

# Media Transformation

## Vorlesung

WiSe 2021-22

Øyvind Eide

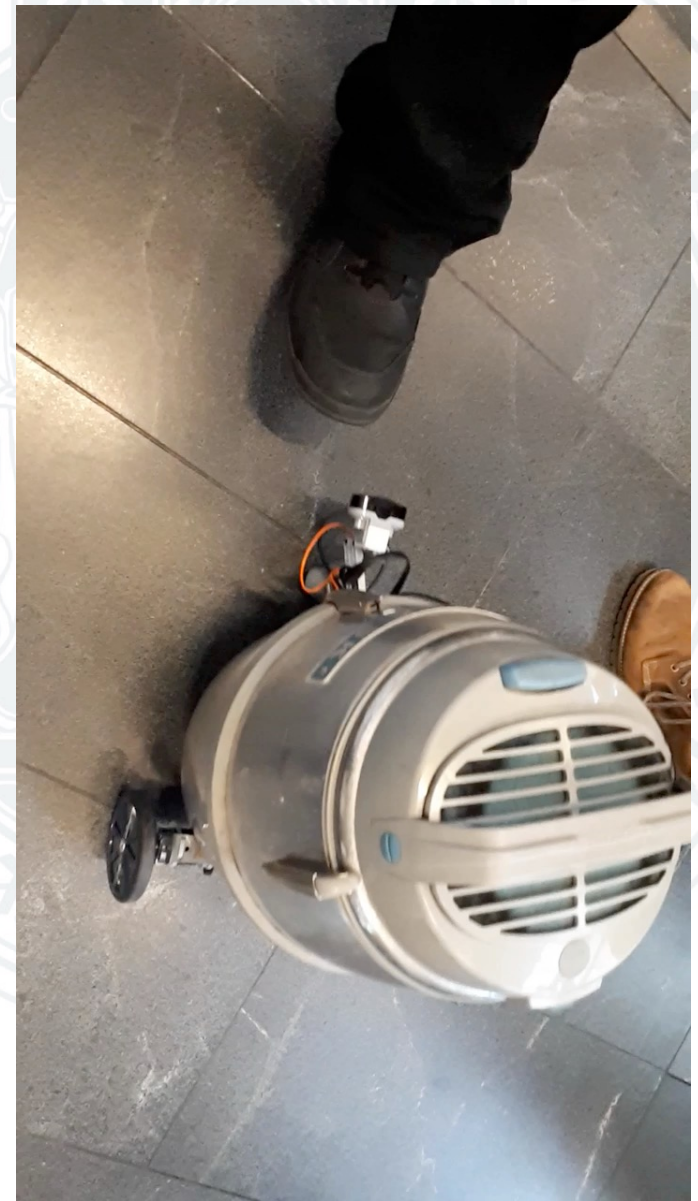
Woche 5



# Robots

- Robots move in the world
  - do not need representations
- Interaction based algorithms
  - robots in the physical world
  - can use affordances
- Robots in interaction with the environment
- The foundation problem is bypassed

Christiansen, H., Hoby, M., & Lindelof, A. M. (2019). „Robot Gestalts in Staged Performances: Poster abstract.” Poster session præsenteret på 4th Digital Humanities in the Nordic Countries, Copenhagen, Danmark.



# Tools and animism

- Beyond (behind) AI/robots: „simple” tools
- Auto-movement and animism

“**These technical distinctions are fully understood** by Nuaulu who have wondrous ways of **fixing malfunctioning engines**. But the combined features that give them quasi-autonomy also give them the vitality that is more than the combination of their parts, and which crosses a boundary that **places them with other biological and quasi-biological entities**. Humanly operated machines may have agency, but **engines act ‘intentionally’**. When Basil Fawlty is thrashing the car he is exacting revenge on an entity that has ‘stalled just once too often’. It has willfully disobeyed its owner and driver. We laugh because we recognize that all of us, while **fully accepting the technical reasons for mechanical failure, insist on treating the vehicle as if it were a sentient person who is deliberately contrary.**”

Ellen, R. (2016) „Tools, agency and the category of ‘living things’” in Des êtres vivants et des artefacts, Paris („Les actes”).





# Animals and tools

- Interaction
  - animal—tool?
  - animal—human?
- Usability
  - for animals
  - for humans
- Intention
  - in humans
  - in animals
  - in the tool?



# Communication with the dead

- Religion/mythology
- Literature
  - “Sapho speaks to me”
  - (but do I reply?)
  - model reader → author instance in text
- Talking to fictional persons
- Art
  - falling in love with a painting – or the motive?
- Virtual reality
  - talking to historical persons?



# Cyberspace

- „The matrix has its roots in primitive arcade games [...] in early graphics programs and military experimentation with cranial jacks. [...] Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts . . . A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding. . .“
- „She was quite a visionary. She imagined us in a symbiotic relationship with the AI's, our corporate decisions made for us. Our conscious decisions, I should say. Tessier–Ashpool would be immortal, a hive, each of us units of a larger entity.”
- „Wintermute was hive mind, decision maker, effecting change in the world outside. Neuromancer was personality. Neuromancer was immortality. Marie-France must have built something into Wintermute, the compulsion that had driven the thing to free itself, to unite with Neuromancer.”

Gibson, W. (1984). *Neuromancer*. New York, Ace Books.





# Swarm intelligence and symbiosis

- Bees
- Micro-organisms in human bodies
  - especially in the digestion system
- Human-horse
  - work
  - control
  - communication
- Human-reindeer
  - pastoralism
  - detailed control
  - general direction
- Ants – aphids
  - communication
  - control
- Intentionality



[https://influentialpoints.com/Gallery/Aphis\\_viburni\\_viburnum\\_aphid.htm](https://influentialpoints.com/Gallery/Aphis_viburni_viburnum_aphid.htm)



# Interaction and control

- Mario Luraschi:
  - <https://www.youtube.com/watch?v=9dIRV6Z8xgY>
- Kenzie Dysli und Doma Vaquera
  - <https://www.youtube.com/watch?v=uaagPXIBowo>
- Bujador, 7-year-old black lusitano stallion for sale
  - <https://www.youtube.com/watch?v=d4IBuL2Nqd8>





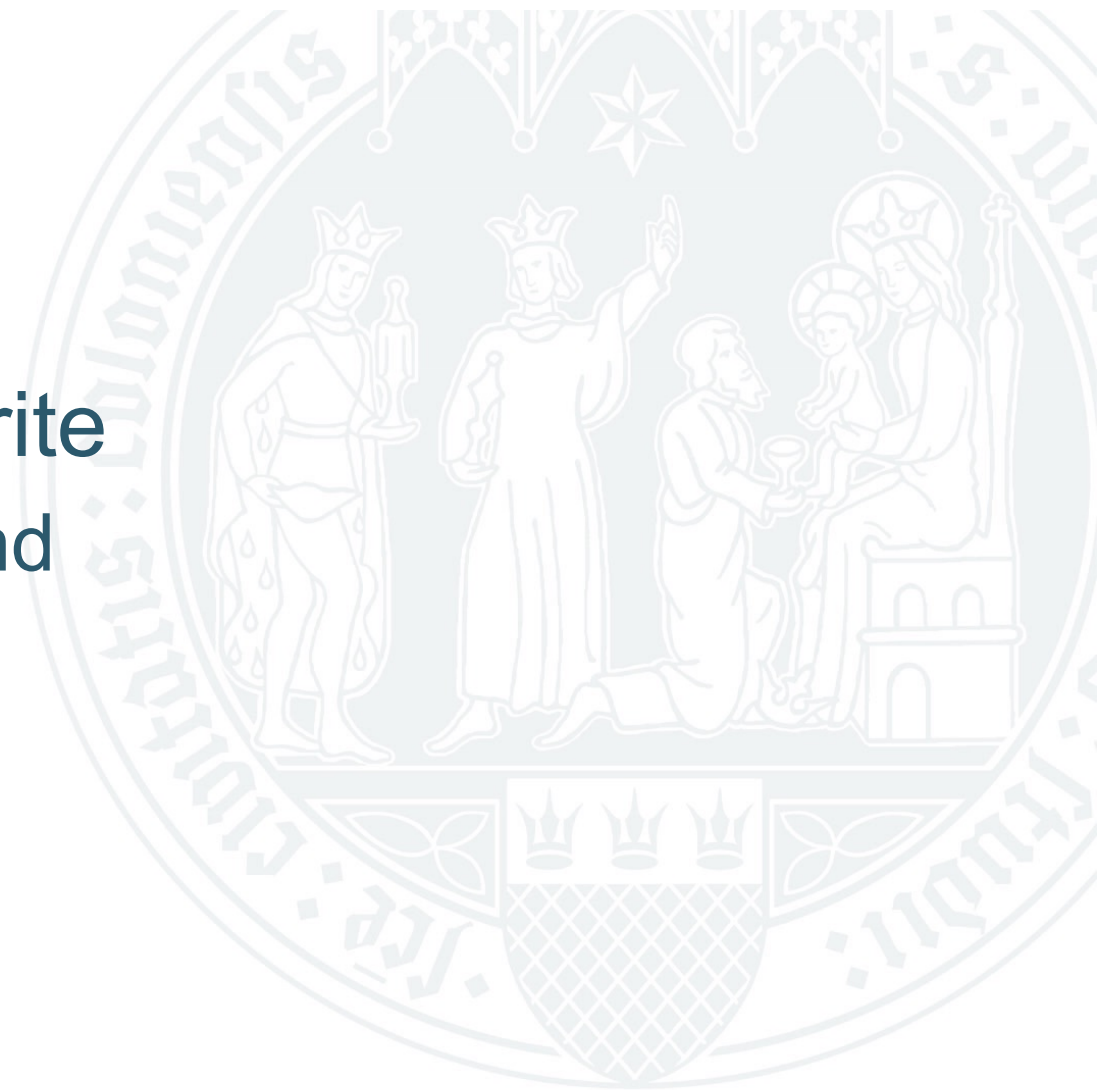
# Wayfinding as communication

- Being-in-the-landscape
- Finding the way through interaction
- Senses
- Maps
- GPS



# Tools

- Using a pen to write
  - or using your hand
- Fitting tools
  - axes
  - magic wands
- Thinking tools
  - take part in our cognitive processes



# Humans and computers

- Tool usage
- Interactivity
- Controlling
- Being controlled
- Steering
- Being steered



# Seeing through manipulation

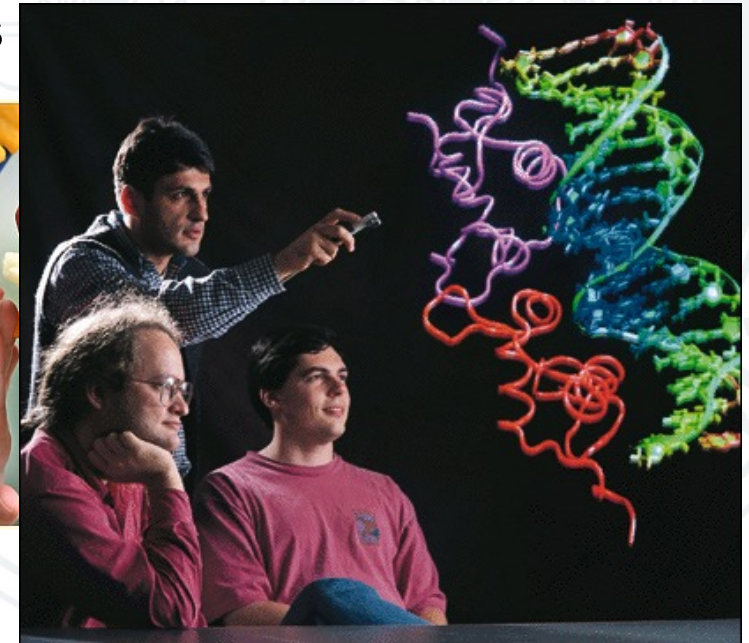
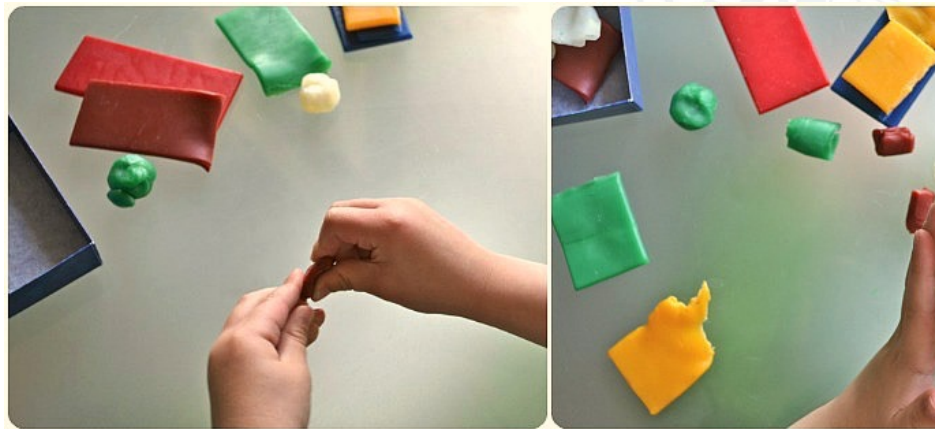
- As programmers we can see through manipulation
  - making the world real by interacting with it (Piaget)
- Tool users
  - response
  - feedback mechanisms





# Modelling

- Creative process of thinking/reasoning
  - meaning made and negotiated through creation and manipulation of external representations



- As research strategy:
  - process by which researchers make and manipulate external representations (“imaginary concreta”, Godfrey-Smith 2009) to make sense of conceptual objects and phenomena

# Digital humanities modelling

- Making sense via practical thinking
  - making in order to understand
- How do we learn from models
  - interacting with them
  - observe the new
  - test what we think we know
- Models or modelling
  - ~~activity~~ **interactivity**



# Learning by doing

- Interacting with the world around us
- the people around us
- the computers around us
- the books around us
- the reality around us
- the virtual reality around us
- the stories around us



# Storytelling

The taxi drops you off in front of a big white house. The house looks desolated.

You walk over to the side of the house, through the half meter of grass. You hear a low humming sound from an open window.





# Events

- drops you off
- (looks desolated)
- walk over
- hear a sound

*Story as a  
movement  
through events*

**taxi drops you off**

**walk over to house**

**hear a sound**

T  
I  
M  
E



# Storytelling with branches

The taxi **drops you off** in front of a big white house. The house **looks desolated**.

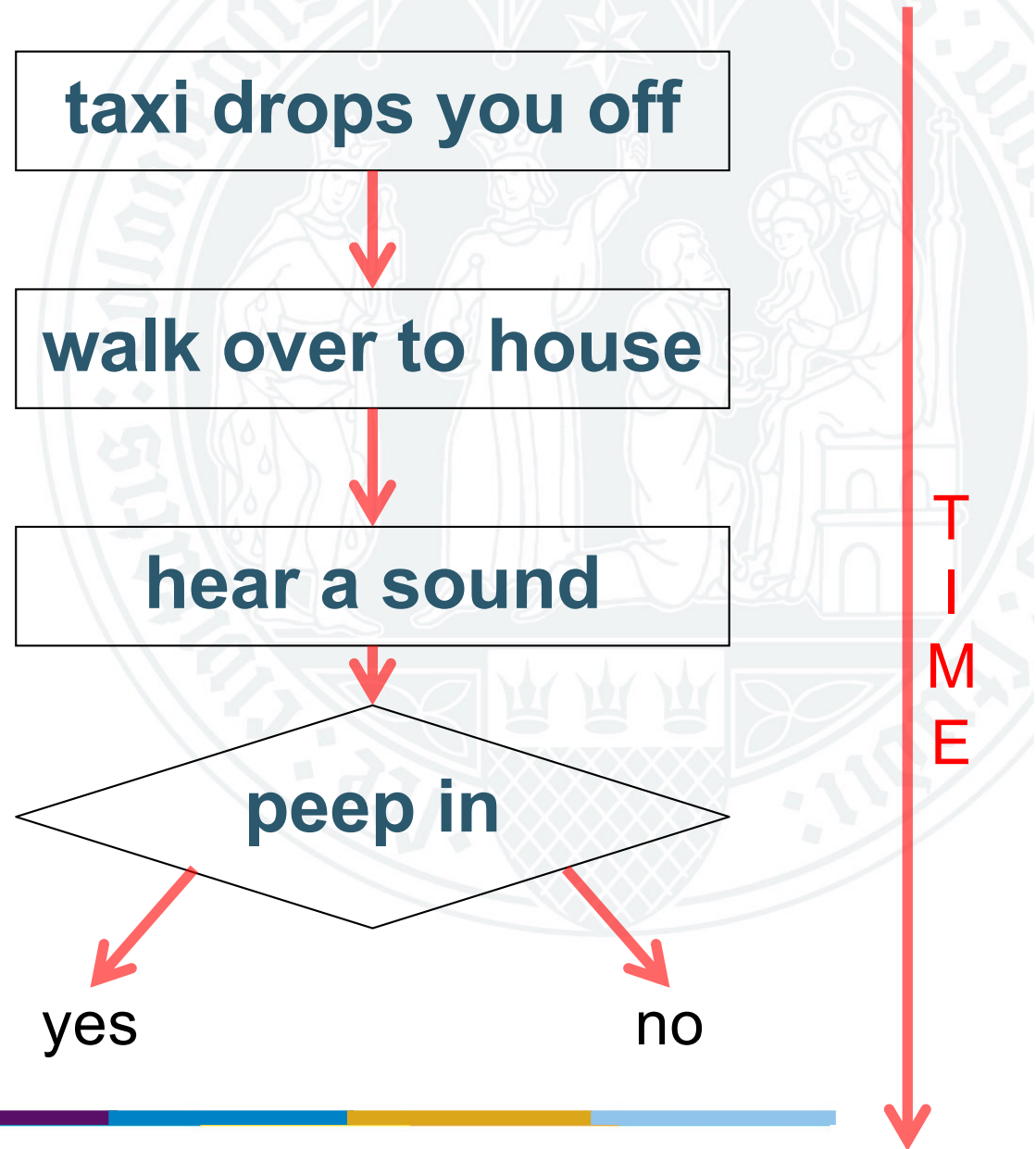
You **walk over** to the side of the house, through the half meter of grass. You **hear** a low humming sound from an open window.

Do you **go closer** to **peep in**? (Y/N)



# Branching

- drops you off
- (looks desolated)
- walk over
- hear a sound
- go closer
- peep in



# Interactive storytelling

Do you go closer to peep in? (Y/N)

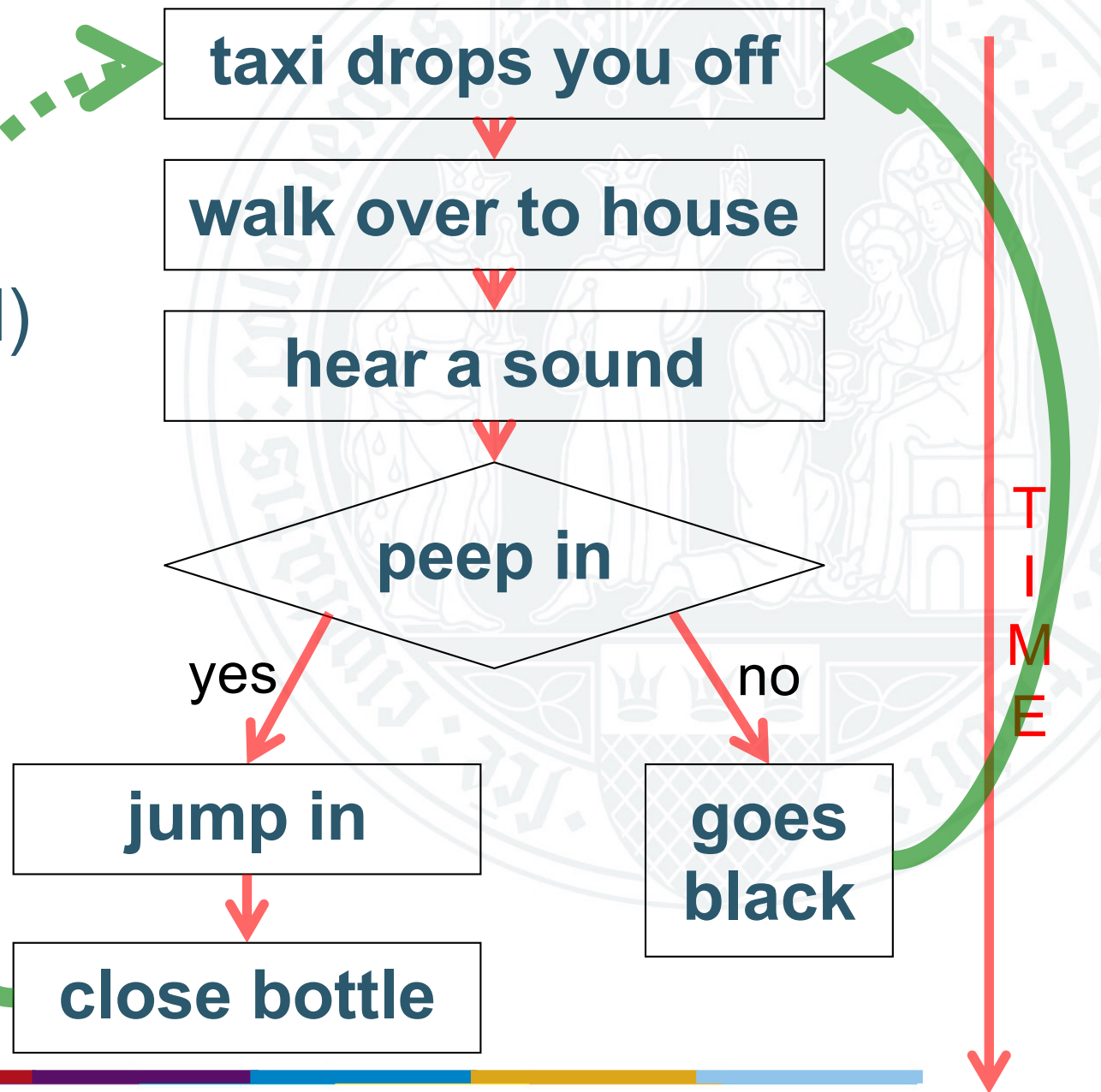
- Y: You see a gas bottle with the valve open and a candle lit in the corner. You jump in and close the bottle
- N: You wait for a few minutes for the others to arrive. There is suddenly a loud noise and everything goes black.





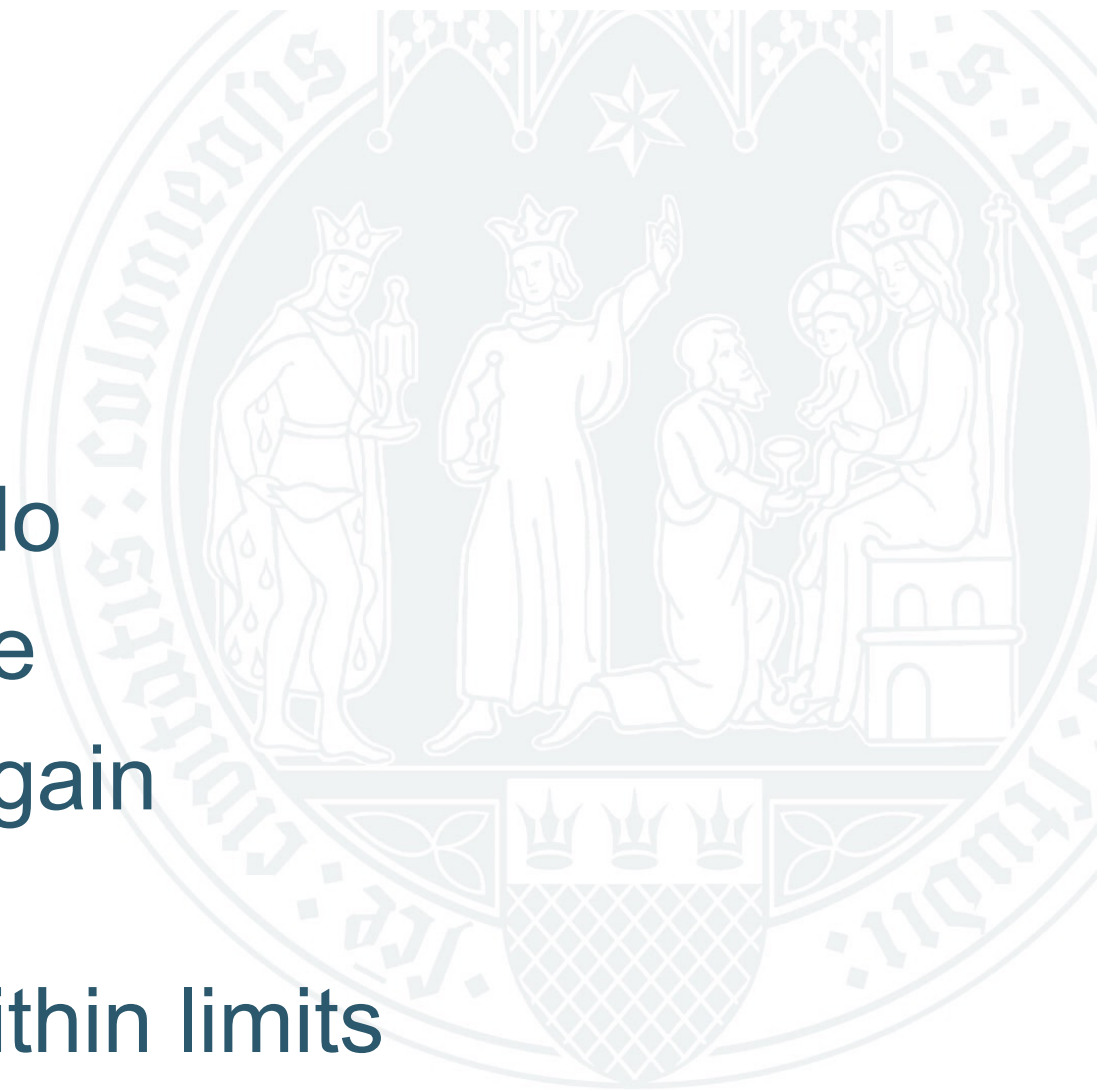
# Interactivity

- drops you off
- (looks desolated)
- walk over
- hear a sound
- go closer
- peep in
- jump in
- close bottle
- goes black

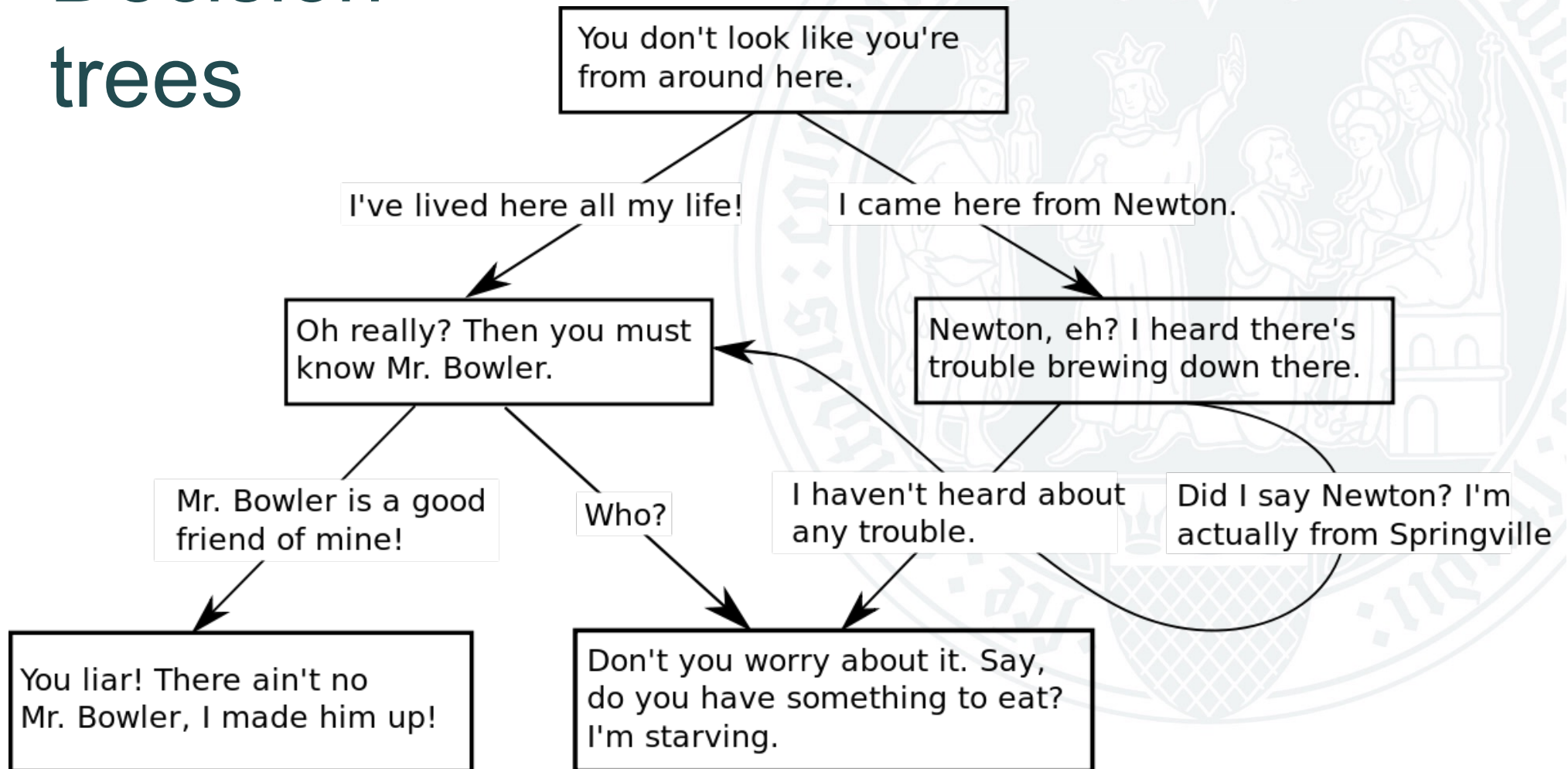


# Choice

- Choose what to do
- Choose who to be
- Choose to play again
  - re-birth
- All choices are within limits
  - the human condition?



# Decision trees



By Dcoetzee - Own work, CC0, <https://commons.wikimedia.org/w/index.php?curid=12067659>

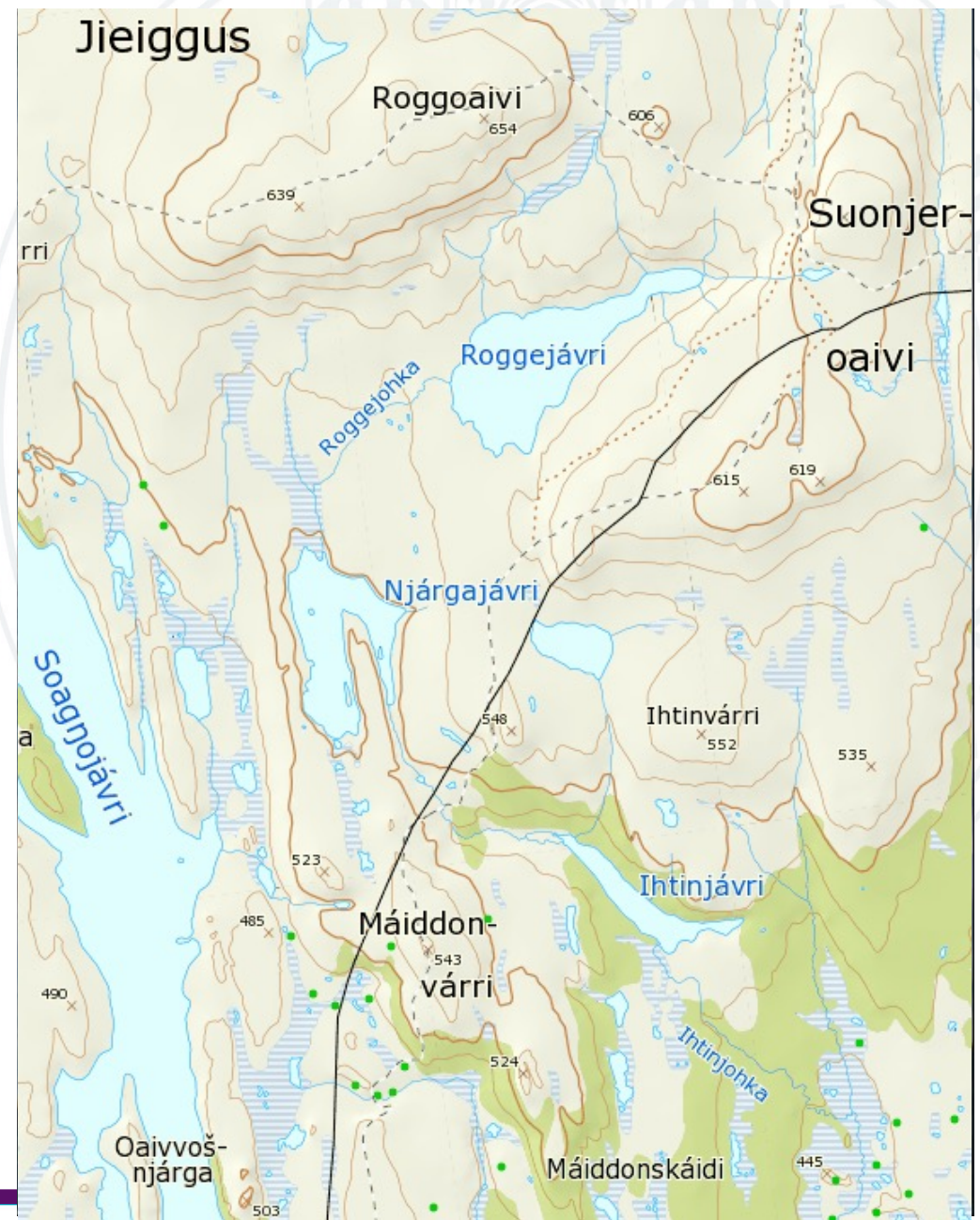




# Limitations of choice

- How many ways to the mountain?
  - can follow the path
  - or another path
  - or off path
- Continuous choice

Caspar David Friedrich. Wanderer über dem Nebelmeer, um 1817. Hamburger Kunsthalle.  
Norgeskart. <http://www.norgeskart.no/>

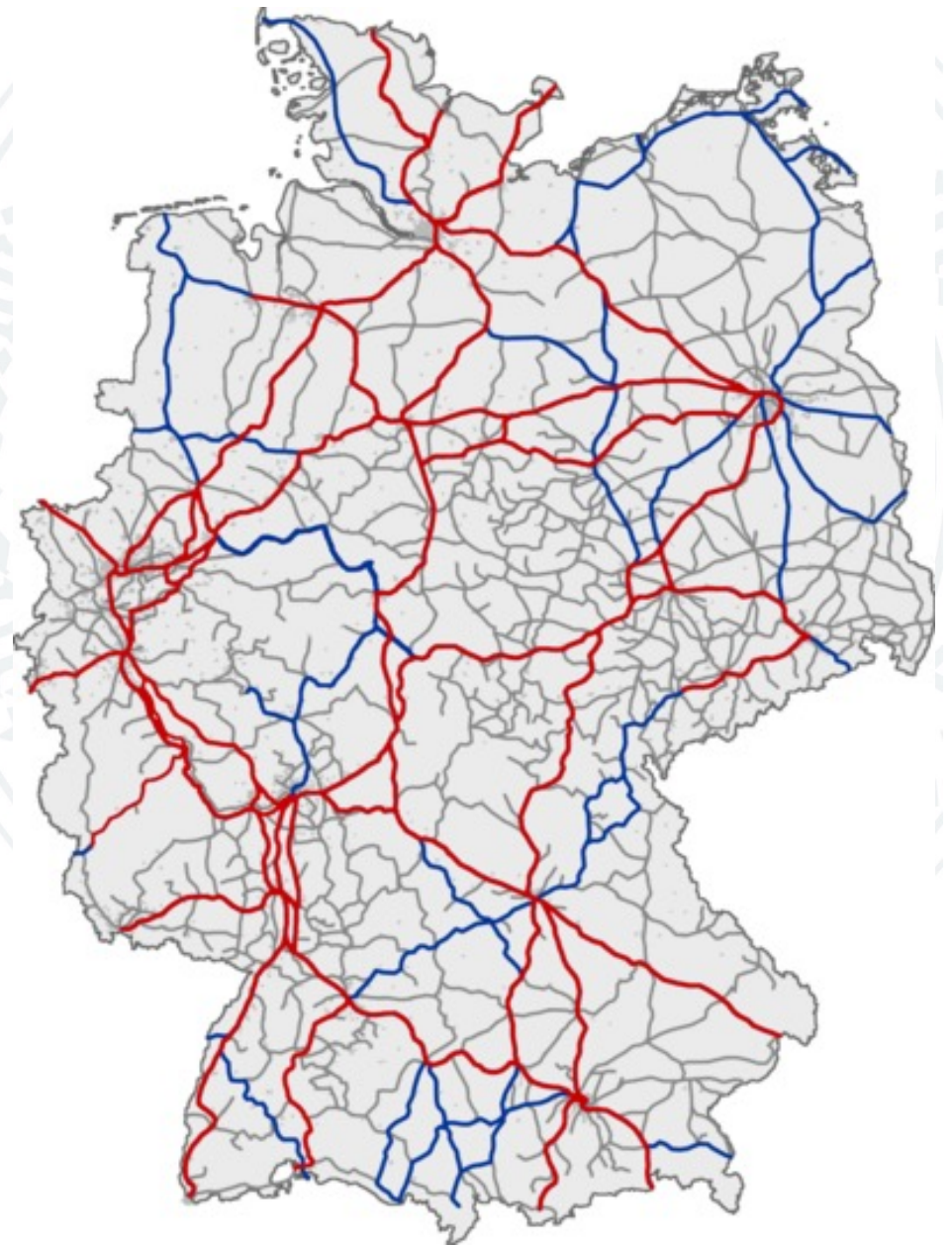




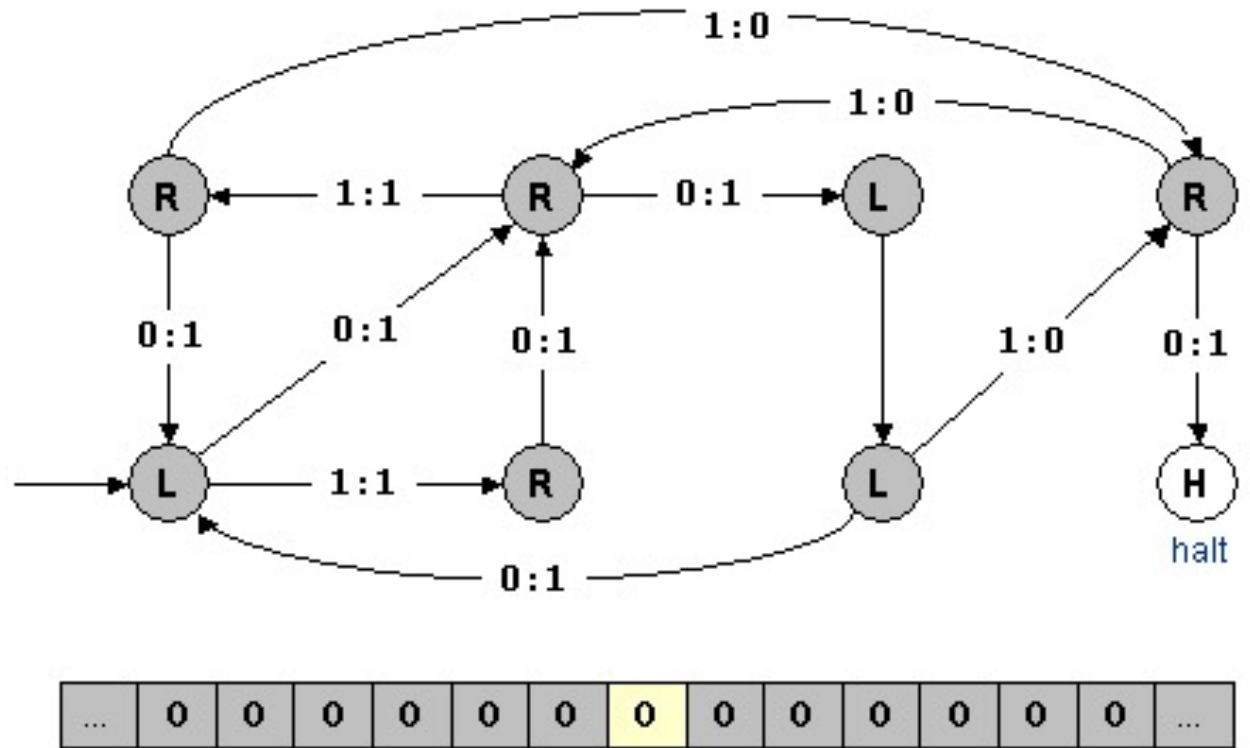
# Limitations of choice

- How many train routes to Hamburg?
  - can follow one track
  - or another track
  - not off track
- Discrete choice

Bahn-Streckenkarte\_Deutschland.png: Quelle derivative work: YouthOfSword (talk) - Bahn-Streckenkarte\_Deutschland.png



# States as networks



Robert Sedgewick and Kevin Wayne. (2000–2016). *Introduction to Programming in Java*. 5.4  
Computability. <http://introc.s.princeton.edu/java/54computability/>



# Movement

- Through
  - a landscape
  - a train network
  - a text
  - a painting
  - a VR game
- Like painting and poetry
  - no absolute differences
  - different expressions
  - different humans

