2.1: Emergence and Systems Thinking
Artificial Intelligence Policy

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S2026

Think

- *Is "intelligence" an emergent phenomenon? Or something different? What does it mean to be "intelligent"? What about consciousness? When do we start treating a system as more than the sum of its parts, and why?*

Read

- Goldstein, Emergence as a Construct: History and Issues

Browse

- Krakauer, "What is Complexity?" *Santa Fe Institute Lecture.*
- Schultz, "Flocking together: Study shows how animal groups find their way"
- Roose, "A Conversation With Bing's Chatbot Left Me Deeply Unsettled" NYTimes.

Additional Resources

- Boden, "Autonomy and Artificiality" from *The Philosophy of Artificial Life*
- Bedau, Mark. "Weak Emergence"
- Johnson, "Eliminating the mystery from the concept of emergence"
- Hofstadter, "Gödel, Escher, Bach: an Eternal Golden Braid"
- Holland, John. *Emergence*
- Wolfram, *A New Kind of Science*
- Simon, Herb. *Sciences of the Artificial*
- "Emergent Properties", *Stanford Encyclopedia of Philosophy*

Submit

- Discussion question to course chat

> 💡 **Tip**
>
> - " Read", " Listen", and/or " Watch" items are required content for the day, and should be read/heard/watched before class on that day.
> - " Browse" items should be briefly looked at but do not need to be read deeply.
> - " Additional Resources" do not need to be looked at; they are there to serve, if useful, as further references for your debates, final projects, and general edification later.