
Prologue: Terrified - Reading/Mining/Discussion Assignment

Please ...

1. Read “Prologue: Terrified” of Melanie Mitchell’s “Artificial Intelligence: A Guide for Thinking Humans” book.
2. With respect to the “20 Questions” document presented for the “Prologue: Terrified” reading, construct a document containing 20 question/answer pairs, where each answer is simply lifted from Melanie Mitchell’s text. Save your document as a **pdf** file.
3. Post your question/answer document to your Web worksite.
4. Do your best to internalize your twenty question/answer pairs in some sort of semantic sense, so that the answers are likely to come back to you when prompted by the questions.
5. Come to class for the discussion of “Prologue: Terrified”, when the time rolls around, prepared to participate in the discussion.
6. Please do all of this within one week of the “distribution” of this assignment.

The Questions ...

1. Google started out in 1998 with one “product”. What was that “product”?
2. In 2011, Google created an internal AI research group. What is this group called?
3. What is the glue that unifies the diverse products, services, and blue-sky research efforts offered by Google and its parent company, Alphabet?
4. What is Google’s ultimate aspiration, as reflected in the original mission statement of its DeepMind group?
5. Written in the 1970s, *GEB* was an outpouring of his many intellectual passions – mathematics, art music, language, humor, and wordplay, all brought together to address the deep questions of how intelligence, consciousness, and the sense of self-awareness that each human experiences so fundamentally can emerge from the non-intelligent, non-conscious substrate of biological cells. It’s also about how intelligence and self-awareness might eventually be attained by computers. Who is he?
6. If you’re a computer scientist, or a computer enthusiast, it’s likely you’ve heard of it, or read it, or tried to read it. What is it?
7. What did the magnetic button affixed to the Sigma-2 mainframe computer that her hobbiest/engineer dad built in MM’s childhood home proclaim?
8. He described how, when he first started working on AI in the 1970s, it was an exciting prospect but seemed so far from being realized that there was no “danger on the horizon, no sense of it actually *happening*.” Creating machines with humanlike intelligence was a profound intellectual adventure, a long-term research project whose fruition, it had been said, lay at least “one hundred Nobel prizes away.” Whose perspective, in particular, on AI research are captured in these two sentences?
9. In the relatively early years, of computing machines, those who believed that AI was possible in principle considered these two philosophers, in particular, to be ‘the enemy’ due to their passionate arguments against the possibility of AI. Who were these two Berkeley philosophers?
10. Near the end of *GEB*, Hofstadter had listed “Ten Questions and Speculations” about artificial intelligence. One of the questions was: “Will there be chess programs that can beat anyone?” What, beyond the word “no,” did Hofstadter have to say in his speculation about this?

11. In formulating his “dead wrong” speculation, Hofstadter was influenced by Eliot Hearst, a chess champion and psychology professor who had written extensively on how human chess experts differ from computer chess programs. Characterize Hearst’s review of how human experts engage in the play of the game.
12. IBM’s Deep Blue machine? Please say a little something about it.
13. After describing EMI, Hofstadter had asked the audience – including several music theory and composition faculty – to guess which of two pieces a pianist played from them was a (little-known) mazurka by Chopin and which had been composed by EMI. As one audience member described later, “The first mazurka had grace and charm, but not ‘true-Chopin’ degrees of invention and large-scale fluidity ... The second was clearly the genuine Chopin, with a lyrical melody; large-scale, graceful chromatic modulations; and a natural, balanced form.” Many of the faculty agreed and, to Hofstadter’s shock, voted EMI for the first piece and “real-Chopin” for the second piece. The correct answers were the reverse. Where did this scenario take place?
14. Which word best describes Hofstadter’s feeling about what Google itself is trying to accomplish in AI – self-driving cars, speech recognition, natural-language understanding, translation between languages, computer-generated art, music composition, and more?
 - (a) wonder
 - (b) ambivalence
 - (c) terror
15. Hofstadter’s worries are underlined by Google’s embrace of Ray Kurzweil and his vision of the Singularity. What exactly is the Singularity?
16. Hofstadter’s feeling of terror with respect to AI was not about AI becoming too smart, too invasive, too malicious, or even too useful (and thus displacing workers). What was his terror with respect to AI about?
17. Is Hofstadter a **materialist**?
18. Mitchell quotes three well-known humans who have emphatically expressed their concerns about AI. Who are these three, and what did each have to say?
19. Mitchell quotes three well-known people who argue that worries about AI are premature, at best. Who are these three, and what did each have to say?
20. In the last paragraph of the prolog, Mitchell articulates what the book is about. What does she say?