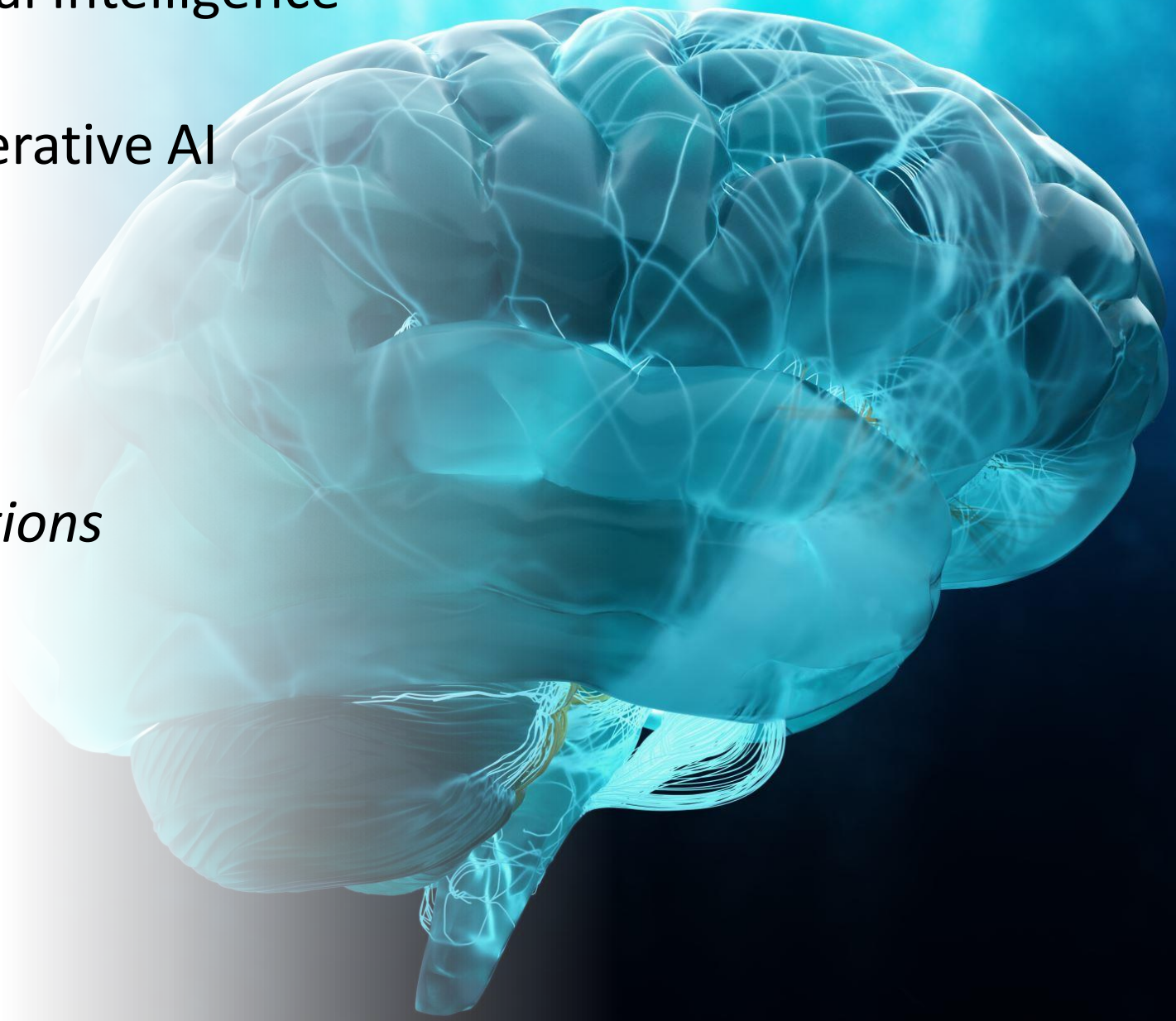
Generative AI

What? Why? Where? How?

- Understanding Artificial Intelligence
  Debunk the myth
- The revolution of generative AI
  Another myth?
- What to do with it
  Case studies
- Where does it lead us
  Future considerations



Understanding Artificial Intelligence

Debunk the myth

At the origin is …

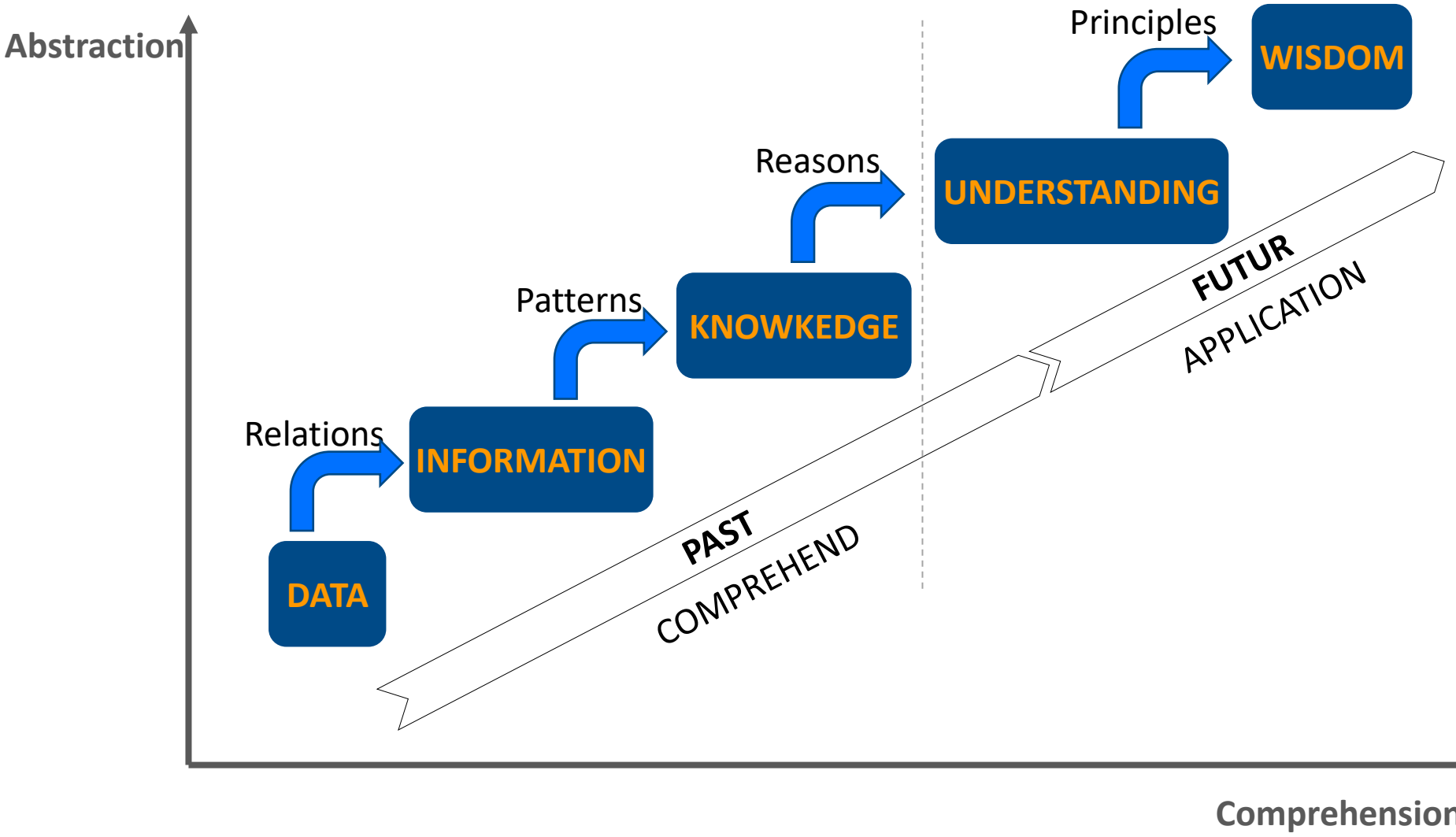
The uncertainty of future

And the answer is …

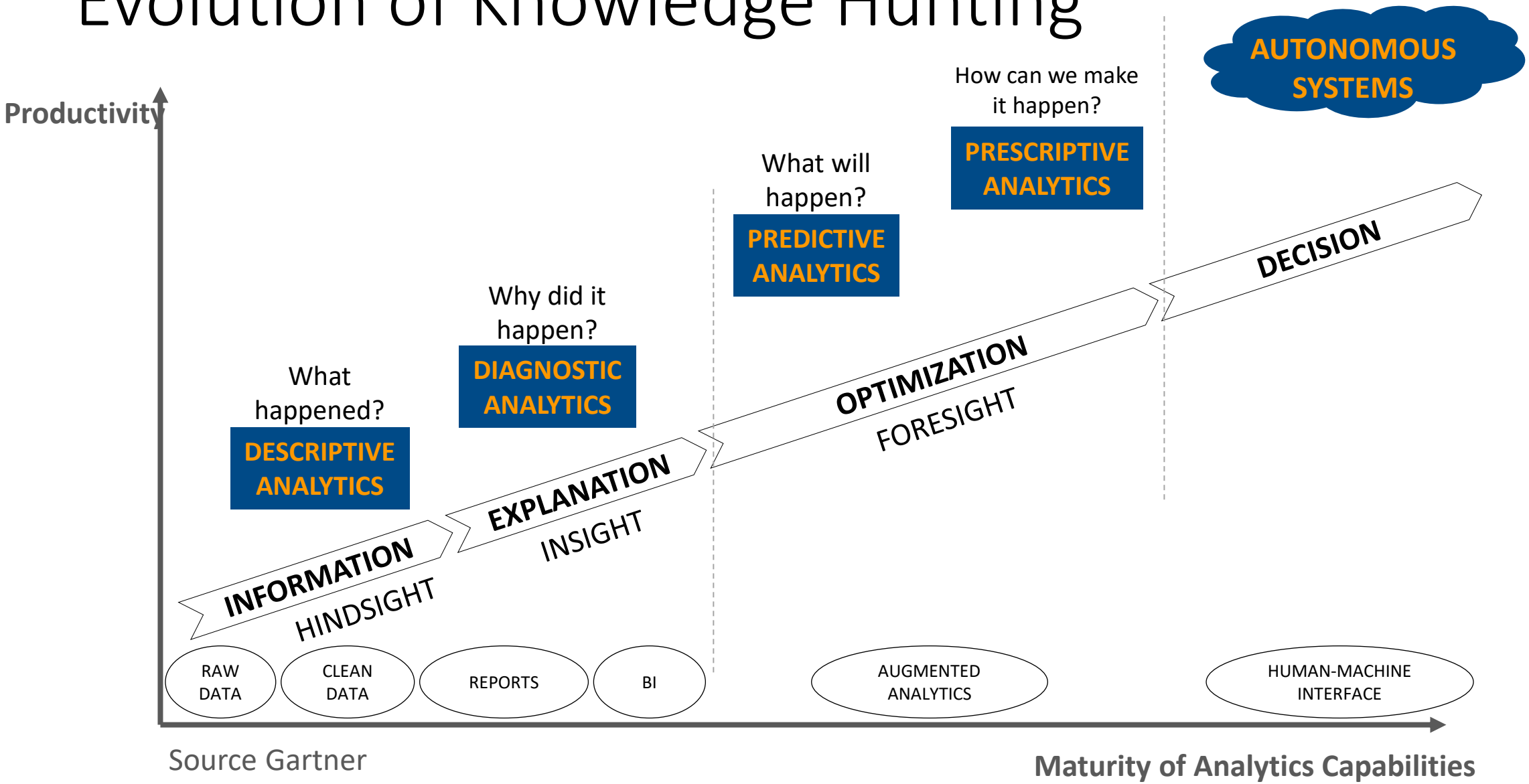
The computation of probabilities

Theorem The probability of an event is equal to the sum of the probabilities of the events that make it up.

From Data to …


Abstraction
Principles
WISDOM
Reasons
UNDERSTANDING
Patterns
KNOWKEDGE
Relations
INFORMATION
DATA
FUTUR
APPLICATION
PAST
COMPREHEND
Comprehension

Evolution of Knowledge Hunting

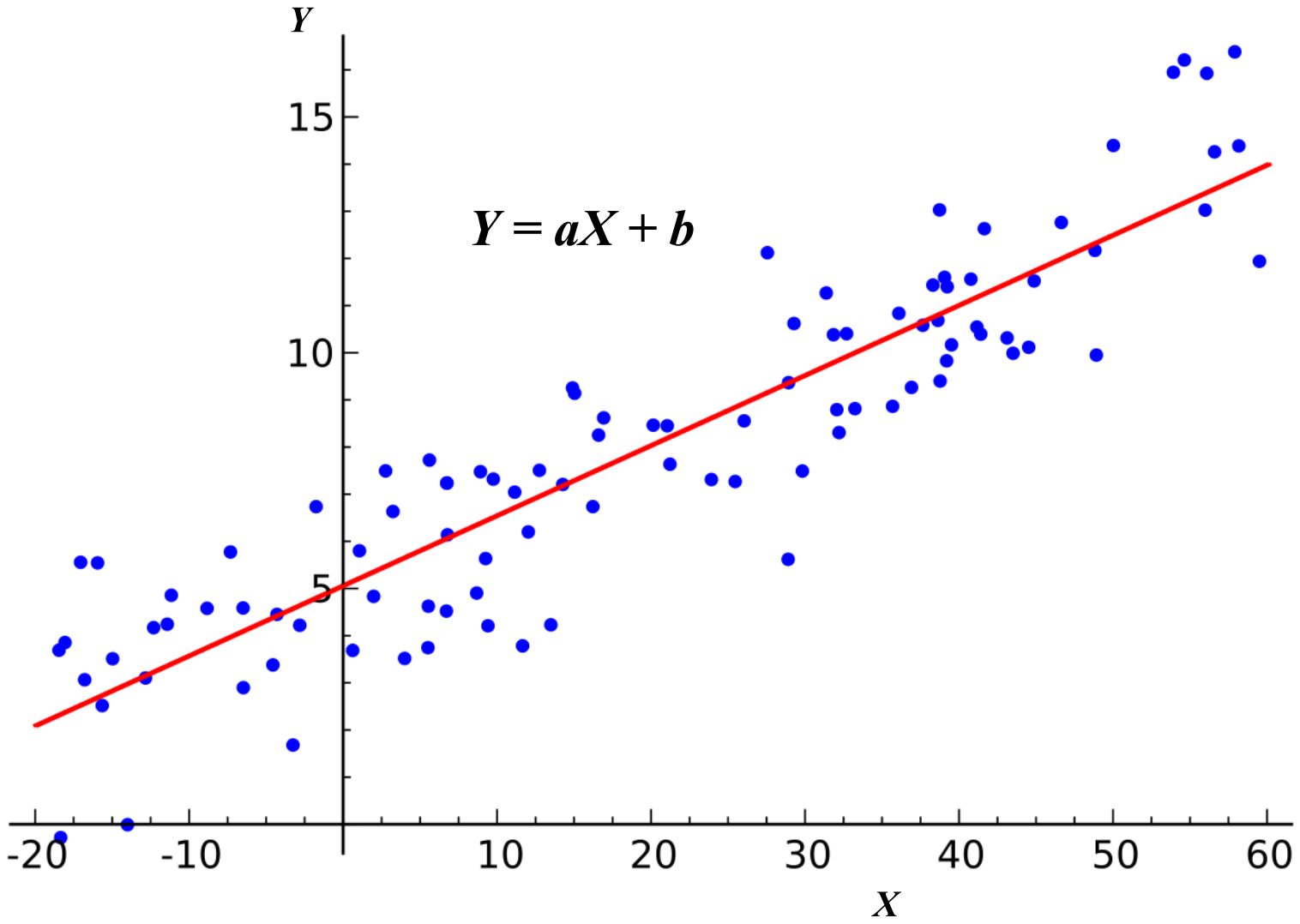


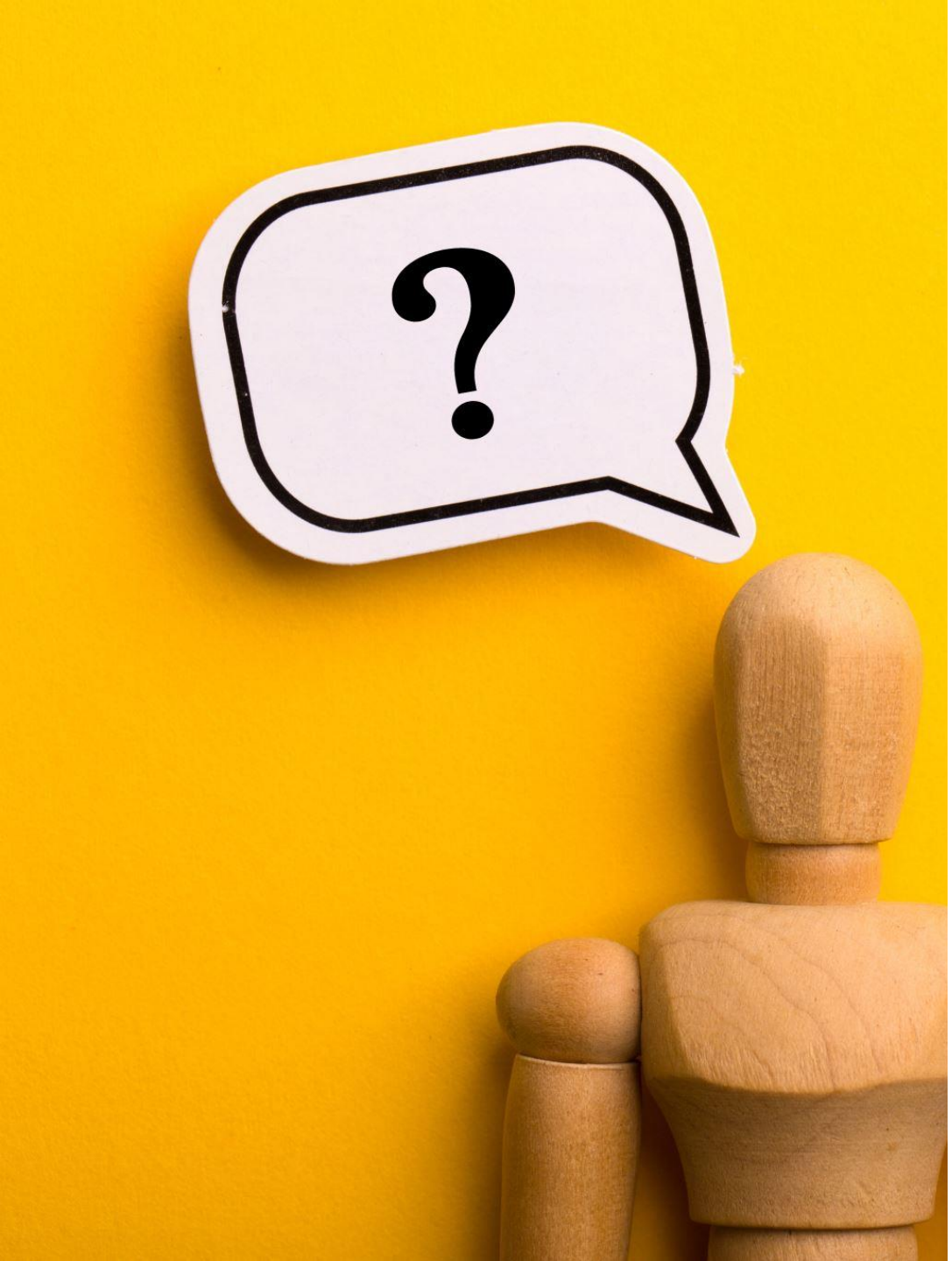
Source Gartner

Principles

- Assumption
- Simplification
- Traditional methods

- Key words
  - Correlation
  - Regression
  - Distance





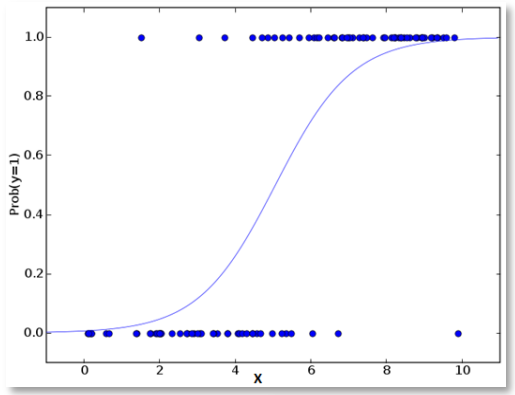
Main Models

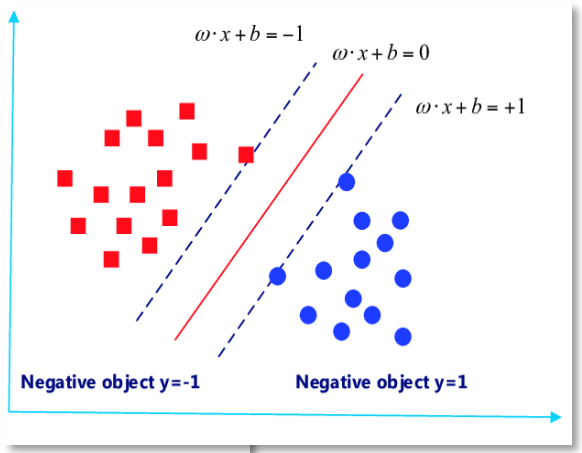
- Supervised — we know the truth
- Unsupervised — we don’t

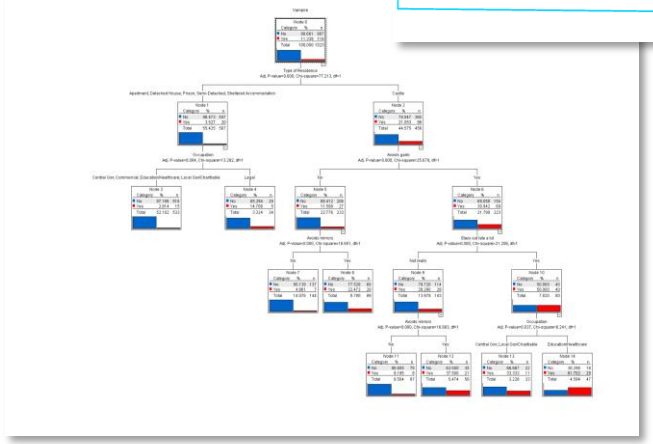
- Regression — we look for a quantity
- Classification — we look for a label

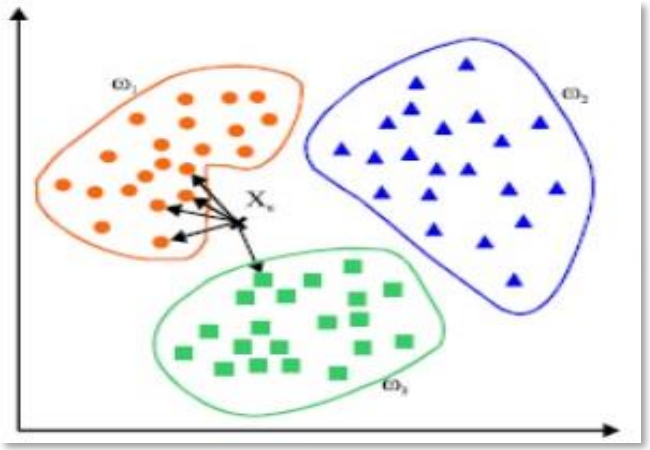
Main ML Algorithms

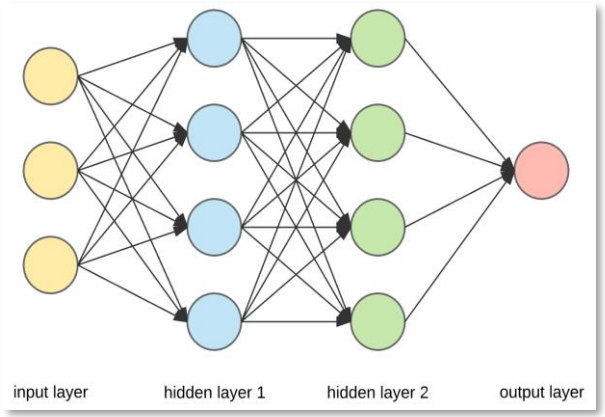
- Supervised
  - Regression
    - Linear Regression
    - Neural Network
  - Classification
    - Logistic regression
    - Support Vector Machine (SVM)
    - Decision Trees - Random Forest
    - Neural Networks
- Unsupervised
  - Dimensionality Reduction
    - PCA
  - Clustering
    - KNN



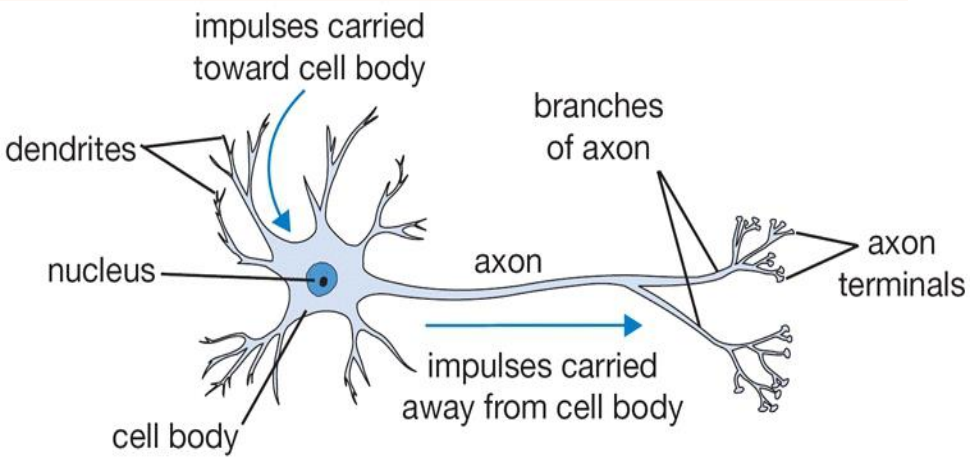


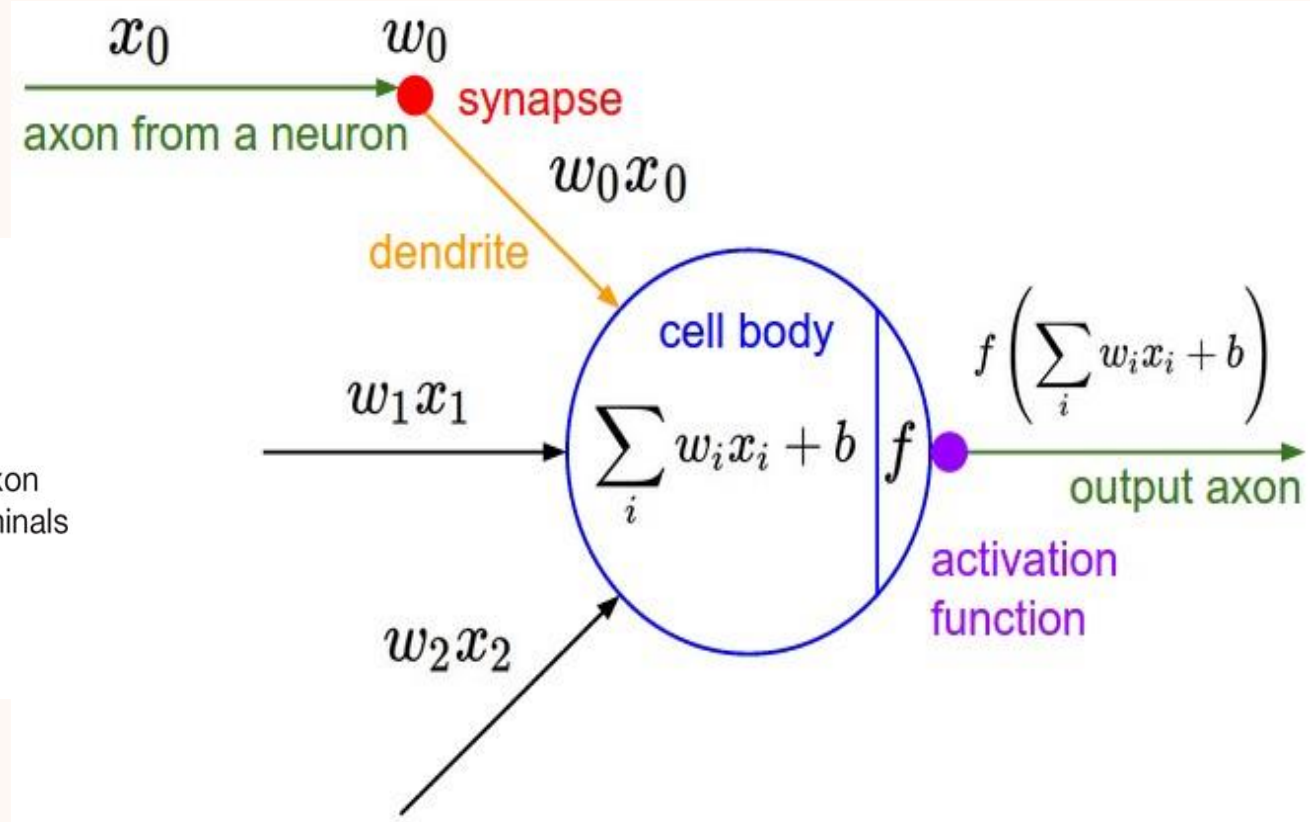






Neural Network = Artificial Brain ?



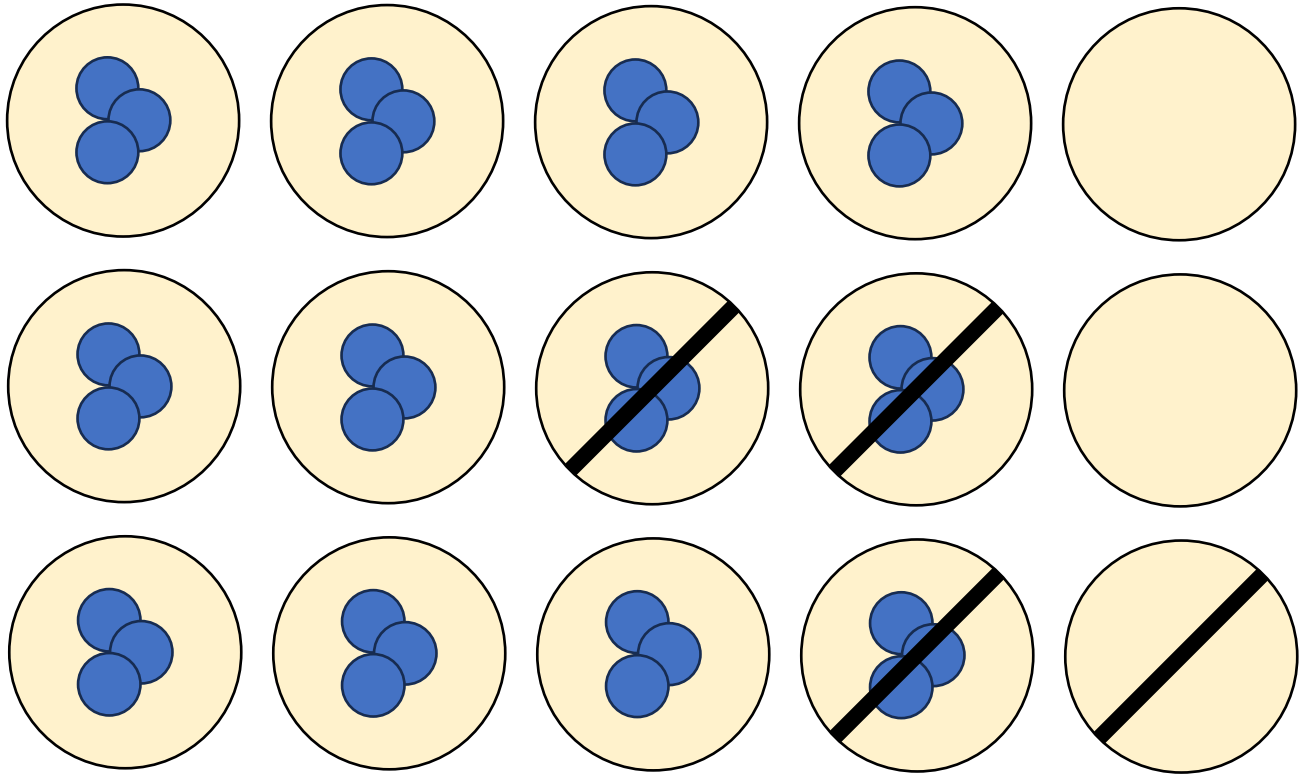


Natural Language Processing (NLP)

Large Language Model (LLM)

The revolution of Generative AI

Another myth?



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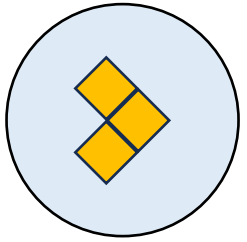
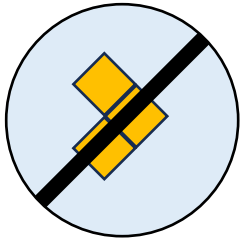
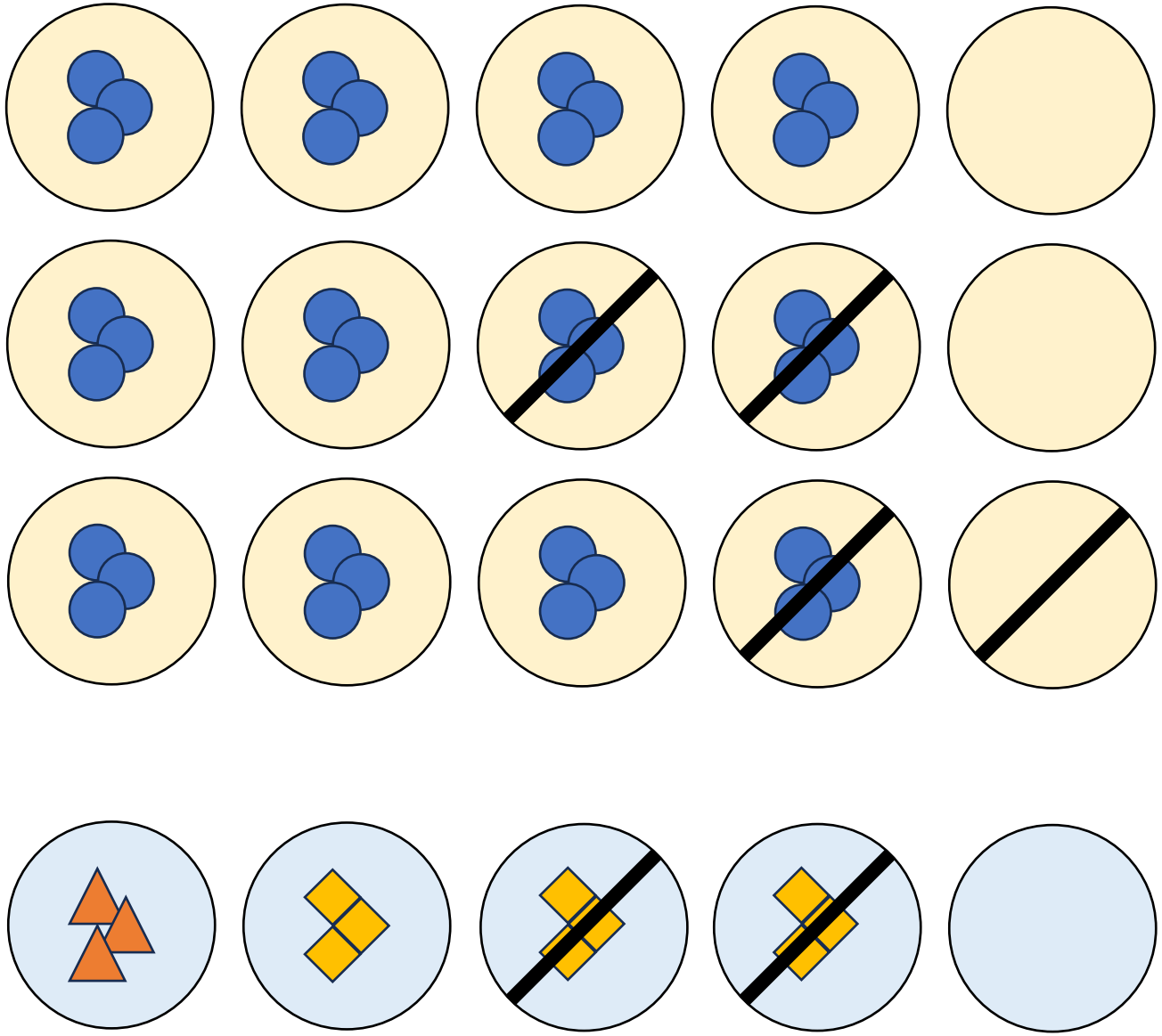
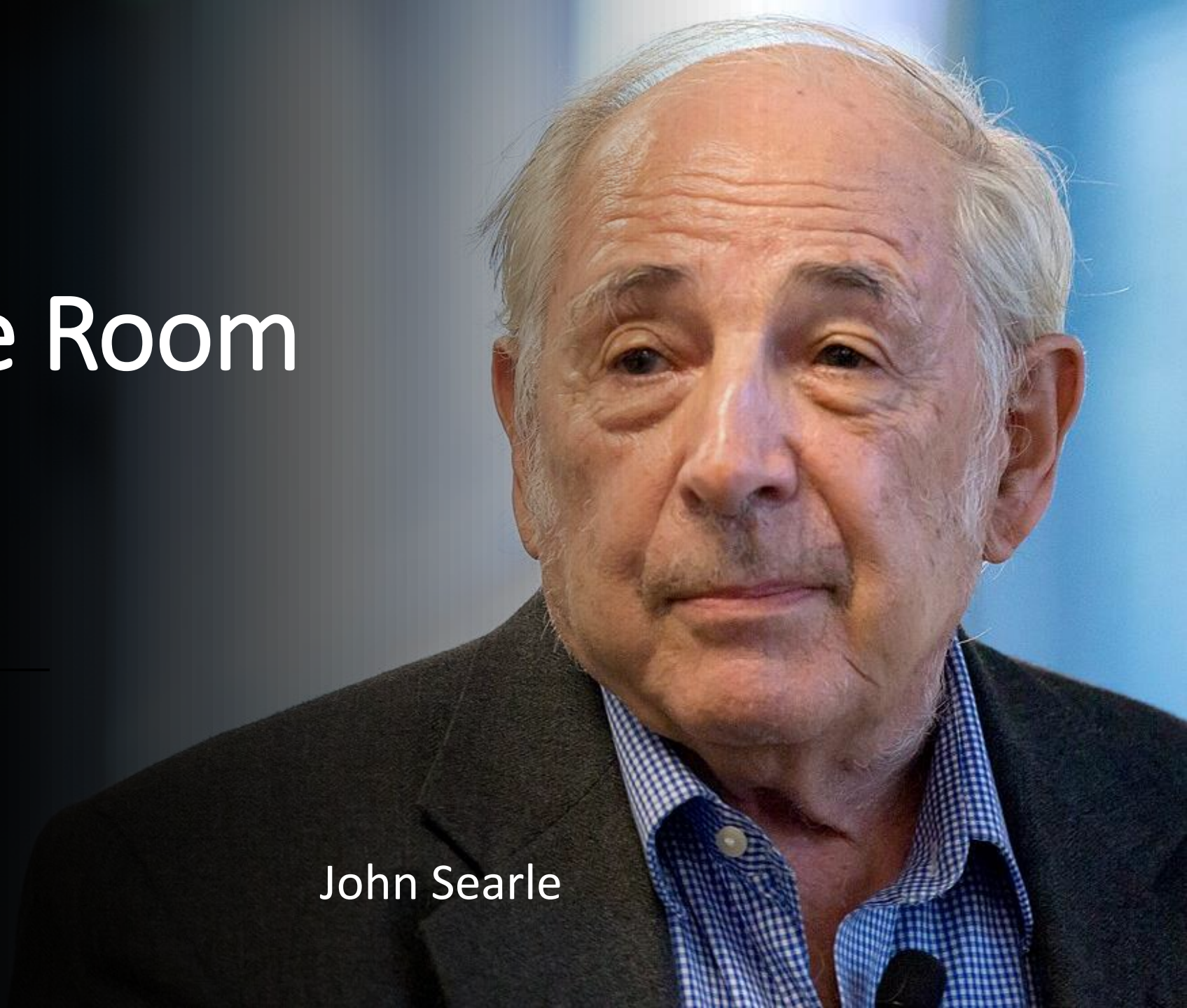


B





The Chinese Room
中文房间



John Searle

What to do with GenAI

Case studies

Content Creation

- Text, image, video and audio generation.

Design and Prototyping

- Product Design - Website and UI/UX Design.

Personalization

- Recommendation systems for personalized content. Customized Marketing Campaigns.

Data Augmentation

- Augmenting datasets, especially in cases where data collection is challenging.

Simulation and Modeling

- Simulating business scenarios, market conditions, or product performances to facilitate decision-making.

Drug Discovery and Design

- Designing new molecules or drugs based on desired properties or effects.

Financial Modeling

- Generating potential financial market scenarios to test investment strategies.

Customer Support and Chatbots

- Generating human-like responses to customer queries using chatbots or virtual assistants.

Gaming and Entertainment

- Procedurally generating game environments, characters, or storylines.

E-commerce

- Personalizing shopping experiences based on user's browsing habits.

Training and Education

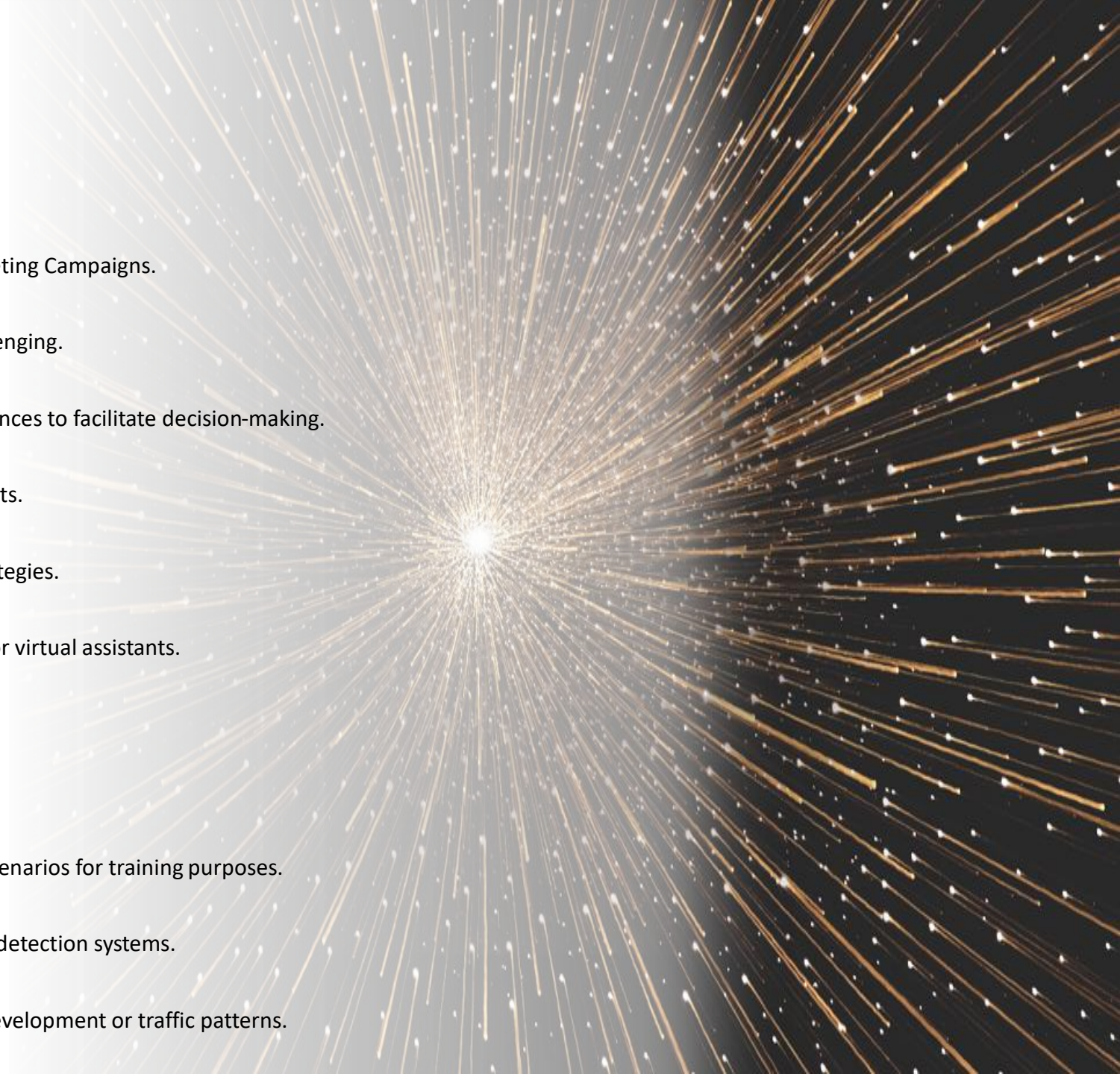
- Creating customized learning material or quizzes. Simulating real-life scenarios for training purposes.

Fraud Detection and Prevention

- Generative adversarial networks (GANs) can be used to improve fraud detection systems.

Real Estate and Urban Planning

- Simulating how different urban planning decisions might impact city development or traffic patterns.

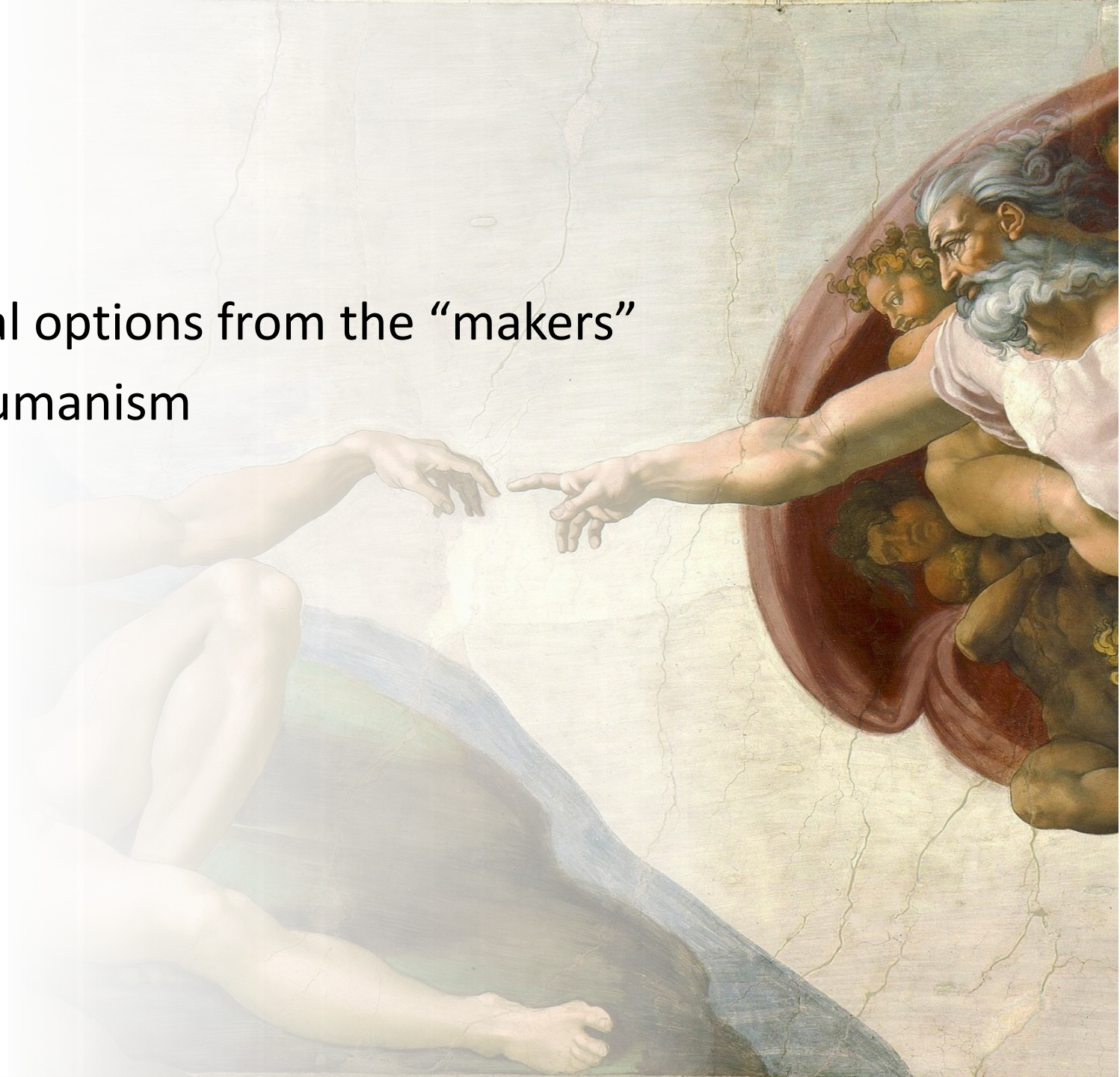


Where does it lead us?

Future considerations

Thought Exercises

- Opinion, mindset and moral options from the “makers”
- Bioconservatism vs Transhumanism



Transhumanism and Posthumanism

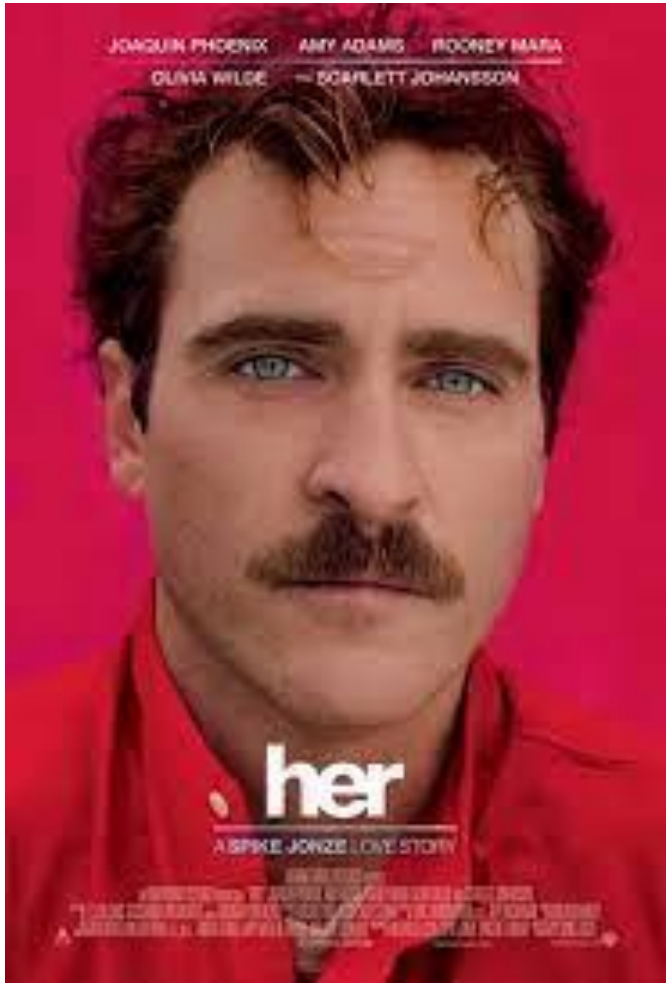
Meet Samantha

Movie

"Her"

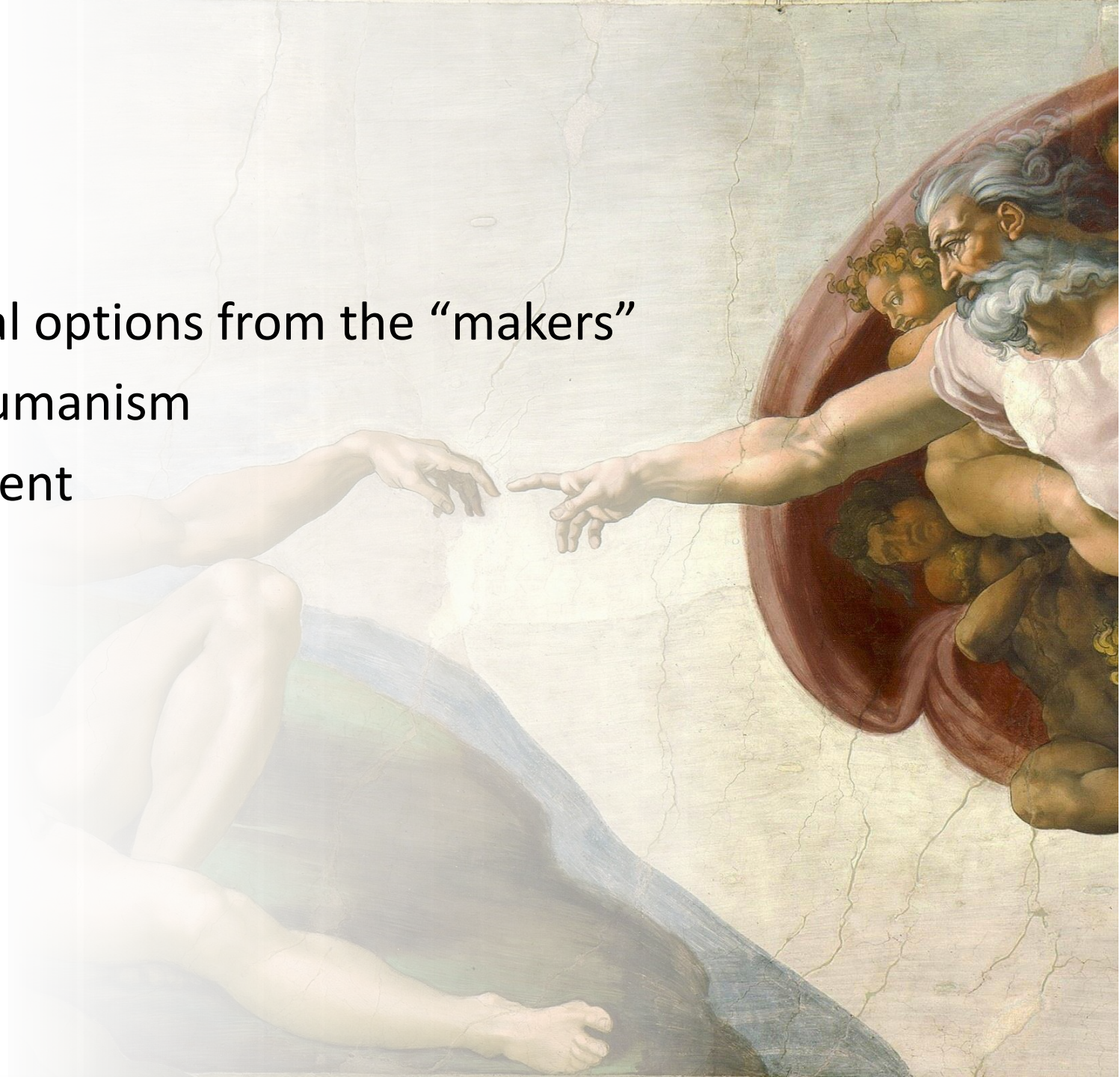
2013, with Joachim Phoenix and the voice of Scarlet Johansson.

Scene: Theodore installs OS1 and meets Samantha for the first time.



Thought Exercises

- Opinion, mindset and moral options from the “makers”
- Bioconservatism vs Transhumanism
- Enhancement or Replacement
- Death of Death
- Weak vs Strong AI
- Conscious AI



Last one before we think about something else …

Free will

Vs

Determinism

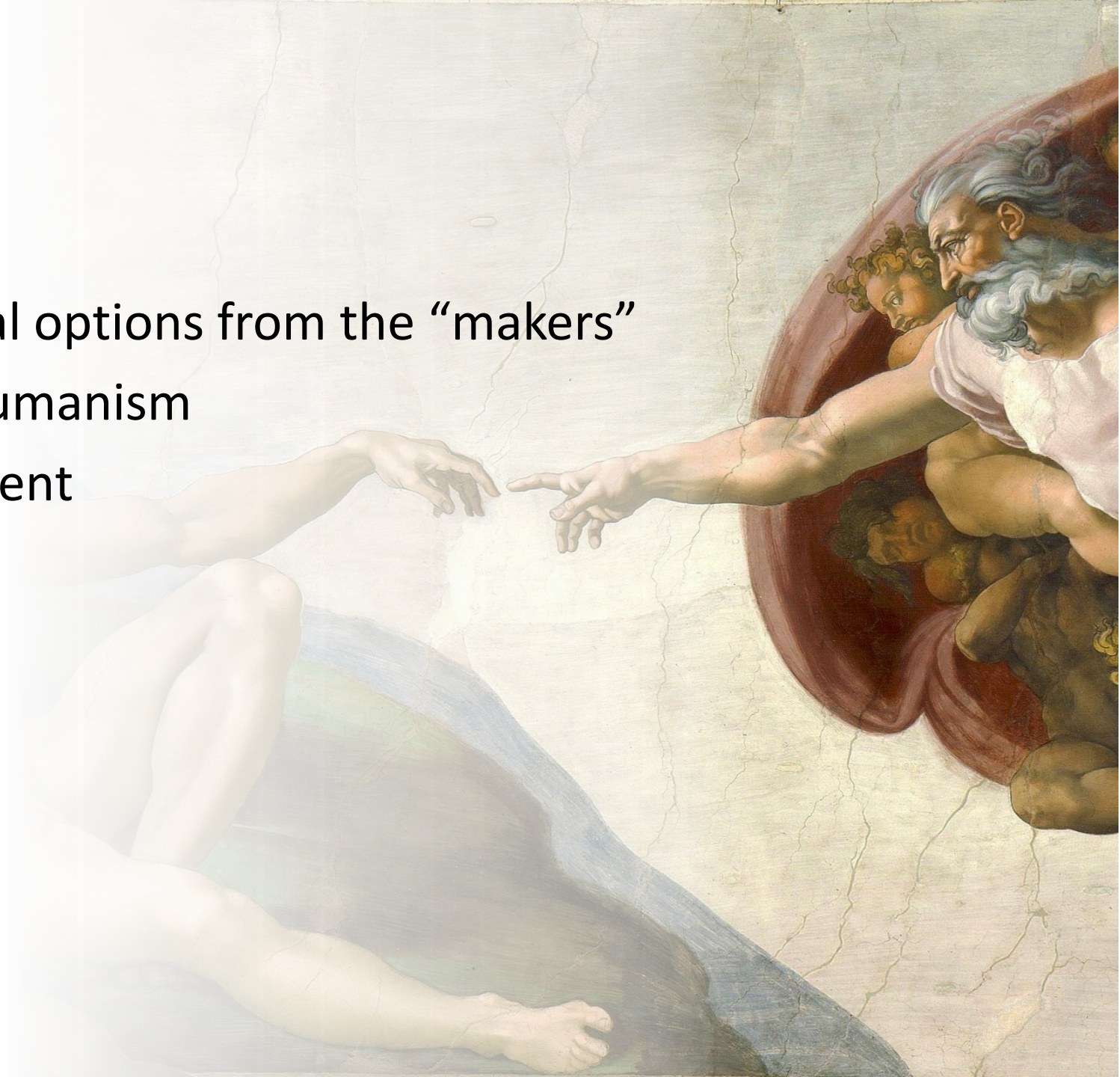
TV Serie on HBO

“Westworld”

2016, based on the book from Michael Chrichton.

Scene: Season 1, Episode6

Maeve realises she is a created robot and hence has no free will.

Thought Exercises

- Opinion, mindset and moral options from the “makers”
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- Conscious AI
- The Demiurge Man
- GOD?