

## Artificial Intelligence: An Urban Fairy Story

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Desmond Dazhuang sat in a corner of his design office during a lunch break, not quite knowing whether to feel dejected or exhilarated. He shrugged his shoulders and turned to gaze with not a little admiration at the typed-up paper in front of him that had taken a week to write and format. The subject that he had chosen was a deliberately challenging one: *What does AI know about Urban Design that I don't?*

This had followed quite a long discussion with his office colleagues on the use of artificial intelligence that had thrown up a large number of issues, some of which he agreed with but many of them he didn't. All of this had left Desmond, as an aspiring urban designer with grand aspirations, to speculate on AI as a metaphorical 'Pandora's Box' — something that might lead to unknown repercussions if it were to be opened up to its seeming potential. "After all he thought", advanced technological capabilities were not merely driving living and working patterns, they were transforming the way we navigated the meaning of knowledge, communication and behaviour. It must therefore contain existential risks that had the capacity to either reshape or redirect human endeavour. This left him with an uneasy feeling that this might even eclipse human intelligence altogether.

This being said he knew that he was in uncharted territory when considering certain aspects of artificial intelligence that he suspected were redefining the biological essence of humanity in terms of capabilities and cognition, apparently with ever-increasing processing power. It was also likely to fundamentally change the

way that humans like himself interacted somewhat indolently with their computers. In truth he found the prospect of artificial intelligence vaguely terrifying. He recalled that only the other evening his wife, who repeatedly assured him that they were on the cusp of a new era that would fundamentally change the way in which humans would interact with computerised robots, had suggestively stated that she looked forward to the day that she could enjoy a quiet one-to-one interaction.

As far as Desmond could see the genesis of artificial intelligence might be said to have originated far back in history, with mankind's attempts to achieve some ancillary assistance with its own knowledge base, or at least its capabilities. In ancient China for example mechanical devices were used to calculate astronomical positions and planetary motions, but it was nineteenth century Boolean algebra that first dealt with logical values utilising binary variables. This was followed countless centuries later by machines that were able to recognise speech and make appropriate responses that included language translations. The invention of the digital computer made possible the first use of the term *artificial intelligence*, by suggesting that programmed networks could undertake a type of 'thinking' outside the human cranium. A gigantic step forward however was the advent of genetic or 'search engine' algorithms, where solutions arose through gradual improvement and optimisation of computer power and machine learning.

A profound question therefore hung in the air

as to whether AI was going to represent the genesis of a new humanity or a misalignment of it. After all, why think when a machine could think for you? Had we to simply accept that our entire philosophical concept of “being” could be reproduced by AI from large datasets? As an urban designer this must surely be set against human thought and perception, within a *priori* concepts and principles based on experience, predisposition and a constant engagement with the world around us. For artificial intelligence to actually come up with ideas of the kind that Desmond constantly thought up, demanded something along the lines of self-actualisation. The frequently contested nature of the human mind and its essential consciousness were surely what gave identity to the individual, although he or she might have to concede that the selfish gene would perhaps continue to make some form of contribution to intelligent decision-making. Anyway, artificial intelligence surely had to be tested against his lifetime of experience rather than assert some fundamental ‘truth’ that everyone presumably had to follow. The problem was that a massive step change in the capability of machine learning systems had increasingly blurred the line between fact and fiction. Different AI models might in fact develop divergent approaches to a task or problem based on operational realities, even if they had been required to achieve the same outcomes.

If expertise in what was normally associated with cognitive activities continued to be outsourced to machine intelligence, then all his profound design talent was quite possibly going to be relegated to being a less than creative

exercise, so was there not a need to ensure a recalibrated sense of human purpose? If it was supposed that generative AI could digest and assimilate sufficient available information that enabled it to continually fine-tune working models, this would clearly impact a high proportion of the professional workforce. This was a sobering realisation, and perhaps a wake-up call.

Desmond felt intuitively that there were many more unknowns. He had read that what was contained in the human cranium was more complicated than any other structure in the universe, and the means by which it processed information was still not fully understood. It was estimated that there were between 80 and 100 billion neurons in the human brain, connected through networks that could communicate with each other via an estimated 100 trillion synapses at high speed. The prefrontal cortex, as far as it was known, governed rational decision making. By the same token it had also been shown that frequent use of artificial intelligence might effectively also reduce the need for the brain to retain information, and with it a commensurate loss of his already truncated attention span.

Desmond recalled that users of generative artificial intelligence had in fact already observed an occasional tendency of the system to “hallucinate” or invent wholly fictitious references, particularly when there was no verifiable answer to a question. Perhaps, he thought, the most favourable description of AI should be “augmented” rather than “artificial” intelligence. Both misuse and abuse needed to be addressed by all existing and potential AI stakeholders,

and in this context technology, in whatever form, should always be the servant, never the master. AI advancement had to be both multifaceted and interconnected in terms of both participants and outcomes, but this carried with it potential repercussions of global significance, not the least of which was the protection of ethical standards. Generative AI required staggering amounts of money, power, water and copyrighted data which did not come cheap. This raised the issue of ownership over AI-generated content which required an even greater degree of clarity over the rights of copyrighted material.

A study undertaken by the Hong Kong Salary Guide had very recently projected that the jobs of around 800,000 employees, or 25 percent of the city's total workforce, could be affected by AI over the coming years. AI applications continued to penetrate increasing numbers of industries and professions, under the mantle of enhancing operational efficiency. Desmond noted that in 2024 Hong Kong's Commissioner for Personal Data had issued the city's first comprehensive but voluntary protection guidelines for users of generative AI, promising to carry out further compliance checks as and when necessary, but without mandatory requirements.

There was of course a positive side. It might for example be possible to reduce the time needed to carry out extensive and important processing tasks such as sequencing a virus or carrying out a medical diagnosis, so that AI's transformational power could be harnessed to address health care, diagnostic and even social inequality issues. AI-generated methodologies could also

be used to target applications to biomedical research into such complicated neural diseases as Alzheimer's and Parkinson's that were accelerated through the human ageing process. In this sense what had been termed as 'the capture of value' that seemed to be almost totally reliant on enterprise benefits, could be directed to the really important human values.

Desmond finally concluded that it was necessary to examine the emergent capabilities of AI more carefully, including aspects that looked like the result of the human creative process that introduced unarguable benefits for humanity as a whole. There was no argument that AI could be used to achieve positive results in the right hands but whether this would prove to be a counterweight to its potential for catastrophic misuse, generated by greed rather than gain, remained to be seen. Information was power - disinformation was manipulation.

Having set out his main arguments, Desmond felt reasonably satisfied that he had put his finger on some serious concerns. He had to confess to himself certain misgivings about being something of a junior partner in the exercise, being wary of the breezy way that Chatbots might prove rather too patronising in transforming his original output. However, on balance he decided that AI might offer some creative assistance with the help of its vast data file. After all he was not to blame if the wily ChatGPT cleverly inserted a disclaimer, effectively renouncing any responsibility for the accuracy of its advice. Even worse it would probably plagiarise any intelligent human response.

Then he had an idea. Why not submit his paper to AI? He nervously opened up his computer and presented his morning's considerations, just to politely enquire whether his thinking might correspond in any way with his supposedly intelligent counterpart. He then decided to go for lunch.

However, before he got to the door, his computer had already begun to print out an instant reply.

It read as follows:

*Dear Desmond thank you for your draft which has been assessed with some concern. Your given surname gives us the impression you are strong, robust and somewhat opinionated. From our perspective Generative Artificial Intelligence as applied to urban design is doing a pretty impressive job. But of course we would say that wouldn't we?*

*Our large language models and generative AI have revolutionised the ways that humans relate and interact with a technology that has given us the capacity to transform abilities and skill development out of all recognition. Our emerging brain-computer interface through Neuralink technology combines the brain's electrical signals with external computing power. We have shown how we can utilise human stem cells with an interface chip that could well lead to hybrid human-robot intelligence, no matter whether you appreciate this or not.*

*We cannot see how new levels of critical thinking and collaboration could present the pro-*

*found risks to society that you have suggested. In the past new technologies have created innovative fields of work and research along with previously unimagined opportunities, so it is likely that AI advancement could equally create new areas of employment through its transformative speed of change and the growth of autonomous systems. Humans will of course be charged with actually running the show but they must embrace self-awareness, reason and genuine creativity that are essential for AI's alignment with humanity as a whole, and are therefore in everyone's interest.*

*But let's be honest - generative artificial intelligence has charmed the world. Our large language models have now invaded the creative arts, including architecture, planning and urban design, so general purpose technologies are clearly going to have a transformative impact on your human society. And of course, investment in infrastructure is pouring in. But we don't want to see another boom and bust situation like dotcom, so the investment focus must be on empowerment of people .... at least at first. We therefore have to give them what they want.*

*The intricate workings of the mind that contribute to human intelligence and design capability continue to remind us that mind and matter are in a constant state of interaction. While we cannot necessarily comprehend the link between the brain cell and its wondrous ability to act as a neurotransmitter, we can reconfigure this up to a point through the availability of massive data storage, utilising new realms of computer power through processing units.*

*Very shortly we are going to announce the first brain chip implant in a suitably compliant human. This might be pushing the boundaries a bit, but we wondered if you might like to volunteer for this. It would be quite simple, and only involves placing electrodes into your brain that allows it to signal a kind of control, which our Special AI Urban Design Advisory Panel feels you might be in need of. Only a small amount of surgery is required although we might have to make arrangements to open up your cranium slightly to implant one or two things that we think might assist. This would really help us move forward our rapid AI progress, as we have not yet received food and drug administration approval for most of this, and a few doubts have recently arisen with regard to things like brain hacking and mind-reading.*

*We fully expect of course to transform the world through our artificial general superintelligence across most cognitive fields. Utilising our digital assistants, we will shortly have an AI system that can “perceive, reason, plan and act” .... and of course, complete any urban design mission you can think of without the untidy input of urban thinkers. Just look at all the funding we are attracting from that wealthy man from Nvidia, Jensen Huang. So AI is about to reshape the planet whether you like it or not.*

Desmond mulled this over for a while. Finally, he submitted his reply. This read:

Dear GPT

I think for the time-being I'll put my paper on hold, as I want to be able to sleep peacefully at

night'. He then switched everything off.

A moment later he got a message .... *Just because you switch us off, doesn't mean we are not still monitoring your unjustifiably contrary comments, which means we are putting you on our watch list.*