Creativity after AI: Rethinking 'Creativity' in the Fourth Industrial Revolution

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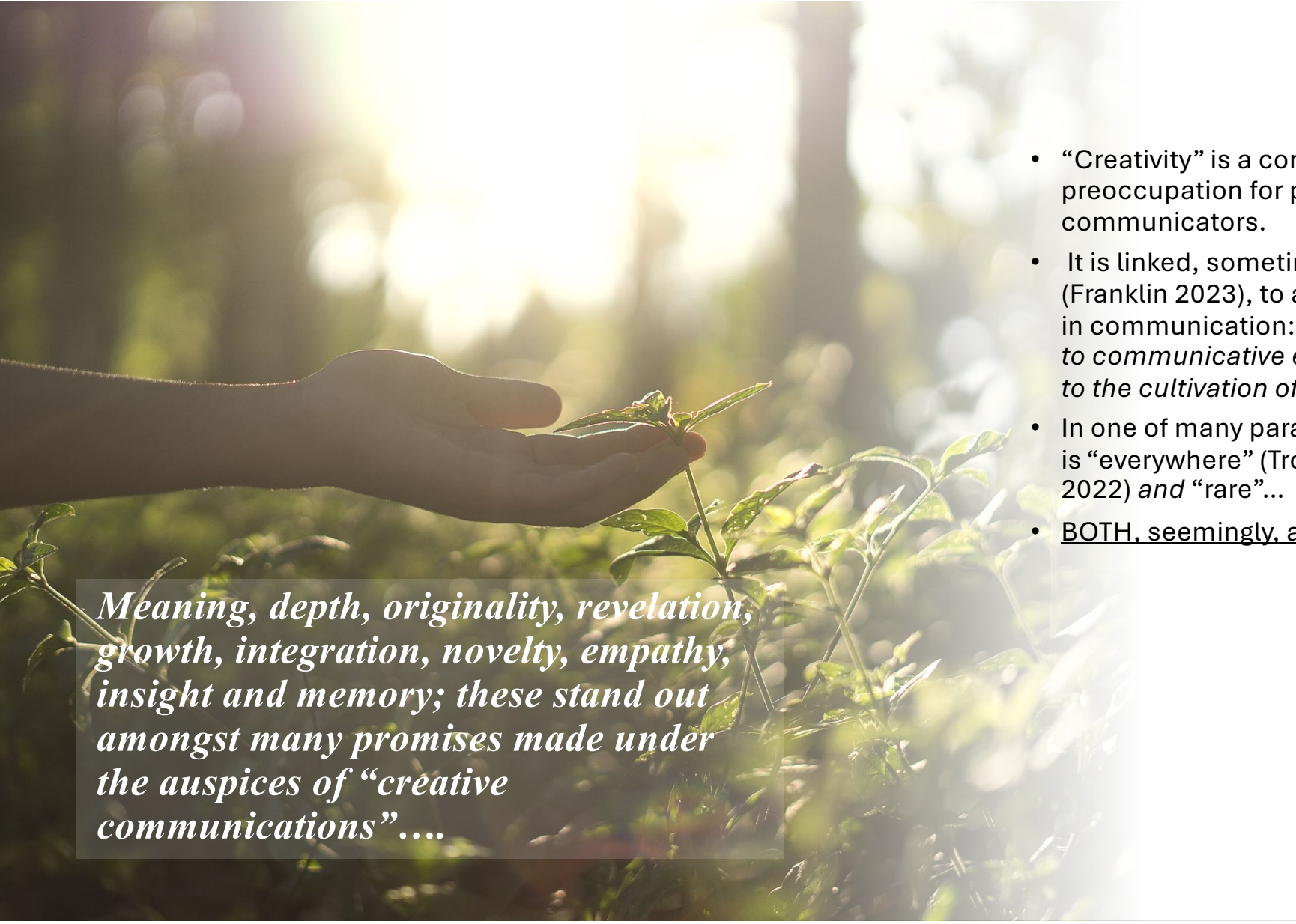
Creativity after AI

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Abstract: The recent advent and mainstreaming of artificial intelligence technologies (in the form of large language models, LLMs, text-to-image models and generative AI) challenges long-held assumptions about the nature of professional creativity, - notably as identified and deployed under the auspices of creative industries, and raising questions about how we define, recognise, value and evaluate creative processes in the Fourth Industrial Revolution.

This paper interrogates the shifting boundary between human and machine-led creativity, exploring a conventional dichotomy between algorithmic and heuristic processes to consider how AI transforms not only the means of creative production but also some core conceptions of what means to "create" The paper reframes some classic typologies/ definitions of professional creative production in the context of generative AI and acknowledges the Euro-centric components in some creative industries' working definitions of creative practice. While AI systems operate within algorithmic constraints, their capacity for generating novel outputs through large-scale pattern recognition complicates traditional understandings of originality, intuition, and artistic agency.

This paper draws on an array of theories from psychoanalysis to social psychology and organisational analysis to examine AI-driven creativity represents an extension of human heuristics or a fundamental shift in the epistemology of invention.

- "Creativity" is a common preoccupation for professional communicators.

- It is linked, sometimes obsessively (Franklin 2023), to a wish for <u>vitality</u> in communication: *to engagement, to communicative effectiveness and to the cultivation of cultural insight*.

- In one of many paradoxes, creativity is "everywhere" (Trott 2009:1; Rubin 2022) *and* "rare"...

- <u>BOTH, seemingly, at the same time</u>

Meaning, depth, originality, revelation, growth, integration, novelty, empathy, insight and memory; these stand out amongst many promises made under the auspices of "creative communications"….

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Creative communication promises a particular order of connection, connection that, in a technologically hyper-networked world, remains nevertheless at a premium.

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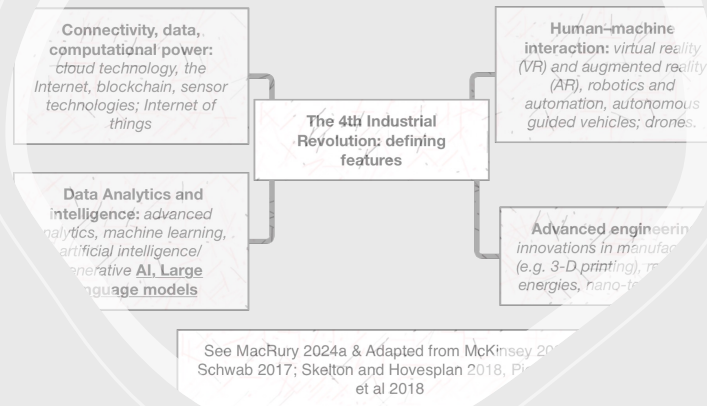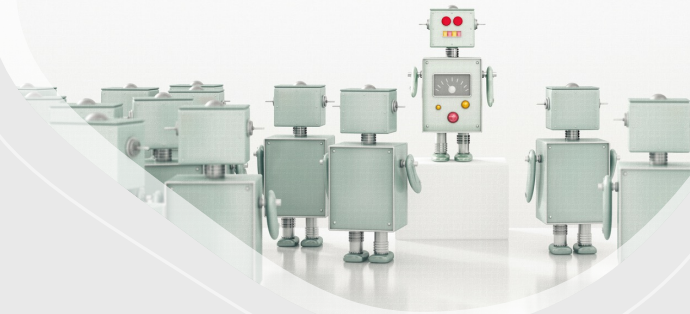
If "creativity" were a magic pill, we'd probably take it!

The 4th Industrial Revolution: defining features

Connectivity, data, computational power: *cloud technology, the Internet, blockchain, sensor technologies; Internet of things*

Human–machine interaction: *virtual reality (VR) and augmented reality (AR), robotics and automation, autonomous guided vehicles; drones.*

Data Analytics and intelligence: *advanced analytics, machine learning, artificial intelligence/ generative AI, Large language models*

Advanced engineering: *innovations in manufacturing (e.g. 3-D printing), renewable energies, nano-technology*

See MacRury 2024a & Adapted from McKinsey 2016, Schwab 2017; Skelton and Hovesplan 2018, Piccarozzi et al 2018

- With the "Fourth Industrial Revolution" (Schwab 2014) imminent/immanent across many societies…**What transformations in creativity must we stay alert towards?**
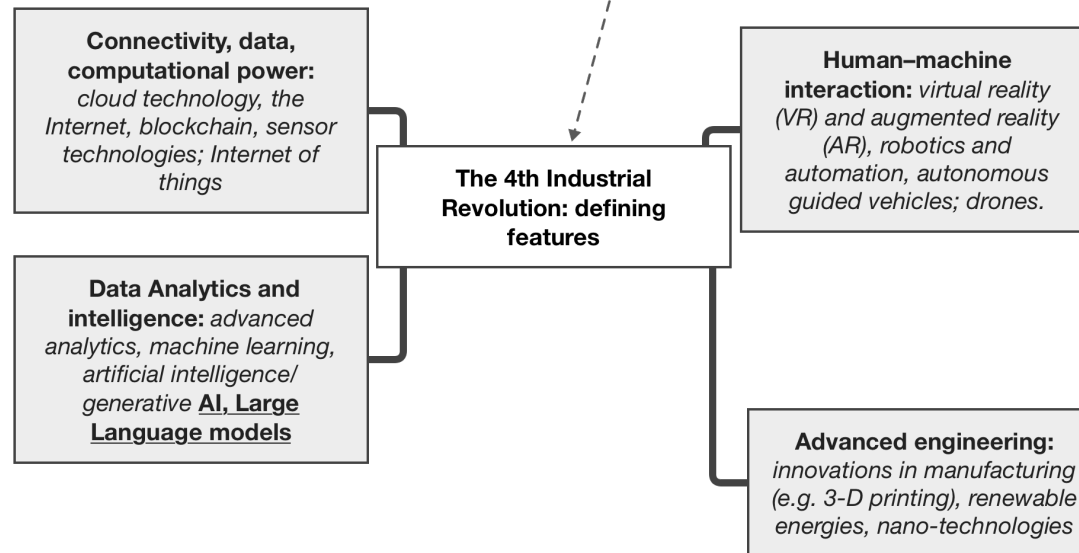
Define?

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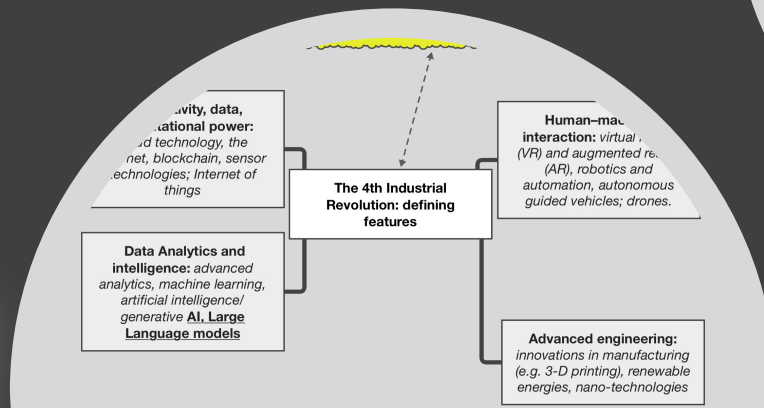SO: my question just now - what happens to **"Creativity"** in this environment? - what does it *become!?*

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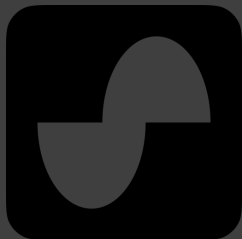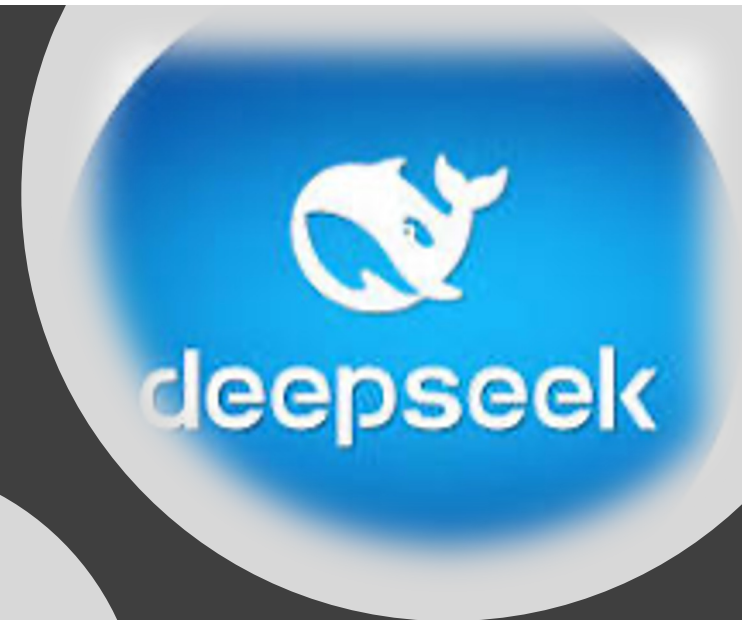- It feels like a large question: but I will scratch the surface of just ONE part of the jigsaw – the place of LLMs in evolving 4IR creativities

- What happens to "creativity" when generative AI becomes normalized /mainstreamed

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CREATIVITY MATTERS!

- In a 3rd-4th fourth Industrial Revolution economy (Mansell 2009; Powell and Snellman 2004) or an information society (Simon 1996; Castells 2010), "creativity" takes on added prominence, a catalytic ingredient, or "special sauce" (Hegarty in Roston 2019) to (re-) activate, mobilise, or re-energise communications; *creative* communication to add value *to* and *through* informatic circulation.

- Creativity inks to both definitions of basic human-ness and to professional creative-industrial productivities

- We invoke "Creativity" to breathe life into the techno-rational atmospheres of everyday work and consumption

- Creativity counters the incipient dominance of behaviourist & objectivist conception of the humans-in-systems

- Creativities keep us in touch with the ordinary poetry of experience

- "Creativity" offers a fantasy-ingredient unblocking communications bottlenecks, opening minds and hearts, plumbing metaphorical arteries becoming otherwise clogged by a diet of "highly processed" junk.

- <u>Despite good intentions, however, it is all too easy to merely add to the noise</u>.

- In 4IR how can 'creativity' cut through the techno-digital-cultural clutter – or will it mainly amplify and crowd out <u>human-centred culture-as-*thinking*</u> as we habitually *delegate (creative) thinking out into the hybrid spaces afforded by 4IR technologies?*

"Creativity": A vast and multidisciplinary enterprise

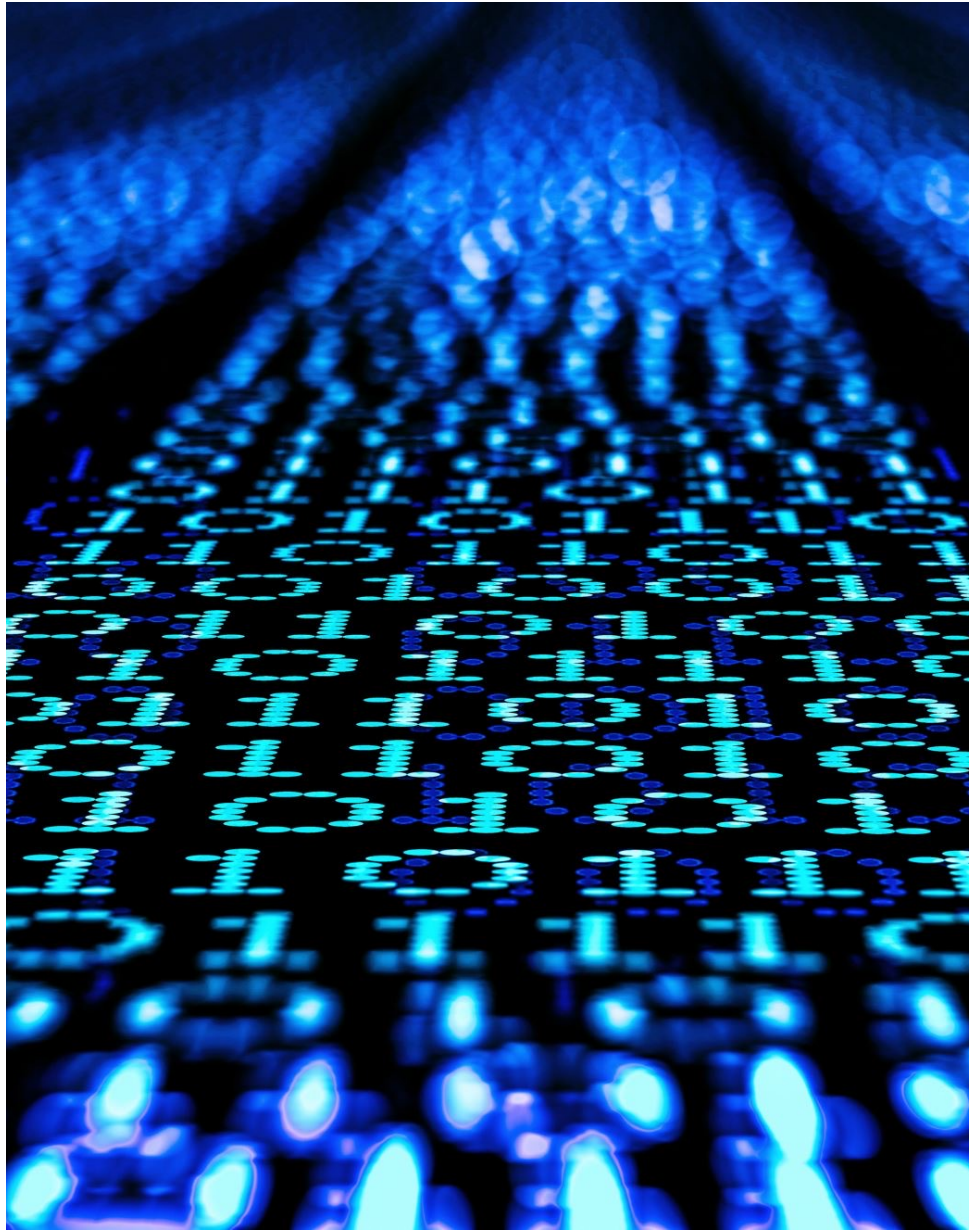"creativity" catalyses thoughtful efforts at description and definition

- How have we, been using, defining, reflecting on, interpreting and 'living' with "creativity" ?

- ...definition, understanding, holding on to the meanings and uses of **"creativity"** is a living challenge...

- Especially in this 4IR environment..

- "Creativity" is an intrinsically cross-cultural endeavor

- "Creativity" brought together – *and divided* - psychoanalysts, psychologists, sociologists and anthropologists, systems thinkers and computer scientists, economists and theologians!

- I will look at just ONE important – and I think POIGNANT insight – an incisive needle from within a haystack of conceptions, examinations and conclusions

Art by Isol from *The Menino*

- Therese Amabile (2018) offers a significant set of interventions.

- Concisely:

- *Creativity* can be found, she argues, where something (in whatever domain) is "both novel and appropriate…" and, she adds, that it should also mark a "valuable response to the task at hand" (Amabile 2018: 35).

- Provocation: Algorithms cannot "create" BY DEFINITION