

The Singularity: Artificial Intelligence and the Post-Human Future

Frank Shepard (fgshepard@gmail.com)

Brooklyn Institute for Social Research

January 30 - February 20, 2019

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Alan Turing, whose Turing Test set the initial standard for artificial intelligence, mused towards the end of his life on the prospects of a truly superintelligent machine: “it seems probable that once the machine thinking method had started, it would not take long to outstrip our feeble powers...At some stage therefore we should have to expect the machines to take control...” Such a scenario, seemingly implicit in the very concept of artificial intelligence, we now call “the Singularity”—a technological regime, as futurist Vernor Vinge puts it, “as radically different from our human past as we humans are from the lower animals.” For some, the prospect is potentially liberatory; for others, it’s an existential threat; for others still, it’s simply unlikely. What is “the Singularity,” and what intellectual tools might we use to interrogate it?

In this course, students will approach these fundamental questions through a series of smaller investigations. First, we will explore the foundational texts on the subject by Turing, Vernor Vinge, I.J. Good, Ray Kurzweil, Nick Bostrom, and others. Then, we will consider “the Singularity” within a broader intellectual horizon from a number of angles. For instance, given what we know now about computation and human intelligence, is this idea technologically feasible? If so, on what time scale? What are the underlying philosophical assumptions and how might we assess them? Is the concept of the Singularity truly novel, or does it have roots in previous philosophical, political, or religious efforts to liberate the mind from the “limitations” of the flesh? Furthermore, how should we understand “the Singularity” movement in relation to alternative, contemporary attempts to understand the role and importance of the body for technological efforts to transcend it? Students will consider these and related questions through a close reading of selections taken from a diverse set of disciplines and critical perspective such as the philosophy of computation, feminist theory, the philosophy of transhumanism (and its critics), phenomenology, theology, and religious studies.

Week 1 (January 30)

Transhumanism:

- Tirosh-Samuelson, Hava. “Engaging Transhumanism”, *Transhumanism & its Critics*.

Foundational Texts:

- Turing, Alan. “Intelligent Machinery, A Heretical Theory” (1951)
- Good, Irving John. “Speculations Concerning the First Ultraintelligent Machine” (1964)
[NOTE: Skim the first few pages ... read as much as you want after that.]
- Vinge, Vernor.
 - “First Word”, *Omni Magazine* (1983)
 - “The Coming Technological Singularity: How to Survive in the Post-Human Era”, (1993)

Additional Readings:

- Chiang, Ted.. “Catching Crumbs”, *Nature* (2000).

Optional / Further Reading:

- The Transhumanist FAQ, <https://humanityplus.org/philosophy/transhumanist-faq/>
- Turing, Alan. “Computer Machinery & Intelligence”, *Mind* (1950)

Week 2 (February 6)

Core readings:

- Kurzweil, Ray. *The Singularity is Near*.
 - Prologue
 - Chapter One: the Six Epochs
 - “Uploading the Human Brain”, Chapter Four
 - Chapter Six: The Impact ...
 - Chapter Seven: *Ich bin ein Singularitarian*
 - Epilogue
- Davies, Paul, “When computers take over”, *Nature*, vol 437 | 440 | 23 March 2006

For further reading:

- This piece was referenced in the “Engaging Transhumanism” article from Week 1. It lays out the distinction between “lowercase” and “uppercase” transhumanisms:
Philip Hefner, “The Animal that Aspires to be an Angel: The Challenge of Transhumanism”, *Dialog: A Journal of Theology* (2009)

Week 3 (February 13)

Core Readings:

- Bostrom, Nick. *Superintelligence*.
 - “Unfinished Fable of the Sparrows”
 - “Preface”
 - Chapter 1 “Past developments and present capabilities”,
 - Chapter 3 “Forms of superintelligence”,
 - Chapter 6 “Cognitive Superpowers”,
 - Chapter 7 “The superintelligent will”,
 - Chapter 8 “Is the default outcome doom?”

- **Critical Responses to The Singularity**
 - **Political Science / Political Economy**
 - Fukuyama, Francis. “Transhumanism”, *Foreign Affairs* (October 2004)
 - **Philosophy of Computation / Philosophy of Neuroscience**
 - Boden, Margaret. “The Singularity”, *AI: its Nature and Future*.
 - **Phenomenology / Existentialism**
 - Dreyfus, Hubert. “A History of First Step Fallacies”

Week 4 (February 20)

Core readings:

- **Posthumanism / Feminist Theory / Cyborg Theory**
 - Hayles. “Wrestling with Transhumanism”, *Transhumanism and its Critics*.
 - Haraway, Donna. “When we have never been human, what is to be done?”
 - --. “Situated Knowledges”.
- **Affect Theory**
 - Wilson, Elizabeth. “Artificial Psychotherapy”. *Affect and Artificial Intelligence*.
- **Intelligence:**
 - Sternberg, Robert. “It’s time to move beyond the “Great Chain of Being” in “The Evolution of General Intelligence” (pp 45-6) [Note: feel free to read the main article and the other responses, too, if you find them interesting.]
 - Kelly, Kevin. “The Myth of a Superhuman AI”. *Wired* (2017). ([link](#))

Religion:

- Midgley, Mary. “The idea of salvation through science.”

Optional / Additional Readings

- Copeland, Jack. “AIs Fresh New Start” (Chapter 10), *Artificial Intelligence: a Philosophical Introduction*. (Focus on the section 10.8, titled “Are our cognitive processes algorithmically calculable?”)
- Gallagher, Shaun. “Phenomenology and Embodied Cognition”. *The Routledge Handbook of Embodied Cognition*.