

Media Transformation

Vorlesung

WiSe 2021-22

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Woche 4



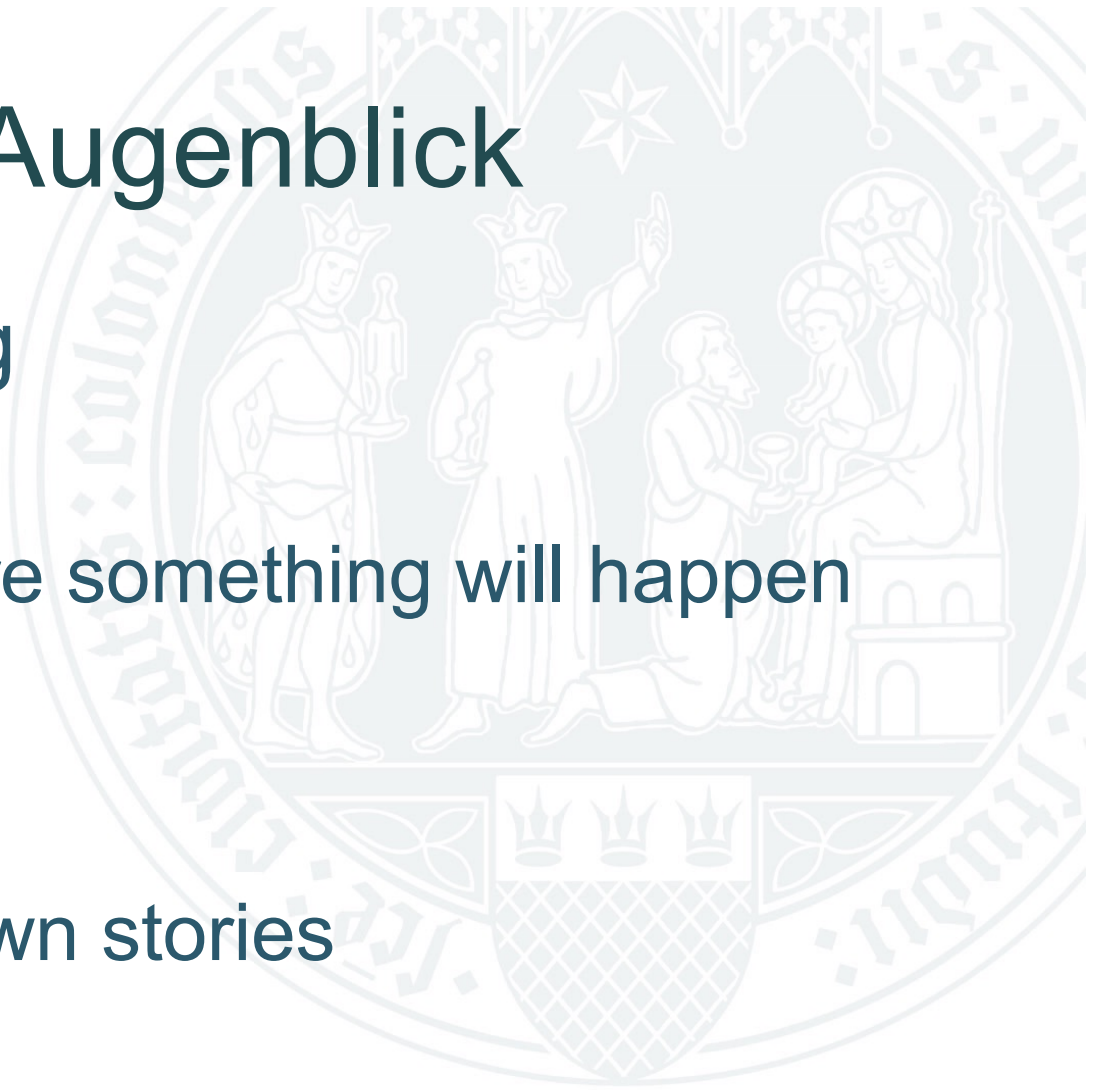
Written and oral stories

- Interaction
 - shouting at the narrator
 - book reviews
- Stability
 - expressions stable
 - stability of meaning?
- Form and memory
 - the art of memory
 - poetic form as a memory system



Der fruchtbare Augenblick

- Stories in painting
 - the untold story
 - the moment where something will happen
- Iconography
 - identification
 - reminders of known stories
- Comics
 - the gospels told to a non-reading audience



Baseball

“Tuesday was a great day for W Roberts, as the junior pitcher threw a perfect game to carry Virginia to a 2-0 victory over George Washington at Davenport Field.

“Twenty-seven Colonials came to the plate and the Virginia pitcher vanquished them all, pitching a perfect game. He struck out 10 batters while recording his momentous feat.

“Tom Gately came up short on the rubber for the Colonials, recording a loss. He went three innings, walked two, struck out one and allowed two runs. The Cavaliers went up for good in the fourth, scoring two runs on a fielder’s choice and a balk.”



Computer generated stories

- Based on baseball game statistics
- Natural language generation
 - data-to-text systems
- Company: Narrative science
 - teaching machines how to write journalism
 - limited to basic sports reports and business news
 - humanising the machine
 - *from* looking at data
 - *to* telling stories

<https://www.theguardian.com/technology/2015/jun/28/computer-writing-journalism-artificial-intelligence>



Stock market

“Apple Inc (AAPL) on Tuesday reported fiscal first-quarter net income of \$18.02bn.

“The Cupertino, California-based company said it had profit of \$3.06 per share.

“The results surpassed Wall Street expectations. The maker of iPhones, iPads and other products posted revenue of \$74.6bn in the period, also exceeding Street forecasts. Analysts expected \$67.38bn...”

Company: Automated Insights



Good enough?

- Blind study by Christer Clerwall
 - how sports reports written by computers and by humans compared
- Reports written by humans slightly more accessible and enjoyable
- Reports written by computer a little more informative and trustworthy

Clerwall, C. (2014)

Enter the Robot Journalist: Users' perceptions of automated content. Journalism Practice



Targeted news

- Company
 - how does a storm impact your business?
- Individuals
 - do you have relatives in the area?
- Even more personalised news
 - consequences?
- From big to small to personal stories
 - the death of serendipity
 - from postmodernism to the personalised world?



Data analysis

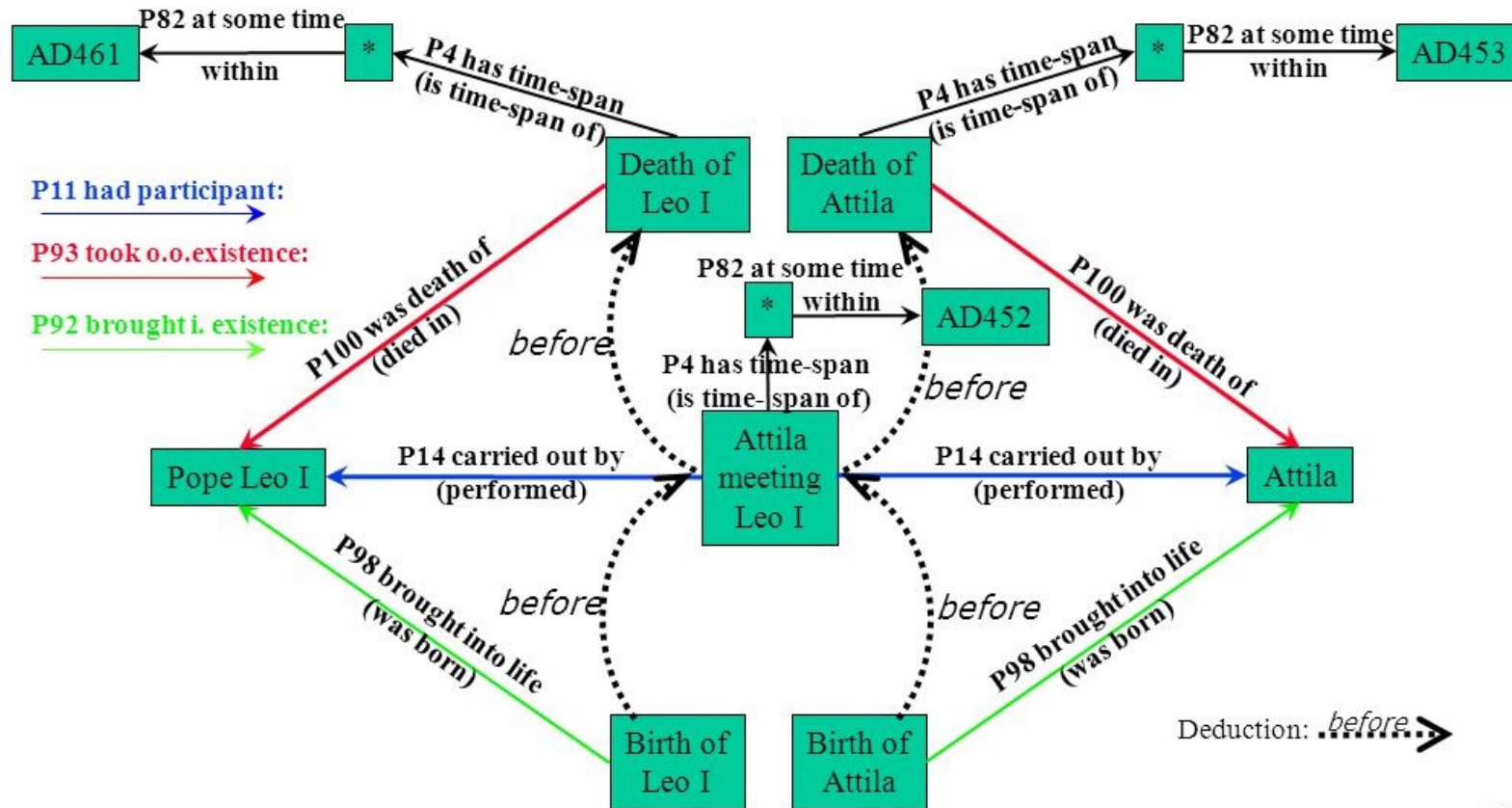


- How to cope?
 - extracting the important story from the data

<http://darkroom.baltimoresun.com/2014/03/three-mile-island-nuclear-disaster-pennsylvania/>

The CIDOC CRM

Termini postquem / antequem



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Database based stories in cultural history

Which stories can we tell based on this CIDOC-CRM model?

Intimacy with machines

```
(defparameter *eliza-rules*
  '(((((* ?x) hello (* ?y))
    (How do you do. Please state your problem.))
  ((((* ?x) I want (* ?y))
    (What would it mean if you got ?y)
    (Why do you want ?y) (Suppose you got ?y soon))
  ((((* ?x) if (* ?y))
    (Do you really think its likely that ?y) (Do you wish that ?y)
    (What do you think about ?y) (Really-- if ?y))
  ((((* ?x) no (* ?y))
    (Why not?) (You are being a bit negative)
    (Are you saying "NO" just to be negative?))
  ((((* ?x) I was (* ?y))
    (Were you really?) (Perhaps I already knew you were ?y)
    (Why do you tell me you were ?y now?))
  ((((* ?x) I feel (* ?y))
    (Do you often feel ?y ?))
  ((((* ?x) I felt (* ?y))
    (What other feelings do you have?))))))
```

Computer generated stories: How?

- What people want to communicate
 - thus human agenda driven
 - *answering* questions
 - Eliza using external data sets
- Analyse data
 - “mining data for meaning and insight”
- Deliver analysis in natural language



Natural language generation

- Translating
 - *from* computer based representations
 - *into* natural language representations
- Either explicit models (grammars)...
- ...or statistical models of human text
 - as in NLP in general



Publish or perish

- Need more text produces
- Less time to produce it
- Solution
 - domain-independent creative writing tool
 - when quality is not essential
 - based on large content collections
- Machine learning
 - topic analysis of content



Creative writing assistance

- Domain dependent template
 - built automatically
 - event description, biography, political news, ...
 - can include dialogue/argumentative structure
- Epistemic structure
 - extracted from texts in domain



Creative writing

- Search the web
 - tool
- Find pieces
 - tool
- Merge them
 - tool, human do final acceptance/rejection
- Final text polishing
 - human



The process

- For any idea
 - a similar document exists
- Cannot really invent something new
 - find that document
 - substitute
- Starting point
 - seed sentences
 - basis for construction of search



Questions

- Who will read all this text?
 - computers?
 - algorithms analysing it to make new texts
- What is it to tell a story
 - to express oneself?
 - to produce a number of words?



So what is this really?

- Analysis of data...
- ...presented not as a graph...
- ...but as a text
- Stories as a visualisation tool
 - from image to text—as—visualisation
 - (impression of) objectivity?
- So who is the winner?
- Poetry or painting?
 - that is, the textual or the graphical?



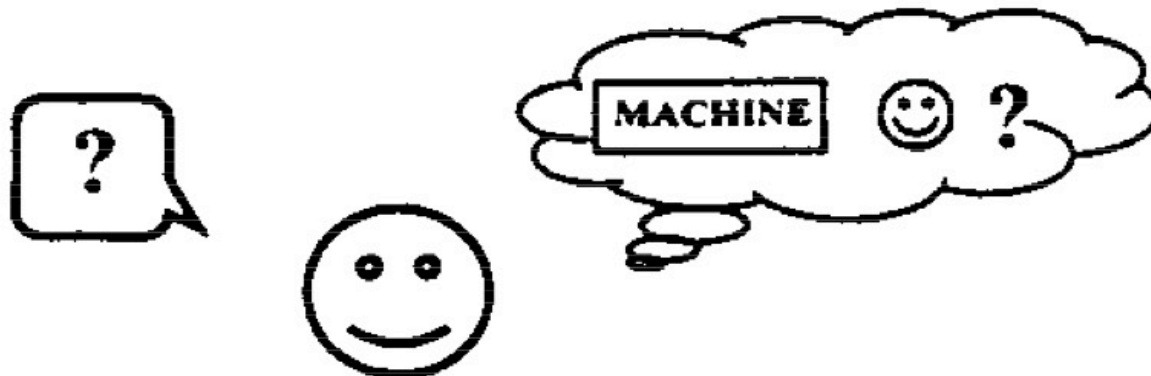
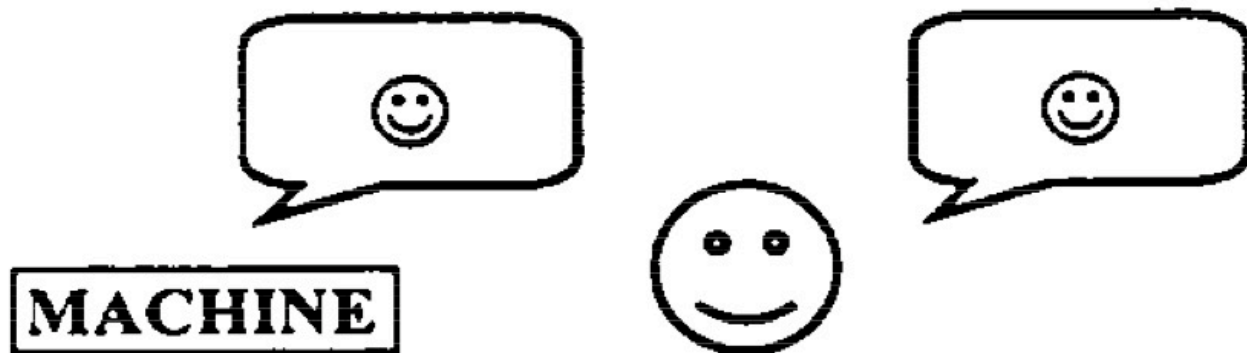
Interactivity

- The quality or condition of interaction
- Can be higher or lower
- Human to human interactivity
 - communication between people
- Human to computer interactivity
 - the artefact does not desire communication
 - interactive behaviour experienced by human



The Turing test

- Alan Turing, 1950
- Testing the machine's ability to show intelligence



Saygin, A. P.; Cicekli, I.; Akman, V. (2000), "Turing Test: 50 Years Later" (PDF), *Minds and Machines*, 10 (4): 463–518

Dialogism

- Dialogue between people talking
- Dialogue with historical sources
- Dialogue with natural environment
- Text and text interpreter
- Bakhtin: literary texts are dialogical
 - intertextuality
- Forming thoughts through dialogue
 - learn what we know by saying it



Affordances

- Based on the verb “to afford” (Gibson)
- Complementarity animal—environment
- Relative to the animal
 - surface of the lake for a flea and for a dog
- Intention irrelevant
 - a tree is shelter against the rain
 - this is not the purpose or intention of the tree



In dialogue with our surroundings

- Using affordances
 - natural
 - language: potentials in concrete utterances (Linell)
- The language is part of the dialogue
- Context of interaction
- Interaction at many levels
 - with each others
 - with tools
 - with landscape...



Grounding problem

- General Problem Solver (1957)
 - could solve all problems... when they were formalised
 - symbol based solutions
- How can AI systems be connected to the world?
 - complexity of representation
- How do humans connect to the world?
 - no representation (ecological understanding)
- *Can one connect formal symbol systems to an external reality?*



Interhuman communication

- Talking to each other
- Happens in context
- Significant shared background
 - common affordances
- Face to face
 - sound, sight, smell, touch, ...
- Mediated
 - narrower in varying degree



Intercultural communication

- Less common affordances
 - language differences
 - cultural differences
- Emotional differences
 - culture and the individual
- Common languages
 - football
 - laughter
 - rituals
- Communication always possible
 - but can be hard



Interspecies communication

- Human to animal
- Animal to animal
- Animal to plant
- Less symbolic
 - words play a different role
- Intentionality unclear
 - does the dog want to interact with me?
 - the tree?



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.

