Stephen Wolfram Talk
2018-01-31 (Age of AI, San Francisco)
Notes by Frank Lin

- The interplay between how humans think and what is computationally possible
- Evolution of human purpose and the language we can use to describe things and how it's a feedback loop
- Many things are computationally possible currently but of no human use
- The importance of having a bridge between the way humans have culturally developed our ways of thinking and what is computationally possible
- We live in a particular universe with certain computational possibilities — kind of stuck with Turing machine-level computational irreducibility (and reducibility), but no choice in universe
- "Everything that can be invented has been invented." – dumb commissioner of the US patent office in 1900
- More interesting question: When will we invent all the useful things to have been invented? Wolfram says never
- Frontier of things we actually care about
- 1+2+3+4=10 tetractys (Pythagoras though this would turn out to be very important... didn't turn out to be that important)
- Below us there are things automated we don't care about (but did in the past) and above us there are things we haven't yet built up the conceptual awareness to care about — what we care about now is always changing
- How do the things we care about change?
- Evolution is a lame way of exploring and discovering new possibilities - you can't make such a big move or else the thing dies - not quite like human engineering
- Rule 30 cellular automata blew Stephen Wolfram's mind
- Started writing programs when he was 12-13 years old, but wasn't looking at cellular automata quite the right way
- Book: Idea Makers by Stephen Wolfram, historical biography type stuff
- Most people ignore surprising stuff since it's too far away from what was expected to happen; most people not in the right frame of mind (don't have the right conceptual framework) to understand it so they ignore it; suppose this has happened many times in his past and everyone's past
- Important to build the right conceptual framework to take in surprising things
- Currently: smart contracts, blockchain, proof of work
- He didn't think the Internet was gonna be that great until 6 months in
- The experiment is not what is difficult