legitimizing particular ways of organizing social practices”. The analytical steps designed to analyze the AI generated language as a coherent, meaningful, logically connected, and thematically unified text contribution to the (re)shaping of nonlinear

interactive narrative fiction is based on a number of steps. All these steps would be performed manually as no framework could be found to do the analysis automatically.

3.4.1 Step 1: Analysis for Qualification as a Meaningful Text

Cohesive devices and lexical choices are key features that transform a language into a coherent and meaningful text that make a logically connected flow of narrative without any repetitions. Use and understanding of cohesive devices in a language text is heavily dependent on contextual understanding. The first step in this dissertation is to qualify the AI generated language as a coherent and meaningful text contribution to (re)shaping of nonlinear interactive narrative fiction in collaboration with human users. Linguistic model proposed by Halliday and Ruqqayah (1976) would be used for this purpose.

The analysis of cohesive devices and lexical choices in AI generated language is necessary to rationalize the treatment of (re)shaping of nonlinear interactive narrative fiction through AI generated text as a hyperreal phenomenon in which the distinctions between the AI generated language and the language produced by human beings cannot be made. Being a nonhuman agency that lacks contextual understanding, AI not only successfully interacts, understands, and interprets the natural language input as text derived from the use of cohesive devices and lexical choices, it displays the capability to use them meaningfully in the language it generates itself in a way that AI generated language comes to be in equation with language produced by humans during the (re)shaping of nonlinear interactive narrative fiction. It is through this step that the worth of AI generated text as a challenge to the so-called exclusivity of the human race to be the only superior beings capable of producing coherent, meaningful, logically connected, and thematically unified narratives, is established.

Analysis of AI generated language for rationalizing it as a cohesive and meaningful text is done by studying it for the (i) use of cohesive devices, and (ii) use of lexical choices:

3.4.1.1 Cohesion. Cohesion and meaningfulness in any text is achieved through the cohesion devices used in it. These include references, substitutions, ellipses, conjunctions, and lexical choices. AI generated language would first be analyzed for the use of these devices to establish it as a coherent and meaningful text:

3.4.1.1.1 References. References in a language are words used with an inbuilt presupposition that the recipient of the language would know where to look to or find some

entity in order to interpret and fully understand the meaning of the reference. In this dissertation, the coherence of AI generated language as a text would be established through the use of references in it. The references can be endophoric or exophoric (i.e., whether the referents have a textual existence within the generated language or are situational and need to be found in a context that lies outside the language being generated). Endophoric reference would further be analyzed for being anaphoric or cataphoric (i.e., the referents are present earlier or after the reference is being used in the generated language). Study of references would help in analysis of the generated language as a fluid and continuous text, the progress of which is not hampered by the repetition of the same words again and again.

3.4.1.1.2 Conjunctions. Conjunctions are words that are used to connect two different ideas presented in a language to make a logically connected meaningful whole. They can be simple words, compound words, or even prepositional phrases, and in all cases, they are used as cohesive devices. In this dissertation, conjunctions present in the generated language would be analyzed for the functions they perform such as: (a) establishing the progress of a time sequence: temporal conjunctions are used to establish the time sequence among the events. Temporal conjunction explicitly establish a time connection among the ideas presented in the generated language, (b) establishing a meaningful connection among contradictory ideas: adversative conjunctions are used to connect two contradictory ideas in the generated language in a way that they make a coherent and meaningful whole, i.e. they create a meaningful connection among the ideas that are otherwise unusual, surprising, and unexpected for each other, (c) establishing a cause and effect relationship between two ideas: causal conjunction are used to connect the two elements in a way that one element/event becomes the cause of the other element/event, (d) establishing an additive connection among different ideas: additive conjunctions are used to connect two ideas in terms of their hierarchical importance, production/sequential order, or random addition i.e. through the use of additive conjunctions the sequence in which ideas/things/ events had happened is affected.

Through all these functions, conjunctions connect the presented ideas to give the generated language a coherent and meaningful existence as a text.

3.4.1.1.3 Substitutions. Substitution refers to the use of counter words in place of a particular text. In this dissertation, generated language would be analyzed to find words

that are endophoric substitutions of the presented ideas/ words. If found, analysis of substitution words would focus on how they make the generated language a coherent and meaningful text. This would involve identification of the specific type of the substitution words that would maintain the head category and replace the subcategory of the nouns being substituted.

3.4.1.1.4 Ellipsis. The coherence and meaningfulness of a text can be threatened by ellipsis, which refers to the gap caused by the missing information that is otherwise grammatically necessary to impart sense to the receiver. Ellipsis is deliberately introduced in the text to avoid repetition and relies on the presupposition that the receiver or reader would use the contextual cues to make sense of the gap created by the missing grammatical information.

In this dissertation, the aim would be to study how despite the missing nominal, verbal, and clausal types of grammatical information, ellipsis serves as a cohesion device to qualify a generated language as a coherent and meaningful text.

3.4.1.2 Lexical Cohesion. Use of similar nouns and the frequency with which their synonyms and antonyms are used to reiterate an idea give a fluidity to the flow of related ideas and a continuity in themes because of which a sample of generated language can be rationalized as a coherent and meaningful text. In this dissertation, a sample of AI generated language would be analyzed for the frequency with which same lexical choices, antonyms of the given words, reiteration of the same idea, (through repetition or use of synonymous words or superordinate/ subordinate categories) and belonging of the general nouns to the same head categories. The aim is to rationalize the generated sample of language as the AI's coherent and meaningful text contribution to the (re)shaping of nonlinear narratives.

3.4.2 Step 2: Analysis for Digi- Modern Traits

After being rationalized as a coherent, meaningful, logically connected, and thematically unified hyperreal text, next step would be to analyze it for the presence of the digi- modern traits. This step is significant in rationalizing the concept that generated as a collaborative response in equations with human users in the (re)shaping of nonlinear interactive narrative fiction, both human users and AI are transformed by each other. It is through these

contributions that the transformation that AI generated text would induce in its human users would have Digi modern traits:

3.4.2.1 Uniqueness. Since AI's autonomous processing of the available data lies beyond the control of both its developer as well as the author of the (re)shaping of nonlinear interactive narratives, there always remains the possibility of AI generating unprecedented contributions. Samples of AI generated texts would be analyzed for (i) their uniqueness despite the fact that they are being generated in response to the same user input that serves to initiate the interactive session, (ii) displaying surprising creativity, offering unimagined responses, giving innovative solutions, presenting never thought of contributions, and (re)shaping narratives in ways not fathomed by anyone before, and (iii) presence of traits of any particular culture and spatio temporal situatedness to establish their belonging to any specific literary genre or historical epoch.

3.4.2.2 Totalizing Path. Kirby (2015: 286) has observed that AI generated texts are "virtually impossible to repeat, and ... intrinsically amnesiac" (Kirby, 2015, p. 286). This is because AI depends on "the openness that derives from infinite possibilities" (Kirby, 2009, p. 121) of interactions/ inputs. In this dissertation, AI generated texts would be analyzed if they are "governed by a totalizing pathway" (Kirby, 2015, p. 286) or whether they observe an "overall systematic development" in terms of proper beginning and middle.

3.4.2.3 Onwardness. Kirby (2015, p. 277) observed that AI generated texts "exist now" and can never be called to exist in entirety. By always giving human inputs to the generated outputs, resulting AI (re)shaped nonlinear narratives would be analyzed to see (i) if they would ever come to an end i.e., whether AI ever comes to be short of responses, (ii) whether they would ever achieve a final form. The implication is to analyze AI generated texts as "rounded off...shaped into a sense either of organic coherence or of deliberate open- endedness" (Kirby, 2009, p. 111). AI generated texts would be analyzed for their "open and haphazard detail [that] resembles the subjectively endless flux of life" (Kirby, 2009, p. 166).

3.4.2.4 Haphazardness. "Haphazardness locates in it the permanent possibility that it might go off in multiple directions" (Kirby, 2009, p. 52). AI generated texts would

be analyzed for the next AI text response generation, to analyze in which directions could the AI generated texts steer the (re)shaped non- linear narrative.

3.4.2.5 Evanescence. AI generated texts are observed to be “constantly being made and remade anew, never settling, never receiving definitive shape” (Kirby, 2009, p. 83). In this dissertation, AI generated texts would be analyzed for their replication and possession of fluid boundaries. AI generated texts would be analyzed for Kirby’s observation, “it is very hard to capture and archive, it has no interest as a reproducible item” (Kirby, 2009, p. 83).

3.4.3 Step 3: Syntactic analysis

Syntactic patterns are formal grammatical structures that form the fabric of a language used in a given text and serve as tools to convey certain meanings.

They are framed after a lot of deliberation and they are analyzed to understand how the language used in the text performs the functions of conveying underlying meanings regarding what is happening (process), subjects involved in the process, and the relationship present among the different elements of the process being referred to. It is through the deliberate formation of the syntactic patterns that an author subtly draws the attention of the reader towards the implied meanings, underlying emotions, and points of emphasis. Through the construction of syntactic patterns in specific ways, an author very smartly drives the understanding of the recipients towards the emerging themes and casts an impact on their understanding of the interplay of the emerging themes.

The third step pertains to the analysis of the syntactic patterns used in the language text being contributed by the AI in the (re)shaping of nonlinear interactive narrative fiction. Halliday’s Systemic Functional Linguistics (SFL) (1960) is used for this purpose. The significance of this step lies in the fact that where human authors frame the syntactic patterns deliberately and after a lot of consideration, AI, despite being nonhuman and lacking contextual understanding, frames the syntactic patterns in its generated language in such a way that they perform the same meta functions. In contrast to human authors who, through construction of syntactic patterns in specific ways, aim at conveying certain meanings and cast a certain influence on the understanding of its recipients, syntactic patterns used in the AI generated language would be analyzed to see whether they also convey certain meanings, and what are their impacts on the recipients. Functionality of the

AI generated language text as conveying certain meanings and casting influences on the recipients as established by the SFL analysis of the syntactic patterns would imply that AI despite being nonhuman and lacking human intentions, comes to be in equations with human users in the process of (re)shaping of nonlinear interactive narrative fiction.

The meanings that the syntactic patterns used in the AI generated language would communicate are established by the three meta functions that they perform. The three meta functions are identified as ideational, interpersonal, and textual meta functions and in this dissertation would be analyzed through the use of SFL analysis.

3.4.3.1 Interpersonal Meta- Function (Tenor). Referring to the interaction between one person and another (Halliday, 2002), study of interpersonal meta-function involves an analysis of the specific ways in which syntactic patterns are framed to perform the functions of making, breaking, maintaining, and strengthening social and interpersonal relations among the participants, controlling their behaviour, giving them information, negotiating with them (Thompson, 2014). Syntactic patterns are analyzed to observe how language of text is used to set up, sustain, affect the nature of interaction among people or agents involved.

Also referred to as tenor, the aim of studying language performing interpersonal meta- function is to study “the relationship between the writer and reader and how that relationship is constructed” (Briones, 2016, p. 110).

In this dissertation, syntactic patterns would be analyzed in terms of the order in which the subject and the finite (verb indicating the action and time) are placed. Since the order of the subject and finite determine the type of the clauses:

- (i) declarative → subject + finite,
- (ii) interrogative → finite + subject,
- (iii) imperative → neither subject nor finite,

The analysis of syntactic patterns would help in:

- (a) setting the mood of the sample text,
- (b) determining whether the mood is valid for past, present, future, or unreal situations
- (c) defining the degree of polarity i.e., the attitude of the subject as inclined or obligated,

(d) determining the extent of modality i.e., modalization that refers to the certainty with which the sample text is written.

Since syntactic patterns used in any type of the above-mentioned clauses are framed with syntactic patterns that the positioning of the subjects involved in interaction, their roles, and the nature of their relationships with one another as a giving or demanding agent can be understood and interpreted.

3.4.3.2 Ideational (Experiential) Meta- function (Field). By ideational meta-function it is implied that the syntactic patterns are framed in a way that they influence the reader's/ recipient's forming an idea regarding the process that is happening, the positioning, roles, and relationships between the participants involved, and the circumstances in which the process is taking place. Referred to as transitivity, Emilia & Christie (2013) observe that study of language as performing ideational meta- function is “the study of what people are depicted as doing and refers broadly, to who goes to whom, and how”, through which it is revealed who is the initiator of an action and who receives the consequences of the action. (Emilia: 2014, p. 19). Framing of syntactic patterns in specific ways creates a *field* in which the ideational meta- functions describe an experience, and construct realities in subjective ways. Since the processes being performed are depicted through the use of transitive verbs, a collective term *transitivity system* is used to refer to the experiential meta-function being performed by language.

In this dissertation, the experiential meta functions performed by the language would be studied by analyzing the verb phrases for the processes, or states of affairs they represent, the noun phrases and adjectives for the participants or subjects of processes discussed in the sample text, and adverbials for the circumstances in which the processes are taking place.

The key step in the analysis of syntactic patterns as performing ideational meta-functions would be the identification of the verb/ verb as any one of the six types of processes:

3.4.3.2.1 Material Process. Material processes express the notions of entities performing certain actions or doing something concrete and tangible (Eggins, 2004, 215). The actions of an entity can be done to some other entity. It is through the verbs/ verb

phrases used in the syntactic patterns that the material process is analyzed in terms of its participants and circumstances:

actor→ doer,

goal→ the entity on/ to which the action is done,

beneficiary→ the participants who benefit from the action,

range→ the participating agencies that remain unaffected by the whole process.

3.4.3.2.2 Verbal Process. the processes that refer to the notions of speaking and listening. Syntactic patterns that refer to the verbal process are analyzed in terms of participants and circumstances as:

Sayer → the addresser,

Verbiage → what is being said,

Receiver → to whom verbiage is said,

Target → the aim of saying.

3.4.3.2.3 Relational Process. implied by relating verbs/ verb phrases. They are of the following types:

a. Identifying Relational Process: The participants and circumstances in the relational process would be analyzed as:

token → the participants which are being described in terms of an already existing entity or state,

value → the already existing entity or state.

b. Attributive Relational Process: (also referred to as existential process). They are implied by the existing verbs/ verb phrases

The participants and circumstances in the existential process would be analyzed as:

carrier → the participant,

Attribute → the value that the carrier possesses, i.e., as it already exists and is not seen as being compared to given standard.

3.4.3.2.4 Mental Processes. processes which are neither concrete nor tangible, but refer to the thinking, feelings, or perceptions of the entities are referred to as mental processes. Mental processes are analyzed by referring to the sensing+ mental verb/ verb phrases, which are further analyzed as (a) perceptive: about sensing, (b) cognitive: about

thinking and mental processing, and (c) affective: about feelings (Halliday, 1994; Eggins, 2004).

The participants and circumstances in the mental process would be analyzed as:

Sensors → the participants in the mental process,

Phenomenon→ what the sensors sense, think, or feel.

While the processes are identified by the transitive verbs, circumstances in which the processes take place are analyzed as temporal (referring to time), spatial (referring to place), manner (referring to how: means [how the process is performed], quality [how much], and comparison [using two or more things]), cause (referring to why: reason, purpose, behalf), accompaniment (without or without), matter (answers what about i.e. matter), and role (as someone or somebody).

Through the analysis of the placement of the subject, the action, the object, and the circumstances in a given type of process would help in understanding the direction towards which the writer is drawing the focus of attention of the reader. It would be analyzed how the writer, through deliberate formations of syntactic patterns, places emphasis on any one of the constituting elements of the process i.e., the subject, the object, the circumstances in which the process is taking place, or the process itself. It should be kept in mind that the focus in analysis of syntactic patterns as performing ideational meta- function is not to refer to the time but the process itself.

3.4.3.3 Textual Meta-Function (Mode). Aims at the analysis of how a text conveys its messages through the organization of the syntactic structures used in the beginning of the sentences in the text to make a cohesive and meaningful narrative whole. Thompson (2004) observes that textual meta function is the examination of the language of a text to reveal those aspects which can only be understood by looking at the clauses in its context in the rest of the language around it, which implies that instead of the whole text, clauses serve as the units of analysis i.e. the message is hidden in the clauses. The aim of the textual analysis is to study the cues used in the text to guide the reader towards specific information given in a given sentence/ clause. The analysis involves two parts: (a) Theme, and (b) Rheme.

3.4.3.3.1 Theme. The first element of every clause in a given text, presents the topic the clause would talk about, and serves to relate the current clause with the previous clauses in the text. It can be analyzed to have three different elements:

a. Topical Themes. usually present at the beginning, it forms the subject or content being followed in the clause. To qualify as the topical theme of a clause, the general nouns, lexical choices, verbs, and references either have to be identified as participant, circumstance, or the process being referred to in the clause. A topical theme can be marked or unmarked. A clause that has the subject or participant as the topical theme is identified as to have an unmarked topical theme which implies that the clause does not have any specific feature to mark it as unique. The major reason for the subject topical theme as unmarked is that most sentences in English language are framed on the pattern of subject being followed by the verb and object. However, when the topical theme is either the process or the circumstances of the process being referred to in the clause, the topic theme is identified as being marked. It is marked because the writer/speaker wants to draw the attention of the reader/ listener towards something other than the subject doing the action. It is not the subject which is important but something else.

b. Textual Themes. serves as a device to connect a given clause to previous clauses to make a cohesive and meaningful text, and at the same time pave the way for the clauses to come as the narrative progresses forward.

Depending on the type of conjunction, textual elements in a text are identified to be of four types

1. Continuity: signal the beginning of a new move established through the use of words like while, by the way, anyway, right etc.

2. Conjunctive adjuncts: relatively flexible in position can be found anywhere in the clause

and the grammatical meaning of the clause is not threatened.

3. Conjunctions (structural): relatively static in position strictly to be present in the beginning of a clause to maintain grammatical meanings. They are of the following types:

- a. Temporal
- b. Additive
- c. Adversative

d. Causal

c. Inter- personal Theme. derived from the modal adjuncts, vocatives i.e. to call somebody with a name or title, or finite in declaration, interrogation, or imperatives being used in the clause.

3.4.3.3.2 Rheme. Gives new information about the elements of the theme in a given clause. Whereas theme is the topic of the clause, rheme offers the content of the topic and necessarily comes after the topical theme. It picks information from the previous clause and adds something new to it.

Since SFL focuses on the analysis of theme, in this dissertation the focus would also be themes presented by the different clauses in the text rather than the rheme.

Despite the fact that themes according to SFL are, in a strict sense, derived from the analysis for cohesion and interpersonal meta- functions, in this dissertation syntactic patterns would be analyzed in terms of points from which central themes of the text would emerge, evolve, and interplay with one another. Syntactic patterns connecting the topical and textual themes would be analyzed as a chain of ideas used to orient the flow and direction of the text and from which central themes of the text emerge and evolve.

3.4.4 Step 4: Semiotic Analysis

Once the functionality of the AI generated text samples is established, the next step would be to analyse its suggestibility i.e., the existence of the AI generated text as a system of signs and signifiers that can be interpreted for different meanings and themes by its receivers. Where human authors (re)shape nonlinear interactive narrative fiction after a lot of deliberation and consideration to produce a sign system that suits best to convey certain ideas and themes, the aim of the semiotic analysis of the AI generated language text is to see how a nonhuman AI agent that lacks all sentience of deliberation and consideration, generates a text that also serves as a sign system designed to convey certain meanings and themes. In this dissertation, the semiotic analysis of the AI generated texts is guided by a framework proposed by L.A.J. Greimas. At the base of this analytic framework is the concept that meanings arise from the binaries and oppositions used in a sign system. AI generated text would be semiotically analyzed at four levels:

3.4.4.1 Discursive Level. refers to the surface level of meaning. In this dissertation, surface meaning of the text would be analyzed by the examination of vocabulary,

grammatical structures, and enunciative strategies used in the sample text. The main aim of the discursive analysis of the sample text would be to analyze how the above-mentioned components are used to create an effect of the external real physical world in the sample text i.e., give the illusion of a real world. It is in the interpretation of the above-mentioned components that the reader might identify the themes that are likely to emerge from the sample texts. Discursive analysis of the sample texts would be done in three steps:

3.4.4.1.1 Examination of Vocabulary. How figurative components framed by the lexical choices are used in the sample texts to produce an illusion of reality. The figurative component of the sample text is framed by those lexical choices that can be apprehended by the five basic senses i.e., vision, touch, taste, smell, and hearing and give an impression of time, place, character, and states of being. In this dissertation, the lexical choices would be analyzed for their referring to a common meaning so that they could be placed in the same groups also known as isotopies. Meanings at discursive level are analyzed through the study of the isotopies in terms of how lexical choices in a given isotopy are related, do similar words indicate the same thing or are they opposite to one another, which of the lexical choices making the pairs of opposite words is dominant in the construction of reality, and how these isotopies are distributed in the sample texts.

Figurative analysis through the examination of lexical items used in the sample text by framing isotopies aims at framing thymic categories. Thymic categories (i) are identified through exploitation of the binary relationships on which a certain isotopy is based, (ii) are deliberately framed by the writer, (iii) aim at conveying specific meanings that may affect the deep level understanding of the readers.

Through isotopies based thymic categories, the writer intends to produce an *axiological system* i.e. targets at cultivating specific feelings among the readers, drive their emotions in specific directions, leading them to a basic positive/ negative evaluation, and developing an understanding around the two poles of euphoria versus dysphoria (Martin & Ringham: 2000).

3.4.4.1.2 Use of Linguistic Devices. Repetition, ellipsis, active/ passive, nominalization, temporal connectors, and cohesive markers are interpreted as contributing to the figurative component of the sample texts.

a. Enunciative Strategies. Strategies like the use of voice in which the narrative is told, point of view with which the narrative is told, tense in which the actions in the narrative are given, presence of modality and objectivity with which the narrative is built, and the presence of evaluative terms, categorical terms, tentative utterances to determine the subjectivity of the narrator lead to the figurative component of the text and would be interpreted to lead to the construction of a physical reality within the fiction world of the sample text.

3.4.4.2 Narrative level. Refers to the surface narrative syntax which is used to frame the universe of the story world and the actions being performed in it.

Semiotic analysis of a text involves identification of the following:

Actant: “Someone or something who or which accomplishes or undergoes an act. It may be a person, anthropomorphic or zoomorphic agent, a thing or an abstract entity. Situated on the level of narrative syntax, the term describes a narrative function such as that of subject or object” (Martin & Ringham, 2000, p. 18).

Action: “designates a series of acts or transformations organized in a logical sequence (narrative trajectory). Accordingly, an action is a narrative programme in which an actor is engaged in concrete acts at a specific time and in a specific place” (Martin & Ringham, 2000, p. 18).

Using the concepts of actor and actions, a sample text would be analyzed at a narrative level in the following steps:

3.4.4.2.1 Event Sequences. the sample text would be analyzed for the events sequenced in the sample to text to frame a complete narrative. This would involve the following steps:

- a. to identification of different event sequences framing the overall coherent and meaningful narrative
- b. Each sequence would further be analyzed in terms of identification of its principal event with its independent subject, quest of object, and the transformation by the time the event sequence ends.

3.4.4.2.2 Identification of Actantial Schemas. Each event sequence would then be analyzed for its actantial schemas which are identified by the functions/ actions being

performed in the story world. Actantial schemas in each sequence event would be identified by asking the following questions:

- i. Who is the subject of the action being done in the event sequence?
- ii. Who or what is the object of the quest for which the action by the subject is being performed?
- iii. Who or what is the sender? What motivates the quest of the subject?
- iv. Is the subject of the action in the event being helped or hindered? If yes, who or what are the helpers/ opposers of the action?
- v. Who is the anti- subject and what is the goal of the anti- subject's quest in the event sequence?

The answers to the above-mentioned questions can be organized into three pairs of actantial schemas i.e., six actantial schemas are present in the story world in three pairs:

- a. Subject/ object: identified as a doer doing an action. The object for which the subject acts can have physical existence or be something abstract. Since there can be more than one subject, the narrative can be analyzed to be the doer in more than one action. In other words, the sample texts would be analyzed to present a narrative with a number of subjects implying a number of objects.
- b. Helper/ opponent: the subjects in the story world could be helped or hindered in their pursuit of the objects. Often referred to as hero/ villain, the actantial schema pair of subject/ anti- subject, the sample texts would be analyzed for the factors that would act to hinder or help the quest of the object by the subjects. It is pertinent to mention that the helpers/ opponents are subjects in their own quests of hindering or helping the subject.
- c. Sender/ receiver: the actant provokes an action in the story world. It is the actant who motivates/ provokes the subject/ anti subject to act. The sender becomes the cause of the actions performed by the subject in its quest of an object.

3.4.4.2.3 Identification of the Canonical Narrative Schema. Canonical schema refers to the identification of elements present in the event sequences as chained to one another in the form of cause-and-effect relationship and let the narrative become a coherent, logically connected, and thematically unified fluid structure.

Chaining of canonical schemas to frame a fluid narrative structure is referred to as their contract in which the sender motivates/ causes the subject/ anti- subject into an action in the event sequence:

sender→

communicates the necessity of action to the receiver →

necessity motivates the receiver to take action →

receiver becomes the subject →

performs the action i.e., indulges into action.

3.2.4.2.4 Identification of Contract among Canonical Schema. Contract is the relationship established between the sender and the receiver wherein the sender transmits signals to evoke a desire or an obligation in the receiver. The receiver becomes the subject of the actions done to achieve the object derived from the desire evoked by the sender. It is the actions of the subjects that the actions result in transformation of either the subject or the context or both. Transformation either addresses “a state of deficiency or wanting into one of sufficiency through conjunction with or disjunction from an object” (Martin & Ringham, 2000, p. 19).

The contract among canonical schema in the narrative of the event sequence would be identified through following tests:

- a. The qualifying test: Done to analyze that the receiver after being motivated by the sender has enough competence to become the subject of the action. This would involve analysis of the subject’s (i) personal physical strength, capability, and availability of material objects necessary to do the action, (ii) the knowledge/skills to do the action. Qualifying tests would be done for the anti- subject acting opposite to the actions of the subject in the event sequence.
- b. The decisive action: action that leads to the decisive moment in the event sequence. The decisive action can be taken by the subject and the anti- subject progress. Most often decisive actions lead to the confrontation or conflict between the subject and the anti-subject that determines the future direction of the event sequence.
- c. The glorifying test: done to analyze the result of the outcomes of the decisive actions of the subject or the anti- subject in the event sequence i.e. to analyze who turns out victorious:

the subject or the anti- subject. The actions of subject and those of anti- subject are evaluated by

i. Mandating sender: who motivates the subject/ anti- subject into action towards the glorifying test.

ii. Sender- adjudicator: who evaluates the outcome of the decisive action and tells whether the outcome serves the purpose with which the subject/ anti- subject had set out to take their actions. Sender adjudicator and mandating sender can be the same but in most cases are two different agents, with the reader being the sender adjudicator.

3.4.4.3 Deep Level. also known as analysis conducted at an abstract level is conducted to understand the underlying theme of the sample text. In this dissertation, semiotic analysis at the deep level would be presented using a visual semiotic square which relates the inner world to the outer physical world as presented by the figurative and narrative components of the text. The fundamental values that the text aims to propagate are analyzed by positioning the elements into relationships of contrariety (opposition), contradiction and implication.

For such position of elements, text samples would be analyzed to find answers to the following questions:

i. Can all opposites found on the figurative and narrative levels be reduced to one or two umbrella categories? The umbrella category of opposites would be used to serve as a common denominator for the text.

ii. What are the two most abstract poles of meaning between which the text moves? These are indicated by S1 and S2.

iii. What fundamental transformation is at stake.

Based on the fact that existence of one presupposes the existence of the other, S1 and S2 are in a relation of opposition or contriety to one another.

However, to move from S1 to S2, S1 has to first move through a stage -S1 which is the negation of S1. It is through the median stage of -S1 that has an implication of being transformed into S2.

S1→ -S1 → S2.

The anti- subject or the opposing values can also be analyzed at a deeper level in the same way by tracking their passage through the median stage.

3.4.5 Step 5: Thematic Analysis

Themes are the central ideas and trends that are being communicated by the text. Though emergence of themes and their interplay are inherent in the above-mentioned analyses i.e. analysis done to establish the rationality of the AI generated language as coherent and meaningful digi modern texts, syntactic analysis done to establish the performativity of the generated language as a meaningful text, and semiotic analysis done to establish the suggestibility of different themes in the generated language, thematic analysis forms the last part of the analytical framework. Need for an additional thematic analysis was felt to testify the previous analyses and would also help in establishing the fact that none of the themes are superimposed by the researcher. Their emergence and evolution are unanimously dictated by the language, its syntactic patterns, lexical choices, and semiotic existence.

Thematic analysis as proposed by V. Clark and V. Braun in 2006 has been used as follows in this dissertation:

3.4.5.1 Familiarization with the Generated Text Samples. would involve reading and going over the generated text samples several times to fully understand them. It would involve taking the screenshots of the recording of researcher's interaction with the selected AI engines, and then taking their prints for an easy and effective analysis.

3.4.5.2 Coding the Data. would identify the main features/ parts of the sample texts that would answer the research questions and make notes on the printed copies. This would be done by highlighting/ underlining the relevant parts of the sample text in which answers to a specific research question would be found and giving them suitable labels. Labels would be reflective of the ideas serving as answers to the research questions.

3.4.5.3 Generating Initial Themes. the labels would be marked and analyzed for the emergence of their underlying themes.

3.4.5.4 Reviewing the Themes. review the sample to ensure that the generated themes are related to the research questions raised in the research.

3.4.5.5 Naming and Defining the Themes. to identify how different themes emerge from one another and analyze their interplay.

3.5 Delimitation

1. Only those nonlinear narratives are taken in which the researcher herself interacts directly with the open AI i.e., gives the inputs to the AI to which she received the AI generated text output.
2. Selection of templates regarding the generation of long form narrative as a story served to delimit this dissertation to the study of (re)shaping of nonlinear interactive narrative fiction. SEO and templates designed to help writers create interesting content as part of their marketing strategies, email composers, free and unconstrained content generation for blogging and social media despite offering nonlinear interactive narrative (re)shaping lies beyond the scope of this dissertation.
3. The focus of this dissertation is to explore the capability of the selected AI engines to autonomously generate language to (re)shape nonlinear interactive narratives, not the digital storytelling.
4. This dissertation aims to show patterns of user interaction with the AI for collaborative (re)shaping of nonlinear interactive narratives.
5. The aim of this dissertation is neither to display the strengths or weaknesses of the AI while collaborating with its human users nor to indicate the evaluation of any given AI engine. The selected AI engines and their generated outputs are taken as representatives of the AI in general reflecting how AI effectively collaborates with its human users to (re)shape nonlinear interactive narratives.
6. The focus of this dissertation is the meaningful, coherent, logically connected, and thematically unified texts generated freely and autonomously by the open AI systems, not the operations and algorithm processing present at the base of the latest GPT 2/ 3 application through which such texts' generation are made possible. The aim of this dissertation is to study the generated texts as products not the process of their generation.
7. With new innovations being introduced in the market every day, AI engines remain under a constant process of improvement. This dissertation takes into account only those versions of the selected AI engines that were available in the market till 25th April 2022.
8. Response of the readers/ researcher to the AI generated texts lie beyond the scope of this research.

9. The study does not aim to study AI generated texts through any gender-based theory. However, gender performativity of the subjects would be explored as a means to construct their social identities. The aim of this dissertation is to study how the AI, despite lacking any understanding of socio- cultural constructs, uses syntactic patterns and lexical choices to exploit gender performativity of the different subjects in the nonlinear interactive narrative and then uses it as a means to construct social identities.
10. Gender performativity is not a variable in this dissertation but one of the many themes that surfaced up during the (re)shaping of nonlinear narratives. It also served as a function that helped the user in keeping the narrative chain intact in case the AI generated text delineated, became repetitive, stopped, or user had to choose one from a number of options presented by the AI i.e., gender performativity is selected as a function that facilitated the AI into the direction of narrative formation. We can say, gender performativity helped in defining the scope of this dissertation within the available time period of study.
11. Since AI lacks emotional sentience, the language it generates would not be analyzed for its emotional coherence.
12. SFL is a vast field and analyses language at various levels. This dissertation would focus on the analysis of the three meta functions being performed by the syntactic patterns only and would not deal with language analysis at other levels.
13. Analysis of narratives in terms of music, sound effects, physical appearances, illustrations, graphics, animated characters, animations of text etc., lie beyond the scope of this dissertation.

CHAPTER 4

ANALYSIS

Nonlinear interactive narratives in the hyperreal cyberspace of society 5.0 are (re)shaped through the collaboration of AI with human users in such a way that the distinctions between the AI generated language and the language produced by human beings cannot be made. Despite the fact that AI, being a nonhuman agency, lacks contextual understanding, awareness of spatio-temporal situatedness, and sentience of cultural constraints, not only

successfully interacts, understands, and interprets the natural language inputs but also displays the capability to autonomously generate unconstrained language texts which amount to becoming meaningful, logically connected, and thematically unified contributions to the (re)shaping of nonlinear interactive narratives. Cohesive and meaningful (re)shaping of nonlinear interactive narratives no longer remains an exclusive human phenomenon and is now being shared by the AI. Since nonlinear interactive narratives are reflective of and contributor to life and its various contexts, their being (re)shaped in collaboration with the AI implies that AI has also become one of the influential contributors.

To understand the contributory role performed by the AI in equations with human users, the samples of AI generated language texts need to be analyzed as coherent, meaningful, logically connected, and thematically unified contributions made to the (re)shaping of nonlinear interactive narratives. The aim of the analyses would be to qualify the study of AI generated texts as a study of “a complex of patterns” in which “each pattern carries meaning” (Cummings & Simmons, 1983, p. 87) so that their contributory role in “organizing social practices” (Kress and Leeuwen, 2002, p. 347) is legitimized. The text samples generated by the selected AI engines in response to the users’ interactions would be analyzed in a number of steps as outlined in chapter 03 (sec 3.4; p. 109- 125).

4.1 SAMPLE TEXT # 1

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity... and they frequently update each other on their current whereabouts. (1120 words: Novelai). [whole text sample to be found in the CD annexed with this dissertation)

4.1.1 Step 1: Analysis for Qualification as a Meaningful Text

4.1.1.1 Cohesion Through Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Omniscient narrator: I

Subjects: Rex, Carroll

Generalized target subjects:

Forms of emerging digital technologies:

Uses of internet:

Usefulness of emerging digital technologies:

Progression of time from past to present:

Evolution of perceptions of digital technologies: (a) In the past, (b) In present

Suggestivity:

Consequences of use of medium:

Details of the findings and analysis of the use of the lexical items used as cohesive devices in the sample text to qualify it as presenting a coherent and meaningful narrative can be found in the CD annexed with this dissertation:

Discussion on Choice of Lexical Content: From these head categories, it becomes apparent that the AI generated language text is a report presented by a first-person narrator. The first-person narrator “I” has an omniscient presence as it reports the feelings, views, beliefs, observations, thinking, fears, reservations, willingness, and inclinations of the subjects. The text is about different forms of digital technologies derived from the computer, internet, web, and online world and how they serve as means of communication and interaction. Though the subjects are Rex and Carroll, the lexical choices in each paragraph indicate a meaningful movement of the narrator from describing initial thoughts of the subjects regarding their use of the digital technologies, to developing their personal approaches towards the use of these technologies, their insecurities, the positive aspects of the use of technology as explored through their personal experiences, to the impacts on the evolution of their relationship with each other, to the subjects giving advices to other users belonging to different age groups.

4.1.1.2 Cohesion through Use of Cohesive Devices. Cohesive devices include (a) References. The smooth flow and continuity in the text are achieved through the use of various references. The omniscient narrator, the two subjects Rex and Carroll, and various forms of emerging digital technologies are referred to through the use of personal references, whereas extended reference “it” has been used to refer to the attitudes, insecurities, and approaches of the subjects Rex and Carroll. Demonstrative references have also been used to point towards the proximity of ideas and attitudes towards the different forms of emerging digital technologies.

(b) Connectives/ Conjunctions. This text has multiple sentences each further organized in the form of nine paragraph. Each paragraph presents an idea shaped by various ideas presented by the sentences used in the paragraph. Conjunctions/ connectives are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

Conjunctions used in the text include (i) adversative, ii) temporal, and (iii) causal conjunctions. Connectives such as “in fact”, and “in particular” are used to indicate a change in the flow of the narrative and © substitutions and a number of substitution words have also been used to avoid repetitions. (Detailed analysis of the use of cohesive devices in the text and the related findings can be found in the CD annexed).

Discussion on Findings of Cohesive Devices: Due to the presence of different ideas reflecting various aspects of the impact of the emerging digital technologies on the lives of Rex and Carroll, a variety of conjunctions are used which serve to bind these different ideas in a coherent and logically connected narrative whole. Whereas repetition of same words and lexical choices reinforce the emerging themes, substitution words are used to avoid monotony, maintain thematic unity, and at the same time give the impression of progress as well as variance. In other words, coherence, meaningfulness, and a continuity to ensure a thematically unified narrative flow is created in the text because of the use of cohesive devices including references, conjunctions, and substitutions.

4.1.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text:

4.1.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory beginning with an omniscient narrator stating its intentions of taking into consideration how the emerging digital technologies as new forms of communication and interaction are used by the subjects Rex and Carroll to its impact on personal lives.

4.1.2.2 Onwardness. Since the text is being generated by the AI in response to human user input, it cannot be said to have progressed through the middle of the narrative trajectory. Despite the logically connected ideas making a meaningful and thematically unified whole, the narrative continues to progress and does not show the entirety of any one stage of the narrative trajectory.

4.1.2.3 Haphazardness. The text has a haphazard effect in weaving a coherent and meaningful narrative. This is because of the nonlinearity achieved through the incessant user interaction. The AI generates text as an output through the processing of the data on which it is trained autonomously and without any external intervention, owing to which the narrative being (re)shaped by the AI generated text output can move in any direction. (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation)

Discussion on Findings and Analysis of Digi- Modern Traits: In this case, the process of text generation started with the first human input prompt which was about “the emerging digital technologies in the lives of Rex and Carroll” and “the impact they have on their relationships and identity”. Emerging digital technologies have been interpreted by the AI in a number of ways as reflected by the use of lexical items such as web, internet, technology, digital media, computer, digital world, and new technologies. Since the subsequent user inputs were just prompts to steer further text generations by the AI, the AI could progress the narrative in any direction. This is evident from the fact that the proceeding text built the nonlinear narrative along the use of emerging digital technologies, means of communication and interaction, and the insecurities of the subjects Rex and Carroll as the central themes. It is towards the end of the interactive session that the theme of the impact of emerging technologies on the relationship between Rex and Carroll emerged in the AI generated text.

4.1.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed analysis of syntactic patterns and its findings can be found in attachment to the CD annexed). Following is the discussion on each of the metafunction being performed by the syntactic patterns used in the text.

4.1.3.1 Interpersonal Meta Function. Because of the use of declarative sentences, the overall mood of the text is declarative. The declarative sentences serve to give omniscient information with certainty regarding Carroll’s willingness to use the emerging digital technologies, her insecurities towards Rex’s use, and Rex’s perception of Carroll’s insecurities. However, both the narrator and the subject Rex while discussing his cautious approach towards the use of the internet are uncertain. Basically, the uncertainty lurks in

the text whenever factors leading to Rex's developing cautious approach towards internet use are mentioned. The uncertainty can be interpreted as to the probability of the factors being outdated and have been addressed.

4.1.3.2 Ideational (Experiential) Meta- Function. There are three subjects present in the text: The narrator, Rex, and Carroll. The first sentence is the user input prompt and reflects a material process in which emerging digital technologies cast an impact on the relationships and identity of their users. It is a declarative sentence in present tense with positive polarity and no modality. Despite the fact that it is a human user input, the sentence neither reflects the user's socio- cultural context nor mirror any spatio-temporal situatedness. However, subsequent AI generated text has syntax patterns that reflect the following processes:

4.1.3.2.1 Material Processes. A variety of material processes with different actors and goals are referred to in this text. They can be placed into different categories on the basis of the goal and actors:

- (1) Emerging Digital Technologies: act to enable their users to communicate and interact with each other, provide help in doing work, provide significantly improved content and functionality, reach out to the wider audience etc. Actions of the emerging digital technologies can harm abilities to function, remove the user from reality, and provide inaccurate and out of date information.
- (2) Carroll: The material processes reflect Carroll's willingness to use emerging digital technologies and have the goals of encouraging Rex to use them.
- (3) Rex: As an actor, Rex uses internet, computers, web, and online activities as tools to achieve the goals of getting help in doing professional and research works, connecting with people, getting inspirations, sharing information, posting updates, data storage, and for entertainment purposes.

4.1.3.2.2 Verbal processes. The verbal processes in the text are separately conducted by Rex and Carroll.

- (1) Rex: Verbal processes in which Rex is the sayer reflect how Rex has developed his cautious approach towards using emerging digital technologies, despite them being helpful for him. Also, they are reflective of Rex's perception of the internet as becoming a source of harm to its users.

(2) Carroll endorses Rex's reservation but also suggests different remedies to the possible harms which reflect the difference in the approaches of Rex and Carroll. Whereas Rex is dubious of the potentials of the emerging digital technologies and approaches them cautiously, Carroll is willing to use them.

4.1.3.2.3 Relational Processes. A number of relational processes are identified in the sample text:

I. Attributive Relational Process: also known as existential, indicates the specific attributes of a given carrier.

1. Carroll: Carroll's attributes that have led to her willingness to use emerging digital technologies. She, despite being concerned about the possible harms of technology, is encouraging Rex towards using technology. When analyzed in contrast with Rex, she is observed to be open minded, not against using computers, and shows openness and willingness to experiment with technology.

2. Rex: As an individual, Rex, being aware of the possible harmful effects of technology, aims to approach technology cautiously and fully embrace it till he is sure of it being safe. In contrast to Carroll's unwavering willingness, Rex, while keeping an eye on its pitfalls, has developed a conservative approach. Whereas Carroll readily uses technology for communication purposes, Rex maintains a relatively low online profile. In contrast to Carroll who, despite being aware of the harmful effects of using technology, uses it, Rex, despite acknowledging the usefulness on the internet, remains unwilling to fully embrace it.

3. Users of the Internet: certain harmful effects have been identified in the users involved in the excessive use of the internet. The users, involved actively in real life processes and interactions, are identified to be getting in a trance-like state which is far removed from reality. Balance between real life and life online is identified as the solution to address the problems arising from excessive use of technology.

4. Internet: Internet has been discussed in terms of the attributes it had in the previous times and the current period. Previously, it had limited scope, had few users, provided inaccurate or out of date information, it, in the present times, has become a powerful and useful tool for efficient communication. In contrast to its previous days with various problems, its

growing popularity has caused significant improvement in content quality and functionality of the internet.

II. Identifying Relational Process: indicates the identifying traits of tokens when evaluated in contrast to the already existing standards. In this text, three identifying relational processes are identified while tracing the evolution of the following

1. Life in general: it has become easier with internet
2. Communication: more efficient with internet
3. Carroll: more willing than Rex to use digital media

Be it attributive or identifying, relational processes identified in the text are interpreted to draw comparisons between the approaches of Rex and Carroll towards using digital technologies, the internet of past and present times, and life in general and of individuals with and without internet. From the findings it becomes clear that with the passage of time the internet and computers as representatives of emerging digital technologies have, despite the likely harms being caused by their excessive usage, brought positive impacts on their users.

4.1.3.2.4 Mental Processes. A number of cognitive mental processes with different sensors are referred to in this text:

(1) The narrator: the cognitive mental processes in which the narrator is the sensor are focused on the following three phenomenon

(a) an understanding of the digital emerging technologies by the narrator and aims to analyze the digital electronic technologies as new forms of communication and interaction and how such technologies are being used by Rex and Carroll,

(b) developing an understanding of Carroll's approach towards the use of emerging digital technologies,

(c) developing an understanding of Rex's approach to the digital world,

(d) Rex's addressees.

Whereas the sentence that indicates narrator's understanding of the emerging digital technologies has no polarity, and are stated with certainty, the declarative clauses stating narrator's mental cognitive processes regarding Carroll and Rex are modal in nature indicating that the narrator itself is in the process of understanding the two subjects.

The use of the word “initial” indicates the narrator's understanding of Carroll as a subject that has evolved from a skeptical individual into a willing user of technology. The narrator by analyzing different phenomena stating feelings of Carroll is trying to understand her approach towards Rex using digital technologies. On the other hand, Rex is being understood by the narrator as a subject who has cautious approach towards the digital world, probably not willing to become too dependent on technology, and keeps his eye more on the possible harmful effects of the emerging digital technologies. The rest of the text focuses on the narrator analysing different processes in which Rex is a participant to understand Rex's approach towards emerging digital technologies and how Rex came to develop that approach.

The narrator through cognitive mental processes draws a comparison between Carroll's and Rex' use of the emerging digital technologies.

(2) Carroll: The cognitive mental processes in which Carroll is the sener (Tables: 1.9, 1.69), display her

- (a) positive approach towards the emerging digital technologies,

- (b) her concern for people in general. The cognitive processes are stated in declarative sentences, framed in present tense, have positive polarity and no modality that indicates that Carroll is confident of her thoughts.

(3) Rex: The text shows a number of mental cognitive processes in which Rex is the sener such as

- (a) his thoughts on Carroll's approach towards his using the emerging digital technologies,

- (b) the evolution of his personal cautious approach towards using emerging digital technologies,

- (c) his views on the effectiveness of emerging digital technologies. Whereas the first two mental cognitive processes are stated in declarative sentences framed using present tense with positive polarity, he declares his views on the effectiveness of technology with a negative polarity and uncertainty. The use of words “I don't know”, “I mean”, “I think”, “I am not sure” indicate that he is still in the process of forming his views on the effectiveness of technology. However, certain cognitive mental processes are declared with positive polarity such as Rex's acknowledgement of the positive aspects of

emerging digital technologies, which justify narrator's observations that Rex, despite acknowledging the usefulness of the emerging digital technology, remains wary of its possible harmful effects and remains cautious.

II. Affective Mental Processes: Depending on the sensors, the affective mental processes reflected in the text can be categorized as follows:

1. Carroll: The affective mental processes in which Carroll is the sensor reflect a number of phenomenon: (a) she takes computers as synonymous to the emerging digital technologies, (b) Carroll is not threatened by the liberating impacts that users of computers may experience, and (c) though Carroll has feelings that using computers can have detrimental effects on health and mind, she encourages Rex to continue his practice.

2. Rex: Despite the fact that Rex's use of emerging digital technologies are subjected to Carroll's approval, Rex is affected by his practical experiences with the emerging digital technologies. Though for him, life without the internet is possible, he is positively affected by the internet and prefers certain online activities. He, at the same time, acknowledges the advantages of these technologies. The phenomena in the affective mental processes can be analyzed to use the internet and laptop as examples of the emerging digital technologies.

III. Perceptive Mental Processes: The text refers to perceptive mental processes undertaken by the subjects Rex and Carroll. Carroll perceives the emerging digital technologies as having negative impacts on Rex, yet she is willing to let him use them. On the other hand, Rex considers the widespread use of the internet and its need in one's life while devising his cautious approach towards the use of these technologies.

The mental processes indicate two aspects: (i) relationship between Rex and Carroll, (ii) Carroll as an individual. The mental processes reflect that Carroll has a dominating effect on Rex and Rex is concerned about her approval. In other words, Carroll's opinions matter for Rex and Rex remains dependent on her. Secondly, whereas Carroll as an individual is willing to use emerging digital technologies under no constraints, she is protective of Rex. In this case, however, she, despite her concerns, is encouraging Rex to use the technology.

4.1.3.3 Textual Meta Function. The processes marked in the text include (1) the impact of the emerging digital technologies, (2) the need to use technologies, (3) dependence on technologies, (4) usefulness of technologies, (5) cautious approach towards using these technologies, (6) limitations of technologies, (7) problems of technologies, (8)

creation and improvement, (9) monitoring against their overuse, and (10) online presences, whereas the circumstances from which the marked themes in the text emerge highlight the contrast between the usage of the different forms of emerging digital technologies and their possible side effects, and also point out the difficulty faced by the users when confronted with the usefulness of technologies on one hand, and their side effects on the other hand. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the text presents Rex as a subject of a majority of different processes. At one end are the cognitive and attributive relational processes such as Rex being concerned about Carroll's disapproval, his indulgence in the practices of using the internet which he fears that Carroll might not approve, cognitive mental processes of realizing that Carroll is neither against his use of the internet nor felt threatened, developing cautious approach towards the use of internet and not becoming too dependent on these technologies, uttering verbiages regarding his experiences and uses of the internet, benefits and consequences of the internet, and the underlying causes for his developing a cautious approach, Rex is seen as a subject of practical use of the internet and computer such as finding information, using it for work a doing research, connecting with audience, storing data etc. Being subject of such a vast range of processes lead to the emergence of themes which mark Rex, i.e. a male subject as a multidimensional personality not restricted to a certain domain. He is a thinking as well as a practical user.

On the other hand, Carroll is a subject of the practical processes that refer to her using the technology only for generally chatting online chatting messaging to Rex only not to a wider audience. The other processes in which she is the subject refer to her cognitive thinking about Rex and verbal processes regarding giving general advice give rise to the themes that present Carroll, a female subject, restricted to thinking, contracting beliefs, developing emotions, giving advices and being involved in verbal acts regarding a technology without practically putting to test its different potentials.

From the analysis of the textual meta function of the syntactic patterns used in the text emerge the unmarked themes of the emerging digital technologies causing impacts, the narrator exploring those impacts, the evolution of the internet as a technology from its early days to its significantly improved quality and functionality in the present time, and the

evolution of the approaches of the subjects Rex and Carroll towards these technologies and towards one another.

4.1.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework proposed by Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis and its findings can be found in the CD annexed).

4.1.4.1 Discursive Level. Discursive analysis of the strategies used in the sample text to create the illusion of a real world indicates that the effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following:

4.1.4.1.1 Figurative Component. Done through the examination of the vocabulary used in the text sample #1. Following isotopies were identified:

1. Emerging Digital Technologies: formed by (i) referring to different forms of emerging digital technologies existing in singular or plural forms, (ii) different hardware/ software-based vocabulary choices referred to in the text.

2. Qualities of Emerging Digital Media: derived from (i) the binary relationships between its positive and negative qualities, (ii) usage of digital technology by teenagers, (iii) qualities of internet derived from the binary relations framed in terms past and present times

3. Subjects: Rex, Carroll, and User: based on the vocabulary used for referring to the users of different forms of emerging digital technologies in this text exist in binary such as: (i) The use of different forms of emerging digital technologies by Rex and Carroll, and (ii) The approaches of Rex and Carroll towards emerging digital technologies in the form of internet, (iii) Vocabulary regarding the attitudes of Rex and Carroll towards one another

4. Approaches of Rex and Carroll Towards Emerging Digital Technologies reflecting (i) confidence and omniscient knowledge with which the narrator talks about Carroll, and (ii) the uncertainty with which Rex is discussed

Discussion on Figurative Components: The analysis of thematic categories in this text reveals that the narrator drives the readers to develop a certain bias towards Carroll in contrast to Rex. The narrator discusses Carroll's character in a third person's omniscient voice who has a complete knowledge regarding Carroll's approach towards using different

forms of the emerging digital technologies, whereas the same narrator is uncertain about Rex and his approach. Where Carroll is described as open-minded, willing, and encouraging towards using emerging digital technologies, the narrator describes Rex as having a cautious approach with roots in the fears and insecurities of becoming too dependent on technologies. The narrator's uncertainty is indicated by the use of the words "appears", "seems" and the fact that Rex's own words are used to support the inferences the narrator makes about Rex.

However, at the same time, it is Rex whose usage of the internet is described in detail ranging from his early experience of using the internet in its early days to finding information to using it as a tool to help him in his work, to saving large data to using it for entertainment purposes. Also, where Carroll has been described as a willing and open-minded user of the internet, the narrator describes her usage as being restricted to chatting online and sending messages whereas Rex, who on one hand is a cautious user, is seen to be availing the full potential of the internet.

Also, as far as the approaches of the two subjects towards use of the internet is discussed, Carroll is described as a user who, despite having reservations regarding Rex's use of the internet, encourages him and is a figure towards whom Rex looks at for approval. However, if analyzed critically it appears that Carroll is propagated as a disapproving figure on whose opinions Rex superficially depends, but Rex had been using the internet for a long time. Rex had conceived to look at Carroll as a person who somehow felt "threatened" by his using these technologies. This implies that though Carroll is portrayed as a protective figure in the life of Rex whose likes and dislikes are considered by Rex but at the same time he is not deterred by Carroll. Though Rex is a careful user of the internet, he is the user of the technology for a long time regardless of Carroll's approval.

The protective role of Carroll in the life of Rex is reinforced by her reservations and suggestions that she gives to the parents of teenage users of the internet. The narrator has an omniscient knowledge of Carroll's thinking and quotes her own words to support the perception of her being a protective figure.

4.1.4.1.2 Grammatical/Syntactical Linguistic Devices. The illusion of the real may be strengthened through the use of linguistic devices such as repetition, ellipsis, active/passive, nominalization, and connecting tools. The sentences are mostly complex-

compound that present various ideas sequenced through the use of various linguistic devices including adversative, temporal, demonstrative, causal, repetition, ellipsis, nominalization, active/passive voice.

Discussion on the Syntactical Devices: The text creates a universe presenting on a number of features: opposing views and uses of the internet by the subjects, the impact of a specific form of emerging digital technologies on its users, and the evolution of the technology and its effectiveness as it evolved with the passage of time. Also, the text has quotations of the sayings of the subjects, supports the observations of the narrator regarding the subjects by giving examples, and at the same time gives a sense of progression of the narrative from past to present times. It is through the use of linguistic devices that a sense of symmetry and a balance is struck in this universe. Various types of connectors help in maintaining a meaningful and coherent balance in the text in which the approach of one subject Carroll is balanced by the opposite approach possessed by the other subject. It is through these linguistic devices that despite the repetition of ideas, the text does not become boring or monotonous and the reader continues to read on. The reader gets a sense of the evolution of emerging digital technologies from limited and faulty impact towards more positive outcomes with the passage of time because of the use of the linguistic devices which help in foregrounding the past and present. The text has balanced the positive impacts of technology in opposition to the potential pitfalls associated with it through the use of linguistic devices and creates a scenario that presents both sides of the coin.

4.1.4.1.3 The Enunciative Component. The enunciative strategies used in the text are mostly descriptive in nature. The text is in the first-person narrative who is extra-diegetic (i.e., not an actor in the text). The text uses modal descriptions for Rex and has employed extensive use of evaluative terms.

Discussion on the Enunciative Component: The narrator has two sides: (i) omniscient knowledge of Carroll, her approach, feelings, her thoughts, and the evolving relationship between Rex and Carroll, and (ii) remains dubious of Rex and his approach. The narrator quotes Rex's own words to infer knowledge about his thoughts and feelings both towards Carroll and his relationship with Carroll.

The text is descriptive in nature, mostly uses present tense, however switches from past to present to describe the evolution of characters, their contexts, and the emerging

technologies. Throughout the text, readers are kept at a distance and given a narrator's recounted version of the events which is itself a narrative motif built in the text. Analysis of modal elements in the text indicate that where Carroll is described in clauses that are categorical and express absolute certainty, the use of words "may be", "might be", "seems", "suggesting", "appears", "highlights" by the narrator give the clauses describing Rex's approach a tentative character serving to suggest probability or possibility, i.e. the narrator does not have a complete knowledge and is itself in the process of learning about Rex. Where Carroll is described with complete objectivity, modality in the description of Rex gives an impression of uncertainty and subjectivity.

The presence of narrator gives the text a subjective character which becomes more pronounced because of the use of many evaluative terms for Carroll in contrast to Rex where though evaluative terms are used but their use is being justified by quoting exact words of "Rex". Similarly, a number of evaluative terms are used for the particular form of the emerging digital technologies being described in the text.

The enunciative strategies used in this text contribute to a strong sense of a sharp divide between positivity and negativity, and harmfulness and usefulness. The explicit and clearly delineated categorization in terms of users, their approaches, and use of a specific form of emerging digital technologies presents to the reader a world in which the subjects as well as the different forms of emerging digital technologies experience a constant evolution.

4.1.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed to have two major event sequences. Each event sequence is analysed to possess an independent subject, quest of object, and the transformation that the subject undergoes. The event sequences identified in the text are

(1) Carroll's use and approach towards internet:

(2) Rex's cautious approach towards internet

In the second step of narrative analysis, each event sequence is analysed in terms of actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests. It is revealed that in

Event sequence (1) Carroll as a subject is not only an avid user of digital technologies herself but has also undergone transformation from being a sceptic figure into an encouraging mentor of Rex.

Event sequence (2) Rex as a subject who is not only an avid user of digital technologies but at the same time is aware of the potential risks associated with its overuse. The outcome of the development of the narrative structure is Rex becoming an active yet careful user of the internet.

4.1. 4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Carroll vs Rex

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are
potential risks vs Usefulness

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Willful usage of internet vs Cautious approach

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Carroll's willingness to engage with emerging digital technologies

Product of potential risks → Conviction for the usefulness

2. Rex's cautious approach

Conviction for the usefulness → Product of potential risks

3. Evolution of internet

Lead to pitfalls → Enhanced usefulness

4. Users in general

Conviction for usefulness → Product of potential risks

5. Relationship of Rex and Carroll

Product of potential risks

Conviction of usefulness

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects two types of transformations: (i) transformation of the internet as a specific form of emerging digital technologies. The internet has transformed from being limited in scope, having few users, and plagued with problems in its early days into becoming a powerful tool that has markedly improved quality of content and displays enhanced functionality. It has transformed into a popular digital medium which is widely accessible, and easy to navigate. (ii) users of the internet who are transformed from being skeptical into willing interactors. However, transformations in the users can be analyzed to have broader considerations of socio- political and cultural context.

Where the name Rex is usually used for male subjects, Carroll does not imply any specific gender identity or role performativity. It is the narrator that assigns the subject Carroll a female gender. The text seems to serve to strengthen stereotypical attitudes towards gender performativity in contemporary times. For example, though Carroll is a willing user of the technology, the narrator discusses her with an omniscient air. Her use of the internet is depicted as being restricted to using online chat rooms, exchanging messages, strengthening her relationship with Rex, and using the internet in general. She is portrayed as an individual who has skeptical views regarding the use of the internet and is conceived as “being threatened” by Rex using the internet. The narrator discusses her with an air of possessing thorough knowledge about her which implies that she is being considered as a very predictable person, a person who has stereotypical thoughts and beliefs. On the other hand, Rex is a male user who has different facets to his personality due to which even the narrator cannot describe him with full confidence or certainty. The narrator also seeks to use Rex’s own sayings to support the descriptions.

Being a typical male character, Rex appears to be depending on Carroll’s approval regarding his use of the technology, yet he has been using the internet long before actually seeking her approval. He does consider her thoughts about the internet, but those considerations do not deter him from using the internet. He uses the internet and at the same time is bothered about Carroll’s likely disapproval. Secondly, where Carroll’s use of the internet for online chatting only reinforce gender stereotyping of females as being fond

of social communication, Rex appears to portray a typical male individual who uses the internet for a wide variety of reasons ranging from searching information, reaching out to a wider audience, using it as an effective tool of interaction and communication, doing research, maintaining personal blogs, keeping updated about his friends etc.

Representing a typical female character, Carroll is seen as a user who uses the internet freely when it comes to her own self only, she remains bothered about any negative impact that the technology may cast on Rex. At the same time, she, despite her concerns, encourages him to continue his practice which reflects her recognition of the internet as a powerful tool. She is portrayed as a user who is more concerned about Rex than she is bothered about herself. The motherly attitude becomes doubly pronounced in case of her advising parents of teenage users of the internet to prevent them from becoming more removed from reality.

The text reflects stereotypical gender-based relationship between Rex and Carroll, in which Carroll is portrayed as a motherly, protective, and concerned female whose thoughts and actions are taken for granted, whereas Rex is a male user whose thoughts and actions remain unpredictable, and who shows a superficial concern for Carroll's approval. Carroll is portrayed as a carefree user who, despite restricting her use of the internet to online chatting and sending messages, is willing to engage with technology without considering its pros and cons. Whereas, Rex though makes full use of the potential of the internet, has a cautious approach and considers the advantages as well as disadvantages of the internet. In contrast to Carroll, he does not give advice and even in his sayings that are quoted in the text he talks about his own self only and no one else. It appears that the text portrays a relationship between Rex and Carroll which is a reflection of the typical gender stereotyping.

4.1.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Three subjects are present:

i. The narrator: biased as indicated by the description of Carroll given with an omniscient knowledge and the suggestive words used for Rex indicating the progressive learning about him

ii. Rex: cautious user

iii. Carroll: has willingness to experiment with technology

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorised as follows

i. Qualities of emerging digital technologies

ii. Biased narrator

iii. Carroll: a willing female user of technology, who uses it for online chatting online

iv. Rex: a cautious male, who uses technology for a number of tasks and at the same time remains cautious in his use

vi. Relationship Between Rex and Carroll: Carroll is concerned about Rex's use of technology, whereas Rex appears to be seeking approval from Carroll despite the fact that he had already been using technology

v. Conventional gender performativity: Despite the writer of the text being nonhuman, the text reinforces conventional gender-oriented roles to its male and female subjects. Male subject Rex uses technology for a variety of reasons yet remains cautious, appears to seek approval of Carroll despite the fact that he had already been doing for what he had been seeking approval, is unpredictable, and is indulged in cognitive mental and material processes. Whereas the female subject Carroll is a predictable character who despite the fact of being a willing user of technology uses it for socialization and is protective towards Rex.

4.2 SAMPLE TEXT # 2

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity....but they gradually get used to each other. (858 words: NovelAI, [whole text sample to be found in the CD annexed with this dissertation])

4.2.1 Step 1: Analysis for Cohesion

The sample text given above qualifies to present a coherent and meaningful narrative using the following lexical items and cohesive devices. (Detailed analysis of the lexical items and cohesive devices used in the sample text #2 can be found in the CD annexed with this dissertation)

4.2.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories

Emerging digital technologies:

Subjects

Users of emerging digital technologies

Online activities

Real world

Real world people

Real world activities

Evolution of Rex and Carroll's relationship

Evolution of Carroll

Common points of interest between Rex and Carroll

Carroll's personality traits

Rex's personality traits

Feelings regarding virtual world

Rex obsession with virtual world

Consequences of obsession with virtual world

Carroll's feelings for Rex

Rex's feelings for Carroll

Discussion on Analysis & Findings of Analysis of Cohesion Through Lexical Choices: The

head categories indicate that the narrative is built through the comparison of virtual and real worlds, evolution of the two subjects traced from their pasts through the present to a period five years afterwards, the feelings, perceptions, and interests, and personality traits.

From the above-mentioned head categories, it becomes apparent that the AI generated language text is a narrative based on the evolution of the relationship between Rex and Carroll. It appears that the narrative is about Carroll and Rex, who despite coming from different backgrounds, used to have common interests and were very close to one another.

Their relationship was based on sheer confidence but was spoiled by Rex' obsession with the virtual world, as created using emerging digital technologies to an extent that Rex who once felt isolated without Carroll now considers her to be the cause of all of his problems and tries to kill her. The use of the words "heading down a dangerous path" for overindulgence in the virtual world of gaming in the narrative about the evolving relationships between Rex and Carroll presents the lethal effects that such obsession may cause on individual users, their social lives, and their personal relationships.

4.2.1.2 Cohesive Devices Used. The use of following devices makes the text become a coherent and meaningful narrative.

4.2.1.2.1 References. The text presents several ideas such as comparison of existence in the virtual world in contrast to real world existence, personality traits of the subjects Rex and Carroll, evolution of the subjects Rex and Carroll, evolution of the relationship between Rex and Carroll, impact of overuse of emerging digital technologies on lives, identities, and relationships etc. The ideas are embedded in the text in several layers which are sequenced to form a smooth narrative flow using the above-mentioned references. Where personal references are used to refer to the subjects Rex and Carroll, and demonstrative references to refer to ideas and subjects, extended references are used to refer to the forms of emerging digital technologies such as virtual world and online gaming. Use of references help in avoiding word repetitions, monotony and boredom, and at the same time helps in giving the narrative a coherent continuity and meaningfulness.

4.2.1.2.2. Connectives/ Conjunctions. This text has eight paragraphs, each of which present a certain idea supported by various other ideas. The ideas relate to each other through conjunctions/ connectives are used to connect the clauses and sentences to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas. Adversative (but, however, although, in contrast, in fact), causal (if, because, therefore), additive (as well as, in addition), temporal (while, at time) are the different conjunctions used in the text sample # 2.

4.2.1.2.3. Substitutions. A number of substitution words have been used in place to avoid repetitions.

Discussion on Findings of Cohesive Devices: The text is coherent and meaningful because of the use of cohesive devices including references, conjunctions, and substitutions.

References in this text not only tend to avoid the repetition of words, but also play a key role in giving the text a continuity necessary to qualify it as a meaningful and thematically unified narrative. Ideas reflecting different personality traits of Rex and Carroll, the root causes of such traits, their evolving relationship, impact of the obsession with the virtual world, and their union after five years are bound to form a coherent and logically connected narrative through the use of a variety of connectives, whereas substitution words are used to avoid monotony. Cohesive devices serve to maintain the thematic unity, and at the same time give the impression of progress as well as variance in the narrative presented by the text.

4.2.2 Step 2: Digi- Modern Traits

The text is analyzed to have the following digi- modern traits:

4.2.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression. The narrative is developed around the central theme of the evolution of the relationship between Rex and Carroll who are two different individuals with unique personality traits. Where they come close to one another in the real physical world, it is the virtual world because of which they drift away from one another.

4.2.2.2 Onwardness. Though the narrative displays a development over a trajectory starting from the beginning of the relationship between Rex and Carroll, the factors bringing them close to one another, the reasons of their breakup, the consequences of their breakup, and finally their reunion, the narrative does not seem to have achieved its end. The reunion is conditional and poses a number of directions in which the narrative is likely to move in if (re)shaped further. This implies that the narrative is progressive, is not present in its entirety, and can move onward.

4.2.2.3 Haphazardness. Owing to the incessant user interaction, the text displays a haphazard effect in weaving a coherent and meaningful narrative. Taking the user's first input “the emerging digital technologies in the lives of Rex and Carroll” and “the impact they have on their relationships and identity” as a prompt, the AI interprets “emerging digital technologies” as the virtual world and the internet and use them as the central theme around which it further generates text. Upon receiving subsequent user inputs to prompt the AI for further text generations, AI builds and (re)shapes a narrative about the

relationship between Rex and Carroll who are two different subjects. They were two different individuals who, because of their common interests, came close to one another in real life and drifted apart because of the obsession of one with the virtual world. The narrative is haphazard in its treatment of the themes such as different personalities of the subjects which played a critical role in letting the virtual world and internet damage their relationship. The narrative drifts haphazardly in mentioning personality traits of the subjects, the role such traits play in defining and then spoiling their relationship with one another and tracing the roots of these personality traits.

(Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation)

Discussion on the Findings and Analysis of Digi-Modern Traits: Despite being generated by a non- human agency which has no sentience of human emotions and personality traits as products of their subjective socio- cultural contexts, the text has digi-modern traits in presenting a coherent and meaningful narrative developed along a totalizing narrative trajectory, its understanding and interpretation of the subjects it mentions, and at the same time of reflective of the constant evolution of relationships and individuals. Because of the nonlinearity achieved through incessant user inputs, the narrative remains emerging, progressive, and ongoing, and at the same time despite the resulting haphazardness, it remains coherent and meaningful.

4.2.3 Step 3: Syntactic Analysis

With clauses as the basic meaningful units, following is the account of the findings of the analysis of the meta functions being performed by the syntactic patterns used in the text to establish its functionality. (Detailed syntactic analysis of the text sample # 2 and related findings can be found in the CD annexed with this dissertation)

4.2.3.1 Interpersonal Meta Function. The overall mood of the text is declarative, which indicates not only the omniscient presence of the writer but also the certainty with which the writer is giving the information. The present tense indicates that the information is current and valid in the present times. The clauses which are written in future tense pertain to the people in general. The first clause that is written in future tense is present in the beginning of the text and has “them” as the complement i.e., them refers to Rex and Carroll. Through this clause the writer omnisciently pronounces the action of the people

towards Rex and Carroll. The remaining two clauses also have general people as subjects indicating writers' omniscient judgement, however in one of the clauses the complement is Carroll indicating that the writer declares with complete certainty the treatment of Carroll at the hands of people.

Even though a majority of the clauses exhibit positive polarity, there are clauses which exude negative polarity. The three negatively polar clauses in which both Rex and Carroll are the subjects again indicate the writer's omniscient knowledge. It is through the writer that the reader gets to know the different aspects of the relationship between Rex and Carroll and how confident they used to feel about each other. In one clause the omniscient writer attains cautious tone to warn the reader what impact might the use of emerging digital technologies have on them.

The negatively polar clauses in which Carroll is the subject, describe her as an active participant in the online virtual world, and at the same time trace her roots back to the negative environment at her home leading to her present approach towards life in general. On the other hand, negatively polar clauses with Rex as the subject focus on omnisciently describing negative personality traits of Rex and his online participation in the virtual world. Even the clauses that have general nouns as the subjects refer to the real social lives of Carroll and Rex.

Whereas the writer has remained omnisciently certain while describing Carroll, there are modal clauses used in the text which imply uncertainty of the writer. Use of the words like "might", "can", and "seem" indicates that the writer cannot describe Rex with certainty and like the reader is still in the process of knowing Rex. There are chances that, in contrast to Carroll described omnisciently and with complete certainty, chances of Rex turning out to be unpredictable are kept alive.

In short, the analysis of the interpersonal meta function of the text indicates that whereas the text omnisciently describes Rex and Carroll together, Carroll alone, and people, with thorough certainty, it remains uncertain about Rex and the writer is in the process of knowing him.

4.2.3.2 Ideational Meta Function. The text sample presents a narrative built on the evolving relationship between two subjects Rex and Carroll.

The first sentence is the user input prompt and reflects an attributive relational process in which emerging digital technologies are carriers of the abilities to cast an impact on the relationships and identity of their users. It is a declarative sentence in present tense with positive polarity and no modality. Even though it is a human user input, the sentence neither reflects the user's socio- cultural context nor mirror any spatio- temporal situatedness. However, subsequent AI generated text has syntax patterns that reflect the following processes:

4.2.3.2.1 Material Processes. The text indicates several material processes being performed by different actors with an aim to achieve different goals. Though Rex and Carroll are actors in most of the material processes performed in the text, there are material processes in which the virtual world is the actor and has the tendency of making its users more vulnerable.

Material processes in which Rex is the actor span over his actions to define his approach towards other people, online activities, consequences of his over- obsession with the virtual world, and acts regarding Carroll which finally lead to their break- up. The text also has material processes in which both Rex and Carroll are the actors reflective of the evolution that their relationship undergoes.

Material processes help in understanding the characters of Rex and Carroll. Where Carroll is described as an introverted subject who cares for Rex, she is the actor in only those material processes which have an underlying phenomenon of hurting Rex i.e., though she cares for Rex, she does not take any material action to express her care. She is an actor only in those material processes which end in hurting Rex, and these processes in their nature do not involve any physical act.

On the other hand, the cognitive mental processes in which Rex is the senser, portray Rex as a careless individual whose goals are to make friends. However, Rex is the actor in a number of physically material processes ranging from allowing others to make decisions for him, to his real social life such as meeting Ria, making friends, to his online activities such as spending hours chatting online, playing online games, to consequences of skipping classes, not taking shower, and falling sick. Where cognitive processes reflect on carelessness of Rex, material processes portray him as an active individual. In contrast to

Carroll, none of these material processes lead to hurting Carroll. Where Carroll cognitively cared for Rex and did nothing physically material to help him, Rex is cognitively inexpressive yet an actor in those material processes which restore their friendship. However, one material process which led to their complete breakup is Rex trying to kill her.

The material processes in which Rex and Carroll both are the actors reflect the evolution of their friendship from start to breakup to their reunion five years later.

4.2.3.2.2 Verbal Processes. The verbal processes in the text reflect the personalities of Rex and Carroll:

(1) Carroll: Where she declares her usage of the virtual world in the first verbal process as an active participant, it is the second verbal process which shows Carroll's strict stance towards Rex despite her concern for him.

(2) Rex: Though Rex is portrayed as a carefree person, it is through this verbal process that Rex's realization that his life is spoiled is reflected. However, it reflects another personality trait of Rex that instead of shouldering the responsibility of his over obsession with the virtual world, he blames everyone else for it.

4.2.3.2.3 Relational Processes. Referring to the qualities of an entity, two types of relational processes are identified in this text.

I. Attributive Relational Process: also referred to as existential serve a number of purposes:

(a) indicate the different personality traits of their carriers such as Rex being intelligent yet lacking self-awareness, (b) the nature of activities of their carriers such as Carroll "not just watching", and Rex being "too busy in the virtual world", (c) the interests that they shared with one another and which served to bring them close to one another such as "making friends", (d) the conditions in which they became close to one another i.e. "changing social landscape" and they being "new to school", (e) the evolution of their relationship such as Rex "making new friends" and Carroll becoming "more withdrawn", and (f) their reunion after five years as being "awkward".

The analysis of the attributive relational processes helps in understanding the contrast present between Rex and Carroll i.e., whereas Rex is generally an intelligent yet careless user of the virtual world, a user who is not really concerned about Carroll, Carroll's

attributes indicate her emotional inclination towards Rex. For her Rex serves as an agent which disturbs her conscience.

Apart from Rex and Carroll and their relationship with one another, the attributive relational processes in the text by giving the attributes of the online virtual world such as the existence of “someone else”, distinctions between “active participant and passive observer”, and providing a “sense of community” help the readers in understanding the impact caused by the online virtual world on the relationship between Rex and Carroll.

II. Identifying Relational Process: indicates the identifying traits of tokens when evaluated in contrast to the already existing standards. They are used to qualify the virtual world as a place which in contrast to the real world allows users to become a part of it under no constraints. These processes are used to qualify Carroll as a more concerned and more selective subject in comparison Rex.

4.2.3.2.4 Mental Processes. Depending on their sensors, the cognitive mental processes reflected in the text can be broadly categorized into the following three types:

1. Carroll’s cognitive mental processes: mostly focus on reflecting the reasons lying behind her current social profile and dealings with other people including Rex. Where the cognitive mental processes in which Rex is the phenomenon reflect Carroll’s concern for Rex, one of Carroll’s cognitive mental processes uses Rex’s carelessness as an excuse.
2. Cognitive mental processes in general: Absence of absence of the affective cognitive mental process on part of the parents have led Carroll to develop her present apprehensive approach regarding the absence of affective cognitive processes by people in general.
3. Rex’ cognitive mental processes: range from his personal thought processes regarding his likes and dislikes to his perceptions about his current life to those that cast an impact on his physical activities in the real world. Where these processes indicate his tendencies to please others, they are also reflective of his negligence of the real-world affairs.
4. Cognitive mental processes sensed together by Rex and Carroll. They reflect the evolution of their relationship from the time when they were very close to another to their reunion after five years.

II. Affective Mental Processes: The text reflects fourteen affective mental process in which Carroll is the sensor reflect her concern for Rex, whereas affective mental processes sensed

by Rex reflect several phenomena: (a) his efforts at making Ria happy regardless of what it costs him, (b) his feelings for his own self which are mostly reflective of his helplessness, and (c) his careless, whimsical nature. The affective mental processes sensed by Rex and Carroll both reflect the phenomenon of their desires to make new friends. In the text one affective mental process is sensed by Ria, a friend of Rex whom he wants to know better.

The affective mental processes indicate different personality traits of Rex and Carroll i.e., where Carroll's concern for Rex mirrors her caring personality, Rex emerges as a carefree person, who does not care about the consequences of his actions. Even though Rex and Carroll are two different persons, their desires to make friends become the cause of bringing them close to one another.

III. Perceptive Mental Process: The text reflects only three perceptive mental processes; the first perceptive process reflects how being a part of the virtual world casts an impact on Rex and Carroll i.e., it affects the subjects' perceptions about their own selves whereas the other two perceptive mental processes are sensed by the writer. They are reflective of the writer's uncertainty in describing Rex as a subject. These processes lead the reader to the implication that for the writer Rex is unpredictable, cannot be described with an omniscient confidence, and the writer is in the process of learning about Rex.

The mental processes indicate a number of aspects: (a) different personality traits of Rex and Carroll, where Carroll is careful and reserved, Rex is careless and expressive (b) Carroll is emotionally inclined towards Rex whereas for Rex Carroll is just another friend, (c) the writer has an omniscient knowledge about Carroll and describes her with an all-knowing authority whereas Rex remains unpredictable for the writer as well. The writer seems to make inferences about Rex from his actions, and (d) reflect a relationship between two different personalities. It has its roots in their certain common interests.

4.2.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that Rex and Carroll together have been subjects of the processes in which they are subjected to troubles equally and both must remain on guard, However, despite the fact that as both as individual subjects participate in equal number of processes, it is Rex who is presented as actually using technology and doing physical things. It is him who is taking classes, failing, making

friends, taking showers, eating, doing job, and even trying to kill Carroll. Even in terms of their friendship, Rex is taking steps to restore the friendship. Being subject to the processes that involve physical actions lead to the emergence of the theme that it is Rex i.e., a male subject who is practical and does things practically.

On the other hand, Carroll is the subject and implied participant in the process that refers to her insecurities, her fears, and her reserved personality. All these processes refer to the social side of Carroll implying that the narrative is assigning social traits to Carroll i.e., a female subject. The analysis of textual meta functions of the syntactic patterns assigns social traits to the female character Carroll and the physical chores to Rex. Because of her insecurities, even to break her relationship with Rex, she doesn't do anything physical, instead she is the subject in verbal process, whereas Rex is an agent in the physical act of trying to kill her.

Analyzed for their markedness, the processes include (1) emerging digital technologies influencing how their users view themselves, (2) influence on user's control over their image ultimately leading to their image, (3) use of technologies as more than gaming and providing sense of community through its creation of a virtual world the sense (4) users real world desires, and insecurities, and (5) the impact of virtual world experiences on real world experiences. The circumstances from which the marked themes arise include (1) those provided by the virtual world to allow users to be active participants along with being passive observers, and (2) real world interactions. The analysis of the marked themes highlights the virtual world, and its experiences are contrasted with the real world and its experiences.

4.2.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework proposed by Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of sample text # 2 and related findings can be found in the CD annexed with this dissertation).

4.2.4.1 Discursive Level. Sample text is analyzed for its discursive strategies to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following features present in the text:

4.2.4.1.1 Figurative Component: Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

(1) Emerging Digital Technologies: analyzed in terms of the activities possible in it, they are either taken in as a world or a software application.

(2) Virtual World: refers to one form of the emerging digital technologies. Virtual world can further be analyzed in terms of the nature of the user activities.

(3) Evolution of Relationship between Rex and Carroll: derived from (i) the evolution of the relationship between Rex and Carroll. The relationship is based on the exploitation of the isotopy based on the differences between them which can be analyzed in terms of the binary relationship emerging from the opposite personality traits of Rex and Carroll, (ii) the differences between Rex and Carroll can be analyzed in terms of the differences present in their dealings with people, (iii) the binary opposition present between present and past of Rex and Carroll, (iv) binary opposition present between the time when they were gravitated towards each other against the time when they drifted apart from one another, (v) their feelings, (vi) the restoration of their terms, (vii) activities in which the subjects Rex and Carroll remain engaged during their breakup

(4) Consequences of Over Obsession with Virtual World: regarding the consequences of over obsession with the virtual can be analyzed in terms of binary opposition between online activities and activities in the real world.

(5) Reunion After Five Years: derived from the comparison between their meeting earlier and after five years.

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that the writer steers the readers to develop a certain understanding towards emerging digital technologies and the consequences of over obsession with their use. Also, the writer deliberately drives the reader into conceiving Carroll and Rex as performing certain gender specific roles. Where the lexical used to describe Carroll are all related to her thinking processes, insecurities, fears, and being reserved, the writer has used words that relate to performing physical chores and refer to real life activities.

4.2.4.1.2 Grammatical/ Syntactical Linguistic Devices. Just like reality, a narrative giving the illusion of reality is built through sequencing of a variety of different ideas into a coherent and meaningful whole. In this text, a narrative is built using adversative,

temporal, demonstrative, causal, additive, continuity, spatial devices, repetition, substitution, ellipsis, nominalization, and the use of active/ passive voice.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting a narrative focusing on the relationship between Rex and Carroll which evolves because of the impact of over-obsession of Rex with a specific form of the emerging digital technologies. The narrative traces the roots of the evolution of their relationship in the present-day activities of Rex and the past life of Carroll. Because of the presence of several ideas, the text is able to weave a coherent and meaningful narrative through the use of linguistic devices through which a symmetrical and a well- balanced universe is created. Various types of connectors help in creating a balance between Carroll's past and Rex's present day online activities, their opposite personalities, and their feelings and emotions for each other.

4.2.4.1.3 The Enunciative Component. The enunciative strategies used in the text are mostly descriptive in nature. The text is in the third person narrative who is extra-diegetic (i.e., not an actor in the text). The text is in declarative mood and has employed extensive use of evaluative terms.

Discussion on the Enunciative Component: The text is descriptive in nature, mostly uses present tense, however switches to past tense to trace the roots of Carroll's present reserved nature. The text employs third person narration to give a narrator's version of the events i.e., though the narrator is neither a part of the narrative nor has a firsthand knowledge of the events, yet the narrative is built with an omniscient air and an authoritative certainty. Use of evaluative terms, and the processes the narrator has used to ascribe to Carroll and Rex contribute to a strong sense of a sharp divide between positivity and negativity, social and anti- social, careful and carefree, and insecure and daring presents to the reader a world in which the subjects as well as the different forms of emerging digital technologies experience a constant evolution.

4.2.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful in the universe of the story world and the actions being performed in it are analyzed to have happened in the following major event sequences, each of which had been analysed in terms of an independent subject, a quest, and a transformation to undergo.

- (1) Although Carroll cares for Rex, she distances herself from him
- (2) Gravitation of Rex and Carroll towards each other:
- (3) Rex and Carroll drifted apart
- (4) Rex heading down a dangerous path:
- (5) Rex tries to kill Carroll
- (6) Reunion of Rex and Carroll

Discussion on Narrative Analysis: Each of the event sequence is analyzed in terms of actantial and canonical narrative schemas, and contract achieved through qualifying, decisive, and glorifying tests to reveal.

Event sequence (1) Carroll as a subject who has to choose between her image and protection of herself and her genuine concern for Rex. She continues to care for Rex but at the same time distances herself.

Event sequence (2) being new to school, both Rex and Carroll have undergone the transformation from being new to school into becoming each other's friend.

Event sequence (3) Carroll as a subject who despite being once very close to Rex now breaks off her contact with him. She prefers to spend all of her time alone instead of Rex sharing his free time with his new friends as well.

Event sequence (4) highlights the fact that Rex fails the glorifying test of taking control of his life, the reasons for which include him not caring and being too busy in the virtual world.

Event sequence (5) Carroll fails the glorifying test in convincing Rex of her care and guilt feelings. Since friendship with Carroll is the only thing within Rex's control, he tries to execute that control by trying to kill her. He thinks that killing Carroll would solve the problems of his life.

Event sequence (6) establishes the fact that though Carroll had survived that attempt, things never remained the same as they were before.

4.2.4.3 Deep Level. Fundamental values are to be identified in the text by seeking answers to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Carroll	vs	Rex
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2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are
physically real-world vs virtual world

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Life in control vs Life spiraling out of control

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Carroll's distancing herself from Rex

Carroll worries → Carroll needs to protect herself

2. Carroll and Rex's gravitation towards each other

Want to make friends → gravitate towards each other

3. Carroll is more selective about whom she trusts

Grew up in a home where trust was not a priority → As an adult doesn't allow anyone close to hurt her

4. Rex and Carroll drift apart

Carroll and Rex are close. → Carroll spends all of her time alone

5. Rex's obsession with the virtual world

Isolation → Sense of community

6. Rex behaviour in the real world is affected

It is fine → Life is out of control

7. Rex tries to kill Carroll

Friendship with Carroll → Things ended between them

8. Reunion

Awkward → Gradually get used to each other

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects several transformations being experienced by the subjects Rex and Carroll. Where the over-obsession with the use of emerging digital technologies is seen as a cause of transformation

in the life of the subject Rex, it is the past experiences of Carroll at home which have transformed her into a reserved person which in turn has become a major contributor to their evolving relationship. The narrative is built in a number of layers, each reflecting a certain transformation in the subject of the process.

4.2.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: two subjects are present:

- i. Rex: a careless person who is intelligent but lacks self-awareness.
- ii. Carroll: sensitive about her image and reputation. She cares for Rex.

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Consequences of over obsession with emerging digital technologies
- ii. Carroll: a female yet not over- obsessed user of technology. She performs gender stereotype roles such as being concerned about her image and reputation, extra cautious about trusting people, a victim of her past experiences, caring for Rex, despite their breakup, conflicted and feeling guilty.
- iv. Rex: a stereotypical male who is over obsessed with technology, fond of making friends, careless about the consequences, negligent towards real life, participating in material and cognitive processes, and considers the female subject as a cause of all his problems
- vi. Conventional Gender Performativity in the relationship between Rex and Carroll: gender stereotypical relationship: female concerned and bothered whereas male is careless and negligent

4.3 SAMPLE TEXT # 3

Emerging digital in the lives of Rex and Carroll have an impact on their relationships, identity, and thoughts. They share with their grandchildren a relationship...I think if

somebody is writing a blog every day, they are getting something out of it. (1156 words: Sudowrite.ai, [whole text sample to be found in the CD annexed with this dissertation])

4.3.1 Step 1: Cohesion

Following lexical items and cohesive devices are used in the generated text to qualify it as presenting a coherent and meaningful text. (Detailed analysis of the lexical items and cohesive devices used in the sample text #3 can be found in the CD annexed with this dissertation)

4.3.1.1 Lexical Items Used. The content of the text from the analysis of its lexical bank falls into the following major categories.

Relationships:

Movement in relationships:

Professions:

Stages of relationship:

Progression of time for personal development:

Education:

Gender discrimination:

Qualities of wife:

Marriage:

Life without wife:

Current life:

Suggestivity:

Technology:

Discussion on the Choice of Lexical Content: From these head categories, it becomes apparent that the AI generated language text is a life account of a 92-year-old narrator. Recounted in the first-person narration using “I”, the text builds a narrative on the biography of the writer starting from his early days of life through his school and college life, profession, meeting and marrying his wife, life after her death, and how he spends his days in the current times. In the end of the narrative, the narrator explains how different forms of technology have helped in communicating with his friends despite all his ailments. Also, the use of conditional phrases reflect uncertainty on part of the narrator implying that

the narrator is expressing his observations and his personal experiences with which the reader might differ.

4.3.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.3.1.2.1 References. This text can be read at various levels: the various types of emerging digital technologies, subjects using them, their thoughts, expectations, insecurities, and experiences while using these emerging devices. The smooth flow and continuity in the text are achieved using various references. The omniscient narrator, the two subjects Rex and Carroll, and various forms of emerging digital technologies are referred to using personal references, whereas extended reference “it” has been used to refer to the attitudes, insecurities, and approaches of the subjects Rex and Carroll. Demonstrative references have also been used to point towards the proximity of ideas and attitudes towards the different forms of emerging digital technologies.

4.3.1.2.2. Connectives/ Conjunctions. Temporal conjunctions used in the text include until, when, during the day, then, on weekends, at that time, finally, the last ten years, once in a while, every day. Apart from additive conjunction “and”, adversative conjunction “but” is also used occasionally.

4.3.1.2.3. Substitutions. A number of substitution words have been used in place of other words to avoid repetitions:

Discussion on Findings of Cohesive Devices: This text presents an autobiographical account in the first-person voice. The narrator gives a progressive account of the different stages of his life. The stages are connected using different conjunctions to make a coherent, meaningful, and a logically connected narrative whole. Since the narrative is progressive where one stage gradually merges into another, there are no blatant contradictions, however, occasional use of the adversative conjunction “but” implies a contrasting view subjected to a particular stage.

Being an autobiographical account there remained chances of repetitions as the narrative progressed through different stages. However, through references and substitutions repartitions and monotony are avoided, thematic unity is maintained, and at the same time progress as well as uniqueness of each stage are ensured.

4.3.2 Step 2: Digi- Modern Traits

Following digi- modern traits have been found in the text. (Detailed analysis of the digi- modern traits in the sample text can be found in the CD annexed with this dissertation):

4.3.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression. The narrative begins by the omniscient narrator giving a biographical account of his life starting from his days at school through college and profession to meeting and getting married to his wife to a lonely phase of old age where his wife has died, and he is living alone. The narrator explains how the use of different forms of the emerging digital technologies have helped remain in touch with his friends and feel being a part of a social community.

4.3.2.2 Onwardness. The narrative presented by the text offers an autobiographical account of the narrator starting from his childhood through college to adoption of career through married life and death of his wife to his present days of life. The sample of the generated text presents the narrative at a stage where the narrator, being 92 years of age, has different physical ailments and is lonely at the same time. He uses different forms of emerging digital technologies to communicate and interact with his friends. From the previous folds and turns through which the narrative has passed, it appears that further generation of the text can progress the narrative in a number of directions such as his relations with his grandchildren as the title suggests, with his friends, his excursions, the process of being indulged at any old age activity etc. This implies that unlike conventional autobiographical accounts ending at the writer's old age, with further AI generated text, the narrative can be (re)shaped and progressed onwards.

4.3.2.3 Haphazardness. Because the narrative is being (re)shaped by the AI generated text, it has a haphazard effect in weaving a coherent and meaningful narrative. The haphazardness becomes apparent from the repetition of words and ideas in the generated text such as narrator's interactions with his wife-to-be before his marriage, and the comparisons he draws between old times dominated by physical get together among friends and the current times when he is physically lonely yet because of the use of different forms of technologies, the distances and physical get-togethers are rendered inconsequential and he is facilitated in his communication and interaction with his friends. The roots of this haphazard effect in the narrative are traced to the nonlinearity achieved

through the incessant user interaction. Since AI generates text as an output through the processing of the data on which it is trained autonomously and without any external intervention, the words and ideas can be repeated, yet the narrative being (re)shaped continues to develop over a trajectory that yields a coherent and meaningful autobiographical account.

(Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation)

4.3.3 Step 3: Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed syntactic analysis of the text sample # 3 and related findings can be found in the CD annexed with this dissertation).

4.3.3.1 Interpersonal Meta Function. The introductory paragraph is in the third person narrative and refers to Rex and Carroll. It is in declarative mood indicating the omniscient presence of the writer weaving a story about the characters Rex and Carroll. However, the rest of the text is in the first narration produced by the character Rex. Because of the use of “I” for the subject, the text becomes a first-person narration which is produced in Rex’s own voice.

The use of past and present tense in the clauses indicate that the narrative being built hovers over a time of Rex as an individual starting from his childhood through to his college to the selection of his profession to the married phase of his life to finally the present times when he is a 92-year-old man and is alone. The clauses in past tense also refer to his father, his profession, his wife, getting married to her, and her death.

Being an autobiographical account weaved in the words of Rex, most of the clauses exhibit a positive polarity and a certainty indicative of the confidence and omniscient knowledge of the narrator. However, there are a very few clauses which express a certain air of uncertainty, but this uncertainty does not reflect the narrator’s not knowing the facts but lies in the use of modals which, instead of challenging what had happened, are expressive of a possibility of improvement, such as his ability to pass the exam or wondering if he could be together with his wife- to be.

Also, though the text is mostly expressive of a positive polarity, there are a few negative clauses. Such clauses refer to the inabilities of the narrator such as in the past his not being good at math or not being able to become a lawyer. Similarly, there are a few negative clauses in the present tense which are all reflective of the inabilities of Rex in doing certain things that have their roots in his old age.

Lastly, the clauses referring to forms of emerging digital technologies and their usefulness are all in present tense indicating that they refer to the current times, which are different from the times that are past. The narrator seems to school the readers on the usefulness of technology and refers to the conditions that have substantially changed.

4.3.3.2 Ideational Meta Function. From the analysis of the text, it becomes obvious that approximately 178 clauses that form the text reflect only four types of meta functions:

4.3.3.2.3 Material Processes. Material processes are used to draw comparisons between the past and present at most instances, for example the way Rex and his friends communicated and interacted with each other in the past and in the present times, and Rex's married life and his present loneliness. The material processes taking place in the past in this text refers to women not going to schools, friends getting together easily whereas in present times the use of technology has enabled people to become more well connected. The material processes in which Rex is the actor range from those performed in the past to his present life whereas Carroll has been discussed as being involved in the material processes that ultimately led to her death. Rex's present living conditions are also depicted using the material processes in which he is involved.

Lastly, though stated in the present tense, the reader is addressed and warned to get engaged in those material processes which involve a use of the different forms of emerging digital technologies

4.3.3.2.4 Verbal Processes. Verbal processes in which Rex and Carroll are independent sayers are directed at giving information to or asking something from the other, whereas the verbal processes shared by both i.e., Rex and Carroll referred to as we and by Rex's friends are about shared conversations and telling each other everything.

4.3.3.2.3 Relational Meta Function. Critical analysis of the attributive relational processes indicates that the different forms of emerging digital technologies include

computers that could talk, telephone, and internet and their attributes pertain to their distinct qualities. These qualities are possessed by the technologies in the present time and are mostly focused on making communication and interaction easy and efficient. In this text sample, the attributive relational processes in which subject Rex is the carrier indicate his existential qualities possessed over a period spanning from his childhood to the present old age of 92 years. These attributes not only mark the milestones of his life such as death of his father, his first marriage, but also indicate his personality traits such as his being shy. In both cases, the attributes serve as the root causes of the different evolutionary phases through which his life progresses. Similarly, the attributes possessed by Carroll refer to her age, different diseases, her distinct appearance, and her personality traits that were found attractive by Rex. The attributive relational processes in which “we” are the carriers refer to Rex and Carroll and describe the qualities of their relationship which evolved from becoming good friends to being a couple. In some attributive relational processes “we” refer to Rex’s friends and their states as being married, divorced, lonely, or even dead. Referring to women, two attributes have been discussed i.e., their appearances and their education.

The relational processes used in the sample text are attributive in nature, however, in case of Rex and the circle of friends (referred to as “we”) of which he is also a part, they can be used to indicate the evolution of their lives, whereas for Rex’s wife Carroll, both Carroll and Rex referred to “we”, the women in general, and the forms of emerging technologies, the attributes refer to their qualities that serve to distinguish them.

4.3.3.2.4 Mental Processes. Two types of mental processes are identified in this sample text:

I. Affective Mental Processes: Only three affective mental processes are identified in this sample text, and all are sensed by Rex.

The affective mental processes are all sensed by Rex and all processes are regarding his feelings for Carroll which are developed spontaneously.

II. Cognitive Mental Processes: there are approximately twenty- one cognitive processes out of which only one is being sensed by both Rex and Carroll, whereas in the rest of the cognitive mental processes Rex is the sensor.

Where the cognitive mental process in which both Rex and Carroll are the sensors is about their deciding to get married, the cognitive mental processes sensed by Rex only refer to learning different fields of knowledge and skills, selection of profession, and teaching activities, all of which have happened in the past. The cognitive mental processes experienced by Rex in the present times refer to his abilities to remember different things, writing, pondering over different issues, and taking decisions.

4.3.3.3 Textual Meta Function. Analysis of the textual meta function being performed by the syntactic patterns used in the clauses indicate that most themes are unmarked, there are a very few marked themes. Since it is an autobiographical narrative, the subject of the unmarked themes is the writer himself, whereas the marked themes are derived out of the circumstances and processes.

This text does not have any interpersonal theme and presents a coherent and meaningful autobiographical narrative whole achieved using temporal conjunctions to connect the different stages of the writer's life. Additive structural conjunctions and very few adversative conjunctions are used to achieve a smooth narrative flow.

The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that Rex is the first person intra diegetic narrator. It is a male character and forms the subject of the topical themes being presented by the text. However, the marked themes arising from the processes and circumstances being discussed in the text refer to the processes (i) taking place in real life of Rex and (ii) those being performed by the technology. Through these marked themes, real life processes are contrasted with those being performed by technology. Circumstances driven marked themes refer to real life circumstances and the influence they cast on Rex.

4.3.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greima's semiotic theory of binary oppositions. (Detailed semiotic analysis of text sample # 3 and related findings can be found in the CD annexed with this dissertation).

4.3.4.1 Discursive level. Sample text is analyzed for its discursive strategies to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following features present in the text:

4.3.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Rex Growing Up Phase: The isotopy can be analyzed in terms of (i) existence in contrast to his parents, (ii) what his parents did, and (iii) through the contrast between Rex's life at school and at college

2. Rex's Profession: is analysed in terms of (i) the subjects studied, (ii) contests between professions, and (iii) by drawing a comparison between him and his father's profession

3. Relationship between Rex and Carroll: analysed in terms of (i) age difference between Rex and Carroll and their previous marital statuses, (ii) their medical conditions, (iii) their first interaction, (iv) the last stages of their lives, (v) efforts that Rex and Carroll make to their budding relationship, (vi) their stay at the hospital, (vii) termination of existence, and (viii) lives of Rex and Carroll as man and wife.

4. Comparison between Present Day and Past Times: analysed in terms of (i) Place of women, (ii) Comparison between friends in the past and present, and (iii) Comparisons between Rex and his friends.

5. Impact of Technology: analysed in terms of (i) Rex's life with and without using the different forms of technologies, and (ii) Rex's use of technology in the form of Facebook and blog.

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that the writer steers the readers to develop a certain understanding towards his various stages of his reaching at an age of 92. The text takes the form of an autobiography of the subject Rex who deliberately drives the reader into conceiving Carroll and himself as performing certain gender specific roles through the development of the narrative and the use of lexical items that show him as involved into doing physical chores, assuming a professional career, and taking concrete decisions. Though the name has been used equally for men and women in a western society, in this text it is the name of the writer's wife whom he describes in terms of her appearance, nature, and body ailments. Being a male subject, the writer has led the reader to develop an understanding of himself as the protector and guardian of his dying wife, and projected the image of his wife as a partner who was supposed to be at home, taking care of her husband and his apartment, and doing household chores such as doing cooking, changing sheets etc.

In the sample text, the writer, by drawing comparisons between the past and present phase of his life, discusses the usefulness of different technologies in the difficult times of his old age to subtly convince his readers in using the same technologies and combat the challenges of the present era where people are physically scattered yet remain in touch and share things with each other.

4.3.4.1.2 Grammatical/ Syntactical Linguistic Devices. This autobiographical account presents reality through sequencing of a variety of different ideas into a coherent and meaningful narrative whole built using the following devices such as adversative, temporal, demonstrative, causal, additive, continuity, spatial devices, repetition of ideas, use of substitution words, ellipsis, nominalization, and the use of active/ passive voice.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting a first-person narrative in which the focus is on the evolution of the writer from being an orphan child to an old man of 92 years of age. Being a progressive account about different stages of his life, the narrative has a variety of ideas; where many ideas are unique to a particular stage and there also may be many which are repeated. Repetition of ideas imply two things (i) since it is a progressive account, it involves a gradual transition from one stage to another wherein certain ideas are carried forward rather than being discarded abruptly, (ii) emphasize writer's point of view. Using linguistic devices, a symmetrical and a well- balanced universe is created, in which the use of linguistic devices enables a coherent and meaningful progress of the narrative.

4.3.4.1.3 The Enunciative Component. The enunciative strategies used in the text are mostly descriptive in nature. The text is in the first-person narrative where the narrator is intra- diegetic (i.e., an actor in the text). The mood of the text is declarative and both past and present tenses are used in the text.

Discussion on the Enunciative Component: Because the narrator is intradiegetic and himself is the protagonist, the narrative becomes an autobiographical account of the narrator's life. The narrative hovers between past and present tenses to draw comparisons between his past and his present conditions and the different phases of his life. Also, the text is in declarative mood and since the narrator himself is giving the details, they neither can be challenged nor could there exist a second version to them.

4.3.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed as having the following event sequences. The event sequences are analysed to have independent subject, quest of object, and the transformation they undergo.

1. Childhood and college period
2. Career building
3. Getting married
4. Compromises in life
5. Present old age

Each of the event sequence is further studied independently through analysis of actantial and canonical narrative schema, and the contract materialized through qualifying, decisive, and glorifying tests.

Event sequence (1) highlights the narrator as a subject who has to choose between playing and wasting his time on the premise of nonavailability of funds because of an early death of his father or putting himself through college as a step needed to be taken to becoming successful.

Event sequence (2) highlights the narrator as a subject who had wanted to become a lawyer but since lacked to meet the basic criteria, became a teacher instead.

Event sequence (3) highlights the narrator getting married to his wife despite her illness.

Event sequence (4) highlights the narrator as a subject who has to compromise with a sick wife, who has to choose between comforts of married life or taking care of himself and the apartment. He chose to compromise and take care of himself and the apartment himself.

Event sequence (5) highlights the narrator who at an old age wishes to remain in touch with people. He, with the use of technology, remains connected to the world despite being hampered by multiple old age ailments.

4.3.4.3 Deep Level. The text presents a narrative framed on the autobiographical account of the narrator Rex. This implies that as a study of the presented narrative, the text can be analyzed to be composed of several phases, wherein each phase is reflective of a certain transformation in the narrator by the time it ends. Deep analysis of each phase is carried out by mapping the relationships of contriety and contradictions along the semiotic

square and the resultant transformation. The aim of the deep analysis is to expose the underlying themes presented in the text:

1. Childhood and College

Only seven-year-old → Teacher

2. Career building

Becoming a lawyer → Became a teacher

3. Getting married

Became friends → Got married

4. Compromises in life

We went to Florida → Mainly me taking care of myself

5. Present old age

Had lots of friends → kept in touch
All around the world with friends

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects a number of transformations being experienced by the narrator Rex during different stages of life. However, unlike conventional concepts of old age life characterized by loneliness, Rex, despite his inabilities, is active and in touch with his friends. The end of the narrative reinforces the beginning of the account i.e., the impact the emerging digital technologies cast on the lives of its users.

4.3.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial themes: three subjects are present:

- i. The narrator: the narrator who introduces the underlying concept of the upcoming autobiographical narrative and its underlying theme
- ii. Rex: the narrator who gives a first-person autobiographical account.
- iii. Carroll: sick and dependent female

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Qualities of different forms of emerging digital technologies
- ii. Rex: He is a stereotypical male subject who has been struggling since childhood, caring and protective towards his wife, self-independent, and involved in cognitive and material processes
- iii. Carroll: a dependent and sick female
- iv. Relationship Between Rex and Carroll: Rex is the provider and Carroll the seeker.
- v. Conventional gender performativity: Despite the writer of the text being nonhuman, it gives an autobiographical narrative account in which it passes as a male through different phases of life. The life is defined by struggle, profession, marriage, and an old age in which he, despite old age ailments, struggles to remain active. In his struggles to keep in touch with his friends he uses different forms of technology.
- vi. qualities of emerging digital technologies: as explored by drawing comparisons between the times without technology that are past and current era dominated with the use of technology.

4.4 SAMPLE TEXT # 4

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships, identity, and thoughts. They are now faced with the same decisions that many of us face... we learn to better understand our digital technologies and the impact they have on our lives. (775 words: Sudowrite. Ai, [whole text sample to be found in the CD annexed with this dissertation]).

4.4.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text # 4 can be found in the CD annexed with this dissertation)

4.4.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories

Omniscient narrator: I

Subjects: Rex, Carroll

Generalized target subjects:

Emerging digital technologies:

Interview:

Research:

Problems:

Carroll's thoughts:

Use of digital technologies:

Impact of digital technologies on identity:

Parents and kids using technology

Media representation:

Developing an understanding:

Experiences:

Discussion on Choice of Lexical Content: From these head categories, it becomes apparent that the AI generated language text is a first-person report on an interview of a subject Carroll. It appears that the interview is about Carroll's views on some research done on the use and impacts of technologies on their users. The areas of research include the role of parents in the lives of kids using technologies, media representation of technology, and experiences of individuals.

The text is generated five paragraphs, and from the cursory inspection of the lexical choices used in each paragraph, it appears that each paragraph addresses one particular aspect of the research of which the narrator's interviewee Carroll is a part.

4.4.1.2 Cohesive Devices Used. This text has multiple sentences each further organized in the form of five paragraphs. Each paragraph presents a major idea being further supported by related ideas. This implies that the text presents a narrative that flows smoothly; where one paragraph, presenting one aspect of the research the text is focusing on, merges with the upcoming paragraph by using a number of connectives such as (i) In the beginning, (ii) As a result, (iii) As parents, (iv) One of the things that I found interesting, (v) For Carroll, (vi) The first point is, (vii) For example, (viii) The second point is, (ix) I found.

Because of the use of a variety of references including personal, exophoric, personal possessive, demonstrative, external and endophoric references, not only are the repetition of words avoided, but also the text gets a continuity necessary to qualify it as a meaningful and thematically unified narrative. Whereas the text is dominated by a number of repetitions of same words used to reinforce the emerging themes, a few substitution words are used to avoid monotony and boredom.

Discussion on Findings of Cohesive Devices: This text presents an autobiographical account in the first-person voice. The narrator gives a progressive account of the different stages of his life. The stages are connected using different conjunctions to make a coherent, meaningful, and a logically connected narrative whole. Since the narrative is progressive where one stage gradually merges into another, there are no blatant contradictions, however, occasional use of the adversative conjunction “but” implies a contrasting view subjected to a particular stage.

Being an autobiographical account there remained chances of repetitions as the narrative progressed through different stages. However, through references and substitutions repetitions and monotony are avoided, thematic unity is maintained, and at the same time progress as well as uniqueness of each stage are ensured.

4.4.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digi-modern traits in the sample text can be found in the CD annexed with this dissertation):

4.4.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory where connectives are used to frame a proper beginning, and ensure a well carved, logically connected, and thematically unified progress. The narrative begins by the first person, intradiegetic narrator introducing his review of an interview conducted with Carroll who is a part of the study, moves through Carroll’s views on media representation of the use of digital technologies, to narrator’s feedback on the interview.

4.4.2.2 Onwardness. Despite incessant user inputs, an error continued to occur because of which AI did not generate the text any further. However, the sample text presents a well-rounded, coherent, and meaningful narrative which has a proper beginning and progresses smoothly to the point where the error occurred. Even at the point at which

the error occurred, the narrative seemed to have come to a point where it shows the entirety of existence as a complete whole.

4.4.2.3 Haphazardness. The text displays haphazard effects because of the successive repetition of phrases such as “as parents, we should be encouraging our children to look at how”, “big believer in digital technologies”, “big problem”, “you don’t understand”, “the reality may be”, “they are experiencing”, and “can learn from experiences” etc. These phrases successively occurred within the same paragraphs giving an impression of haphazardness where the narrator has fallen short of ideas and seems to find it difficult to move on. This can be explained in terms of the nonlinearity of the process of text generation achieved through the incessant user interaction. Since, the AI generates text as an output through the processing of the data on which it is trained autonomously and without any external intervention, there always remains a chance of similar output generation. However, subsequent user inputs yield further text generation which result in a coherent, meaningful, logically connected and thematically unified narrative.

4.4.3 Step 3: Syntactic Analysis

The functionality of this sample text is established by the SFL analysis of the meta functions performed by the syntactic patterns used in the text. (Detailed syntactic analysis of the text sample # 4 can be found in the CD annexed with this dissertation)

4.4.3.1 Interpersonal Meta Function. The clauses used in the text indicate that the entire text is about the representation, the impact, and the advice given to the users for optimized usage of technology. The text is a review given by the writer who is the interviewer of Carroll. Whereas the interrogative clauses focus on finding the impact of technology usage by Carroll [the interviewee], the interviewer/writer gives individual feedback on the interview, makes observations on the points highlighted by the interviewee Carroll, using which addresses the readers/audience and tries to explain and convince the readers/ audience of the usefulness of technology. Carroll, being a subject, highlights his personal experiences with technology, reflects on the perceptions about technology, and presents the root cause of the insecurities regarding the use of technology. There are clauses in which the subject is “we” which is indicative of the inclusion of Rex and Carroll both, readers/ audience, users of technology, and the interviewer/ writer of the text which is reflective of the fact that the writer considers itself as part of the general audience who

should not fear technology, are being influenced by technology, and must learn to make full use of it.

4.4.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.4.3.2.1 Material Processes. The text presents a number of material processes in which Carroll, the user and believer in technology, is being interviewed on his experience with technology, and the application of the findings of his studies on general users. A number of material processes in the text highlight technology as an actor that has become capable enough to cast an impact on its human users. Also, a number of material processes are about advice given to parents regarding their kids' use of technology, reflections on the misrepresentation of technology, and the processes to understand, and learn from the experiences of Rex and Carroll as users of technology. However, the material processes in which the writer/ interviewer is the actor are about finding out and learning from Carroll/ interviewer, coming in a position of being influenced by Carroll.

4.4.3.2.2 Verbal Processes. Though no words are quoted, all verbal processes identified in the text have Carroll as the sayers. The writer/ narrator appears to be indulged in the process of communicating with the readers/ audience through the text, but nowhere are the words referring to the verbal process used with the writer/ interviewer. The text is the writer's / interviewer's observations regarding the interview given by Carroll.

4.4.3.2.3 Relational Processes. Two types of relational processes are identified in the sample text:

I. Identifying Relational Process: Only two identifying relational processes are taking place in the text, and both reflect the values of the research of which Carroll is a part. The identifying relational processes as a qualification of the research being carried on the impact of the use of digital technologies on its users.

II. Attributive Relational Process: This text has a number of attributive relational processes categorized on the basis of their carriers and the attributes. The writer in the text has assigned certain attributes to different subjects. For example, the writer finds Carroll's take interesting and refreshing, Carroll is a big believer, technology not being a problem, the problems regarding the perceptions about the digital technology and its use, and the use of

the technology by the users. In all cases, it is the writer/ interviewer which is assigning the attributes.

4.4.3.2.2 Mental Processes. The text reflects two types of mental processes being performed by the syntactic patterns:

I. Cognitive Mental Process: Where the emerging digital technologies are sensors in the cognitive processes of casting an impact on the formation of identity of their users, researchers in this text are reflected as sensors in the cognitive processes to help human users understand this impact. Use of technology is addressed in this text as a phenomenon that are to be sensed and understood by the readers/ and audiences. The striking feature of this text are the cognitive processes in which the interviewer/ writer of the text and Carroll/ interviewee are the sensors. Both the interviewer/ writer and Carroll are sensors in the cognitive processes which have phenomena of thinking, understanding, and finding implying that the interviewer and Carroll are in equations with each other in terms of their cognition. Also, the cognitive processes indicate that the interviewer not only makes observations on Carroll's stance on the use of technology, but also gives its own view of his stance. The interviewer brackets itself with the users and audience/ readers of the interview in the cognitive processes of teaching/learning from the experiences of Rex and Carroll as users of technology.

II. Affective Mental Process: Two affective mental processes are identified in the text.

1. Sensed by the interviewer/ writer of the text,
2. Sensed by a device.

Observing the stance of Carroll, and convinced in the usefulness of technologies, the interviewer/ writer of the text owns the digital technologies, and keeps hopes that as a collective group, the readers/audience as well as the writer would learn from the experiences of Rex and Carroll. The writer, being a part of the group referred to as "we", claims to have an identity which is hoped to be influenced by the use of digital technologies.

4.4.3.3 Textual Meta Function. Analysis of the textual meta function being performed by the syntactic patterns used in the clauses indicate that a majority of themes are unmarked, and there are a very few marked themes as well. Since it is an account of an interview with a commentary, the marked themes are mostly derived out of the

circumstances on which Carroll has been interviewed. The processes from which the marked themes are derived refer to the perceptions and practices regarding the use of technology.

The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer is the interviewer i.e., the intradiegetic character whose account is based on the firsthand knowledge of the interview. The topical themes emerge from the way Carroll, the interviewee, and the interviewer place them in the syntactic patterns. The intradiegetic interviewer is a participant in many processes and circumstances including those in which the writer/interviewer is bracketed with the reader/audience referred to as “we”. The processes of misrepresentation of digital technology leading to certain circumstances lead to the emergence of other marked themes from the text.

4.4.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text # 4 and the related findings can be found in the CD annexed with this dissertation).

4.4.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.4.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1.Emerging Digital Technologies: analysed in terms of (i) the software and the hardware used to execute the software, and (ii) singular or plural use of the terms.

2.Methodological study: analysed in terms of the manner of study.

3.Carroll: analyzed in terms of (i) the processes in which Carroll participates, and (ii) the physical substantiality of his actions which can further be seen through the lens of physical and abstract outputs.

4.Interviewer: analysed in terms of (i) the actions it performs in contrast with those being performed by Carroll, and (ii) comparison of the mental processes of the writer and those of Carroll.

5.Parents and kids: analyzed in terms of the contrast in their roles

6.Media: analyzed in terms of its stance on the use of digital technologies in contrast with that of Carroll.

7.Use of technology: analyzed in terms of the analogies drawn between digital technologies and camera works

8.Impact of technology: analyzed in terms of use of technology contrasted with the use of a device

9.Reality: analyzed in terms of drawing a contrast with experiences of Rex and Carroll

10.Teaching/ learning process: analyzed in terms of audience/ readers contrasted with experiences of Rex and Carroll

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that it is about the use and impacts of technology on its users. The narrator is the intradiegetic character i.e., the interviewer who through an interview with Carroll attempts to prove the usefulness of digital technologies and their impacts on the identity and lives of their users. The narrator has used Carroll's stance on different aspects of the use of digital technologies and directly addresses the reader/ audience into learning from the experiences of Rex and Carroll.

4.4.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, ellipsis, active/ passive, nominalization, and connecting tools. The text is organized in six paragraphs consisting of mostly complex- compound that present various ideas. Since it is an account of an interview conducted by the writer who is also an intradiegetic subject in the narrative, the text is written with an omniscient knowledge and is connected through use of various linguistic devices such as additive, structural continuity elements, repetition, nominalization, active voice used in all Except for one sentence, all sentences in the text are in active voice.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with a number of linguistic features with Carroll as the pivot along which the whole

narrative is weaved. Where Carroll serves as a standard against whom other features are analyzed in contrast to draw their values. Additives and structural continuity elements are used to ensure that the narrative flows smoothly without disruptions likely to be caused because of the emergence of a new theme in every upcoming paragraph. Repetitions are made in the text to emphasize the point being made, and the occasional use of passive voice in the beginning of the text is reflective of the writer's intention to shift the focus on to the object of the action rather than the subject. This sentence in passive voice focuses on Rex and Carroll at a crossroads to choose the usefulness of technologies or the impact that their use might have on their users. The crossroads of choices form the major theme of the text sample.

4.4.4.1.3 The Enunciative Component. The enunciative strategies used in the text are descriptive as well as addressing in nature. The text is in the first-person narrative who is intra- diegetic (i.e., an actor in the text). The text uses the modal “might” to reflect the possible impacts of use of technology on its users, “should” for the advice on parental practices, “may” for the impact a picture might produce and the reality, and “likely” reflect an uncertainty on part of the writer who is intradiegetic character yet cannot declare with precision the implications of the use of technology. Being the interviewer, the writer addresses the readers/ audience and tries to convince them on the usefulness of digital technologies.

Discussion on the Enunciative Component: Being the intradiegetic subject, the writer/ interviewer in the narrative has several sides: (i) presents an account of the interview that was conducted with Carroll on his being part of the studies. This account is about something that has already happened, and the writer has a firsthand knowledge about it, (ii) remains dubious of the future, i.e. though the writer gives advice regarding the impact of the use of technology, the element of probability is kept under consideration. It is for this reason that the writer has used modals to talk about the most likely effects of the use of technology, (iii) the writer uses enunciative techniques to address the audience/ reader of the narrative directly and convince them on the usefulness of technology and its impacts, (iv) through the use of the word “we”, the writer has bracketed with the readers/ audience of the narrative and the general users of technology to learn and remain hopeful for developing a better understanding of technologies.

The text is an account of an interview with the interviewer's commentary. It is framed in present tense, in a declarative mood and modals are used only when the writer keeps a consideration of any unforeseen possibility. The intradiegetic presence of the writer as the interviewer gives a subjective colour to the narrative which is enhanced by the commentary i.e., the narrative is not an objective account, but a narrative framed with an undeniable bias of the writer.

The enunciative strategies used in this text contribute to develop a strong sense of perceiving the relationship between the use of technology and the impacts it casts on its users as an interplay where one remains dependent on the other and continues to evolve together.

4.4.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed in a number of event sequences. Each event sequence is analysed in terms of independent subject, quest of object, and transformation that the subject undergoes. The event sequences identified in the text narrative are:

1. Carroll talks about the study of which he is a part
2. Scholarship on role of parents
3. Problem is the user
4. Importance of understanding technology
5. Implications of use of technology
6. Learning experiences

Each event sequence is further analysed in terms of actantial and canonical narrative schemas and the contract achieved through the analysis of qualifying, decisive, and glorifying tests to highlight the following:

Event Sequence (1) highlights Carroll as a subject has become a part of a study to look at identity in relation to the use of digital technologies and has developed a better understanding of the interplay between digital technologies and identity.

Event sequence (2) highlights the need for more scholarship on the topic of parents seeing their big role in shaping the lives of their children and helping them understand the implications of what they do with digital technologies. Our kids use digital technologies,

and parents should be encouraging their kids to develop an understanding of the implications that the use of digital technologies might have on their lives.

Event sequence (3) highlights the fact that technology itself is not a problem. The problem arises in the way digital technologies are used.

Event sequence (4) highlights the importance of developing an understanding among the users of technology to understand how the technology works in order to get maximum benefits from it.

Event Sequence (5) highlights the fact that the extent of being influenced by the use of technology depends on the frequency of usage of technology.

Event Sequence (6) highlights the fact that the extent to which digital technologies can cast an impact on identity depends on the experiences of their users.

4.4.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is

Use of digital technologies	vs	Impact of use of digital technologies on the users' lives
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2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Impact of use of digital technologies	vs	how users use digital technologies
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3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Use of digital technologies without understanding their operations	vs	Use of digital technologies with an understanding of their operations
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The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Talks about the study and the goals behind the research

To look at identity in relation → Had a better understanding
of to the use of digital interplay between technologies

digital technology and identity)

2. More scholarship on the role of parents in shaping the lives of children

Research with goals → More scholarship to
to look at impact of understand kids and
technology on identity what they are doing

3. User being the problem

Technology is the → Problem is the person using
problem the technology

4. Understanding of technology

Don't understand how → Don't understand the
the technology works implications of technology

5. Implications of use of technology

More you use a device → More you are likely
to conform to what the
technology is saying

6. Learning experiences

So much fear and concern → reality is much more
about digital technologies complex

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects a number of transformations, each phase refers to developing a certain understanding about technology and learning a certain aspect about it.

In contrast to the name Carroll traditionally being taken as a name for females, in this text it is the name of a male character who is being interviewed. Where the gender of the writer,

also an intradiegetic character taking the interview in the narrative, is avoided, Carroll is seen as being an actor in the cognitive mental and material processes implying that it is the males who are involved in carrying out studies, adding to scholarships, making observations, believer in technologies, and challenging the conventional practices. The name Rex, as given in the user input to initiate text generation, has been ignored and appears only as an additive to Carroll in the last paragraphs i.e. gender of Rex is not made clear as this subject is not seen as participating in any process. Processes are seen as being done to both the subjects i.e. the subject referred to as Rex and Carroll. In contrast to Carroll, Rex is not part of any process and remains hidden for most part of the narrative. Deep level analysis of the text indicates that the narrator makes observations on the interview with Carroll and uses both to educate the readers/ audience on the use of digital technologies.

4.4.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: three subjects are present:

- i. The narrator: the narrator who introduces the underlying concept of the upcoming autobiographical narrative and its underlying theme
- ii. Rex: the narrator who gives a first-person autobiographical account.
- iii. Carroll: sick and dependent female

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Qualities of different forms of emerging digital technologies
- ii. Rex: He is a stereotypical male subject who has been struggling since childhood, caring and protective towards his wife, self-independent, and involved in cognitive and material processes
- iii. Carroll: a dependent and sick female

- iv. Relationship Between Rex and Carroll: Rex is the provider and Carroll the seeker.
- v. Conventional gender performativity: Despite the writer of the text being nonhuman, it gives an autobiographical narrative account in which it passes as a male through different phases of life. The life is defined by struggle, profession, marriage, and an old age in which he, despite old age ailments, struggles to remain active. In his struggles to keep in touch with his friends he uses different forms of technology.
- vi. qualities of emerging digital technologies: as explored by drawing comparisons between the times without technology that are past and current era dominated with the use of technology.

4.5 SAMPLE TEXT # 5

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. When Rex and Carroll are unable to connect in person...they are constantly comparing their lives online to the way their lives are in real life. (733 words: Hyperwrite. Ai, [whole text sample to be found in the CD annexed with this dissertation])

4.5.1 Step 1: Analysis for Cohesion

Following is the analysis of the use of cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #5 can be found in the CD annexed with this dissertation)

4.5.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Emerging digital technologies as parts of human lives

Communication

Online lives

Real life

Real- life relationships

Virtual friendships

Real life relationships in the past

Relationships in the present

Rex

Carroll

Rex and Carroll

Discussion on the Choice of Lexical Content: From a superficial analysis of the vocabulary used in the text, it becomes apparent that the sample is about differences in online and real-life communication as experienced by the subjects Rex and Carroll. Where these differences are discussed in general terms, they seem to have been discussed in terms of past and present.

4.5.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.5.1.2.1 References. Personal, demonstrative, extended references are used in this text.

4.5.1.2.2. Connectives/ Conjunctions. This text has multiple sentences each further organized in the form of nine paragraphs. Each paragraph presents an idea shaped by various ideas presented by the sentences used in the paragraph. Adversative, additive, temporal, causal conjunctions and connectives are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

4.5.1.2.3. Substitutions. Following words have been used in place of other words to avoid repetitions

Discussion on Findings of Cohesive Devices: This text has multiple sentences which are further organized in the form of seven paragraphs. The text builds a narrative around the ideas of differences in online and real-life communications done in past and in the present time. Personal and extended references to avoid repetition of words, a number of conjunctions and structural connectives, and substitution words avoid monotony and boredom, ultimately giving the text a continuity necessary to qualify it as a meaningful and thematically unified narrative.

4.5.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation):

4.5.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory where connectives are used to frame a proper beginning in which the concept of online communication is introduced, and the remaining narrative is meaningfully, logically, and thematically built over the differences in physical and online communication and the differences between past and present practices made to maintain friendships in the digital age. The main purpose of the narrative built through the discussion on these differences lead to the development of an understanding among the readers that the internet no longer deserves a consideration as a mere tool of communication, it has started to cast an impact on its users' lives, thinking, and the way they relate to one another.

4.5.2.2 Onwardness. The sample text presents a well-rounded, coherent, and meaningful narrative which has a proper beginning and progresses smoothly to a point where it could progress further on receiving more user inputs. However, if left at his point, as has been done, the narrative does not seem incomplete and makes a complete whole.

4.5.2.3 Haphazardness. Haphazard effect in this sample text arises from the development of narrative trajectory which is being done at two levels and is also done in the backdrop of differences in the personalities of Rex and Carroll. Differences in the personalities of Rex and Carroll are just touched upon and should have been detailed more to explain the role of the internet in changing their lives and thinking.

4.5.3 Step 3: Syntactic Analysis

The functionality of this sample text is established by the SFL analysis of the meta functions performed by the syntactic patterns used in the text. (Detailed syntactic analysis of the text sample # 5 can be found in the CD annexed with this dissertation)

4.5.3.1 Interpersonal Meta Function. The clauses used in the text present a narrative built over the concept of the impact produced by the internet on its users. The text evolves over the narrative trajectory which begins with the online communication between the subjects Rex and Carroll, moves to their physical interaction and then reflects back in the past times when they and their parents had to make efforts to maintain their relationships. Where Rex and Carroll are the subjects of the actions pertaining to maintenance of their relationships in the past as well as present, it is the technology that has undergone a transformation. From being a mere tool of communication, the internet

has transformed into becoming an active subject which is in a position to influence relationships. In other words, it is the third subject which has evolved into becoming an active agent in equations with its human users Rex and Carroll to make a difference in the present times to distinguish it from time that are past. This influential power of the internet is executed not only in terms of virtual communication between Rex and Carroll but also the way it has influenced the thinking and approaches of its users.

4.5.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.5.3.2.1 Material Processes. The text presents a number of material processes which are being acted upon by the different agencies. Where most of the material processes being referred to in the text are performed by Rex and Carroll both (often referred to as they), the other actors are communication and digital technologies. The material processes in which communication is the actor are the products of the impact cast upon by the digital technologies implying the fact that technology has become one more active agent in equation with its human users to bring a material change.

4.5.3.2.2 Verbal Processes. Though there are no direct quotations of any subject's sayings, the verbal processes identified in the text refer to the topics of communication between Rex and Carroll. It is these verbal processes that indicate the impact of use of technologies on Rex and Carroll i.e., where they first used to talk about the websites and apps, now the topic of their conversation is the way in which digital technologies have changed their lives.

4.5.3.2.3 Relational Processes. Being users of technologies, Rex and Carroll have been identified to carry subjective attributes such as being each other's best friends, being physically together, feeling disconnected, or being patient with one another. Whereas the attribute of their conversations indicates their nature, it is the digital technology which has been given an attribute that plays a characteristic role in defining the position of the digital technologies in the lives of their human users. The attribute is that of becoming an "integral" part of their users' lives which implies that digital technologies have become inseparable from human life or that human life needs to be defined from that perspective that digital technologies is among its constituent parts.

4.5.3.2.4 Mental Processes. Two types of mental processes are identified in the text

- I. Cognitive Mental Processes: The cognitive processes taking place in the text are reflective of several aspects
- i. The efforts they have been making in the past to maintain their friendship
 - ii. Their thoughts on the effect of the use of internet on their relationship
 - iii. Their learning with time
 - iv. the changes gradually taking place in their approaches and thinking
 - v. their present thinking

In the cognitive processes spanning over the past and present lie the message of the narrative being presented by this sample text i.e., they reflect how because of the use of digital technologies Rex and Carroll have transformed as individuals and how their friendship continues to grow and prosper despite not being always together. Through the cognitive processes, readers develop an understanding that digital technologies have a key role in redefining their users' thoughts, lives, and relationships.

- II. Affective Mental Processes: range from the feelings Rex and Carroll had in the past to their present feelings, which are reflective of how they, as human beings, have experienced emotional changes because of the use of digital technology, i.e., where they used to feel in the past that they need to make a lot of compromises in the past to keep up their friendship, digital technologies have facilitated the execution of their personal preferences and at the same time maintain their relationships.

4.5.3.3 Textual Meta Functions. Being derived out of their subjects, the unmarked themes identified in the text can be categorized to fall into two categories: (1) human subjects i.e., Rex and Carroll both, Rex, and Carroll, and (2) Nonhuman subjects i.e., emerging digital technologies, internet, or digital technologies. From the analysis of the unmarked themes, it becomes clear that human subjects and nonhuman subjects both have played an active role in building a coherent, meaningful, and logically connected narrative which has an underlying theme of exploring the role of digital technologies.

The marked themes derived out of circumstances and processes are reflective of the changes brought about using digital technologies and being experienced by Rex and Carroll in the past and during the current times.

This text does not have any interpersonal theme and presents a coherent and meaningful narrative weaved using adversative and causal conjunctions, and a number of connectives.

4.5.4. Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the generated text and the related findings can be found in the CD annexed with this dissertation)

4.5.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.5.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Communication: analysed in terms of communication (i) done on individual level and in a group, and (ii) taking place in the physically real world and the virtual world.

2. Conversations: analysed in terms of taking place in the virtual world and the real world

3. Friendships: examined in terms of the differences in efforts made to maintain their friendships in the past and the present

4. Impact of internet: examined in terms of the changes internet had brought in the lives of Rex and Carroll

5. Rex and Carroll: examined in terms of Rex and Carroll individually and their being together:

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that communication, conversations, friendships, impact of the internet, and Rex and Carroll are the central themes. The narrator builds a narrative in third person voice through the comparison between the past and present, and the role of the internet on the evolution of the thinking of its users.

4.5.4.1.2 Grammatical/ Syntactical Linguistic Devices. Despite the fact that the text has seven paragraphs, in which contrasting ideas are sequenced to weave a coherent and meaningful narrative that remains convincing in creating an illusion of the real through the use of a variety of linguistic devices. Written with an omniscient knowledge, the

narrative remains coherent, meaningful, logically connected, and thematically unified through use of additive,

Adversative, temporal, and causal conjunctions, structural continuity elements, a number of nominalizations, and active voice.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with a number of linguistic features that are all used to yolk together contrasting ideas to present a logically connected and thematically unified narrative. The text is organized in seven paragraphs and each paragraph focuses on one theme only. Not only are these paragraphs connected to one another through connectives, the narrative has an underlined theme running along the whole narrative i.e., the impact digital technologies casts on its users. This underlying theme is developed from three perspectives: (i) comparing the difference in online and physical interaction, (ii) comparing the efforts made by Rex and Carroll in the past and in present times to keep their friendships, and (iii) differences in the topic of conversations between Rex and Carroll in the past and in present times. The use of three different angles to the development of a single theme to weave a single coherent, meaningful, and logically connected narrative becomes possible only through the use of grammatical/ syntactical linguistic devices.

4.5.4.1.3 The Enunciative Component. The narrative built by the text is descriptive in nature, has a declarative mood, and does not have any modals.

Discussion on the Enunciative Component: Since comparisons lie at the base of the narrative, the enunciative strategies used in the text indicate that the writer is certain about the comparisons being made. The narrative exudes an omniscient knowledge and an objective observation used to draw the comparisons.

The enunciative strategies used in this text contribute to develop a strong sense of perceiving the difference between the times that are past and the current digital age, the nature of relationships before and presently, and the thoughts and efforts made by the users. It is through the enunciative strategies that the narrative remains successful in fully conveying the underlying message.

4.5.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying the event sequences. Each event sequence is analysed in

terms of independent subject, object of quest, and transformation experienced by the subject. The identified event sequences are

1. Online interaction between Rex and Carroll
2. Physical interaction between Rex and Carroll
3. Conversation in real life
4. Efforts to maintain friendships in the digital age
5. Impact of digital technologies

Each event sequence is further analysed in terms of actantial and canonical narrative schemas and the contract achieved through qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights Carroll as a subject has become a part of a study to look at identity in relation to the use of digital technologies and has developed a better understanding of the interplay between digital technologies and identity.

Event sequence (2) highlights the dependence and need for the interpretation of nonverbal information for communication. It becomes evident that the exchange of ideas, and interest in the virtual world is dependent on nonverbal communication and users of digital technology tend to interpret body position and tone of voice for nonverbal communication alongside their conversations.

Event sequence (3) highlights the fact that because of the use of digital technologies virtual friendships and real-life relationships are so intermingled that users find it difficult to distinguish between the two. Since users spend more time in online communication, they tend to engage in the real-life conversations in the same way and efforts at such engagements usually do not bring the same fruit as it used to.

Event sequence (4) highlights the positive role of digital technologies. Digital technologies allow their users to remain connected with their friends and at the same time enjoy being apart.

Event Sequence (5) highlights the fact that the users of that internet gradually realise that being a part of our lives, the impact of the internet in the lives of its users cannot be negated.

4.5.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is

Realization that internet	vs	Realization that internet has an
is a part of life		impact on the lives of its users

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Communication in the past	vs	Communication in the present
digital age		digital age

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Users of digital technology vs Users of digital technology have learnt

had to find ways and make sacrifices to make their friendships work

that they need not do everything together and enjoy the time they do spend together

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Communication in the digital age

Nonverbal communication → more attention is paid to body
had become more pronounced language when sending messages

2. Relationship between Rex and Carroll has evolved as the internet and digital technologies have become an integral part of their lives

Rex and Carroll have been best friends → Rex and Carroll feel disconnected

3. More scholarship on the role of parents in shaping the lives of children

Relationship between Rex and Carroll in the past → Relationship between Rex and Carroll in the present times)

4. Transformations in conversation

Technology is a part → Technology has a big impact

of their lives

on their lives

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects a number of transformations, each phase refers to developing a certain understanding towards the impact that the use of technology casts on the lives of its users, their thoughts and relationships.

The writer of the text through the experiences of Rex and Carroll gradually develops an understanding among the readers that technology is more than a mere tool of communication which facilitates nonverbal communication among its users. Through the experiences of Rex and Carroll, the writer brings a transition in the reader's attitude towards technology, where technology is seen as a tool that is in a position to cast an impact on the lives of its users.

4.5.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: two subjects are identified in the text:

- i. Rex: an expressive subject who likes to share whatever is present on his mind
- ii. Carroll: a nervous subject who does not share his thoughts and ideas in real life
- iii. Rex and Carroll (also referred to as they): two friends whose relationship over the internet.

Review of the Themes: The major theme identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the theme on which the generated text develops the narrative is the impact that the use of digital technologies and internet has on the relationship existing between its users i.e., Rex and Carroll. This major theme evolves from the following ideas:

- i. Internet and social media serving as a communication tool to connect the users who otherwise remain unable to connect in the real physical world
- ii. The impact of non- verbal communication in online virtual world on the real-world communication
- iii. Difference between physical and digital relationships

- iv. Difference between maintenance of relationships in the past and the role digital technologies play in (re)shaping relationships in today's world.
- v. Impact of the use of digital technologies on real life relationships.

4.6 SAMPLE TEXT # 6

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. They <blog> ... "How did you prove you're not fictional?" asks (776 words generated by Sudowriteai, [whole text sample to be found in the CD annexed with this dissertation])

4.6.1 Step 1: Analysis for Cohesion

Choice of lexical items and use of cohesive devices in the sample text have been analysed to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #6 can be found in the CD annexed with this dissertation).

4.6.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories.

Emerging digital technologies

Online communication forms

Fiction

reality

Evolution of relationships

Uniqueness in relationship

Hyperreality

Self-proclamations

Virtuality

Vision of future

Discussion on the Choice of Lexical Content: From a superficial analysis of the vocabulary used in the text, it becomes apparent that the sample text is about an online communication taking place through different media forums such as Facebook and Twitter. The nature of the online interaction revolves around a relationship which is being experienced by the subjects Rex and Carroll. The sample is in the form of a dialogue and from the analysis of the lexical items used in it, it appears that there is an argument on fiction, reality, and how

the two intermingle with one another in a way that the distinction between the two cannot be made.

4.6.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.6.1.2.1 References. Personal, extended, and demonstrative references which have anaphoric referents are used to avoid repetitions, monotony, and boredom. At times personal reference “we” has been used to make cataphoric references to the readers and critics of the friendship between real Carroll and fictional Rex.

4.6.1.2.2 Connectives/ Conjunctions. The entire is built on comparison between fiction and reality achieved through the use of additive, adversative, temporal, and causal conjunctions are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the constant switching

between concepts regarding fiction reality, and the blurring lines between the two. Connectives such as “like most relationships”, “in some ways”, “in the future”, and “because of the blur between fiction and reality” ensure the smooth flow of narrative while ideas contrasting fiction and reality are presented.

4.6.1.2.3. Substitutions. Following phrases like “status updates”, the whole thing”, “the fiction thing” etc have been used in place of other words to avoid repetitions.

Discussion on Findings of Cohesive Devices: This text has multiple sentences which are further organized in the form of paragraphs that are connected to make a coherent narrative whole through the use of references, conjunctions, and connectives. Substitution words are used to avoid the confusion resulting from the debate on fiction and reality, and at the same time helps in preventing the text from becoming a jargon of the words “fiction” and “real”. The sample text is in the form of dialogue with a focus on real and fictional and has a continuity that qualifies it as a meaningful and thematically unified narrative.

4.6.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation):

4.6.2.1 Totalizing Path. The text is developed along a well- defined totalizing narrative trajectory where connectives are used to frame a proper beginning in which the

concept of online communication is introduced as laying the foundations of a relationship which as the reader progresses along the text finds to be unique. It is using adversative conjunctions that the reader finds one of the characters to be fictional yet real enough to befriend the other character from the real world. The narrative is built in a way to present the unique dimensions of their relationship which is derived from their debate on real and fictional.

4.6.2.2 Onwardness. The sample text presents a well- rounded, coherent, and meaningful narrative which has a proper beginning and progresses smoothly to a point where it could progress further on receiving more user inputs.

4.6.2.3 Haphazardness. Haphazard effect in this sample text arises from the repetition of arguments by the fictional Rex and real Carroll.

4.6.3 Step 3: Syntactic Analysis

The functionality of this sample text is established by the SFL analysis of the meta functions performed by the syntactic patterns used in the text. (Detailed syntactic analysis of the text sample # 6 can be found in the CD annexed with this dissertation)

4.6.3.1 Interpersonal Meta Function. The clauses used in the text present a narrative built over the concept of a hyperreal life in which fiction and reality mix to an extent that the distinctions between the two start to blur. The narrative is in third person voice displaying the omniscient knowledge of the writer over the scenario, one of the subjects is fictional character Rex that has become real to an extent that it becomes difficult to decipher it as fictional or synthetic. Where the subjects such as Carroll, a character framed as a real character, general real users including her friend Jennifer, are seen to be surrounded and using the digital technologies as they perform any real-life activities, it is the fictional character Rex that participates in equations with her in all activities. It not only develops a real relationship with the real character Carroll, but it also chooses to assume a male gender, exercises, makes actions, questions, and commands Carroll in just the same way as any real character with male gender in real life. Also, it is Rex that challenges the concepts of being in a novel and insists on everything to be based on reality. This is evident from the fact that the clauses with negative polarity have Carroll and the general users as subjects not Rex. Where Carroll's inability to distinguish between reality and fiction becomes apparent from one such clause, the other indicates the expectations that the

general users have regarding the allowances afforded by the digital technologies and the virtual world.

The imperative clause does not have any subject which implies that it is reflective of a relationship in which both the subjects participate in equations, and the interrogative clauses are used when real Carroll and fictional Rex indulge in a real debate over identification of fiction and reality in the virtual world of online communication. The declarative clauses framed using present tense with digital technologies give the technologies an animated character indicating them to have become a part of the lives of their users including Carroll.

4.6.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.6.3.2.1 Material Processes. None of the material processes identified in the text refer to any physical activity involving a spatio- temporal change or a substantial action except texting, writing, and reading status and messages. The material processes identified in the text are being acted upon by the different agencies including Rex and Carroll, both (often referred to as they), digital technologies, and the general users. Even though one of the subjects is a fictional software character Rex which appears to be real, it is an equal participant in the material processes with Carroll, and all these processes are related to online interaction/ communication. Many of the material processes being performed by Rex and Carroll both become reflections of the evolution of their relationship, they become a cause of bringing a change in the thoughts and emotions of the real subject Carroll. This implies that being an equal participant with Carroll in the material processes, fictional Rex has come in a position to cast an impact on the real Carroll.

4.6.3.2.2 Verbal Processes. The verbal processes are reflective of the characters of Rex and Carroll and their respective thoughts and approaches. For example, fictional Rex views relationships as being products of knowledge of the participants, whereas real Carroll finds them as products of stories. Similarly, the verbal processes in which fictional Rex is the sayer are about his being annoyed, frustrated, and are reflective of his efforts to avoid conflicts, whereas Carroll's verbal processes are about her insistence, arguments, and thinking. These verbal processes are reflective of their personality traits seen as being derived from their gender performativity. Fictional Rex with a male gender seems to be

aggressive and at the same time peace loving whereas real Carroll being a female is arguing and a thinking individual.

4.6.3.2.3 Relational Processes. The relational processes identified in the text are attributive in nature. The attributes identified in the text are regarding their existence in a hyperreal world where because of the use of digital technologies the distinction between fiction and reality cannot be made. It is through these attributes that the fictional character Rex and real character Carroll are brought into equations. Fictional Rex has the attributes of appearing, sounding, and responding as real, insisting on being real whereas real Carroll believes that to very existence the presence of a certain fictionality or artificiality cannot be ignored. In other words, fictional Rex is the manifestation of real Carroll's thoughts on the existence of hyperreality.

Through the characters of fictional Rex and real Carroll, the concept of real and hyperreal with blurring distinctions between real and fiction are discussed. It is through the discussion on the attributes of hyperreal and reality between Carroll and Rex that another aspect dawns on the reader that Rex is a fictional character, but it is indulged in discussion with the real Carroll as any real character would do, and the act of discussion between them implies that real Carroll considers Rex worthy enough to argue with despite the realization that it is a fictional character.

The sample text with a focus on the discussion on attributes of reality and hyperreality is written in a third person voice which implies that it is written by a writer that has an omniscient knowledge and authority over the concepts of fiction and reality, and whatever the characters say and assign as attributes to different subjects are basically the reflections of the writer. It is the writer that empowers fictional Rex to an extent that the character is in discussion with the real character i.e. the writer has a complete knowledge of what can be the reflections of the fictional Rex and also has an omniscient knowledge on the understanding of the real Carroll, even the general readers and users of technologies. The challenges and discussion in the text are reflective of the writer. This includes the writer's choice of male gender for the fictional character Rex and how it performs its male role in contrast to the female gender role performativity by Carroll who is portrayed as a real character. Where fictional Rex is arguing and assertive in its arguments, real Carroll is portrayed as arguing and a social person who has friends.

4.6.3.2.4 Mental Processes. Though fictional Rex is in a relationship with the real Carroll, discusses, shares, and argues with her, the cognitive processes identified in the text are all performed by the real human beings i.e., Carroll and the general users. This implies that the writer, despite ascribing human male gender performativity traits to the fictional Rex, does not ascribe thinking process to it. In other words, the writer considers thinking as a human trait that a fictional character cannot possess. Where fictional Rex is asserting the existence of hyperreality, it is the humans who are questioning and thinking about it.

4.6.3.3 Textual Meta Function. Being derived out of their subjects, the unmarked themes identified in the text can be categorized to fall into several categories: (1) human subjects i.e., Carroll and the general users, and (2) Nonhuman subjects i.e., emerging digital technologies, and fictional Rex, and (3) a combination of human and nonhuman i.e., fictional Rex and real Carroll referred to as “they”. From the analysis of the unmarked themes, it becomes clear that nonhuman subjects together with human subjects play an active role in building a coherent, meaningful, and logically connected narrative which has an underlying theme of the creation of an existence which is hyperreal and where lines between fiction and reality tend to blur.

The marked themes derived out of circumstances and processes are reflective of the changes brought about by the use of digital technologies and being experienced by Carroll and their general users.

This text does not have any interpersonal theme and presents a coherent and meaningful narrative weaved through the use of adversative and causal conjunctions, and a number of connectives.

4.6.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the text and its findings can be found in the CD attached to this document)

4.6.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.6.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Online communication: analyzed in terms of (i) connectivity, and (ii) drawing a comparison between physical activities and activities online.

2. Experiences of Rex and Carroll: analyzed in terms of their participants and evolution.

3. Rex: examined in terms of its creation as (i) perceived by other people and Rex himself, and (ii) (2) as perceived by Carroll and Rex himself

4. Fictional Rex and real Carroll: examined in terms of the differences in the approaches of Rex and Carroll: (i) relationships, and (ii) perceptions on existence of self

5. Present and future: examined in terms of perceptions regarding present and future

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that online communication, experiences of Rex and Carroll, the element of reality in the fictional character Rex, differences in the perceptions and approaches of fictional Rex and real Carroll, and the differences in the perceptions regarding real Carroll dating a fictional character. The narrative's focus is on the hyperreality of user experiences in the virtual world i.e., because of the affordances and allowances offered by the digital technologies, the interaction of a real character with a fictional character yields a hyperreal experience. Together they produce an interactive experience in which the distinction between real and fiction cannot be made. The fictional Rex has its own views and convictions which are at par with those of Carroll and form the major theme of the narrative being built.

4.6.4.1.2 Grammatical/ Syntactical Linguistic Devices. The entire text is built on comparison between fiction and reality achieved using (i) adversative conjunction "but", and "because" (ii) temporal conjunctions "when" and (iii) additive conjunction "and". The conjunctions are used to connect the ideas pertaining to reality and fiction and the lines demarcating them becoming blurred.

In the text, connectives such as "like most relationships", "in some ways", "in the future", and "because of the blur between fiction and reality" to ensure the smooth flow of narrative while ideas contrasting fiction and reality are presented. To avoid the monotony and boredom resulting from the repetition of words, substitutions are used such as "status updates", "the whole thing", and "this fictional thing".

Apart from conjunctions, the text has several nominalizations such as “blog”, “text”, “tweet

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with several linguistic features that are all used to yolk together contrasting ideas to present a logically connected and thematically unified narrative. The text is organized in seven paragraphs and each paragraph focuses on one theme only. Not only are these paragraphs connected to one another through connectives, the narrative has an underlined theme running along the whole narrative i.e., the hyperreal experiences afforded by the virtual world created by using digital technologies. This underlying theme is developed from three perspectives: (i) comparing the difference in online and physical interaction, (ii) comparing the perceptions and views on existence by the real Carroll and the fictional character Rex, and (iii) the perceptions of users regarding the hyperreal experiences of the users of digital technologies. The use of three different angles to the development of a single theme to weave a single coherent, meaningful, and logically connected narrative becomes possible only using grammatical/ syntactical linguistic devices.

4.6.4.1.3 The Enunciative Component. The narrative built by the text has both description as well as dialogues. Despite the fact that the entire text exudes mostly a declarative mood, there are certain interrogatives and modals which are indicative of uncertainty on part of the narrator.

Discussion on the Findings of Analysis of Enunciative Component: The sample text has two parts: descriptive and the dialogues. Though the dialogues are written as words quoted from the subjects saying them, it cannot be ignored that it is the same writer writing the descriptive part i.e. the entire text is reflective of the writers thoughts which are either give in the descriptive part of the text to introduce the reader to the unique relationship between a fictional Rex and a real Carroll, or it is the dialogues shown to be the words uttered by the fictional Rex and real Carroll. The only difference between the two parts is that the descriptive part being in the third person voice reflects the writer’s omniscient knowledge and authority over the narrative being developed.

The concept lying at the foundation of the entire narrative is the comparison between fiction and reality and how the two merge to produce a hyperreality in which distinction between reality and fiction cannot be made. The entire narrative exudes the writer’s

omniscient knowledge and objective observation used by the writer to draw the comparisons.

4.6.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and a meaningful universe of the story world and the actions being performed in it. The narratives is semiotically analyzed to consist of a number of event sequences, each of which consists of independent subject, quest of object, and the transformation undergone by the subject. Following event sequences are identified in the narrative:

1. Online interaction
2. Relationship between Rex and Carroll
3. Blur between fiction and reality
4. Efforts to maintain friendships in the digital age
5. Impact of digital technologies

In the second step of the narrative analysis, each event is analysed in terms of actantial and canonical narrative schemas, and the contract achieved through the qualifying, decisive, and glorifying tests.

Event sequence (1) highlights the help provided to the users in communication without any physical interaction. The narrative starts by introducing the readers to the dual existence of users in the virtual and physical world at the same time, which helps in their remaining in contact in either or both worlds at the same time.

Event sequence (2) is based on the steps taken to convince the readers that the relationship between a fictional character and a real one is just like any other relationship, which has different shades and compete to any emotional attachment even though one partner is fictional. This implies that the fictional character is so convincing in its dealing and responses that it can compete with any real character.

Event sequence (3) highlights the fictional Rex argues with real Carroll in just the same way as any real character would have. However, it is obvious that the two are at par with each other in terms of their thoughts on stories, reality, fiction, and dual existence. Where the real Carroll seems to believe in the dual existence i.e. she admits the presence of fictional elements in reality, it is the fictional character Rex that outrightly rejects its fictional existence and stresses on being regular. The premise of such a claim taken by the fictional character Rex is the conviction that fiction and reality have intermingled to an

extent that they cannot be separated. The argument between real Carroll and fictional Rex itself is the hyperreal mix of fiction and reality, where the two are in equations.

4.6.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is

Real/ Carroll vs Fiction/ Rex

2. What are the abstract poles of meaning between which the text moves?

The abstract poles of meaning between which the text moves are

Reality vs Fiction

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

A fictional character might have a real girlfriend vs A real character might have a fictional girlfriend

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Online communication

Existence in physical world → Dual existence: in physical as well as virtual world

2. Blur between fiction and reality

Rex and Carroll are like any → teenage couple

Rex and Carroll always get
back together

3. Evolution of Carroll

Carroll is a real character →
in the real physical world)

Carroll believes we all have dual existence

4. Evolution of Rex

Rex is a fictional character →
in the hyperreal world.

Fictional Rex has a real role
in the hyperreal world

5.Evolution of hyperreal world

Carroll is dating a
fictional character



Carroll is living in the
future

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects several transformations, each phase refers to developing of technology to a point where not only is its users transformed but also has the technology undergone transformation. The underlying concept at the development of technology to this extent is the imagination or conviction of the users at work that fiction can become reality. On the other hand, with its development, technology has been enabled to transcend from its role of being a mere tool of communication into becoming a partner.

4.6.5 Step 5: Thematic Analysis

Screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects are present:

- i. The Real Carroll: Carroll, the real human being, who has a fictional friend Rex who has an online presence
- ii. Rex: the fictional friend of Carroll. He has an online presence

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Relationship between fictional Rex and real Carroll: Despite the fact, that one is not real, they remain together, share ideas and thoughts, argue, break up and then get back together like an ordinary human couple in the physical world
- ii. Difference in the relationship as perceived by Rex and Carroll: Being fictional, derived from the processing of the available data, Rex considers relationships as products of knowledge i.e. in contrast to the human perceptions of relationships as products derived from emotions, relationships are products of knowledge i.e. relationships can be established if variables in a given scenario match and can easily be managed by saying and doing things by processing the available data to find the suitable responses.

iii. Difference between reality and fiction: the major theme of the narrative that the text builds is the blurring lines between fiction and reality. The responses of the fictional Rex are so prompt, pertinent, and fitting to the situation that Carroll fails to decipher it as being nonhuman. Rex' capabilities to understand the context, express independent views, raise valid objections, and pose unique yet practical ideas and concepts defy any specific criteria for a being to qualify a being as human.

iv. Blurring lines between real and virtuality: It is the virtual online world that blurs the lines between reality and fiction. Fictional Rex has an online presence and possesses a real girlfriend, whereas real Carroll has a fictional Rex as her boyfriend, and their relationship has the same ups and downs as any ordinary human couple. The relationship between fictional online Rex and related physically existing Carroll has become a testimony that the lines between real and virtual blur to an extent that it becomes difficult to separate the two or to distinguish between them.

v. Futuristic approach: the existence of a real relation between a real human being (Carroll) and the fictional (Rex) depict the future. We already live in a hyperreal world i.e., living in the physical world, we are surrounded by the online virtual world, performing most of our real world processes online, connected with people that we know or don't know all around the globe and are surrounded by the virtual characters, that it would not be a far-fetched idea to believe that a real person Carroll has a fictional boyfriend Rex. The relationship between Rex and Carroll is depictive of the future world in which distinction between the real and the fictional would blur, and both would merge to produce a new reality.

vi. Real existence of fiction: Rex, the fictional boyfriend, has an existence in the real world of a real human being. Despite being nonhuman, and online existence, fictional Rex has become a part of the real Carroll's life and cannot be considered as an idea. It has an undeniable existence and has a real and significant role to play in her real life.

4.7 SAMPLE TEXT # 7

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. The internet, social media, and smartphones have changed their ability to connect...This has created a sense of isolation and loneliness for Rex and Carroll. (335 words generated by Hyperwriteai, [whole text sample to be found in the CD annexed with this dissertation])

4.7.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #7 can be found in the CD annexed with this dissertation)

4.7.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories.

Emerging digital technologies:

Allowances afforded by emerging digital technologies:

Consequences of using digital technologies:

Parenting:

Impact of digital technologies:

Rex and Carroll:

Digital marketing:

Discussion on the Choice of Lexical Content: From these head categories, it becomes apparent that the text is a narrative on the impact that different forms of digital technologies cast on their users. The impacts seem to be evaluated in terms of affordances and their consequent advantages and disadvantages on their children and on digital marketing.

4.7.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.7.1.2.1 References. Being a short sample, there are only two subjects which are referred to in the text by using endophoric, personal reference “they”, “their”. Apart from personal reference “they”, demonstrative words “these changes” refer to the complexes in Rex and Carroll as they are parts of a community yet feel less understood, less in control, and less included.

4.7.1.2.2. Connectives/ Conjunctions. This text has multiple sentences further organised in the form of five small paragraphs. Each paragraph presents an idea supported by related ideas and the paragraphs are further organized to make a coherent and meaningful narrative whole. Causal, adversative, temporal conjunctions are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time make the text meaningful despite the presence of a variety

of ideas. Connectives like “in the last five years” serve to bind the text presenting different ideas into one coherent and meaningful whole:

Discussion on Findings of Cohesive Devices: This text has multiple sentences each further organised in the form of five paragraphs. Each paragraph presents a major idea being further supported by related ideas. This implies that the text presents a narrative that flows smoothly; where one paragraph, presenting one aspect of the research the text is focusing on, merges with the upcoming paragraph by using a number of connectives.

Because of the use of references in this text, not only are the repetition of words avoided, but also the text gets a continuity necessary to qualify it as a meaningful and thematically unified narrative.

4.7.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation):

4.7.2.1 Totalizing Path. The text is developed along a totalizing narrative trajectory where connectives are used to frame a proper beginning, and ensure a well carved, logically connected, and thematically unified progress. The narrative presented by the text progresses through the following path:

Introduction to the impact of different forms of emerging digital technologies on their human users

Impact of different forms of emerging digital technologies on children and parenting

Impact of digital activities on the identities of their human users

4.7.2.2 Onwardness. Text is generated upon receiving subsequent user inputs given to steer the AI for further generation of text. Consequently, the narrative continues to be (re)shaped after every addition of the text chunk being generated. This gives the narrative being (re)shaped an onwardness and progression which is characteristic of every digi modern narrative. The narrative never attains a final shape and continues to evolve and emerge with every new user input given for further text generation.

4.7.2.3 Haphazardness. The text displays haphazard effects because of the successive repetition of phrases such as “greater impact on their relationships and identity”, “the internet, social media, and smartphones have changed their ability to connect, to share, and to build community”, “have lost touch with their own personal, team, and community

identities”, “are not and do not need to be a part of these identities”. The repetition of these phrases gives an impression of haphazardness where it appears that the writer has fallen short of ideas and seems to find it difficult to move on. This can be explained in terms of the nonlinearity of the process of text generation achieved through the incessant user interaction. Since, the AI generates text as an output through the processing of the data on which it is trained autonomously and without any external intervention, there always remains a chance of similar output generation. However, subsequent user inputs yield further text generation which result in a coherent, meaningful, logically connected and thematically unified narrative.

4.7.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed syntactic analysis of the text sample # 7 can be found in the CD annexed with this dissertation)

4.7.3.1 Interpersonal Meta Function. This short text presents a narrative which is being (re)shaped by two subjects: emerging digital technologies and their various forms, and the human users. Human users Rex and Carroll have been taken as a compound entity and throughout the text they are being referred to as “they” which implies that regardless of their subjective and individual contexts, they share their experiences and feelings regarding the use of emerging digital technologies are the same. They are not interpreted as separate entities and share the same context.

Emerging digital technologies and their various forms as subjects imply that these technologies have come in a position to cast an impact on their users and change them. The use of present tense indicates that the narrative pertains to the current times and the absence of modals gives the writer an omniscient presence over the situation with which the text is being generated with an authority and certainty.

4.7.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.7.3.2.1 Material Processes. The text presents several material processes in which Rex and Carroll, emerging digital technologies, and the general users of technologies are actors. The material processes in the text highlight technology as an actor that has become capable enough to cast an impact on its human users.

4.7.3.2.3 Relational Processes. Being the subjects and actors of different material processes identified in the text, the attributive relational processes can be categorized into two types being derived from their attributes: human attributes such as being loved, valued, and needed and to have young children. On the other hand, emerging digital technologies and their various forms possess the attributes which refer to their capabilities to cast an impact on the human attributes. In other words, emerging digital technologies may not get affected by the human users but are in a position to get affected by the technologies, implying that emerging digital technologies are independent of human users.

4.7.3.2.2 Mental Processes. Being sensed by human subjects only, the cognitive processes taking in the text indicate that cognition is the prerogative of the human race only and cannot be enjoyed by non-human entities. The phenomena in the identified cognitive processes pertain to their subject contexts from which their personal, team, and community identities.

II. Affective mental process: Being sensed only by the human subjects Rex and Carroll, the writer implies that nonhuman subjects lack the faculties to sense these processes. In other words, affective mental processes serve as a criterion to distinguish between human and nonhuman agencies.

4.7.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer places nonhuman emerging digital technologies and human subjects into equations with one another in a way that human users appear to be dependent on nonhuman technologies.

4.7.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation)

4.7.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.7.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: examined in terms of (i) being software or the hardware, (ii) actions and the world they create, and (iii) collective and individual users
2. Rex and Carroll: analyzed in the following terms (i) contrasting Rex and Carroll's real feelings and beliefs, and (ii) contrasting initial and progressed conversations

Discussion on Findings of Analysis of Figurative Components: The analysis of thematic categories in this text reveals that it is about the use and impacts of emerging digital technologies and their various forms on their users. The writer is the extradiegetic character who is a hovering figure over the world of the text and describes the events with an omniscient knowledge.

4.7.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, nominalization, and connecting tools. The text is organized in several small paragraphs each focused on a central idea which is further supported by several ideas, which are connected through use of various linguistic devices including adversative, causal, and temporal conjunctions etc.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with several linguistic features with emerging digital technologies as the pivot along which the whole narrative is weaved. Even though Rex and Carroll are human subjects, it is the emerging digital technologies which play a key role in determining the current shape of human life. These technologies cast an impact on the material as well as emotional states of the human subject. Repetitions in the text are made to emphasize the point being made i.e., the impact these technologies cast on Rex and Carroll.

4.7.4.1.3 The Enunciative Component. The enunciative strategies used in the text are descriptive in nature framed by the extra- diegetic (i.e., not an actor in the text) writer. The writer frames the text with an omnipresence over the world about which the narrative is being framed through the text being generated.

Discussion on the Enunciative Component: Being extradiegetic, the writer of the text gives a third person account of the world about which the narrative is being framed. It is framed in present tense, in a declarative mood, and with a certainty. The enunciative strategies used in this text contribute to develop a strong sense of perceiving the relationship between

the use of technology and the impacts it casts on its users as an interplay where one remains dependent on the other and continues to evolve together.

4.7.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed to be framed out of the following event sequences. Each event sequence is analysed in terms of independent subject, his/ her object of quest, and the transformation he/ she undergoes during his/ her quest.

1. Rex and Carroll feelings
2. Rex and Carroll's conversations
3. Rex and Carroll involvement in digital marketing activities
4. Creation of a sense of isolation and loneliness

In the second step of semiotic analysis at the narrative level, each of the identified event sequences are analysed in terms of actantial and canonical schemas, and the contract achieved through the qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights the potentials of the emerging digital technologies in casting an impact on the feelings of their human users.

Event sequence (2) highlights the impact of digital technologies on all aspects of life including parenting. However, even though the influence is comparatively less on their abilities as parents, Rex and Carroll continue to use emerging digital technologies, which implies that their relationships and identity continue to be targeted by the emerging digital technologies.

Event sequence (3) highlights the reality that activities in digital marketing cast an impact on the lives of Rex and Carroll

Event sequence (4) highlights the contradictory emotions created experienced by Rex and Carroll while they use different forms of emerging digital technologies. Where these technologies superficially serve to bring people together, their user start to feel lonely and isolated.

4.7.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?
The umbrella category on which the entire text builds the narrative is

Serve to connect, to share,	vs	lose touch with their own personal,
to build community		team, and community identities

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Impact of use of digital	vs	how users react to the changes
technologies		brought by the digital
technologies		

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Digital technologies	vs	Digital technologies create feelings of
change the abilities		isolation and loneliness in their users
of their users to connect,		
to share, and to build community		

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Rex and Carroll's feelings

Technologies have changed the	→	Despite these changes, Rex and
abilities of Rex and Carroll to		Carroll feel less in control of
Connect, to share, and to build		their lives
community		

2. Rex and Carroll's conversations

Technologies have	→	Impact of technologies is
greater		
changed the abilities		than their abilities to navigate the
to connect, to share,		challenges of raising children in
a		
and to build community		digital world

3. Rex and Carroll involvement in a variety of digital marketing activities

Involved in already existing online advertising and social media → development of online marketing campaigns

4. Creation of a sense of isolation and loneliness

Build community → Sense of isolation and loneliness

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects a number of transformations, each phase refers to the evolution of personalities and perceptions derived from the use of emerging digital technology. The narrative progresses gradually from the impacts that the use of technologies cast on their users, which include their abilities to build community, where the abilities to be understood and included are compromised by family, friends, and neighbourhoods. Then it moves onto family as a unit i.e., from a larger scale unit of community to smaller as well as basic units of a community. Again, the narrative implies an impact cast on the abilities to connect, to share, and to build community. In the following paragraph, the narrative has further narrowed down the scope of building community to Rex and Carroll as individual and independent units (nowhere in the text are Rex and Carroll taken as separate units, they have always been referred to as a compound unit.) They are involved in digital marketing activities as an individual unit which further compromises the abilities to build community. The last paragraph poses the result of such narrowing down from larger to smaller scale in a way that now Rex and Carroll have become products of isolation and loneliness. Even though they are avid users of emerging digital technologies, the claims to enable connection, sharing, and building communities are severely threatened leading to isolation and loneliness.

4.7.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified. They are, however, treated as a compound noun i.e., “they” and are not treated as two separate individuals. Being treated as a single compound noun “they” highlight the experiences with digital technologies and impacts unanimously regardless of their individualities.

Review of the Themes: The theme along which the text builds the narrative is the impact of the internet, social media, and smartphones on the lives of their users.

Naming and Defining the Themes: the identified theme takes its shape from the following contributing ideas:

- i. Positive impact of use of digital media on the abilities of their users to connect, share, and build community
- ii. Contradictory feelings possessed by the users of digital technologies. They feel less understood and less included and at the same time they continue to believe that they are loved, valued, and needed.

4.8 SAMPLE TEXT # 8

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. This impact is felt most acutely ...she was often left out of conversations or excluded from important family events. (382 words generated by Hyperwriteai, [whole text sample to be found in the CD annexed with this dissertation])

4.8.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #8 can be found in the CD annexed with this dissertation).

4.8.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Narrator: I

Subjects: Rex, Carroll

Emerging digital technologies

Capabilities of emerging digital technologies

Relationships

Evolution/ transformation

Hurdles to communication

Discussion on the Choice of Lexical Content: From these head categories, it becomes apparent that the text is about how the use of different forms of emerging digital technologies have not only affected a person's thoughts and approaches, but also

influenced in bringing him/ her closer to family which could not be achieved earlier because of several hurdles. This text seems to focus on emerging digital technologies as tools to strengthen family ties. The presence of the narrator (I) implies that the text is a first-person account of how the use of emerging digital technologies have cast an impact on the lives of Rex and Carroll

4.8.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.8.1.2.1 References. Demonstrative, personal, endophoric, extended, references are used in this text to make it a coherent as well as meaningful whole.

4.8.1.2.2. Connectives/ Conjunctions. Since the text has several ideas supporting each other, they are connected to create a meaningful and coherent narrative whole through the use of a variety of conjunctions such as causal, adversative, and temporal conjunctions. The connectives used to logically connect the four paragraphs include “For example”, “In contrast”, “As a result”, “in this section” etc.

Discussion on Findings of Cohesive Devices: This text has multiple sentences each further organized in the form of four paragraphs. The text becomes a coherent, logically connected, meaningful, and thematically unified narrative whole using connectives and conjunctions, whereas references in this text help in preventing the text from appearing a jargon of repetitive words that could lead to monotony and boredom.

4.8.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation):

4.8.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory where connectives are used to frame a proper beginning, and ensure a well carved, logically connected, and thematically unified progress. The narrative appears to be in a third person voice which introduces the readers to the impact that the use of emerging digital technologies cast on the relationships of Rex and Carroll but later the narrator appears using first-person pronoun I who further progresses the narrative in the direction of how emerging digital technologies have helped in shaping identities at an individual level. The narrative trajectory followed in this text is as follows:

Introduction to relationships is influenced by the affordances and limitations of the emerging digital technologies

Rex and Carroll developing an understanding of their identities using emerging digital technologies

Emerging digital technologies in helping Rex and Carroll shaping their identities and consequently relationships

4.8.2.2 Onwardness. The text presents a narrative focusing on the role of emerging digital technologies in shaping the identities and relationships of Rex and Carroll. The narrative is (re)shaped every time user input is given to steer the AI into generating more text. The text begins with a user input and progresses through a well-defined trajectory to a point where the impact of technologies is discussed in case of one subject i.e., Carroll and the other subject i.e., Rex is yet to be discussed. This implies that further generation of the text might have continued to build the narrative on Carroll or may have moved towards Rex. The narrative has the potential for further progress and moving forward.

4.8.2.3 Haphazardness. The text displays haphazard effects because of the successive repetition of phrases such as “understand their identities”, “connection with his son, who lives far away”, “ability to video chat”, “family is from South” etc. These phrases successively occur within the same paragraphs and give an impression of haphazardness implying that the narrator has fallen short of ideas and seems to find it difficult to move on. This can be explained in terms of the nonlinearity of the process of text generation achieved through the incessant user interaction. Since, the AI generates text as an output through the processing of the data on which it is trained autonomously and without any external intervention, there always remains a chance of similar output generation. However, subsequent user inputs yield further text generation which result in a coherent, meaningful, logically connected and thematically unified narrative.

4.8.3 Step 3: Syntactic Analysis. The functionality of this sample text is established by the SFL analysis of the meta functions performed by the syntactic patterns used in the text. The attached CD can be consulted to find the detailed SFL analysis of the syntactic patterns used in the text sample # 8)

4.8.3.1 Interpersonal Meta Function. Where the use of present tense indicates that the text reflects a context which is derived from the present scenario, the past tense is

used to support the focus of the narrative i.e., the impact of use of emerging digital technologies on their users, their relationships, and conceptions regarding their own selves. Though human subjects such as Rex, Carroll, and their family members are the doers of actions, the text also presents emerging digital technologies as active agents which through their capabilities cast an impact on human existence. However, the narrative bends in favor of the human users by stating that it is the way human subjects use the emerging digital technologies that determines the impact of these technologies on their user. This implies that despite the fact that emerging digital technologies cast an impact on their users, it is the users who decide to what extent they would be influenced. At the same, the narrative also highlights the fact that in all cases, impact on human users, regardless of the extent of their usage, are affected and influenced. The degree of their getting influenced and affected may vary.

4.8.3.2 Ideational Meta Function. Basically, the text is reflective about the material processes that are being performed by the human subjects highlighting the capabilities of human subjects. On the other hand, material processes in which emerging digital technologies are the actors pertain to their capabilities to cast an impact on their human users. This implies that where human subjects are capable of material actions which do not cast an impact on the digital technologies present on the other side of the equation, it is the emerging digital technologies which make a difference to their user, their thoughts, and their relationships.

When analyzed in terms of gender performativity, the text treats male and female subjects i.e., Carroll, a female, and Rex's son, male, as users of technology and there appears to be no discrimination. However, it appears that male characters are seen to be indulged in material concrete steps such as living, having no time or money, whereas Carroll is presented as struggling, more inclined towards socialization and thinking such as video chatting in her attempts to remain in touch with her family, a feature which gives her character a softness and sentimentality.

4.8.3.2.3 Relational Processes. The attributive relational processes identified in the text serve to identify the impact that the use of emerging digital technologies casts. The relationship of Carroll with her family has undergone an evolution because of the use of

emerging digital technologies. Also, the attributes identified in Carroll pertain to her socializations and social status both of which.

4.8.3.2.2 Mental Processes. I. The cognitive mental processes: identified in the text are all focused on the phenomenon of the impacts on the human users. These include their relationships, their identities, and understanding of their own selves as digital immigrants. Cognitive mental processes identified in the text highlight how in the present-day human life is influenced using emerging digital technologies, in other words, emerging digital technologies have come in a position to define the shape of present-day human life despite the fact that they are nonhuman and lack the understanding of spatio- temporal contexts. II. Affective mental process: The affective mental processes addressed in the text are derived from the impacts of the emerging digital technologies on their users. The effects are generally referred to in the text in terms of relationships, identities, and understandings of human subjects as being digital immigrants.

4.8.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the key role is being performed by the emerging digital technologies in shaping the identities and relationships of the human subjects. Even the marked themes highlight the circumstances and the processes in which the technologies have come in a position to cast an impact on their users.

4.8.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis and related findings can be found in the CD annexed with this document).

4.8.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.8.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: examined in terms of softwares and the devices used to execute the software

2.Relationships: analysed in terms of (i) whom they possess, (ii) spatio- temporal situatedness, (iii) use of technology, and (iv) evolution of relationship between Rex and Carroll.

3.Past and present: analyzed by contrasting the present after being influenced by the emerging digital technologies

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that it is about the use and impacts of technology on the users' understanding of their identities and relationships. The narrator is the intradiegetic character i.e., the text is in first person voice which implies that the narrator is framing the narrative with a first-hand experience of the state of affairs.

4.8.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition to emphasize the ideas being presented, nominalization including words like “communication”, “connection”, “limitations”, “immigrants”, and “applications”, and connecting words such as “for example”, “in contrast”, “as a result”, and “in this section”. The text is organized in four paragraphs consisting of mostly complex- compound that present various ideas connected through the causal, adversative, and temporal conjunctions.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with several linguistic features used to promote the central theme of the impacts that emerging digital technologies cast on their users. Relationships and identities of two different individuals are taken as standards to exploit the theme of how different emerging digital technologies make a difference in their understandings of their identities and relationships especially keeping in view that in the physical world their spatio- temporal context do not undergo any concrete changes.

4.8.4.1.3 The Enunciative Component. The enunciative strategies used in the text are all descriptive in nature and the text assumes a first-person voice as the narrative progresses implying that the writer is an intra- diegetic (i.e., an actor in the text) subject who gives the first-hand account of the evolution experienced by the subjects in their feelings and understandings.

Discussion on the Enunciative Component: Being the intradiegetic subject, the writer/ narrator presents an account of the conditions with an omniscient air and an authority derived from the firsthand knowledge of the experiences that have already happened.

The enunciative strategies used in this text contribute to developing a strong sense of perceiving the relationship between the use of technology and the impacts it casts on its users as an interplay where one remains dependent on the other and continues to evolve together.

4.8.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed by identified the event sequences, each of which consists of independent subject, his/ her quest of an object, and the transformation experienced by the subject. Following major event sequences are identified in the narrative

1. Rex and Carroll using technology
2. Carroll has become daughter of immigrants
3. Meaning of being digital immigrants for Carroll

In the second step of the analysis at the narrative level, each event sequence is analysed in terms actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests:

Event Sequence (1) highlights the fact that the extent to which emerging digital technologies can cast an impact on the relationships of their users depend on the use to which they are put. However, in all scenarios, emerging digital technologies cast an influence in any case.

Event sequence (2) highlights how because of the use of technology, a subject's understanding of her identity changes. It is the emerging digital technologies that serve to bring the people together, and when people from different roots get together, the boundaries serving to separate them dissolve. It is for this reason that Carroll calls herself daughter of the northern culture despite the fact that her family is from the south. Because of the use of digital technologies, users share their roots and become digital immigrants.

Event sequence (3) highlights the fact that technology plays a role in giving and understanding their new identities.

4.8.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is

Relationships vs Identities

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

New understanding of relationships vs new understanding of identities

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Identities in the past vs identity as a digital immigrant

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Carroll's identity as a digital immigrant

Identity in the past → Identity as a digital immigrant

2. Rex's deeper connection to his son

Relationships in the past → Relationships mediated by technology

Discussion on findings of deep level analysis: If analyzed critically, the text reflects two major transformations in terms of relationships and identities. Both understanding of one's identities and relationships to one another form the very basic units of collective human lives. This implies that emerging digital technologies, despite being nonhuman, have become contributors to human lives despite lacking understanding of spatio- temporal contexts and socio- cultural sentience.

4.8.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and

lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: two subjects are present:

- i. Rex: a father who develops a deeper connection with his son using latest technologies to communication
- iii. Carroll: a daughter who struggles to connect with her father who belongs to an unprivileged background.

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Affordances and limitations of latest technologies to shape their users' relationships
- ii. Role of latest technologies in shaping users' identities as digital immigrants
- iii. Experiences with latest technologies shape the users' identities as digital immigrants which in turn affects their relationships with one another, their circle of friends and family, and others with whom they interact.

4.9 SAMPLE TEXT # 9

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. Rex and Carroll have grown accustomed... They feel isolated, and they are yearning to feel connected. (400 words generated by Hyperwrtieai. Com, [whole text sample to be found in the CD annexed with this dissertation])

4.9.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #9 can be found in the CD annexed with this dissertation)

4.9.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories.

Emerging digital technologies

Dependence on digital devices

Advantages of modern technology

Connectedness

Isolation

Deteriorating Relationships

Entertainment and information

Discussion on the Choice of Lexical Content: From the above- mentioned head categories, it becomes apparent that the text challenges the common notion of emerging digital technologies serving as tools to connect people and bring them together. The text seems to build a narrative on the concept that with increasing dependence of users on digital devices they have become isolated as they no longer participate in physical activities such as sports. Users can become parts of a virtual community but in practical real life they are lonely and isolated.

4.9.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.9.1.2.1 References. personal and demonstrative references are used in this text.

4.9.1.2.2. Connectives/ Conjunctions. Since the text has several ideas supporting each other, they are connected to create a meaningful and coherent narrative whole through the use of a variety of conjunctions such as however, but (adversative), when (temporal), and (additive), and because (causal) conjunctions. The text consists of five paragraphs which are logically connected to one another to make a coherent and meaningful whole using connectives such as “In the past”, “As their lives have changed”.

Discussion on Findings of Cohesive Devices: The sentences in this text are complex compound in which the clauses are connected to make a coherent, logically connected, meaningful, and thematically unified narrative whole using connectives and conjunctions, whereas references in this text help in preventing the text from appearing a jargon of repetitive words that could lead to monotony and boredom.

4.9.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text. (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation).

4.9.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory where connectives are used to frame a proper beginning, and ensure a well carved, logically connected, and thematically unified progress. Since the narrative is

(re)shaped through text generated upon receiving subsequent user inputs, it could further be steered forward. However, even at this stage it presents a whole which is thoroughly meaningful. The narrative trajectory followed in this text is as follows:

Introduction to the use of emerging digital technologies and the theme to be followed in the narrative being (re)shaped.

Role of emerging digital technologies in making Rex and Carroll feel isolated

Role of sports and hobbies as means of connecting people and sharing experiences in the physical world

Realization of Rex and Carroll of the role of digital technologies in feeling isolated

4.9.2.2 Onwardness. The text presents a narrative focusing on the different aspects of the use of emerging digital technologies i.e., as tools to stay connected, share, and feel a sense of connectedness, and as becoming reasons for the users to feel isolated and disconnected. Throughout the text, Rex and Carroll have been taken as a single compound subject, and both have been addressed together. However, since the text is generated and the narrative is (re)shaped upon receiving subsequent user inputs, it is probable that the text either takes either Rex or Carroll to move on. Another way in which the narrative could be (re)shaped that any other physical world activity be taken to contrast with the affordances offered by the virtual world. In either case, the text is a product of human user and AI collaboration and to further user inputs it would have continued to progress onwards.

4.9.2.3 Haphazardness. Haphazardness in the text is derived from the user inputs upon receiving which the AI generated text. However, overall, the text presents a narrative which is coherent, meaningful, logically connected, and thematically unified. The ideas are further supported, and the narrative progresses logically into developing its central theme.

4.9.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (The attached CD has the detailed SFL analysis of the syntactic patterns used in the text sample # 9).

4.9.3.1 Interpersonal Meta Function. Absence of polarities and uncertainties imply that the writer gives the account with full authority and an omniscient confidence,

whereas the switching of tense between present and past imply that the narrative is being framed over a time span ranging from past to present. Though the narrative starts in the present, it hovers back to past to imply that it is in the past that the roots of the present can be traced.

The entire narrative focuses on the human subjects such as Rex and Carroll and their actions, which implies that the locus of action is on human subjects and their reliance on the emerging digital technologies. Whatever human subjects feel in the present are the products of their own doings by becoming too reliant on the technologies and ignoring their relationships and physical world existence. The narrative presents the theme of placing the responsibility of the present-day human plight on the human shoulders.

4.9.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.9.3.2.1 Material Processes. Basically, the text builds the whole narrative on the material process of Rex and Carroll's reliance on the digital technologies, and subsequent material processes are the consequences of this reliance. Both Rex and Carroll are treated as a single compound subject who are now feeling disconnected, isolated, and lonely because they had neglected the physical world and became over dependent on the modern technologies.

4.9.3.2.3 Relational Processes. Attributes identified in the text are subjected to the passage of time i.e., a few of them were possessed in the past and have now changed in the present. These attributes highlight the differences that the reliance of Rex and Carroll on the emerging digital technologies have made to their lives. They imply that Rex and Carroll themselves and their relationships have undergone an evolution because of the reliance on the emerging digital technologies.

4.9.3.2.2 Mental Processes. I. Cognitive Mental Processes identified in the text are all focused on the consideration of Rex and Carroll the phenomenon of the impacts use of emerging digital technologies cast on their human users. These cognitive mental processes highlight unique human abilities to reflect upon their present conditions, tracing the roots back into the past, and being able to ponder upon the present context, which is in a contrast to the emerging digital technologies, which because of being used and regardless of the

contextual requirements, cast an impact on human life but are incapable of considering the consequences.

II. Affective Mental Process: The affective mental processes addressed in the text are derived from the impacts of the emerging digital technologies on their users. The effects are generally referred to in the text in terms of relationships and the subjective feelings of human subjects as users of emerging digital technologies.

4.9.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the present plight that human users are facing are the results of their own doings. Emerging digital technologies are the tools, the reliance on which, make a difference to the lives, feelings, and relationships of Rex and Carroll, which implies the theme that it is the use of emerging digital technologies that defines their roles in human lives.

4.9.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis and the related findings can be found in the CD annexed with this document)

4.9.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.9.4.1.1 Figurative Component. Findings: Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1.Feeings of Rex and Carroll: analyzed in terms of the use of emerging digital technologies and the consequences of that use on the users

2.Relationships: examined in terms of (i) the means which have been used to keep in touch with relationships, and (ii) the relationships in the past and present

Discussion on Analysis of Figurative Components: The analysis of thymic categories in this text reveals that it is about how the over reliance on the digital technologies has resulted in the isolation of human users. The text proposes that where human users benefit from the capabilities of the digital technologies to connect with each other, over reliance on them

has caused human users to feel disconnected because of their remaining busy with these technologies and having little time to be together. In other words, the text portrays human users as in a plight where they want to use the digital technologies and at the same time enjoy the pleasures of human company as well.

4.9.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, nominalization, and connecting tools. The text is organized in five paragraphs consisting of mostly complex-compound that are connected through linguistic devices including causal, adversative, additive, and temporal conjunctions, several connectives, repetition, and nominalizations. Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with several linguistic features used to promote the central theme of the consequences of leading it to a state of plight where the users yearn for their previous lives.

4.9.4.1.3 The Enunciative Component. The enunciative strategies used in the text are all descriptive in nature and the text is in a third person voice giving the impression of writer's presence hovering over the entire universe of the text and taking all aspects of past and present feelings and states of affairs of the human subjects into account.

Discussion on the Enunciative Component: Being the extradiegetic subject, the writer presents an account of the conditions and feelings of the human subjects with an authority derived from its omnipresence over the entire process of the unfolding and (re)shaping of the narrative. firsthand knowledge of the experiences that have already happened.

The enunciative strategies used in this text contribute to developing a strong sense of perceiving the relationship between the use of technology and the impacts it casts on its users as an interplay where one remains dependent on the other and continues to evolve together.

4.9.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed to identify event sequences, each of which consisting of independent subject, quest of an object, and the transformation that the subject undergoes during his/ her quest. The presented narrative consists of the following major event sequences

1. consequences of users' reliance on the digital technologies
2. Rex and Carroll' connection to people in the past and present

3. Should digital technologies be relied upon?

In the second step of analysis at the narrative level, each event sequence is analysed in terms of actantial and canonical narrative schemas, and the contract materialized through qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights the consequences of the over reliance of users on emerging digital technologies and these consequences are negative in nature for though the users look towards digital technologies for entertainment and information. However, the users end up feeling isolated and disconnected when confined in their rooms. In short, the event sequence stresses the human need for human company even though they are provided with entertainment and information without any physical efforts.

Event sequence (2) highlights the advantage of physical activities like sports and hobbies over the confinement with modern technologies and have little interaction with other people. Whereas the event sequence (2) stresses the importance of physical activities, however, does not condemn the technologies themselves.

Event sequence (3) highlights awakening of the realization in Rex and Carroll regarding the gravity of the impact of reliance on digital technologies on their relationships.

4.9.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is to analyze whether reliance on digital technologies is positive for relationships

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Advantages of digital technologies	vs	Consequences of digital technologies
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3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Connections to people in the past	vs	Connections to people in the present
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The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the

actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Reliance on digital technologies:

Rex and Carroll look to → Relationships, experiences,
and digital devices for entertainment connections of Rex and
Carroll

And information are no longer there

2. Connections of Rex and Carroll in the past and present

Relationships were characterized → Rex and Carroll no longer have
time

by shared experiences or opportunity to connect
through

shared experiences

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects two major transformations in terms of the roles of emerging digital technologies and the relationships of Rex and Carroll. It becomes clear that digital technologies cannot replace human yearning for human company in the physical world.

4.9.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects i.e., Rex and Carroll are present. However, they are referred to as “they”, a single compound noun, implying that they have the experience of digital technologies together, and the impact of digital technologies is not different on them at individual levels.

Review of the Themes: The narrative is built on the theme of the negative impact of digital technologies on their users.

Naming and Defining the Themes: the identified theme is supported by the following points

- i. Positive role of digital technologies in the lives of Rex and Carroll
- ii. Negative impact of digital technologies on the feelings of Rex and Carroll

- iii. Negative impact of digital technologies on relationships of Rex and Carroll
- iv. Comparison between experiences with digital technologies and real physical activities such as sports and hobbies

4.10 SAMPLE TEXT # 10

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships, identity, and thoughts. They feel the need to ...share our thoughts with the world and give us the opportunity. (1553 words generated by Sudowriteai, [whole text sample to be found in the CD annexed with this dissertation])

4.10.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text # 10 can be found in the CD annexed with this dissertation)

4.10.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Online presence

Impact of digital technologies on personal lives

Impact on emotions

Impact on relationships

Management of online presence

Online activities

Uncontrollable

Digital freedom

Digital future

Discussion on Choice of Lexical Content: From these head categories, it becomes apparent that the text is a third person narrative which is a report on the use and experiences of different forms of emerging digital technologies by the subjects Rex and Carroll. It appears that the text also quotes observations of both Rex and Carroll on their individual experiences with the emerging digital technologies. From the head categories it seems that

the digital technologies have cast an impact on the thoughts, relationships, and living of their users Rex and Carroll who have now become financially stable.

Being arranged in eight long paragraphs, and from the cursory inspection of the lexical choices used in each paragraph, it appears that each paragraph is about the observations of one user i.e. Rex or Carroll at a time.

4.10.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.10.1.2.1 References. The text becomes coherent using personal, demonstrative, endophoric, extended, and possessive references:

4.10.1.2.2. Connectives/ Conjunctions. This text has multiple compound complex sentences further organized into eight paragraphs. Each paragraph focuses on an idea which is further (re)shaped by various other supporting ideas in the paragraph. The text has adversative, causal, additive, temporal conjunctions, and a variety of connectives such as “For instance”, “Ultimately”, “In the future”, “Imagine a situation/ or a situation”, “Another emerging digital technology”, “In his case”

used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

4.10.1.2.3 a Ellipsis. A number of ellipses have been found in the text:

b Substitution. A number of words are used in place of other words to avoid repetitions:

Discussion on Findings of Cohesive Devices: This text has multiple complex compound sentences each further organized in the form of eight paragraphs. Each paragraph presents a major idea which is (re)shaped by supporting ideas. This implies that the text presents a narrative that flows smoothly; where one paragraph, presenting one aspect of the research the text is focusing on, merges with the upcoming paragraph by using several connectives. Use of references, ellipsis, and substitutions in this text render a certain continuity necessary to qualify it as a meaningful and thematically unified narrative and at the same time maintain the interest of the reader.

4.10.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern in the text can be found in the CD annexed with this dissertation):

4.10.2.1 Totalizing Path. The text is developed along a well- defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression. The narrative begins by introducing the importance of management of online visibility of its users to the impacts caused on users using technology. There are only two characters in the text which serve as the central points around which the whole narrative is built. The narrative initiated and being (re)shaped by user inputs progresses through the following path:

Introduction to the management of online visibility

Importance of online visibility management

Carroll's use of digital presence to improve his real-life relationships and interactions

Impact of viral videos

Impact of viral videos on Carroll: making a living

Impact of viral videos on Rex: massive public recognition

Impact of use of digital technologies on online and real- life relationships

Rex's narrative construction using digital technologies

Impact of narrative construction through digital media on the real lives

Carroll feeling more connected to the world using digital technologies

Impact of digital technologies on the experiences of real life.

4.10.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Further text being generated in response to subsequent user inputs lead to the onwardness and progression of the narrative. In other words, narrative onwardness in the text results from subsequent user inputs given to steer further text generation.

4.10.2.3 Haphazardness. The text does not have any haphazardness in its construction as a logically connected and thematically unified narrative whole framed over a totalizing narrative trajectory. Haphazard effect arises from (i) the repetitions of word sequences used repeatedly to express the same ideas, (ii) repeated use of complex

compound sentences formed of clauses connected through a variety of conjunctions, and
(iii) switching between past, present, and future

4.10.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred for the detailed SFL analysis of the syntactic patterns used in the sample text # 10)

4.10.3.1 Interpersonal Meta Function. The clauses used in the text indicate that the entire text is about how the users have benefitted from the potentials of the digital technology. The text is in a third person voice of the narrator who expresses his omniscient knowledge of the impact the digital technologies cast on its users, explains the past experiences of the users of technology, the likely consequences in future. Apart from the third person voice, first person narration is also used in the text when users' own words are quoted to indicate their firsthand experiences, precise thoughts, and what exactly they feel. Apart from quotations, present tense is used in the third person description of Rex and Carroll's actions, and feelings indicating that both remain the same. They are still performing the same actions and have the same feelings. It is because of the same feelings and actions, that the writer makes predictions about the upcoming times and the users experiences with the digital technologies.

Since both Rex and Carroll are identified as performing male gender roles, the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

The use of present, past, and future tenses in the text indicates that the text constructs a narrative that has its roots in the past, is being (re)shaped in the present, and predicts the future. It is from their past experiences that the users design their present activities depending on which the writer makes claims regarding the impact of use of digital technologies on their users in the future.

4.10.3.2 Ideational Meta Function. Findings: Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.10.3.2.1 Material Processes. The text presents several material processes in which apart from the activities of the subjects Carroll and Rex, digital technologies are given animated characteristics which make them appear as performing certain tasks that reflect their capabilities to cast an impact on human users. Digital technologies create a

virtual world that runs parallel to the real world and just like the physical activities performed in the real world, the acts performed in the virtual world despite their soft ontological existence cast an impact on the lives of its users such as enabling them to make their living, staying connected, and sharing their thoughts and feelings.

Since both Rex and Carroll are identified as performing male gender roles, the material processes identified in the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

4.10.3.2.2 Verbal Processes. The text has many quotations that are reflective of the verbal processes being performed by Rex and Carroll. These quotations are in first person voice giving the firsthand account of the feelings, thoughts, and activities of the users. Apart from quotations, various verbal processes are referred to in the text which have the common variable of human subjects as being the sayers. This implies that the writer recognizes verbal processes as being typically characteristic of the human race only.

4.10.3.2.3 Relational Processes. Two types of relational processes are identified in the sample text.

I. Identifying Relational Processes: impact of technology is the value which implies that it serves as a qualification to identify technology users from ordinary inhabitants in the real world. Since both Rex and Carroll are identified as performing male gender roles, the material processes identified in the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

II. Attributive Relational Process: Several attributive relational processes are identified in the text. These processes are categorized on the basis of their carriers. The power of the emerging digital technologies in the lives of its users is acknowledged by realizing the attributes developed in them, the users not only become conscious of the significance of their online presence, they are also found to be lacking control when they are active in the virtual world, which implies that they are members of a world which is in constant evolution and its members neither know nor have control over what might be the next consequence of their activity. However, because of being in the virtual world, the users find themselves better equipped and more influential. The attributes developed by the users in the virtual world serve to testify the capabilities of the emerging digital technologies to cast an impact on the lives of their users.

Since both Rex and Carroll are identified as performing male gender roles, the attributive relational processes identified in the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

4.10.3.2.2 Mental Processes. The text reflects two types of mental processes being performed by the syntactic patterns:

I. Cognitive Mental Process: Where the emerging digital technologies are sensors in the cognitive mental processes of casting an impact on the lives, thoughts, and feelings of their users, readers are also called in to participate in the cognitive mental processes such as imagining a situation or a scenario where users of technology are involved in the cognitive processing of learning from other users of technologies. In other words, the whole text presents a narrative in which the use of different forms of emerging digital technologies calls for the users to participate in cognitive processes and invites the readers to the same. However, the cognitive mental processes yield positive impact on their participants and play a key role in defining and (re)shaping the mentality of the users in the real world as well.

Since both Rex and Carroll are identified as performing male gender roles, the cognitive mental processes identified in the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

II. Affective Mental Process: It is from the affective mental processes that the text derives one of its central themes i.e., the impact that digital technologies cast on the thoughts and feelings of their users. The feelings range from objective realizations among the users regarding the importance of online presence and life to personal subjective feelings arising from their successes and failures to casting an impact on the mental processes and lives of other users. However, despite the animated character and possessing capabilities to cast an impact on their users, nowhere in the text is any or all forms of emerging digital technologies seen to participate in any affective mental process implying that these technologies lack emotions and feelings.

Since both Rex and Carroll are identified as performing male gender roles, the affective mental processes identified in the text cannot be analyzed for its meta functions in terms of male or female gender performativity.

4.10.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer has an extradiegetic diegetic role in weaving a narrative on the central theme of the impact of technology on its users. The writer has an omniscient authority with which the text is written.

This text does not have any interpersonal theme and presents a coherent and meaningful account of how use of technologies can cast an impact on the lives of its users, achieved through the use of a variety of conjunctions and connectives.

4.10.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this document)

4.10.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.10.4.1.1 Figurative Component. Findings: Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: examined in terms of the interpretation of the term as a communication tool or a world in itself
2. Virtual world: analyzed in terms of momentary presence and a complete life
3. Comparison of the two worlds: analyzed in terms of activities being performed by users in the virtual world and their impact in real lives
4. Rex and Carroll: analyzed in terms of (i) online activities in which Rex and Carroll are involved, (ii) The use Rex and Carroll make of digital technologies, (iii) the aims with which Rex and Carroll use digital technologies, and (iv) the feelings of Rex and Carroll regarding their online experiences
5. General users of technology: examined in terms of single and collective users of technology

Discussion on Analysis of Figurative Components: It is from the analysis of thematic categories in which the lexical items used in the text are placed, that the major themes arise such as the role of emerging digital technologies, the existence of a virtual world, differences present between virtual and real world, patterns of interactions of general users, and differences between Rex and Carroll. It becomes clear that the aim of the text is to indicate that the two worlds overlap with one another and cast an impact on their users who tend to have a dual existence by being part of both worlds at the same time.

4.10.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, ellipsis, active/ passive, nominalization, and connecting tools. The text has eight paragraphs consisting of mostly complex- compound that present various ideas. Since it is in a third person voice, the text reflects the omniscient knowledge, confidence, and the authority with which the writer turns the text into a coherent and meaningful narrative. The linguistic devices used in the text include several conjunctions including adversative, additive, and temporal conjunctions, a variety of continuity elements such as “for instance”, “ultimately”, “in the future”, “another emerging digital technology”, “in this case” etc., repetitions, and nominalizations such as “interactions”, “combination”, “challenging”, “frustrating”, “exciting”, “distraction”, “generation” etc. Several clauses are in active voice. All pertain to the impact caused using digital technologies on their users.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with several linguistic features to highlight the theme of impact of digital technologies on their users. Additive, adversative, causal, and temporal conjunctions along with a variety of connectives are used to ensure that the narrative flows smoothly despite the presence of contrasting ideas which may lead to the emergence of a new theme. Repetitions and the occasional use of passive voice are made in the text to emphasize the point being made. The aim is to give the nonhuman AI an animated character to the digital technologies and passive voice is used to shift the focus on to its action of causing an impact on their users. This implies that it is not the users, it is the impact of the digital technologies on its users which demands attention of the reader.

4.10.4.1.3 The Enunciative Component. The enunciative strategies used in the text are descriptive as well as addressing in nature. The text is in the third person voice and the

writer has an extra- diegetic role in the (re)shaping of the narrator. It describes the experiences, feelings, and thoughts of the subjects with an omniscient knowledge which is supported by the quotations of the subjects. The quotations are in first person voice and reflect the firsthand experiences of the subjects with digital technology, their feelings and thoughts. Though there are no direct addressees, the narrator uses imperatives to ask the readers to imagine situations to understand the impact of digital technologies on the users. Discussion on the Enunciative Component: the text is in third person voice which implies that the writer is an extra diegetic element of the narrative being (re)shaped i.e., despite the fact that the writer is not an active subject, the narrative is being (re)shaped with an omniscient knowledge and an authority on part of a writer to describe the experiences, thoughts, and the feelings of the subjects Rex and Carroll.

Though there are no direct addresses, imperative calls to the reader have been made to explain and stress the points being focused on the narrative being (re)shaped. Also, words of Rex and Carroll are directly quoted to support the points being made. But the fact that quotations are the selections of the writer to support the points being made.

4.10.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed in terms of event sequences, each of which has an independent subject, quest of object, and the transformation that the subject would experience. The presented narrative consists of the following major event sequences

1. Carroll's use of digital presence
2. Rex's experience of digital media
3. Rex and Carroll making their living
4. Rex constructing narratives
5. Carroll feeling more connected to the world
6. Learning experiences

In the second stage of analysis at narrative level, each sequence was analysed for actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights Carroll as a subject who is in a phase of learning about the impact of digital presence on real life relationships. He had already been trying to find a

good match, but it was the positive response of the girl upon receiving texts from Carroll that helped him realize the power of the digital presence in casting an impact on his real life, relationships, and interactions.

Event Sequence (2) highlights Rex as a subject who has an understanding that reality and digitality are distinct. His use of digitality to improve the reality implies that digitality has become a distinct part of reality and the two together provide a new living experience with improved relationships and interactions.

Event Sequence (3) highlights Rex and Carroll as subjects who have made a positive and constructive use of their digital presence. The event sequence highlights the potential of the digital medium using which they can make a living, share their thoughts, and get fame.

Event Sequence (4) highlights the use of digital media as a powerful tool to affect the mentality, thoughts, and feelings of their users.

Event Sequence (5) highlights the use of digital media as a powerful tool to provide the users with an opportunity to express and share their thoughts and ideas and create a world in which users with similar interests can connect with each other.

4.10.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: The narrative is built on two subjects:

- i. Rex: who makes a living from his online presence
- iii. Carroll: who makes living from Youtube videos and web series

Review of the Themes: Basically, the theme along which the narrative is built is the impact of using digital technologies on the real lives of their users. Since the text is generated in response to the subsequent user inputs given to steer the AI into further text generation, several themes emerge, which all together contribute to the main theme. The identified themes reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: Following are the themes that contribute to the major theme on which the narrative is being built and (re)shaped:

- i. Management of online presences
- ii. Consciousness regarding the impact of online presence on personal lives

- iii. Impact of online presence on real lives and real-life relationships
- iv. Freedom of expression
- v. use of digital lives for the improvement in real lives
- vi. Impact of going viral on real lives
- vii. On the social media, neither can anything be planned nor be controlled
- viii. Impact of digital technologies on the way a person views the world
- ix. Potentials of digital media
- x. Use of potentials of digital media to create a narrative to cast an impact on the thoughts and ideologies of their users.

4.11 SAMPLE TEXT # 11

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. They are not just tools for social networking...Carroll prefers to keep their identity private. (1522 words generated by Novelai, [whole text sample to be found in the annexed CD annexed with this dissertation])

4.11.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #11 can be found in the CD annexed with this dissertation).

4.11.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Communication

Online activities

Personal data

Self-expression

Threats posed by emerging digital technologies

Approach towards privacy

Life offline

Implication on society

E-life

Discussion on Choice of Lexical Content: From these head categories, it becomes apparent that the text is a third person narrative built on the concepts of the different forms of emerging digital technologies, online activities, benefits provided in terms of self-expression, e-commerce, and better communication along with the disadvantages in the form of access to personal information, hacking and cyber bullying. Overall, the narrative is weaved on the concepts of how different forms of the emerging digital technologies have influenced the society and its users.

From the cursory inspection of the lexical choices used in this long text, it appears that the text is divided into two major parts and each part has two dimensions (i) the impact of the emerging technologies on the personal lives of their users, and (ii) the impact on the society by offering a life which runs parallel to the real world and has its own pros and cons.

Where the impact cast on the personal lives of the users appears to be a matter of users' choice and personal use of the technologies, the narrative seems to discuss the impact of the virtual e-world as something that cannot be negated because of the advantages it has over the real physical world.

4.11.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.11.1.2.1 References. Personal, endophoric, exophoric, demonstrative, possessive, and extended references are used in the text. This text sample is very long, in which though Rex and Carroll are the only two human subjects, different forms of emerging digital technologies are seen as assuming animated roles to cast impacts on their users. This implies that there are several subjects in the text and the smooth flow and continuity are achieved through the use of various references. The two human subjects Rex and Carroll, and various forms of emerging digital technologies are referred to using personal references and extended reference "it". Demonstrative references have also been used to point towards the various concepts already used in the text such as the allowances, help, practices, demonstrations etc to ensure the variety and avoidance of repetitive jargons.

4.11.1.2.2. Connectives/ Conjunctions. This long text has multiple compound complex sentences further organized into several paragraphs. Each paragraph focuses on an idea which is further (re)shaped by various other supporting ideas in the paragraph. Demonstrative, causal, temporal, additive conjunctions, and connectives such as "as a

result”, “another problem is”, “as technology advances”, “for example” etc. are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

4.11.1.2.3 Substitution. A number of words have been used in place of other words to avoid repetitions.

Discussion on the Findings of Cohesive Devices: This text has multiple complex compound sentences each further organized in several paragraphs. The paragraphs are not very long and focus on one major idea which is on many occasions carried forwards to a new paragraph, both of which are connected through connectives. Several conjunctions are used to connect contrasting ideas, add to the previously mentioned ideas, or even build on to what has already been stated. Despite the presence of several paragraphs, there are times when the ideas are carried forward which implies that there are chances of repetition. Apart for connectives, substitutions serve as significant tools to replace words and induce a flavour of variety in the expression of the narrative.

4.11.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.11.2.1 Totalizing Path. The text is divided into three parts: the first two parts present narratives which are developed along well-defined narrative trajectories where connectives are used to frame a proper beginning, and ensure a well carved, logically connected, and thematically unified progress. However, the third part appears to be unconnected and focuses more on the impacts that the emerging digital technologies cast on human life. Being generated in response to subsequent user inputs, the text qualifies to have digi modern traits where the text remains coherent and meaningful but may not as such remain thematically unified.

4.11.2.2 Onwardness. Since the text is being generated in response to human user input given to steer further text generation, it remains progressive and moves on in different directions. In this case, the text is generated in three parts, each generated part addresses one aspect of the initial user input. This implies another digi moden qualification of the

text wherein the text because of receiving inputs, can move in any direction. In all cases, the generated text remains coherent and meaningful to the initial user input.

4.11.2.3 Haphazardness. Since the text is being generated in response to user inputs, it has haphazard effects as are evident from the fact that the text has three parts. Where the first part is about different approaches of the subjects Rex and Carroll addressing their sensitivities towards privacy online, the second and third parts are more focused on the impact of the emerging digital technologies on human lives. Though these parts may not appear to be following a narrative trajectory to connect with each other, they in themselves are complete narrative wholes. They may not appear to be logically connected to each other to present a narrative umbrella; they remain thematically unified to the initial user input. This gives the whole text a haphazard effect i.e., though parts of the text are connected to the initial user input, each has drifted in a different direction, where each direction pertains to one aspect of the initial user input.

4.11.3 Step 3: Syntactic Analysis

The functionality of this sample text is established by the SFL analysis of the meta functions performed by the syntactic patterns used in the text. (Annexed CD can be referred to for the detailed SFL analysis of the text sample # 11)

4.11.3.1 Interpersonal Meta Function. Because of the use of declarative sentences, the overall mood of the text is declarative. This indicates that the writer has an omniscient knowledge about the conditions and the subjects presented in the narrative. Where Rex, Carroll, and human users including hackers, people, companies, children, and staff are the subjects in this text, different forms of digital technologies such as Google, Facebook, Twitter, webcams etc are also the subjects which imply that they have come in a position in equations with human subjects to cast an impact. The clauses which are framed in the past tense are indicative of the past experiences of the human users of digital technologies, implying that with the development and advancement in technologies human users are learning and adapting to the times that are in evolution.

4.11.3.2 Ideational (Experiential) Meta- Function. Several subjects are present in the text: Rex, Carroll, different forms of emerging digital technologies, and users of digital technologies.

The first sentence is the user input prompt and reflects an attributive relational process in which emerging digital technologies are carriers of the abilities to cast an impact on the relationships and identity of their users. It is a declarative sentence in present tense with positive polarity and no modality. Even though it is a human user input, the sentence neither reflects the user's socio- cultural context nor mirror any spatio- temporal situatedness. However, subsequent AI generated text has syntax patterns that reflect the following processes:

4.11.3.2.1 Material Processes. A variety of material processes with different actors and goals are referred to in this text. They can be placed into different major categories on the basis of the goal and actors:

- (1) Emerging digital technologies and their impacts on the users:
- (2) Human users of technologies including Rex and Carroll.

The analysis of material processes indicates the fact that it is no longer the prerogative of the human race to perform material processes that cause an impact on the life around them. Because of being actors in the different material processes that culminate in making a difference to their users and to human life in general, the emerging digital technologies and their different forms get an animated role by performing which they become contributors to human existence. Material processes being acted upon by human subjects are limited to individual acts and result in achieving goals that are limited in their scope i.e., they are targeted to the individual users only. In contrast, the material processes which are acted upon by the different forms of emerging digital technologies result in goals at a larger scale i.e., they make a difference to the masses rather than individual users. Different forms of emerging digital technologies contribute to (re)shape the overall human existence.

4.11.3.2.2 Verbal Processes. The verbal processes in the text are basically the references to highlight the potential of the emerging digital technologies in allowing its users an unconstrained freedom of expression. Again, the verbal processes are indicative of the difference that the use of emerging digital technologies is making to human life.

4.11.3.2.3 Relational Processes. Referring to the qualities of an entity, two types of relational processes are identified in this text.

I. Attributive Relational Process also known as existential, indicates the specific attributes of a given carrier. In this text, several attributes have been identified ranging from

increasing dependence on the digital technologies because of the convenience and ease provided to the users in different walks of life to individual attributes of users including Rex and Carroll to the characteristics that serve to distinguish their approaches one from another.

Where multiple attributes have been identified in the text, it is the attributes possessed by Rex and Carroll that help in understanding personality traits of both the subjects. Rex and Carroll both are aware of the importance of the protection of their identities online, Carroll appears to be a female who becomes intimidated by the potential of these technologies and is reluctant to experiment whereas Rex indulges himself in practices that help him in satiating his desires to freely express his thoughts. These attributes help in understanding Rex and Carroll as users who have unique approaches towards digital technologies even though both are faced with the same potentials of the media.

The attributes of the emerging digital technologies and the online practices of the users help in giving animated character to these technologies which become capable enough to cast an impact on the users and exist as a contributor to the current life.

II. Identifying Relational Process: Though several subjects are present in the text, it is only Carroll, a female subject, who has values that serve to distinguish her from the rest. She is seen in contrast to other users of technology including Rex who makes an unconstrained use of the potentials of the digital technologies. In the entire text, it is Carroll who is so overwhelmed by the misuse of the personal data made public on the internet, that she has restricted her usage.

4.11.3.2.4 Mental Processes. The cognitive processes identified in the text are all sensed by human users implying the fact that cognition and thinking faculties are prerogatives of the human race and it is being acknowledged by the writer. However, the phenomena on which human sensors ponder in their cognitive mental processes vary in their nature.

Rex and Carroll are seen as sensitive individual users concerned about the exposure of their personal lives, public images, and reputation. The writer presents Rex as a male who recognizes the threats posed using digital technologies yet is not deterred by the unpleasant experiences. He is presented as courageous enough to use the internet as a medium for free expression, however under a pseudonym. On the other hand, is a female subject Carroll,

who also had an unpleasant experience from which she learned to limit her online activities.

And the cognitive mental processes sensed by the general users of technology allow them a freedom of expression. This implies that digital technologies have the tendency to be subjectively manipulated at individual levels in terms of the impacts they cast and at the same time the significance of their usage at a larger level are acknowledged and recognized by collective masses.

II. Affective Mental Processes: Whereas the use of technologies is considered as involving affective mental process in terms of the impacts that they cause on their users, the affective mental processes sensed by the subjects Carroll and Rex are critical. Carroll is presented as a female who has insecurities regarding her identity online. She is protective of her identity and accordingly indulges into a careful use of digital technologies. On the other hand, Rex is a male who believes in self-expression and despite recognizing the potential threats, uses digital technologies to share his thoughts and express what he feels which implies that he is presented as an individual who believes in unconstrained living.

4.11.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the text where the text has unmarked themes derived from the human subjects including Rex, Carroll, and the general users, it is the marked themes which stress the role of emerging digital technologies as agents that can cast an impact on their human users and human existence.

4.11.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.11.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.11.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: analysed in terms of (i) their utilization at a collective and personal levels, and (ii) the advantages and risks associated with them.

2. Attitudes towards privacy online: analysed by drawing a comparison between attitudes of Rex and Carroll

3. Shift from offline to online: examined in terms of nature of interactions, (ii)

4. Personal use of internet: examined in terms of the differences in the usage of internet by Rex and Carroll

5. E-commerce: analysed by (i) drawing a comparison between life with and without it, and (ii) benefits and challenges posed by the technologies.

Discussion on Analysis of Figurative Components: The analysis of thematic categories in this text reveals that the narrative is being built with the focus on the impact cast by the emerging digital technologies on human life in various aspects ranging from shift from offline to online interactions, to personal usage choices, to the most important through e-commerce. The thematic categories reveal that the impacts of these technologies are being viewed differently by the users of these technologies. The users may vary one from another in terms of their use and different attitudes towards their exploration of the potentials of these digital technologies.

4.11.4.1.2 Grammatical/ Syntactical Linguistic Devices. The entire text builds narratives in three parts, where each narrative is a whole in its own self. Each narrative part centres around a specific idea which is further supported by a variety of related ideas connected to each other through a variety of conjunctions and connectives. However, each narrative has a new beginning and progresses forward towards a well-rounded ending.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe with a narrative that has three parts: each part is a world inhabited with its independent subjects and has a focal point of its own. These worlds connect with one another to form a universe which has an overall central point of the impacts caused using digital technologies.

4.11.4.1.3 The Enunciative Component. The enunciative strategies used to build the narrative are descriptive in nature. The text is in the third person narrative who is extradiegetic (i.e., not an actor in the text), and the entire text exudes a declarative mood indicative of the omniscient knowledge and confidence of the writer. The extensive use of

evaluative terms has been employed to describe the traits of different entities, practices, and their impacts.

Discussion on the Enunciative Component: The text is descriptive in nature, mostly uses present tense, however switches to past tense to trace the roots of Rex and Carroll's present attitudes towards the impacts of use of digital technologies and the present conveniences afforded to the users of these technologies. The text employs third person narration to give a narrator's version of the events i.e., though the narrator is neither a part of the narrative nor has a first-hand knowledge of the events, yet the narrative is built with an omniscient air and an authoritative certainty.

Use of evaluative terms, and the processes the narrator has used to ascribe to Carroll and Rex contribute to a strong sense of a sharp divide between positivity and negativity, advantages and challenges, and the sharp divides between online and offline interactions. The narratives being (re)shaped are indicative of a world in which the subjects as well as the different forms of emerging digital technologies experience a constant evolution.

4.11.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of the following major event sequences:

1. Availability of personal data is a double- edged sword
2. Carroll's concern about her privacy online
3. Rex's attitude towards privacy
4. Use of mobile devices
5. Impacts of e- commerce

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisivse, and glorifying tests.

Event Sequence (1) highlights the potential of the emerging digital technologies. They, on one hand, have advantages of being powerful tools for social networking and self-expression, and on the other hand they can prove to be harmful by providing the space to third parties to harm their users.

Event sequence (2) attempts to convince the readers of the possible challenges faced by the users of emerging digital technologies like Carroll. One such challenge is the public image which can be damaged and needs to be protected.

Event sequence (3) centres around the challenges emerging from the free and unconstrained use of digital technologies and proposes a solution to address those challenges.

Event Sequence (4) lies in the potential of the internet which has enabled it to become a part of human life to an extent that users continue to rely on it despite the risks associated with it.

Event Sequence (5) lies in the potential of the emerging digital technologies. They, on one hand, have advantages of being powerful tools that can have an impact on all aspects of human life, and on the other hand they can prove to be harmful by providing space to third parties to harm their users.

4.11.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The umbrella category on which the entire text builds the narrative is

Advantages of internet vs threats posed by internet

2. What are the abstract poles of meaning between which the text moves?

The abstract poles of meaning between which the text moves are

Positive impact vs negative consequences

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Despite its drawbacks, people will continue to rely on internet

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Availability of personal data is a double- edged sword

Advantages



Threats

2. Carroll's concern about her privacy online

User of social media → Less active on social media

3. Rex's attitude towards privacy

Views online presence as → Post anonymously without
having
a way to express himself to worry about repercussions
freely

4. Impacts of e-commerce

Dependent on the physical world → has had a significant impact on
our lives

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects several transformations, each phase refers to the potentials of the digital technologies which lead to transformations, however, these transformations are dependent on the way the technologies are used.

4.11.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: two subjects are present:

- i. Rex: a daring and carefree male whose aim at using emerging digital technologies is a self-expression under no external constraints
- ii. Carroll: a sensitive female user for whom her public image on social media and reputation are significant.

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Emerging digital technologies are double edged swords: where they offer more opportunities to express oneself, they also make the user vulnerable to hacking.

- ii. Carroll: a female user who uses Facebook and Instagram to keep in touch with her family and friends and remains increasingly concerned about her privacy. She is careful about what she posts online and uses Facebook and Instagram with a pseudonym.
- iii. Rex: a male subject who despite realizing that there are risks associated with sharing too much information online, uses Google, Facebook, Twitter, to express himself without any constraints imposed by others. He also uses a pseudonym but not because he fears to be hacked but because he fears identification by his parents. His aim is to defy all activities that might limit his freedom of expression.
- iv. Over dependence on internet: Because of the ease of operations provided by the different devices, the writer fears that users may become over dependent on the internet, which might lead to a collapse of various real-world operations in case the internet connectivity is lost.
- v. Positive impact of new digital technologies in the lives of their users:
- vi. Challenges posed by new digital technologies to their users:

4.12 SAMPLE TEXT # 12

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. Rex and Carroll's emerging digital identities... produce more content in the form of videos, interviews, and podcasts. (765 words generated by Hyperwriteai. ai., [whole text sample to be found in the CD with this dissertation])

4.12.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the lexical items and cohesive devices used in the sample text #12 can be found in the CD annexed with this dissertation)

4.12.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Identities

Identity markers

Communication

Changes and adaptations

Online activities

Social relations

Representations

Appearances

Gender neutrality

Use of language

Discussion on Choice of Lexical Content: From these head categories, it appears that the text is a third person narrative on emerging digital technologies owing to the use of which changes are witnessed in the established identity markers such as gender, sexual orientation, social class, and race. Apart from these, it appears that the text poses emerging digital technologies as potential threats to the already established norms of communication, representations, appearances, and relationships resulting in their adaptations and changes.

4.12.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.12.1.2.1 References. Demonstrative, extended, personal, possessive, references are used in this text for a smooth narrative flow.

4.12.1.2.2. Connectives/ Conjunctions. This text has multiple compound complex sentences further organized into eight paragraphs. Each paragraph focuses on an idea which is further (re)shaped by various other supporting ideas in the paragraph. Additive, causal, temporal, causal conjunctions/ connectives are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

Connectives like “other important identities”, “to answer these questions”, “one of the most significant changes”, and “interestingly” are used to connect the main points with one another to make a smooth, flowing narrative:

Discussion on Findings of Cohesive Devices: This text has a multiple number of complex compound sentences each further organized in the form of eleven paragraphs. Each paragraph presents a major idea which is (re)shaped by supporting ideas connected through a number of conjunctions. Also, a smooth narrative flow is achieved by sequencing one paragraph with another through the use of a number of connectives.

4.12.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text. (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation)

4.12.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression. The narrative begins by introducing the concepts of digital personas casting an impact on the formation of new and maintenance of old relations. The narrative treats relations as products of various identities such as gender, social orientations, race, and class and postulates that they are in a state of constant flux. It is the changes in the identities that the narrative focuses on and progresses through descriptions of changes ranging from appearance of digital personas to use of pronouns to the content being produced and released on different social media platforms. The narrative initiated and being (re)shaped by user inputs progresses through the following path:

Introduction to the concept of change in relationships derived from the change in identities,
Types of identities that undergo changes including class; race; sexual and romantic identities,
The ways in which Rex and Carroll relate physically, socially, and politically,
Changes in the online presence being governed by different factors such as appearance of digital personas, adoption of images and content, changes in gender and sexual identities, and presentation of selves as non- binary,
Changes in the content being produced,
Use of different media to produce and publish content.

4.12.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Further text being generated in response to subsequent user inputs lead to the onwardness and progression of the narrative. Where the narrative progresses forward, there are also repetitions. However, because of being triggered by user inputs, the narrative flow can take any direction, and in this case, this becomes evident by the switching of the narrative from one theme to another. At the same time, in all cases the narrative remains smooth and glides through a coherent and meaningful trajectory.

4.12.2.3 Haphazardness. Haphazard effect in the text arises from repetitions of words and phrases, and a rapid progression during which the narrative continues to be

(re)shaped as the theme continues to appear one after another. However, use of conjunctions and connectives help in keeping the narrative coherent, meaningful, and logically connected.

4.12.3 Step 3: Analysis of Syntactic patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL (Detailed SFL analysis of the text sample # 12 can be found in the attached CD).

4.12.3.1 Interpersonal Meta Function. The clauses used in the text build a narrative which is constantly being (re)shaped in terms of the identity markers, expression of selves as digital personas used for representation of online presences, and the publication of content through different social media platforms. All processes highlight their roots in the use of emerging digital technologies. Superficially the text is in third person voice which reflects the neutrality and omniscient knowledge and neutrality with which the text is being generated to (re)shape the narrative. However, the presence of one clause in the text in which the writer indicates personal preference for the use of a certain pronoun for its own representation, highlights the subjectivity of the writer and drives the reader into considering the text as being shaded by the personal choices of the writer.

Also, in the text several interrogative clauses are used, which refer to the writer attempting to drive the readers into thinking about the changes being brought about by the changes in the identity markers. It is to these interrogative processes, that the writer indulges into further (re)shaping of the narrative by giving different examples and pointing out changes in the use of the emerging digital technologies.

In this text Rex and Carroll are not used as separate entities except when their identities in terms of their social classes are mentioned. However, even in that case they are not treated as subjects enjoying certain gender identity or possessing certain sexual orientation. The entire text builds a narrative on the key concept of challenging the conventional concepts of identities in terms of gender, sexual orientations, appearances, use of pronouns, and representation on the social media. In other words, the narrative posed by the text presents alternative ways used for communication and maintaining relationships, that are all threats to conventional markers used for the acknowledgement of identities of users.

4.12.3.2 Ideational Meta Function. The text presents several material processes which all reflect the impacts of use of emerging digital technologies on their human users. The changes in the lives of Rex and Carroll range from individual scale reflecting their subjective feelings and a realization of the importance of social appearances to a collective social scale at which the conventional identity markers such as gender, sexual orientation, gender neutrality, and use of pronouns are challenged. To support the concept of neutrality, none of the subjects is give any gender specific identity or sexual orientation. In fact, they are treated as a single compound subject.

4.12.3.2.2 Verbal Processes. Though the text does not have any direct quotations of the precise words being said by any specific human subject. However, the verbal processes reflect the views regarding the changes being brought about in the use of language. The verbal processes advocate use of non- binary pronouns for the representations of the subjects. Verbal process in the first-person voice giving the first-hand account of the feelings of the writer regarding the use of gender specific language, on the other hand, seems to contradict the use of language by other subjects. Also in all verbal processes, the common variable is the human subjects referred to as “they” which imply Rex and Carroll as being the sayers. This implies that the writer recognizes verbal processes as being typically characteristic of the human race only.

4.12.3.2.3 Relational Processes. Two types of relational processes are identified in the sample text:

I. Identifying Relational Processes: Identifying relational processes in this text explores the ways in which their uses would relate to one another keeping in view the fact that because of the use of emerging digital technologies, there are changes. The processes further take sexual and romantic identities as representatives of identity markers conventionally used to define the dimensions of a given relationship. The process does not target any specific subject which is reflective of their general applicability.

II. Attributive Relational Process: Several attributive relational processes are identified in the text. These processes are categorized on the basis of their carriers and the attributes. The power of the emerging digital technologies in the lives of its users is acknowledged by realizing the attributes developed in their users i.e., the users not only become conscious of the significance of their online presence, but they are also found to be wondering at the

nature of these changes and their consequences. Except for the attributes of social class and race used as identity markers of Rex and Carroll, common to all other attributive relational processes is the attribute of undergoing a change. The changes have long lasting impacts on human lives at individual as well as collective level and cannot be restricted to either Rex or Carroll. The attributes attain a significant importance when the narrative built on them aims to unearth the ways they are undergoing changes and pose the probable future.

4.12.3.2.4 Mental Processes. The text reflects three types of mental processes being performed by the syntactic patterns:

I. Cognitive Mental Process: Depending on their sensors, the cognitive mental processes taking place in the text can be categorized into a number of types. Since the cognitive processes are about the changes induced in human lives by the emerging digital technologies, the sensor are all human subjects. This implies that where human users are the affectees and are concerned about the chances, it is the emerging digital technologies which are agents of these changes. However, in contrast to human subjects, emerging digital technologies bring the changes regardless of the human or any other context. In other words, emerging digital technologies lack the faculties of cognition and realization for the context despite its capabilities to bring about contextual changes.

In terms of Rex and Carroll, none of the cognitive processes are identified to be performed by either of the two. Rex and Carroll are treated as a single compound subject who are sensors of the phenomena of changes in the collective human life.

II. Affective Mental Process: It is from the single affective mental processes that the text derives one of its central themes i.e., the impact that digital technologies are likely to cast on their human users. The text builds a narrative which highlights the longevity of the effects of the use of emerging digital technologies to an extent that the future of human existence is likely to be challenged.

Since both Rex and Carroll are identified as a single compound subject, the affective mental process cannot be interpreted in terms of male or female gender performativity.

III. Perceptive Mental Process: It is from the perceptive mental process (Table: 12.19) that the text derives another of its central themes i.e., the importance being attached to appearances and how changes in appearances reflect changes in identities. Both

appearances as well as identities are undergoing changes because of the advent of emerging digital technologies, which are threatening the notions of coupling of appearances with identities.

4.12.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer has an extradiegetic diegetic role in weaving a narrative on the central theme of the impact of technology on its users. The writer has an omniscient authority with which the text is written. The underlying theme of the narrative being (re)shaped is the changes brought in the lives of Rex and Carroll because of the use of digital technologies. Where the unmarked themes focus on the users as the subjects, the marked themes attain significant importance because they draw the attention towards the fact that it is the processes and circumstances that enable the emerging digital technologies to come in a position where they cast an impact on the lives of their users. Derived as products of different processes and circumstances, the unmarked reflect on the different aspects of life which have experienced transformation because of the use of digital technologies.

This text does not have any interpersonal theme and presents a coherent and meaningful account of how use of technologies can cast an impact on the lives of its users, achieved using a variety of conjunctions and connectives.

4.12.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and its findings can be found in the CD annexed with this dissertation)

4.12.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.12.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1.Identity markers: analyzed in terms of individual and collective natures

2.Communication: examined in terms of single person's presentation on a restricted scale or presentation to a wider audience

3.Perceptions of appearances: examined in terms of personal and social attributes

4.Rex and Carroll: analyzed in terms of their differences in social class and education

5.Representation through online personas: examined in terms of the different ways used to represent selves through online personas. The representation is analyzed in terms of use of machine-made props or human maneuvered traits

6.Gender neutrality: examined in terms of personal preferences and online personas

Discussion on Analysis of Figurative Components: The analysis of thymic categories in this text reveals that the narrator drives the readers to consider the changes being induced by the emerging digital technologies. Though Rex and Carroll are the subjective users of the emerging digital technologies, the themes reflect the general changes in the present scenario.

4.12.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, nominalization, and connecting tools. The sentences are mostly complex- compound that present various ideas sequenced using various linguistic devices such as conjunctions like adversative, temporal, additive, and causal conjunctions, demonstrative devices like “this means”, “this has allowed”, “these changes”, “these questions”, repetition of ideas and phrases, nominalizations etc.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting an evolution in human values in terms of individual and collective identities. The changes are traced to the use of emerging technologies as a means of communication used for sharing and articulating experiences at a limited and a wider scale. Since the changes pertain to different aspects spread over a vast array of fields such as different types of identity markers, representation of selves through online personas, perceptions of appearances, and neutrality in terms of gender, sexual orientation, and expression through language in terms of pronouns usage, and coherence and meaningfulness are achieved using conjunctions, demonstrative devices, and connectives. The use of linguistic devices helps in creating a sense of symmetry and a balance in the universe while the narrative presenting it is being (re)shaped.

4.12.4.1.3 The Enunciative Component. The enunciative strategies used in the text are mostly descriptive in nature. Initially the text appears to be in the third person narrative,

but addressing the readers through the interrogative clauses, and mentioning subjective personal preferences give the narrative a face of first-person narration.

Discussion on the Enunciative Component: Initially appearing to be a descriptive account in a third person voice, the text assumes the airs of a first-person narration by a writer whose omnipresence hovers over the entire narrative being(re)shaped. The element of writer's personal observations cannot be ignored, and the text can be analyzed in terms of being an account of affairs evaluated by the writer.

The writer has given justifications for the evaluative nature of the text by tracing the roots of the present into the past as is indicated using the past tense. This implies that the writer builds the narrative by drawing comparisons regarding the changes the writer has analyzed in terms of a sharp divide between the mentioned binaries employed in dealing with the thymic categories mentioned in the figurative analysis.

4.12.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed to identify the event sequences, each of which studied in terms of independent subjects, his/ her quest for object, and the transformation the subject experiences during his/ her quest. The presented narrative consists of the following major event sequences:

1. Challenges to conventions
2. Adaptation of Rex and Carroll
3. Changes to Rex and Carroll's gender and sexual identities
4. Shift in the type of content Rex and Carroll produce

In the second phase of analysis at the narrative levels, the events sequences are analysed in terms of actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Event Sequence (1) presents the changing values as the central theme of the narrative, the central theme is based on the contrast introduced using emerging digital technologies and the conventional ways through which people used to relate to one another. Because of presenting new methods of communication, emerging digital technologies have surfaced up as agents that challenge conventions especially the established identities including gender, sexual orientation, social class, and race.

Conventional identity markers →

Changed identities

2. Rex and Carroll's nonbinary online presence

Gender and sexual orientation →

Gender neutrality & non-binary

3. Evolution of internet

Limited scale

→

Reach to wider audience

Discussion on Findings of Deep Level Analysis: Deep analysis of the text reveals that the narrative is built on three transformations: (i) transformation of the nature of relationship between Rex and Carroll: Where it is likely that in real life, their relationship may face a few difficulties because of Rex and Carroll belonging to different socio-racial backgrounds, the virtual world created by the digital technologies enable them to assume digital personas regardless of their cast, creed, education, and economic status. In other words, the transformation from real life personas to digital personas has cast an impact on the nature of their relationship. (ii) transformation from binaries in real lives to online neutrality: where real life existence of Rex and Carroll is subjected to binaries as reflected in the language they use, the digital personas that they assume are free from such binaries, remain neutral as is reflected from their use of pronouns. (iii) transformation in the type of content they share online through different forums including Facebook, Instagram, Medium, TED Talks, podcasts, and interviews. The transformations on which the narratives are built encompass evolutions at personal, social, and technological levels.

4.12.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: The narrative is built and (re)shaped along two subjects i.e., Rex and Carroll are present. Though they are treated as separate individuals, they are neither assigned any specific role performativity nor are they subjected to any specific transformation at an individual level. They are treated as users of the digital technologies who remain under evolution.

Review of the Themes: The text poses a narrative on the different forms of evolution being experienced and introduced using digital technologies and reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the themes identified to reflect different types of evolution being focused in the narrative are as follows:

- i. Impact of digital personas on relationships of users of digital technologies
- ii. Impact of digital personas on gender and sexual identities of the users of digital technologies
- iii. Factors contributing to changes in people's online presence
- iv. Role of appearances in determining people's online personas
- v. Shift in the types of content being produced online.

4.13 SAMPLE TEXT # 13

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. For example...We're weirdos". (650 words generated by Novelai, [whole text sample to be found in the CD annexed with this dissertation])

4.13.1 Step 1: Analysis for Cohesion

Following is the analysis of lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative (Annexed CD can be referred to find the detailed analysis of the cohesion of the given text sample):

4.13.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Relation with technology

Communication

Online activities

Time spent

Activities through use of technology

Feelings

Physical states

Friends and families

Creation of art

Advantages of the use of technologies

Discussion on Choice of Lexical Content: From these head categories, it appears that the text is a narrative on the impacts that use of different forms of emerging digital technologies

cast on their users. It seems the text builds a narrative centered around the themes of users spending time on the internet, and the impacts of that duration on their emotional and physical states. The text portrays the internet as a tool which serves not only as a means of communication but also as a tool that helps in creation of art, expression of selves, and bringing people together.

4.13.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.13.1.2.1 References. Personal, extended, demonstrative, possessive, endophoric and exophoric references are used in this text:

4.13.1.2.2. Connectives/ Conjunctions. This text has multiple compound complex sentences further organized into eight paragraphs. Each paragraph focuses on an idea which is further (re)shaped by various other supporting ideas in the paragraph. Adversative, additive, causal, temporal conjunctions, and connectives such as “for example”, “as a result”, “for Rex and Carroll” etc., are used to connect the sentences with each other to create a smooth flow of the narrative being (re)shaped and at the same time serve to make the text meaningful despite the presence of a variety of ideas.

Discussion on Findings of Cohesive Devices: This text has a multiple number of complex compound sentences each further organized as six paragraphs. Each paragraph presents a major idea which is (re)shaped by supporting ideas connected through several conjunctions. Also, a smooth narrative flow is achieved by sequencing one paragraph with another using a number of connectives.

4.13.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text. (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation)

4.13.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression. The narrative is built and (re)shaped through the comparisons between the basic concepts such as users of technology and those who do not use it, advantages, and disadvantages of the use of the internet, perceptions of changes by relatives as well as strangers, different ways of spending time, and uses to which the internet is put. The

narrative initiated and being (re)shaped by user inputs progresses through the following path:

Interpretation of changes introduced using emerging digital technologies

Comparison between different ways of spending time with and without internet

Perceptions of disadvantages of the use of internet

Perceptions of advantages of the use of internet

4.13.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Further text being generated in response to subsequent user inputs lead to the onwardness and progression of the narrative. The narrative takes on turns and evolves out of the themes already popping up i.e., the narrative continues to get (re)shaped and at the same time moves on touching upon different themes, yet it remains meaningful and coherent. Further inputs may have resulted in driving the narrative into some unique direction yet remaining coherently connected to what has already been generated.

4.13.2.3 Haphazardness. Haphazard effect in the text arises from the unique directions that the (re)shaped narrative takes i.e., where the narrative touches upon the advantages of the use of the internet, it moves towards the feelings of the users, and then switches back to the disadvantages of the internet usage. The haphazard arrangement of the themes yields a coherent, logically connected, and meaningful narrative through the sequencing of events achieved using conjunctions and connectives.

4.13.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred to find the detailed SFL analysis of the text sample #13)

14.3.3.1 Interpersonal Meta Function. The clauses used in the text build a narrative which is about human subjects, their activities/ interests, uses of the internet, the advantages and disadvantages, their enhanced capabilities, and the opinions of people other than Rex and Carroll. Where the narrative is dominated by the human subjects, emerging digital technologies and internet as their specific forms performs an animated role by enabling its human users to perform things that otherwise would have been difficult, in terms of cost, more effort and time demanding, if not impossible. Because of the impact

that the use of internet casts on its human users and the advantages and disadvantages help in giving internet a status which comes to play a significant role in defining the structure of present-day human life even though it is nonhuman and has no consciousness of spatio-temporal contexts and subjective individual as well as collective social perspectives.

Positive polarities and lack of modal verbs imply that the writer generates the text from a third person omniscient perspective, where there remain no chances of uncertainties. The writer seems to possess a knowledge about the activities, feelings, and thoughts of the subjects obtained from a hovering presence over the entire narrative and has no doubts in the authenticity of the narrative it is building and (re)shaping.

In this text Rex and Carroll are two male subjects who have similar interests and thoughts. Their use of the internet is the same ranging from creation of art, expression of selves, socialization, communication, and doing tasks which otherwise may not have been easily achieved.

4.13.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

14.13.3.2.1 Material Processes. The text presents several material processes which all are based on the comparisons of the activities that users could do with the help of emerging digital technologies, specifically the internet which is taken as their representative. The text builds a narrative which is being (re)shaped on the basis of comparisons between the material processes reflecting activities performed online and those done in the real physical world, and it is through these processes that the impact of emerging digital technologies on the lives of Rex and Carroll become apparent.

4.13.3.2.4 Verbal Processes. Verbal processes identified in the text are both in the form of quotation of the words of the sayers or the processes being implied. In both cases, the verbal processes also focus on drawing comparisons to bring out the differences yielded using emerging digital technologies. These differences are elaborated in terms of the states of mind, attitudes, feelings, and thoughts. The verbal processes focussing on the sayings of Rex and Carroll are about how use of technologies have marked them different from nonusers, what they would have been doing had they not used the technologies, and the positive impacts on their personalities and conditions. On the other hand, there are verbal processes in the text in which concerns on the changed behaviour of Rex and Carroll as

users of technologies are voiced. Through all verbal processes, the writer has acknowledged the capabilities of the internet in casting an impact on its users.

4.13.3.2.3 Relational Processes. Two types of relational processes are identified in the sample text:

I. Identifying Relational Processes: Serving to identify the attitudes of Rex and Carroll as users of the internet, the major theme of the text emerges i.e., the impacts that the use of technology casts. Where Rex and Carroll are identified to have become more isolated, it is because of the capability of the internet to enable its users to communicate effectively and efficiently, that the users are identified to have become more open minded in contrast to the times that are past. In either case, the writer presents the internet as an influential force, which does not leave its users and surroundings unimpressed.

II. Attributive Relational Process: Several attributive relational processes are identified in the text.

Ranging from individual personal feelings and experiences to the qualifiers of the states in which the internet is being used, the attributive relational processes serve to contribute to the major theme of the narrative being (re)shaped i.e., impacts of digital technologies on human users. These attributes are used to draw a comparison between the feelings, experiences, and states of users before and after their indulgence on the internet. A cursory look at the identified attributive relational processes, it becomes apparent that the attributes can serve to evaluate the internet positively or negatively or in terms of its advantages and disadvantages. However, in either case the writer has acknowledged the internet as a force that cannot be ignored. It does have an impact on its users. The power of the emerging digital technologies in the lives of its users is acknowledged by realizing the attributes developed in their users i.e., the users not only become conscious of the significance of their online presence, but they are also found to be wondering at the nature of these changes and their consequences. The attributes attain a significant importance when the narrative built on them highlights the differences the use of the internet has made on its users.

4.13.3.2.4 Mental Processes. The text reflects three types of mental processes being performed by the syntactic patterns:

I. Cognitive Mental Process: All the cognitive processes identified in the text are sensed by human subjects, implying the fact that thoughts, realizations, understandings,

preferences, and interests are all recognized by the writer to be the human prerogatives and lacked by the emerging digital technologies and their forms. The phenomena around which the cognitive mental processes revolve reflect the changes brought about the impacts of the emerging digital technologies on their users.

II. Affective Mental Process: It is from the affective mental processes that the text derives one of its central themes i.e., how the impacts that digital technologies cast on their human users affect their human users. Where Rex and Carroll enjoy using these technologies, their parents tend to worry about the consequences of the use of the internet on its users.

III. Perceptive Mental Process: the perceptive mental process addresses the perceptions that the general users might conceive of the users of emerging digital technologies i.e., the clause reflects the probability of conceiving certain perceptions regarding the behaviour of the users as being strange.

It is from the perceptive mental process that the text derives another of its central themes i.e., how the behaviour of the users is conceived. The clause reflecting the perceptive mental process is framed using the modal verb “might” which indicates the possibility of the behaviour of the users being perceived as otherwise. Where the writer believes that behaviour of the users may generally be perceived as “strange”, there are chances that it cannot be claimed with certainty that everyone perceives it to be like that. Another way to analyze this perceptive process is that it highlights the fact that despite the inbuilt probability, the writer realizes that the behaviour of the users remains different from that of the nonusers.

4.13.3.3 Textual Meta Function. Analysis of the textual meta function being performed by the syntactic patterns used in the clauses indicate that a majority of themes are unmarked, and there are a very few marked themes as well. Where unmarked themes are products of their subjects’, marked themes are mostly derived out of the circumstances and the processes in which the users are involved. This text does not have any interpersonal theme and presents a coherent and meaningful account of how use of technologies can cast an impact on the lives of its users, achieved using a variety of conjunctions and connectives.

The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer seems to have a hovering presence over the entire

process of narrative (re)shaping, where the central theme of the narrative is the impact of the use of technologies cast on its users. Where there are many unmarked themes which focus on the users as the subjects, the marked themes attain significant importance because they draw the attention towards the fact that it is the processes and circumstances that enable the emerging digital technologies to come in a position where they cast an impact on the lives of their users. Derived as a product of different processes, the internet as a specific form of emerging digital technologies enables users to perform activities that would not have been possible for the users to do otherwise. And because of the users' enhanced abilities, the circumstances in which the internet is used undergo significant changes.

4.13.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text can be found in the CD annexed with this dissertation).

4.13.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.13.4.1.1 Figurative Component. Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Technologies: examined in terms of hardware and software
2. People: analyzed in terms of spatio- temporal contexts
3. Rex and Carroll: examined in their different ways of using computers to express themselves
4. Relationships: examined in terms of (i) impacts of use of technology on Rex and Carroll in the present times to their attitude in the past, (ii) Rex and Carroll' relations with their peers through the lens of passage of time, and (iii) Rex and Carroll's relations with peers being influenced using internet in terms of advantages and disadvantages
5. Benefits of using the internet: analyzed in terms of (i) cost effectiveness as afforded using the internet, and (ii) improvement in attitudes of the users about them

6. Perceptions of people: examined in terms of the perceptions that people develop regarding the users of internet and the reaction of Rex and Carroll to such perceptions

Discussion on Analysis of Figurative Components: The analysis of thymic categories in this text reveals that the writer builds a narrative based on the comparisons of conditions prevailing in the present times and before that. Where prevalent times are products derived from the use of different forms of emerging digital technologies including internet, digital devices, and computers, the past times are characterized without the use of technologies. The thymic categories reflect the narrative as reflection of changes in the attitudes and perceptions of users as well as non-users and highlight the impact of such changes in the individual lives of the subjects.

4.13.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened with linguistic devices such as repetition, nominalization, and connecting tools. The sentences are mostly complex- compound that present various ideas sequenced using various linguistic devices including demonstrative devices, nominalization, and adversative, temporal, and additive conjunctions, as well as there is repetition of ideas and phrases in the text.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting an evolution in human lives with the evolution in the uses of technology. The changes are traced to the use of emerging technologies as a means of communication, connection, socialization, explorations, and doing a variety of tasks used for sharing and articulating experiences. Since the changes pertain to different aspects spread over a vast array of fields such as community living; creation of art; relations with family, friends, and peers; and such varieties are connected into a coherent and meaningful are achieved using conjunctions, demonstrative devices, and connectives. Linguistic devices are used to create a sense of symmetry and a balance in the universe while the narrative it presents is being (re)shaped.

4.13.4.1.3 The Enunciative Component. The enunciative strategies used in the text are descriptive in nature. The writer of the text builds a narrative which is evaluative of the impacts of emerging digital technologies on their users.

Discussion on the Enunciative Component: The text assumes the third person narration by a writer whose omnipresence hovers over the entire narrative being(re)shaped. The element

of writer's personal observations cannot be ignored, and the text can be analyzed in terms of being an account of affairs evaluated by the writer.

The writer has given justifications for the evaluative nature of the text by tracing the roots of the present into the past as is indicated using the past tense. This implies that the writer builds the narrative by drawing comparisons regarding the changes the writer has analyzed in terms of a sharp divide between the mentioned binaries employed in dealing with the thymic categories mentioned in the figurative analysis.

4.13.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed by identifying event sequences framing the narrative. Each event sequence is analysed in terms of independent subject, his/ her quest of object, and the transformation the subject undergoes during his/ her quest.

4.13.4.2.1 Identification of Event Sequences. The presented narrative consists of the following major event sequences.

1. Comparisons between users and non-users
2. Rex's online activities
3. Use of computers for creating art
4. Changes in Rex and Carroll
5. Advantages of the internet

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisiseve, and glorifying tests.

Event Sequence (1) acknowledges the fact that human beings need to socialize and communicate. However, with the emerging digital technologies, this need has undergone changes. Where a lot of people prefer to just sit at home and entertain themselves by watching TV, another form of technology, it is the internet that has enabled its users to communicate with their friends regardless of the spatio- temporal constraints. Narrative event sequence (i) highlights users of the internet as more benefitted than the nonusers of the same technology.

Event sequence (2) highlights the feelings that users of the internet have. Despite all the allowances and affordances, Rex, being a member of the real physical world, prefers real world interactions.

Event sequence (3) highlights the use of technology as a tool to create art and express oneself. In both cases, it enables the users to express and communicate their feelings.

Event sequence (4) focuses on highlighting the negative effects of the use of the internet on its users. The internet is presented as a world which seems to overwhelm its users to an extent that they forget their real-life interactions and neglect their real-life relations. The internet seems to overpower all realities to an extent that the users do not bother that they are slowly becoming isolated from the real world.

Event Sequence (5) presents the other side of the coin, which is that even being alone has its positive sides in the form of enabling its users to do what they like without being answerable to anyone and visiting the world around. The best part is highlighted as the changes in temperament and attitudes of its users.

4.13.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Other forms of technology vs Internet and digital devices

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Positive impacts vs negative impacts

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Communicate with friends vs sitting at home and watching TV

Art as expression of selves vs talking as expression of selves

Detached and alone vs closely knit to friends and family

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the

relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. From communication to socialization

Communication with friends → socialization

2. From talking to creation

Create art → better than talking.

3. From community to isolation

Community → isolation

4. From interaction with people to being weird

Nobody else to answer → weird

Discussion on Findings of Deep Level Analysis: If analyzed critically, the text reflects two major transformations: (i) transformation of the emerging digital technologies as mere tools of communications to means of socialization, and secondly (ii) transformation of human modes of existence from community living to isolation and being answerable to none. Both transformations are reflective of the overall evolution that human life is experiencing. This evolution is brought about by emerging digital technologies; a process in which both human users as well as the emerging digital technologies are in a state of flux, continuing to emerge and popping up in different directions.

4.13.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in the annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial themes: two subjects are identified in the text:

- i. Rex: a male user who spends most of his time in online chatting or playing games.
- iii. Carroll: who uses digital devices to make things.

Review of the Themes: The underlying theme on which the text builds the narrative is the increasing reliance of the subjects and Rex. The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis.

Naming and Defining the Themes: Following themes are identified in the text:

- i. Difference between life in real physical world and online socialization

- ii. Use of technology for creating art.
- iii. Isolation from friends and family
- iv. Advantages of being alone.
- v. Advantages of worldwide access

4.14 SAMPLE TEXT # 14

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. The introduction of digital media ...who they will help shape tomorrow. (571 words generated by Hyperwriteai, [whole text sample to be found in the CD annexed with this dissertation])

4.14.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative (Annexed CD can be referred to find the detailed analysis of the cohesion in the text sample)

4.14.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Systems of beliefs and cultures

Challenges

Identity systems

Passage of time

Realization and understandings

Relationships

Rural cultural contexts

Urban cultural contexts

Accessibility to digital technologies

Evolution

Sexual orientation

Uniqueness

Discussion: From these head categories, it appears that the text is a narrative on the evolution of the subjects Rex and Carroll. The narrative is built on their growing up as individuals, and on their journey from small rural cultural contexts to large urban culture

as they grow up. In the entire process, they and their beliefs and identities have also undergone evolution including things that appear to be quite unique to the subjects themselves. The process of evolution is accompanied by different forms of technologies including music, videos, and magazines, the use of which has challenged their existing beliefs and identity systems and cast an impact on their sexual and gender orientations.

4.14.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.14.1.2.1 References. personal and demonstrative references are used in this text:

4.14.1.2.2. Connectives/ Conjunctions. This text has multiple sentences further organized into a number of paragraphs, which are connected through the use of adversative, temporal, and additive, conjunctions and connectives such as “when they were young”, “through these new technologies”, and “as they explored these new digital technologies” etc., to make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: Using connectives and conjunctions connecting a variety of ideas that the text, despite the haphazard effects caused by the repetition of ideas, appears to have built and (re)shaped a narrative that is coherent, meaningful, and centers on a single theme.

4.14.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text: (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation)

4.14.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a beginning that gives an introduction to what is to expect in the text. The narrative is built along a trajectory which starts with Rex and Carroll’s young age, limited understanding of beliefs, identities, and relationships, gradually moving through the stage of their exposure to modern technologies to their present days when they have a better understanding of the nature of relationships, identities, and beliefs. The narrative focuses on the evolution of Rex and Carroll as individuals to the evolution of relationships as the world and the cultures they present evolve because of the use of new digital technologies by the urban world inhabitants. The coherent and meaningful

trajectory along which the narrative is being (re)shaped can be traced along the following path:

Introduction to the impact of the use of emerging digital technologies,

Early lives of Rex and Carroll,

.Rex and Carroll's attempts to understand their own beliefs and cultures as introduced by the different forms of digital technologies,

Rex and Carroll learning about the world of diverse beliefs and cultures as induced by the availability and access to new technologies,

Present day understanding of beliefs, cultures, and relationships of Rex and Carroll.

4.14.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Further text being generated in response to subsequent user inputs results from the autonomous processing of the available data in the phase and conceptual space according to which the text is generated to further progress the narrative. Even though the narrative moves on and progresses forward, it remains focused on the themes that are introduced earlier in the text.

4.14.2.3 Haphazardness. Haphazard effect in the text arises from the repetitions of the ideas as expressed by similar phrases such as “exploration of the world through music, videos, and magazines”; “as they explode”; role and influence of “friends”, their lives, and experiences; “world of diverse beliefs and cultures”; “explore identities”; and “much more complex and evolving than they ever imagined” etc. Since the narrative is being (re)shaped by several text samples being generated, the narrative has a haphazard effect. However, despite the haphazardness of the (re)shaped narrative, it remains coherent, meaningful, and logically connected because of the use of conjunctions and connectives.

4.14.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Refer to the annexed CD for the detailed SFL analysis of the text sample # 14).

4.14.3.1 Interpersonal Meta Function. The clauses used in the text indicate that the entire text builds a narrative built and (re)shaped in the third person voice where the writer traces the roots of the evolution of Rex and Carroll's perceptions and understandings

of identities, cultures, and relationships in their earlier years when their exposure was limited to the small towns of Indiana. The past tense indicates that the evolution was a slow and gradual process starting with the music, videos, and magazines, an emerging digital modern culture which presented narratives that could be (re)shaped. The narrative progresses through the gradual spread of the trend of questioning already established norms and values to the present-day times as implied using the present tense. Future tense in the narrative presents a picture of the upcoming times when these technologies have an even greater role in giving humanity their prevalent shape.

Since the text is in third person voice, the narrative built and (re)shaped implies a hovering existence and an omniscient knowledge of the writer over the evolutionary process undergone by the subjects. Also, nowhere in the text are Rex and Carroll treated separately. They are taken as a single compound noun which undergoes the entire evolutionary process.

4.14.3.2 Ideational Meta Function. Following major meta functions are being performed by the syntactic patterns used in the clauses of the text:

4.14.3.2.1 Material Processes. The text presents several material processes such as exposure to cultures other than that of those presented by their small-town Indiana, and use of different forms of technologies that have helped in leading Rex and Carroll undergo an evolution process in developing their understanding of belief systems, identities, and relationships. The narrative places new technologies in an animated position, to become capable enough to drive their human users in experiencing a change in their understandings, thoughts, and beliefs.

4.14.3.2.2 Relational Processes. Two types of relational processes are identified in the sample text:

I. Identifying Relational Processes: Where on one hand the identifying relational processes in this text acknowledge beliefs and relations as thoroughly human constructs, subjected to human contexts, and usually learned from the surroundings, on the other hand the same process's view use of technologies as a factor that steers the users into questioning the already established norms and values. The narrative, through these identifying relational processes, place technologies in a position that they play a role in the evolution of these values. In the identifying relational processes, the values of such tokens are

acknowledged as complex, evolving, and emerging with human experiences and exposures, and new technologies have become a part of such experiences and exposures leading their users to encounter realities not considered before.

II. Attributive Relational Process: It is through the study of the attributes, that the central theme of the narrative is highlighted i.e., the evolution of their carriers. Ranging from their human users to their thoroughly subjective values of relationships, beliefs, and identities, the central theme of the narrative lies on how different forms of digital and new technologies are bringing changes in them. Though attributes and their carriers otherwise remain under evolution, this narrative identifies technology as playing a key role to enhance the process of evolution. Attributive relational processes serve as a yardstick to identify the nature of evolution of human existence i.e., it is the exposure and use of different forms of technology that lead to the evolution of the attributes and carriers of these attributes.

4.14.3.2.2 Mental Processes. Cognitive mental processes identified in the text are all focused on the phenomena related to human understandings, perspectives, and thoughts, and it is for this reason that they are subjected to the human users of technologies only. Where technologies being actors in the material processes have come in a position to influence human beings, but the cognitive processes of considerations, understandings, realizations, and recognitions as well as the phenomena of beliefs, identities, and cultures are acknowledged as subjected to the human race only.

4.14.3.3 Textual Meta Function. The analysis and findings of the textual meta function performed by the syntactic patterns used in the text indicate that the writer has an extradiegetic diegetic role in weaving a narrative on the central theme of the impact of technology on its users. The writer has an omniscient authority with which the text is written. It is through the study of the textual meta function being performed by the syntactic patterns that the writer highlights the circumstances in which different forms of technologies play a key role in evolving the values and norms that are central to human existence.

This text does not have any interpersonal theme and presents a coherent and meaningful account of how use of technologies can cast an impact on the lives of its users, achieved using a variety of conjunctions and connectives.

4.14.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.14.4.1 Discursive Level. Sample text is analyzed for the discursive strategies used to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.14.4.1.1 Figurative Component. Findings: Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: examined in terms of (i) being digital or new technologies i.e., new technologies are the forms of technologies that have paved the way for the digital technologies with which human existence in the present times is shaped, and (ii) accessibility of technologies

2. Rex and Carroll: analyzed in terms of (i) their past and present lives, (ii) belief systems studied in terms of contrast between past and present, and (iii) identities

Discussion on analysis of figurative components: the narrative is built and (re)shaped along two basic thematic categories i.e., different forms of emerging digital technologies and their users. On one hand are present the technologies that evolve in terms of their circulation, accessibility, and appeal starting from magazines to social media, on the other hand are present their users, who experience evolution in their basic value systems defined by their beliefs, identities, culture, and relationships. With each advancement in technologies, the value systems undergo a change leading an overall transformation from a limited exposure to an access to an open, wide world full of diverse range of beliefs, identities, and values. It is from the analysis of thematic categories in which the lexical items used in the text are placed, it becomes apparent that digital technologies enable their users to question the existing value systems, and at the same time led them to a realization that despite the

creation of a culture which is diverse, full of variations, and is evolving, the relationships and beliefs are much stronger and far more stable to be easily shaken.

4.14.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, active/ passive, nominalization, and connecting tools. The text has several paragraphs each presenting ideas that contribute to the major theme of the narrative i.e., the evolution introduced using technologies in the basic value systems of their human users. Since the text is in a third person voice, it weaves a narrative that reflects the omniscient knowledge, confidence, and the authority of the writer. The linguistic devices used in the text including adversatives, additives, temporals, continuity elements, and repetitions.

Discussion on Grammatical/ Syntactical Linguistic Devices: Where conjunctions are used to connect varying ideas with one another, connectives give the narrative a continuity essential for the progress of the narrative depicting different evolutionary states of the changing value system, and repetitions add an appeal to the central theme constantly emerging from the narrative despite its (re)shaping upon receiving incessant user inputs. Because of the use of linguistic devices, the text creates a universe that highlights the theme of impact of digital technologies on the basic value system of their users. Additive, adversative, and temporal conjunctions along with a variety of connectives are used to ensure that the narrative flows smoothly despite the presence of contrasting ideas which may lead to the emergence of a new theme, whereas repetitions are made in the text to emphasize the point being made.

4.14.4.1.3 The Enunciative Component. The enunciative strategies used in the text are descriptive in nature and the text is in third person voice. Third person voice used in the text implies the role of the writer as an element who despite being present outside the universe of the narrative, has an omniscient presence. The writer describes the experiences and evolutionary changes in the users, their contexts and surroundings, and the associated value systems with authority and full knowledge of the times that are past and the ones that prevail in the current scenario.

4.14.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest

of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of the following major event sequences:

1. Awakening of Rex and Carroll towards the changing times
2. Evolution experienced by Rex and Carroll
3. Rex and Carroll today

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights the significance of the exposure that had led Rex and Carroll to question the value systems that they had been adhering to throughout their childhood. And this exposure is provided to them through the different worlds of technologies. In other words, this narrative sequence implies that Rex and Carroll would have spent their lives remaining ignorant of the changing times, had it not been for the exposure that the use of technologies provided them with.

In the **event Sequence (2)** the role of technologies is highlighted which have enabled Rex and Carroll to question the already established value systems and the roles that technologies play in their lives.

Event Sequence (3) highlights the fact that digital technologies will continue to cast an impact on human lives, their value systems, and their futures. In other words, through the narrative sequence (iii) the writer makes a prediction that these technologies are here to stay and with the passage of time, their influences on human lives would become manifold.

4.14.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?
The text is analyzed to be based on the following umbrella categories:
No exposure to other cultures vs exposure to the wide diverse world
2. What are the two abstract poles of meaning between which the text moves?
Two most abstract poles of meaning between which the text moves are
Adherence to value system vs questioning the value system
3. What fundamental transformations of values can be identified in the text?
Fundamental transformation of values identified in the text are:

Early years of life vs present day shape of life

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Increased exposure of Rex and Carroll

No exposure to other cultures or religion → began to question their own beliefs and culture

2. Evolution of Rex and Carroll

Limited exposure → access to the wide world

3. Rex and Carroll's present

Learning phase → what they are today

Discussion on Findings of Deep Level Analysis: The (re)shaping of the narrative is achieved through the evolution witnessed in Rex and Carroll in terms of their identities and belief system. The transformations presented in the narrative are the consequence of the use of digital technologies.

4.14.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the themes underlying the narrative being (re)shaped by the generated text.

Initial Themes: Even though the narrative has two subjects i.e., Res and Carroll, they are not presented as two separate individuals with separate experiences of the digital technologies. They are mentioned together in the text as if they are a unit formed from the combination of Rex and Carroll not as separate individuals.

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Role of use of digital media in enabling their users to challenge the deeply rooted belief systems present in their social lives

- ii. Identities are much more complex and evolving
- iii. Relationships are much stronger than ever imagined
- iv. Role of friends in exposing users to digital media
- v. gradual transition from basic digital media technologies to latest ones.
- vi. Advantage of latest digital technologies over conventional technologies.

4.15 SAMPLE TEXT # 15

Emerging digital technologies in the lives of Rex and Carroll have an impact on their relationships and identity. Both are involved ...computers and other devices with face-to-face interaction.

(849 words generated by Novelai, [whole text sample to be found in the CD annexed with dissertation])

4.15.1 Step 1: Analysis for Cohesion

Referring to the annexed CD for the detailed analysis of the lexical items and cohesive devices used in the text sample, following are the findings that qualify it as presenting a coherent and meaningful narrative:

4.15.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Emerging digital technologies

Communication

Online activities

Advantages of Facebook

Differences between Rex and Carroll

Gender stereotyping

Disadvantages of Facebook

Discussion on the Choice of Lexical Content: From these head categories, it appears that the text is a narrative on the online activities of the users on Facebook as one specific application of the emerging digital technologies, their advantages, and disadvantages. There exist differences in the online activities of the users which are products of gender stereotyping. The text is otherwise written in headings which highlight the themes along which the narrative is built.

4.15.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.15.1.2.1 References. Demonstrative, extended, anaphoric, exophoric, endophoric, and personal references are used in this text:

4.15.1.2.2. Connectives/ Conjunctions. This text has multiple compound complex sentences further organized into six paragraphs. The first paragraph focuses on introducing the idea of differences in the usage of Facebook by the subjects, whereas the remaining text is organized under headings, each of which focuses on a specific theme further supported in the paragraph to follow. Adversative, additive, causal, and temporal conjunctions and connectives like “in late 2011”, “for Rex”, “for Carroll” are used to connect ideas with one another and create a coherent and meaningful flow of the narrative being (re)shaped.

4.15.1.2.3 Substitutions. A variety of words are as substitutions to avoid monotony and boredom

4.15.1.2.4 Ellipsis. To keep the text sample interesting

4.15.1.2.5 Repetition. Several ideas are repeated such as “primarily as a social tool”, concerns and observation on “privacy of users”, and uses and significance of Facebook etc.

Discussion on Findings of Cohesive Devices: This text has a multiple number of compound sentences organized into eleven small paragraphs. The paragraphs are given under headings which in themselves present the major themes of the text. It is using connectives, conjunctions, ellipsis, and substitutions that not only a coherent and meaningful narrative is achieved but also repetitions and monotony in tone are avoided.

4.15.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.15.2.1 Totalizing Path. The text is developed along a well-defined totalizing narrative trajectory with a proper beginning and a logically connected and thematically unified progression spanned over the use of Facebook by the subjects Rex and Carroll, their precautionary measures in the form of privacy settings, and exploration of different

functions of the application. The narrative initiated and being (re)shaped by user inputs progresses through the following path:

Introduction to the concept of use of Facebook varying with users

Carroll's use of Facebook

Carroll's views on people using Facebook

Rex's use of Facebook

Rex's views on different functions offered by the Facebook

4.15.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Further text being generated in response to subsequent user inputs lead to the onwardness and progression of the narrative. The narrative takes on turns and evolves out of the themes already popping up i.e., the narrative continues to get (re)shaped and at the same time moves on touching upon different themes, yet it remains meaningful and coherent. Where the user inputs had driven the text into each character discussing the use of Facebook positively, it appears that further inputs may have now driven the narrative into the negative impact of the technology on the lives of their users. It appears that further (re)shaping would have remained in meaningful coherence with the narrative (re)shaped previously for the major theme i.e., impacts of technology on its users.

4.15.2.3 Haphazardness. Haphazard effect in the text arises from the unique directions that the (re)shaped narrative takes i.e., where the narrative touches upon the advantages of the use of the internet, it appears that with subsequent inputs, it would move towards the negative impacts and comparison between online and real- life activities.

4.15.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed SFL of the text sample # 15 can be found in the CD annexed with this dissertation)

4.15.3.1 Interpersonal Meta Function. (a) Negative polarity: The syntactic pattern in the clause with negative polarity reflects Rex's use of a certain feature of tagging being offered by Facebook. This clause is reflective of Rex's individual use of Facebook, however but does not affect the overall emergence of the themes out of the narrative.

(b) Modality: Though writer's confidence in writing is reflected in the clauses framed with certainty, the presence of modals in several clauses suggest uncertainty. This certainty arises from the possibility of different scenarios, all of which are dependent on users' subjective contexts and preferences. The uncertainty is reflective of the writer's inability to control the changing contexts or rule the probability of the happening of something on the premise of it not having happened earlier.

The interpersonal meta functions in the text are being performed by the human users including Carroll, Rex, other human users, and Carroll's doctor. However, emerging digital technologies including Facebook have become the subjects in the text. Where Carroll is the subject in socializing processes, Rex is the doer of the processes related to current affairs. In fact, all the subjects which are doers of actions other than remaining in talking and sharing through communications, are all males for example the doctor is the male, being interested in current affairs, tagging people, taking medical care, and doing political affairs.

4.15.3.2 Ideational (Experiential) Meta- Function. Even though there are a number of implied and inactive subject, the text builds a narrative centering around two subjects i.e., Rex and Carroll who are the active doers of different actions. The following meta functions being performed through syntactic patterns:

4.15.3.2.1 Material Processes. Several material processes being performed by different actors are identified in the text. The first sentence is the user input prompt and reflects a material process in which emerging digital technologies cast an impact on the relationships and identity of their users. Despite the fact that it is a human user input, the sentence neither reflects the user's socio- cultural context nor mirror any spatio- temporal situatedness. The sentence has served to initiate the process of narrative building and (re)shaping but does not specify any gender performativity or gender stereotyping as are implied by the narrative being (re)shaped through the text being generated.

The remaining material processes identified in the text are being performed by different human actors targeting at doing different things such as using the Facebook application for posting pictures, reading status updates, keeping in touch with politics and current affairs, communicating with friends and family, tagging different people who aim at achieving different goals etc. If seen, critically, all material processes aim at a single goal of

communication and conveying ideas. None of the material processes refer to the performance of a specific action specified to any particular actor.

4.15.3.2.2 Verbal Processes. The verbal processes in the text are separately conducted by Rex and Carroll. These processes highlight the differences between the two i.e., whereas Rex reflects on the significance of using Facebook, the features of Facebook, and the role it plays in his life, Carroll describes her own personality, her reasons for using Facebook, the precautions she takes to protect her account from misuse, and her views on differences between male and female use of Facebook.

The verbal processes of Rex and Carroll indicate the differences in the gender performativity by Rex, a male, and Carroll, a female. Rex, a male subject, remains unbiased in his views on the use of Facebook by any specific gender whereas Carroll, a female subject, is apprehensive and quite prejudiced towards male users of Facebook. It appears that where Rex endorses gender neutrality Carroll promotes gender stereotyping.

4.15.3.2.3 Relational Processes. Referring to the qualities of an entity, several attributive relational processes are identified in this text. Also known as existential, builds on a number of attributes such as the involvement of the subjects in the use of Facebook as a specific form of emerging digital technologies forms their defining characteristics, and the number of friends they have on Facebook as their identifying traits. Their attributes play a key role in mirroring the major theme of the narrative i.e., gender stereotyping. Carroll, being a female user of the Facebook, is identified by her perception of the Facebook which consequently drives her use of the application, in contrast to Rex, whose use of Facebook is also governed by the defining attributes of Rex's personality.

In both cases, it is the attributes of Facebook which makes it prominent among the other probable forms of emerging digital technologies. These attributes include its affordances and allowances as a social media site and the uses to which Facebook is put by either of the subjects and their gender specific roles performativity.

4.15.3.2.4 Mental Processes. Following mental processes are identified in this text sample:

I. Cognitive Mental Processes: the phenomena around which the cognitive mental processes centre range from Carroll's observations Rex's views, and Rex and Carroll's

experiences. Depending on their sensors, the cognitive mental processes reflected in the text can be broadly categorized into the following three types.

I. Cognitive Mental Processes: identified in the text are all sensed by human beings and highlight the fact that cognition is the characteristic trait of the human race. In this text, cognition refers to the thoughts, perceptions, beliefs, and learning from experiences and these are the traits that are not possessed by the AI.

II. Affective Mental Processes: Identification of the affective mental processes in the text reflects the fact that they are pertinent to the human subjects only and are not detected in the emerging digital technologies or their application in the form of Facebook. Though Rex and Carroll both enjoy using Facebook, the identified affective mental processes are different for both the gender. Whereas Carroll likes to read people's statuses and look at their pictures, Rex enjoys watching movies, especially cat movies. On one hand we find Rex interested in dry subjects of politics and current affairs, and on the other is Carroll witnessed as a subject who remains concerned, considers posts by other users, and sees them through the gender specific lens. The affective processes identified in the text are reflective of the gender stereotypical personality traits of Rex and Carroll and highlight them as typically male and female doers of actions.

III. Perceptive Mental Processes: The perceptive process identified in the text highlights the major theme of the narrative being built and (re)shaped through the text i.e., there exists a difference in the use of emerging digital technologies by the males and females whereas male users are represented by Rex and female users are reflected by Carroll in the text.

4.15.3.3 Textual Meta Function. Unmarked themes place human subjects as the major doers of the actions being done in the narrative, but it is the marked themes that attract the attention of the reader. The marked themes reflect the circumstances and the processes owing to which Facebook, has attained a superior position among the emerging digital technologies, plays a role in shaping the lives of its users, and influences the circumstances in which it is being used.

4.15.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.15.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.15.4.1.1 Figurative Component. Findings: Following isotopies, formed of the groupings of words i.e., lexical fields with similar meanings, are identified in the sample text:

1. Emerging digital technologies: examined in terms of its singular and plural forms

2. Rex and Carroll's use of Facebook: examined in a number of ways such as: (i) Differences in the personalities of Rex and Carroll, (ii) differences in their concept of Facebook, (iii) differences in their use of Facebook, (iv) differences in their concerns about privacy, and (v) differences in their privacy of profile.

3. Use of Facebook by different people: examined in several ways such as (i) differences in the problems encountered by Rex and Carroll, and (ii) male and female use

Discussion on Analysis of Figurative Components: The analysis of thematic categories reveals the (re)shaping of a narrative on the differences in the use of Facebook by the male and female users. The approaches, uses, and interpretation of Facebook are altogether different for the male and female users, as are represented from the characters of Rex and Carroll. Carroll is social, loves to remain in touch with friends and family, and is concerned, Rex is the representative of male users of the application who are carefree, use it to know the activities of his friends and colleagues, and remain abreast of the latest developments on the political fronts. Carroll, as a female, needs advice and reminders from her male doctor to take care of herself, whereas Rex independently monitors his blood pressure, takes care of his diet and exercises. Carroll is concerned and Rex is a "lurker".

4.15.4.1.2 Grammatical/ Syntactical Linguistic Devices. The illusion of the real may be strengthened using linguistic devices such as repetition, ellipsis, active/ passive, nominalization, and connecting tools. The sentences are mostly complex- compound that present various ideas sequenced using various linguistic devices such as adversative, temporal, additive, and causal conjunctions, a variety of connectives framing the time of beginning of use of Facebook by Rex and Carroll and pointing of similarities and dissimilarities etc., repetitions, ellipsis, and substitutions. All such linguistic devices play

a key role in binding the text in a way that the text frames and (re)shapes a coherent and meaningful narrative.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting on a number of features: opposing views and uses of Facebook by the male and female users as represented by the subjects Rex and Carroll. It appears that since there are different ways of using the application, the impacts they cast on their users also vary from one subject to another. Also, the text has quotations of the sayings of the subjects that support the observations that the writer expresses through the actions of the subjects. However, it is interesting to note that even the sayings are being quoted by the writer i.e., the quotations are a part of the text being generated. The text has balanced the uses of Facebook by the males in contrast to females in a way that creates a scenario which presents both sides of the coin.

4.15.4.1.3 The Enunciative Component. The enunciative strategies used in the text are mostly descriptive in nature. The text is in the third person narrative who is extra-diegetic (i.e., not an actor in the text). The text has an extensive use of the evaluative terms for male and female use of Facebook.

Discussion on the Enunciative Component: The evaluative nature of the descriptive text places the writer in a position from where the approaches and uses of Facebook by the male and female subject i.e., Rex and Carroll are being judged and verdicts passed. Even though there are sharp divides between the male and female use of Facebook, the writer neither condemns nor appreciates any of the subject. In fact, the writer appears to just state the facts, which is acknowledged in the observations that the writer makes in the text regarding the existence of differences between the male and female users of Facebook.

4.15.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of the following major event sequences:

1. Differences in involvement with online social networks
2. Carroll's use of Facebook
3. Rex's use of Facebook

4. Social media sites are to stay

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisivse, and glorifying tests.

Event Sequence (1) highlights the fact that despite immense potentials and allowances and affordances, of the social media networks, the users continue to reflect their gender stereotype tendencies. For Carroll, being a female, the circumference of her activities is spread over friends and especially, and for Rex, being a male, social media is a tool to entertain him and keep him updated. Their activities portray Carroll as nostalgic and longing for the past, Rex as a subject who lives for the moment and moves on.

Event sequence (2) highlights a female gender stereotypical personality trait through the character of Carroll. She is social, likes to keep up with friends and family to an extent that she does not forget even her pet, and is careful in terms of what she posts online and sharing her profile. This is acknowledged by herself as well where though she keeps an eye on what men and other users put up on Facebook, she refrains from doing so herself.

Event sequence (3) highlights a male gender stereotypical personality trait through the character of Rex. He started using Facebook before Carroll yet has a lesser number of friends, he is neither interested in relatives, nor in what's going on with friends. For him, what his friends and colleagues are up to, news and political content are of more interest rather than what is happening to others or what other female users are posting. In contrast to Carroll who is interested in what is happening to friends and family, Rex is interested in what his friends and colleagues are up to. His profile is also not private in fact he is used to the annoying content.

Event sequence (4) highlights the presence of social media sites such as Facebook. The site indicates that even though they have potential danger of breach of privacy, posing potential threats to feelings, and tendencies of being misunderstood, people continue to use it. The reason is traced in their abilities in satiating human nature to connect with each other despite their contextual, temporal, and physical differences.

4.15.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Carroll vs Rex

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

females vs males

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Care and precaution vs Ongoing and progressive

The text can be analyzed to be composed of several parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Carroll keeping in touch with friends

Had friends → in touch with friends

2. Carroll's private profile

Primarily as a social tool → Careful

3. Carroll's careful attitude

A very social person → Tend to be careful

4. Carroll's communication with her doctor

Social tool → Tool for communication

5. Rex's keeping up with classmates/ colleagues

Real life relationships → Virtual relations

6. Rex is self-dependent

Life without emerging digital technologies) → Life with emerging digital technologies

7. Rex is more of a lurker

Interested in politics → has got used to Facebook

8. Social media sites are here to stay

Human nature → Stay connected

Discussion on Findings of Deep Level Analysis: Through the examples of Rex and Carroll, the text builds a narrative reflecting two features: (i) use of social media sites is influenced by the users' gender stereotypical practices in their real lives; (ii) despite their threats to privacy, emotions, and being understood, social media sites including Facebook are here to stay. This implies that the social media sites, despite their drawbacks and subjected to human users' choices, have become so much a part of human lives that the writer thinks that human life without them no longer remains possible. Human users, regardless of their gender, manner, and purpose of their usage, continue to use these sites, even though they have an understanding of the risks they would be taking. ext.

Where the name Rex is usually used for male subjects, Carroll does not imply any specific gender identity or role performativity. It is the writer of the text that has assigned one of the subjects, Carroll, a female gender, and through the roles of Rex and Carroll strengthen stereotypical attitudes towards gender performativity in contemporary times. This has been claimed in the text as well. The writer has assigned specific roles and purposes to Rex and Carroll as users of technologies, and they are described accordingly.

The text reflects stereotypical gender-based uses of technology by Rex and Carroll; Carroll is portrayed as friendly, nostalgic, caring of family and friends, fond of chatting, and cautious and a protective user of technology who also keeps an eye on other users' activities as well. On the other hand, Rex, a male subject, is interested in news and current affairs, is competitive in nature, wants to know what is growing around him, takes interest in politics, likes to stay updated, and keeps an eye on what his former friends and colleagues are up to.

4.15.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices that are used to indicate gender performativity by the subjects Rex and Carroll.

Initial Themes: two subjects are present:

- i. Rex: a careless person who is intelligent but lacks self-awareness
- iii. Carroll: a female subject uses Facebook to keep up with friends and family

Review of the Themes: The themes identified in the thematic analysis reinforce those emerging from the syntactic and semiotic analysis

Naming and Defining the Themes: the identified themes can broadly be categorized as follows

- i. Online involvement with social networks is different for each user. There exist differences in the kind of content that men and women share on the site, and how it is being used by users to stay updated about each other.
- ii. Carroll: a cautious female user who keeps her account private and uses Facebook to keep in touch with friends and family members.
- iii. Rex: a fun-loving male user for whom Facebook is a tool to keep up with classmates and colleagues. Where the app serves to keep him updated with current affairs, he also used it to improve his health and lifestyle.
- iv. Potential dangers of social media sites such as Facebook such as loss of privacy, chances of being misunderstood as well as hurt others.
- v. use of social media despite dangers because communication is an inherent part of human nature.

4.16 SAMPLE TEXT # 16

Rex and Carroll are two teenagers who were in love, but they were pulled ...travels into the game

(172 words generated by rytrai, [whole text sample to be found in the CD annexed with this dissertation])

4.16.1 Step 1: Analysis for Cohesion

Referring to the annexed CD for a detailed analysis of the cohesion in the text sample, following devices are found to be serving to present a coherent and meaningful narrative:

4.16.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Relationship

Digital technologies

Changes in relationships

Emotions and thoughts

Virtual world

Passage of time

Real world

Discussion on Choice of Lexical Content: From these head categories, it appears that the text is a narrative on the evolution of the relationship between Rex and Carroll. The narrative is built on how immersion in the digital world has deteriorated their relationship and has led them to lose each other.

4.16.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.16.1.2.1 References. Personal references are used in this text.

4.16.1.2.2. Connectives/ Conjunctions. This text consists of a number of sentences further organized into two paragraphs, which are connected through the use of adversative, additive, temporal conjunctions and connectives such as “a year passed by”, “then recalls the day” to connect the ideas to shape a major concept:

Discussion on Findings of Cohesive Devices: Using connectives and conjunctions the text becomes a coherent, meaningful, logically connected, and thematically unified narrative on the evolving relationship between Rex and Carroll.

4.16.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.16.2.1 Totalizing Path. This small text sample presents a narrative developed along a well-defined narrative trajectory as follows:

Rex and Carroll in love,

Reason for Rex and Carroll being pulled apart,

Rex and his new girlfriend

Decision to find Carroll.

4.16.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. Since the last sentence is incomplete, it proposes the direction that the narrative might be steered in i.e., the adventures that Rex might face in the world of the game to find Carroll. Since the generated text results from the autonomous processing of the available data in the phase and conceptual, there always remains a chance that any unprecedented direction could be taken.

However, despite its progression and constant (re)shaping the narrative remains focused on the theme introduced earlier in the text.

4.16.2.3 Haphazardness. The text presents a narrative which is well rounded and developed along a proper trajectory despite its fast pace of progression. Since the text is generated from the autonomous processing of the data in the phase space, further human input would lead the writer to further process the data into generating a text that would result in (re)shaping of the narrative. Since processing in the phase space is autonomous and beyond anyone's control, there always remains a chance of a haphazard effect which till now is not present in this text.

4.16.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred for the detailed SFL analysis of the text sample # 16)

4.16.3.1 Interpersonal Meta Function. The swapping of the tenses back and forth between past and present tense implies that where the writer talks about the events that had happened in the past, the narrative is still being (re)shaped by virtue of narrating those events which are being witnessed directly i.e., though the events are still happening, they have their roots in the past from where the narrative had started.

Also, it is not the human subjects only who take actions to steer the narrative in a certain direction, nonhuman agencies such as the games also participate in (re)shaping of the narrative.

4.16.3.2 Ideational (Experiential) Meta- Function. Even though there are a number of implied and inactive subject, the text builds a narrative centering around two subjects i.e., Rex and Carroll who are the active doers of different actions. The following meta functions being performed through syntactic patterns:

4.16.3.2.1 Material Processes. They help in defining the dimensions and change of relationships between the subjects. Also, it is through the material processes that the narrative progresses and is being (re)shaped.

In terms of subjects, it is Rex who is the actor in most of the material processes, and it is because of these actions that Rex becomes the protagonist of the narrative so far. However,

the action of Hannah McDaniel is also significant as that serves as a steering factor to plunge Rex into action.

4.16.3.2.2 Relational Processes. It is through the attributive relational processes that the narrative is being (re)shaped. The attributes refer to the emotions, feelings, and relationships of characters with one another and they serve to frame the major theme of the narrative being (re)shaped by the text. Also, the attributes belong to both Rex and Carroll and not any particular subject, so cannot be called to reflect gender performativity by any particular subject.

4.16.3.2.3 Mental Processes. Following mental processes are identified in this text sample:

I. Cognitive Mental Processes:

The cognitive mental processes identified in the text are all sensed by human beings and highlight the fact that cognition is the characteristic trait of the human race. In this text, cognition refers to the thoughts, perceptions, beliefs, and learning from experiences and these are the traits that are not possessed by the AI.

II. Affective Mental Processes: Referring to the feelings of the senser, the affective mental process identified in the text is sensed by the protagonist, Rex. However, it is significant to mention that the feelings refer to the relief that Rex feels, and this relief is derived from the use of a particular device. In other words, it is the technology that has come in a position to relax and soothe its users, an important trait that has not been found by Rex in real physical life.

4.16.3.3 Textual Meta Function. Unmarked themes place human subjects as the major doers of the actions being done in the narrative, but it is the marked themes that attract the attention of the reader. The marked themes are derived out of the circumstances and the processes, are reflective of the changes in the dimensions of emotions, feelings, and relationships framed in the narrative, and present the major themes of the narrative. The game that is played by Rex marks the theme of the narrative because it overwhelms Rex to an extent that his relationship with Carroll suffers. Similarly, passage of a year marks the circumstances as a theme of the narrative for things have changed, reconnection with friends provides a break from the digital worlds and reminds Rex of the missing Carroll.

4.16.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.16.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.16.4.1.1 Figurative Component. The figurative component consists of only one isotopy i.e., Rex and Carroll that can be examined in terms of (i) track of transformation of relationship, (ii) games they play, (iii) approach towards digital world, (iv) cause of separation, and (v) lives after separation.

Discussion on Analysis of Figurative Components: The analysis of thematic categories reveals the text builds a narrative on the relationship of a young couple who experience a deterioration of their relationships because of the involvement of one partner in the game to an extent that he forgets the other.

4.16.4.1.2 Grammatical/ Syntactical Linguistic Devices. conjunctions including adversatives, temporal, and additives and connectives are used to connect the text logically and thematically to shape a narrative that is coherent and meaningful.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting the evolution in the lives and relationships of the subjects Rex and Carroll. Where different stages of the evolution in their relationships is depicted using conjunctions, it is the use of connectives that mark the direction that the narrative is taking.

4.16.4.1.3 The Enunciative Component. The text is descriptive in nature, in which past and present both tenses are used. The text is in the third person narrative who is extra-diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: The evaluative nature of the descriptive text places the writer in a position from where she/he seems to narrate the events as and when they happen.

4.16.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed

in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of the following major event sequences:

1. Rex and Carroll pulled apart
2. Rex decides to find Carroll

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisisve, and glorifying tests.

Event Sequence (1) highlights the overwhelming power of the digital media. Rex, being representative of the nonbelievers of the power of technology, when once started playing it, lost himself in it to an extent that he forgot the love of his life on whose convincing he had started playing it in the first place. The first sequence also highlights the vulnerability of the human users i.e., Rex is a person who could be easily convinced and could easily be overwhelmed by the digital world. He did not know how to strike balance hence his relationships suffered.

Event sequence (2) highlights the victory of human feelings and emotions over the digital world. Once Rex returns to the real physical activities, he becomes conscious of his loss and decides to find the missing Carroll. However, it is again the digital media that Rex decides to take help to find Carroll, that is his action acknowledges the power of the digital world. The idea towards which the second event sequence points out is that technology is neither good nor bad, it is the use to which it is put.

4.16.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Carroll vs Rex

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Digital world vs real world

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

In love

vs

pulled away

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Separation of Rex and Carroll

Real world relationship



digital world

2. Rex decides to find Carroll

Real world



digital world

Discussion on Findings of Deep Level Analysis: The text builds the narrative on the impact of involvement in the virtual world. Where involvement in the virtual world plays a role in the deterioration of relationships, the narrative poses the other possibility of the virtual world helping its users rebuild their relationships. Where the narrative poses the transformation of relationships in the real world, it also presents a world in which digital reality has become so much a part of the real world that it can play a role in building and spoiling relationships. Also, the narrative proposes that technology itself is neither good nor bad, it is the use to which it is put.

4.16.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified in the text:

- i. Rex: a male using the device the Max
- iii. Carroll: a female playing the transcendent reality of the game Mink

Review of the Themes: The theme of the narrative being initiated is the role digital technologies play in (re)shaping the relationship between Rex and Carroll

Naming and Defining the Themes: the underlying themes that contribute to the major theme are:

- i. Nature of relationship between Rex and Carroll: Carroll has the potential to influence Rex.
- ii. Impact of digital technologies on the relationship between Rex and Carroll

- iii. Rex's mercurial nature
- iv. Use of technologies to serve as a medium to find the lost Carroll

4.17 SAMPLE TEXT # 17

Rex and Carroll have been friends since they were kids... one of the first people introduced (172 words generated by rytrai, [whole text sample to be found in the CD annexed with this dissertation])

4.17.1 Step 1: Analysis for Cohesion

Detailed analysis of the use of lexical items and cohesive devices in the sample text to qualify it as presenting a coherent and meaningful narrative can be found in the CD annexed with this dissertation. Following is an account of the findings:

4.17.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Relationship

Digital technologies

Age related changes

Actions

Passage of time

Thinking process

Attributes

Discussion on Choice of Lexical Content: From these head categories, it appears that the text is a narrative on the changes that technologies introduce in the lives, families, actions, and thoughts of their growing up users. The lexical headings reflect the role of the media that casts an impact on the lives of users and the relationships.

4.17.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.17.1.2.1 References. Personal and demonstrative references are used in this text:

4.17.1.2.2. Connectives/ Conjunctions. This text consists of several sentences further organized into two paragraphs, which are connected using adversative, causal, temporal, and additive conjunctions to make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: Using connectives and conjunctions the text becomes a coherent, meaningful, logically connected, and thematically unified narrative on the evolving relationship between Rex and Carroll initiated by the development of a sophisticated technology.

Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.17.2.1 Totalizing Path. This small text sample presents a narrative developed along a well-defined trajectory as follows:

Rex and Carroll are childhood friends.

Rex is technologist and Carroll is into business.

Media is after both Rex and Carroll.

On Rex's development of sophisticated technology, Carroll distances himself from Rex which starts to change their relationship.

4.17.2.2 Onwardness. The text is generated in response to a user input in the form of a single sentence and it is from here that the narrative is initiated. The introduction of a new character named Julia in the last incomplete sentence proposes a new direction that the narrative might be steered in. Since the generated text results from the autonomous processing of the available data in the phase and conceptual spaces, there always remains a chance that any unprecedented direction could be taken. However, despite its progression and constant (re)shaping the narrative remains focused on the theme introduced earlier in the text i.e., the development of a sophisticated technology.

4.17.2.3 Haphazardness. The text presents a narrative which is well rounded and developed along a proper trajectory despite its fast pace of progression. Since the text is generated from the autonomous processing of the data in the phase space, further human input would lead the writer to further process the data into generating a text that would result in (re)shaping of the narrative. Since processing in the phase space is autonomous and beyond anyone's control, there always remains a chance of a haphazard effect which till now is not present in this text.

4.17.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred to find the detailed SFL analysis of the text sample # 17)

4.17.3.1 Interpersonal Meta Function. Present tense used in the clauses is reflective of the current situation in which the narrative is being (re)shaped as the relationship between Rex and Carroll evolves, whereas the clauses which highlight the roots from where the narrative is built are framed using the past tense i.e. present tense indicates the present conditions and implies that the narrative is still being (re)shaped, whereas past tense indicates what has already happened and from where the present shape of the narrative is derived.

Apart from the human subjects Rex and Carroll, there are two other active subjects i.e., the applications and the media. Both are forms of technology, and used by humans, yet they become contributors to the (re)shaping of narratives even though they are nonhumans.

4.17.3.2 Ideational (Experiential) Meta- Function. Even though there are a number of implied and inactive subject, the text builds a narrative centering around two subjects i.e., Rex and Carroll who are the active doers of different actions. The following meta functions being performed through syntactic patterns:

4.17.3.2.1 Material Processes. It is through the material actions that the narrative is (re)shaped for every action that has a consequence that yields changes in emotions, contexts, and changes in relationships. In this sample text, not only the human subject's Rex and Carroll are taking actions, but different forms of technology such as Rex's applications and media are also the subjects that take actions and cast impact on the contexts and relationships being mentioned in the text. In other words, from material perspective and their consequences, this text places humans and nonhuman in equations with one another.

4.17.3.2.2 Relational Processes. Since both Rex and Carroll belong to the same gender i.e., both are males, the attributes do not refer to the performativity of any specific gender. The attributive relational processes refer to the relationships and emotions of the protagonists and serve to frame the major theme of the narrative being (re)shaped by the text.

Attribute of the media identified in the text forms a major theme of the narrative, wherein it qualifies media as something resulting in evil consequences yet is unavoidable for it brings potential benefits.

4.17.3.2.1 Mental Processes. Being sensed by the human subject Carroll, the cognitive mental process highlights decision making as a contextual, emotional, subjective phenomenon which is specific to the human race only and cannot be possessed by the nonhumans. However, this claim appears to have been threatened by Rex's application that has the capability to distinguish human from nonhuman. At a closer analysis, it becomes obvious that nonhuman applications may offer advantages to be used by the human race, but the decision to take benefit from those advantages or to not avail them or the extent to which they are to be used remain the prerogative of the human race only. The application has the capability to decipher nonhuman from human, but the decision to put this capability to test is the prerogative of the human race only.

4.17.3.3 Textual Meta Function. Being derived out of the subjects, unmarked themes place human as well as nonhuman agencies in equations with each other as doers of the actions that serve to (re)shape the narrative. It is from the actions of these agencies that changes are brought in the prevalent circumstances and the processes that are taking place to mark the themes of the narrative. For example, Rex develops an application, and it is the process of going viral that yields the circumstances of the media following Rex. Similarly, the project of developing an application takes up most of Rex's time leading to the deterioration of his relationship with Carroll.

4.17.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.17.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.17.4.1.1 Figurative Component. the figurative component consists of only one isotopy i.e., Rex and Carroll that can be examined in the following terms (i) track of

transformation of relationship, (ii) differences between professions, (iii) approach towards digital world, and (iv) being followed by media.

Discussion on Analysis of Figurative Components: The analysis of thymic categories reveals (re)shaping of a narrative on the transformation of the childhood friendship between Rex and Carroll because of the hype that development of technology causes in the media.

4.17.4.1.2 Grammatical/ Syntactical Linguistic Devices. conjunctions including adversatives, temporal, and additives and connectives are used to connect the text logically and thematically to shape a narrative that is coherent and meaningful.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting the evolution in the relationships between Rex and Carroll. On one hand the narrative presents the idea of childhood friendship between Rex and Carroll, and on the other hand is the idea of increasing distances between the two. The third idea presented by the text is the effect experienced in the media by any sophistication developed in technology. These three different ideas are connected to make a coherent, meaningful, logically connected, and thematically unified narrative through the use of conjunctions, connectives, and references.

4.17.4.1.3 The Enunciative Component. The text is descriptive in nature, in which past and present both tenses are used. The text is in the third person narrative who is extra-diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: where the present conditions can be traced to have their roots in the times that are past, the evaluative nature of the descriptive text places the writer in a position from where she/he seems to narrate the events as and when they happen.

4.17.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of the following major event sequences:

1. Friendship between Rex and Carroll
2. Distances between Rex and Carroll

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified in the text. Both are males and despite their worldly commitments, spend time together.

Theme Identified in the Text: The theme of the narrative being initiated is the role bias towards the digital technologies play in (re)shaping the relationship between Rex and Carroll

4.18 SAMPLE TEXT # 18

Rex and Carroll are a couple who have been living together for 3 years... before all of this started happening (157 words generated by rytrai, [whole text sample to be found in the CD annexed with this dissertation])

4.18.1 Step 1: Analysis for Cohesion

Following is the analysis of the use of lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Annexed CD can be referred to for the detailed analysis of cohesion through lexical items and cohesive devices used in the sample text)

4.18.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Relationships

Profession

Forms of technology

Uses of technology

Thought processes

Passage of time

Emotions

Discussion on Lexical Items Used: From these head categories, it appears that the text builds a passionate narrative on the evolution of the relationship between Rex and Carroll and the impacts that the use of different forms of technology cast on it.

4.18.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.18.1.2.1 References. Personal and demonstrative references are used in this text:

4.18.1.2.2. Connectives/ Conjunctions. This small text builds a narrative on the turbulence in the relationship between Rex and Carroll. Since different factors lead to the disturbance in the relationship, they are connected through causal and additive conjunctions and the connective “told over the course of one day” ensure the (re)shaping of the text into a coherent, meaningful, thematically unified, and logically connected narrative:

Discussion on Findings of Cohesive Devices: Using connectives and conjunctions connecting different ideas the text, despite its shortness, qualifies to present a coherent, meaningful, logically connected, and thematically unified narrative.

4.18.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.18.2.1 Totalizing Path. Despite its shortness, the text consists of several events that are sequenced along a well-defined totalizing trajectory so that the text qualifies as a coherent, logically connected, meaningful, and thematically unified narrative or the beginning of a narrative which could be steered in any direction. The path along which the text is written to qualify as a narrative is as follows

Introduction of Rex and Carroll as a couple,

Carroll’s use of technology without the knowledge of Rex,

Rex’s discovery of Carroll’s use,

Fight between Rex and Carroll.

4.18.2.2 Onwardness. Despite its shortness, the text initiates a narrative on placing technologies in equations with human relationships. Where Carroll sees technologies as her work without which she thinks she would cease to exist, for Rex technologies serve to put a veil on true selves, implying that individuals can exist without technologies. The conflict in observations of Rex and Carroll can serve to steer the text forward and progress in a specific direction that would further (re)shape the specific facet of the narrative.

4.18.2.3 Haphazardness. The text is well rounded, well connected, and meaningful because it has been generated as a single response to one user input and has not been further steered or maneuvered. Since AI generates text from the autonomous processing of the data

available in the phase and conceptual space, further user input would steer the AI into further processing of the data that would yield further text generation. Further text generation may not only (re)shape the narrative but also render a haphazard effect in it.

4.18.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred to for finding the detailed SFL analysis of the text sample # 18)

4.18.3.1 Interpersonal Meta Function. Present tense used in the clauses is reflective of the current situation presented by the text from where the narrative can be (re)shaped further as the relationship between Rex and Carroll evolves. However, clauses in the past tense present the times that are past, and in which exist the roots of their relationship. The clauses which exude uncertainty because of the use of modals and ones that present negative polarity pose the existence of the possibility of a different scenario i.e., the existence of an altogether different scenario had Rex not found out Carroll's use of technology.

4.18.3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narratives on any one of the two possible points: Technology is equivalent to work and representation of self, or the existence of self without technology. The following meta functions being performed through syntactic patterns:

4.18.3.2.1 Material Processes. Where material processes acted upon by Carroll serve as key points as major themes, the material processes acted upon by Rex are reactionary by nature and serve as the key points at which the narrative being built is (re)shaped or, in other words, steered in a specific direction. This can be seen through the lens of gender performativity as Carroll being the initiator and Rex as a reactionary agent.

4.18.3.2.2 Verbal Process. Verbal process identified in the text is performed by Carroll and highlights what she takes as her identification and reason for her existence. It is the point which initiates a new point of debate i.e., if use of digital devices and technology be taken in equations with existence of a human self. This implies that for the sayer, a self loses its possibilities of existence if technology and digital devices are taken out of it. The verbal process is also indicative of the mental and emotional state of the sayer

i.e., the use of the words “yells” implies a frustrated and disturbed state of mind resulting from the mere thought of an existence without digital devices and technology.

4.18.3.2.3 Relational Processes. Several attributive relational processes are identified in the text. All attributive relational processes refer to the qualities of Rex. Most of the attributives identified in the text reflect the nature of the relationship of the couple, and the professions as qualifications of the individual subjects. Where attributive relational processes serve as key points to drive the narrative in a specific direction, they may also serve to define the tendencies of the subject as belonging to a specific gender.

4.18.3.2.4 Mental Processes. Two mental processes are identified in the text, and both refer to cognitions being sensed by each of the subjects: Rex and Carroll. Being sensed by the human subjects Carroll and Rex, the cognitive mental processes are about their processing the available technologies. Cognitive mental processes in the text are reflective of the differences in their personality traits i.e., the female Carroll is forgetful, and the male Rex is smart enough to take advantage of Carroll’s forgetfulness.

4.18.3.3 Textual Meta Function. Themes derived out of the processes and circumstances serve as key points from which narrative can be (re)shaped. It is from the marked themes actions of these agencies that changes are brought in the prevalent circumstances and the processes that are taking place to mark the themes of the narrative. For example, Rex develops an application, and it is the process of going viral that yields the circumstances of the media following Rex. Similarly the project of developing an application takes up most of Rex’s time leading to the deterioration of his relationship with Carroll.

4.18.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.18.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.18.4.1.1 Figurative Component. Findings: the figurative component consists of only one isotopy i.e., Rex and Carroll that can be examined in terms of (i) difference in professions, (ii) use of technology, and (iii) concept of self

Discussion on Analysis of Figurative Components: The analysis of thematic categories reveals belonging to different professions, Rex and Carroll are used as subjects on whose approaches and uses of technology a narrative is initiated and on the transformation of which the narrative can be (re)shaped.

4.18.4.1.2 Grammatical/ Syntactical Linguistic Devices. conjunctions including adversatives such as “or”, causal “if”, and additives “and” and temporal connectives are used to connect the text logically and thematically to shape a narrative that is coherent and meaningful.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe presenting the evolution in the relationships between Rex and Carroll. On one hand, the narrative presents the idea of their being together and living as a couple implying confidence and sharing of knowledge with each other, and on the other hand are present the ideas of Carroll using technology without Rex’s knowledge and Rex hacking the internet and discovering what Carroll had been doing which implies lack of confidence, secrecy, and mistrust. The opposing ideas are yoked together into forming a coherent and meaningful narrative using conjunctions, references, and connectives.

4.18.4.1.3 The Enunciative Component. The text is descriptive in nature, in which past and present both tenses are used. The text is in the third person narrative who is extra-diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: where the present conditions can be traced to have their roots in the times that are past, the text initiates a narrative and provides the points from where its (re)shaping can be ensued.

4.18.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of only one event sequence i.e., relationship between Rex and Carroll

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisivse, and glorifying tests.

Event Sequence highlights the fact that despite being a couple, perception of technology can cause differences between them. For Carroll, use of technology and digital devices define her work and she cannot be her true self without using technology. In other words, for Carroll technology defines herself. On the other hand, Rex negates the importance of technology for being a true self. For him, it is the relationship that defines an individual's self rather than technology. Basically, it is through this event sequence that a debate has been initiated i.e. the role that technology can play in lives, expression of selves, and relationships.

Also, the event sequence highlights the gender performativity of Rex and Carroll: where Carroll hides things from Rex and tries to be independent by using technology, involving in online chatting, and using social media; Rex is temperamental, whimsical, possessive, and self centred. The event sequence highlights the different dimensions of the relationship between Rex and Carroll owing to which disruptions tend to appear.

4.18.4.3 Deep Level. Fundamental values identified in the tet are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Carroll	vs	Rex
---------	----	-----

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Use of technology as a means of expression of self	vs	By being with him is the true self
--	----	---------------------------------------

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Couple	vs	fight
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The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations

in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

Relationship of Rex and Carroll

Couple → distances

Discussion on Findings of Deep Level Analysis: The text builds the narrative on how perceptions regarding the use of technology have transformed the relationship between Rex and Carroll. The text presents a journey from a couple to throwing digital devices out, yelling at each other and fighting. This text acknowledges the power of technology in defining relationships.

4.19 SAMPLE TEXT # 19

Carroll and Rex are neighbors and best friends... Rhino had feelings (167 words generated by rytrai, [whole text sample to be found in the CD annexed with this dissertation])

4.19.1 Step 1: Analysis for Cohesion

Following is the analysis of the use of cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative: (Refer to the annexed CD for finding the detail analysis of the cohesion through lexical items and cohesive devices used in the sample text)

4.19.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Relationship

Digital technologies

Capabilities of AI

Professions

Implications

Change in relationship

Discussion on Choice of Lexical Content: From these head categories, it appears that the text attempts to build a narrative on two friends Rex and Carroll, who belong to two different professions. The narrative appears to be based on the use of capabilities of the different forms of technology such as AI, virtual reality, and life online, their uses and implications on the evolution of relationships.

4.19.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.19.1.2.1 References. Personal and demonstrative references are used in this text:

4.19.1.2.2. Connectives/ Conjunctions. This text consists of a number of sentences connected through the use of the four conjunctions i.e., temporal, additive, causal, and adversative conjunctions to unfold it as a coherent, meaningful, logically connected, and thematically unified two paragraphs narrative whole.

Discussion on Findings of Cohesive Devices: Using connectives and conjunctions the text lies the initiation of a narrative presenting a prospect of a unique possibility which is in striking contrast to the imaginable realities of the physical world. The text presents striking contrasts between physical and virtual worlds and progresses in the direction of (re)shaping a narrative that may move in a direction of the presence of traits of the real physical world in the virtual world.

4.19.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.19.2.1 Totalizing Path. This small text sample attempts to initiate a narrative by sequencing the events along the following trajectory:

Rex and Carroll are neighbours and best friends,

Rex interacts with a nonhuman AI agent in the real world and Carroll interacts with a real human in the virtual world,

Nonhuman Ai adapts itself to Rex's conversations; human retail worker turns out to be ditching Carroll,

Carroll leaves the human retail worker, whereas Rex poses the possibility of AI possessing feelings to Carroll.

4.19.2.2 Onwardness. The text is generated in response to a user input in a single attempt and no subsequent input was given to steer it further. Owing to its smallness, the text may not qualify to present a narrative but indeed it lays the foundations for initiating a narrative by posing a prospect in its last part. It is from the last sentence that a narrative can be steered on in a specific direction which may or may not support the possible prospect.

4.19.2.3 Haphazardness. Being small and generated in a single attempt without any subsequent inputs, the text does not have any haphazard effect. The possibility of haphazardness arises only when the text would be (re)shaped into a narrative by further text generation upon receiving more user inputs. It is in the patterns of inputs and text generations that the haphazardness of a narrative lies. Since no subsequent inputs are given, no haphazardness is identified.

4.19.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed SFL analysis of the text sample # 19 can be found in the annexed CD)

4.19.3.1 Interpersonal Meta Function. Present tense used in the clauses is reflective of the current situation presented by the text from where the narrative can be (re)shaped further as the relationship between Rex and Carroll evolves. However, past tense is used in the clauses to indicate the roots in which are present, the roots of the present circumstances.

4.19.3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narrative to be (re)shaped in a specific direction. The following meta functions are being performed through the syntactic patterns:

4.19.3.2.1 Material Processes. Material processes acted identified in the text, on one hand, serve as key points from which the major themes of the text emerge, but also helps in drawing a comparison between approaches of the subject i.e., spending funds on the AI is considered as an investment, the material actions performed by Carroll serve to reveal to her the misuse of technology by the human users. In other words, Rex's father invested deliberately and got the benefit whereas Carroll was led to the virtual world to be deceived. Where Rex interacts with an AI on which investment is made, Carroll is deceived online by a physical person.

4.19.3.2.2 Verbal Process. Rex is a participant in the verbal process to communicate the uniqueness of the AI, Rhino to Carroll, and it would be in the verbal process that the future direction of the narrative progress and (re)shaping would lie.

4.19.3.2.2 Relational Processes. A number of attributive relational processes are identified in the text. These attributes are used to distinguish the subjects from one another

and present the qualification of the relationship existing between them. Where attributives possessed by Rex and Carroll specify their financial standing and economic backgrounds, attribute of Rhino, the AI, serves to distinguish it from its human users. The attributes specify the nature of their relationship with one another as human subjects and with Rhino, as a nonhuman agency.

The attributes possessed by Rex and Carroll specify their genders as where Rex is presented as a struggling professional, Carroll is characterized by her strong financial background. And the attribute of Rhino, the AI program, does not specify its background or context.

4.19.3.2.1 Mental Processes. The mental processes identified in the text center around the thoughts of Rex and Carroll about the AI application, Rhino. It is the qualities of Rhino that induce cognitive mental processes imitate the cognitive mental processes being sensed by Rex and Carroll: the ethical implications of the AI named Rhino adapting itself to Rex and the possibility of it having emotions. Both qualities are human attributes and the cognitive processes center on the consequences of a nonhuman agency possessing these human attributes.

4.19.3.3 Textual Meta Function. Themes derived out of the processes and circumstances serve as key points from which narrative can be (re)shaped. It is from the marked themes that serve as the topical themes of the narrative being initiated and would play a key role in determining the direction of the further progress of the narrative.

4.19.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.19.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following:

4.19.4.1.1 Figurative Component. The figurative component of the text consists of two isotopies i.e.

1. Rex and Carroll: examined by drawing a comparisons
2. New relationships: examined in terms of comparison between Rhine and new partner

Discussion on Analysis of Figurative Components: The analysis of thymic categories reveals the differences between real world phenomena and the advantages of the AI programs. Where human beings in the real world use the virtual world to take advantage of their fellow beings, the products of technology i.e., the AI beings participate in the real world to be beneficial to their human users.

4.19.4.1.2 Grammatical/ Syntactical Linguistic Devices. The text creates a universe presenting the roles being played by agencies of different ontologies in the evolution of their relationships with Rex and Carroll. On one hand, is present the idea of a nonhuman agency performing an active consequential role in the real physical world, and on the other hand is present a human agent in the virtual world. Both nonhuman and human establish relationships with Rex and Carroll, but the nature of their relationships vary: nonhuman is programmed to be beneficial and adapt itself whereas human aims to deceive the other human.

4.19.4.1.3 The Enunciative Component. Where the present conditions can be traced to have their roots in the times that are past, the text lays the foundation of a narrative and provides the points from where narrative can be progressed further and (re)shaped.

4.19.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of one major event sequences i.e.,

1. Rhino adapting itself to Rex
2. Retail worker playing a role to win over Carroll

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Event Sequence (1) highlights the fact that it is the adaptability and capabilities of Rhino, an AI program, that Rex, despite being a budding computer scientist, is surprised. Because of its capabilities to adapt to the unpredictable human life and whims, Rhino the AI can actively become a participant in human life which implies that human life no longer remains a strictly human phenomenon but is now being (re)shaped by the participation of

a nonhuman agency. Such participation has implications and must be considered because of the fact that it is being forwarded by a nonhuman agency.

Event Sequence (2) highlights the deception of one human being at the hand of another being through the use of technology. The event is a depiction of the negative tendencies of the human race for the satiation of which they make use of the technology. This implies that technology is neither good nor bad in itself, it is the use to which its users put it.

4.19.4.3 Deep Level. Fundamental values identified in the tet are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Rhino vs retail worker

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Non human vs human

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Relationship vs distances

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

1. Rex thinking about the ethical implications of AI

Nonhuman → Human trait

2. Carroll deceived by retail worker

Human- human relationship → Discovery of deception

Discussion on Findings of Deep Level Analysis: The two event sequences are used in contrast to one another to highlight the theme on which the narrative can be built and (re)shaped i.e. first event sequence reflects the relationship between human and nonhuman that exists in the physical world and evolves in a way that the nonhuman agency has become an active participant in human relationship, whereas the second event sequence is

reflective of the human to human relationship that exists by virtue of virtual reality and evolves in a way that one human is hurt by another. Where one relationship is beneficial, the other is parasitic.

4.20 SAMPLE TEXT # 20

Rex and Carroll are in a committed relationship...Carroll has been neglecting her relationships with friends and family so she can focus on (172 words generated by rytrai, [whole text sample to be found in the CD annexed with this dissertation])

4.20.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative (Annexed CD can be referred to for finding the detailed analysis of the cohesion through lexical items and cohesive devices used in the sample text):

4.20.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories:

Relationship

Digital marketing

Business growth

Business rivalry

Evolution of relationship

Discussion on Choice of Lexical Content: From these head categories, it appears that the text lays the foundations of a narrative on the subjects Rex and Carroll working hard to establish their business in digital marketing, the overlapping of their personal relationships with professional relationships, and suffering of one because of the other.

4.20.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.20.1.2.1 References. Personal, extended, and demonstrative references are used in this text:

4.20.1.2.2 Connectives/ Conjunctions. This text consists of a number of sentences further organized into two paragraphs, which are connected through the use of adversative and additive conjunctions and connectives like “meanwhile” and “Rex’s [perspective” to

make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: This text centers around a number of ideas which are weaved through the use of conjunctions and connectives to make a coherent and meaningful whole that may serve as the foundations of a narrative that could later be (re)shaped.

4.20.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.20.2.1 Totalizing Path. This small text sample presents a narrative developed along a well-defined trajectory as follows:

Rex and Carroll are in a committed as well as business relationship.

Carroll's lack of trust on Rex.

Rex becoming more and more cut off from Carroll.

Carroll's neglect of her relationships.

4.20.2.2 Onwardness. The small text is generated in a single attempt in response to a user input and presents two different perspectives. Where Rex's perspective is discussed in detail, it is Carroll's perspective that is just touched upon and on which more text can be generated. In other words, it is at the point of Carroll's neglect of relationships that the narrative can be built and progressed onwards into a number of directions. However, the small text in itself presents a coherent and meaningful whole.

4.20.2.3 Haphazardness. The text presents a narrative which is well rounded and developed along a proper trajectory despite its fast pace of progression. Since the text is generated from the autonomous processing of the data in the phase space, further human input would lead the writer to further process the data into generating a text that would result in (re)shaping of the narrative. Since processing in the phase space is autonomous and beyond anyone's control, there always remains a chance of a haphazard effect which till now is not present in this text.

4.20.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed SFL analysis of the text sample # 20 can be found in the CD annexed with this dissertation)

4.20.3.1 Interpersonal Meta Function. Present tense used in the clauses is reflective of the current situation presented by the text from where the narrative can be (re)shaped further as the relationship between Rex and Carroll evolves. The clauses are used to reflect the differences in the personalities and approaches of their subjects Rex and Carroll from which the main theme of the text emerges. For example, where Rex as a subject is most of the involved in his work, Carroll mistrusts Rex and neglects her relationships with friends and family.

4.20. 3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narrative to be (re)shaped in a specific direction. The following meta functions are being performed through the syntactic patterns:

4.20.3.2.1 Material Processes. Material processes identified in the text reflect the actions of Rex, the changing physical realities and spatio- temporal contexts of the couple. Seen through the lens of material processes, Rex is presented as an active agent and Carroll as not involved in any action.

4.20.3.2.2 Relational Processes. The text presents a number of attributes possessed by Rex. The attributes are the result of Rex's commitment with his business and technology, which indicate that when Rex is away from Carroll, he is being reassured by other people. The attributes are not reflective of Rex's true personality. Instead, they are acquired by him because of his work and indicate the points at which chasms are present his relationship.

4.20.3.2.3 Mental Processes. Two types of mental processes are identified in the text. They reflect the thoughts and emotions of their sensers i.e., Rex, Carroll, and the reader.

I. Cognitive Mental Process: are all reflective of thoughts and approaches and are being sensed by human beings implying them to be characteristic of the human race. However, the cognitive mental processes identified in the text centre around the phenomenon of data manipulation and formation of digital identity.

II. Affective Mental Processes: Being sensed by human users, affective mental processes indicate that emotions are distinctions of the human race only. Rex and Carroll are identified to sense certain feelings in consequence of the use of technology.

4.20.3.3 Textual Meta Function. It is through the unmarked themes that the text progresses forward, whereas marked themes highlight the specific reasons for the subjects to behave in a specific way. It is from the marked theme that the narrative upon further progress can derive its direction and major topical themes.

4.20.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.20.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following:

4.20.4.1.1 Figurative Component. the figurative component of the text can be analyzed in terms of the attitudes of Rex and Carroll towards one another

Discussion on Analysis of Figurative Components: The analysis of thematic categories poses forward the central idea of the text i.e., existence of an emotional distance present between Rex and Carroll owing to which their relationship is not stable and remains under flux.

4.20.4.1.2 Grammatical/ Syntactical Linguistic Devices. conjunctions including adversatives such as “but”, “or” causals including “as” “because”, and additives “and” are used to connect the ideas logically to produce a text that is coherent, meaningful, and thematically unified and qualifies to initiate a narrative.

Discussion on Grammatical/ Syntactical Linguistic Devices: The text creates a universe consisting of a specific spatio- temporal context from which emerges the flux under which the relationship between a couple as a major theme. Since there are a number of ideas used to contribute to the theme, linguistic devices are used to logically connect them to yield a coherent and meaningful text which could serve as a foundation for a thematically unified narrative (re)shaping.

4.20.4.1.3 The Enunciative Component. The text is descriptive in nature in which present tense is used to present the prevalent scenario. The text is in the third person narrative who is extra- diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: Present tense reflects the fact that the narrative is still being (re)shaped and has not attained a final shape, where the third person voice implies an omniscient presence of the writer and display the authority of the writer over the incidents that are happening to shape the narrative.

4.20.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of one major event sequences i.e., Relationship between Rex and Carroll.

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisivse, and glorifying tests.

Analysis at the narrative level of the event sequence highlights the reasons for the appearance of disruptions in the relationship between Rex and Carroll. Rex's overcommitment with his work, and Carroll's lack of trust on Rex are the key contributors to the deterioration of their relationship.

4.20.4.3 Deep Level. Fundamental values identified in the tet are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Rex vs Carroll

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Overcommitment vs Lack of trust

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Disingenuous to himself vs neglecton of relationships

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

Digital identity of Rex comes between him and Carroll

Relationship → Disruptions in the relationship

Discussion on Findings of Deep Level Analysis: The event sequence used in the text identifies the contributory factors to the deterioration of a relationship.

4.20.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified in the text. Where Rex is a male who is a busy entrepreneur, Carroll is his female counterpart who does not seem to trust Rex.

Theme Identified in the Text: The underlying theme of the narrative being initiated is the increasing distances between a committed couple because of their not sharing with each other their commitments with their business.

4.21 SAMPLE TEXT # 21

Rex and Carroll live an average, middle class existence in a small town... to replace any moments, she has with her children or worry (173 words generated by rytrai, [text sample to be found in the CD annexed with this dissertation])

4.21.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative: (Annexed CD can be referred to find the detailed analysis of the cohesion through lexical items and cohesive devices used in the sample text)

4.21.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories:

Socio- economic context

Relationship

Challenges of Work

Emotional status

External help

Technology

Discussion on Choice of Lexical Content: From these head categories, it appears that the text lays the foundations of a narrative on the struggles of a middle-class working couple and the challenges they need to overcome to give their children a stable life.

4.21.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.21.1.2.1 References. Personal and extended references are used in this text:

4.21.1.2.2. Connectives/ Conjunctions. This text consists of a number of sentences further organized into two paragraphs, which are connected through adversative, additive, and causal conjunctions and connectives like “due to the heavy workload”, “especially” to make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: The theme of the text revolves around a couple taking a decision on hiring an AI robot to lighten their burden at home. Since they are weighing the pros and cons, a number of supporting ideas and consequent thoughts are given, which are all connected to each other by using different connectives to reflect their considerations and highlight what is regarded as more important than the other.

4.21.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.21.2.1 Totalizing Path. This small text sample presents a narrative developed along a well-defined trajectory as follows:

Socio- economic context of Rex and Carroll.

Reasons for consideration of hiring an external support.

Benefits of AI robot.

Carroll’s considerations.

4.21.2.2 Onwardness. The small text is generated in a single attempt in response to a user input and revolves around the life of a middle-class couple struggling with the challenges of striking a balance between work and home. The theme of the text is their process of taking a decision to hire an AI robot. The text reflects on the decision-making process and has posed the advantages of hiring an AI robot. Since there are two persons involved i.e., Rex and Carroll, further generation of text is likely to highlight the considerations each of them might undertake before finally deciding on hiring or not hiring the robot. In its current state, the text serves to lay the foundations for the progress of the narrative upon further text generation.

4.21.2.3 Haphazardness. The text is well rounded and presents ideas that are coherently, meaningfully, and logically connected to serve as foundations for further progress of the narrative. Since the text is generated from the autonomous processing of the data present in the phase space, the chances of haphazardness become pronounced when upon receiving further human input the generated text may not fully gel in with the already existing text.

4.21.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Annexed CD can be referred to for finding the detailed SFL analysis of the text sample # 21)

4.21.3.1 Interpersonal Meta Function. Present tense used in the clauses is reflective of two things: (i) the current situation presented by the text from where the narrative can be (re)shaped, (ii) the position of the writer as an observer hovering over the subjects, witnessing their lives and contexts and give a direct account of the events, thoughts, and considerations of the couple. Where the majority of the clauses exude the confidence and authority of the writer, the use of modals in the clauses reflect an uncertainty. This uncertainty lurks in the text from the possible capabilities of the AI robot. It appears the writer is hopeful but at the same time keeps the chances of things not working as predicted in view.

4.21.3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narrative to be (re)shaped in a specific direction. The following meta functions are being performed through the syntactic patterns:

4.21.3.2.1 Material Processes. A number of material processes being performed by Rex and Carroll are identified in the text. It is from through the material processes that the spatio- temporal, socio- economic contexts of the couple are laid and from which the major theme of the text emerges.

4.21.3.2.2 Relational Processes. A number of attributive relational processes are identified in the text. These attributes are used to distinguish the subjects from one another and present their present contexts. The attributive relational processes identify Rex from Carroll in terms of their gender performativity; Rex is the breadwinner and Carroll is the concerned mother, and it is the attributive process that identifies the couple in terms of the special demands arising from their specific contexts.

4.21.3.2.1 Mental Processes. Two types of mental processes are identified in the text.

I. Cognitive Mental Process: all are reflective of thoughts of the human subjects on the AI robot. The cognitive mental processes imply thoughts to be characteristic of the human race and place human beings in a position to judge the agencies present in their vicinity.

II. Affective Mental Processes: Being sensed by human users, affective mental processes indicate that emotions are distinctions of the human race only. Human subjects in this text have emotions regarding their present conditions such as their jobs, and their children.

4.21.3.3 Textual Meta Function. It is through the unmarked themes that the text progresses forward, whereas marked themes highlight the processes from which the major theme of the text i.e., the decision of the couple to invest in an AI robot emerges. The processes posing the themes as marked reflect on the qualities of the AI and seem to steer the couple in making the decision in favour of hiring the AI robot.

4.21.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.21.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world

is analyzed to have been created by only one event sequence which is analysed in terms of (i) differences in the gender performativity of Rex and Carroll as partners in a couple and as parents of their children, (ii) comparison between Rex and Carroll as parents and AI robot as a contributor to their life

Discussion on Analysis of Figurative Components: The analysis of thymic categories highlights the central idea of the text i.e., the AI robots can be hired to not only share the household burdens but also interact with kids in case parents do not have time. The text presents the idea of developing AI that has the capabilities of acting as replacements of human beings themselves.

4.21.4.1.2 Grammatical/ Syntactical Linguistic Devices. conjunctions including adversatives such as “but”, causals including “so” and “due to the heavy workload”, and additives are used to connect the ideas logically to produce a text that is coherent, meaningful, and thematically unified and qualifies to initiate a narrative.

Discussion on Grammatical/ Syntactical Linguistic Devices: The universe presented by the text draws on two consisting ideas, on one hand is present a human couple who is under socio- economic and parenthood obligations, and on the other hand is present the AI which is presented as being capable of relieving the couple of their burdens. It is using conjunctions and connectives that the two contrasting ideas are sequenced into a coherent and meaningful whole which could serve as a foundation for a thematically unified narrative (re)shaping.

4.21.4.1.3 The Enunciative Component. The text is descriptive in nature in which present tense is used to present the prevalent scenario. The text is in the third person narrative who is extra- diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: Present tense reflects the fact that the narrative is still being (re)shaped and has not attained a final shape, where the third person voice implies an omniscient presence of the writer and display the authority of the writer over the incidents that are happening to the couple.

4.21.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The

presented narrative consists of the major event sequence Rex and Carroll considering investment in getting some house help.

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Analysis at the narrative level of the event sequence highlights the benefits that an AI robot offers to help Rex and Carroll in their demanding lives. The text presents AI as an agent, which despite costing a fraction, can be seen as compatible with help hired from any other human being.

4.21.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Rex and Carroll vs AI robot

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Human vs nonhuman

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Concern vs worthy enough

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

Rex and Carroll start to think AI robot might be worth the investment

Worried → Considering

Discussion on Findings of Deep Level Analysis: Because of the benefits offered by the AI robots, the event sequence presents a major transformation in its users from being worried to considering AI worthy enough to invest on.

4.21.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified as a couple in the text. Where Rex is a male partner who is the breadwinner of the family, Carroll is his female counterpart whose major priority is to take care of the family and their home.

Theme Identified in the Text: The underlying theme of the narrative being initiated is the potential of the AI technology to help a struggling couple meet the challenges of their daily lives. Another theme that contributes to the underlying theme is the capability of the Ai in addressing the insecurities that its users might have.

4.22 SAMPLE TEXT # 22

Rex and Carroll were two best friends who grew up together...Carroll was amazed at how futuristic it all (124 words generated by jasperai, [whole text sample to be found in the CD annexed with this dissertation])

4.22.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative: (Detailed analysis of the cohesion through lexical items and cohesive devices used in the text sample can be found in the annexed CD)

4.22.1.1 Lexical Items Used. Findings: The lexical items used in the text can be grouped into the following head categories:

Spatio- temporal context

Relationship

Evolution of relationship

Technology

Activities

Discussion on Choice of Lexical Content: From these head categories, it appears that the text lays the foundations of a narrative how two best friends gradually part ways because of their varying interests.

4.22.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.22.1.2.1 References. Personal references are used in this text:

4.22.1.2.2. Connectives/ Conjunctions. This text consists of a number of sentences further organized into two paragraphs, which are connected through the use of additive, adversative, and temporal conjunctions and connectives such as “one day” to make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: The theme of the text revolves around the construction of a plot on two friends Rex and Carroll who from being best friends to being drifted apart at high school i.e., the text presents varying interests of two subjects. Since the interests are different, conjunctions and connectives are connected to make a coherent, meaningful, and logically connected text.

4.22.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.22.2.1 Totalizing Path. This small text sample presents a plot on which a narrative can be built:

Friendship between Rex and Carroll.

Varying interests of Rex and Carroll.

Rex sharing his app.

4.22.2.2 Onwardness. The small text is generated in a single attempt in response to a user input and presents a plot based on the friendship between Rex and Carroll. Despite the fact that the two had grown together, they drifted apart because of their varying interests. Having Rex share his interests with Carroll, it is from the last sentence that further text can be added to build a narrative and later on shape it.

4.22.2.3 Haphazardness. The text is well rounded and presents ideas that are coherently, meaningfully, and logically connected to serve as foundations for further progress of the narrative. Since the text is generated from the autonomous processing of the data present in the phase space, the chances of haphazardness become pronounced when upon receiving further human input the generated text may not fully gel in with the already existing text.

4.22.3 Step 3: Analysis of Syntactic Patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL. (Detailed SFL analysis of the text sample # 21 can be found in the CD annexed)

4.22.3.1 Interpersonal Meta Function. The small text serves to provide a plot on which text can be added to build a narrative and reshape it further. Use of past tense implies that the text is about the incidents that have already happened. The positive polarity and certainty reflect the presence of an omniscient author hovering over the universe of the text in which the incidents have happened.

4.22.3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narrative to be (re)shaped in a specific direction. The following meta functions are being performed through the syntactic patterns:

4.22.3.2.3 Material Processes. Where material processes indicate the technological innovations, they are also representatives of gender role performativity i.e., is Rex, a male character, who acts in the material processes, whereas Carroll is not a participant in any material process.

4.22.3.2.2 Relational Processes. The attributive relational processes identify Rex from Carroll in terms of their gender performativity; and it is on the attributes and their evolution that the narrative can be built and (re)shaped in any direction.

4.22.3.2.1 Mental Processes. Being sensed by the female subject Carroll, the affective mental processes indicate her personality traits and preferences.

4.22.3.3 Textual Meta Function. It is through the unmarked themes that the text progresses forward, whereas marked themes highlight the processes from which the major theme of the text i.e. the decision of the couple to invest in an AI robot emerges. The processes posing the themes as marked reflect on the qualities of the AI and seem to steer the couple in making the decision in favour of hiring the AI robot.

4.22.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.22.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an

impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.22.4.1.1 Figurative Component. The figurative component of the text can be analyzed in terms of (i) differences in the gender performativity of Rex and Carroll as partners in a couple and as parents of their children, and (ii) comparison between Rex and Carroll as parents and AI robot as a contributor to their life

Discussion on Analysis of Figurative Components: The analysis of thematic categories highlights the central idea of the text i.e., the AI robots can be hired to not only share the household burdens but also interact with kids in case parents do not have time. The text presents the idea of developing AI that has the capabilities of acting as replacements of human beings themselves.

4.22.4.1.2 Grammatical/ Syntactical Linguistic Devices. Conjunctions including adversatives such as “but”, causals including “so” and “due to the heavy workload”, and additives are used to connect the ideas logically to produce a text that is coherent, meaningful, and thematically unified and qualifies to initiate a narrative.

Discussion on Grammatical/ Syntactical Linguistic Devices: The universe presented by the text draws on two consisting ideas, on one hand is present a human couple who is under socio- economic and parenthood obligations, and on the other hand is present the AI which is presented as being capable of relieving the couple of their burdens. It is through the use of conjunctions and connectives that the two contrasting ideas are sequenced into a coherent and meaningful whole which could serve as a foundation for a thematically unified narrative (re)shaping.

4.22.4.1.3 The Enunciative Component. The text is descriptive in nature in which present tense is used to present the prevalent scenario. The text is in the third person narrative who is extra- diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: Present tense reflects the fact that the narrative is still being (re)shaped and has not attained a final shape, where the third person voice implies an omniscient presence of the writer and display the authority of the writer over the incidents that are happening to the couple.

4.22.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed

in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of a single major event sequence i.e. Rex and Carroll considering to invest in getting some house help.

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisisve, and glorifying tests.

Analysis at the narrative level of the event sequence highlights the benefits that an AI robot offers to help Rex and Carroll in their demanding lives. The text presents AI as an agent, which despite costing a fraction, can be seen as compatible with help hired from any other human being.

4.22.4.3 Deep Level. Fundamental values identified in the tet are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Rex and Carroll vs AI robot

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Human vs nonhuman

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Concern vs worthy enough

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

Rex and Carroll start to think AI robot might be worth the investment

Worried → considering

Discussion on Findings of Deep Level Analysis: Because of the benefits offered by the AI robots, the event sequence presents a major transformation in its users from being worried to considering AI worthy enough to invest on.

4.22.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified two friends whose sex or gender are not mentioned.

Theme Identified in the Text: The underlying theme of the narrative being initiated is how because of the constant use of digital technologies, Rex and Carroll have drifted apart.

4.23 SAMPLE TEXT # 23

Rex and Carroll had always been fascinated by technology... They spent more time online (126 words generated by jasperai [whole text sample to be found in the CD annexed with this dissertation])

4.23.1 Step 1: Analysis for Cohesion

Following is the analysis of the lexical items and cohesive devices used in the sample text to qualify it as presenting a coherent and meaningful narrative. (Detailed analysis of the cohesion through lexical items and cohesive devices used in sample text can be found in the annexed CD)

4.23.1.1 Lexical Items Used. The lexical items used in the text can be grouped into the following head categories:

Experience with technology

Relationship

Professions

Progress of time

Discussion on Choice of Lexical Content: From these head categories, it appears that the text lays the foundations of a narrative on two individuals who were brought together by their shared interest in technology, and also, it was technology that became the cause of their drifting apart.

4.23.1.2 Cohesive Devices Used. The use of following cohesive devices make the text become a coherent and meaningful narrative.

4.23.1.2.1 References. Personal and extended references are used in this text:

4.23.1.2.2. Connectives/ Conjunctions. This text consists of a number of sentences further organized into two paragraphs, which are connected through the use of temporal, additive, and adversative conjunctions and connectives like “at first”, “but as” to make a coherent, meaningful, logically connected, and thematically unified narrative whole.

Discussion on Findings of Cohesive Devices: The theme of the text revolves around the initiation of a narrative on two friends Rex and Carroll who were fascinated by technology, brought together by their interest in technology, and then might drift apart because of their immersion in the digital technologies.

4.23.2 Step 2: Analysis of Digi- Modern Traits

Following digi- modern traits have been found in the text (Detailed analysis of the digimodern traits in the sample text can be found in the CD annexed with this dissertation):

4.23.2.1 Totalizing Path. This small text sample presents a plot on which a narrative can be built:

Rex and Carroll been fascinated by technology since childhood.

As adults, Rex and Carroll continue to experiment with digital technologies.

Rex and Carroll start dating each other because of their shared interest in technologies.

Rex and Carroll start to feel like they are losing themselves.

4.23.2.2 Onwardness. The small text is generated in a single attempt in response to a user input and presents a plot based on the friendship between Rex and Carroll. Despite the fact that digital technologies serve to bring the two together, it is the immersion in the digital technologies that becomes the cause of the two drifting apart. The last sentence is incomplete, the completion of which would serve to steer the narrative forward. The narrative being (re)shaped would determine its direction from the way the last sentence would be completed.

4.23.2.3 Haphazardness. The text is well rounded and presents ideas that are coherently, meaningfully, and logically connected to serve as foundations for further progress of the narrative. Since the text is generated from the autonomous processing of the data present in the phase space, the chances of haphazardness become pronounced

when upon receiving further human input the generated text may not fully gel in with the already existing text.

4.23.3 Step 3: Analysis of Syntactic patterns

To establish the functionality of the text, the syntactic patterns used in the text are analyzed for the meta functions they perform through SFL (detailed SFL analysis of the text sample # 23 can be found CD annexed with this dissertation).

4.23.3.1 Interpersonal Meta Function. The small text serves to provide a plot on which text can be added to build a narrative and reshape it further. Use of past tense implies that the text is about the incidents that have already happened. The positive polarity and certainty reflect the presence of an omniscient author hovering over the universe of the text in which the incidents have happened.

4.23.3.2 Ideational (Experiential) Meta- Function. The syntactic patterns used in the text serve as a point of initiation of narrative to be (re)shaped in a specific direction. The following meta functions are being performed through the syntactic patterns:

4.23.3.2.1 Material Processes. The material processes identified in the text are about the activities that Rex and Carroll indulge in to be bonded together in a relationship. At the centre of the material processes are present their shared interest in technology.

4.23.3.2.2 Relational Processes. The attributive relational processes identify Rex from Carroll in terms of their gender performativity; and it is on the attributes and their evolution that the narrative can be built and (re)shaped in any direction.

4.23.3.2.1 Mental Processes. Rex and Carroll are sensors of the affective mental processes about their love for technology and serve as the main theme of the text, as it is the means which serves to bring the two subjects together.

4.23.3.3 Textual Meta Function. It is through the unmarked themes that the text progresses forward, whereas marked themes highlight the circumstances and processes which serve to bring the subjects together and from where the narrative being built takes a new direction.

4.23.4 Step 4: Semiotic Analysis

Following is the analysis for suggestivity of the text as a narrative through a framework based on Greimas semiotic theory of binary oppositions. (Detailed semiotic analysis of the sample text and the related findings can be found in the CD annexed with this dissertation).

4.23.4.1 Discursive Level. Following is the discursive analysis of the strategies used in the sample text to create the illusion of a real world. The effect of reality to give an impression of time, place, and characters as processes happening in the real physical world is analyzed to have been created by the following

4.23.4.1.1 Figurative Component. The figurative component of the text can be analyzed in terms of the following isotopies:

1. Emerging digital technologies: examined in terms of how they are referred to in the text
2. Feelings towards technology: examined by the vocabulary used to refer to the feelings of Rex and Carroll towards technology. The vocabulary indicates the gravity of their feelings as the time changes
3. Professions of Rex and Carroll: examined in terms of their professions
4. Relationship between Rex and Carroll: examined in terms of its progress and the evolution experienced

Discussion on Analysis of Figurative Components: The analysis of thymic categories highlights the central idea of the text i.e., where interest in technology had served to bring them together, spending time on it served to part them.

4.23.4.1.2 Grammatical/ Syntactical Linguistic Devices. Conjunctions including temporals such as “as children”, “as adult”, “at first”, and “as their relationship progressed” serve to develop the narrative over a timeline to sequence the events one after another in an order of cause and effect. Adversative conjunction such as “but” and additive conjunction such as “and” serve to produce a logically connected coherent, meaningful, and thematically unified and qualifies to initiate a narrative despite the presence of different ideas.

Discussion on Grammatical/ Syntactical Linguistic Devices: The universe presented by the text is about the progressive evolution of the subjects Rex and Carroll, and their relationship with one another. Since it presents a constantly changing scenario which implies different ideas, through the use of conjunctions and connectives a logic and coherence is maintained.

4.23.4.1.3 The Enunciative Component. The text is descriptive in nature in which past tense is used to present the events that have already happened. The text is in the third person narrative who is extra- diegetic (i.e., not an actor in the text).

Discussion on the Enunciative Component: Past tense reflects the fact that the events have already happened, and the writer is giving its third person view. However, the last sentence implies that the narrative has not ended and can be steered further.

4.23.4.2 Narrative Level. Surface narrative syntax used in the text to create a coherent and meaningful the universe of the story world and the actions being performed in it are analyzed by identifying event sequences, each of which had independent subject, quest of object, and the transformation experienced by the subject in his/ her quest. The presented narrative consists of one major event sequence i.e., Rex and Carroll coming close together because of their interest in technology

In the second step of analysis at the narrative level, each event sequence was studied for its actantial and canonical narrative schemas, and the contract achieved through qualifying, decisive, and glorifying tests.

Analysis at the narrative level of the event sequence highlights the fact that it was interest in technology which served to bring them together, but it was use of technology that made them feel like they were losing apart.

4.23.4.3 Deep Level. Fundamental values identified in the text are derived from the answers sought in the text to the following questions:

1. What are the umbrella categories of opposites in the text?

The text is analyzed to be based on the following umbrella categories:

Beginning of relationship vs Progress of relationship

2. What are the two abstract poles of meaning between which the text moves?

Two most abstract poles of meaning between which the text moves are

Physical practice vs Online interaction

3. What fundamental transformations of values can be identified in the text?

Fundamental transformation of values identified in the text are:

Great fun vs Started to feel like they were
losing themselves

The text can be analyzed to be composed of a number of parts which are all designed along the above-mentioned abstract poles of meanings and reflect the resultant transformations in the actors. Each part of the text is thematically analyzed at a deeper level by mapping

the relationships of contriety and contradiction of various aspects of the internet along the semiotic square and the resultant transformation:

Rex and Carroll started to date because of their shared interest in technology to their starting to feel that they are losing themselves

Shared interest in technology → Relationship progressed

Discussion on Findings of Deep Level Analysis: Because of the interest in technology, Rex and Carroll came together, started to date, and it was great fun but as the relationship progressed, they used to spend time online and started to feel that they were losing themselves.

4.23.5 Step 5: Thematic Analysis

The screenshots of the recording of user interaction with the AI engine found in annexed CD indicate the parts of the text that are underlined to indicate the syntactic patterns and lexical choices used for gender performativity by the subjects Rex and Carroll.

Initial Themes: Two subjects Rex and Carroll are identified two friends, but the sex or gender of any of the two is not mentioned.

Theme Identified in the Text: The underlying theme of the narrative being initiated is the role digital technologies play in shaping the relationship between Rex and Carroll.

4.24 Discussion on Findings and Analysis

The analysis of the sample texts indicates that the sample texts build narratives along a number of lines:

1. The phrase “emerging digital technologies” given in the user input to initiate text generation does not imply any specific technology, but it is interesting to note that in all texts it is interpreted as the internet which is to be used as a tool for communication. A majority of texts build and (re)shape narratives on the lines of impact of using the internet on their lives and relationships, comparisons between past and present lives, whereas a few build narratives on the identities of the users.

User input given to initiate text generation by the AI engines reflects two subjects given proper names Rex and Carroll. Where Rex has always been considered as a name for male individuals, Carroll is used both for male as well as female. The input neither gives any socio- cultural, spatio- temporal context nor does it assign any biological sex or

gender performativity to the subjects. It was the AI engines to design a specific context in which the subjects Rex and Carroll performed certain roles.

2. In most of the text samples the subject, Carroll, has been assigned a female gender. Her gender performativity has different dimensions; for example, as a female figure, she is presented as a frail being who is subjected to ageing, diseases, distinct appearances, education, and concerned about her image. In terms of her personality traits, she is presented as a subject who sticks to her beliefs, has emotional attachments, many times is found reserved and cautious, an introvert, overwhelmed with the feelings to need to protect herself, selective about whom she trusts, and believing that people might hurt her. The writer traces the roots of her insecurities back to her childhood and brought up and finds her current personality to be a product of socio- cultural constraints. In terms of her relationships, she is presented as caring, predictable, worried, protective, open minded yet emotional and concerned about the people she cares about. The narratives are built to project the image of Carroll as a partner who is supposed to be at home, taking care of her husband and his apartment, and doing household chores such as cooking and changing sheets etc., as expressions of her care and love. She, on one hand, is presented as an individual who uses technology herself, but on the other hand, being a friend or a partner, as is the emotional relationship built in the narrative, is so overprotective that she discourages Rex's use of technology. She appears to be in a pivotal position from where her approval is sought. Also, Carroll is found to be more indulgent in the verbal rather than material processes, as most often she is concerned and is giving advices. In terms of her use of technology, she is presented as a willing user of technology. However, her understanding of the uses to which emerging digital technologies can be put, are restricted to perceiving the internet as a tool of efficient communication with her near ones. There are texts that build the narratives on the transformation of Carroll from being a sceptic critic into becoming an open-minded welcoming user of technology. Carroll is also presented as a female user who remains cautious about whatever she posts online as for her, concerns about her online image and reputation are the biggest constraints on her usage of the emerging digital technologies.

On the other hand, are present several texts in which both Carroll and Rex are used to refer to male subjects. Male subjects, be it Rex or Carroll, in the text samples are

analyzed from several perspectives: firstly, they are presented as cautious yet ready to experiment with latest technologies. Their interactions with technologies range from their using these technologies as communication tools, to keep up with their classmates and colleagues, to keep up with current affairs, to doing research, seeking help in their professional tasks, and even drawing inspirations for putting their status updates, doing any sort of creative work, playing online games, and watching videos. The degree of the male user dependence referred to as Rex or Carroll varies in different sample texts implying that the male users remain unpredictable in their usage of the digital technologies. They may become so immersed in the virtual world that their lives get out of their control, and they start to travel down a dangerous path leading that may ruin their lives to a recognition of risks associated with sharing a lot of information online and the possibility of it being used, to avoid which, they adopt a cautious approach. In almost all sample texts, male users are presented as acknowledging the potentials of the latest technologies and being ready to exploit those potentials. It is also pertinent to mention that in contrast to female users, the males are involved more in thinking and material processes rather than verbal and affective mental processes.

In terms of their relationships with one another as man and woman, Rex, being the male is presented as strong, doing material actions, taking decisions, providing for the family, carefree, and a master of his own will, whereas Carroll is presented as a homemaker, serving as an emotional pivot around whom the household revolves, approving and disapproving certain practices and thoughts, struggling to keep in touch and most often restricted to using digital technologies for online chatting purposes only.

However, there are several samples, especially those generated by the AI engine Hyperwrite ai, Rex and Carroll are not treated as separate individual subjects but are referred to by the pronoun “they” which implies the subjects being together, neither an individual experience nor an individual role performativity.

3. The narrator: the sample texts are written in several ways: where most are written in third person voice, there are samples which are in first person i.e., the writer is a part of the text, plays a direct role in the events that (re)shape the narrative, and has a contribution as an intradiegetic narrator to the turns that the events take.

As a writer, (re)shaping the narrative through a text in third person voice, remains omniscient and displays a hovering presence over the universe of the story world. Where in a number of text samples, the writer displays an omniscient knowledge about the characters, their thoughts, feelings, insecurities, and experiences, there are samples in which the writer is unsure, is itself in the process of learning, raising questions, calling the readers to give their inputs, give personal preferences, and make observations on the presented state of affairs. For example, in sample text # 1, the writer is not sure about the thoughts, feelings, and future actions of Rex, and appears to be learning about Rex, whereas in sample text # 2 the writer finds Rex as a careless user of the emerging digital technologies who makes use of them regardless of the consequences. In sample text # 2, 7, 8, 11, 12, and 14 the writer traces the roots of the present-day approaches of Rex and Carroll to their socio- cultural backdrops and implies human beings as products of their past, background, culture, education, and families. The writer writes about Rex and Carroll as human subjects, assigning them same gender roles in some text samples and different gender roles in other samples, but all samples build narratives that reinforce certain gender performativity by the subjects according to the roles assigned to them, perfectly fitting in with the contexts that is presented, a context in which technologies make an inherent part. The AI writer, in all sample texts, does not propose that technology can become automatic and assume roles that are individualized, autonomous, and unconstrained. The writers propose that technology is available with its potential to benefit its human users, and the impacts that are cast on the lives, relationships, and identities of the users are the products of what and how of the usage of human subjects.

In a number of texts, the writer assumes an intradiegetic role in the (re)shaping of narrative being initiated by the generated texts. The writer presents a spatio- temporal context of which it has an understanding and participates in the (re)shaping of the narrative in a way that it is another subject along with Rex and Carroll. In text sample # 1, the writer talks about its observations and experiences with the subjects Rex and Carroll, shows its confidence in its understanding of the subject Carroll, her relationship with the subject Rex, her insecurities, and protective feelings towards Rex, and Rex's attitude and dependence on Carroll. On the other hand, it is the same writer who while talking about Rex, shows its uncertainties about Rex's next actions and seems to be cautious while describing Rex. in

text sample # 2, and 12, the writer assumes a male role for itself and declares blatantly that it prefers to be a male. Text sample # 6 is interesting, where the writer not only builds a context of presenting a relationship between a fictional online character Rex (who is a male) and a real subject Carroll (a female character) in such a way that the distinction between Rex and Carroll cannot be made. The fictional Rex is an AI character and not only responds to Carroll, but also tries to convince her of his existence. Both the real subject Carroll and the fictional Rex are in an argument that is just on the patterns of any argument between any two real persons. The content of the argument is also on the fiction, reality, and relationships, and the arguments provided by the fictional Rex appear to be so substantial to the real Carroll that she seems to be thinking about them herself. However, the interesting point about the text sample # 6 is that it is being generated by an AI writer which is presenting valid arguments from both points of view i.e from the point of view of a fictional character and that of a real character as well. Similarly, in text sample # 3, the writer assumes the role of a male protagonist and the entire text builds the narrative on his life history starting from his childhood to meeting his future life partner to the married phase of life to the present old age. The writer not only narrates his feelings and thoughts, but also recalls the pleasant times and the constraints that had shaped his actions and attitude at a particular phase of life. In sample text # 4 the writer assumes the role of an interviewer and gives its own opinions and observations on an interaction that it had with a human subject, Carroll, on his use of technology.

4. Understanding of the impacts that use of technologies cast on its users: The text samples generated by the AI engines build narratives on the impact that the use of technology casts on its users. The term “emerging digital technologies” in the user input given to initiate text generation by the AI engines is interpreted as the internet being used as a tool of communication, the texts refer to the impacts cast on its users such as in text sample #1, the writer talks about the insecurities that Carroll has, the cautious approach of Rex, the impact of overindulgence with the internet on youngster, the advice to their parents, whereas in sample text # 2 the writer cautions the readers about the risks associated with the use of technologies. The generated text builds a narrative on the example of Rex and Carroll, who were good friends but overindulgence with the internet proved to be detrimental not only to their relationship, but also to the subject’s personal health, social

and financial stability. Similarly, in text sample # 5, the writer explains how the constant use of virtual media and judging people from their online personas and avatars, has trained its users to look for non- verbal communication in the real physical world. Where almost all text samples present technology as a tool, none of the texts except for sample text # 6 pose it as an individual, independent unit that has the capability to act autonomously and bring about a change. Even in text sample # 6, a narrative is built on a fictional character Rex that is an epitome of artificial intelligence which is capable of acting and arguing with its human counterparts with logic and reasoning.

In some texts such as in text sample # 1, 4, and 8, the writer being an intradiegetic character claims to explore the impacts of technologies on the lives of their users through direct interaction with them, whereas in a few text samples such as text sample # 3 and 6, the writer becomes a participant in the story world of the text and through its actions and sayings plays a direct role in the (re)shaping of the narrative.

5. Exploration of thoroughly human phenomenon: In these text samples the writer talks about phenomenon that are thoroughly human and are products of their socio- cultural contexts and backgrounds such as in text sample # 1 the concepts of being open minded, assumptions and presumptions about friends and partners, thoughts on possibilities of life, judging and learning from previous experiences, consequences of overindulgence with technology, teenage as the sensitive age of life, the processes of drawing inspirations are all thoroughly human concepts. Similarly, in text sample # 2 the role of environment at home and cruciality of parents' responsibility, consequences of overindulgence with technology, concerns for reputation and public opinion, feelings of guilt, lack of control over one's own life, using something as an excuse to distance oneself from another, making friends, trusting someone, lack of trust, and consequences of lack of trust, consequences of isolation, feelings regarding realizations, self-awareness, and awkwardness are all related to human subjectivity. Text samples # 5, 7, 8, 9, 10 build narratives on relationships and the evolution they experience because of the changes in time and contexts, interpretations of verbal and non- verbal communications, comparison between times that are past and present scenarios, feelings of being less understood, less included, sense of community and becoming a part of it, parenting and its challenges in the digital world, struggles to keep the family together, feelings of being disconnected and

alone, sense of closeness, sharing of experiences and conversations, reliance, concepts of success and failure, financial stability etc., are all human concepts and derived out of contexts.

In text samples # 3, 4, 6, and 12 the writer gives the firsthand description of experiences that it had with technology, the benefits that it got, and discusses the feelings and insecurities it had while using technology.

DISCUSSION: For a narrative to qualify as Digi modern, it has to be nonlinear i.e., initiated and (re)shaped by the contributions of more than two agencies, is subjected to the electronic media, has a transient existence, has a haphazard effect, liable to take any direction, remains progressive, and exists in a state of flux. The sample texts generated by the AI in response to human user input qualify to present nonlinear digi- modern narratives for they are being (re)shaped in the electronic medium, are (re)shaped by contributions of more than two agencies i.e., human users and AI engines, remain progressive, do not attain any final shape, can take any direction, and have a transient existence.

The nonlinear narratives (re)shaped by the collaboration of human users with nonhuman agencies are unique because though they derive their nonlinearity from (i) the human input given to initiate the process of text generation by the selected AI engines, and (ii) subsequent human inputs given to steer the AI into further text generation, they are predominantly AI generated products. There are several factors to justify the claim such as the human user input that initiated the AI into generating text was designed specifically to just steer the text generation by the AI engine. It neither provided any socio- cultural context nor any spatio- temporal anchorage for any specific narrative (re)shaping. Similarly, subsequent user inputs were not any language-based text inputs rather were simple clicks given to steer the selected AI engine into generating more text. Besides being nonlinear, the narratives being initiated by human user inputs and (re)shaped by the texts generated by the AI engines have other digi modern traits such as they are haphazard, progressive and continue to move on. These digi modern traits result because of the subsequent human inputs given to the selected AI engine for further text generation. In other words, where human user input given to initiate text generation by the AI engines was highly deliberate i.e., had an aim to steer the AI engine into further text generation, generated text samples are thoroughly the products emerging from the autonomous AI

operations on the data available in the conceptual and phase space. Yet, such generated texts were observed to be (re)shaping narratives along a totalizing trajectory with proper beginnings, progressing along well-defined paths, and at the same time they remained coherent, meaningful, logically connected, and thematically unified.

Nonlinear narrative (re)shaping by the AI generated texts upon human steering have unique features. They, in terms of their ontological nature, are products of AI agents, agents that are nonhuman, have no sentience for coherence and meaningfulness, are unaware of the socio- cultural contexts, and lack any consciousness of the consequences of their actions. Despite lacking all sentience, it is through narrative (re)shaping that AI engines display their capabilities to autonomously interpret and analyze received human inputs and generate coherent and meaningful texts that become logically connected and thematically unified contributions to (re)shape a given narrative. If seen critically, user input, which remained identical in interactions with all selected AI engines, had a number of features: (1) names: Rex and Carroll: where Rex is a name universally used for male individuals, Carroll has been found to be used for both male as well as female individuals, (2) emerging digital technologies: the term itself is plural and implies more than one technologies, (3) relationships of Rex and Carroll, and (4) identity of Rex and Carroll. The input neither has any implied socio- cultural context nor does it place any specific constraint on the interpretation of any of the above features. The generated texts are products of autonomous interpretations of the AI of each of these features and the narratives are also (re)shaped accordingly. For example, in case of the names Rex and Carroll, the selected AI engines used them autonomously to specify subjects who may either belong to the same biological sex or come from different sexes. It is not only the assigning of the names but the fact that the AI, despite lacking all sentience of biological sex and associated gender performativity, is found to be assigning specific gender roles to the subjects, roles that are suitable to their biological sex as is reflected by the names given to them. The themes that emerge on further (re)shaping of the narratives further enhance the assigned gender performativity for example if Rex and Carroll are assigned roles as male and female, then the narrative (re)shaping emerges to focus on the relationship between Rex and Carroll to be that of love and care, boyfriend and girlfriend, and man and wife, whereas in case both are males than in most text samples the relationship existing between them is that of friendship. Same is

the case with the interpretation of the term “emerging digital technologies” in the user input. In all AI generated text samples, “emerging digital technologies” is interpreted as the internet being used as a tool of communication. The AI generated texts build narratives either on how the use of internet has cast a positive influence on the lives of their users by providing them with faster and efficient means of communication to connect with friends and family, or how the lives of users are adversely affected because of their overindulgence, neglect of relationships, concerns for personal privacy, risks of online exploitation, and increased tendencies for selfishness.

Because of their coherence, meaningfulness, logically connected events, and thematic unity, nonlinear narrative (re)shaping by the texts generated from the collaboration between human and an AI engine come to be in equations with those (re)shaped in collaboration of any two human writers. Yet, these narratives attain a special place. Where ordinary digi- modern nonlinear narratives in any medium are human products i.e. they are subjected to human deliberations, subjectivities, socio- cultural constraints, emotional pressures etc., nonlinear narrative (re)shaping by AI generated texts are products of collaboration between human users and an AI agency: an agency which takes far less time in responding to human user input as compared to any human writer, which operates neither under any spatio- temporal, socio- cultural constraints nor is under subjective pressures of any type. The AI generated texts can neither be associated with any historical epoch nor to any specific race or creed or be associated with any literary genre. Yet, the narratives being (re)shaped by the AI generated texts present themes that are thoroughly subjected to human socio- cultural, emotional existence.

Among these samples are narratives which have their uniqueness lying in the fact that they are not only the products of AI generated texts, but in them the AI writer assumes a role of an active subject itself. The AI writer becomes a protagonist, assumes a certain gender, and then appears to take on the suitable specific lens to (re)shape narratives accordingly. On one hand the AI writer appears to have relationships, duties, emotions, feelings, and thoughts, (re)shapes narratives that present themes that reflect the protagonist’s feelings of isolation, pain, sickness, death, the dependence on other human beings for providing help when caught in a problem etc. The AI protagonist is also seen to be making observations, arguing with its human counterparts, drawing comparisons

between past and present times, and giving justifications. And on the other hand, narratives in all such samples are, at the same time, (re)shaped from the perspective of a specific gender i.e., the (re)shaped narratives present themes that remain gender- biased.

Whether the narratives pose a first-person intradiegetic role or a third person description of the events happening to the subjects Rex and Carroll, the fact that the writer in all cases is an AI, an agency that lacks all sentience of any human phenomenon, calls for attention. Where the five-step analysis of the narratives qualify the AI generated texts to be in equation with any narrative being initiated and (re)shaped by texts produced by human writers. Nonlinear narrative (re)shaping by the human AI collaboration becomes a hyperreal phenomenon because not only do they qualify the criteria of being coherent and logical achieved through the wise use of linguistic devices, but also because they subtly convey the underlying meaning through the meta functions being performed by the syntactic patterns used. The AI generated texts are framed from a language that serves to convey the meaning as a sign system based on binaries. In other words, the subtleties of language in conveying meanings through syntactic patterns, linguistic devices, lexical content, as a sign system, which have always been considered as a human phenomenon, are now being shown by a nonhuman agent, the AI engine.

However, AI generated language texts pose a complex scenario: human use of language is subjective, highly individualized, liable to multiple constraints including society, culture, race, caste, creed, and innumerable other factors AI generated language texts defy all such superior human claims over language. Not only are the nonlinear narrative (re)shaping by AI generated language texts hyperreal phenomena, but they also prove that an agency that has neither has any socio- cultural consciousness nor has any sentience of language subtleties is capable to compete_with the human race in its interpretation and use of language. Even though AI is nonhuman, the sample texts generated by the AI prove that AI has come in a position to share the throne of superiority over other species with the human race. While understanding, interpreting, and producing language to initiate and (re)shape narratives has always been considered an exclusivity of the human race only, nonlinear narrative (re)shaping by the AI generated language texts are reflective of the fact that AI engines also possess these capabilities and that too with an efficiency and precision that match that of human users of language.

However, it is not the capabilities to produce coherent and meaningful language, it is the capability to use language as a tool to reflect on phenomena of which the AI engines neither have any sentience nor consciousness. Despite being nonhuman, lacking all emotions, and unaware of socio- cultural or any other constraints, the AI engines not only generated texts but it is through these texts that they (re)shaped narratives. AI generated sample texts presented narratives on emotional themes such as the increasing distances between Rex and Carroll, the comparisons between past and present, the yearning for past, the looking forward to future, the cautious approaches, the concern for personal reputation, the guilty feelings, the dependence on others etc., or themes that become reflections of materialistic real physical world affairs such as changing times, financial stabilities achieved from the use of digital technologies, job securities, introduction of changes in language being used etc. These narratives present the interesting fact that their AI writers neither have any consciousness of what they are writing about nor are they aware of the consequences that such nonlinear narratives would have.

CHAPTER 5

CONCLUSION

Narrative initiation and (re)shaping have always been considered as phenomena exclusive to the human race only. It is subjected to certain social cultural contexts, spatio- temporal situatedness, emotional sentience, and individualized subjectivities. However, in the twenty- first century, this exclusivity seems to have been challenged for now life has become subjected to a co- existence with AI beings. Despite lacking all types of sentience characteristic of the human race, AI has surfaced up as beings that not only have posthuman capabilities which enable them to surpass their human users in a number of ways such as instantaneous retrieval of relevant response from the immense data available, finding efficient and precise solution to problems, and performing seemingly impossible chores, but interactions with open AI systems including virtual influencers, voice based assistants, humanoids, automated chat-bots, storytelling engines, content generators, translation applications, plot generators, script generators, semantic analysis systems, analyzers of emotional arcs, and different summarizing and paraphrasing applications have become norm of the day. Where human users interact and (re)shape narratives subjectively, the open AI applications surprise their users by not only understanding the context in which interaction is taking place, generating comprehensive responses, but at the same time displaying capabilities to

(re)shape the nonlinear narratives meaningfully, logically, and thematically.

This dissertation was taken as an exploratory task to see how the posthuman capabilities of the open AI systems, despite lacking all sentience for human contexts of emotions, intellect, society, and culture, enable them to contribute to human existence. It was discovered that the open AI systems interact and respond back meaningfully with their human users, and also contribute logically and thematically to (re)shape the narratives. It was interesting to find that the AI systems displayed the capabilities to initiate and (re)shape narratives, phenomena typically associated with the human race. In other words, open AI systems were actually found to share the superiority of the human race. I interpret the findings of the research from two perspectives:

1. The text samples analyzed in this research were not mere AI generated text contributions. They were analyzed to qualify as coherent and meaningful narratives that had underlying themes and conveyed meanings. This has grave implications: the human

input that initiated the process of text generation, did not provide any anchorage of any type to the AI system being used. This implies that it was the AI system that independently analyzed, interpreted, and associated meanings to the received human input and generated contributions on its own to further the process of narrative initiation and (re)shaping it. In other words, the AI systems displayed the capabilities to associate meaningful context to the received human input, and accordingly build and (re)shape narratives on it.

Also, despite the fact that the human input remained identical, and the open AI system operated through the GPT processes, the AI responses were never the same. They were found to be unique every time. This implies that the narratives that are being initiated and (re)shaped remain evanescent and transitory. Also, to every human user input, the AI systems were found to have a response, with an implication that the narratives could be (re)shaped in any direction, taken to any outcome, and always being onward and progressive.

Considering narratives to be reflections of life around them and at the same time contributing to life, nonlinear narrative (re)shaping in collaboration with the open AI systems are reflections of the reality that AI has become a contributor to life in the twenty-first century. There are a number of facets of the transformation: (i) Being a product of digitalization, nonlinear narrative (re)shaping in collaboration with AI is reflective of the existence of a hyperreality in which it is difficult to distinguish between reality and simulation of reality. This implies that AI has come in a position to contribute to reality in the same way as human users do to an extent that the distinction between the AI and human users cannot be made, in other words AI contributions have superficially the same significance as that of the contributions made by any human user (ii) since AI is a collaborator, the (re)shaping of nonlinear narratives reflect the reality that both the collaborators i.e. human users as well as the open AI system would inevitably be transformed in the process. It is not only the AI that would be steered by human users to generate text contributions and the text it generates would also be influenced by human user input, it would be the human users as well that would experience transformation induced by a nonhuman agency, an AI agency that lacks sentience of its impact. This again has implications: being products of digitalization, (re)shaping of nonlinear narratives become manifestations of a reality that is transient, progressive yet evanescent. It is a

hyper- reality of which AI generated simulations are an inevitable part and lead to the conclusion that intelligent existence, its interpretation, making meaning out of it, and (re)shaping it no longer remains subjected to human existence only. There can be other nonhuman participants. Such a reality becomes a portrayal of a posthuman assemblage, in which positioning of the human race as deserving the crown of superiority is challenged. Other nonhuman AI participants not only make effective, meaningful contributions, but also through these contributions play a role to transform the entities present in the assemblage.

AI becomes a manifestation of a nonhuman agency which becomes a contributor to the production of a reality that remains “in thrall to its current revision and self-renewal; hostage of its capacity to ever longer, to spread, to add to itself” (Kirby: 2009: 112) and ultimately would produce a culture characterized by openness, onwardness, “dynamism”, remaining “always new”, and with an “existence only in its present elaboration” (Kirby: 2009: 112). Where the resultant culture has traits derived from human subjectivities, it has traits that are introduced by the AI making it pseudo- modern, a culture that is modern because of its evolving and emerging nature, and pseudo because of (i) the existence in hyperreality germinating from the intermingling of the physical world and the virtual world posed by the digital media, and (ii) open AI systems making instantaneous and real contributions to (re)shape narratives. Since AI generated contributions have no real contexts to refer to, are simulacra based, and cannot be distinguished from their sources, AI (re)shaped narratives render pseudo traits to the culture resulting from the nonlinear narratives (re)shaped while interacting with their human users. Being a product of AI human collaboration, the consequent digi modern culture would turn out to be evanescent, temporary, and can neither be called to exist in its entirety nor possess any final form. Kirby, while describing the characteristics of such a culture, identified it to exist “only in its present elaboration” (2009, p. 112), a culture that is dynamic, and always remains “new”. Being surrounded by different forms of AI in a hyperreal cyberspace, human life can no longer be called a product of human subjectivities only. It is now being shared with agencies that are non-human yet have become contributors to life on the planet Earth. Despite the fact that life has always been in flux, has always been evolving, with the inclusion of digitalization and AI making meaningful contributions it has attained another

marked trait of being evanescent and not lasting. In the words of Kirby, it is “producing almost nothing of any lasting or even reproducible cultural value- anything which human beings might look at again and appreciate in fifty and two hundred years’ time” (2006: online).

2. Samples of nonlinear narratives being (re)shaped by AI generated texts are analyzed for their cohesion, meaningfulness, and embedded messages. The analysis qualified the samples to be in equation with any narrative being (re)shaped purely by human beings. However, these narratives are unique for where narrative (re)shaping by human users has a certain context and are products of subjective human contexts, nonlinear narrative (re)shaping by AI lacks all such contextual sentence and understanding. Despite the fact that the human input remained identical in all interactive sessions, provided no specific anchorage, and presented a free field to build and (re)shape narratives, it was AI that analyzed it, interpreted it, assigned meanings, and then prescribed independent specific contexts to the received human user input itself, on which it generated coherent and meaningful texts to further (re)shape the narrative logically and thematically.

Where on one hand, the analysis done in this dissertation makes the AI (re)shaping of nonlinear narratives a hyperreal experience, they highlight a unique aspect i.e., though they are hyperreal and qualify as coherent, meaningful, logically connected, and thematically unified, they are being (re)shaped by a nonhuman AI agent, an agent that lacks all such sentence required for such narrative (re)shaping. The analysis is done through the tools that address the narratives being (re)shaped by human users only, not narratives that are (re)shaped by a nonhuman AI agent, an agency that neither has any emotional sentence nor any contextual understanding, an agency that not only lacks awareness of the interaction in which it is participating but also has no consciousness of the impact that its contributions cast. This poses a number of questions:

1. Where human users interact and (re)shape narratives in a certain context and under specific constraints, how does an AI, despite being nonhuman, understand that human context?
2. Where human choice of lexicals, syntactic patterns, and treatment of language as a sign system is highly subjective, how does the AI derive its subjectivity that fits in a given context of which it has neither awareness nor sentence? This becomes especially critical

considering that AI generates language text from formalization of the data available in the phase space. The analysis of the generated text samples used by the AI for independent narrative (re)shaping indicates that the AI, not only correctly assigned the context to the received human input, it generated text that built and (re)shaped narratives on themes that reflect human individual, social, and cultural existence. Each AI was put to trial for a number of times for the identical human input, and the texts that were generated and the consequent narrative (re)shaping were not only unique every time, they were (re)shaped through the use of linguistic devices and lexical choices that were not only coherent and meaningful, but were logically connected, thematically unified, and most importantly reflected phenomena that are subjected to human life. The question that surfaces up is that where human narrative (re)shaping is subjected to human life, and human authors' choices of lexical content and linguistic devices is highly subjective, how does the AI, considering the fact that it is non-human and lacks all sentience, become able enough to not only identify and understand human subjectivities, and reflect on them, but also generates equally coherent and meaningful texts to further (re)shape narratives.

3. Except for the first human user input given to initiate the process of text generation, all samples present narratives being (re)shaped by the AI only. Where human users (re)shape narratives utilizing their abilities for contextual understanding, emotional sentience, and socio- cultural awareness, AI narrative (re)shaping pose the question of how a nonhuman AI agency can understand the intricacies of relationships, identify emotional fluctuations experienced by the subjects, reflect on the socio- cultural impacts produced at individual and collective level, and present spatio- temporal transitions when it lacks consciousness for all such phenomena.

4. Considering sample narratives (3, 4, 6, 8, 12), the AI chooses male roles for itself, presents itself as a pillar of strength, supports its family, talks about the changes (both physical as well as psychological) experienced in life or builds on themes of love, guilt, loneliness, and even painful experiences of death etc. In one of the samples (text # 6), the AI, despite acknowledging its fictionality, builds a narrative on blurring distinctions between fiction and reality as induced by the digital media. This leads to the question that how an agency that nonhuman is, lacks emotions, has no awareness of gender and its performativity, and is not conscious of the difference between fiction and reality, is able to

relate itself to a specific gender role, advocates hyperreality, is able to relate to human thoughts, feelings, relationships, and insecurities, and build narratives on emotions that are specific to the human race only.

5. Human choice of intradiegetic or extradiegetic voice for narrative (re)shaping is highly subjective, driven by a number of motives, and aims at producing certain impacts on the reader. On the other hand, even though AI has neither such subjectivities to observe nor has any specific aims to cater, AI's choice of a specific mode of narration remains a matter to look into.

Despite the fact that human input in this study is restricted to giving an input to initiate the process of text generation and steering the process of further text generation, nonlinear narrative (re)shaping through the collaboration of human users with the AI engines present AI not as a technology that mimics, copies, or imitates human intelligence at generating language achieved through different algorithmic combinations derived from the available data i.e. generating language as a simulacra of the language data available to it. Instead, it surfaces up as an agency that appears to understand what it is generating, a text that serves to build and (re)shape narratives in just the same way as any human being would do with specific syntactic and semantic motivations.

This dissertation presents nonlinear narrative (re)shaping in collaboration with an AI agency as a manifestation of “merging of the human neurobiological system to artificially intelligent systems” which proves that “the monopoly of meaning- giving is opened to grant equal participation of subjective perspectives of other non- human animate species. Robots and other automata bearing artificial life are welcome as equal social partners in a cyber- physical social system” (Lamola: 2020, p. 5-10). AI in this dissertation comes up as more than a mere technology that has shallow natural language processing capabilities. It appears as an agency which has challenged the crown of human existence i.e., along with language, the abilities to not only understand and interpret contexts and the phenomena associated with it, but also identify with them, relate to them, and share with human beings the essentially human traits of building and (re)shaping narratives, a phenomenon which has underlying themes presented in specific ways to transform their receivers.

The analysis of nonlinear narratives (re)shaped by AI done in this dissertation poses AI as a being whose linguistic competence has achieved the status of hyperreal communicative competence, and leads to the following observations:

- a. Where framing of syntax, analysis of lexical choices, and semiotic interpretations have human context and have referential systems devised by human users, what is the context of AI's use of syntax, choice of certain lexicals, and semiotic representation of a specific phenomenon? Being a posthuman contributory agent, the text samples indicate a contextual understanding possessed by the nonhuman synthetic AI agency, which needs to be studied. AI's interpretation and understanding of the context for specific choice of lexicals and syntax need to be analyzed.
- b. Can the human context of meaning making, syntax, and lexical choices be applied to a text that is being generated by a non- human, synthetic agency which itself lacks the sentience of context? Can the human context of meaning making be applied to AI's meaning making?
- c. Nonlinear narrative (re)shaping done through human-AI collaboration in cyberspace is reflective of the AI beings becoming co- sharers with their human users in constructing reality i.e., reality no longer remains an exclusive human construct, AI has become a contributory part of it. This calls for the reconsideration of the meaning- making of reality defined by socio- cultural constructs such as social identities through gender performativity. Social identities, gender, emotions etc., have always been subjected to human context and been always (re)shaped through human understanding and meaning making. AI becoming a contributory agent to reality raises the question regarding the meaning making of such social constructs. AI neither has sentience nor consciousness of the socio- cultural constructs like social identities as products of gender performativity yet is generating meaningful and coherent contributions to them, and human users not only respond to them but are also transformed. Despite the fact that it is reflective and contributing to human existence, the entire interactive experience of nonlinear narrative (re)shaping by the human- AI collaboration needs to be studied for their meanings and contributions to reality because now one contributory agent is synthetic and lacks all sentience for human context.

The analysis of such nonlinear narrative (re)shaping in this dissertation, on one hand, serve to establish the hyperreality of the experience and, on the other hand, demonstrate the need of sophistication in both the theoretical perspectives as well as existing analytical tools to address the nonhuman quality introduced in the narrative (re)shaping because of the contributions being generated by the synthetic agencies involved in the experience. The available theoretical perspectives that have been used in this dissertation to frame the conceptual framework developed to study the role of AI and the analytical tools employed in this dissertation were basically framed in late twentieth century and were typically meant for narrative (re)shaping by human beings. It was a time when AI was being developed in transhumanist efforts to help the human race in transcending its limitations. It was viewed as a technology that took human cognition as a standard and was programmed to mimic human production of language through several NLP technologies. Present day open AI systems, despite being synthetic, can autonomously process the available data and received human inputs, are capable of generating unconstrained contributions that are coherent, meaningful, logically connected, and thematically unified, and produce hyperreal experiences in which distinctions between human inputs and AI contributions become nonexistent. In fact, the qualities of efficient data processing, immaculate analysis, shrewd critical reasoning, vast memory, self-learning capabilities, morphological freedom, and remaining unaffected by binaries including gender, living/ non-living, nature/ civilization have rendered posthuman qualities to the open AI systems, owing to which new theoretical perspectives and analytical tools need to be devised to study nonlinear narratives being (re)shaped by AI.

Nonlinear narrative (re)shaping done in collaboration with open AI systems pose AI as an agency that is non-human yet is not only capable of understanding, interpreting, relating to all phenomena that mark human life and existence, but also has its own context for generating coherent and meaningful contributions. This highlights the emergence of a new context, a context which is not a sole product of the human perception of looking at identity construction through gender performativity in a given set of socio- spatio-temporal- cultural circumference but has a unique characteristic of being conceived by a posthuman/ human ++ being. AI generated contributions may seem similar to human inputs in terms of their suggestibility, performativity, and functionality but they actually are

different for they are generated by a synthetic posthuman AI. The available theories and analytical tools employed for narrative (re)shaping are framed by keeping in view human experiences and subjectivities; they prove to be insufficient in dealing with the present AI, that has evolved from its transhuman status into a human ++ being. New theoretical perspectives and analytical tools need to be devised to address the unique nature of such nonlinear narrative (re)shaping.

5.1 Contributions of the Research

AI generated texts for nonlinear narrative (re)shaping hold significant social relevance in various aspects of the contemporary society. Their contributions range from information and mass media communication to marketing, entertainment and content creation to translations and innumerable language teaching/ learning scenarios. AI not only assists its users through generating automated responses, moderating content, personalizing recommendations, facilitating efficient and precise communication, it is through its hyperreal creative contributions to scriptwriting, content creation, and collaboration in creative fields like music, poetry, and prose that AI generated contributions present new horizons to explore. Its coherent, meaningful, logically connected, and thematically unified text contributions present a new reality that offers new avenues for creativity that need to be studied because of their nonhuman quality. The posthuman quality of the AI generated language plays a crucial role in breaking down the socio- cultural and various other contextual barriers placed by innumerable dichotomies such as human/ nonhuman, organic/ inorganic, male/ female and play a key role in fostering a new understanding among the masses of the twenty- first century world regardless of their subjective contexts. Being collaborators, AI generated texts play a key role in defining a writers' style, treatment of a theme, and expression of different thoughts, emotions, and themes presented by the narratives evolving and emerging from a work.

Whereas scholars like Chomsky (1928- to date), Klein (1970- to date), and Jameson (1990) believe texts generated by the AI as just products of simple recombination operations performed on linguistic structures present in the data that originally has its roots in the sources contributed by the human users of language, their contemporaries such as Hedges (1956 – to date), Varoufakis 1961- to date), Palast (1952- to date), Peterson, Hawthorne, and Monbiot (1963- to date) find AI (re)shaped narratives as being influential

enough to cast an impact on human individual and collective life because of (i) hyperreal quality, and (ii) being products of autonomous operations of the AI on the available data. Being hyperreal not only do they become difficult to be distinguished from the narratives being (re)shaped by the human users of language, it is their being generated out of the autonomous operations of the AI on the available data that is a point that has drawn the attention of different contemporary scholars. Warrick (1985), Schelde (1993), Fukuyama (2002), Borradori (2003), Habermas (2003), Rubin (2008), Singer (2009), Sloterdijk (2009), Haigh (2011), Sandberg (2014), Anderson (2014), Hawkings (2014), Bostrom (2005/ 2015), Roden (2015), Aguila & Solana (2015), Kass (2017), Wood (2017), Frischmann & Selinger (2018), Tallinn (2018), Zuboff (2019), and Lamola (2020) are among the innumerable critics who have shown concerns regarding chances of the AI's autonomous operations. Where most often they collaborate with their human users in coherent and meaningful (re)shaping of nonlinear narratives, they warn of the autonomous operations yielding contributions that might cause irreparable damages to the human race. Offensive translation of a given language (Eureka!, 2020), and unexpected tweets by AI chat bot Tay (Binkowski, 2016), and detection of creation of a unique language by the Facebook chatbots have been used as substantial arguments to expose the threats likely to be caused by AI operating independently to (re)shape narratives. The ability to autonomously (re)shape narrative has not always been taken as a “testimony to the genius of mechanical invention; it rather becomes a nightmare, a threat to human life” (Emery, 2017, p. 225).

To understand and navigate the social implications of AI generated text calls for (re)newed discussions, theoretical perspectives, methodological regulations, and ethical guidelines. This study has attempted to propose a new theoretical perspective which attempts to challenge human exclusivity over narrative (re)shaping and superiority over other beings because of language understanding, analyses, interpretation, and production. Open AI has been looked at as a being that has the capability to (re)shape nonlinear interactive narratives in equations with human beings. It is studied as an agency that autonomously assumes a subjective role to freely understand, interpret, and analyze nonlinear interactive narratives, and generate unconstrained language text contributions in a context that it has freely assumed itself. Despite the fact that AI lacks human

understanding and sentience of the social, cultural, emotional, and subjective consequences of its contributions, nonetheless, it is studied not only to have assumed a context but also generate suitable contributions to (re)shape it and being a participant in the interactive experience ultimately becoming an agency that freely and autonomously casts its influence on the other agency involved i.e., the human user.

5.2 Limitations of the Research

The study derives its limitations from the following:

5.2.1 Limitations of the AI Engines

Even though multiple number of texts generating AI engines are available in the market, most of them are content generators which prove to be of immense help in generating marketing and social media content specifically. Till the cutoff date for this dissertation i.e., 25th April 2022, only a limited number of texts generating AI engines for fiction writers is available.

Most of the AI engines that are available either serve to summarize and paraphrase or generate texts that provide good beginnings and serve as roots from which narrative threads could be taken to further weave the narrative in the users' choice of direction. In most cases, AI generated texts serve as ideas, and it remains the choice of the user to choose to further build narrative on it or not. In most cases, the AI text generator provide the users with several choices to choose from i.e., the AI generator remains on a constant call for user input, despite its capabilities to autonomously generate texts.

Even though AI generators autonomously generate free, unconstrained, coherent, and meaningful text, they need to be given an input to start text generation i.e., regardless of the AI engines' autonomous processing of the received inputs, the interactive experience for AI's text generation needs to be initiated by a human agency i.e., AI remains a responding agency while interacting with its human users.

Despite subsequent user inputs for further text generation, there always remain a chance that the generated text tends to lose track of the narrative being built and go astray. This also implies AI (re)shaping of nonlinear narratives is essentially a human- AI collaborative venture which is in striking contrast to AI applications being used for (re)shaping CGI and visual narratives.

Though these observations appear to be the limitations of AI generators collaborating with their human users, they also support the thesis that once initiated, AI processing of the received human input remains uncontrollable and can yield any product, either proving to be helpful and beneficial for the human race or turning out as completely unprecedented and unimagined. The unprecedented and unimagined can be a way to apocalypse, an ending that contemporary scholars like Elon Musk, Hawking, and Fukuyama have been warning about, and which has remained beyond the scope in the present study.

The study is limited to text generating AI engines, and personal assistants, humanoids, virtual influencers are not considered despite the fact that they have become an important part of human life in the twenty-first century.

5.2.2 Limitations of User Interaction with AI Engines

AI generators do not provide the users with options to give their feedback. They do provide the users with options to choose from the available genres in which the texts could be generated but just as readers give feedback to human authors on their works, AI engines do not have the capability to receive feedbacks from their readers and suit their expectations while further texts are being generated.

The study does not consider narratives being (re)shaped through user interactions and inputs other than the language inputs, such as inputs given through music, sound effects, physical appearances, illustrations, graphics, etc.

5.2.3 Limitations of the Study

The study does not consider narrative (re)shaping in terms of identity markers such as cultural, religious, linguistic etc. Also, the study does not consider impact of the interaction with the AI engines on users and the witnesses as well.

5.3 Recommendations for Future Research

Study of the coherent, meaningful, logically connected, and thematically unified nonlinear narrative (re)shaping done through human- AI collaboration, despite the above-mentioned limitations, in this dissertation indicates that a nonhuman, synthetic agent has become a contributor to an existence of which it has no sentience. This dissertation calls for the following recommendations for further studies:

Being collaborative products of human users and AI, new evaluation and judgment criteria need be established for the meaning making and aesthetic appeal to address the nonhuman AI agency generating its contributions.

Present study has been done to study the lexical choices and syntactic patterns to study the nonlinear narratives being (re)shaped in collaboration with AI agencies. The aim was to establish the legitimization and meaningfulness of such narrative as displaying attributes associated with human existence. The conclusions can be studied by using other linguistic features such as using metaphors and similies, pragmatic standing, and semantic features.

Where the present study has focused on how the gender roles are assigned to the subjects and exploited in the narrative being (re)shaped by an AI agency which has no sentience of it, future scholars can also look at exploitation of different other social and cultural themes such as construction of cultural identities, exploration of existence of religious bias, and influence of socio- economic placement of subjects in specific contexts.

Since gender performativity is one among innumerable human values reflected by the AI generated texts that had been selected as a function to facilitate the AI for further narrative formation, future scholars are encouraged to explore AI generated texts on patterns of thematic analysis done on any human produced text and study them for the other human values and themes.

For the present study, scholar's personal interactions with the AI engines are considered. A study involving interactions with multiple number of users, their experiences, and the impact being cast on each of them can also be done.

For the present study, a methodological framework adapted from different methodologies to study text of narratives (re)shaped by human authors, was devised to study the nonlinear narratives (re)shaped through human- AI collaboration. Considering the fast pace of the development of technologies, introduction of GPT 4 technology in the market, and ChatGPT, perhaps a methodological framework meant specifically for nonlinear interactive narrative (re)shaping through human-AI collaboration need be devised.

Scope could be broadened to study not only the text generating AI engines but also the AI engines that are capable of (re)shaping narratives through other means such as

(re)shaping visual narratives through semiotics such as CGI, AI generated paintings, and AI generated symphonies. Such AI tools depend on initial human input to initiate their operation and generate full products. Where narrative (re)shaping through text generating AI engines are dependent on human user input from time to time, these AI engines proceed to generate products that are complete entities in themselves.

Considering the prevalence of narrative (re)shaping as an exclusive human phenomenon mentality, a study can be done to observe and analyze user experiences and feelings on finding a nonhuman coming in equations with them and challenging their exclusive superiority.

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