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**ECAI and What, Where, When and  
Who:  
Some Projects and What was  
Learned**

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# WHAT

Can only search effectively and efficiently if familiar with indexing vocabulary. To guess a heading is more difficult than to recognize.

Network: Increased connectivity means more resources but with unfamiliar vocabularies, so increased difficulty in search.

## **Within a vocabulary**

*Kung fu movies SEE Martial arts films [LCSH]*

*FORMERLY Hand-to-hand fighting, oriental, in motion pictures.*

## **Between vocabularies**

Extending a search from one source to another ordinary means a change in vocabulary. Internet: Many sources and vocabularies!

Economics = 330 [Dewey Decimal Classification]

180/280 [US Patent classification] = 3711 [Standard Industrial Classification] = TL 205 [LC Classif.] = Automobile

*Search Support for Unfamiliar Metadata Vocabularies. (DARPA) 1997.*

## Crosslingual search

*Strong*: English – Mandarin – German – Japanese – etc.

*Weak*: Within a language, every community develops specialized vocabulary.

Example 1: Social class: *Violin* and *Fiddle* are synonyms, but usage is likely to vary by social class.

Example 2: Technical usage: What ordinarily would be called a *cancer* a medical expert would call a *neoplasm*.

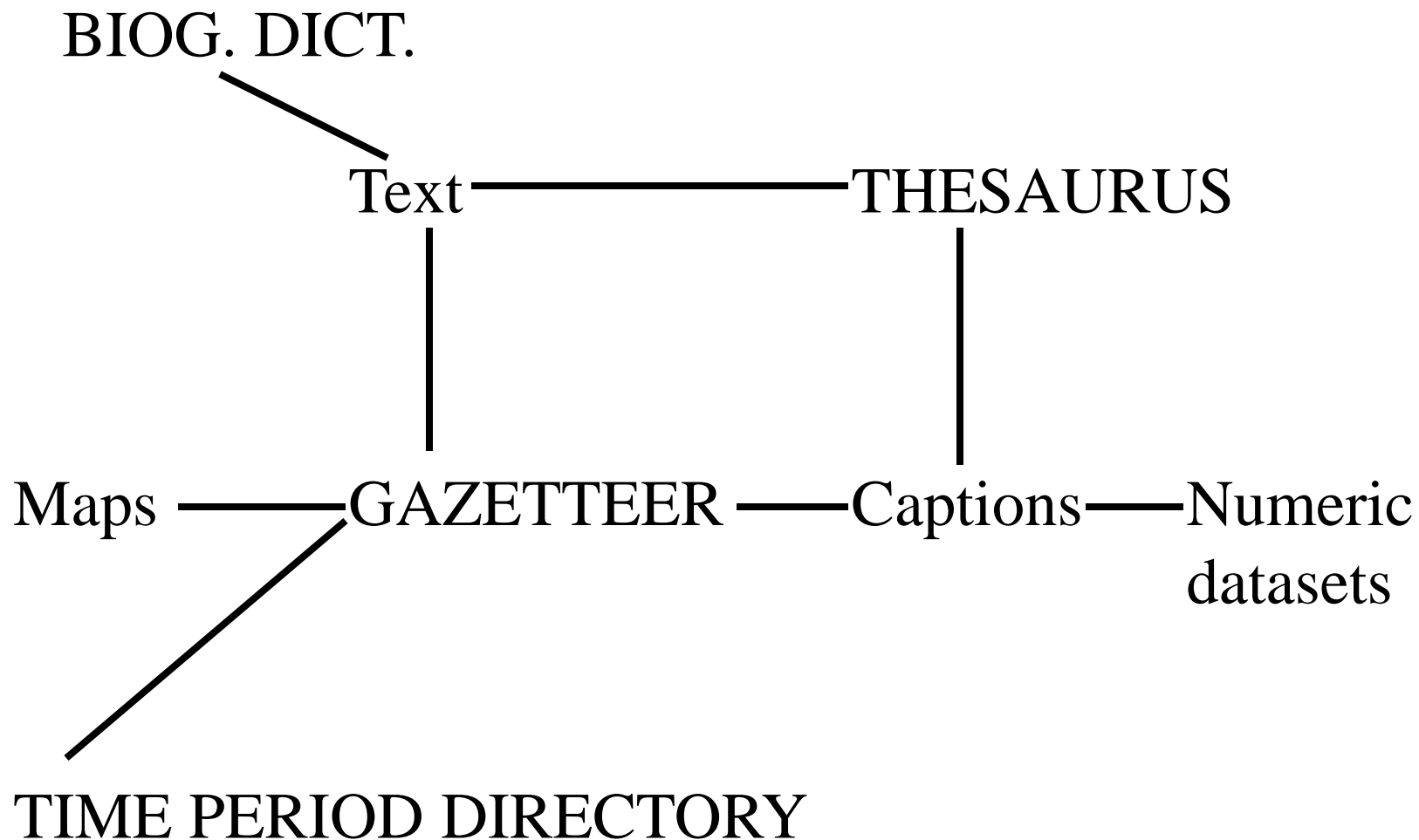
*Translingual information management using domain ontologies*  
(DARPA) 1997.

Cross-media: Texts and socio-economic data sets.

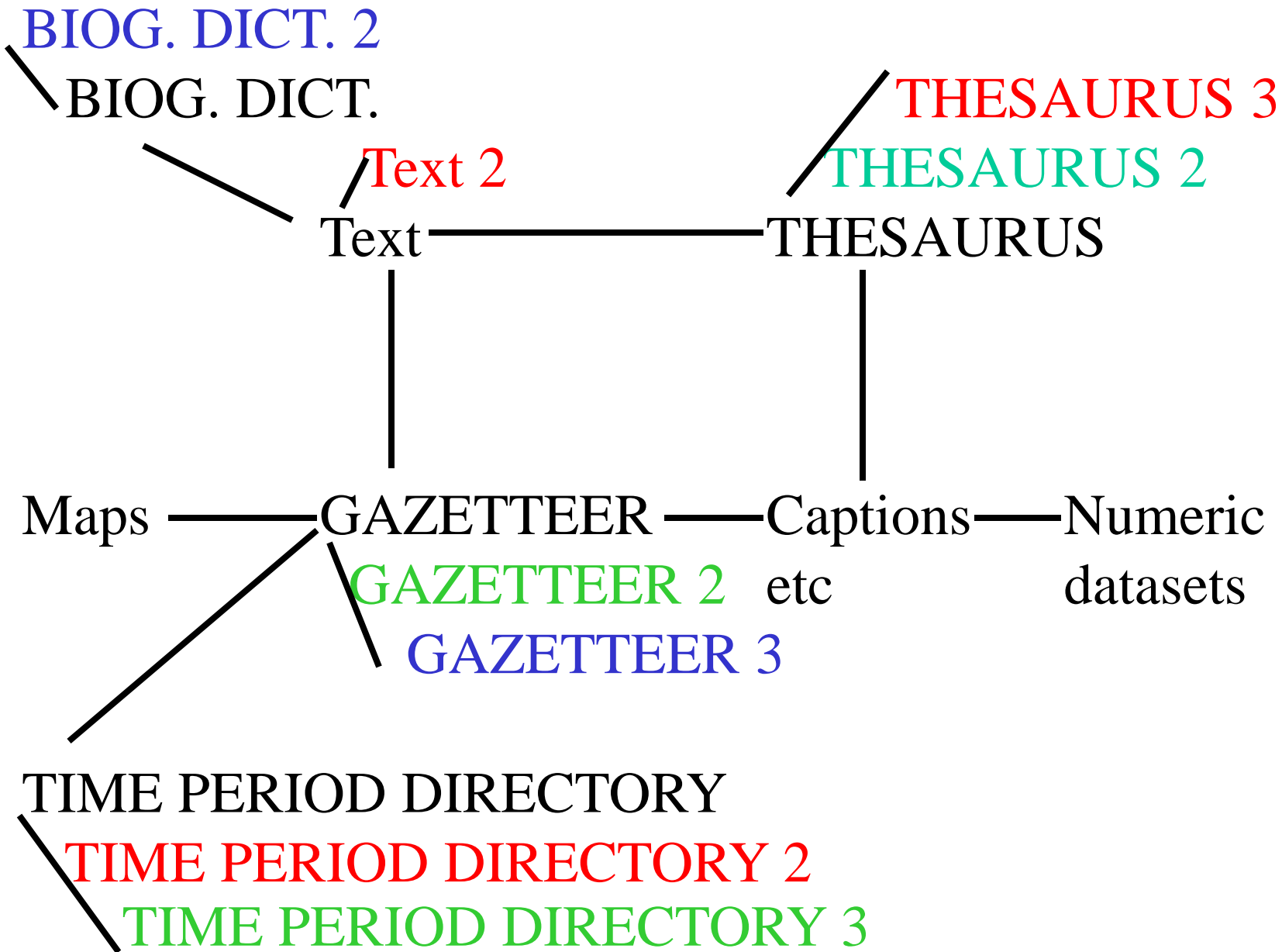
Text

Maps

Numeric  
datasets



*Seamless Searching for Numeric and Textual Resources. IMLS 1999*



# WHERE

Multiple names. Different forms. Names change.

St. Petersburg = Санкт Петербург = Saint-Pétersbourg

Place (cultural) and Space (physical).

Geographical coordinates (latitude and longitude) useful to:

- Disambiguate different places with the same name
- Connect different names for the same place
- Show spatial relationships, e.g. within 100 km.

Since both places and their names change a time note is needed.

*A Multilingual gazetteer system for integrating spatial and cultural resources (NSF) 2001.*

*Going places in the catalog: Improved geographical access. (IMLS) 2002.*

# WHEN

A calendar . . . but people remember and discuss using events:

- In reign of Henry IV . . .
- After the Vietnam War . . .
- When I was a student . . .
- During the Civil War . . .

Named events are culturally situated, like place names.

So a “Named Time Period Directory” like a place name list:

*Place name list (= “gazetteer”)*

Place name – Type of place – Lat. & Long. – when

*Named period directory*

Period name – Type of period – Chron. Time -- where



## “DUAL NAMING”

Links between **different kinds** of vocabulary in the same facet.

WHERE: Dual naming: *Place* (cultural) and *space* (physical: latitude and longitude; georeferencing).

*Place name list* (“gazetteer”) = bilingual *place – space* dictionary.

WHEN: Dual naming: *Event* (cultural) and *time* (physical calendar time). We speak and write using events to express *when*.

*Chronology* (analogous to place name list) = bilingual dictionary of *event* and *time*.

WHERE and WHEN need each other!

Because *places* and *events* are cultural, a place name list should include *when* the record is valid for – and a chronology should indicate *where* the event existed.

# WHO

1. Identity: Ambiguous, multiple and unstable personal names.

2. Lives: Personal histories.

Can be described as a series of events.

Each event has four elements:

What -- Where – When – Who else involved.

*Born in London in 1975 to parents John and Mary Doe.*

Technical complexities: How detailed? Related events?

Event as a status or as a change of status:

*Studied 1960-1963 or Became a student in 1962.*

*Bringing lives to light: Biography in context* (IMLS) 2006.

[*Social Networks and Archival Context* <http://snaccooperative.org> ]

Any word, name, document, or event

Connect it with its context – and other resources.



<i>Facet</i>	<i>Vocabulary</i>	<i>Displays</i>
<b>WHAT</b>	Thesaurus e.g. LCSH	Cross- references
<b>WHERE</b>	Gazetteer	Map
<b>WHEN</b>	Period directory	Timeline
<b>WHO</b>	Biograph. dict. e.g. <i>Who's Who</i>	Personal relations

Any catalog: Archives,  
Libraries, Museums, TV,  
Publishers

Any resource:  
Audio, Images, Texts,  
Numeric data, Objects,  
Virtual reality, Webpages

Library subject headings

*What – Geographic subdivision – Chronological subdivision – Person*

Place name gazetteer

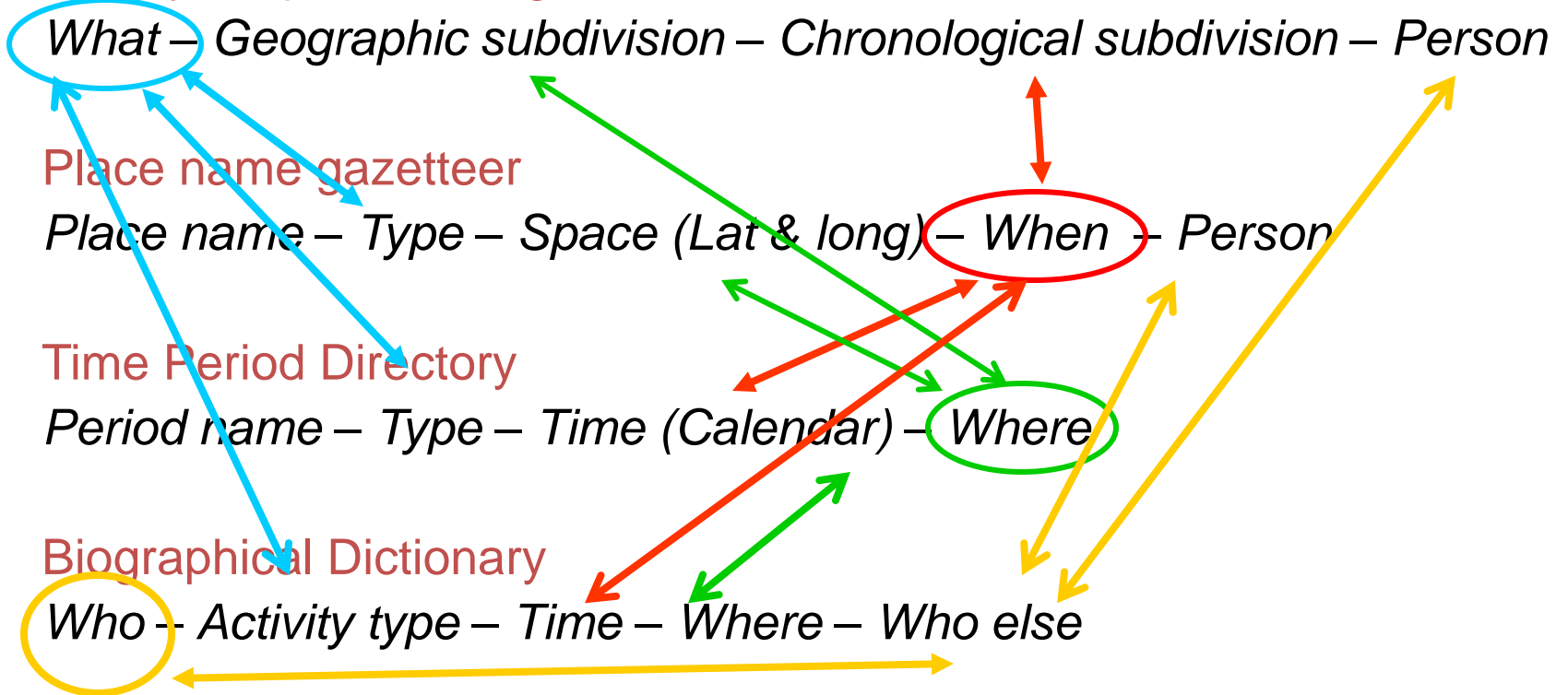
*Place name – Type – Space (Lat & long) – When – Person*

Time Period Directory

*Period name – Type – Time (Calendar) – Where*

Biographical Dictionary

*Who – Activity type – Time – Where – Who else*



Each facet is different in kind.

Meaningful use requires explanation.

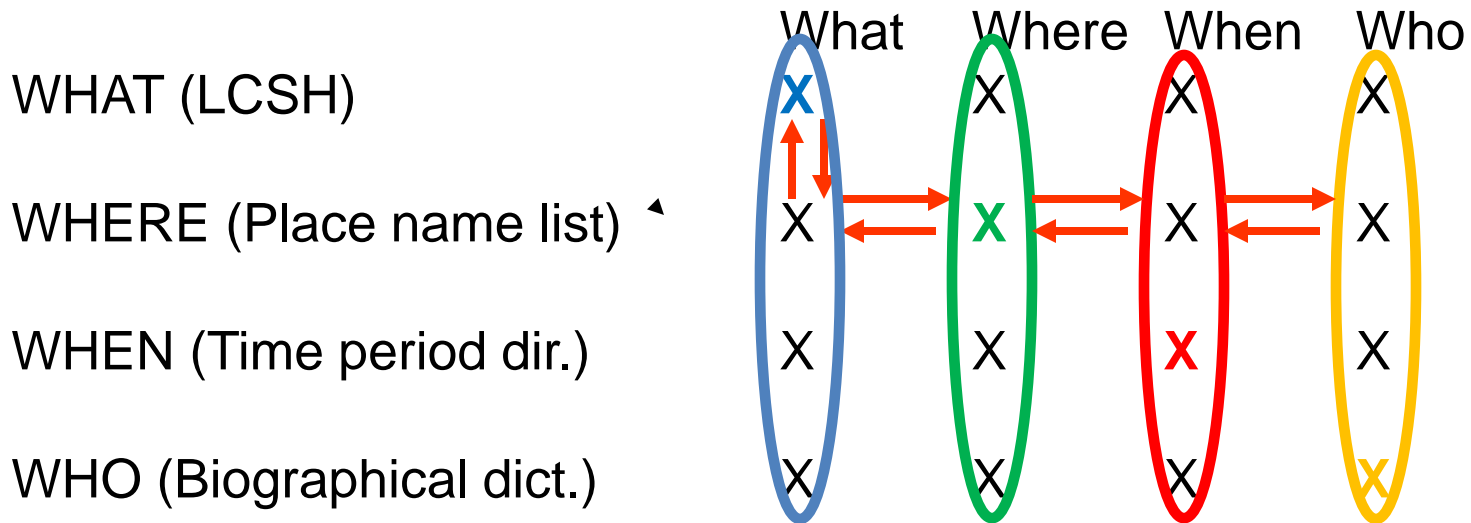
Explanations depend on use of other facets.

Same facets but may be in a different order.

If we make the facet order the same . . .

# Facet genres with facets realigned

Links are usually within one facet within one facet genre. Expand!



LCSH “*Lighthouses*” Catalog leads to literature about lighthouses.

In a place name list Geographic Description Code “*Lthse*” (*Lighthouse*) leads to locations of lighthouses.

Linking the two, links lighthouse literature with actual lighthouses.

Vertical links extend meaning to new vocabularies and resources.

Horizontal links provide additional context.

Like using a pre-digital reference library. An agenda for next 20 years!