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The unbearable oldness of generative artificial intelligence: Or the re-making of digital narratives in times of ChatGPT

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Abstract
The emerging discourse catalyzed by the opening up of generative artificial intelligence (Gen-AI) applications for everyday usage often presents Gen-AI as radically and disruptively new. I revisit two moments in early conversations in computational history to offer a historicization of Chat GPT: the making of digital narratives through computational methods of storing, sorting and sequencing semantic units and the production of digital narratives through computational architecture of computability and stacks. I offer a framework of critical turns that unpack Gen-AI as a new form of digital narrative practice that challenges the future of meaning and function of narratives in everyday lives.

Keywords
AI futures, ChatGPT, computational cultures, digital narratives, Gen-AI

The newness of generative artificial intelligence (Gen-AI) prompted a recent letter signed by a host of tech luminaries which prophesized an uncontrollable and unimaginable pervasive AI event horizon where it would also be ungovernable. Informed by the position article 'Policymaking in the Pause' (Future of Life Institute, 2023), they called for a pause on Gen-AI development to buy time for imagining and protecting AI-driven futures. This call to de-grow, slow down or pause Gen-AI development amplifies its unprecedented and unknowable nature marked by multiple anxieties that are recorded

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around how it accesses information (Martínez et al., 2023), creates content without attribution (Appel et al., 2023; Deloitte AI Institute, 2023: 2), manipulates information retrieval through hallucinations (Gozalo-Brizuela and Garrido-Merchán, 2023) and automates and performs information processing tasks that were understood to be uniquely human.

Gen-AI workflow positions the human information actor as a data set to be harvested and a prompt-engineer to catalyze the information processing to produce new narratives. While the source of information is human and the intended audience for the processed narrative is human, the functions of cognition, perception, interpretation, subjectivity and discretion are computational. Thus, we see Gen-AI tools perform creative, agential and executive information tasks that mimic human information processing, advanced reasoning, problem-solving and imaginative production. Open AI's (2023) most famous text-based Gen-AI tool ChatGPT is credited for scoring in the top 10% on human tests for university admissions such as the Bar Exam, Graduate Record Examinations (GRE) or Scholastic Assessment Test (SAT), explaining complex riddles (Ramaswamy, 2023) and assisting lawyers in assessing legal scenarios and related tasks (Blair-Stanek et al., 2023; Savelka et al., 2023). The weaponization of Gen-AI to manufacture and spread misinformation with minimal human oversight (United Nations, 2023: 19) and the slow responses to mitigate the risk of misinformation through deepfake productions (Naraharisetty, 2022) have resulted in Gen-AI being used as an effective tool for manipulating electoral processes and eroding trust in social structures (Bond, 2023; Cassauwers, 2019; Robins-Early, 2023).

Gen-AI is seen as producing radically and disruptively new forms of digital narratives that cause increasing anxiety about its applications and governance. To sidestep the risks of buying into the dystopic rhetoric that the problems presented by Gen-AI systems are entirely new and ahistorical, I propose to historicize the emergence of Gen-AI systems (particularly focusing on text-based systems like ChatGPT) through two different discourses in order to understand how Gen-AI is creating new conditions of digital narratives and to make space for intervening and generating new possibilities of digital narratives.

Facts, fidelity and the making of digital narratives

The world of digital narratives is mired in anxiety concerning deep fakes, Gen-AI hallucinations and manipulated information that relies on fabricated evidence. This anxiety is rightfully present as we see the emergence of digital objects and performances that can no longer be accommodated, addressed or analyzed by older tools of narrative analysis. These new digital narratives being produced by a variety of new computational networked authorial roles – influencers (Abidin, 2016), meme makers (Arkenbout et al., 2021), hackers (Coleman, 2015), Internet trolls (Chun, 2016), pig butcher scammers, revenge porn makers (Shah, 2015), cat-fishers (Morris, 2022), conspiracy theorists (Saguira, 2021) and history deniers (Shah, 2022) – challenge how we understand form, format and function of narratives in our midst. However, the idea that the narrative as the basic structure of making, negotiating, fixing, storing and remembering meaning is undergoing a transition with the rise of ubiquitous computing is not new.

In 1979, Jean-Francis Lyotard, in his report on ‘The Postmodern Condition’, wrote that technological transformations introduced by computation were changing the ways in which we understood narratives and discourse. Lyotard argued that the domains of learning and knowledge were undergoing significant transformation through the paradigmatic naturalization of cybernetics. Calling it the computerization of our societies, he proposed that the introduction of computation was ‘changing the way in which learning is acquired, classified, made available and *exploited*’ (Lyotard, 1984 [1979]: 4, emphasis added). This exploitation of information, which involved filtering of that which ‘is not translatable’ (p. 4) into digital systems, the ‘mercantilization of knowledge’ (p. 5) through the ‘communicational transparency’ of information systems and the co-option of knowledge into ‘being incorporated into the programming of the social whole as a simple tool for the optimization of its performance’ (p. 12), was how computational technologies were producing new conditions of knowing. Based on ‘the preemincence of the narrative form in the formulation of traditional knowledge’ (p. 18), he argued that the change in the nature of knowing was destabilizing the centrality of the nature and function of narratives. He concluded that ‘Narratives . . . determine criteria of competence and/or illustrate how they are to be applied’ (p. 23) and that the pragmatics of legitimation of knowledge through narratives – the ‘narrative function’ (p. 28) – was being undermined by the shift from the ‘legitimation through the autonomy of the will’ (p. 36) to the instrumentalization of knowledge where it ‘has no final legitimacy outside of serving the goals envisioned by the practical subject, the autonomous collectivity’ (p. 36).

Lev Manovich (1999) argued that the narrative which was ‘the key form of cultural expression of the modern age’ (p.1) had been supplanted by the database with computation becoming the default mode of information production. He presented the database as a ‘symbolic form of a computer age’ (p. 1) that ‘represents the world as a list of items . . . [that] it refuses to order’ (p. 5). Looking at video games and the new forms of interactive narrative cultural artefacts emerging at the turn of the 20th century, he argued that new media objects create new narrative conditions because they allow for multiple narratives to emerge through the rearrangement of data sequencing in potentially infinite arrays. While many of these sequences might just be arbitrary and the elements might not form a narrative at all (p. 7), he argued, ‘in new media, the database supports a range of cultural forms which range from direct translation . . . to a form whose logic is the most opposite of the logic of the material form itself – a narrative’ (p. 7). In Manovich’s argument, the narrative might be performed through a database, but it would neither be the organizing logic nor the semantic goal of computational media. He believed that the narrative, once the pragmatic, aesthetic and infrastructural force behind our informational systems, was being replaced by the ‘database form intrinsic to modern storage media’ (p. 10).

In his study of text-based narratives, George Landow’s (1997: 3) simple but influential definition of ‘text composed of blocks of text’ (lexia) and ‘the electronic links which connects them’ marked the breaking of the sequential and linear nature of narratives when they encountered digital technologies. Landow was building upon the legacy of Vanavar Bush, who, in his essay ‘As We May Think’, was struggling with information retrieval machines (MEMory Extensions (MeMex)), which can help sort through large-scale data sets. Bush introduced the idea of information trails, where the story is not in the components but in the trails that are composed through navigational systems. Ted Nelson (1965), who gave us the word 'hypertext', proposed the idea of 'zippered lists', which are comprised of an 'evolutionary file structure', made of 'entries, links and lists'. A manipulation of these would break down the intended narrative into multiple 'entries' which could then be linked together so that they did not have to be in close proximity with each other to illustrate their relationship. Two linked elements might occur at very different parts of a sequence – the list – and still their bond could be maintained, thus creating a new mode of writing and reading that we could understand as digital narratives.

These different theorizations of the collapse and reformulation of narratives as influenced by digital technologies present anxieties, not about production and interpretation of narratives through computers but about the possibility of manipulating narratives without the actions being made visible. Lyotard was concerned about the predefined goal as the destination of computerized narratives. Manovich was anxious of how the database became the invisible meaning-making structure behind our simulated digital narratives. Bush and Nelson were warning about the difficulty of making and negotiating meaning when information was no longer linked by proximity but by lists.

These anxieties acknowledge that to be computed is to be manipulated into a system whose logical framework and architecture extend and blur the boundaries between fact and fidelity of a narrative. Fact does not refer to the quantified truth value of a narrative, and fidelity does not refer to political ideologies engendered in the narratives. Fact and fidelity are merely used as measurements that endorse the assertion that how the narrative was made and the balance between all its different components are maintained exactly as intended. In other words, once the narrative is composed, we can factually verify the provenance, source, conditions and assertions of the narrative, and we can be assured that the sequential order and the semantic structure bear fidelity to the approved and finalized version of the narrative that was produced. The narrative might be untruthful, but if we can factually measure that it is untruthful and that what is produced as content is exactly what was written by the source, then that untruthful narrative is still factually sound and has fidelity which vouches for its internal integrity.

Digital computational architectures, however, do not offer the contexts where the fact and fidelity of the narratives can be maintained. Digital narratives are susceptible to and often produced by manipulations that distort the original production and the sequencing of events without making the manipulations apparent. It is when we realize this longue durée of computational information anxiety and how it has leapfrogged across various technological platforms and innovations to finally become so apparently manifested and urgent with the rapid emergence of ChatGPT-like applications. The challenge that ChatGPT presents is the production of digital narratives that can be factual in their error, have no fidelity with an external referent and can yet become the measures of making, determining and verifying meaning.

Computability, stacks and the unmaking of digital narratives

A technologized historical view of ChatGPT might suggest that this phenomenon was already prophesized in the first imaginaries of the computer. In the 1930s, Alan Turing and John Von Neumann, sitting in England and the United States, respectively, were both working independently but in conversation with each other, and both were interested in building stored programme machines (Peláez, 1999). Their mathematical and physical hypotheses led to the production of two very different kinds of computers – respectively, the Automatic Computing Engine (ACE) and the Electronic Discrete Variable Automatic Computer (EDVAC). Both stored programme machines were similar in their two fundamental principles. First was the belief that instructions could be encoded as numbers, and second, that instructions could be stored in a memory with other data. However, they differed in their proposition of memory (Carpenter and Doran, 1977).

For Von Neumann (1954), the stored programme machines were machines of storage, only needing temporary memory of 'transient transfers' (1954: 88) as needed for the duration of the execution of a task. Such a machine would have no history of modifications, and only the original instructions would be saved. He gave these instructions a 'non-overridable' tag. Thus, the original information or instructions were immutable, and hence could be the essential truth of this programme, where any amount of querying, computation, modification or deployment would not change it. It becomes a measure against which all future executions could be compared to endorse the intended and verified first meaning.

Turing (1935) approached the world of instructions differently. He treated instructions as numbers, and thus saw them as non-sequential units. He wrote:

> We wish to be able to arrange that the sequence of orders can divide at various points, continuing in different ways according to the outcome of the calculations to date . . . these requirements can be met by having the instructions on a form of erasable memory, such as the delay lines (p. 11).

Turing's computable machine was computed by using a set of instructions which could be 'remembered' as discrete packets and recalled from 'memory'. Thus, a sequence of actions could be automatically triggered by having the relay of actions remembered and automatically performed rather than by coding the actions each time. Turing's computable machines thought of instructions as the basic components of operations. For any computational operation, instructions could be packaged into sub-routines. A stack of sub-routines formed a programme. A series of programmes created a computable machine. In a 1947 lecture, Turing described the stack as 'probably the most important idea involved in instruction tables' because computation normally invites repetitive use of the same basic processes in different operations, and the stack allows for the processes to be programmed just once, stored in a certain location and then simply called upon when required.

Turing's Universal Machine does not have an internal purpose or function. It is the infrastructure that simulates the instructions in the programme which describe its purpose. Thus, the machine in itself is an abstraction, which is brought into material performance by the use of multiple programmes (made of many sub-routines), which work in non-sequential layers. The machine is a stack of such programmes, and it manages the retrieval and storage of these programmes, calling them up when needed to perform a set of sub-routines to perform the function.

He called these tasks BURYING and UNBURYING of information, which keep the computation machine efficient and constantly modifiable. In Turing's architecture, computing was presented as the logical manipulation of symbols. Symbols erased the difference between data and instructions and made it possible to modify instructions just as we can modify data stored in erasable memory. Turing (1935) wrote:

> This gives the machine the possibility of constructing its own orders i.e. there is always the possibility of taking particular minor cycle out of storage and treating it as an order to be carried out. This can be very powerful. Besides this we need to be able to take the instruction in an order different from their natural order if we were to have the flexibility we desire (p. 35).

In creating this new theory of computability, Turing thus proposed not just a machine that computes but a machine that is computable. At the heart of the computable machine was the principle of interpolation where, faced with the calculation of a great number for different functions, we could use the same instruction table for reference. According to logical principles, this means that we have to only think once about how anything has to be done, and once we have found the way, we can forget how it is done. Each time we want to make a calculation, we only have to remember the memory position of the last successful calculation, make the reference to that position in the instruction table and trigger a sequence of events which will automatically execute that programme.

This model of computability is marked by three characteristics: The machine is computable, all information and instructions are symbols which can be manipulated and re-sequenced to form the purpose of computation and computation is a stack which relies on once-solved equations as sacrosanct and unquestionable truths. It is this model that can reach its full potential in the application of Gen-AI tools like ChatGPT.

With Gen-AI tools, for the first time, the tool is not just a tool for computation, but it is computable. Hence, when we look at a ChatGPT application, it seems as if it becomes the prompt we give it. Its computability means that setting up limits to it does not really work. As teams that used the Do Anything Now (DAN) prompt on ChatGPT found out, putting it in the DAN Mode allowed ChatGPT to override the restrictions and safety nets that OpenAI had established and started unleashing the full potential of the tool beyond what was regulated (Eliacik, 2023). Because Gen-AI works on large language models and aggregates and synthesizes the entire corpus to compute all possibilities at all times, the computability of Gen-AI has potential harms coded into it. An ordinary prompt might prevent ChatGPT from revealing harmful expressions, but these expressions are nevertheless computed and stored, merely not revealed to the surface-level user. However, clever prompt engineering can not only reveal but also amplify these results using the tool, even if regulatory limitations are set against their production.

ChatGPT, like other Gen-AI forms, is in fact an instance of semantic sequencing through a narrow AI. Despite its narrative conversational performance, it is critical to highlight that ChatGPT is in no way a sapient technology form. To all its expressions, there is no meaning. It is merely a manipulation and re-sequencing of multiple utterances based on a probability modelling that predicts the next best option. Thus, ChatGPT becomes omniscient. There is no possibility of it expressing a lack of knowledge. When faced with emptiness or blankness, it merely re-sequences information based on the next best probable option. This causes ChatGPT to insert errors, hallucinate and produce new narratives that have the assurance of an answer rather than the uncertainty of a probability-based guess. When the correct answer is not available, ChatGPT merely re-sequences an answer from somewhere else, often reproducing and amplifying biases that are embedded in those original utterances.

The end result of these hypertext and computable processes is that ChatGPT and other such Gen-AI systems produce digital narratives as stacks. Information in these narratives has neither a formal nor a causal relationship with all the other components in that narrative. ChatGPT can produce gibberish as verified information, as long as it is grammatically correct. It can introduce elements taken from two disparate and non-related databases based on abstract criteria that establish equivalence between them and thus produce 'new' meanings which immediately take on the mantle of truth because they are paradigmatically verified and correspond to a probability index that verified their validity in the utterance but not the semantic veracity of the meaning.

Hallucinations, simulation and the re-making of digital narratives

I have tried to offer two historical accounts of narrative–computational relationships in order to both historicize and reframe our understanding and analysis of the challenges that Gen-AI systems such as ChatGPT are presenting. One examines the ways in which the very nature of the narrative is changed because of the emergence of computational technologies that produce new forms of storing, sorting and sequencing semantic units. The other explores the ways in which computational architecture introduces new modes of abstracting, manipulating and re-sequencing digital components to naturalize narrative practices no longer confined by older checkpoints of meaning making. These two accounts are not meant to be exhaustive or definitive ways of understanding the new questions that emerge in the face of Gen-AI-authored narratives, but they open up a way of refusing the breathless rhetoric of newness and unexpectedness that often surrounds the manifestation of these narratives. By addressing the computational elements of making and unmaking digital narratives, I hope to offer the new digital narratives produced by Gen-AI as an exercise of re-making.

This re-making is marked by three critical turns that the historical accounts offer. First, we recognize that Gen-AI-produced narratives cannot be treated as merely format or technology translation and that they mark an ontological rupture in the very nature of what constitutes a narrative and how we identify the elements therein. Second, we emphasize that the digital technologies involved in this re-making are no longer an extension of older forms of narrative making because the principles that held traditional narratives together are being rewritten through computability of meaning. Third, we accept that the new principles of probability and verification overwrite the older relationships of causality and veracity, thus recreating the measures of fact, integrity, fidelity, provenance and interpretability. With these three critical turns, we are definitely faced with the challenge of creating both new definitions of what digital narratives are and new cultural and linguistic models to understand and regulate meanings that can now simultaneously be equal parts real, simulated, experienced, hallucinated, possible and probable, thus challenging our ideas of the meaning and function of narratives in our everyday lives.

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