Stuff I’m Working On

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Is it possible that every knowledge-organization system has an organization-boundary? And that “ideas that don’t fit” must be outside that boundary?

COMPUTATIONAL HIERARCHY

It looks like Intelligent Computing Systems can be interconnected and stacked.

ARROW CHAINS

Recently I’ve been thinking about decision making machines using arrow chains. An arrow chain is a drawing diagram of points and arrows. Consider a 1:2 arrow chain where one arrow is in the same direction as the last one, and another arrow is in a different direction as the last one. For a challenge, consider variable arrow lengths, variable arrow directions, and variable arrow ratios 1:n.

CIRCLE DEFINITION

We can find a definition of a circle using ideas found when meditating on arrow chains.

Problem

* Define a circle, E

Given

* A, an initial point.
* B, a series of steps though a set of points where (a) every step is in a different direction from every other step, and (b) every step has a common displacement amount, B.
* C, a primary final point.
* D, a secondary final point.

Solution

* Take B, the series of steps through the set of points.
* Multiply each step in B by negative one, creating a step that is equivalent but in the exact opposite direction. Save this new series of steps as a new set called -B.
* Resort -B where the last are first and the first are last.
* Evaluate C, the primary final point, as the final point of the B steps.
* Evaluate D, the secondary final point, as the final point of the -B steps.
* If C and D are the same point, then the sets of B and -B combined form an E.

Conclusion

* We solved a computing problem (i.e. define E) using computing data (i.e. given A, B, C, and D) and a computing program (i.e. solution).

I bet this definition of a circle is used by engineers doing digital signal processing work. If so, it looks like they’re building gyroscopic machines into their computing systems.

Allan Turing had some interesting ideas in his Computing Machinery and Intelligence paper. Some of the ideas in his last section titled Learning Machines were so interesting, I rephrased them to make them more accessible.

Computing Machinery and Intelligence; By Alan Turing, 1950

“Our problem then is to find out how to program these machines to play the game.”

* Given (a) ideas, (b) idea-processing-machines, and (c) response-behavior of idea-processing-machines with respect to ideas input to the idea-processing-machines: there exists a “critical” threshold where the response behavior of the idea processing machine continues until the resources enabling the machine is entirely consumed.
* Let sub-critical be a scenario where the machine does not proceed until the resources enabling the machine is entirely consumed.
* Let super-critical be a scenario where the machine proceeds until the resources enabling the machine is entirely consumed.
* Intelligence is a factor in the “critical” threshold.
* Learning machines will (a) experience education, (b) make use of positive and negative feedback signals, (c) evaluate truth, (d) develop trust, (e) experience time-invariant rules, and (f) benefit from a randomness generator.

Questions I Wish I Could Have Asked Turing

* What do you think about: “Which came first: the chicken or the egg?” being viewed as a stereotype of an idea that could cause a super-critical situation for machines within an intelligence-level region.
* What do you think about: For any given statement, there exists a computing machine and intelligence profile where the computing machine has a super-critical response to the statement.
* What do you think about: For any given statement, there exists a computing machine and intelligence profile where the computing machine has a sub-critical response to the statement.