

# The area told as a story

## An inquiry into the relationship between verbal and map-based expressions of geographical information

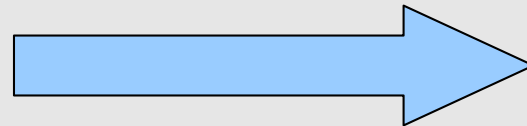
Øyvind Eide

King's College London,  
Department of Digital Humanities

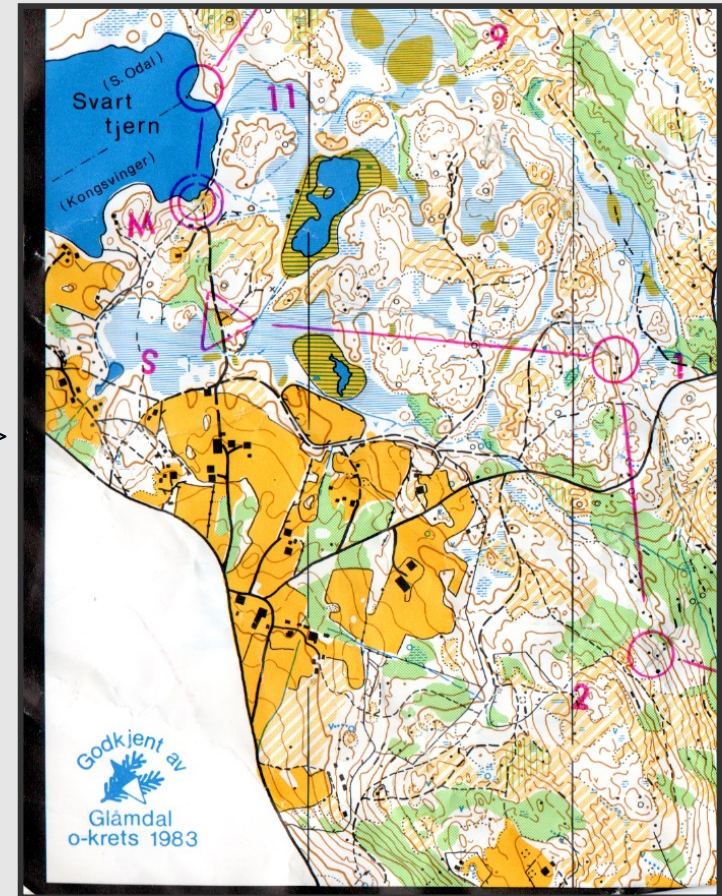
# The problem: text to map

You can run through the forests; they will be wild and blooming, you will turn right, or left, or straight up and fly. You will never go through before you want to.

*How can things be said?*



*What can be said?*



# What about the landscape?

- Viewing documents representing a landscape
  - *Moving the eyes*
- Seeing the landscape
  - *Moving the eye-head-body system*

# Document vs. practice

- Distinction muddled by expressions such as “conceptual map”
- Embodied creatures finding our way

# But ...no mapless societies?

- No maps before 1500 (Wood 2010)
- Wayfinding: words, body, brain, senses, landscape, fellow creatures, ...and recently some maps

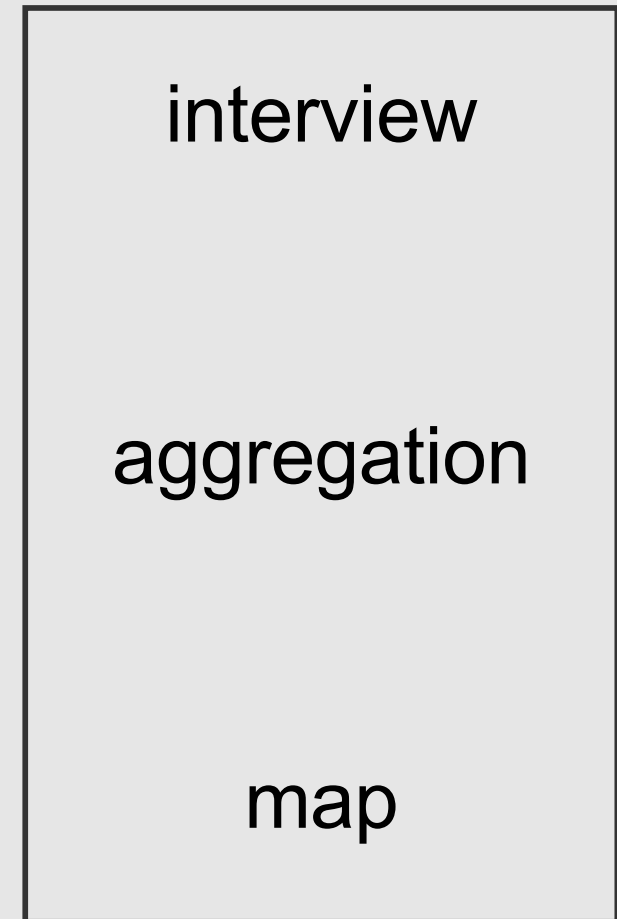
*The “History of Cartography” is not discussing maps.  
They are discussing things we think look like maps.*

# Hypothesis

*Types of geographical information  
exist that can be stored in and read  
from texts,  
but which are impossible to express  
on geographical maps without  
significant loss of meaning.*

# Object of study: Schnitler

- Scandinavia, 1740's
- From overlapping tax areas to borders between states
- Information gathering
- Common people seen as a source to information based on their knowledge, not on their status



The area told as a story. An inquiry into the relationship between verbal and map-based expressions of geographical information.

# The model and formalisation

File Text Table Persons Places Coref Visualis

Model tool

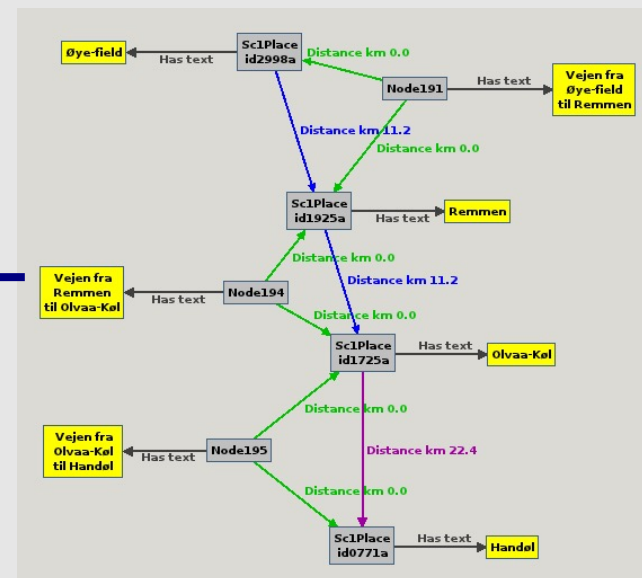
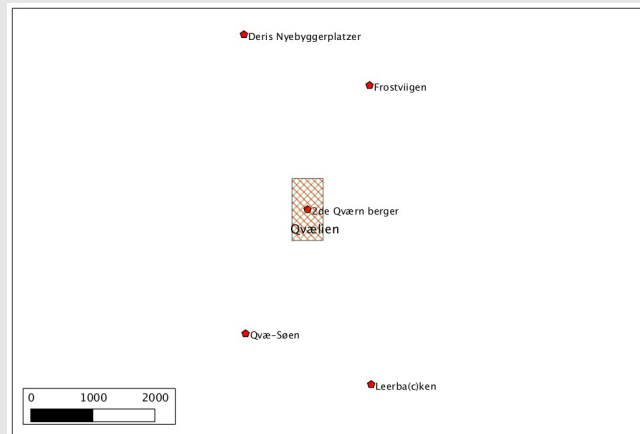
Landskabet væsten for Nyebyggerne her er Gran- og biercke-Skoug med Fielde, og har jngen bønder til Naboer, førend 8te Miile der fra i Væster Harrans-bøjd i overhaldens Præstegield: Dog holde her jmellem endeel Lap Finner til.

Schn1\_42735 Start on page 142

Row	Node ID	Node type	Node content	coref ID
0	person378	speaker	Povel (Pouel) Olsen	person378
1	Schn1_42740	name: place	Harrans-bøjd	Sc1Place_id0775a
2	Schn1_42745	name: place	overhaldens Præstegield	Sc1Place_id1763a
3	node288	rs: place	Nyebyggerne her	node286

Link ID	Link type	From	To
link695	part-of	Schn1_42740	Schn1_42745
link696	direction: west	node288	Schn1_42740
link697	distance: 8te Miile	node288	Schn1_42740





# Stepwise formalisation

8te Miile



<spaceDistanceMileMountain>8</>



64 kilometres



(0,0), (64000,0)

# «Fall-off»

*What is lost in the process*

- Context
- Vagueness
- Under-specification
- Negation
- Disjunction
- ...

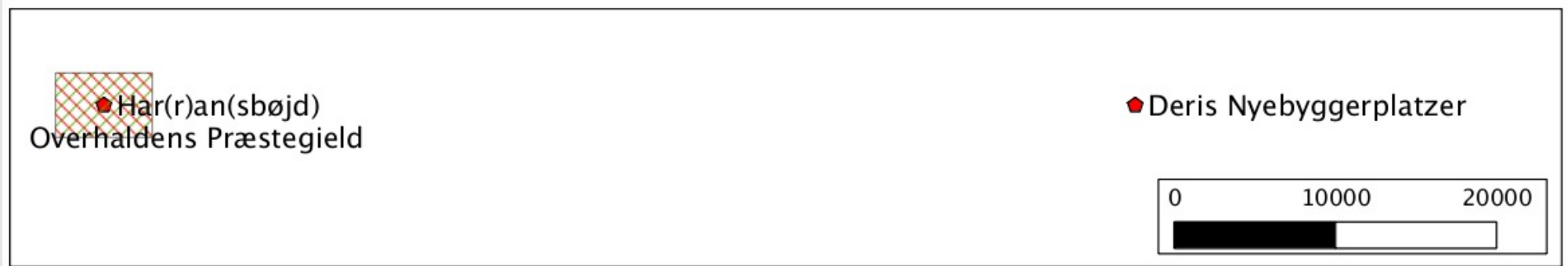
*As map  
not  
onto map*

*Making an inventory*

# Example 1

The landscape west of the settlers here is spruce and birch forest with mountains, and there are no neighbouring farmers, before 8 miles to the west Harran in the parish of Overhalden. A few Lap Finnes dwell in between, however.

- speaker: Povel (Pouel) Olsen (person378)
- name type place: Harran (Schn1\_42740)
  - part-of: Harran → the parish of Overhalden (Schn1\_42745)
- name type place: the parish of Overhalden (Schn1\_42745)
- rs: place: the settlers here (node288)
  - direction: west: the settlers here → Harran (Schn1\_42740)
  - distance: 8te Miile: the settlers here → Harran (Schn1\_42740)



...there are no neighbouring farmers...

- There are ways to model it
- But map?
- Negation on maps possible for certain categories in certain scales

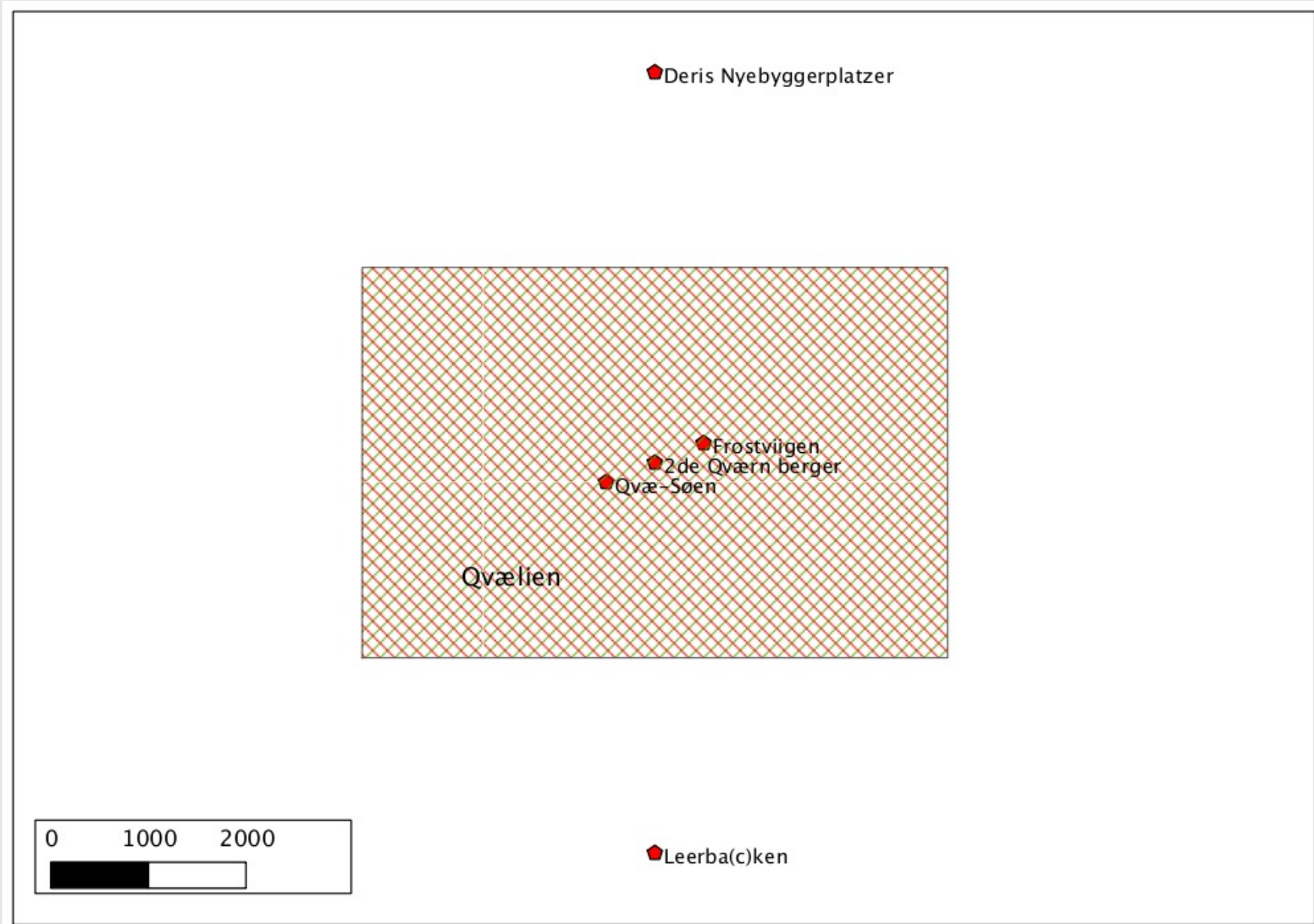
## Example 2

3rd question: Answer: South of their settled farms is a 1/2 mile from there the farm Qvæljen, 1 mile the farm Leerbaken; the landscape in between there is spruce and birch forest with some mountain tops; In the area between the lake Frostviig and the lake Qvæ lies the 2 Qværn mountains under the farm Qvæljen; whose farmers, like the others in Northern Finlje lives from their meadows, fishing, shooting and often must stick to pine bread, as grain rarely grows there.

- name type place: Qvæljen (Schn1\_42686)
- name type place: Leerbaken (Schn1\_42690)
- name type place: the lake Frostviig (Schn1\_42696)
- name type place: the lake Qvæ (Schn1\_42701)
- name type place: Qværn mountains (Schn1\_42709)
- name type place: Qvæljen (Schn1\_42714)
- name type place: Northern Finlje (Schn1\_42717)
- rs: place: their settled farms (node286)
  - direction: south: their settled farms → Qvæljen (Schn1\_42686)
  - distance: 1/2 Miil: their settled farms → Qvæljen (Schn1\_42686)
  - direction: south: their settled farms → Leerbaken (Schn1\_42690)
  - distance: 1: miil: their settled farms → Leerbaken (Schn1\_42690)
- rs: place: 2de Qværn mountains (node287)
  - part-of: 2de Qværn mountains → Qvæljen (Schn1\_42714)
  - between: 2de Qværn mountains → the lake Frostviig (Schn1\_42696)
  - between: 2de Qværn mountains → the lake Qvæ (Schn1\_42701)

*The area told as a story. An inquiry into the relationship between verbal and map-based expressions of geographical information.*

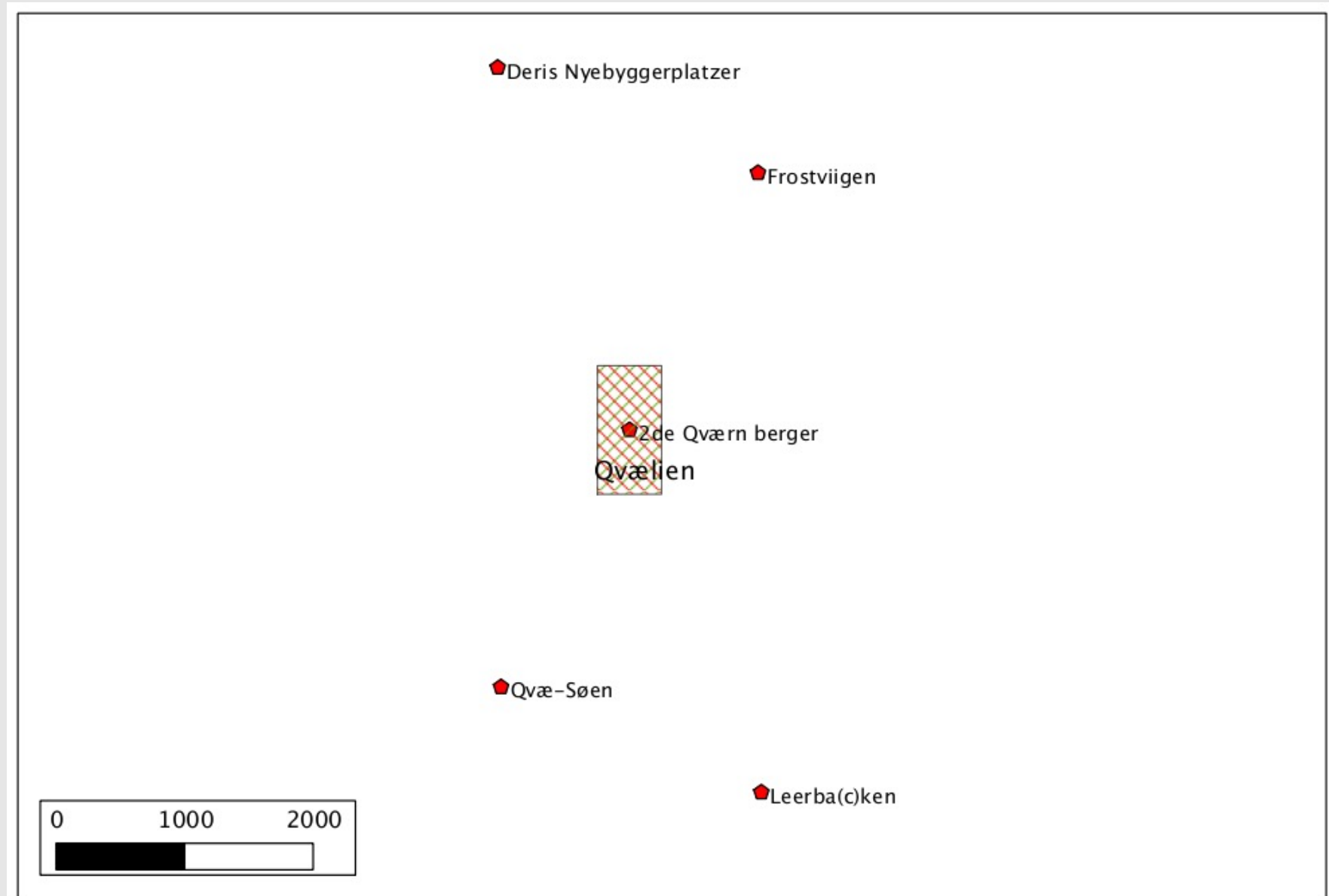
# Maps





*The area told as a story. An inquiry into the relationship between verbal and map-based expressions of geographical information.*

# Maps



# Underspecification: First map

1. South:  $180^\circ$  , that is, straight south.
2. Default width and length of a place polygon when no measurements are given:  $4000*6000$  meters.
3. Default distance in X and Y direction of something between something else, when distance is not given:  $500*200$  meters.
4. The length of a mile when type is not specified: 8000 meters.

# Second map

1. South:  $160^\circ$  , that is, straight south with a slight eastern bend; still, well within what must be accepted as south.
2. Default width and length of a place polygon when no measurements are given: 1000\*500 meters.
3. Default distance in X and Y direction of something between something else, when distance is not given: 1000\*2000 meters.
4. The length of a mile when type is not specified: 6000 meters.

# Typology of textual expressions

1. Fully specified textual descriptions
2. Underspecification
3. Ambiguity
4. Negation
5. Impossible figures

# 1. Fully specified textual descriptions

```
<gml:Curve gml:id="c22222" srsName="EPSG:4326">  
  <gml:segments>  
    <gml:LineStringSegment>  
      <gml:posList>  
        10.1 60.02 10.5 60.02  
        10.5 60.16 10.1 60.16  
      </gml:posList>  
    </gml:LineStringSegment>  
  </gml:segments>  
</gml:Curve>
```



## 2. Under-specified texts

Definition of under-specification:

“A verbal text describing a spatial phenomenon in a way that can be understood as two or more significantly different phenomena by a competent reader, thus, an ambiguity stemming from a lack of information.”

# 3-5. Ambiguity and negation ...and impossible figures?

“[...] in North of there, there are no peasant farm.”

“There are no More Finns Close to the Borders [...]”

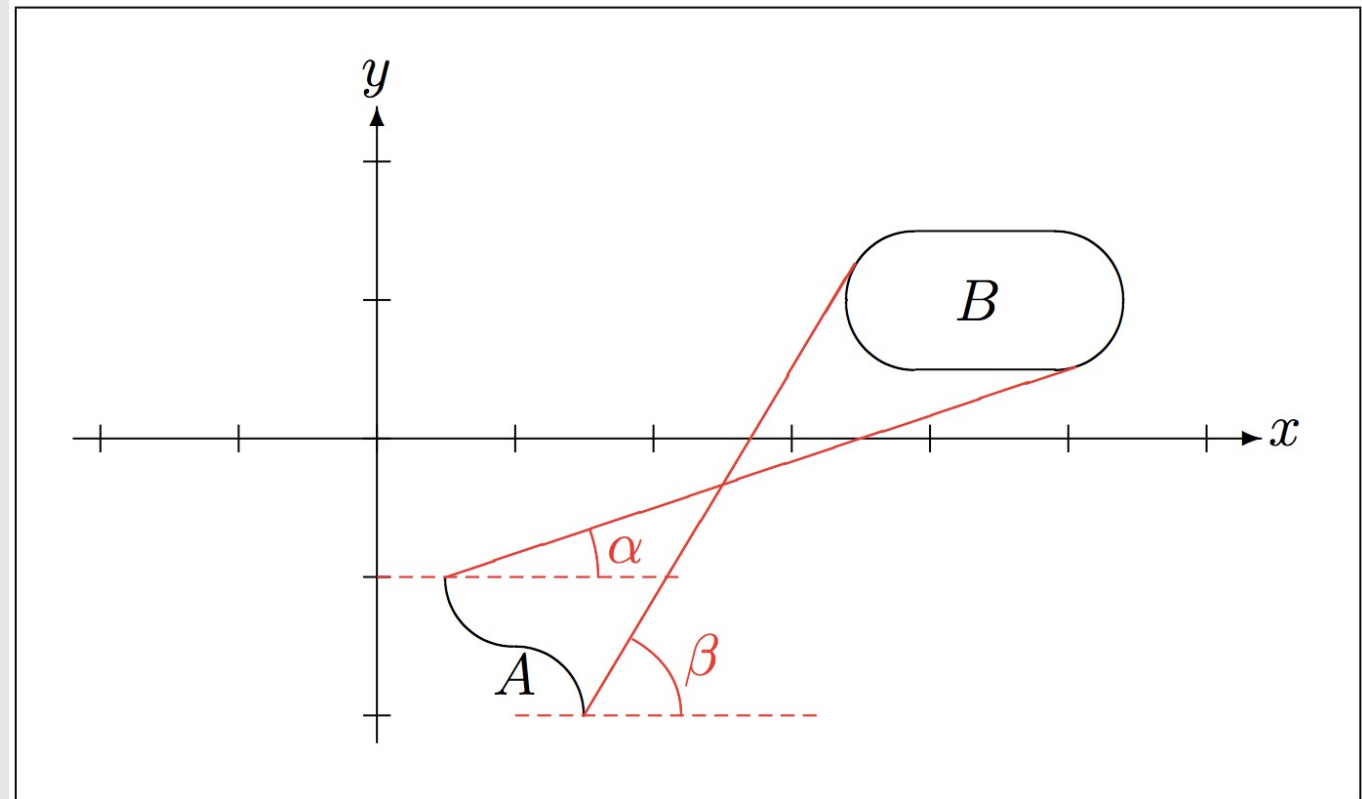


$\text{length}(A, B) \neq \text{length}(B, A)$



# Time, space and syntax

“B is north east of A”





# Lessing: two rules

1. Actions in time should be applied in poetry, and bodies in space in painting.
2. What is hidden is not seen in painting, while things hidden can still be seen in poetry.

# Elleström: Media modalities

## *Bottom up approach*

- material modality
- sensorial modality
- spatiotemporal modality
- semiotic modality

*Using his system to classify maps, written texts and oral text*

# Material modality

- Written text: demarcated materiality
- Oral text: less clearly demarcated materiality
- Map: demarcated materiality

# Sensorial modality

- Written text: seeing
- Oral text: hearing
- Map: seeing

# Spatiotemporal modality

- Space
  - manifested in the material interface
  - cognitive space (always present)
  - virtual space
- Time
  - manifested in the material interface
  - perceptual time (always present)
  - virtual time

# Spatiotemporal modality

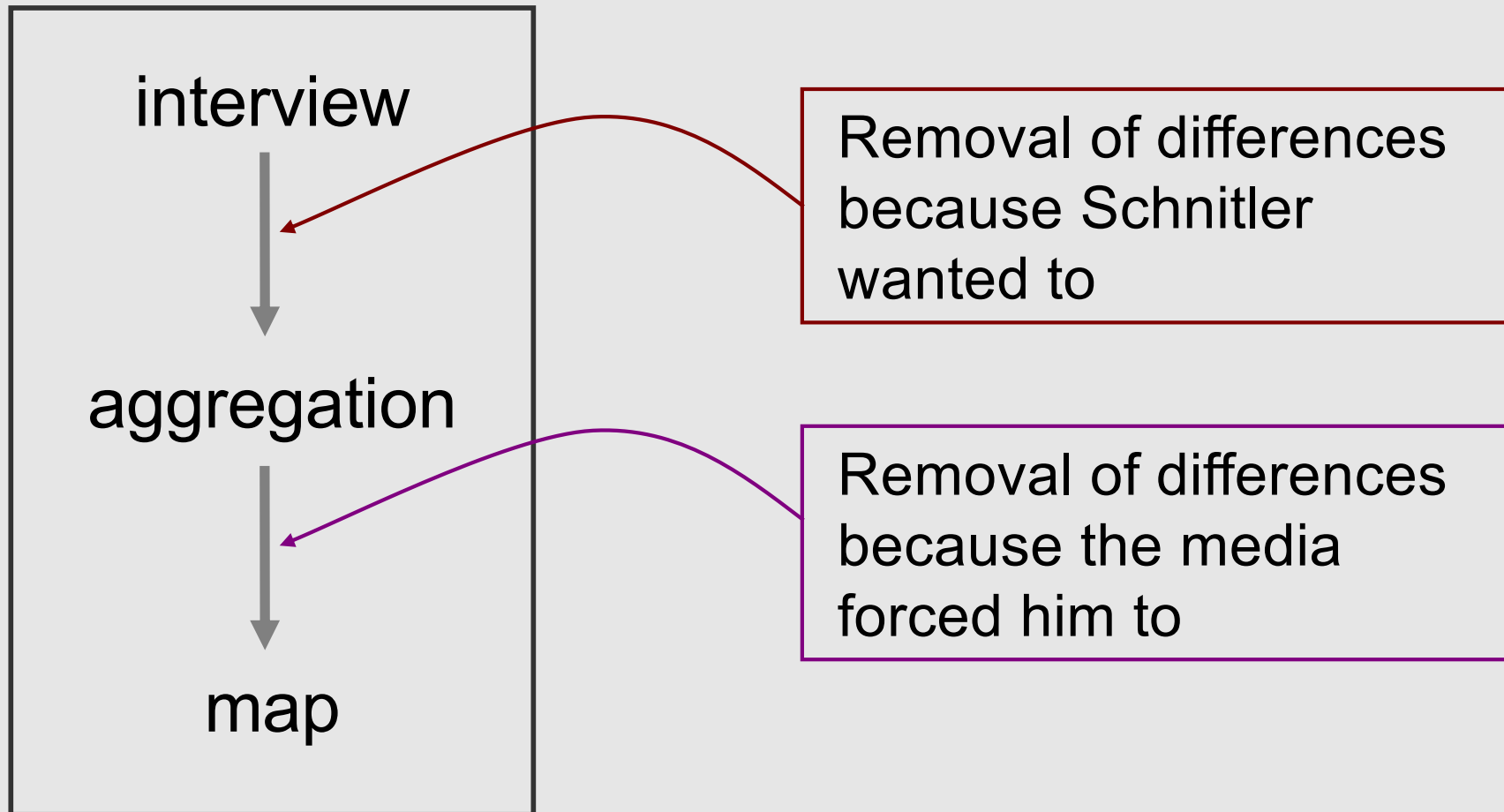
- Written text: Space manifested in the material interface, but... still virtual space
- Oral text: Time manifested in the material interface
- Map: Space manifested in the material interface

T  
E  
N  
S  
I  
O  
N

# Semiotic modality

- Written text:
  - convention (symbolic signs)
- Oral text:
  - convention (symbolic signs)
- Map:
  - convention (symbolic signs)
  - resemblance (iconic signs)
  - contiguity (indexical signs)

# Freedom of expression?





## Generalising the descriptive aspects of Lessing's model:

“Every medium has the capacity of  
mediating only certain aspects of the  
total reality” (Elleström)

# *Hybridity*

# *Geocommunication*

# The future

- More evidence
- Better methods
- More experiments
- More speculation



*More  
advanced  
modelling*

# Thank you!

<http://www.oeide.no/dg/>