ONLINE LESSON :
"The Algorithms for Love" by Ken Liu
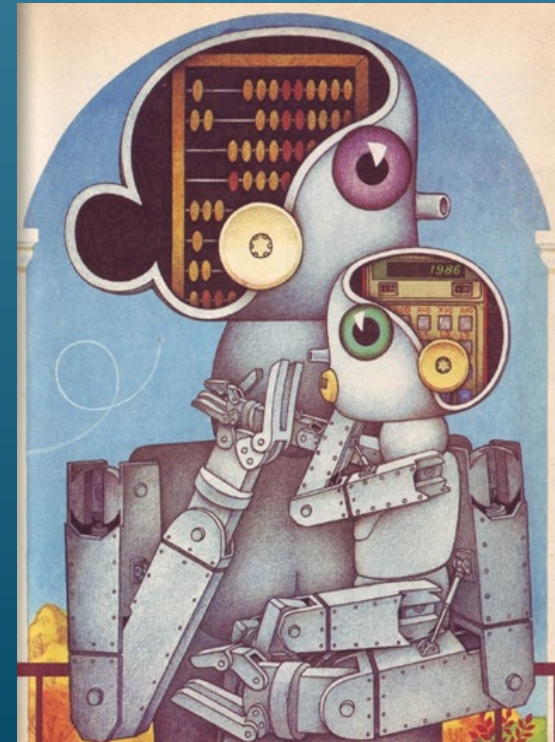
(all images are from Microsoft PPT Bing Clip Art, Unless otherwise noted)

For EAC 234

By Prof. Lisette Boily

Writing Context & SF Setting: the Near Future

Story was originally published in 2004

An AI doll article, sparked the writer's imagination (see the end of the story link)

Two decades (20 years) after story's publication, there are currently even more advances in AI, making the SF speculative scenario seem even more 'current' & plausible/possible

The story setting seems like it could be taking place 'today' except for some hints as to the near(ish) future setting (transoribtal shuttle, shuttle port, etc.)

The near future is a very common and effective type of SF setting

Artificial Intelligence (AI)

Artificial Intelligence (AI) is:

- *"a branch of computer science dealing with the simulation of intelligent behavior in computers"*

- *"the capability of a machine to imitate intelligent human behavior"*

From:
http://www.merriamwebster.com/dictionary/artificial%20intelligence

Algorithm - Definition

This story's title uses the computer science term 'algorithm' in an interesting way. First things first: definitions:

- An **algorithm** is:
  - "The current term of choice for a problem-solving procedure, *algorithm*, is commonly used nowadays for the set of rules a machine (and especially a computer) follows to achieve a particular goal"

    - "a procedure for solving a mathematical problem (as of finding the greatest common divisor) in a finite number of steps that frequently involves repetition of an operation"
    - "a step-by-step procedure for solving a problem or accomplishing some end, especially by a computer"

(From: http://www.merriam-webster.com/dictionary/algorithm)

SF Speculative Scenario

- The story's general SF speculative scenarios revolve around the Uncanny Valley, the Turing Test & the Chinese Room Argument (see later slides), to help us understand the specific speculative scenario

- **The story's SPECIFIC speculative scenario explores:**
  - what if, while attempting to ease the loss of a human loved one (dead baby) by creating a 'replacement' artificial intelligence (AI doll), *the creator started to question her own humanity – i.e. whether or not the human brain is just a computer, an artificially intelligent set of algorithms?*

*Slide 11 explores Deeper Issues related to the story's Speculative Scenario

SF & literary Devices in the Story

- In medias res (see the beginning of the story)

- **Title significance**

- Four Core SF Concepts
  - Invention & discovery / revelation are the most prevalent in the story, but we also see exploration (research) and transformation (change)

- **Sentience & Artificial Intelligence**

- **Speculative Scenario** (see slides 5 and 11)

- **The Turing Test, The Uncanny Valley, The Chinese Room Argument (see later slides)**

- Plot Conflicts (person vs. self, vs. person, vs. nature)

SF & literary Devices, cont'd

- Circular structure (beginning and end – 'I love you, too')
  - Repetition ('I love you, too')

- Irony – Situational? Verbal? Dramatic?

- Ending
  - open or closed?
  - Ambiguous or clear?

- First Person Narration – Elena's point of view
  - Internal Monologue (in the mind of the main, 1st person, character)
  - Flashbacks

The 'Uncanny Valley' & 'Life-like' AI

- The term uncanny valley originated in 1970 by Japanese robotics professor Masahiro Mori

- The more 'life-like' an object (i.e. a robot) appears, the more uncomfortable humans will be with it

- "The term refers to the shape of the graph formed when plotting people's reactions to different objects that continuously increase in their human-like appearance. As the human likeness of the object increases, people's affinity to it increases until a point is reached that the human likeness becomes off-putting, disturbing and weird…"

(From: https://www.techopedia.com/definition/31570/uncanny-valley)

The Turing Test & AI

- Partially explained through story info dumps

- Alan Turing was a mid 20th century British mathematician famous for many things, including 'The Turing Test':

- *"Turing suggested the "imitation game," now known as the Turing test: a remote human interrogator, within a fixed time frame, must distinguish [if the subject being questioned is] a computer or a human … based on [the subject's] replies to various questions posed by the interrogator. By means of a series of such tests, a computer's success at "thinking" can be measured by its probability of being misidentified as a human…"*

(From: https://www.britannica.com/technology/Turing-test)

The 'Chinese Room' Argument

- Well explained through the story through an 'info dump'– for a good summary of Searle's 'Chinese Room Argument' see this week's story

- 'The Chinese Room Argument' is philosopher John Searle's critique of 'The Turing Test'

- According to Searle's 'Chinese Room Argument':

"[computing algorithms] just *simulate* thought, their seeming understanding isn't real understanding"

(From: http://www.iep.utm.edu/chineser/)

Deeper Issues & Speculative Scenario

- *Title Significance & Speculative Scenario* - juxtaposition of two unlike terms (algorithm & love)
  - **Is love just another type of algorithm?**
  - **Are human minds basically computers?**

- The most ironic and telling quote in the story: Brad says to Elena: *"you're letting philosophy get in the way of reality"* (Liu)
  - **Who is correct here – Brad or Elena? How and Why?**
  - **Is Elena's psychological trauma causing her to incorrectly compare the human brain to artificial intelligence? Or...does she raise an interesting speculative possibility?**

- The most paradoxical yet possibly enlightening quote in the story: *"The watchmaker was the watch"* (Liu).
  - What does this mean and how is it relevant to the story and its speculative scenario?

An Important Final Note about Academic Integrity

- **You are <u>not</u> required to, or supposed to 'research' the internet (outside of course lesson material) or use generative Ai tools for ideas about our assigned short stories….but if you do:**
  - Make sure you quote and cite any and all external sources, INCLUDING any use of generative Ai (see how to cite this in each module)

  - Try engaging what the internet source 'said' about the story—what does it mean, do you agree or disagree, etc.?

  - Always highlight YOUR OWN ideas about any story we cover in the course—if you are confused about a story, it's okay to say so (asking questions and highlighting what is not understood are the best ways to learn something new!)

  - **Depending on the amount and severity of the uncited material (plagiarism), a reduced grade, a zero grade, a zero grade and a comment on the student's transcript can result**

THE END