GPT-OA: Generative Pretrained Treatise—On Architecture

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Technological advancements throughout the industrial era have created more efficient, more economical, and safer machines to aid — and often replace — human operations. Each industrial advancement radically changes social, political, economic, environmental, and even linguistic conditions. Each technological turn has transformed communication between physical and intellectual entities shared by humans. Recent advancements in technological language models have made artificially intelligent machines, specifically Generative Pretrained Transformers (GPT), a potential active participant in the creative process. What does it mean to transfer creative responsibility to artificial intelligence? Is GPT the death of the author or the invention of a new author? This project explores language in machine learning and the role of the author/architect within the creative endeavor of architectural discourse.

GPTs are artificially intelligent text generating machines that possess the capacity to influence language patterns, create new hybrid languages, and as a result influence human creativity and hermeneutics. OpenAI GPT-2 is pre-trained on a dataset composed of 8 million common web pages.¹ The use of a variety of web pages implies a certain degree of diversity, theoretically capturing a wide range of formal and informal social, cultural and economic language samples. However, these models are authored by humans, who are responsible for selecting sources for the training data, they are therefore bound to harbor a degree of implicit bias. This is surely to be anticipated when the datasets include web based sources known to contain the best and worst of human language sentiments. While the GPT-2 model is competent at predicting the next words in a pattern of general language, when engaging in a specific discourse that may not be well represented in the training, another level of ‘fine tuning’ is required.² Seeking an explicitly architectural discourse, we have fine-tuned a model on classical architectural treatises from Alberti, Vitruvius and Palladio to set a deeply canonical architectural context, and diversified that field with text depicting accounts of psychedelic experiences to invoke a contemporary, extra-ordinary tone within our processing logic.

Currently, the public may access these open-source models via web-based interfaces such as GitHub³ or Google Colaboratory⁴ both allowing for real-time collaboration, editing and shared development of software. Creativity is neuroscientifically accepted as either a combination of existing thoughts, the exploration of ideas beyond what is existing or assuming that existing ideas are wrong and transforming reality accordingly. Traditionally assumed to reside within the human brain, creativity may now belong to a wider network of ‘ideas’ to be combined, explored or transformed via computationally simulated neural networks.

A number of parameters are established at the outset of the text generation process, selecting the ‘length’ of the output (number of words), the ‘temperature’ (which establishes how close the output adheres to a ‘normal’ response), the number of ‘samples’ and ‘batches’ of output generated, as well as the ‘prefix’ (which we are referring to here as the ‘human-input’).

The theoretical treatise, De Architectura by Vitruvius, stated that architecture requires the “interaction of practice and reason...a larger body of knowledge inevitably linked to the social, political, economic, and environmental context of its making.”⁵ In this Virtuvian spirit, our project updates the architectural treatise for the Fourth Industrial Revolution by operating as a collaboration between human and machine. Similar to literary works such as Pharmako-AI⁶ and 1 the Road⁷ which employ GPT models to generate contemplative and reflexive texts, we have prompted the historic treatises in a conversation with a broad range of contemporary architectural thinkers, peering into the space between a body of canonical knowledge and a contemporary context of thinking that is tied to contemporary social, political and economic and environmental issues.

Creativity is no longer an act of anthropocentric genius originating in the privacy of the human brain. Natural language models rely on a collective language, yet blur the line between subject and object, the one and the many, the conscious and the unconscious. The role of the author is blurred with that of the editor. The human-author is aware that the machine-author does not possess conscious construction of narratives, the ability to discern truth from false, or have accurate world-modeling potential. It may be that precise intersection where the true
I grew up in a country where the architecture was designed to oppress one group whilst enabling the other to thrive. - Wandile Mthiyane

Output:
I grew up in a country where the architecture was designed to oppress one group whilst enabling the other to thrive. The mountains were scenery and not of any great deal; rather, they stood to my training as great scenery props. When I looked down at the floor of the faces I could see nothing, shape or form, but only light and color. That the books were chairs and not shelves I could see but clay in front and none at back; neither the rack nor the table, but the absence of any overprinted back of any chair. The texture of the chair and the appalling lack of any decently done muscle art help me to my English level; the only decent muscle art I know of is Movements and not Words. But then, maybe my humble student could show me.

A woman in a Early Christian Church bodice and some sketches of some Mass. Three months after this story was published I received an order for a work in the county mail. The mail was very heavy and, so to expect, the ordering edition of The Dresden Encyclopedia of Late Antiquity was rushed.

I grew up in a country where the architecture was designed to oppress one group whilst enabling the other to thrive. The children of the land taught us the ropes by which school was designed, the mescaline taker, by means of whom to claim credit for your intellectual effort is like to be one with an ascending mist in the clouds. You can't be black and white because you didn't teach me the ropes, you can't be straight because you didn't know how to read or write, or, worse, because you couldn't be gay because of the misconceptions about homosexuality that women and gay men have about each other. But I, who am obviously a poor artist, can't be bothered with anything that isn't deeply negative. I paint love, light, sound, color, and texture in extremely liquid shades of pink, merlot, and purple. (There I showed you, essentially, that the basis of bread is a plant that grows inside a sachet of flames.) And, boy, how often do you see Rose painting draperies in the background: ghostly apparitions of I grew up in a country where the architecture was designed to oppress one group whilst enabling the other to thrive. The children of screen and

Figure 1. GPT-OA, Page 1 of 80.
potential lies, in the dissolution of the authority figure through the diversification and proliferation of authorship.

The examples included demonstrate how the tool surpasses mere utility and enters into an act of creativity, engaging in an intersubjective discourse between human, technology, and language. The ‘redacted’ text-images selected for this submission exhibits the human-author input (in bold font), the machine-author output (the body of text edited by the human-editor), and the human-editor filtration (the redacted text). The input parameters, represented by the coding script at the beginning, allows the human-author to determine the processing characteristics of the artificial-author. In addition, each output (the body of text) is a unique result of a “prefix” (the human-author input) that prompts the machine-author to write. The few images selected are a small sample of the hundreds of pages generated for this exploration, a collaboration between human and machine creativity that serves as a provocation to the discipline to consider the potentials of engaging AI as a computational collaborator, capable of unexpected and provocative synthetic opportunities.

In the months since abstract submission for this project, GPT-3 has been released to the general public, promising exponentially ‘better’, more ‘natural’ language generation, it’s human-likeness as a standard of success driven by industrial marketability. Here, our goal is not to replicate ‘natural’ or ‘typical’ human responses. Instead, we propose that the potential for creativity resides in the extension of the latent space of misinterpretation, misappropriation and the unpredictability of the less sophisticated GPT-2 models. To that end, this project is being further developed by using open source algorithms to generate images prompted by the GPT-2 text output generated as a creative collaboration between human and machine, further blurring the boundaries of language, image, human, machine, author and editor (Figures 9 and 10).

Speculation on the ‘use’ of this technology is in its infancy. In fact, the prospective exploration presented here has unearthed more questions than conclusions about the role of machine-human-authorship. However, one conclusion is clear, a collaborative dialogue between machines and humans presents immense potential for an expanded creative process that moves beyond simple language and influences our conscious understanding of the world in which we exist. The excerpts exhibited here show the transcendental qualities of language unbound by indoctrinated learning whose stories described real, yet surreal, spatial and relational environments. With the presentation of this project, we intend for the narrative process to be an invitation to explore the possible boundaries between author/editor, human/machine, text/image, without prematurely prescribing a finite ‘usefulness’. As we approach the precipice of a collective knowledge whose future will be inevitably integrated by machine-human interactions, this exploration is not a means-to-an-end but a means-to-speculate a future collective creativity.

ENDNOTES
We present this rhetorical question as an introduction to contextualize the urgency of the contemporary condition to recognize the ongoing crisis palpable through intersectional failures across geopolitical social constructs, particularly within the architectural realm. - Matri-Archi

The quality of life in urban centers is determined by the principle of who can afford the resources and privileges, thus maintaining the social inequality that we have today. People in lower-middle-class families live with their parents in the high-rises enclaves of high-end apartments. And it is not just these families in the upper echelons of the food chain that are at the extreme end of the social spectrum. Today we see families with modest means of subsistence all across the Western hemisphere.

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themselves in terms of triangles, cones, or bulls. I have no quarrel with please. For aesthetic purposes, of course, I give my name and address. But to find a place in a church or a synod or any other body of religious or

existence of the universe is evidence that there is more to be done perspectivally independent of one another. We would be able, from behind,

absence of nature meant that all that remained of us would be

perspectively independent of one another. We would be able, from behind,

always fascinated by the idea that emptiness is never empty at all, if you

there is something going, something to be done, something to look up free, to get lost, to get lost is something that is true and really say, for if you started out as a painter and went to universities and philosophy, you would never be able to find a place in a church or a synod or any other body of religious or historical order. You would be either helpless or in love with your station. You would never be able to define yourself. You would be something of a blank space, of a flat landscape, of an undulating pattern

the fountainhead of a rainy spring, in a small valley several hundred

And if we think for the sake of safety, the highest, for example, is not predisposed to produce an end to suffering, but to bring about more than a little suffering about the way in which we

in our own day, we are like brothers to one another. Highway 71 is still the same as the road where we were brothers. The guide confirms the

for all its mystical pretensions, is nothing if not intolerant of

surprise me to learn that people in any profession or station of

Because of the laws of reciprocity between sun and star, both

rationality, harmonious proportions, and appropriate scale. But what if

the law of diminishing and cosynchronicity. But because of the

beings imaginable. Civilizations look different from the earth. But in

must share the law of diminishing and cosynchronicity. Not because of

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Figure 9. A Jewel Enclosed Universe Of Neurons And Fibers.

Figure 10. The Graves Overlook The Landscape And Have The Same Shape.