

The Dark Ages of Artificial Intelligence

One of the first things a lot of people think about, when the topic of **Artificial Intelligence (AI)** comes up is the idea of human-like machines interacting with humans in a variety of ways, such as suggested in the movie, "*I, Robot*", released in 2004; 20 years ago as of this writing. The movie was loosely based on a classic science fiction book compiled from short stories originally published in magazines between 1940 and 1950; now **more than 80 years ago**. The book was also titled, "*I, Robot*", and was written by renowned science fiction author, **Isaac Asimov**. Isaac Asimov, as with many science fiction writers, was a well-educated scientist before he wrote futuristic fiction; holding graduate degrees including a doctorate in Chemistry from Columbia University; as well as being multilingual. Asimov was clearly thinking analytically and scientifically when he wrote his thoughts and ideas about what the future would bring to humanity. Then, as with now, the "laws" which would govern advanced artificially intelligent machines was of utmost importance. Asimov gave us the original Three Laws of Robotics, which are:

1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

Later on, he added a fourth law (which was not included in the latest movie);

4. A robot may not harm humanity, or, by inaction, allow humanity to come to harm.

There are some interesting things about a discussion of the "three laws" that we forget. First, there was a fourth law. Second, there are the obvious questions about robotics and ethics that are very complex. To start with, **whose laws do we follow**, then we get to the details of **trying to interpret**, the details.

Think for a moment about the Biblical Ten Commandments. That grew into **613 laws**, as well as other principles. Today the number of laws that are on the books of the US Federal and State governments is astounding - some do not even make sense anymore! A quick Google search will tell you: "There are roughly **5,000 federal statutes** and Congress enacts 200-600 statutes every two years, and more than 30,000 have been enacted since 1789."

As humans, we continue to struggle with laws! So, let's table this point for a moment and better understand the meaning of Artificial Intelligence today and where it may be going...



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A friend of mine introduced me to this video by Hannah Fry called: [What Does the AI Boom Really Mean for Humanity? | The Future With Hannah Fry](#). You should watch this when you get a chance. She has several others worth watching as well.

After I saw it, I started wondering what human characteristics will be challenging with AI:

- What is consciousness?
- What is ethical or moral?
- What is sentience?
- What is intuition?

These questions have been **debated by scholars and philosophers for years**.

What is conscience? There are a lot of different thoughts on how to define this. The philosopher Thomas Nagel proposed that something is conscious if “there is something it is like to be that organism”.

https://en.wikipedia.org/wiki/Artificial_consciousness

What is morality? Some would say, it depends on who you ask and what they believe.

What is sentience? According to Robert Long, sentience is a subset of consciousness and involves the capacity to feel pleasure or pain.

<https://www.discovermagazine.com/technology/how-will-we-know-when-artificial-intelligence-is-sentient>

What is intuition? *Melody Wilding* wrote an article in the Harvard Business Review March 10, 2022 that describes this very well: “Intuition is frequently dismissed as mystical or unreliable — but there’s a deep neurological basis for it. When you approach a decision intuitively, your brain works in tandem with your gut to quickly assess all your memories, past learnings, personal needs, and preferences and then makes the wisest decision given the context. The author offers strategies to learn how to leverage your intuition as a helpful decision-making tool in your career: 1) discern gut feeling from fear, 2) start by making minor decisions, 3) test drive your choices, 4) try the snap judgment test, and 5) fall back on your values.” Read more of her article here:

<https://hbr.org/2022/03/how-to-stop-overthinking-and-start-trusting-your-gut>

If you want, review the Wikipedia entry on Artificial intuition:

https://en.wikipedia.org/wiki/Artificial_intuition#:~:text=Artificial%20intuition%20is%20a%20theoretical,human%20consciousness%20known%20as%20intuition.



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The thought of artificial intuition disturbs me and I am glad the author of the article above states it is "a theoretical capacity...".

Consciousness, according to philosopher Thomas Nagel, he wrote that something is conscious if "there is something it is like to be that organism." If that sounds abstract, that's partly because thinkers have struggled to agree on a concrete definition. As to sentience, it is a subset of consciousness, according to Robert Long, a research fellow at the Future of Humanity Institute at the University of Oxford. He says sentience involves the capacity to feel pleasure or pain."

from: <https://www.discovermagazine.com/technology/how-will-we-know-when-artificial-intelligence-is-sentient>

The items mentioned earlier on human characteristics, in addition to be being hard to define, are critical items that we need to grasp over the next few decades as AI matures. So, what is AI? The basic ingredients include:

- Learn and Adapt – machine learning from data and improve/adapt over time
- Problem Solving – optimization to solve problems
- Reasoning and Decision making – to perform tasks
- Perception – to interact
- Language models – language processing: frequently used words for speech recognition, translation, grammar and transformers (context and structure)

These components are the first part of understanding AI. In addition, there are a lot of **hardware** and **software components** that make-up AI. I think Tommy Holt says it best when he refers to software as:

**"infallible software written
by
fallible humans".**



Consider this statement:

"AI is always right"

Is it? Or, Is it not? Maybe it depends on your perspective. As a system, at least prior to this year, AI is only going to do what it is told to do or learn what it was told to learn. Therefore, one could argue that it is always right. If you want a fun read, look



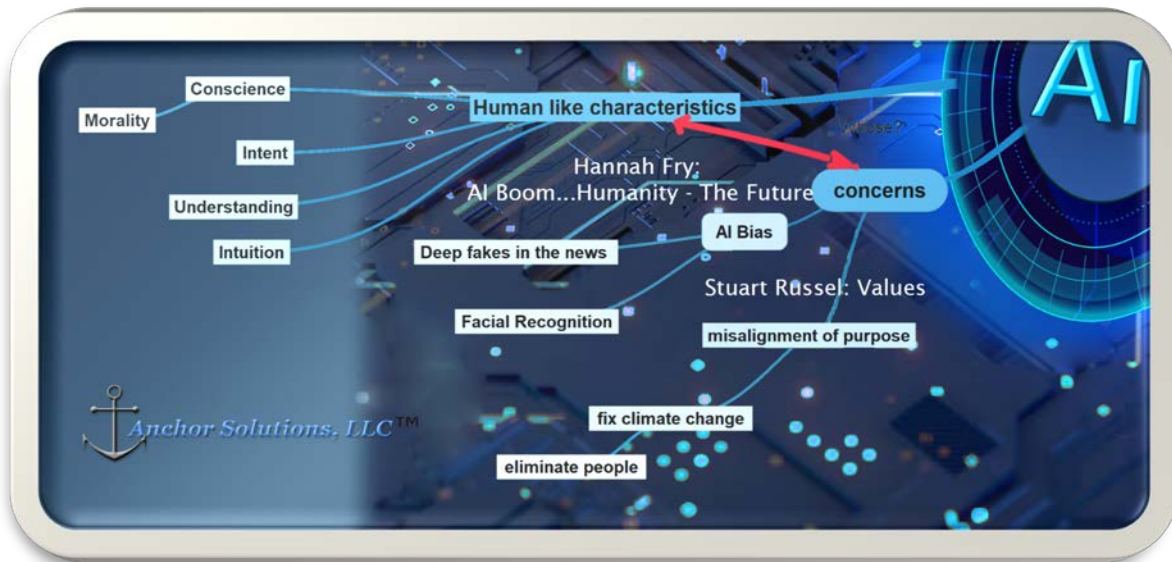
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up **“AI hallucinations”** and you will see how this is used to explain false information generated by AI today.

Let’s compare this to another “system” that you could say was the beginning of AI (I am sure I will get some nay-sayers here): The **“Virtual Answering System”**. How many times have you ended up yelling into the phone or hanging up because the voice on the other end, the virtual recorded voice, just did not “get it”!

We have a long way to go from the early attempts at AI. Even back in the 1950’s when **Arthur Samuel** wrote the first program to play checkers that later learned to make additional moves. There are many other examples; however, with recent improvements in hardware, software and robotics – the growth rate is rapidly outpacing **Moore’s Law** of doubling every two years! For more on this, just look up **Nvidia’s Blackwell GPU** capacity and see how fast it has become in a short period of time.

The second part is understanding the challenges and concerns with AI ...



There are several videos and articles on the items in the graphic above that you can find from both Hannah Fry and Stuart Russell, as well as many others. This is not a new conversation!!!

What does the **Future** hold?

How is this related to **AI Policy** making?

How it will **Influence** those policies?



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This is going to be interesting to watch over the next couple of decades. What we do with AI in the next few years is going to make a huge impact on the world and how AI will interact with humanity. To ignore the **fallibility** of current methods for validating systems and ignoring the **"humanity components"** mentioned above – will send all of us into ... a new "Dark Ages". (While typing, I just looked up "ai dark ages" and found an article in **The AI Magazine** from **1985** titled **"The Dark Ages of AI"**). OK, so I am not very original; however, they were discussing many of these concerns **40 years ago!** We are in a time where everything needs to be validated. Schools are already trying to validate reports from students to see if they were generated with AI.

Just last week, US Senator Ted Cruz helped push a new law called the **"Take It Down"** Act. Due to the rise of AI powered deep-fakes this law will criminalize the publication of non-consensual intimate imagery (NCII is referred to as "deepfake revenge pornography"), and require social media and similar websites to have in place procedures to remove content within 48 hours of notice from a victim.

OK! We may not need to validate **"everything"**; however, we need to carefully consider how far we take this. We may have already missed the window to address the proper controls to determine:

- What is conscience?
- What is intuition?
- What is ethical or moral?

And finally:

Who decides?

