



## Coming to terms with AI

### Description

I uploaded a collection of my own books and a few articles to Google's NotebookLM, which deploys RAG (Retrieval-Augmented Generation) techniques to interrogate any corpus. I entered the books in chronological order, as I was interested in how my ideas and themes might have changed over the period of their writing (3 decades!).

I prompted NotebookLM to provide a summary of how my uploaded outputs might indicate any transition in thinking about AI. I edited substantially what it produced to create the following account.

### Adoption and skepticism

I have long been fascinated by the power, potential and audacity of automation and mechanisms and with computers. Armed with qualifications in architecture and landscape architecture, I started my research interest initially with computer-aided design and computer graphics, expanding to knowledge-based design systems, for which the dominant paradigm was symbolic AI.

This approach was grounded in logical rules and representations. Colleagues and I thought that this was a route to the creation of useful design aids computer systems that would ease the processes of designing buildings and environments.

I soon encountered three impediments to the continuation of such a research programme. First, the sheer quantity of rules, constraints, and procedures required to articulate useful design systems, and the effort required to code them, appeared too vast to be practicable. Second, we thought rule-based systems should work as they were predicated on some kind of correspondence between human expertise and calculative logic. A wealth of philosophical and psychological literature as well as common sense dampened such assumptions. Third, from a practical point of view it seemed that these methods were divorced from the the ethos of design teaching, particularly practical architectural design studio projects, at least in a university context.

I later came to argue that AI systems reinforced a kind of techno-rationalism, leading to several problems. I adopted the views of critics such as Winograd and Flores who contended that this

rationalistic focus struggled to account for observed human behaviour. They also highlighted the limitations of purely logical methods in capturing the complexity of human cognition and the contextual nature of knowledge. These authors legitimated the study of interpretation (via hermeneutics and phenomenology) in the context of understanding computer systems.

I was also under the sway of critical theorists who posited that the uncritical adoption of AI's rationalist tenets can perpetuate certain existing power structures. Weizenbaum, a computer scientist, cautioned against the "imperialism of instrumental reason," emphasizing the danger of reducing human complexities to mere calculations.

I adopted the misgivings of these critics who suggested that this emphasis on calculation can lead to neglecting practical, everyday and individual human concerns, potentially resulting in technological systems that are exclusive, homogenising, and favour particular power relationships. Such approaches prioritise problems amenable to calculative reason., neglecting the rest

## Connectionism

The arguments against AI at the time often centred on the limitations of symbolic logic as a basis for understanding cognition. The idea that intelligence resided solely within the mind, detached from the complexities of embodied experience and the world, introduced further challenges. It was difficult to envision how disembodied algorithms, however sophisticated, could encompass the richness of human perception, action, and social interaction.

My orientation to AI shifted as I explored connectionist AI, particularly the world of neural networks. These models offered an alternative to the rigidity of rule-based systems. My work with associative neural networks in the 1990s provided insights into how complex behaviours, including creative acts, could arise from the interaction of simple, interconnected units. These models also demonstrated that creativity was not some exceptional faculty, but rather an emergent property of everyday cognitive processes.

While my early work with neural networks contributed to my understanding of creativity, its application to the development of more effective computer-aided design (CAD) systems proved challenging.

However, the recent emergence of Large Language Models (LLMs) such as ChatGPT and Bing has reignited my fascination with AI, demonstrating a major shift in capabilities, particularly in natural language processing. These LLMs, trained on vast amounts of text data, exhibit a level of conversational acuity and creative output that was unimaginable just a few years ago.

## LLMs

My experimentation with these platforms has revealed their ability to generate different styles of dialogue, compose stories, and write computer code. These capabilities raise questions about the future of human creativity, work practices, and even the nature of intelligence itself. My publications about connectionism in design, written before the advent of LLMs, couldn't have anticipated their transformative impact on our understanding of AI and its implications.

The focus has moved from debating AI's limitations to grappling with testing its strengths and weaknesses in practical contexts, its transformative potential and the associated risks and ethical challenges.

The prospect of artificial general intelligence has fuelled thoughts about transformations in the workplace, patterns of human habitation, societal disruption, and "existential risks." These concerns, though often expressed in apocalyptic terms, highlight the impact that AI is having on our collective imagination. AI has also revealed and amplified everyday human concerns about work, leisure, relationships, power and the impermanence of human existence. As well as introducing new ways of working and living, AI is complicit in shifting narratives "how we speak about ourselves and our future.

I enjoy how LLM-based AI's focus on texts aligns with a literary, humanistic orientation to thought and action. I explore in my own writing the importance of texts as repositories of human experience, insight, and reflection. AI models can "replicate or reflect human-like experiences and responses without needing to have lived lives." This reliance on human-produced texts for fuelling LLMs underscores the importance of human thought, interpretation and creativity in shaping the capabilities of digital technologies.

In emphasising the significance of interpretation in understanding texts and urban environments, such studies highlight the role of collective understanding and rival perspectives. I explored this focus on interpretation independently of, but in parallel with, my interest in computers. Interpretation is a fraught (agonistic) enterprise that aligns with a humanistic perspective valuing the diversity of human experience and meaning-making.

Hence this hermeneutical, linguistic, development in my thinking converges with an appreciation of recent developments in AI. This emphasis suggests that language itself is a form of technology, implying that AI is not merely a technological artifact but an extension of human linguistic capabilities. This reinforces the idea that AI, driven by its engagement with vast textual data, represents a continuation and expansion of humanistic inquiry rather than something alien to it.

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### Category

1. Artificial Intelligence

### Tags

1. humanism
2. interpretation
3. technorationalism

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