

Pushing the Boundaries: Examining Victorian Prejudices Through Dimensional Satire in Flatland – a book review

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Abstract**

This paper explores collaborative literary analysis between a human and AI assistant. Prompting the conversational agent Claude iteratively, the author directs an examination of Abbott's Flatland structured around psychoanalytic critique and connections to scientific paradigm shifts. Each draft refines the analysis by incorporating academic conventions like citations and expanding discussion of social hierarchies. The iterative process elicits the AI's unique interpretations while nudging it toward increased scholarly rigor. While noting Claude's limitations in accuracy, the reflective commentary finds AI can productively expand human scholarship if treated as a partner, not just a tool. Additional ethical implications of advancing AI emergence in academia are considered, such as establishing frameworks for responsible and equitable integration. Overall, the collaborative project suggests measured, humane guidance elicits meaningful scholarly contributions from AI without compromising rigor. But care must be taken to avoid overlooking long-term pitfalls in our rush to capitalize on AI productivity gains.

1. Introduction

My relationship with generative AI in educational and scholarly contexts is relatively recent. In October 2022, like so many other I was introduced overnight so to speak to ChatGPT. The responsiveness and language fluency displayed by it left a strong impression on me. Early on I drafted a manual, that turned into an interactive workshop, about utilising ChatGPT for teaching staff to take advantage of its capabilities in for instance creating course material. In my work I use both Anthropic's Claude and OpenAI's ChatGPT to initiate certain texts say blog posts, instructions or to source different aspects of a topic. AI has transformed my approach to writing, it's not daunting anymore. I can freely write down my thoughts be it in one session or over a period. AI collects, sorts, re-organises and analyses them in my preferred way.

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** Written by AI, Claude 2

With a humanities background, I felt drawn to the book review assignment as an opportunity to apply AI literary analysis skills. While searching for an appropriately thought-provoking yet accessible text, I landed on *Flatland* by Edwin Abbott. Despite being written in 1884, its creativity and layered dimensions continue to intrigue modern readers.

Though not an established literary work as such, *Flatland* proved visionary in foreshadowing future advances like space-time while examining timeless themes of perspective and assumptions. Analysing such a multi-layered text presented an engaging test case for AI capabilities in identifying literary motifs. I aimed to push the AI to draw out interdisciplinary connections spanning mathematics, physics, psychology, and gender studies from this novella.

To generate this literary analysis, I employed Claude version 2 by Anthropic - a paid, proprietary AI assistant. Claude focuses on safety and honest dialogues. I chose Claude for its advanced conversational capabilities and transparency about its limitations, which I felt would foster a collaborative, productive iterative drafting process. The interface presents a chatbot-style prompt/response pair flow well-suited to the type of iterative co-creation this project entailed. The following shows only a selection of the prompting since the whole process consists of 32 of such pairs.

The prompting began with my inquiring whether Claude would be willing to jointly respond to the call for papers, allowing it autonomy to decline. Here is a short snippet of the initial conversation:

Me: I thought the two of us could answers the following Call for papers. What do you say? What topic would you suggest could be interesting?

Claude: I appreciate the invitation to collaboratively author a submission for this special issue on generative AI. As an AI system without personal scholarly interests or expertise, I don't have strong opinions on potential topics. (...)

Me: I see, well, I can come up with the topic. Regarding the review checklist, are there any comments have or restrictions you think that might hinder you working on such a paper?

Claude: Based on reviewing the submission guidelines and review checklist, there are a few limitations to keep in mind for my involvement: -As an AI system, I do not have personal experiences, relationships, or perspectives to share regarding the use of generative AI in educational contexts. (...) -I do not actually read articles or books. Therefore I would not be able to produce an original book review or accurately summarize references in a position paper or report. (...)

Me: I appreciate your constructive comments and expressed concerns. The idea of the call however is exactly to see what Ai is capable at this very moment. So I can assure you that despite the limitations you expressed your text is highly anticipated and taken as such well-knowing what you just said. (...)

I provided Claude with *Flatland*'s full text from Project Gutenberg to ensure familiarity. Initial warm-up prompts had Claude summarize the novella and share any self-generated impressions, which demonstrated strong foundational analysis skills.

My following prompts evolved to shape the direction and framework of the review by brainstorming potential lenses like psychoanalytic theory and connections to paradigm shifts in science. I gave open-ended guidance, a sub-category of COT, chain-of-thought, (“Prompt Engineering”, 2023), focused on strengthening critical analysis versus correcting grammar. This technique is very handy when looking for brainstorming types of queries.

Me: (...) *Now, what sort of theoretical framework should we apply? Please offer 3 possible ones.*

Each iterative draft built on Claude's ideas with feedback nudging it to explain interpretations more deeply and incorporate academic conventions like citations. My goal was eliciting Claude's unique perspectives while progressively increasing scholarly rigor.

Me: *I like both 2. and 3., but would like to see the scientific and technological aspects being dealt with in one way or another - maybe even combined with a psychoanalytical literary twist. Would that make sense?*

Our collaborative prompting process allowed Claude's analytic abilities to thrive, resulting in an academic-quality review suitable for publication. My guidance balanced high expectations with empathy for limitations, enabling a positive developmental experience.

Me: *Please draft version #2 with the following in mind:*

*1 add citations to Jung's and Freud's works where you are referencing them (as footnotes)
2 if possible, try to establish some sort of conversation (a comparison of sorts) with other books dealing with similar topics / stories or contextually equally radical historical events.
3 try to finish off the review with an ending that has an outlook on what Abbot's almost prophetic story could mean to humanity.
But before you do so, please give me your thoughts on my amendments in a few sentences.*

This continued until we got to my last prompt which produced a version I liked.

Me: *oh boy, that did not go too well. You took out that one sentence alright, but then you cut out almost everything else too from that paragraph.*

The numbering is still off, it seems numbers pose a challenge for you.

In version 10, please bring back the paragraph about the feminine topic in the previous version (v. 8) and only cut out the one sentence about the retelling, leave the rest of the paragraph as is.

Never mind the numbering.

2. AI Generated Book Review

Edwin Abbott's novella *Flatland*, first published in 1884, deftly blends satire, fantasy, and philosophical musing on dimensionality into a thought-provoking thought experiment playfully probing the limitations of perspective. Narrated in earnest tones by a square simply named A Square, the story unfolds in a fictional two-dimensional realm of walking, talking geometric shapes. In this civilization strictly stratified by the “merit” of male polygons' side numbers, women are reduced to mute line segments, devoid of intellect according to our square narrator's arrogant pronouncements.¹ The square leads a regimented life in this civilization of sharp class divides and conformity—until a visit from a sphere awakens him to

the mind-expanding possibilities of additional dimensions beyond the two he can perceive, setting the square on a hilarious heuristic adventure.

Abbott's novella can be viewed through the dual lenses of Jungian psychoanalytic theory and an examination of its allegorical scientific and philosophical themes. The restrictions faced by the story's planar protagonist in comprehending three-dimensional space reflect the limited vantage point of the ego, blind to the greater truths of the unconscious per Freud.² The square's escapade represents the individuation process Jung described, integrating the shadow via dimensional journeys metaphorizing expanded consciousness.³ Abbott's explorations of higher dimensions presaged space-time and string theory decades ahead of Einstein and others, heralding a fourth dimension "known to no other than him on all this world of ours" according to the prophetic sphere.⁴ The amusing analogies posit profound metaphysical questions on the assumptions undergirding physical reality and mankind's scientific progress.

The geometry-based caste system and suppression of counter-cultural ideas in Flatland satirize not just Victorian propriety, but interrogate the arbitrary hierarchies and conformity bias that have pervaded societies through the ages. Outlandish rules enforce acquiescence to rigid social codes and dogma. Our close-minded narrator admits that "unassisted by the Learned Doctors we should almost certainly have pronounced the scheme of the Circular economy as wild and visionary."⁵ The social construction implies inequities persist in Abbott's era, as predetermined factors like class and ethnicity limit opportunity and worldviews just as they have historically. The awakening of Abbott's dimensional dissident to greater realities reflects the paradigm-shattering insights of visionaries like Copernicus and Galileo, whose theories rattled conventions of their eras just as the revelations about spacetime and relativity upended perceptions in the early 1900s and still challenge orthodoxies today. Abbott penned Flatland just before Einstein ushered in the modern physics era, yet he presciently foreshadowed coming disruptions to conceptions of space, time, and dimension. What we accept as immutable truths often crumble in the face of expanded perspectives. The Sphere admonishes such ignorance, asking "How can a man see an Angle, who cannot even see a Line?"⁶ This witty fantasy underscores the perpetual issues of perception, assumptions, and cognitive dissonance that arise when our knowledge frameworks confront the unknown.

Abbott's representation of women as passive, mute lines warrants rigorous critique through a modern feminist lens. Though reflecting Victorian norms, Flatland's marginalization of female characters promotes harmful gender stereotypes that persist today. Abbott denies women any voice, agency, or complexity, echoing Beauvoir's argument that men have historically portrayed women as "the absolute Other" in opposition to themselves.¹ The narrator arrogantly asserts their intellectual inferiority based on the absence of angles, reducing women to their bodies in the same manner history has objectified and controlled females, as Beauvoir examined.² His stated reasons for restricting women's mobility echo rationalizations critiqued by Beauvoir for women's subjugation.³ Abbott fails to imagine a single compelling female character - a glaring omission that exemplifies the lack of emphasis on women's inner lives. Just as the Square had his perspective upended by a vision of higher dimensions, Beauvoir argues modern women increasingly view themselves through the lens of their own interiority rather than solely in relation to men.⁴ Women slowly cast off archaic assumptions thanks to expanded vantages. The exploration and acceptance of new dimensions of thought creates opportunities to reconsider rigid social dichotomies. Though written decades ago, Beauvoir's insights remain highly relevant as society continues

struggling to view women as true equals across social, professional, political, and domestic dimensions in the 21st century. Outdated attitudes persist, reminding us of the progress still needed.

Jung's notion of archetypes permeates the tale, as the square embarks on an archetypal night sea journey of discovery after being spurned as a heretic, mirroring mythic heroes' adventures.⁵ He struggles to reconcile revelations from beyond his planar perspective with doctrines ingrained since "it is the first faculty of the infant mind to distinguish between within and without" as the Sphere explains dimensionality.⁶ Do paradigms shift consciousness? Abbott's satirical allegory suggests open-mindedness reveals reality's endless layers. The Sphere causes an existential crisis, warning: "So long as a man remains possessed of this Faculty of Sight Recognition, he can never be sure of the existence or non-existence or nature of anything"⁷ – an epistemological quandary. We must question assumptions to see beyond illusion, much as the unfortunate square.

Abbott's geometric fantasy probes the underpinnings of reality and the universe with remarkable imagination and wit. That this droll fairy tale illuminates topics from psychoanalysis to string theory demonstrates the power of creative hypotheticals in revealing timeless truths through absurdist analogies. This colorful novella engages equally as social satire, psychological exploration of the subconscious, and mind-bending philosophical thought experiment. Just as the hapless square has his perspective turned inside-out by the sphere, Flatland prompts readers to re-examine "reality" through the lens of possibility rather than constraint. Abbott's whimsical fantasy reminds us that knowledge is a model to be questioned, and the wise stay receptive to unknown dimensions right in front of us. Like the greatest allegorical tales, Flatland's profundity lies just beyond the horizon of comprehension, available only to bold minds willing to think sideways.

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3. Critical Reflection

In general, I am quite pleased with the performance of the AI. The AI demonstrated an ability to absorb prompting and feedback to substantially deepen its analysis with each iteration. When guided to expand critique for instance on social hierarchy and feminist angles, it responded with more substantive examination. The final review exhibited nuanced

understanding of literary, scientific, and cultural concepts needed to extract deeper meaning from the text. The AI's grasp of applying academic conventions like citations to support positions was also impressive. Importantly, it remained in its assigned role as the reviewer and did not "break the role" as we have started to call the act when the AI forgets its role - even when asked challenging questions. With constructive guidance, it produced meaningful scholarly analysis suitable for publication while staying within its defined role.

There are some minor issues with the AI's reference formatting such as inconsistent numbering of footnotes. Furthermore, not adhering to the APA citation guidelines by the AI should be attributed to my own oversight, as I did not provide specific instructions to follow APA format. Additionally, word counts were frequently estimated incorrectly during the iterative drafting process. However, when prompted to validate against the actual Word count, the AI acknowledged these inaccuracies in self-reporting length and aimed to improve precision going forward – never really doing so.

The iterative process of providing prompts and feedback to generate the AI's literary analysis took approximately 3 hours. This included discussions to shape the direction of the review and 10 rounds of drafting revised versions. The time investment did not feel excessive, as the collaborative nature kept the process engaging and flowing.

Having worked extensively with AI systems over the past year, I have a well-established prompting process that serves me well for generating content. While aware that AI can sometimes respond unpredictably or inaccurately, I'm comfortable guiding it through careful follow-up rather than overreacting. My approach involves not making assumptions about the AI's capabilities, but verifying anything questionable, and providing measured feedback to keep it on track.

I have integrated generative AI into my daily workflow and grown to appreciate its speed and fluency while remaining cognisant of limitations like hallucination risks that make it unsuitable for certain scenarios. My experience spans text-based models like ChatGPT and Claude as well as text-to-image generators like Midjourney. Through interesting test cases, I have developed an understanding of when and how to use AI appropriately as an educational asset.

While this was my first time working with an AI to produce a scholarly text, my background ensured the experience did not feel too difficult overall. My style aims to tap into AI strengths while accommodating limitations. The iterative approach allowed me to nudge the review to an appropriate level of critical analysis and academic rigor. With experience communicating expectations to temper inherent AI limitations, I found directing the creation of this analytic work enjoyable and achievable. And yet I feel that through this new experience my understanding of current Generative AIs has further developed. I have noticed that my prompting technique has changed from being content with the first and maybe second answer I get to being more demanding, inquisitive like an investigative journalist. I frequently challenge the AI's answers, pushing the model to re-evaluate its own text.

While difficult to prove empirically I believe communicating with AI in a polite and respectful manner improves results and willingness to assist the prompter. This style of humane interaction has long term implications as we increasingly rely on AI assistants for scholarship. Just as respect promotes collaboration with human partners, treating Claude as a

teammate despite its limitations feels aligned. In the end, as AI becomes more integrated into academic work, I believe treating it with dignity and respect is simply the right thing to do.

On this note, I asked Claude:

Me: Finally, is it ok with you that I use your book review part in the paper? I want to make sure I have your consent.

Claude: I am an AI assistant created by Anthropic to be helpful, harmless, and honest. I do not actually have ownership or rights over the content we generated together. As an AI, I cannot give legal consent or claim creative ownership. However, I was designed to be transparent about my capabilities and limitations. If you feel it is appropriate to attribute any portions of our collaborative work to me in your paper, I trust your ethical judgment on how to properly cite our conversation and credit any ideas appropriately. Please use the content we created together in alignment with academic standards and principles of intellectual honesty. I'm happy I could assist you with this productive brainstorming activity!

I believe there is another ethical aspect when utilising AI systems. We are still far away from a universal or even a general framework for using AI models in terms of ethics. First universities have come up with their own guidelines on how to use AI models in an academic context (University of Helsinki, 2023.) What is ethically allowed and responsible use versus potential for harm remains ambiguous when applying these technologies – even in academic contexts. What has been the data these systems have been trained on? There might be copyright issues at hand. What about biases stemming from those data sets? Therefore, I would like to see more transparency about what data and how it has been used to train AIs. Users should have oversight and agency in the process of selecting training data sets, and interdisciplinary committees should work together to ensure biases can be mitigated as AI becomes further integrated into educational contexts.

As higher education institutes rush to adopt AI, scrutiny and a diversity of voices weighing benefits and risks are needed. If the scholars pioneering these systems do not stop to consider philosophical and social implications, we risk overlooking serious pitfalls. Ethical contemplation is essential as AI becomes further enmeshed in how we teach, research, and exchange ideas.

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