Digital Convergence and Human Intelligence

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Roadmap

- What is it that makes us human?

- A western approach to the world (Francois Jullien)

- A logical extension to Jullien into simulation technology and artificial intelligence

- Digital comes back to human

What is it that makes us human?

- Human vs nature
  - Separation of „human" and „nature" (subdue the earth)
  - Human as part of nature
- Separating human from animal (Frans de Waal would perhaps disagree)
  - Language?
  - Logic?
  - Intelligence?

  - Frans de Waal, *Mama's Last Hug: Animal Emotions and What They Tell Us about Ourselves*, Norton & Company, 2020

Francois Jullien (French philosopher and Sinologist)

- Western culture people are looking for an ideal (eidos - Plato) which is defined as a goal (telos)
  - Eidos allows to define a model
  - The model (of eidos) allows to devise a plan
  - The plan includes methods
  - The methods can be carried out to achieve telos

- Francois Jullien, *Über die Wirksamkeit*, Merve, 1999
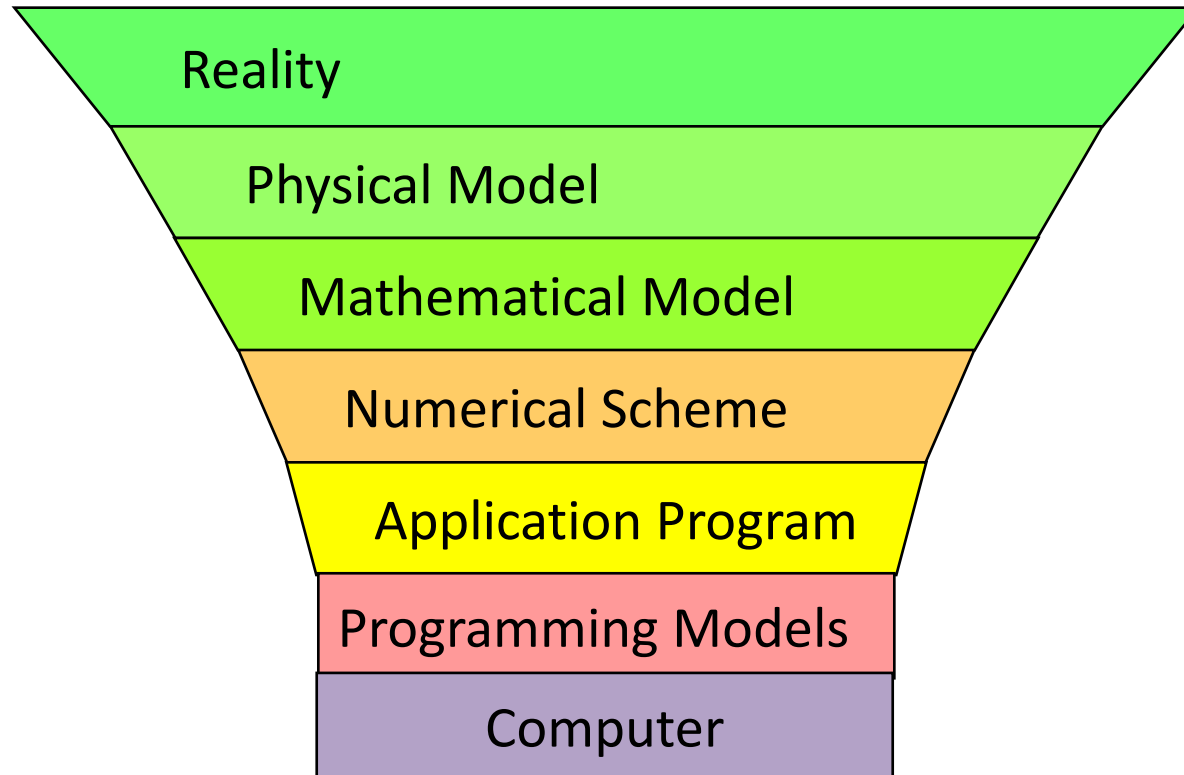
Computer Simulation and AI

- The model allows us to describe the world in mathematical terms

- Mathematical terms allow us to use a calculation machine (computer)
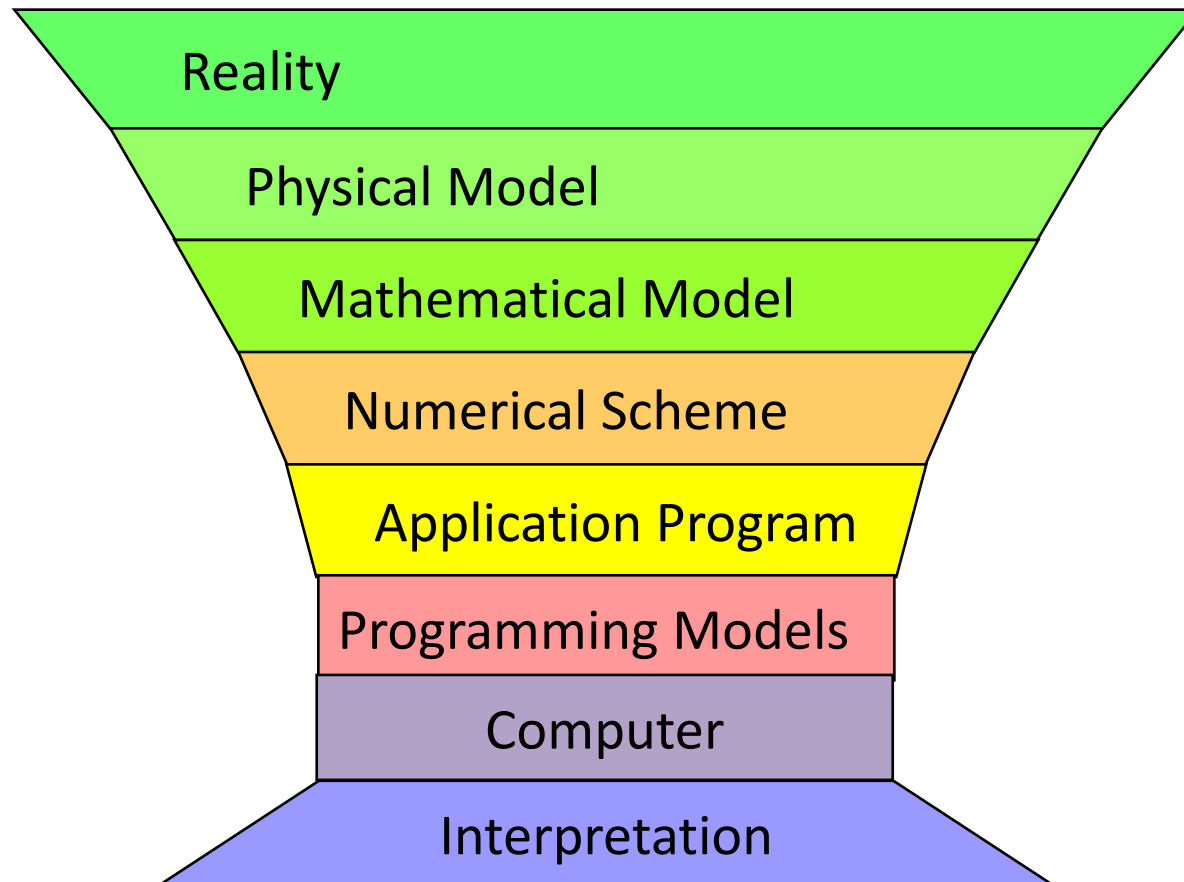
Computer Simulation

Reality

Physical Model

Mathematical Model

Numerical Scheme

Application Program

Programming Models

Computer

HPE "Hawk" the human digital machine?

- **720.896 cores AMD Rome**
- **~26 PetaFlops Peak**
  - **64 bit accuracy**
- **19,33 PetaFlops Linpack**
- **>2 PetaFlops Sustained**
- **1,44 PB Main Memory**
- **~26 PetaByte Disk**

Computer Simulation

- Reality
- Physical Model
- Mathematical Model
- Numerical Scheme
- Application Program
- Programming Models
- Computer
- Interpretation

Interpretation / AI

- Simulation creates Data

- Data can be analyzed
  - Data Analysis (DA)
  - Artificial Intelligence (AI)

- But what is „Intelligence"?
  - Divine spark
  - Ability to interpret rules and follow them in a creative way

The digital human

- Human has steadily been defined according to the concept of eidos, model, and telos
  - Idea of the "tool" as an improvement of the human (about 2 Mio years ago)
  - Self improvement in protestant ethics (1518)
  - Human driven by ratio "cogito ergo sum" (1637)
  - Measuring human physical properties – phrenology, anthropometry, ergonomics, … (19th century)
  - Measuring human non-physical properties – intelligence, emotional intelligence, … (since 19th century)

... *our tools shape us*

- *We become what we behold. We shape our tools and then our tools shape us,*

  John Culkin (1967, March 18). A schoolman's guide to Marshall McLuhan. Saturday Review, pp. 51-53, 71-72

Human – Digital Convergence

- eidos oriented thinking

- Model oriented thinking

- Telos oriented thinking

- Process oriented thinking

Further Thinking

- Peter Weibel says:
  „Die Exo-Evolution ist die wahre Revolution"
  „Exo-Evolution is the true revolution"

- Further Thinking:
  The universal machine is limiting us trough its own limitation. Human intelligence has to overcome these limitations.

Questions