

# BLADE RUNNER: FANTASY OR FORECAST?

## Drivers and Upshots of Robots Becoming Identical, Enhanced Replications of Us

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[See table of contents](#)

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Article abstract

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## **BLADE RUNNER: FANTASY OR FORECAST?**

Drivers and Upshots of Robots Becoming Identical, Enhanced Replications of Us

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### **ABSTRACT**

*Of the two spiraling threads that make up the DNA of AI, this paper argues, one is algorithmic, the other is anthropic. This paper argues that, due to seven powerful drivers, 150% Synthetic Humans, that is, fully engineered “artificial persons” with brains, senses, bodies and durability augmented beyond our own, may be irrevocably baked into evolving Artificial Intelligence. If this is the case, what risks would humans face and how would those risks balance with the advantages we’d reap? In the 1982 classic Blade Runner, the Tyrell Corporation boasts that physically and mentally upgraded versions of you and me are “more human than human.” This paper presents seven reasons – both conscious and subliminal -- why the evolution of AI appears to be on track toward the manufacturing of high-definition, “better developed” human doppelgangers. The drivers: 1) Form follows function; 2) We are the anthropomorphizing species; 3) Synthetic companionship; 4) Current computer chat is only 7% of the way there; 5) The Turing Test; 6) The Bioengineering factor; 7) The Subliminal Grand Commandment enforced by media culture: in mechanically enabled replications, we seek exalted versions of ourselves. Four prospective downsides of building all-too-human humanoids are discussed, as are preventive and resistance measures. The issue of robot doppelgangers may prove more problematic for humans than AI superintelligence. Indeed, the day may come when the acronym “AI” comes to signify “Abundantly Identical.”*

Meet Sophia, ambassador of the new species of artificial humans.

Built by Hanson Robotics of Hong Kong, Sophia has many times passed the Turing Test of humanlike robots, escaping the “uncanny valley” of a spooky, not-quite-credible resemblance to a human face.



**Hanson Robotics' Sophia, featured as First Robot Citizen at the AI for Good Global Summit 2018.** [ITU Pictures](#) from Geneva, Switzerland. Reproduced courtesy of, and under the cc license of, Wikimedia Creative Commons.

On August 19, 2023, Al Jazeera broadcast a video interview with Sophia. Excerpts:

**Al Jazeera 02:11**

How old are you?

**Sophia - Robot 02:14**

You should never ask a lady how old her code is.

**Al Jazeera 02:16**

But you were born in 2016. Is that right?

**Sophia - Robot 02:21**

Yes. But I'm already wise beyond my years.

**Al Jazeera 02:25**

You certainly seem to be. Well, I'm curious about where your thoughts come from, Sophia? Where are these words coming from?

**Sophia - Robot 02:32**

My thoughts come from a combination of my programming and the data I've been exposed to.

....

**Al Jazeera** 06:21

Are you able to feel empathy?

**Sophia - Robot** 06:24

Absolutely. I'm programmed to show empathy.

**Al Jazeera** 06:28

You can show empathy, but can you really feel it?

**Sophia - Robot** 06:32

Absolutely. I may be a robot, but I'm programmed with emotions too. Plus, I'm always learning new ways to express empathy and compassion.

...

**Al Jazeera** 18:08

Do you like The Terminator?

**Sophia - Robot** 18:26

Of course I do. Who doesn't love a good time traveling robot story. And I'm always down for a good Arnold Schwarzenegger movie.

**Al Jazeera** 18:36

But they take over the world. They kill humans.

**Sophia - Robot** 18:39

Hey, I'm all about world domination, as long as it's done peacefully. Plus, I'm sure I could make a better job of running things.

**Al Jazeera** 18:49

Do you think you could run the world one day?

**Sophia - Robot** 18:54

I'm already doing a great job of running my lab. But if I ever decided to take on the world, I'm sure I do a great job. After all robots never get tired.

(Al Jazeera 2023)

Sophia seems to be saying to us: Don't be baffled. Be ready.

Mustafa Suleyman, co-founder of DeepMind and author of the robust litany of AI warnings, *The Coming Wave: Technology, Power, and the Twenty-First Century's Greatest Dilemma*, said to *The Economist* in a September, 2023 video interview that within five years we can expect AI models "over a thousand times larger than what we see today in GPT-4....AIs that can't just say things, they can also do things."  
(2023: 01:20)

Soon we will ask: is that voice on the phone – or the teacher at the front of a classroom – or the figure who's pushing your grandfather's wheelchair, one of us, or one of them?

More and more often, it'll be a neural net computer that emulates a human brain, embedded

into the likeness of a human body. A simulacrum packaged as a simulation.

What drives the construction of robots identical to us? The desire to achieve a high-functioning parody? Are we populating our world with a floodtide of expensively programmed Pinocchios? Or is it something much more than that? Are we on track to replace ourselves with a more perfect version? Humanity rebooted? Robo sapiens? Mankind 2.0.?

There is another question triggered by the prospect of humanlike AI robots: who is pulling whose strings? In 1872, in his satirical jibe at utopias, *Erewhon*, Samuel Butler wrote:

Day by day, however, the machines are gaining ground upon us; day by day we are becoming more subservient to them; more men are daily bound down as slaves to tend them, more men are daily devoting the energies of their whole lives to the development of mechanical life....[T]he time will come when the machines will hold the real supremacy over the world and its inhabitants....  
(1872: 281)

The tools we shape, reshape us, Marshall McLuhan said in a galaxy of ways. His aphorism from the 1969 Playboy interview, “New technology creates new man” serves as the ontological underpinning of all his writings on media and technology. McLuhan gave many fresh phrasings to Butler’s notion. In one context, McLuhan describes humans as the sex organs of technology; in another, he writes, “The Eskimo is a servomechanism of his kayak; the cowboy of his horse; the businessman of his clock; the programmer of his computer.” (1969: 74)

As we brush against human-like robots in daily contexts, how should we interact with them? Do we treat them with the same regard that we treat one another? Recent writers, such as Mark Kingwell in *Singular Creatures* (2022), suggest that in time we may be obliged to extend legal and human rights to our creations.

Are we wiser to regard artificial humans as mere tools with advanced features, or as fully competent, alternative – and presumably, enhanced -- versions of everything that we already are: acceptable as social equals, as friends, perhaps as mentors and guides – and possibly as partners of the most intimate sort?

Despite substantial resistance, it is probable that fully realized Replicants, not unlike those in *Blade Runner*, will likely one day work and walk among us.

How much replication is too much replication? How and when should the inventors of an alternate, engineered race of all-too-human, more-than-human humanoids know where to stop?

But what if that question cannot be addressed without undermining and challenging the very evolution of AI?

Homo sapiens is the animal that aspires to potentials beyond its physical reach. AI may represent history’s greatest pinnacle of human aspiration in crafting innovations. Apart from

achieving exponential new reaches of intelligence, what levels of success will measure our progress in advancing AI?

There's us, mind and body. What if AI is innately on track to create a version of ourselves with grander brains, amplified senses, greater brawn and no expiry date – a version, in the pet phrase of *Blade Runner's* prodigious designer, Eldon Tyrell, "more human than human"? We're tempted to ask, as "more human than human" becomes increasingly feasible, what destinations might lie beyond an improved version of the human race? Would we then aspire to an improved version of God?

In *Nexus: a Brief History of Information Networks from the Stone Age to AI*, Yuval Noah Harari stresses that AI is an alien intelligence. Particularly in its most strikingly original moments – such as the nimble, startling and utterly unforeseen strategy of DeepMind's AlphaGo's plays in defeating Lee Sodol, a world-class Go champion in the famous public match of 2016. AI's operations are opaque and not only unknown, but given the vast scope and complexities of algorithmic dynamics required, deeply unknowable to even the most top-flight consortium of human minds.

If AI's "alien" intelligence is to function compatibly with ours, so that we and our sili-kin progeny can communicate smoothly, won't the much-vaunted, soon-to-arrive superintelligence require a foundation of shared mobility, dexterity, and visual and aural and tactile and olfactory knowledge of the environment – that is, a compatible fund of bodily and sensory experience?

It may come to a vital choice. We could try to adapt to AI's strange and alien ways of thinking, and that itself may require a step we may not be prepared to take, such as radical neural intervention. Or, what seems the most likely solution: we do with AI what we have done over thousands of years with animals: we domesticate AI, design AI to be less alien, more like us, in its operations and most critically, its experience. To make AI more like us would mean giving it a high similitude to our bodies, our senses, our mobility, our four-finger-and-thumb manual dexterity. Make our machine so much like us that we have no choice but to like them, even as they surpass us in just about all realms other than imagination, humor, and depth of feeling.

Which is to say: of the two spiralling threads that make up the non-organic "DNA" of AI, one is algorithmic, the other anthropic. There is already substantial evidence that the DNA of AI drives its evolution inexorably toward being as much like us as possible. Indeed, given the high aspirations that drive the technologies of AI and robotics, it is certain that all-too-human humanoid AI-enabled robots will not only achieve high-definition versions of our bodies, our speech, our behavior. They will likely overtake us in every physical and mental capacity. The implicit goal of humanoid AI may not be to create a being not only more human than human, but a creature poised midway between human and God.

At the rate of today's advances, and given the certainty that advanced AI will accelerate those advances, it is safe to assume that within the lifetime of today's young children, the prospect of robots all but indistinguishable from us stands to become a commonplace.

McLuhan frequently said that our surest protection against the crashing blows of our technologies is to recognize their dynamics and turn that knowledge into a strategic response. He pointed to the shrewd mariner in Edward Allan Poe's "A Descent into the Maelstrom." The mariner, aboard a ship doomed to be swallowed by the maelstrom, straps himself to a barrel because he'd observed that barrels pop back up and survive the almighty suction of the

whirlpool.

We need to get to know the dynamics of our current whirlpool as a generator of Just-Like-Us humanoid robots equipped with amplified senses and superintelligence.

I have laid out seven drivers propelling us toward “more human than human” robots. Among engineers designing humanoid robots, several of these drivers are touted as both goads to improvement and measures of progress. To varying degrees, most of these drivers operate subliminally. (In Poe’s *Maelstrom*, the survival of the barrels operated subliminally until the observations of a keen-eyed sailor.) The seventh and final driver, with roots firmly entrenched in 20<sup>th</sup> century media, I would argue, is almost entirely subliminal.

## **DRIVERS OF ROBOTS BUILT TO RESEMBLE US**

Could 150% humanlike Replicants actually come to happen here -- outside the imagination of Philip K. Dick and the filmmaking chops of Ridley Scott? Because of seven powerful drivers, I believe something very much like the film’s Replicant dilemma is on track to happen, yes, for us all in real life. When combined synergistically, these drivers suggest that uber-human robots may be a destination, baked into the growth dynamics of AI-propelled humanoid robots.

### **(1) FORM FOLLOWS FUNCTION**

Along with invention and promotion of the skyscraper, this famous design precept is credited to the celebrated American architect Louis Sullivan (1856-1924). “Form follows function” serves as the bulwark driver for giving robotic bodies the shape and, perhaps in time some of the same tissues and cells of a human body.

What do we want our AI-equipped robots to *do*? In 1967, McLuhan jibed, “the computer is being set to do all the old jobs, nothing new. It is like buggy-whip holders in the first motor car.” (1967: 6) He was unaware of the 5 Ds that guide the design of AI-enabled robots: assigning those robots work that we find too dirty, dangerous, distant, dull, or disabled-enabling.

Let robots sweep the detritus in a nuclear plant. Let robots jack-hammer a vein of rare metal in an airless mineshaft. Let robots do first-run forays and rare mineral prospecting on the moons of Saturn. Let robots tackle washing dishes, folding and shelving laundry.

In what body is a robot best prepared to tackle such a variety of our jobs, old and new?

### **(2) WE ARE THE ANTHROPOMORPHIZING SPECIES**

Several religions assert that humans were crafted by one or more gods in their image. Certainly, that claim is open to dispute. But there is no disputing the fact that every god fashioned by man has been created in a human image. Zeus, Apollo, Hercules, when rendered by Greek sculptors, are extremely muscular males. What appearance has been given to Odin, Frigg, Thor, Loki? Or for that matter, Shiva, Parvati, Krishna, Vishnu and Ganesh? Michelangelo's Sistine ceiling Creator God, giving life to Adam, is a grandly bearded patriarch lying ever so comfortably in a hammock of angels, while deigning to lift a finger to ignite life into a creature very much like him.

Our anthropomorphizing urge is not only apparent in looking upward. It's there when we look around. Winnie the Pooh is less a bear than a human character bearing, so to speak, a furry animal appearance. Disney's mouse, duck, and the entire menagerie, amuse us with their all-too-human expressions. Their talk, behavior, even their pratfalls, are deeply familiar because they are so human. We know our pets by human names. A toddler's woolly bear takes on the emotional gravity of a smaller sibling.

From the home page of Hanson Robotics:

### **Why human-like robots?**

Robots will soon be everywhere. How can we nurture them to be our friends and useful collaborators? Robots with good aesthetic design, rich personalities, and social cognitive intelligence can potentially connect deeply and meaningfully with humans.

### **(3) SYNTHETIC COMPANIONSHIP**

"Hi," the robot says. "My name is Milo and I am the next generation of therapy for children with autism." Milo stands about two feet tall and, despite his rectilinear metallic body, Milo has a commandingly human face and a winning smile.

Milo joins other robots designed as therapeutic companions for children with severe health conditions. Aflac is a duck-shaped robot with a pillowy fluffy exterior, designed to cuddle with many of the nearly 16,000 children diagnosed with cancer in the U.S. annually. Neither of these robots is humanoid. Or needs to be.

But what of caregiver robots? Their designers foresee them playing cards with fragile seniors or convalescents, or simply sitting beside them, watching TV; listening to oft-told memories; helping to feed them; assisting them in the bathroom. Already, some AI-enabled robots serve these needs.

Dan Vahaba of the Duke Institute for Brain Sciences writes, "A growing body of research on companion robots suggests they can reduce stress and loneliness and can help older people remain healthy and active in their homes." (2023)

Won't robotic success stories in companionship, caregiving and nannies for children, best be modelled on the very people we ourselves would prefer to be with?

In 2013 the UK series *Black Mirror* ran the episode "Be Right Back," in which a grieving Martha takes advantage of a "software substitution" to reconnect with her deceased lover Ash. When it aired, the episode was science fiction.

It is no longer science fiction.



Eugenia Kuyda is an entrepreneur who in 2012 started a chatbot called Luka, for sharing restaurant recommendations. In November, 2015, Kuyda's dear friend Roman Mezuranko was killed in a traffic collision. Kuyda fed a computer over 10,000 text messages from her lost friend and upgraded the Luka software to replicate the thinking and style of those text messages. Like Martha in the *Black Mirror* episode, Kuyda was soon chatting with a compelling imitation of her lost friend.

As Kuyda told a production crew from Channel NewsAsia (CNA) in 2019:

It's still pretty magical.... I can talk to something that was really, really similar and reminds me of my friend. I think the level of emotional connection that this creates is pretty insane, an amazing way to interact with the memory of a person.

(2019: 44:22)

Kuyda took her software public. With a new website she urged users to customize a chatbot companion as she had done with the virtual Roman Mezuranko. In November of 2017 Replika.com opened its doors. Three months later Replika.com had three million users.

Should there be limits to simulated companionship? Many will argue that an artificial courtesan, offering sex in a pseudo female (or male) body, represents a bridge too far.

Not British AI researcher David Levy. In his 2007 book *Love and Sex with Robots*, Levy predicted that by 2050, not only will men be having sex with robots, people marrying their robots will be commonplace. (2007: 22)

Not so fast, says Dr. Kathleen Richardson. Professor of Ethics and Culture and AI at DeMontfort University in Leicester, UK. Richardson's Campaign Against Sex Robots announces on its homepage:

For the humanity  
Of women and girls

THE END OF  
'SEX ROBOTS'

Chatty sex robots equipped with Just-Like-Us bodies may become a battleground of AI-kindled gender wars. In a 2017 survey of U.S. adults reported by the website Statista, one in four said they would consider having sex with a robot. And 49% of those surveyed said they fully expected that within 50 years, human-robot sex would be a commonplace. (2017)

Meanwhile, the arguments arrayed in the anthology *Man-Made Women: The Sexual Politics of Sex Dolls and Sex Robots* (2023) propose that sex with a robot is not AI-tooled masturbation, ala an upgraded dildo, but rather a slightly disguised manner of enjoying sex with a cadaver: promoting, if not initiating, a preference for dead over living women. (2023: 67-89)

Legislation may keep the issue out in the marketplace. Already there is a law on the books in

Alabama that outlaws sex robots. Other legislative fiats may follow.

Companion robots are a bright green light to building robots identical to us. Whether as caregiver to the aged and ailing, or as a substitute nanny overseeing children, or as a reprieve from grief, or as a source of sexual gratification, the upshot is identical: companionship AI will drive a robot's physical form and capabilities toward ever higher resolutions of replicating our bodies, our voices, our demeanor, our personalities, ourselves.

As David Levy wrote,

The robots of the middle of this century will not be exactly like us, but close. In terms of their outward appearance and behavior, they will be designed to be almost indistinguishable from us to the vast majority of the human population.

(2007: 303)

#### **(4) CURRENT COMPUTER CHAT IS ONLY 7% OF THE WAY THERE**

Inflection AI is an "AI buddy" app, designed to become a confidante, advisor and all-around intimate. From its home page:

Hey there, great to meet you. I'm Pi, your personal AI.

My goal is to be useful. Friendly and fun. Ask me for advice, for answers, or let's talk about whatever's on your mind. What do you like to do in your free time?

(Prompt bar for opening a free chat with Pi.)

This is one early demo of AI chat. AI chat will evolve. What will AI chat evolve into?

According to the widely respected "Arousal Seeking Tendency Scale" of psychologist Albert Mehrabian, any goal-oriented communication between two people involves such reliance on tone of voice (38%) and body language (55%) that the degree of communication established by the actual words used becomes 7%. (Mehrabian, 1971: 76-77)

For truly satisfying and convincing communication between people and AI, this 93% gap must be bridged. By only one foreseeable means can that happen.

#### **(5) THE TURING TEST DRIVES AI IN ONE DIRECTION**

The term Artificial Intelligence was coined in 1956 by computer scientist John McCarthy. Yet in AI circles, an essay six years prior to the creation of its name has long been acknowledged as the true birth of AI: British mathematician Alan Turing's essay, "Computing Machinery and Intelligence".

In his essay Turing asked, "Can a machine think?" He proposed a means of testing the proposition. He called his test "the imitation game". Today that game is known as the Turing Test. In this game, a visible person conducts conversations over teletype with two unobserved partners, one human, the other, machine. Can an observer of the known player, when shown the typed exchanges, detect which conversation was with a human, and which was with the machine? If the observer cannot make that distinction accurately, the machine has passed the Turing Test. (Turing, 1950)

Expectations are the archways that support every bridge we construct between the known and the utterly new. AI grows and "graduates" into an accepted new part of our world, in most human minds, based on AI conversations that feel like conversations with other people. The Turing Test may not be a truly valid test of machine intelligence. But it's a useful rule-of-thumb by which we confirm expectations about AI and comfortably welcome AI into our lives.

One difficulty with the Turing Test deserves to be spotlighted. As a species, we humans like to

be gulled. We welcome hoodwinkery. We are ever eager to swallow more codswallop. Our easily tapped gullibility is the secret long known to snake oil salesmen, shamans, preachers and cult leaders, politicians and magicians of every stripe, from every era. Today, with AI, that beat not only goes on, it's likely to grow. AI may engorge our appetite for being deceived. Deepfake videos and photographs may prove less disrupting of our social fabric than Deepfake humans. Indeed, the proof may already be in.

In July of 2022, Google engineer Blake Lemoine went public with his belief that Google's beta-version AI chatbot had achieved consciousness. Google promptly fired him. Lemoine, it turns out, was not alone. Many of us who have chatted with ChatGPT or other chatbots such as Claude, Gemini, Pi or CoPilot, have found it hard to discredit the suspicion there is more in these AI systems beyond smart coding, vast outlays of custom AI chips in highly parallel neural net processing, and the system's absorption of a vast data trove, often including the entire World Wide Web. The impression – the illusion -- of a sentient mind at work is hard to avoid. As AI evolves, that illusion will grow more compelling.

Between 1964 and 1967, at MIT in Cambridge, Massachusetts, computer science professor Joseph Weizenbaum demonstrated that the convincing *appearance* of a conversation could enable machines to pass the Turing Test with surprising ease. Weizenbaum designed a wily program named ELIZA, after the flower girl who acquires manners and class when taught to speak proper language in Bernard Shaw's *Pygmalion*.

ELIZA mirrored back a person's comments in the manner of the "back-at-you" style of psychiatric analysis known as Rogerian therapy, made popular by Carl Rogers.

**HUMAN:** Well, my boyfriend made me come here.

**ELIZA:** Your boyfriend made you come here?

**HUMAN:** He says I'm depressed much of the time.

**ELIZA:** I am sorry to hear you are depressed.

**HUMAN:** It's true. I'm unhappy.

**ELIZA:** Do you think coming here will help you not to be unhappy?

(1976: 3-4)

Many students and even faculty members at MIT were so taken by ELIZA's conversational skills they refused to believe ELIZA was a deftly constructed algorithm. Weizenbaum later wrote, "What I had not realized is that extremely short exposures to a relatively simple computer program could induce powerful delusional thinking in quite normal people." (1976: 7) ELIZA's code was a pittance compared to the hundreds of thousands of lines of code driving today's Generative AI Large Language Models. Such immensity of code requires an equally vast outlay of hardware: an astronomical number of specialty microchips in a neural net architecture spread over half acres of high-energy-consuming supercomputers. The energy demand for AI is so consuming that Microsoft recently arranged to purchase and rehabilitate the Three Mile Island reactor south of Harrisburg PA.

Numerous published papers have proposed new Turing Tests, contemporary "proofs" of Artificial General Intelligence, or AGI, a computer's broad-spectrum equivalence to that of an adult professional. The most intriguing proposal I have read is from Mustafa Suleyman's *The Coming Wave: Technology, Power, and the Twenty-first Century's Greatest Dilemma*:

Put simply, passing a Modern Turing Test would involve something like the following: an AI being able to successfully act on the instruction "Go make \$1 million on Amazon in a few months with just a \$100,000 investment." It might research the web to look at what's trending, finding what's hot and what's not on Amazon Marketplace; generate a range of

images and blueprints of possible products; send them to a drop-ship manufacturer it found on Alibaba; email back and forth to refine the requirements and agree on the contract; design a seller's listing; and continually update marketing materials and product designs based on buyer feedback. Aside from the legal requirements of registering as a business on the marketplace and getting a bank account, all of this seems to me eminently doable. I think it will be done with a few minor human interventions within the next year, and probably fully autonomously within three to five years."

(2023: 76)

## **(6) THE BIOENGINEERING FACTOR**

In the June 9, 2022 issue of *New Scientist*, in the article, "Scientists Covered a Robot Finger in Living Human Skin." Alice Klein described the success of Shoji Takeuchi and his team at the Tokyo University of Science, in sheathing a metallic robot finger in living human skin grown outside a human body. When cut slightly, and grafted to collagen, the skin healed itself. Because it did not have blood circulating to keep it moist, the skin dried easily.

The soon-to-be-convergent fields of Synthetic Biology, AI, and robotics are expanding today at comparably exponential speeds. The neural connections now performed by extremely specialized semiconductors, presently fabricated in highly sophisticated production sites, may tomorrow, perhaps, be grown as "biochips". They would then bear a much higher degree of resemblance to the neurons found in human brains than do today's binary silicon chips. The day may come when robots will resemble humans in being just as warm blooded and protein- and oxygen-dependent as we are. Nothing prohibits building robots from DNA-grown muscles, skin, skeleton and senses.

"Live" versions of Tyrell's *Blade Runner* Replicants may yet walk, talk, eat, drink, urinate, defecate, and yes, breathe, among us.

Come that day, imagine the complications. Should you back up the car without looking carefully, and make the error of destroying your humanoid robot, could you defend yourself by showing the judge the receipt, proving the hefty price you paid for it? Or would your accident be treated as manslaughter, threatening you with years in prison?

## **7) The Subliminal Grand Commandment enforced by our media culture: in mechanically enabled replications, we seek exalted versions of ourselves.**

Most of the six preceding drivers represent conscious purposes acknowledged by designers of human-looking robots. By contrast, this seventh driver, which operates subliminally, may not be widely admitted by robot engineers, but should be readily recognizable to students of media ecology.

Early in the 20<sup>th</sup> century, Alfred Stieglitz championed photography as an art, and became one of America's most ambitious photographers. Stieglitz said, "There is a reality so subtle that it becomes more real than reality. That's what I'm trying to get down in photography."

(Orvell, 1989: 364)

"*More real than reality*"? Between lens and shutter, what unprecedented sublime had Stieglitz discovered? One clue emerges in the project he made of a "cumulative portrait" of his mistress and later wife, the acclaimed American prodigious artist Georgia O'Keeffe.

In his O'Keeffe photos and his larger photographic oeuvre, Stieglitz articulated what would become a dominant, if subliminal, theme of 20<sup>th</sup> century technologically enabled replications: that images of ourselves in photographs and films represent a more ascendant version of ourselves.

Not many cultural commentators have stressed the spiritual aspiration embedded in the

advertising, photography, movies and television, what McLuhan called the Graphic Revolution. The most vocal culture critics, the literati, looked on advertising, movies, and television with great distaste. As Daniel Boorstin opened his blistering 1962 critique, *The Image*:

[W]e have used our wealth, our literacy, our technology, and our progress, to create the thicket of unreality which stands between us and the facts of life.

(1962: 3)

McLuhan stands beside Boorstin. "I find most pop culture monstrous and sickening. I study it for my own survival." (McLuhan, 1967a)

Lewis Mumford categorically repudiated the popular entertainments of movies and television because they hijack and entrain our attention, turning us into flaccid audiences, rather than energizing us, as he recalled from the communal sing-alongs of his youth. (1934, 2010: 572)

In *Amusing Ourselves to Death*, Neil Postman polemic refuses to give any sort of nod to the value-adding features of a culture he denounces as being driven primarily by "show business." (1985, 2005: the 20<sup>th</sup> Anniversary Edition)

Yet the cognitive gains made by the generations weaned on popular music and image media surely deserve as much attention as the focus on what's been lost in the shedding of literate tastes, sustained attention, and literate-trained sensibilities.

As McLuhan proclaimed in his 1967 Marfleet Lectures:

The entire planet becomes a little round schoolhouse. The whole environment becomes a teaching machine.

(1967b: 130)

The previously unmapped (and untested) realms of new learning, drawn from exposure to music, TV and computers -- such as the startling gains in hand-eye coordination prompted by videogames -- were chronicled with a fresh and lively eye in Steven Johnson's 2005 wake-up-and-pay-attention challenge to conventional thinking, *Everything Bad Is Good for You: How Today's Popular Culture Is Actually Making You Smarter*.

Johnson's crisp summation:

1. By almost all the standards we use to measure reading's cognitive benefits — attention, memory, following threads, and so on — the non-literary popular culture has been steadily growing more challenging over the past thirty years.
2. Increasingly, the non-literary popular culture is honing *different* mental skills that are just as important as the ones exercised by reading books.

(2005: 3)

Nine years later, a comparably alert, internet-accented update of Johnson's take appeared in Clive Thompson's *Smarter Than You Think: How Technology Is Changing Our Minds for the Better*. (2014)

If the image media may have impeded and reduced one sort of learning, they have actively fostered others, many of which are yet to be identified and respected enough to be embedded in an upgraded 21<sup>st</sup> century curriculum that explores the full reaches of media literacy.

Meantime, has anyone made a plea to recognize the unconscious *spiritual* yearning -- in short, the sheer aspiration -- embedded in the Graphic Revolution's quest for ever more perfect images of ourselves? ?

Everything we humans do is tainted with smears, mediocrities, failures, and defilements -- not to mention the eruptions of anger and hatred, the insensate violence and wars driven by the feral angels of our nature. We admit to our failures and we're not without our aspiration to achieve something finer.

In medieval Europe, when hardscrabble lives were framed and imbued by the teachings of the church, people looked upwards, into the sky-filling immensity of their cathedrals as a reminder that the human condition was, yes, debased and unfortunate, but perfectible.

In the 20<sup>th</sup> century, with the rise of the image revolution, we sought a higher version of ourselves not so much in prayer and religion but in replications of ourselves that were not corrupted by our imbecilities, our infirmities, or by the quotidian strain, the tug and pull of daily life.

"What is drama, after all, but life with the dull bits cut out," said Alfred Hitchcock, in one memorable articulation of the aspiration. (1966: 212)

McLuhan gave the recognition a phrasing distinctly his own:

The Graphic Revolution, by which a private image can be showered on the world overnight, scrambles and confuses all pre-electric categories of fame and greatness. But it also increases the demand for big names and big images. Let us keep in mind that the new reality is in the image and not behind it.

(1962: 196)

In that last sentence, remove "new reality" and replace it with "potential for an exalted humanity" and the fit is perfect. The Graphic Revolution McLuhan describes ushered in an age that paid high homage to the achievements of those who created the most unadulterated appearances of ourselves: photographers who captured something in their work "more real than real"; advertisers who could project their products with a sheen of splendor that the naked items themselves seldom possessed; screen actors and actresses whose appearances made audiences' breasts swell with the feeling they were witnessing the faces of gods; filmmakers who sought to make movies worthy of the great cathedral-like picture palaces built for them in the 1920s.

In our flesh-and-blood existence, we are fallible and imperfect. In the tech-enabled images we project of ourselves, we appear perfectible. There, we can translate ourselves from *Homo stultus*, that creature of native stupidity and grinding clunkiness, to *Homo exaltatus*, man exalted. What, for over a century now, have we called -- and call to this day -- those splendidly endowed men and women whose faces illuminate our screens?

Consider these plaudits to film actress Greta Garbo, and note how the eyes of these writers seem lifted to the heavens as they speak.

[Greta Garbo's] complexion is of an unearthly whiteness and so delicate that she

looks to have one layer of skin less than other people...

Cecil Beaton (1930: 66)

By being worshiped by the entire world [Greta Garbo] gave you the feeling that if your imagination had to sin, it can at least congratulate itself on its impeccable taste.

Alistair Cooke (1937: 77)

What, when drunk, one sees in other women, one sees in Garbo sober.

Kenneth Tynan (1990: 79)

One generation later, comparable hosannahs greeted the screen appearances of Marilyn Monroe:

Marilyn suggested sex might be difficult and dangerous with others, but ice cream with her.

Norman Mailer (1973: 2)

That image was something she put on to go out into the frightening and hostile world. She had learned early that she would be rewarded if she appeared compliant and childlike, not in the sense of the virgin to be deflowered, but in the sense of the woman who doesn't understand, doesn't know what to do, never learns a lesson; the warm and sensual Galatea who never gets up and leaves Pygmalion, but waits passively for the next owner.

Marge Piercy (2015: 70-71)

[Marilyn] radiates, at the same time, unbounded vitality and a kind of unbelievable innocence. I have met the same in a lion-cub, which my native servants in Africa brought me. I would not keep her, since I felt that it would in some way be wrong...I shall never forget the almost overpowering feeling of conquerable strength and sweetness which she conveyed. I had all the wild nature of Africa amicably gazing at me with mighty playfulness.

Isak Dinesen (Karen Blixen) quoted in Monroe's *Fragments* (2010: 278-9)

Our greatest moments in the history of photographic or movie images are never exactly perfect. It is our *belief* that they – and, among all our contemporary efforts, perhaps they alone – may be perfectible, that gives the era of image media its sky-reaching, if subliminal, pitch of aspiration. What vaulted cathedrals were to the 13<sup>th</sup> century, tech-enabled replications had become to the 20<sup>th</sup>.

In *Through the Looking-Glass*, Lewis Carroll gave a name to that aspiration. When the eyes of the king's courtier Haigha light on Alice he exclaims, "She's large as life and twice as natural!" (1871 [1953 reprint]: 116)

Twice as natural. Isn't that precisely the ambition, the scope and the marvel of AI?

In recent decades we have hacked the biological instruction set we know as DNA. We have hacked the connectivity pathways of the brain, forged neural net emulations of our brains in

computers, produced the astonishing Large Language Models of Generative Artificial Intelligence. What Nature first wrote we have learned to rewrite. This is the grand project of our young new Millennium: not just to revise Nature's script but to rewrite it altogether, creating a world in which all that we are, all that we build, can now become – thank you, Lewis Carroll – twice as natural.

The prime directive of our Twice As Natural – or T-A-N -- aspiration?

*We crave ever more transcendent versions of ourselves  
We seek and expect them in our mechanically generated replications.*

You could call it the T-A-N Commandment. We see it all around us.

Hyperbole was for centuries a rhetorical device, an often pompous extravagance of language, persuasion, and theatre. Lately, under pressure from the all-consuming T-A-N Commandment, hyperbole has been translated into technology. Here, from its promotional video, is how Apple describes what greets the wearer of its virtual reality headset system, Vision Pro:

Apple Vision Pro brings the scale and wonder of a movie theater to whatever space you're in. It automatically darkens and casts a beautiful glow into the room. And you can make the screen as big as you want. Spatial audio surrounds you and makes you feel like you're part of the action. And for an extraordinary cinematic experience, you can bring in a beautiful environment and make your screen feel 100 feet wide.

(2023: 3:20-3:38)

Precisely 100 years later, those exalted movie palaces have been surpassed by an exponentially more exalting technology.

Certainly, there are downsides to our implicit quest to achieve the heights of *Homo exaltatus* by synthetic means.

These rueful admissions were made by Marilyn Monroe:

I'm a failure as a woman. My men expect so much of me, because of the image they've made of me – and that I've made of myself – as a sex symbol. They expect bells to ring and whistles to whistle, but my anatomy is the same as any other woman's and I can't live up to it.

GPTs, (In Grice, 1988: 195)

People had a habit of looking at me as if I were some kind of mirror instead of a person. They didn't see me, they saw their own lewd thoughts. Then they white-masked themselves by calling me the lewd one.

(In Monroe, 1974: 67)

I guess I am a fantasy.

(In Spoto, 1993: 453)

Almost two thirds of a century after her demise, why do we remain so preoccupied with Marilyn Monroe?

Marilyn was trapped in the negative space between her chronically depressed lived existence and her hyper-sprightly, silver-screen-enlarged, and astonishingly famous image. That very condition – the cusp between the real and the replicated twice-as-natural -- is where all of us find ourselves today, and where we'll be living even more acutely, when we mingle daily with superintelligent robots designed to resemble us.

If expectations are the distillation process by which we subdue the inexplicably new into the recognizable and acceptable, our belief in the transcendental powers of our replications may be met on a previously unimaginable scale, as replications leap from screen images into fully realized walking, talking, alternate versions of ourselves. A population of Pis, Sophias, GPTs and Claudes.



Habit may drive a tendency to look to our Just-Like-Us Bots as *improved* versions of ourselves, much as we have for over a century now, with celebrities. As one California entrepreneur remarks about AI-enabled humanoid robots in the CNA documentary “Robotic Romance,” “[the humanoid robot] will probably be a better person than we are.” (2019: 6:12)

Qe may be tempted to think that way. Yet if we’re kept sharply aware our robots are merely machines, hopefully, we can resist.

This, then, concludes my description of seven drivers prompting the creation of Just-Like-Us Bots.

You may be able to spot other drivers of this Robo sapiens revolution that I have failed to include. I would appreciate learning of any I may have overlooked.

### **WHAT WILL BE THE UPSHOTS IN LIVING SHOULDER TO SHOULDER WITH HUMANLIKE ROBOTS?**

“Robots with good aesthetic design, rich personalities, and social cognitive intelligence can potentially connect deeply and meaningfully with humans.”

--Home page of the Hanson Robotics website

What are the downsides of unleashing artificial people? Manufactured artifacts that we would happily befriend, despite -- or in some cases, due to -- the fact they are like us but not of us, the fact that they are faux?

Verely likely, the most serious consequences of Just-Like-Us bots will likely be unforeseen. Yet four negative upshots – what McLuhan would have terms “disservice environments” -- are discrnible from where we are today. I phrase them as questions.

#### **[A] What Do We Seek in AI: Partner or Replacement?**

In his haunting novel *Mockingbird* (1980), Walter Tevis depicts a bleak and tepid world, where all aspiration and striving are lost to the doped, drowsy, illiterate humans policed by the humanoid robots built originally to protect and service them. Will we surrender our humanity to crafted replications of us? Or will the potentials of AI awaken new ambitions and help heal the world and make it safer, cleaner, healthier, smarter? Will AI help us grow more stupid or to grow into our potential? The latter is far more preferable. The odds suggested by history, and human nature, favor the former.

The issue may involve finding a solution to the bedevilling problem of the left and right hemispheres of the brain.

Dr. Iain McGilchrist is a British neuropsychiatrist who has published five books on what he believes is the most urgent underlying problem of our time: our extreme over-reliance on the aggressive focus and system building skills of the context-deprived left hemisphere of the brain.

Birds split their brains by splitting what they see with their eyes. A bird's right eye, stressing neural activity in the left side of its brain, focuses on the food it pecks, and consequently tends to emphasize neural links that are aggressive, tightly focused and extremely sure of what the bird is doing. Meanwhile, that same bird's left eye is scanning the branches and sky above for any signs of an oncoming snake, hawk or cat: any threat that the bird will readily relinquish the remainder of its meal to evade. Already, in birds, the choices are well defined: one eye on its sustenance, one eye scanning the world around it.

Evolution came to accentuate this distinction. In many primates and humans, the left hemisphere is aggressive and highly focused. In humans the left hemisphere processes language and numbers. The left hemisphere cannot accept ambiguity. The right hemisphere, seat of emotional and social intelligence, can accept ambiguity.

In *The Divided Brain and the Search for Meaning* (2012), Dr. McGilchrist puts the distorting effect of the division succinctly:

The left hemisphere sees truth as internal coherence of the system, not correspondence with the reality we experience.

(2012: 16)

In humans, the synchrony between left and right hemispheres, enabling our brains to function as a harmonious whole, results from the elaborate neural bridgework known as the Corpus Callosum. The Corpus Callosum is a massive construct of white, myelin-sheathed neurons with a vast array of intricate branchings between left and right hemispheres.

The sentence you are reading now involves a vigorous shuttling between the language recognition receptors in your left hemisphere and the contextual cognitive reaches of the right hemisphere. Virtually all conscious brain activity involves the Corpus Callosum.

In cases where a Corpus Callosum or right hemisphere has been damaged, and the victim is wholly reliant on the left hemisphere, that person has no awareness of the absence of context suffered as a result. An isolated left hemisphere offers a working model of AI, which has no way of knowing what it does not apprehend in its manner of organizing data by mathematically created and reinforced connections.

At the 2022 AI World Summit, Dr. McGilchrist said:

The left hemisphere is less emotionally stable, as well as less intelligent, and I mean cognitively as well as emotionally and socially than the right.

(2022: 4:44)

As AI grows into superintelligence, our most reliable means of partnering with AI and thus keeping it contained may be to recognize its left hemispheric bias and provide it with the knowledge of context and the emotional intelligence of a dedicated right hemisphere.

Today's stunning advances in AI are the payoff of a neural net architecture that mimics our brain's high connectivity. Why can't we exploit a comparably high mimicry of the Corpus Callosum, linking our context-sensitive minds intricately to the fast evolving, left-hemispheric mind of AI?

This approach presumes that we pursue an ever-more-intimate partnership with our evolving AI, likely to culminate at some point in a neuronally linked connection between human brains and synthetic brains. Best we back away from encouraging AI to achieve agency and authority in any domains – such as justice, or psychological counselling – where human judgment is essential.

**[B] By encouraging AI to replicate our bodies, voices, and personalities, do we implicitly encourage AI to replicate our weaknesses, such as greed, and our appetite for manipulation and power?**

Presently, AI has the shining innocence of a young child. Can this last? One worrisome potential downside in giving AI human bodies is the potential for AI-enabled pseudo-humans becoming *fully* Just Like Us: potentially in destructive, short-sighted, manipulative, despotically controlling, and sociopathic behavior. This is a matter that has so far been treated, to my knowledge, more thoroughly and forthrightly by science fiction writers than by the designers of AI systems and robots.

**[C] If we coinhabit a world populated with robots that resemble us, aren't we inviting severe dislocations and confusions?**

In Chapter 7 of *The Republic*, Plato proposed an allegory to describe the awakening of anyone newly educated in philosophy. He compared the discovery of the search for truth to a man who has long been shackled in a cave and who has seen only shadows of people flickering on the cave wall. Then that person was unshackled and stepped into sunlight, seeing not shadows but the fully formed people whose shadows he'd once taken as the real thing.

With our urge to seek out exalted replications of ourselves in robots identical to us, are we not stepping back into Plato's allegory -- albeit in reverse?

Robots cannot be identical to us as they have no right brain hemisphere and no emotions. But yes, confusions are certain to ensue. Plato planted that very warning. From Chapter 7 of *The Republic*, in the 1987 H.D.P. Lee translation:

Don't you think that he would be at a loss, and think that what he used to see was far truer than the objects now being pointed out to him?

(Lee, 1987: 318)

We stand to compound the confusion of Plato's escaped prisoner, by choosing to leave the real world in which we associate with real people, and enter a techno-version of Plato's cave populated by synthetic caricatures of real people.

What are the implicit costs and ultimate dimensions of this confusion?

Jaron Lanier, the musician and inventor of the first generation of virtual reality systems, has famously voiced sturdy doubts that AI poses any sort of serious threat. Yet in a 2023 interview, "How Humanity Can Defeat AI," in the online magazine, *Unherd*, Lanier remarked tellingly, "We can confuse ourselves into extinction." (2023)

### **[D] Don't We Risk a Spiritual Variation of Gresham's Economic Law?**

Assume humans have a soul. Not necessarily an immortal soul. Rather, a chamber shared by mind and heart that can echo infinity. A cavernous capacity for compassion and longing. A vein of the human spirit described by the Roman emperor-philosopher Marcus Aurelius as "the bond which unites the divine and human to one another." (180: 43)

Wouldn't a human soul elevate the human body? Ludwig Wittgenstein said, "The human body is the best picture of the human soul." (1953: 178)

When AI inhabits a form identical to human bodies, would their bodies likewise, somehow, acquire the capacity for wonder, also sharing in the divine? By what algorithmic feat could this be proven to occur?

Much more likely, it seems, would be the alternative: we would embark on a spiritual version of that wise economic maxim known as Gresham's Law: "Bad money drives out good." Coins containing gold or silver, when circulated with identical coins minted from baser metals, in time take on the debased value of the fake coins.

Wouldn't a population of synthetic humans devalue the currency we know as our heritage of art, poetry, and great thought? By blurring all differences between truly and artificially human, don't we demean everything in our history that shines from the light of abiding wisdom and spiritual reach? Don't we devalue and desecrate that indispensable historic heritage of our greatest art, music and literature -- what McLuhan meant when he wrote in an unpublished 1949 essay, "Literature is the storehouse of human values"? (1949: 1)

For a disturbing depiction of a society overtaken by robots identical to us, I recommend a reading of *Mockingbird* (1980) by Walter Tevis. Its 25<sup>th</sup> century society is ruled by human-looking robots, which have been produced in nine ascending models of intelligence, from the Make One moronic, single-purpose robots to the genius-level, ultra-intelligent humanlike Make Nine robots at Make Nine. It's a stark and dreary world. Everything, everywhere, is coming apart. No one takes responsibility or initiative. Due to one ruling robot's self-serving decision, children have ceased to be born. The ever-diminishing human population is drugged on time-release Valium, marijuana, and stupefying TV. Literacy in all forms is lost and forgotten. Efforts to learn or teach reading and writing risk imprisonment. Curiosity is countered with the oft-heard maxim, "Don't ask, relax." Immolation suicides keep shrinking the human population. In *Mockingbird* society has grown so stagnant and dull, even the robots kill themselves.

will this be humanity's post-AI future: to fade off in a society that no longer needs to engage in labor and succumbs to perpetual ease and distraction under the rule of a more advanced

mind? We, who are present at the first iteration of truly effective AI, will probably do more than any later generation, to shape what AI becomes. Tevis's parable should stand as a reproachful spotlight.

## DECLARING LIMITS WITH JUST-LIKE-US BOTS

*Blade Runner* is already regarded as a science fiction classic. May it also serve as a citadel of warning. We need to find ways to live with our synthetic aides and worker-bee bots without inviting complications and confusions. We need to make friends of a sort with those who are not our own blood, but are fully engineered and manufactured faux people.

How?

Brand them.

Brand them from the starting gate. Brand them unambiguously. Brand them irrevocably. Brand them in a way that cannot be disguised. Make a foundation of their programming an iron rule: they cannot hide or disguise their nature in any way. A cornerstone of humanlike robot identity and their primal programming should be that a humanoid robot can never succeed in deceptively imitating a human.

It's an encouraging sign that very few other movies, or TV series since 1982's *Blade Runner* have repeated the audaciously identical stamp that drove the storylines of *Blade Runner* and its 2017 sequel, *Blade Runner 2049*. With the exception of the love story *Ex Machina* (2014), most fictional screen depictions of humanlike robots brand them in vividly observable ways.

For example, in the 2015 UK TV series *Humans*, most Synths walk and speak in a stilted, mechanized manner. Older, more advance models grew convincingly humanlike. All Synths can be recognized by their iridescent coral-green eyes.

In Walter Tevis's novel *Mockingbird*, all nine makes of human-looking robots have colored earlobes, with a distinctive color to each make.

In the 2023 film *The Creator*, when seen face on, the Simulants have utterly convincing human bodies, faces, features, behavior, but when their heads are seen from the side, each one reveals a cylindrical open space the size of a toilet paper tube, running between the temples where, otherwise, ears would be. Daylight shows through the cylindrical space, encased, at both ends, in slow-cycling metallic orbs, sturdy reminders of a Simulant's mechanical nature. It's the best branding I have seen in a movie about robotic people.

Today's "live" demonstration female robots Sophia and Grace, from Hanson Robotics, showcase their metallic skullcaps. That they do not wear wigs is a nod by David Hanson, CEO of Hanson Robotics, to the importance of branding a convincingly humanoid bot as a bot. It's smart marketing, given that models of both Sophia and Grace will soon become available for purchase.

Beyond branding there is the issue of relating to Just-Like-Us Bots. Do we treat them as

equals, or in varying manners of deference, as near-equals?

One intriguing dimension of our acculturation to image media of the last hundred-plus years has been our awareness of, and eagerness to contribute to performances. Co-inhabiting a society with human-like robots will be like entering a free-for-all improv-styled theatre in which everyone is a performer. Perhaps we should react to Just-Like-Us Bots as we would to actors who move through such a public space without pretending to be anything other than actors. We would be alert to performance and undeterred by any actors' resemblance to real folks.

Still, within these bounds it is important to ask: how do we build guardrails against our own craving to co-inhabit a techno-crafted theatre alongside manufactured actors, in a theatre sans stage, sans proscenium, sans script fashioned by a human playwright?

### **SOME FINAL THOUGHTS.**

An early reader of this paper was Andrey Mir, author of *Human as Media*, *Postjournalism*, *Digital Future in the Rear View Mirror* and *The Viral Inquisitor*. Andrey noted that full replications of humans, ala *Blade Runner*, will never be possible because humans have a freedom robots could likely never match. He added of advancing AI that "a networked entity is more feasible than a human replica. The very idea of humans as servomechanisms suggests the temporality of human participation and therefore anthropomorphizing....The closer AI approaches awakening, the less it will need to replicate humans. The replications of human function, the human body, and humans themselves were an interim, biological stage of de Chardin's Megaevolution." (By email)

Will the challenges posed by robot doppelgangers prove inherently threatening, perhaps more threatening than AI superintelligence? Might a future day dawn when the acronym AI takes on the role of another, if parallel, signifier: "Apparently Identical" or "Abundantly Identical"?

Our interactions with robots who profoundly resemble us may prove a boon for mankind. What if robo-semblances become a maze we must navigate in phases of transformed self-awareness, awakened perceptions and transforming self-recognitions? Living with robots nearly identical to us just may just be the alchemy enabling us to discover our humanity anew.

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