Evidence-based Interpretation of Topical Relevance Types: Towards A Richer Understanding of Topical Relevance

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Study Goals
- Understand different ways in which evidence supports an argument
- Use the evidence framework to define and illustrate different types of topical relevance
- Apply to the design of IR systems and to information searching and use

Related Theories
- Philosophy and logic: Theory of evidence and inferential reasoning
- Communication: Relevance theory
- History: Evidence in historical reasoning
- Law: Law of evidence
- Medicine: Evidence-based medicine

Study Context – MALACH
Survivors of the Shoah Visual History Foundation 52,000 Holocaust survivor and liberator testimonies
MALACH Test Collection
- 75 total topics
- 400 testimonies
- 20,000 topical segments defined by cataloger

Example Topics:
- Food in Auschwitz
- Music in the Holocaust
- Ghetto Life

Relevance Assessments 2003 - 2005
- Nine history graduate student assessors
27,000 topic-segment pairs assessed with justifications

Topical Relevance Definitions

Direct:
- Direct evidence for what the user asks for
  
Talks about food given to Auschwitz inmates

Indirect:
- Provides indirect evidence on the topic; data from which one could infer something about the topic
  
Talks about seeing emaciated people in Auschwitz

Context:
- Provides background/context for topic; sets the stage for what user asks for; sheds additional light on topic
  
Talks about physical labor of Auschwitz inmates

Comparison:
- Provides information on similar/parallel situation or on contrasting situation
  
Talks about food in the Warsaw ghetto

(Huang & Soergel, ASIST 2004)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Evidence</th>
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<tbody>
<tr>
<td>Sexual experiences during the Holocaust</td>
<td></td>
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<tr>
<td>Nazi eugenics policy</td>
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<tr>
<td>Nazi theft in Eastern Europe</td>
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<tr>
<td>Bulgaria saved its Jews?</td>
<td></td>
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<tr>
<td>Counterfeiting in Sachsenhausen</td>
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<td>Eichmann witnesses</td>
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<tr>
<td>Refugees assisted by Josef Schleich</td>
<td></td>
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</tbody>
</table>

| Backward Inference Reaction to action | 
| Backward Inference Effect to event | 
| Backward Inference Later event to earlier event | 
| Backward Inference Effect to cause | 
| Forward Inference Cause to effect | 
| Setting to event / person | 
| Unspecific | 

1 In the diagram, the document topic is black; the user need topic is white.