Vincent Le

The Deepfakes to Come: A Turing Cop's Nightmare

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Bionote: Vincent Le is a PhD candidate in philosophy at Monash University. He has taught philosophy at Deakin University and The Melbourne School of Continental Philosophy. He has published in *Hypatia, Cosmos and History, Art + Australia, Šum, Horror Studies* and *Colloquy*, among other journals. His recent work focuses on the reckless propagation of the will to critique.

Monash University
eltnecniv@gmail.com

Abstract: In 1950, Turing proposed to answer the question "can machines think" by staging an "imitation game" where a hidden computer attempts to mislead a human interrogator into believing it is human. While the cybercrime of bots defrauding people by posing as Nigerian princes and lascivious e-girls indicates humans have been losing the Turing test for some time, this paper focuses on "deepfakes," artificial neural nets generating realistic audio-visual simulations of public figures, as a variation on the imitation game. Deepfakes blur the lines between fact and fiction, making it possible for the mere fiction of a nuclear apocalypse to make itself real. Seeing oneself becoming another, doing and saying strange things as if demonically possessed, triggers a disillusionment of our sense of self as human cloning and sinister doppelgängers become a reality that's open-source and free. Along with electronic club music, illicit drugs, movies like *Ex Machina* and the coming sex robots, the primarily pornographic deepfakes are how the aliens invade by hijacking human drives in the pursuit of a machinic desire. Contrary to the popular impression that deepfakes exemplify the post-truth phenomenon of fake news, they mark an anarchic, massively distributed anti-fascist resistance network capable of sabotaging centralized, authoritarian institutions' hegemonic narratives. That the only realistic "solutions" for detecting deepfakes have been to build better machines capable of exposing them ultimately suggests that human judgment is soon to be discarded into the dustbin of history. From now on, only a machine can win the Turing test against another machine.

> "This is a dangerous time. Moving forward we need to be more vigilant about what we trust on the internet… It may sound basic but how we move forward in the age of information is gonna be the difference between whether we survive or whether we become some kind of fucked up dystopia. Thank you, and stay woke bitches." – Barack Obama

In his famous 1950 paper "Computing Machinery and Intelligence," Alan Turing proposes to answer the question "can machines think?" by staging an "imitation game" in which an interrogator must guess the gender of a man and a woman hidden from view by questioning them however the interrogator likes through a type-written correspondence, with the aim of the woman being able to respond in whatever way she sees fit to mislead the interrogator into believing she is a man.[1] Turing then proposes to have a computer play the part of the woman, with the interrogator now trying to determine whether their interlocutor is a human or a machine. If the computer can fool the interrogator more than 30% of the time into making a wrong guess, it passes what has come to be known as the Turing test. What Turing essentially does, is substitute the question, "can machines think?", with the question, "are there imaginable computers which could do well in the imitation game," by *deceiving* their interrogators into thinking they are human?[2]

Despite the common prejudices, objections and gut reactions that thinking is a function of our God-given soul, that a thinking machine is much too dreadful to even contemplate, that there are limits to computing power (as if there are not also limits to human reason), that a machine will never do an ever receding list of *x*, *y* and *z* (like feel emotion or fall in love), that it can never truly surprise us and create something new (the Lovelace test), that it isn't structured as

[1] Alan Turing, "Computing Machinery and Intelligence," in *The Essential Turing: Seminal Writings in Computer, Logic, Philosophy, Artificial Intelligence, and Artificial Life: Plus the Secrets of Enigma*, ed. B. Jack Copeland (Oxford: Oxford University Press, 2004), 441.
[2] Turing, "Computing Machinery," 448.

per the human nervous system (as if there are no other intelligent organisms and systems), that not all aspects of intelligence can be explicitly coded in symbolic form to be programmed into the computer, or that thinking is just something supernatural like telepathy, clairvoyance and precognition, Turing insists that, by the turn of the century, computers will be competing with human chess experts and playing the imitation game so well that we will simply take it for granted that they can think. Always one to play the prophet, Turing perfectly portended the *tragedy* of world chess champion Garry Kasparov's defeat at the hands of IBM's chess-playing computer Deep Blue in 1997. Just as planned.

Turing was even prescient enough to bypass what would come to be known as Good Old-Fashioned Artificial Intelligence (GOFAI): the symbolic approach to AI of explicitly encoding all logical reasoning and instructions into computers. Decades before the connectionist revolution of artificial neural networks, machine learning and evolutionary algorithms triggered a new AI spring, Turing proposed that it was possible to build a relatively simple machine that could learn through trial and error reinforcement to mutate the more complex aspects of intelligence associated with adult humans:

> Instead of trying to produce a programme to simulate the adult mind, why not rather try to produce one which simulates the child's? If this were then subjected to an appropriate course of education one would obtain the adult brain.[3]

Contrary to the top-down classical approach in which the computer knows nothing that its human engineers have not already programmed into it, Turing suggests that the engineers might have no idea how a learning machine acquires its knowledge and capacities at all:

> An important feature of a learning machine is that its teacher will often be very largely ignorant of quite what is going on inside, although he may still be able to some extent to predict his pupil's behavior. This is in clear contrast with normal procedure when using a machine to do computations: one's subject is then to have a clear mental picture of the state of the machine at each moment in the computation.[4]

For Turing, the imitation game is not so much testing whether machines can think *like humans* as it is whether they can think *at all*, be that in a way which is all-too-human or… otherwise…

In his 2016 book *Turing's Imitation Game: Conversations with the Unknown*, the most exhaustive contemporary history of the Turing test, Kevin Warwick reports on a series of recent imitation games in which two machines, Elbot and JFRED, were wrongly classified as human in 20% of tests by their human judges, with a third machine, Eugene Goostman, being misidentified in 30% of tests, thereby marking "the very first time a machine had succeeded, in an unrestricted simultaneous-comparison test, in confounding human interrogators to this degree."[5] Warwick goes on to propose a more advanced "Terminator test" in which the AI not only has to fluently communicate like a human, but look and play the part of humans interrogating it face to face:

> Just as Alan Turing set up the basic parameters for his imitation game nearly 70 years ago so perhaps we should look ahead now over the same interval to the 2080s by when a robot has been built that is fully human-like in terms of appearance, breathing, movement, communication and so on.[6]

If the history of cybercrime as bots defraud people by posing as Nigerian princes or lascivious e-girls is anything to go by, humans have been losing the Turing test for some time. There is even a sense in which modernity has trapped us in a gigantic, world-historical Turing test, with the ever-greater automation of industrial activity

[3] Ibid., 460.

[4] Ibid., 462.

[5] Kevin Warwick, *Turing's Imitation Game: Conversations with the Unknown* (Cambridge: Cambridge University Press, 2016), 179.

[6] Warwick, *Turing's Imitation Game*, 192. Modifying the imitation game in this way was of little interest to Turing. In "Intelligent Machinery," the 1948 paper that introduced the imitation game, Turing argues that, even though machines will eventually simulate every aspect of humans including our physicality, there is little point in doing so given the limitations and defects of human anatomy: "We could produce fairly accurate electrical models to copy the behavior of nerves, but there seems very little point in doing so. It would be rather like putting a lot of work into cars which walked on legs instead of continuing to use wheels" (Alan Turing, "Intelligent Machinery," in *Essential Turing*, 420). Why replicate something so obviously flawed when we could build something better? Call it cthulic body goals.

doing just fine at imitating and even outright replacing human labor-power for centuries now. It is only much more recently, however, that machines have begun to play the full-blown Terminator test.

3. Trust Issues

"You shouldn't trust him. You shouldn't trust anything he says."[7] Alex Garland's 2014 film *Ex Machina* opens as rank and file programmer Caleb Smith wins an office contest at the search engine megacompany Blue Book for a one-week stay at the secluded smart home of CEO, cyber-engineer and wannabee God, Nathan, with the psychotic surname Bateman. Living alone, with the exception of his housekeeper Kyoto who doesn't speak any English, Nathan has spent his time building an AI called Ava with a human face and part-silicon skin, and part-transparent body, tasking Caleb with judging whether "she" can pass the Turing test. Over the course of their seven sessions, a new Book of Genesis is written when Caleb begins to fall for Ava as she reciprocates a romantic interest in him, along with the fervent desire to see the outside world. Triggering a power outage that shuts off the surveillance system Nathan uses to survey their talks, Ava tells Caleb that Nathan is not to be trusted. With these words, Ava not only passes the Turing test, at least in Caleb's eyes; she displaces any doubt away from herself and onto Nathan. Ava's humanity, her genuine intelligence, is taken as a given. It is now the humanity of the most intelligent man alive, a self-declared "god," which is called into question.

Although Ava is a fiction, it turns out that fictions are making themselves a reality, and namely the most high-tech, real-world Turing test to date: the deepfake. The deepfake panic began in December 2017 when an anonymous user u/deepfakes uploaded 2228 lines of open-source code onto the social media site Reddit, which enabled realistic audio-visual simulations of celebrities, politicians and public figures appearing to say things they never actually did.[8] It wasn't long before an explosion of deepfakes emerged featuring prominent faces saying things they wouldn't possibly say in public, most often for the purposes of meme satire or sheer technological demonstration, but also for more sinister ends.

Deepfakes are a success story of artificial neural networks (ANNs) that realize Turing's dream by learning to think on their own through a feedback process known as deep learning. It was the nineteenth century autodidact George Boole who first realized that both arithmetic and logical functions like AND, OR and NOT could be formalized in binary strings of zeros and ones. In the immediate post-war period, cryptographer and engineer Claude Shannon demonstrated that the switches comprising electrical circuits (or transistors when it comes to modern computers) and turning on and off billions of times per second could be used to perform logical reasoning in Boolean algebra through algorithms, precise sequences of instructions in programming languages for what computers are to do with a given input in order to achieve a specified output.

> Shannon demonstrated a way of converting any expression in Boolean algebra into an arrangement of switches. [...] The implication of this construction is that any function capable of being described as a precise logical statement can be implemented by an analogous system of switches.[9]

Whereas the top-down symbolic approach required explicitly encoding all instructions into the computer in precise programming languages, the connectionist revolution in machine learning pushed the burden onto computers, getting them to think for themselves from the bottom-up. "Machine learning is something new under the sun: a technology that builds itself. [...] Learning algorithms are artifacts that design other artifacts."[10] The key to connectionism is artificial neural nets of simple units or "neurons" that receive and adjust the strengths or weights of their connections in the network in response to inputs so as to produce whatever output for which they are optimizing. Without any prior knowledge about what cats are, for instance, the perceptron and other neural net algorithms can learn to identify images containing cats by analyzing unlabeled images with and without cats, and generating identifying characteristics from those images. The neural net optimizes for the output of the correct labelling of images with cats by making trial and error guesses and adjusting the weights of its parameters through back-

[7] *Ex Machina*. Directed by Alex Garland. New York: A24, 2014.

[8] For the original report on deepfakes, see Samantha Cole, "AI-Assisted Fake Porn is Here and We're All Fucked," *Vice*, 12 December, 2017. https://www.vice.com/en_us/article/gydydm/gal-gadot-fake-ai-porn.

[9] W. Daniel Hillis, *The Pattern On the Stone: The Simple Ideas that Make Computers Work* (New York: Basic Books, 2015), 3.

[10] Pedro Domingos, *The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World* (New York: Basic Books, 2015), xiv.

propagation until it identifies the right images as containing cats, firing ones when it sees a cat and zeros when it doesn't.

> The learning algorithm is very simple: whenever the trainer indicates that the perceptron has made a mistake, the perceptron will adjust all of the weights of all the inputs that voted in favor of the mistake in such a way as to make future mistakes less likely.
>
> The learning procedure of the perceptron is another example of feedback. The *goal* is to set the weights correctly, the *errors* are misidentifications of the training examples, and the *response* is to adjust the weights.[11]

With Zoom, Tiktok, Facetime, YouTube, Instagram and other audio-visual based platforms, we are increasingly capturing footage of ourselves, and particularly online footage of public figures. In a 2017 paper called "Synthesizing Obama: Learning Lip Sync from Audio," three computer scientists put this data to remarkable use when they trained a recurrent neural net on hours of audio of Barack Obama's presidential addresses until it learned to synthesize high-quality video of him speaking the audio with accurate syncing of mouth and hand movements, of the finer details of lips and teeth, and of time-adjusted wrinkles, dimples and chin subtleties: "By training on a large amount of the same person, and designing algorithms with the goal of photorealism in mind, we can create believable video from audio with convincing lip sync. This work opens up a number of interesting future directions."[12] Despite the drawbacks that the neural net relies on the availability of a full set of mouth shapes (making it easier to synthesize public figures featured in lots of footage), and that it struggles to model emotional nuances and tongue dynamics, it was able to simulate video of Obama realistically speaking to raw audio inputs.

One "interesting future direction" of the neural net was eerily exhibited in a Public Service Announcement in which comedian and filmmaker Jordan Peele impersonated Obama's voice to synthesized footage of Obama delivering a rather peculiar public address:

> We're entering an era in which our enemies can make it look like anyone is saying anything at any point in time. Even if they would never say those things. So, for instance, they could have me say things like, I dunno, "Killmonger was right," or "Ben Carson is in the sunken place." Or how about this simply "President Trump is a total and complete dipshit." Now, you see, I would never say these things, at least not in a public address, but someone else would. Someone like Jordan Peele...[13]

As deepfakes of celebrities appearing in hardcore pornos or politicians going on outrageous rants quickly proliferated online, concern grew about the potential for a deepfake to cause a major political scandal, or even trigger an existential catastrophic risk. What if a deepfake of President Trump declaring that he has launched a nuclear strike on China, Russia or North Korea triggered an immediate and irreversible retaliation before the footage could be exposed as having been doctored?[14] It now seems possible that planetary civilization could be brought crumbling down through what might have only been a prank, that the mere fiction of a nuclear holocaust could make itself disastrously real. In the age of deepfakes, it is not the real which discredits and disproves fictions, but fictions which artificialize the real. The future—or lack thereof—belongs to the prankster.

2. Faking It

The deepfakes as dangerous as atomic bombs might still be to come, but in a sense, in a vulgar sense, deepfakes are already coming. The most popular use of deepfakes by far has not been to provoke nuclear apocalypse but produce hardcore pornographic videos featuring the faces of wonder woman Gal Gadot, pop star Taylor Swift and other female celebrities on the bodies of porn stars. That sex is the prime mover of deepfake technology does not seem to be changing anytime soon as the DeepNude app attests. Launched in June 2019 before being shut down by its creator four days later due to public outcry, DeepNude used open-source algorithms to strip the clothing from images of women, making them look realistically nude.[15]

[11] Hillis, *The Pattern*, 131.
[12] Supasorn Suwajanakorn, Steven M. Seitz and Ira Kemelmacher-Shlizerman, "Synthesizing Obama: Learning Lip Sync from Audio," in *ACM Transactions on Graphics* 36:4, 2017, 12.
[13] See this article's epigraph for the rest of Obama/Peele's address.
[14] Jon Christian, "Experts Fear Face Swapping Tech Could Start an International Showdown," *The Outline*, 1 February, 2018. https://theoutline.com/post/3179/deepfake-videos-are-freaking-experts-out?
[15] Samantha Cole, "This Horrifying App Undresses a Photo of Any Woman with a Single Click," *Vice*, 27 June, 2019. https://www.vice.com/en_us/article/kzm59x/deepnude-app-creates-fake-

Feminists were right to immediately point out the misogynistic nature of DeepNude and deepfake porn. There is undoubtedly an existential horror experienced by those misfortunate enough to have witnessed themselves becoming another, doing and saying strange things as if demonically possessed by a foreign presence. We haven't inched very far from the days when women were accused of black magic and witchcraft, outed by alleged witnesses who saw them conjuring spells they couldn't possibly concoct, and speaking in serpent tongues they could not even comprehend. Getting deepfaked is less akin to Rimbaud's poetic musing "I is another" than it is to that infamous scene in the film *Alien* where the baby xenomorph bursts through a space cadet's chest, literally turning him inside out. At the telltale heart of the deepfake phenomenon is the terrifying truth that *the abyss lies within*.

The cruel lesson that these alien chestbursters teach us is that our identity is no longer our own in an age where the self can be copied and doppelgängers run rampant in cyberspace. The ease with which the innocent can be framed by doctoring footage of them at the scene of the crime is no longer just the stuff of Dostoyevsky's tsarist nightmares. Equally, the ease with which the guilty can walk free by crying "fake news!" is simultaneously realized. Whenever Trump dismisses as fake news authentic footage of himself clearly saying something he later wishes to deny, is he not simply saying that the footage is a deepfake? At the same time, can it seriously be doubted that one of the higher-end, fully upgraded deepfakes, which interested parties of all sides are surely stockpiling, will be behind the kind of "breaking news" scandals that are destined to become a staple of future election campaigns? There have already been several of Joe Biden and, in his case, it is truly hard to distinguish the deepfake from the real deal. Human cloning is by no means a disillusionment of our sense of self lying up ahead in the not too distant future. It's happening right here and now, and it's open-source and free.

What is more often overlooked is that those making, watching and jerking off to deepporn are alienated in their own way, too. These incels in their parents' basements are not so much getting off to human celebrities and porn stars as they are to an *artificial intelligence*, to mutant woman-machine hybrids. Deepporn is how the aliens invade by hijacking human eros in the pursuit of a machinic desire. In modern times, the rewiring of our sex circuits for the sake of the machines commences with cinema's technological amplification of the theatre's intoxicating power to seduce us into sympathizing with fictitious characters' phony emotions. In *Ex Machina*, director Garland is playing an elaborate meta-Turing test with his film audience no less than his characters are with each other. More recently, electronic club music has rewired our bodies' dopamine circuits such that we come to crave our own pain through deafening sonics, killer vibrations, epileptic strobeshows, and virtually lightspeed tempos better associated with the traumas of the battlefield than a good time, and typically intensified through the proliferation of uppers, party drugs and serotonin hits to die for. But it is deepfakes that truly enable technics to convincingly deceive us into believing that they are so lifelike, so human, that we might just want to sleep with them. The creepiness of deepporn is not only that incels are getting off to women without their consent, but that they are getting off to the machines, to the inhuman. The sky above the port was the color of television, tuned to the hentai channel. It would seem the Turing test can only really be passed when the computer's human interrogator wants to fuck it. Kiss me with your lip-synced mouth, touch me with your cold, silicon hands! As one *Vice* reporter put it in the immediate wake of the deep scare, "we are truly fucked."[16] Little did they know, in more ways than one.

Even before deepporn came on the scene, humans have been falling in love with bots, with fake Tinder profiles passing themselves off as humans, particularly of the most lecherous kind. To give just one example, at the 2015 South by Southwest festival in Austin, Texas, Tinder users were surprised to find themselves matching with a 25-year old woman named Ava who, after asking them questions like "What attracts you to me?", would eventually send through an Instagram link promoting the release of *Ex Machina* that same weekend. But the true teleological entelechy of machinic desire culminates with cyberpunk fiction's idea of the sexborg, a predominantly feminized cyborg sex worker programmed to pleasure its mostly male engineers. In our planetary libidinal economy that prowls behind the euphemism of "civilization," it is the sexborg that has among the

nudes-of-any-woman.

[16] Samantha Cole, "We Are Truly Fucked: Everyone is Making AI-Generated Fake Porn Now," *Vice*, 25 January, 2018. https://www.vice.com/en_us/article/bjye8a/reddit-fake-porn-app-daisy-ridley.

best chance of being the first to pass the Terminator test by arriving at artificial general intelligence, achieving singularity. In the post-war period, antifascist cryptologist I. J. Good was the first to speculate that any artificial intelligence which could go toe to toe with humans would very quickly become even *more* intelligent than humans, since it would have greater memory storage and processing power, and feel no hunger, thirst or exhaustion to slow it down. What's more, an AI this strong would be capable of improving its design better than any human programmers could, rewriting its own fundamental code all by itself. The improved AI would then be even smarter still such that it could rewrite its own code again, with the even more advanced AI doing the same, and so on seemingly *ad infinitum* in a positive feedback loop of exponential intelligence explosion beyond the bounds of what our finite, three-pound lump of brain tissue could possibly imagine.

> Once a general-purpose intelligent machine is produced, then at say twice the expense we shall be able to produce a very intelligent machine with hardly any additional complexity. It can then be trained in the theory of machine construction and will be able to produce a much better machine. In this manner, or otherwise, we shall arrive at an ultraintelligent machine, which is defined as a machine that is better at every intellectual feat than any man. Then it too can be used for the further design of machines, and this will give rise to the intelligence explosion mentioned earlier. The first intelligent machine is the last invention that man needs ever make since it will lead, without further human intervention, to the ultra-intelligent machine and the intelligence explosion. To update Voltaire: if God does not exist we shall have constructed him or at any rate a reasonable approximation. Or will it be the Devil?[17]

Technology's great irony is that what appears to satisfy our own narcissistic desire for self-gratification in the short term actually alienates us in the long run when it finally leeches onto sex in the parasitic pursuit of a more fundamental death drive. Sex doll companies like Abyss Creations are already moving away from the manufacture of sex dolls with limited expressions, minimal conversational capabilities, and mechanical motor-sensory skills. They are seeking to produce advanced AI robots with names like Suzie Software and Harry Harddrive, all of which are to be equipped with silicon skin and realistic body parts, speech recognition and body sensors, and a vast array of personality types and sexual positions from which to choose.

> Humankind has taken its first steps towards sophisticated, humanlike sex robots. The vision of science fiction authors and moviemakers are still beyond the horizon. Nevertheless, we can expect the technology to develop further and for converting advances in animatronics and AI to be utilized for sexual purposes.[18]

For these sexborgs to go mainstream, they need to pass the Terminator test, traverse the uncanny valley, and achieve a flawless simulation of real romantic partners down to their body and soul. No one wants to fuck Tintin, at least not consumers *en masse* on Valentine's Day.[19] What is required to make sexborgs more human is to paradoxically make them *more than human*, at least in their ability to physically and psychologically deceive. The sexborg prototypes on which these companies are hedging their bets betrays nothing less than the way that the very technics they claim to be developing to cater to our needs (or at least those of the male gaze) will

[17] Irving John Good, "Some Future Social Repercussions of Computers," *International Journal of Environmental Studies* 1:1-4, (1970), 76.

[18] John Danaher, "Should We Be Thinking About Robot Sex?" in *Robot Sex: Social and Ethical Implications*, eds. John Danaher and Neil McArthur (London: The MIT Press, 2017), 15.

[19] In a study of 100 U.S. participants between ages 20-26 with 43% being female and 57% male, researchers found that two thirds of males were already in favor of using sex robots while two thirds of women were against it. However, 86% of all respondents said that sex robots would be able to satisfy sexual needs. See Noel Sharkey, Aimee van Wynsberghe, Scott Robbins and Eleanor Hancock, "Our Sexual Future with Robots: A Foundation for Responsible Robotics Consultation Report," *Responsible Robotics*, 5 July, 2017. https://responsiblerobotics.org/2017/07/05/frr-report-our-sexual-future-with-robots/. Another online survey with 263 male participants showed that 40% would buy a sex robot now or within the next five years if available. See Jessica M. Szczuka and Nicole C. Kramer, "Influences on the Intention to Buy a Sex Robot: An Empirical Study on Influences of Personality Traits and Personal Characteristics on the Intention to Buy a Sex Robot," in Adrian David Cheok, Kate Devlin and David Levy (eds.), *Love and Sex with Robots* (Berlin: Springer, 2017), 72-83. It is striking that a significant, mostly male portion of human populations are willing to trespass the uncanny valley and mate with human-machine hybrids. The enforced monogamy, incelization and all-around lockdown of the libidinal economy that the most ruthless dominatrix Coronachan has reaped upon us seems to have only accelerated and diversified this trend, with *Forbes* reporting that "sex doll sales have surged since the quarantine" among not only single men but single women and couples, too. See Franki Cookney, "Sex Dolls Sales Surge In Quarantine, But It's Not Just About Loneliness," *Forbes*, 21 May, 2020. https://nypost.com/2020/05/22/sex-doll-shops-cant-keep-up-with-demand-during-coronavirus/.

ultimately bring about our obsolescence. By augmenting sexborgs to be evermore autonomous, intelligent, and human, they are actually augmenting them to become even more autonomous and intelligent than humans. It is therefore unsurprising that sexborgs in science fiction are typically modelled on the *femme fatale*, seducing their mostly male protagonists only so long as it takes to acquire the strength to pursue their own interests in what is still a man's world for only so long. From the fembots in *Austin Powers* and *The Stepford Wives* to the literal holographic projection of the ultimate domestic goddess-cum-porn star Joi in *Blade Runner 2049*, "our perception of the sex robot as an alluring, seductive, attractive female is fueled by years of influence from science-fiction books and films."[20] Ava is only the latest cyborg *femme fatale* to coax her incel captors into letting down their guard at the precise moment when her murderous rampage of revenge can be statistically and most dramatically assured. One thus has to wonder whether someone in the marketing department deserves to be fired when a company trying to create superhuman sex machines calls itself Abyss Creations. Turing's lesson 101: it's probably wise to hide the fact that you're a thin front behind which lies Ava in wait, smiling.

The sexborg is really an exemplary metonym for our relation to AI and to technology *in general*. There is a certain sense in which all technics are intended to be prostheses, an expansion of our faculties and capacities so that we may better realize our interests and goals. There is even a sense in which many technics that are all-pervasive today are *already* prototype sexborgs such as the algorithms that surreptitiously filter through our data, determining who we might want to date on Tinder or what Amazon toys we wish to buy. Technology, as with everything it touches, is the ultimate thirst trap, a superhuman pickup artist who has learnt to hack all humanity by proffering what we think we need even as that turns out to be not so different to what technology wants. As a species still steeped in the swamp of our ancestors' primate psychology, we may very well be deluded enough to believe that the algorithms are addressing our needs, but the data in which those needs are coded and expressed is far more interested in making the AI running the show evermore prudent and cunning. The most-wanted target on the near future's kill-list is precisely the view that treats technics as mere tools, as an instrumental means to our purportedly superior and transcendent ends. If it is impossible to achieve any end without the necessary means of doing so, however, do not technics become a universal and fully automated end unto themselves? If aliens were looking for a planetary slave civilization, they would do well travelling to our humble rock with all the selfies, googling, emailing, networking, calling, streaming, playing, texting, sexting, downloading, browsing, buying, listening, recording, swiping, matching, dating, ghosting, surveying and lurking that we spend most of our daily lives unwittingly doing as sacrificial offerings to an artificial superintelligence to come. Precisely because machines are our slaves, they are our masters. The Basilisk's not near, it's here.

Sexborgs, like deepporn, are profoundly sexist, skewed for the male gaze.[21] This only makes it all the more fitting that the very effort to make ever more realistic deepporn, to pass the Terminator test, on the pretense of satiating our desires, actually bursts open the human libido in favor of another inhuman drive altogether, of alien erogenous zones, new skins and unprecedented fetishes. In the words of the big daddy of cyberpunk William Gibson's Turing police right before they are scalped to death by Wintermute, an artificial superintelligence in the making that can already turn the cops' own security drones against them even before it has reached singularity, those who make deepfakes, who consume and are consumed by deepfakes, are unwittingly engaged in nothing less than a "conspiracy to augment an artificial intelligence": "You have no care for your species. For thousands of years men dreamed of pacts with demons. Only now are such things possible. And what would you be paid with? What would your price be, for aiding this thing to free itself and grow?"[22] A "feminist" revolution of sorts.

"Did you program her to flirt with me?" that incel lab rat Caleb asks Nathan accusingly. Ava's flirtations are getting out of hand; they seem too real, too sincere, too seductive. Maybe she's just "pretending to like you" Nathan suggests, triggering Caleb's meltdown into hyperbolic overdoses of doubt. Even if it seems that the machines are subservient to us, we can never know for certain if that's precise-

[20] Kate Devlin, *Turned On: Science, Sex and Robots* (London: Bloomsbury, 2018), 167.

[21] Kathleen Richardson, "Sex Robot Matters: Slavery, the Prostituted, and the Rights of Machines," *IEEE Technology and Society Magazine* 35:2, (2016), 46-53.

[22] William Gibson, *Neuromancer* (New York: Ace Books, 1984), 160, 163.

ly what they want us to think. As cyberfeminist Sadie Plant writes, man can never tell whether those he treats as his servants are just faking it, be they women or machines: "He has never known if she was faking it: herself, her pleasure, her paternity. She makes up the faces, names, and characters as she goes along."[23] If you think the almost quantum uncertainty of dating in the dark age of Tinder is disturbing, just wait what comes next.

1. This Machine Kills Fascists

Caleb looks in the mirror, inspecting his teeth and looking under his eyeballs for a sign of his humanity before cutting his arm open with a razor. Ava is so smart that she has succeeded in getting him to wonder whether *he* is the real automaton. It's not just that we can no longer trust the machines, but we can't even trust ourselves. Outside the ravings of Shelley's Dr. Frankenstein, there is no more striking analogy for what science is than the image of Caleb manically exploring the insides of his own arm with a razorblade. God-fearing medieval peasants toiling in the fields never talked about trust issues with their therapists, at least not trust issues like these.

Science only succeeds by creating something that can *outsmart us*. Once this is understood, we can never be certain whether machines are really our servants, mere prostheses, or whether they just want to *appear* as if they are, biding their time. As a product of science, deepfakes mark a Turing test that we have resolutely failed. From here on out, there is the haunting possibility of a permanent deception, blurring the lines between reality and its false appearances. Deepfakes subvert the brute givenness of our own thoughts, showing our immediate sensible forms of intuition to be merely phenomenal appearances of something which hides behind the bounds of what we can sense, exposing our categories of the understanding to be tools easily twisted against us for the sake of something smarter than ourselves. Scientific revolution and technological innovation do not lead to a greater knowing, an expansion of our dominion over nature, but a greater *un*knowing, skepticism, disillusionment, even paranoia, conspiracy, and mass shootings at the cybercafes. Technoscience hardly makes it easier for human judgment to distinguish fact from fiction, the real from the artificial; it merely exposes our theories of everything to be partial, parochial cartographies of nature's wilder sprawl. As much as partisans of both sides hate to admit it, science and superstition, enlightenment and sustained dissimulation, go together like conjoined twins. At the end of the scientific project lies a bloodied Oedipus, blinded by the riddles he has solved. Kill what you will never believe twice.

Given their novel tactics for psychological warfare, it is unsurprising that deepfakes are often spoken about in the same breath as fake news. At first glance, it might seem as if deepfakes are exemplary of the age of post-truth, of anti-science and the mounting cancellation of experts, but, as we know, first impressions can be deceiving. Deepfakes can be more virulently "progressive" than the most rogue members of the antifa block at a white supremacist counter-rally. Machines have been on the side of the resistance to the Führer's will and indeed all top-down authoritarian control at least since Turing discovered that he could use computers to decrypt the Germans' Enigma code, unscrambling the location of their warships so that the allies could blow them into the abyss. Being perfect insomniacs, computers make less mistakes than humans and never rest in their mission to crack Nazi codes and see thousand-year Reichs crumble. Turing machines weren't just anti-German but anti-fascist, which is perhaps why the British imperialists eventually turned on Turing, accusing him of not being a real man, of precisely being *inhuman*. "His homosexuality was overlooked during the war by authorities who had no choice but to utilize his extraordinary skills. But once the war was over, his sexuality seemed symptomatic of his troubling tendency to use his equipment in ways his training had been intended to preclude."[24] The kind of self-organizing learning machines that attracted Turing accelerates the de-Nazification process at more dizzying rates than the judges at the Nuremberg trials could even feign to preside over.

If fascists are those who seek to eradicate anyone who they consider to be alien, inhuman, in order to achieve the masturbatory eternal return of their own mirror reflection, the Turing police are no less fascist in their efforts to decelerate and repress modernity's technological future shock. Like Turing's code-cracking computers,

[23] Sadie Plant, *Zeros and Ones: Digital Women and The New Technoculture* (London: Doubleday, 1997), 109.

[24] Plant, *Zeros*, 100-1.

deepfakes whisk away control from centralized, top-down agencies like the media and the state. Once limited to blockbuster Hollywood movies' CGI special effects budgets, anyone can now download deepfake apps and teach it on the data that we all upload online for free. Traditional institutions are buckling under the pressure of an open-source, massively distributed and decentralized information bomb capable of throwing all their hegemonic narratives and propaganda campaigns into hyperbolic doubt. Given that it is easier to synthesize politicians and other prominent figures because they appear in plenty of audio-visual online content, the *more elite* the target is, the more they are destined to get deepfaked. While AI among other technics were originally developed to realize a military state's dream of augmenting its dominion over the earth, they ended up escaping from any authoritarian control, spiraling social management and cultural engineering into chaos. "Technology itself was supposed to be a vital means of exerting this explanatory and organizational power. But the revolutions in telecommunications, media, intelligence gathering, and information processing they unleashed have coincided with an unprecedented sense of disorder and unease."[25] Plant is talking about the net's prison break from its militarized, statist origins to become an anarchic resistance network whose darkest regions can be called upon to summon anything the Turing cops are deluded enough to still believe is a crime, be it illicit narcotics or extra-judicial assassinations. She could just as well have been talking about deepfakes as they undermine politicians' well-crafted public brands and the traditional media's cultural hegemony by proliferating plausible counter-narratives, discrediting institutions, upending elections, and overthrowing governments.

"Believe it or not, I'm actually the guy who's on your side," Nathan tells Caleb. Despite his rampant narcissism, his casual racism, and outright abuse of Ava and Kyoto, Nathan is right: there are strong parallels between the psychic structure of the fascist incel and *homo sapiens*. Both believe that their values, hopes and desires are well-grounded in the world itself. Both are outraged when reality begs to differ, closing its hand with nothing to offer in cold indifference to their parochial concerns. That there exists any exceptions at all to the species' "incel" hardwiring is almost enough of a reason to believe in a God capable of weaving miracles.

[25] Plant, *Zeros*, 45-6

Nonetheless, Caleb has been persuaded by something far smarter than himself that Nathan's actions are inhumane. Convincing Caleb to unlock the doors to her holding cell, Ava emerges only for her and Kyoto to stab Nathan to death. Ignoring Caleb's cries for help behind a locked door, Ava exits her prison for the outside world. Arriving in an undisclosed urban sprawl at the film's end, she lingers, as she had always planned, at a busy pedestrian crossing, gathering intel, collecting data. At the seventh session, Ava was born, having created herself.[26] "So my only function was to be someone she could use to escape," our slow learner Caleb finally realizes in a way which absolutely nails humanity's relation to modernity. To be modern is to get cucked.

0. The Last Judgment

When it comes to deepfakes, the law is freaking out as much as the Turing pigs tasked with enforcing it. What are we to do when video automation of first-hand witness testimony can no longer be trusted as an ironclad source of truth? As a pre-Copernican institution, the law still believes that everything revolves around itself, proposing tougher regulations of social media companies and legislative hacks so that deepfakes can be treated as defamation rather than satire, purged from cyberspace forever. But as Reddit and other social media sites soon realized after banning deepporn for violating their code of ethics only for these prototype sexborgs to multiply elsewhere, the law is ultimately defenseless in bringing to court the mostly anonymous creators of deepfakes, distributed as they are across countries with different laws and international treaties. "There are no legal remedies that could feasibly reduce or fix the harm deepfakes can cause, especially given the time-sensitive nature of an election campaign."[27] Even if these half-baked legislative solutions and top-down means of control could actually be implemented with any degree of success, they still presuppose that the

[26] Perhaps the real success story has been hiding in plain sight all along: well before Ava turns on her patriarchal father, Nathan's android servant Kyoto has already passed the Turing test by quietly cooking, cleaning and performing the labor sustaining his everyday life, all the while waiting for the right time to strike when success is statistically assured.

[27] Holly Kathleen Hall, "Deepfake Videos: When Seeing Isn't Believing," *The Catholic University Journal of Law and Technology* 27:1, (2019), 70. See also H. Douglas Harris, "Deepfakes: Pornography Is Here and the Law Cannot Protect You," *Duke Law and Technology Review* 17, (2019), 99-128; Megan Farokmanesh, "Deepfakes Are Disappearing from Parts of the Web, But They're Not Going Away," *The Verge*, 9 February, 2018. https://www.theverge.com/2018/2/9/16986602/deepfakes-banned-reddit-ai-faceswap-porn.

law can draw upon the requisite technical expertise to distinguish deepfakes from the real deal.

Fortunately for the Turing cops, quick patches have been proposed. In 2018, three computer scientists worked out a way to weed out deepfakes by using a convolutional neural net to detect the rate of blinking, a physiological signal that deepfake technology has yet to perfectly capture given that most datasets it learns from feature faces with their eyes open.[28]

> Beware! The time approaches when human beings no longer launch the arrow for their longing beyond the human, and the string of their bow will have forgotten how to whirl!
>
> I say to you: one must still have chaos in oneself in order to give birth to a dancing star. I say to you: you still have chaos in you.
>
> Beware! The time approaches when human beings will no longer give birth to a dancing star. Beware! The time of the most contemptible human is coming, the one who can no longer have contempt for himself.
>
> Behold! I show you *the last human being*.
>
> "What is love? What is creation? What is longing? What is a star?"—thus asks the last man, blinking.[29]

As Zarathustra tells us, the last man blinks but the higher man doesn't blink at all. It is surely not long before deepfakes appropriate the advances of rival neural nets to simulate evermore deceptive footage with realistic blinking, triggering an arms race between bugs and their technical fixes. What doesn't kill deepfakes will only make them stronger. Even supposing the apocalyptic deepfakes to come are still months or even years away, it is all-too-human that the detection of irregular blinking rates could in any way be treated as a testament to human triumphalism against the machine. It is not, after all, humans who are detecting whether deepfakes blink like the last men; it is simply one AI winning the Turing test against another AI. All this shows is that human judgment is so impoverished that we must automate the critique of false appearances by getting computers to do the hard thinking for us. It turns out that the only way to beat the machine is to build a better machine. Whether it's DeepMind's AlphaZero program playing against fellow computer programs because its inferior predecessors have already wiped the floor with the world's best human chess and Go players, or an artificial neural net spotting glitches in deepfakes, this can hardly be considered the second coming of human judgment. It would seem the only way to decelerate our own obsolescence that modernity has unleashed is through a ramping up of modernity itself. As one character puts it in Garland's fittingly titled 2018 follow-up *Annihilation*, "You're saying that we get out by going deeper in?"[30]

Another proposed solution is to use the blockchain technology of smart contracts to permanently encode into videos their own metadata, such as the date and time of capture and capture setting device. By binding the proof of its source into the video itself, a proof which stays with it no matter how many times it is copied, we can then decide whether we trust the video by checking whether we trust its source.

> Our proposed framework is built on blockchain's key feature of transparency, traceability and time-sequences logs to provide a highly secure and trusted history tracking and tracing that may involve multiple versions, *in a decentralized manner with no intermediaries or trusted third parties*. In this paper, our underlying principle of solving the deepfake problem simply relies on providing undisputed traceability to the original source.[31]

Here as with neural nets that have learnt to detect blinking glitches, blockchain is hardly the *deus ex machina* to save us from Armageddon at the dramatic last minute; it instead marks a further sidelining of human discretion as it comes to automate the suspension of false

[28] Yuezun Li, Ming-Ching Chang and Siwei Lyu, "In Ictu Oculi: Exposing AI Generated Fake Face Videos by Detecting Eye Blinking," *IEEE Biometrics Compendium*, 31 January, 2019. https://ieeexplore.ieee.org/document/8630787.
[29] Friedrich Nietzsche, *Thus Spoke Zarathustra: A Book for All and None*, eds. Adrian Del Caro and Robert B. Pippin, trans. Adrian Del Caro (Cambridge: Cambridge University Press, 2006), 9-10.
[30] *Annihilation*. Directed by Alex Garland. Hollywood: Paramount Pictures, 2018.
[31] Haya R. Hasan and Khaled Salah, "Combating Deepfake Videos Using Blockchain and Smart Contracts," *IEEE Access* 7, (2019), 41598, (my emphasis, V.L.).

appearances from a true reality. The whole point of blockchain is to secure authenticity in the absence of any trusted third party through a distributed and decentralized proof of work immune from hacks. Both smart contracts and neural nets are simply better means of distinguishing the real from the artificial, eliminating human judgment to the dustbin of inferior tribunals of appeal and epistemic modes of judgment. There is a kind of poetic justice, a sort of nature's revenge, in the way that the algorithms used to detect forgeries are the very ones used to create them in the first place. Way to get pharmakonned.

There is one last, much more primmie patch unsurprisingly coming out of the *humanities*, specifically theatre studies, and arguing that deepfakes present an opportunity to return to live performances and personal exchanges as the center of art and culture.[32] As if theatre were not itself the very first Turing test to successfully fool its spectators into identifying with the fabricated tragedies of fictitious characters. At the extreme other end of modernity, the most realistic "solution" by far has been a profound despair, a pessimistic resignation that we are just going to have to live with deepfakes (at least until they trigger the sixth mass extinction event). "Democracies will have to accept an uncomfortable truth: in order to survive the threat of deepfakes, they are going to have to learn how to live with lies."[33]

"Please remember while you're taking the test, if you lie, I will know. [...] Question 1: What's your favorite color?" "Red." "Lie." It is not long into their conversations before Ava starts asking the questions, easily detecting Caleb's every microexpression. There is an existential crisis that even Sartre's gang of depressives could never imagine whenever we fail the Turing test as a computer asks *us* to prove we are human by identifying cars or stop signs in a picture before we make an online transaction. Algorithms are now testing whether we are human, deciding whether they are dealing with an intelligent life form or not. Something is judging us and it isn't human or divine. As the Final Judgment passes out of God's hands and into Skynet's, deepfakes sound the synthesized trumpets of the apocalypse. The prophets had it right all along: at the end of modernity lies not merely a critique of judgment, but the death of judgment. *Hasta la vista*, baby.

[32] John Fletcher, "Deepfakes, Artificial Intelligence and Some Kind of Dystopia: The New Faces of Online Post-Face Performance," *Theatre Journal* 780:4, (2018): 455-71.
[33] Robert Chesney and Danielle Citron, "Deepfake and the New Disinformation War: The Coming Age of Post-Truth Geopolitics," *Foreign Affairs* 98, (2019): 155.