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Creation through Conversation - A Provocation

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ABSTRACT

(A sonnet)

A new force awakened this year '23.
A friend, or a foe, or a weapon - all three?
Too early to say, but too plainly to see;
that this is the Year Of The ChatGPT.

Does this spell the end of CUI as we know it?
If so, can we stop it, or kill it, or slow it?
What's the point of me trying to write like a poet?
If I've got an idea, then I'd better well show it.

I promise this sonnet of pure provocation,
is tied in my mind to AI conversation
A CUI imbued with ideas for creation -
suppose I propose such a bold application?

Can CUIs inspire us with poetic verse?
A silly idea, but I'm sure you've heard worse.

CCS CONCEPTS

• **Computing methodologies** → **Discourse, dialogue and pragmatics**; • **Human-centered computing** → **Natural language interfaces**.

KEYWORDS

conversational user interfaces, voice user interfaces, creativity, poetry

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1 INTRODUCTION

(Another poetic section - I'm sure this is the last you'll see¹)

Whether you're writing in rhyme or in prose
A lyrical ballad or fantasy fiction
You may find you can't find the words to compose

¹Oops sorry that's a lie, but there are only a few more 'poetic' lines after this

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and creative flow suffers from vasoconstriction

"I give up!" you cry with unbridled dismay
Resigning your evening to liquid sedation
But put down that triple tequila, I say!
There's hope to be found in AI conversation.

Now OpenAI helps our students to write
With all the aplomb of a Strunk & White native [18]
But might we then witness a perilous plight?
A death of the will to be bold and creative?

A large language model may feed upon Blake
And soak up the volumes of Wordsworth and Keats.
But maybe it's all just a massive mistake
That badly regurgitates all that it eats.

If all we need do is ask "write me some rhymes"
Why bother ourselves with the pains of creation?
I reckon instead that we move with the times
And work with our CUIs to yield inspiration.

And so I propose in this foolish submission
That CUIs and VUIs can act as our muse.
Defying the norms of poetic tradition
To give us some lines to adapt or abuse!

2 HOW DO WE DO THAT?

To ask of me what we must do
I honestly haven't a clue
I like the idea
And I hope it'll clear
As I try to convey it to you!

Right that's enough of that for a while. I'm not very good at this and it's exhausting, but that's more or less the point! Wouldn't it be nice if we could have a creative partner there to help deliver the punchy final line of the limerick, or complete the couplet that you've started and are doggedly determined to finish, or give you five syllables of beautifully minimalist closure to your haiku? It sounds like a simple problem, and maybe it's harder in my head than it is in reality, but what would it take for our conversational user interface to deliver a line (or two, or even a stanza) that is both technically correct in the constraints of the poetic form, and holistically correct in the ideas, emotions, or general subject matter that the author is trying to convey?

As I tried to explain in the constraints of my introductory ballad, today's large language models can be fed the works of all the great poets and playwrights, and can generate some interesting content

from them. Is this creativity, or its illusion? Does it matter? I would argue that it does. With recent developments in conversational AI, these previously hypothetical questions become more tangible. “What if an AI could write poetry - would that AI be creative?” Well, to some extent we’ve got the ‘what if’ part down, which is an immense technical accomplishment, but that second part is still a philosophical tickler.

3 WHAT CAN CHATGPT DO?

The obvious question that must be niggling in the minds of many of us writing for CUI is - can ChatGPT do the thing that I’m proposing already? Let’s find out.

Me: Can you write me a haiku about cake?

ChatGPT: Soft and fluffy slice,
Sweetness melts inside my mouth,
Cake, my heart’s delight

...Okay, that was quite good, and certainly fits the bill of a cakey haiku. Let’s try something harder.

Me: Can you write me a limerick about a postman?

ChatGPT: There once was a postman named Ray,
Who delivered the mail every day,
With a smile on his face,
He’d pick up the pace,
Making sure each package found its way.

This is undeniably a limerick poem about a postman. It’s a bit trite, though, and that last line doesn’t exactly flow off the tongue. Let’s see if it can finish what we’ve started.

Me: Can you finish this limerick for me²?

Two ugly sisters from Fordham
Took a walk one day out of boredom
On the way back...

ChatGPT: they met a young fellow
Who was dashing and quite the mellow
Now their walks are never so random!

...Well that could’ve gone better. It hasn’t understood that I only needed two more lines, ‘random’ is a very tenuous rhyme with Fordham or boredom, and frankly it’s not very good. What does ‘quite the mellow’ mean!? Let’s try another.

Me: Can you give me a line to finish this rhyme³?

Sunken yachtsmen
Sinking yards
Drunken Scotsmen

ChatGPT: Tales of pirates, loot, and swords.

Right, that’s enough of that. It’s not **wrong** in the sense that ‘yards’ and ‘swords’ are a close rhyme, but it’s not managed to discern the rhythm of the poem and instead has opted for a line that just doesn’t

²Source: <https://www.theguardian.com/stage/live/2014/sep/26/john-cooper-clarke-webchat>

³Source: <https://johncooperclarke.com/poems/i-mustn%E2%80%99t-go-down-to-the-sea-again>

seem to fit, and has evidently tried to guess that my inclusion of sinking, yachts, and drunkenness means I’m writing a poem about pirates. These aren’t my lines, but they aren’t where I see the poem evolving from those initial conditions.

To me, it seems that AI is at the stage where it can comfortably generate poems, but falls short of working as a creative partner in this respect. Is that a bad thing? Would it stifle creativity if we were able to artificially generate witty epigrams to round off our stanzas? I would argue that, since this kind of instantly accessible intelligence is here to stay, it’s important for us to view it as a problem-solving partner, rather than an answer factory. Therefore, it’s important that conversational AI develops the capabilities to work *with* us rather than *for* us, irrespective of the problem we’re trying to solve. I’ve taken poetry as an example, because I don’t think I’m good at it, but it’s something that I quite like doing. I don’t want conversational AI to write a poem *for* me, but it would be helpful if it could write one *with* me. Is it necessary? No, we’ve been writing poems without AI for over 3000 years and we’d get on just fine without it, but I think it’s an interesting problem to think about: what would a conversational AI need to be an effective creative partner? Further, what does *effective* mean here - that it should be able to help me write excellent, universally enjoyed poems, or just that it helps me write stuff that *I’m* happy with? I’d argue for the latter; it’s a lot easier to test for a start. I know fairly quickly if I like something, but I won’t know if you or anyone else will like it.

4 RELATED WORK

Although there is a huge volume of literature on different types of poetry, how to write good ones, how not to write bad ones, how to develop your creative writing skills, and so on, let’s focus on work in the CUI domain. In doing so, we’ll keep things tractable and we’ll save me a lot of work. It’ll keep the paper short and commensurate with its contribution, which if I’m quite honest is minimal.

4.1 CUIs as working partners

Outside the creative space, CUIs encompass what we sometimes call ‘voice assistants’ or ‘intelligent personal assistants’ if voice isn’t necessarily involved. Customer service chatbots exist to help us with our queries about missing deliveries and dodgy laptops [8]. However, words like *assistant* and *service* imply a relationship of superiority. McMillan and Jaber discuss the possibility diversifying from the “butler” role of CUIs [11], which would be a beneficial step towards CUIs as partners in a creative process. Simpson and Crone speculate on Alexa as a team player, who could act as “a second pair of eyes” as well as “suggest and criticize ideas” [17]. Lee describes how our interactions with CUIs could fit into a taxonomy of illocutionary acts [10] suggesting how we could move beyond request-response interactions into more context-sensitive, ‘human-like’ discussion. Presently, this previous work represents goals to work towards if we are to represent a conversational AI as a discussion partner rather than a simple ideas generator, which has received positive feedback in a Wizard-of-Oz study [16].

4.2 CUIs that understand us

While years of work has investigated the effects of different ‘personalities’ that CUIs have on us, more recent work looks at how

approaches from user modelling can be used to understand their human interlocutors and tailor responses accordingly. Doyle et al. [6] investigated lexical alignment and partner modelling in the context of CUIs. Peña et al. [12] build on this idea of partner models, demonstrating how allocentric (attention focused on the conversational partner) language production increases when a voice user interface is perceived as a dialogue partner rather than a tool. Similarly, but more closely aligned with the goals of a hypothetical creative CUI, An et al. [1] propose the adaptation of a conversational AI's language and responses to its perception of the user's knowledge. In the same way, a poetry partner should provide suggestions that are in line with its user's vocabulary and linguistic style - i.e., it should have its own "partner model" of the user. Similar recent work has looked at user perceptions of personalisation in their voice assistants [19, 22], evidencing a desire for adaptation to individual personalities and interests, and capable of evolving with their users.

4.3 Creative CUIs

Conversational AI for the creative process is scarce, but not absent. For example, Perrone and Edwards demonstrate how chatbots can be employed as actors in comedic performances [13], illustrating their potential for creative output. Citing the work of cognitive psychologist Margaret Boden's work on creativity, who defines it as "the ability to come up with ideas that are new, surprising, and valuable" [3] they illustrate how chatbots exemplify these ideas in their spontaneity. Wu et al. [21] investigated the influence of conversational AI on the creation of design fiction. Their results demonstrated that, although the 'quality' of fiction created was not impacted significantly, the user experience of having a conversational partner in the design process was an influential positive motivation for incorporating CUIs as co-designers. Indeed, a concrete example of this can be found in a recent article from Communications of the ACM, which demonstrated a convincing collaboration between human and AI on a sci-fi story [15].

Are these examples of ChatGPT and similar systems exhibiting **true creativity** as we attribute this quality to the human mind? Two reputable sources of an answer are Noam Chomsky, and ChatGPT itself. Both say no [4, 9]. When questioned on the topic, ChatGPT warned that its use for creative applications may result "*in a lack of originality, as the model is not capable of coming up with new ideas or insights on its own*" [9]. Chomsky et al. explain how "*ChatGPT and its brethren are constitutionally unable to balance creativity with constraint*" [4]. To avoid another Microsoft Tay situation, ChatGPT has been deliberately limited in its ability to generate novel responses to potentially sensitive topics. Lacking the true intelligence necessary for "moral thinking", this is a simple solution to the problem of balancing **technical** limitations with **ethical** limitations.

5 WHAT'S NEXT?

I don't know for sure if there is an explicit next step. Of course, I'd like it very much if someone developed a creative helper AI like the one I've taken from my head and tried to use the words in this paper to convey to you. Having looked at what LLMs can achieve when writing this paper, it certainly doesn't appear to be a world away, ~~but there are a couple of obvious challenges that~~

~~would need addressing, in the form of user modelling, and problem modelling.~~ but there are indeed both technical and ethical holes that would need to be plugged. In the absence of AI expertise, I tentatively suggest **user/problem** modelling as an avenue of future work, but also why this skirts around the issues rather than tackling them head-on.

5.1 User modelling

A conversational AI sees its human interlocutor as a tabula rasa, and will be forced to impose its own ideas, style, and sense of humour on the suggestions it provides in the absence of any others. Authors have distinctive styles that manifest in word choice, rhythm, themes, grammar, adherence to rules, and so on. These might be in line with the author's personality, or completely separated from it, which makes the appropriate 'training data' hard to come by unless it comes first-hand. This is all very well if you have a library of existing material to feed into it, but if you don't, could it be directed towards material of authors you admire and get inspiration from? If so, plagiarism becomes a sticky issue - as if it wasn't sticky enough.

5.2 Problem modelling

As well as knowing who the user is, their language, likes and dislikes, writing style, etc., a creative conversational AI needs to be able to understand the problem domain it's working in. What type of poem (or other creative work) is it? What's it about? Does it have to rhyme? Does it have a rhythm that ought to be followed? To optimise the effectiveness of suggestions, it wouldn't be amiss to suggest some sort of slot-filling model that would obtain answers to as many of these questions as possible through reading what you've got so far, and then responding with follow-up prompts.

5.3 Stopping to ask if we should

Maybe it's not a good idea. If "*genius is one percent inspiration and ninety-nine percent perspiration*"⁴ then what happens if we remove the perspiration? It'd be more comfortable, but would we be better people and produce better work? Perhaps it's only in that sweaty hunt for the right word, phrase, or idea, that helps us develop creatively and personally. There is joy to be found in that process and, just like ChatGPT and all the polymath systems that precede and succeed it, I firmly believe we must not let it take away the satisfaction of a job well done.

Perhaps more important are the ethical implications of freeloading on someone else's job well done. Although working with generative AI as a creative partner has the potential to "spark creativity" [7], where is the line drawn between genuine individual human authorship with a nudge from AI, and AI-generated output courtesy of a few human prompts? The issue of copyright protection for AI-generated works is a tricky issue [2, 20] and it may be necessary to instate rules and regulations on what counts as human creative input. Further, to what extent could we use this potential poetry partner without producing plagiarised paragraphs? Puzzling! The implications around plagiarism for academia and education are increasingly hot topics [5, 14], as anyone working in education (or indeed anyone who happens to put "ChatGPT plagiarism" into their search engine of choice) will be acutely aware of. We attempt to drill

⁴Thomas Edison I think

into our students the significance of misusing generative AI, but do we need to apply the same scrutiny to our present and future Poet Laureates? Would a contemporary T.S. Eliot or Elizabeth Barrett Browning be ostracised for drawing on AI inspiration? Would it suffice to add a footnote along the lines of “A generative AI helped with this stanza”, or would co-authorship be the ethically sound choice? Would 100% pure-bred human creative outputs be thought more highly of than human-AI hybrid efforts? These are questions that (in my very humble opinion) don’t have an immediately obvious answer.

6 CONCLUSION

In conclusion, it appears I’ve argued for a system, and then changed my mind and decided we shouldn’t bother. I hope, though, that I’ve proposed one or two provocative questions - what makes a conversational AI creative? How do we measure the success of that creativity? Would conversational AI take the fun out of it all? I think these are questions worth answering.

REFERENCES

- [1] Sungeun An, Robert Moore, Eric Young Liu, and Guang-Jie Ren. 2021. Recipient Design for Conversational Agents: Tailoring Agent’s Utterance to User’s Knowledge. In *Proceedings of the 3rd Conference on Conversational User Interfaces* (Bilbao (online), Spain) (CUI '21). Association for Computing Machinery, New York, NY, USA, Article 30, 5 pages. <https://doi.org/10.1145/3469595.3469625>
- [2] Akanksha Bisoyi. 2022. Ownership, liability, patentability, and creativity issues in artificial intelligence. *Information Security Journal: A Global Perspective* 31, 4 (2022), 377–386.
- [3] Margaret Boden. 2009. Creativity: How does it work. *The idea of creativity* 28 (2009), 237–50.
- [4] Noam Chomsky, Ian Roberts, and Jeffrey Watumull. 2023. Noam Chomsky: The False Promise of ChatGPT. *The New York Times* 8 (2023).
- [5] Nassim Dehouche. 2021. Plagiarism in the age of massive Generative Pre-trained Transformers (GPT-3). *Ethics in Science and Environmental Politics* 21 (2021), 17–23.
- [6] Philip R Doyle, Leigh Clark, and Benjamin R. Cowan. 2021. What Do We See in Them? Identifying Dimensions of Partner Models for Speech Interfaces Using a Psycholexical Approach. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) (CHI '21). Association for Computing Machinery, New York, NY, USA, Article 244, 14 pages. <https://doi.org/10.1145/3411764.3445206>
- [7] Ziv Epstein, Hope Schroeder, and Dava Newman. 2022. When happy accidents spark creativity: Bringing collaborative speculation to life with generative AI. *arXiv preprint arXiv:2206.00533* (2022).
- [8] Asbjørn Følstad and Marita Skjuve. 2019. Chatbots for Customer Service: User Experience and Motivation. In *Proceedings of the 1st International Conference on Conversational User Interfaces* (Dublin, Ireland) (CUI '19). Association for Computing Machinery, New York, NY, USA, Article 1, 9 pages. <https://doi.org/10.1145/3342775.3342784>
- [9] Ali Iskender. 2023. Holy or unholy? Interview with open AI’s ChatGPT. *European Journal of Tourism Research* 34 (2023), 3414–3414.
- [10] Minha Lee. 2020. Speech Acts Redux: Beyond Request-Response Interactions. In *Proceedings of the 2nd Conference on Conversational User Interfaces* (Bilbao, Spain) (CUI '20). Association for Computing Machinery, New York, NY, USA, Article 13, 10 pages. <https://doi.org/10.1145/3405755.3406124>
- [11] Donald McMillan and Razan Jaber. 2021. Leaving the Butler Behind: The Future of Role Reproduction in CUI. In *Proceedings of the 3rd Conference on Conversational User Interfaces*. 1–4.
- [12] Paola R Peña, Philip Doyle, Justin Edwards, Diego Garaialde, Daniel Rough, Anna Bleakley, Leigh Clark, Anita Tobar Henriquez, Holly Branigan, Iona Gessinger, et al. 2023. Audience design and egocentrism in reference production during human-computer dialogue. *International Journal of Human-Computer Studies* 176 (2023), 103058.
- [13] Allison Perrone and Justin Edwards. 2019. Chatbots as Unwitting Actors. In *Proceedings of the 1st International Conference on Conversational User Interfaces* (Dublin, Ireland) (CUI '19). Association for Computing Machinery, New York, NY, USA, Article 2, 2 pages. <https://doi.org/10.1145/3342775.3342799>
- [14] Junaid Qadir. 2023. Engineering education in the era of ChatGPT: Promise and pitfalls of generative AI for education. In *2023 IEEE Global Engineering Education Conference (EDUCON)*. IEEE, 1–9.
- [15] Ralph Raiola. 2023. ChatGPT, Can You Tell Me a Story? An Exercise in Challenging the True Creativity of Generative AI. *Commun. ACM* 66, 5 (2023), 104–ff.
- [16] Leon Reicherts and Yvonne Rogers. 2020. Do Make Me Think! How CUIs Can Support Cognitive Processes. In *Proceedings of the 2nd Conference on Conversational User Interfaces* (Bilbao, Spain) (CUI '20). Association for Computing Machinery, New York, NY, USA, Article 54, 4 pages. <https://doi.org/10.1145/3405755.3406157>
- [17] James Simpson and Cassandra Crone. 2021. Can Alexa Be a Team Player?. In *Proceedings of the 3rd Conference on Conversational User Interfaces* (Bilbao (online), Spain) (CUI '21). Association for Computing Machinery, New York, NY, USA, Article 21, 4 pages. <https://doi.org/10.1145/3469595.3469616>
- [18] William Strunk Jr and Elwyn Brooks White. 2007. *The Elements of Style Illustrated*. Penguin.
- [19] Sarah Theres Völkel, Daniel Buschek, Malin Eiband, Benjamin R. Cowan, and Heinrich Hussmann. 2021. Eliciting and Analysing Users’ Envisioned Dialogues with Perfect Voice Assistants. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Yokohama, Japan) (CHI '21). Association for Computing Machinery, New York, NY, USA, Article 254, 15 pages. <https://doi.org/10.1145/3411764.3445536>
- [20] Stephen Wolfson. 2023. This Is Not a Bicycle: Human Creativity and Generative AI - Creative Commons. <https://creativecommons.org/2023/02/21/this-is-not-a-bicycle-human-creativity-and-generative-ai/>
- [21] Yiyi Wu, Yunye Yu, and Pengcheng An. 2022. Dancing with the Unexpected and Beyond: The Use of AI Assistance in Design Fiction Creation. *arXiv preprint arXiv:2210.00829* (2022).
- [22] Nima Zargham, Dmitry Alexandrovsky, Jan Erich, Nina Wenig, and Rainer Malaka. 2022. “I Want It That Way”: Exploring Users’ Customization and Personalization Preferences for Home Assistants. In *Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) (CHI EA '22). Association for Computing Machinery, New York, NY, USA, Article 270, 8 pages. <https://doi.org/10.1145/3491101.3519843>