

# Outline of a Human Informatics

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# Outline

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Informatics

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## ① Human Informatics

A need for Human Informatics  
SDU eScience Center  
SDU DataKube

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A need for Human  
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## ② Recent projects

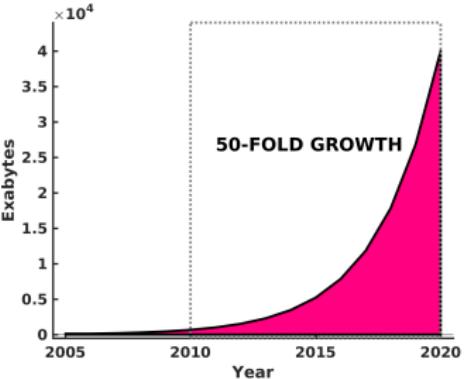
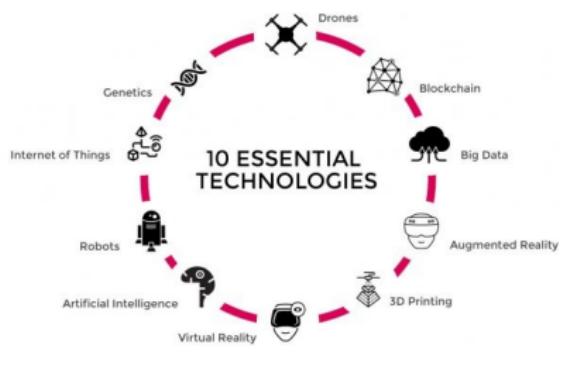
Dating of documents  
Effect of advertisements  
Literature and affective computing  
Dynamic author profiling

Recent projects  
Dating of documents  
Effect of  
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Literature and  
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# A need for Human Informatics

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**the data deluge** is transforming knowledge discovery and understanding in every domain of human inquiry

**a large part of these data are soft and unstructured** ⇒ to get value from these data, humanities (and social sciences) must utilize automation

**human informatics - automatic information processing in the humanities**

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# eScience Infrastructure at SDU

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14.016 cores, 392 slim nodes, 64 fat nodes, 72 GPU nodes with two Nvidia K40/node

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the center is expanding its userbase to include more SSH relevant areas and competencies, e.g., DL, NLP, computer vision

cloud offers a fully GDPR compliant environment for cloud computing with a cumulative codebase

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**SDU eScience Center**

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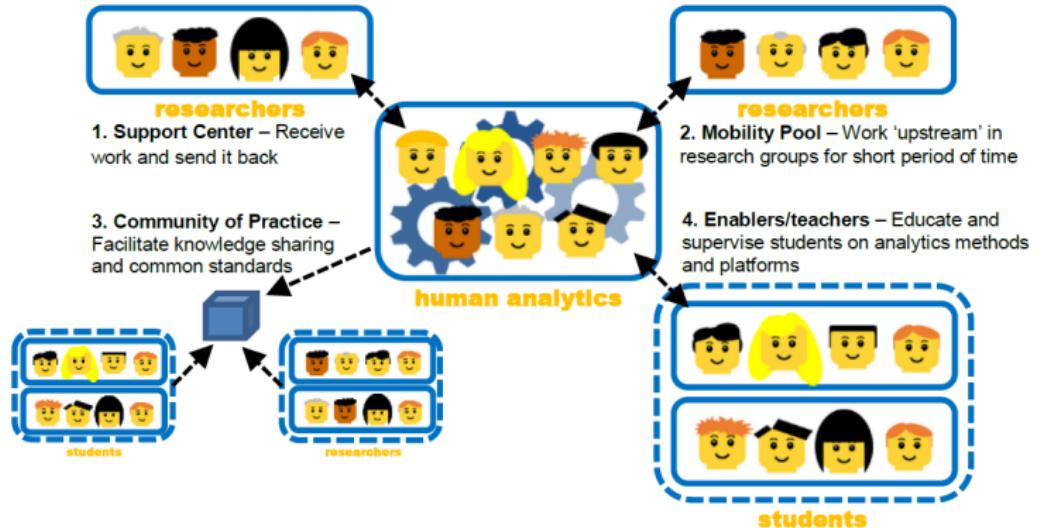
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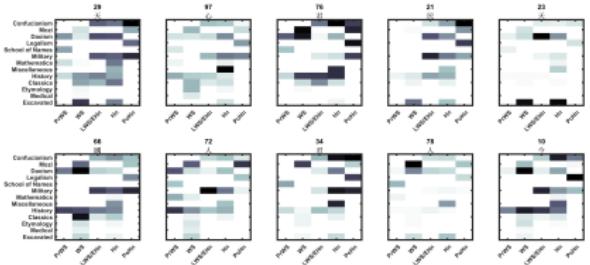
research support through collaboration (pilot, shared funding, shared authorship)

recently turned to tool and competency development - software development in the humanities

# Dating Classical Chinese Documents

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Thematic structure in CTEXT corpus conditioned on period and genre

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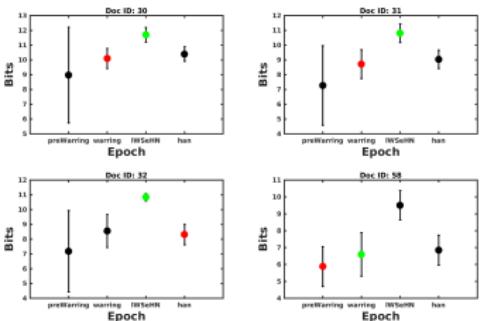
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Average distance from each period, **classical period**, and **alternate period**

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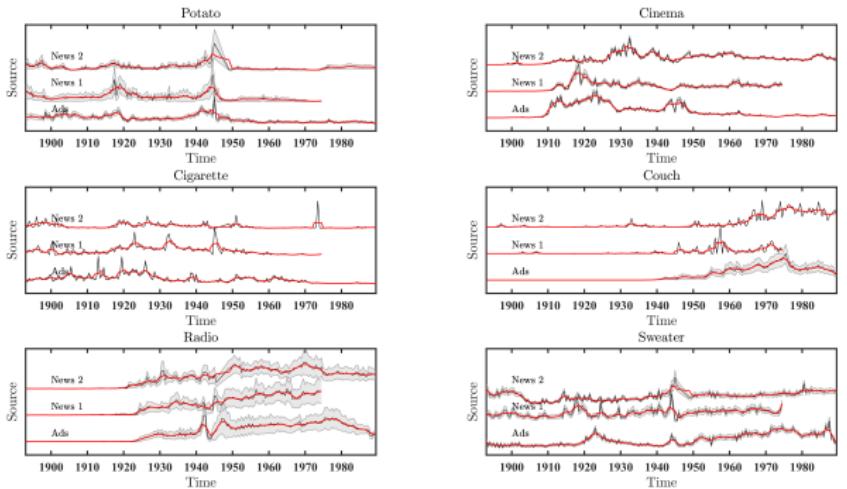


Figure 1: Articles and advertisements from *De Tijd* (1890-1974) and *De Telegraaf* 1893-1989,  $N \simeq 30E^6$ .

**Shaping:** *advertisements*  $\rightarrow$  *articles*

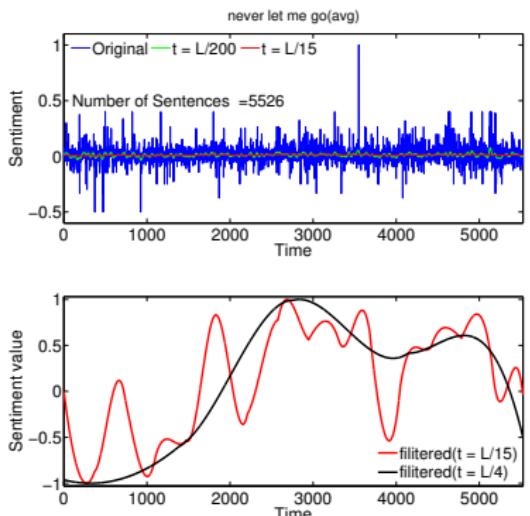
**Reflecting:** *articles*  $\rightarrow$  *advertisements*

**Complex:** *advertisements*  $\leftrightarrow$  *articles*

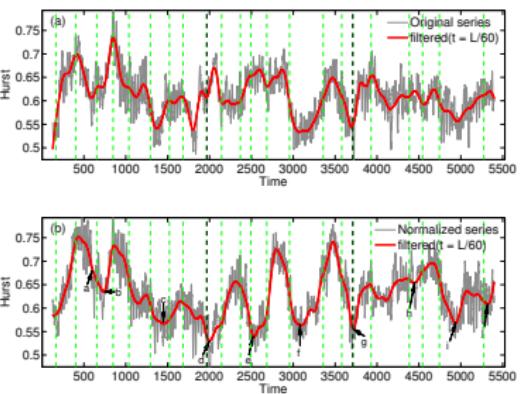
# Literature and affective computing

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Story arc of Kazuo Ishiguro's 2005 novel  
*Never let me go*



Evolution of the Hurst parameter under 256 window size of original and normalized sentiment time series

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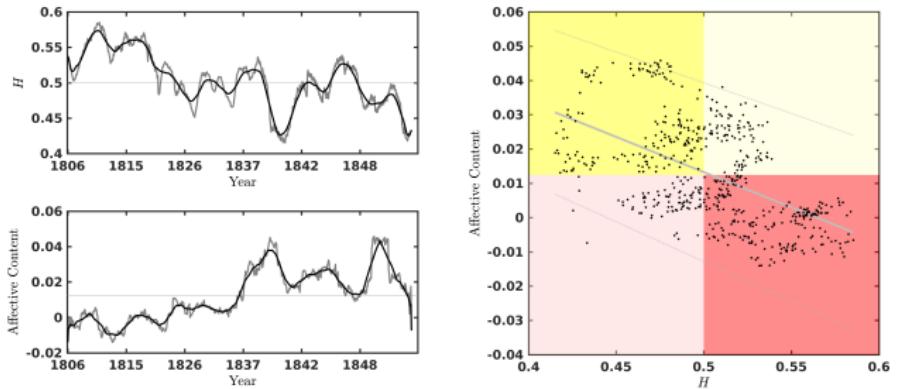
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# Dynamic author profiling

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Combining persistent entropic trends with sentiment analysis and causal modeling, we can study "the tormented artist" phenomena in intellectual history.

Time period	Age of onset	$H(X)$	Behavior	Profile
1806-1826	23	$H > 0.5$	<i>persistent</i>	theoretician
1826-1839	43	$H \approx 0.5$	<i>short memory</i>	pragmatic
1839-1845	56	$H < 0.5$	<i>anti-persistent</i>	breakthrough
1845-1848	62	$H \approx 0.5$	<i>short memory</i>	disease
1849-1872	65	$H < 0.5$	<i>anti-persistent</i>	politician

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## THANK YOU

[knielbo@sdu.dk](mailto:knielbo@sdu.dk)

[knielbo.github.io](https://knielbo.github.io)

slides: [http://knielbo.github.io/files/kln\\_hinformatics.pdf](http://knielbo.github.io/files/kln_hinformatics.pdf)

### & credits to

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