ChatGPT Blog – Spring 2023

By Bryan Giemza

It might be said that our very thoughts in a world of algorithm-driven and AI mediated digital information (and the disinfosphere, as I call it) truly aren't our own, but rather, a sort of instance of influenced assemblage, which is perhaps the very nature of perception anyway. In such a world, answers are sometimes easier to come by than good questions.

Recently Owen Kichizo Terry, an undergraduate student at Columbia University, wrote a piece for the Chronicle of Higher Education with the provocative titled, "I'm a Student. You Have No Idea How Much We Using ChatGPT." "There's a remarkable disconnect between how professors and administrators think students use generative AI on written work and how we actually use it," Terry writes, asserting that digital fingerprints aren't left behind. Rather, the process is one of indirection, as students in the know deploy a nuanced series of prompts "to have AI walk you through the writing process step by step." His example assignment, a six-page essay based on a close reading of the Iliad (whither the 20-pagers of my undergrad days?) is an interesting one, showing how savvy users can avoid formulaic results and get ChatGPT to do the hardest part: produce a sophisticated thesis, and scaffolding with evidence. His conclusion is that "writing is no longer much of an exercise in thinking."

Perhaps, but I wondered whether he was in a good position to assess his own learning, especially when it seems plain that there was a significant thought exercise unfolding. It just happened to involve prompt engineering, which, we are told, can be a profitable area of endeavor with the rise of AI, and one that distinguishes advanced users who are capable of harnessing the technology's higher potential from more naïve users, whose results are likely to resemble telltale ChatGPT "on the one hand, and on the other" responses (remember Truman's call for a one-handed economist?). The process he describes is analogous to a student who hypnotizes a professor

and can then ask questions at will with a view to cultivating a prime thesis statement—in its way, not so different perhaps to models of dissertation development when they work.

When I taught composition, I could achieve similar results through one-on-one coaching, albeit in a more Socratic mode of questioning, and far more painstakingly. Do students know how remarkable it is to have Prof. Chat serving in their thrall? It seems likely that thesis thinking will be supplanted by prompt engineering—but isn't that what thesis thinking is, in a way? The best students know a thing or two about getting good answers by mirroring the behaviors of their best teachers, who know that teaching is about asking good questions. Without condescension to Terry, who indeed presents a sophisticated user case, it is well to leave space for not knowing what one doesn't know.

In graduate school I experienced, in real time, the transition from microfilm reading as a means to search nineteenth-century newspapers (the stock in trade of my research) to indexed, digitized databases which rendered the rest of the iceberg holistically visible in a new way. What mattered, suddenly, was knowing how to search those databases effectively. Boolean searches, an understanding of metadata, and occasionally a bit of coding offered an ordinary scholar an aura of legerdemain, but those who used this bag of tricks understood that they were not terribly sophisticated (and neither is stepping up one's prompt game in the current AI landscape, especially with a bit of programmer's logic and understanding of parameters). Since the turn of the twenty-first century, many of the most celebrated discoveries in my field of literature essentially came about from well-honed prompt engineering combined with access to large data sets. For example, text mining made it possible to pattern and to ferret out lost texts, needles previously invisible in the analog haystacks.

Soon AI will accomplish this work on a previously unthinkable scale, and the accolades will go to those scholars and students who have the contextual knowledge and imagination to engineer the prompts of discovery, the fuel for these new engines of discovery. It stands to reason that we should hope to train our students, and ourselves, in this regard, and

to see this new toolset as another leap on the technological treadmill, and yet a smallish step to take within the long history of academic adaptation.

This week Forbes magazine reported that "Google Is About To Turn The Online Publishing Industry Upside Down," citing the power of natural language queries that allow generative AI to answer higher level questions. Like the teaser title of the Chronicle piece, the claim is overstated, but merits consideration. The example search that Google rolled out—fittingly targeted to the deep-pocketed nuclear family leisure class with 2.4 children—was this: "what's better for a family with kids under 3 and dog, bryce canyon or arches?" The response was nuanced and seemingly well researched.

What does this have to do with Terry's example? Well, this is the search equivalent of the Iliad six-pager, and much depends on prompt engineering, followed by an interrogation of sources. As in so many endeavors, human intelligence might be superior when it can be had (I would ask a friend who has hiked both parks, ideally). Your mileage may vary depending on the framing and the quality of information that Google curates, along with what its sponsors hope to sell, and yet the results are tractable and revealing in a way that simple searches of yore were not.

But there's another intriguing subtext here. The new search engine acts as a form of redirection to the Google content panopticon, and, the writer notes, "Some people might even consider this a form of plagiarism"—the selfsame fear that runs so strong in academic circles about paper generation. (Google does cite its sources, but of course that's not the same as compensating them.)

What I notice is that the intellectual work here is, as it has been for some time in the digital sphere and indeed in the analog world that preceded it, that of assemblage. The best results go to the best askers of questions, and the synthetic intelligence that replies without fear or favor—and with the best, cleanest data. The student who uses Chat GPT to conduct a self-taught paper tutorial partakes of a sophisticated sort of assemblage, too. I am more concerned about access, student engagement, and research as a

creative process than about plagiarism, which is becoming an increasingly vaporous concept from within the digital infosphere. Again, I've seen academic humanities careers built on a creative openness to courting failure using fairly rudimentary digital tools, a reminder that sandboxes aren't just for computer scientists and engineers. Play is a fine way into the world of digital assemblage, among other things.

My brief lately has been in the darker zones of digital disinformation and AI's part in perpetuating divisive communications. These problems would not be nearly so nefarious if our collective epistemic health were not so poor. Scholars following the Boyer doctrine have for decades been reciting creeds around the "co-creation of knowledge," as between students and teachers, but what happens when that article of faith is tested by an AI teacher?

I think we had ought to get used to seeing our interactions with artificial intelligence as one of synthetic assemblage that might yet accord to better epistemic health and the critical consumption of information. To do that, we will need to go from a posture of fear and suspicion, not to mention presumed expertise, to a position of radical humility accepting that in teaching and in learning, asking the right questions is often the most important part of the process. For example, the intuition that DNA codes the patterns of life was a hollow speculation until the right experiments and the right questions—sometimes skeptical of received wisdom—revealed it. Experiment design is a way to ask the right questions, and querying AI often frames an experiment, in my experience, of finding more exacting questions and parameters. This is how algorithms are scripted and trained to render what was formerly invisible into meaningful discovery—as an adjunct to the best prompt engineering driven by the right questions.

Our business, then, should be to teach students and ourselves to ask them of AI, and to know its value based on what obtains, including the revelation of what we do not know, and do not know to ask. Should humanity endure this period of consecutive and escalating crises, including the climate crisis, I believe that it is not just possible but probable that the best users of AI will eventually use it to transcend the limits of what we thought we might

ask and indeed perceive of the universe, with the humbling recognition that we function as simple sensoriums within a garden of unimaginable mystery.

If AI enables us to reimagine the scope of what can be known, will the credit go the questioners, or to the crafters of the technology, the data used—all of the above? The answer might not be as important as a willingness to play with the technology in the first place, and to ask better questions of it and ourselves.

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