PRAISE Meeting
Iceland, September 18-20, 2004

From Keywords to Ontology

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Why are we bothering to define concepts?

~~From Keywords to Ontology~~

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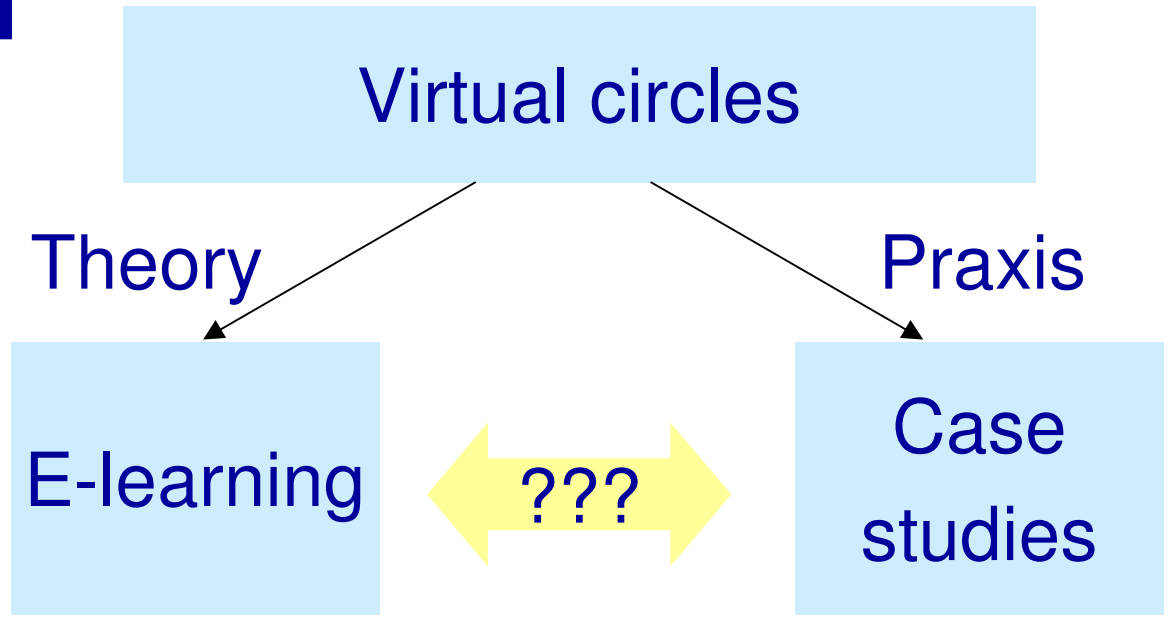
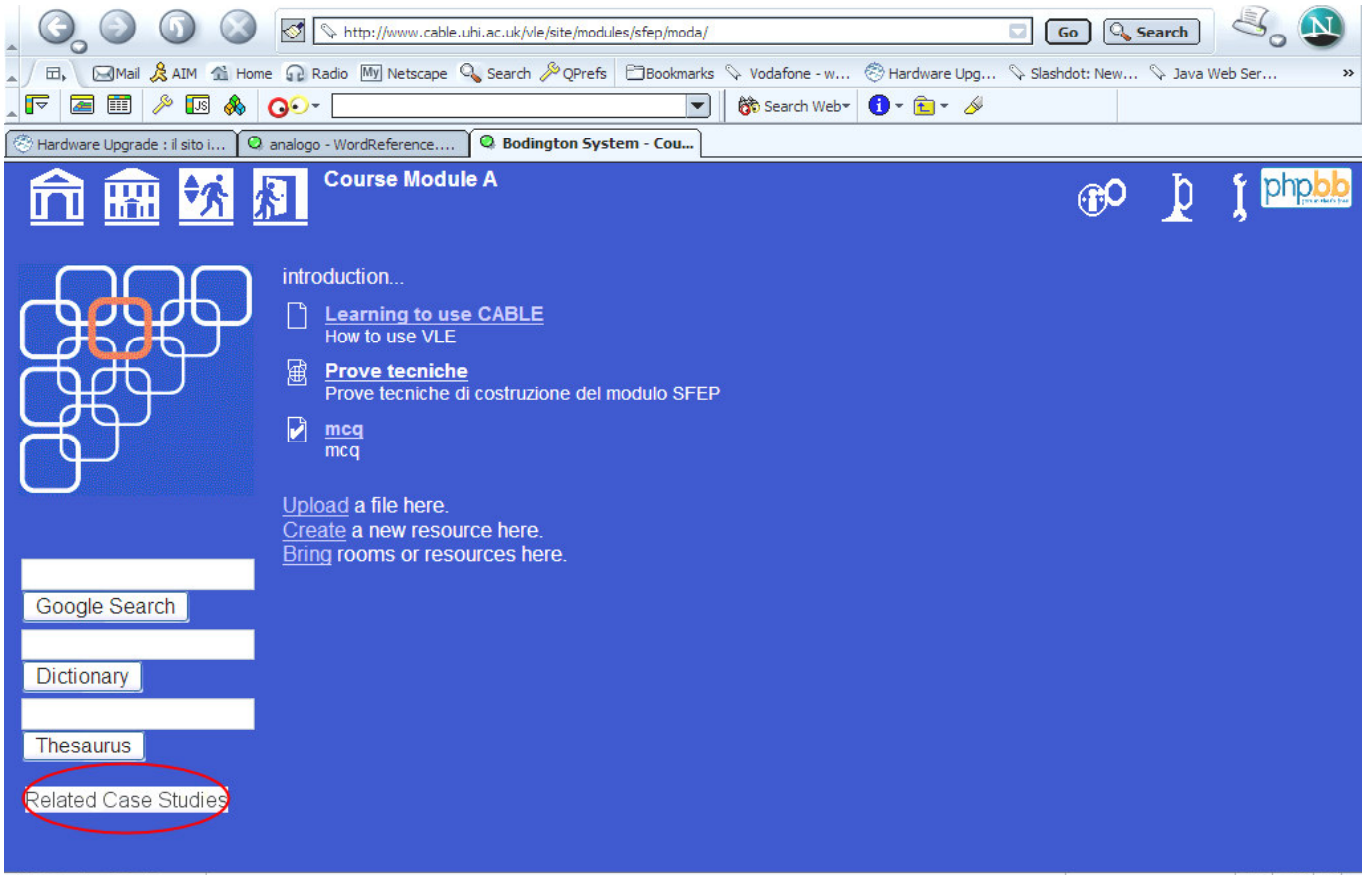
Summary / Goal

- Recall the context of the CABLE+PRAISE projects
- Goal of the “semantic” feature
- Structure of the shared ontology
- Working on the ontology

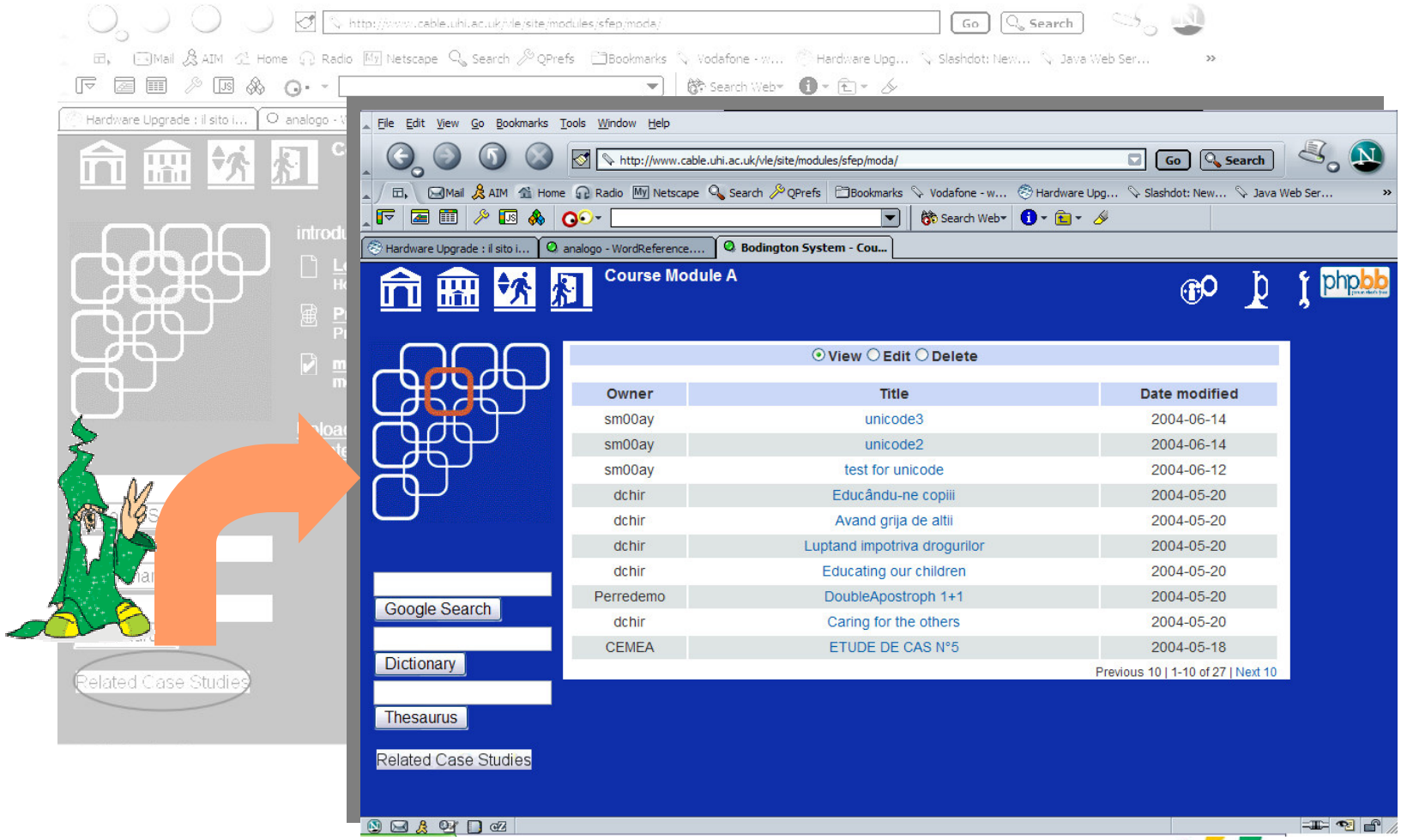
General setting



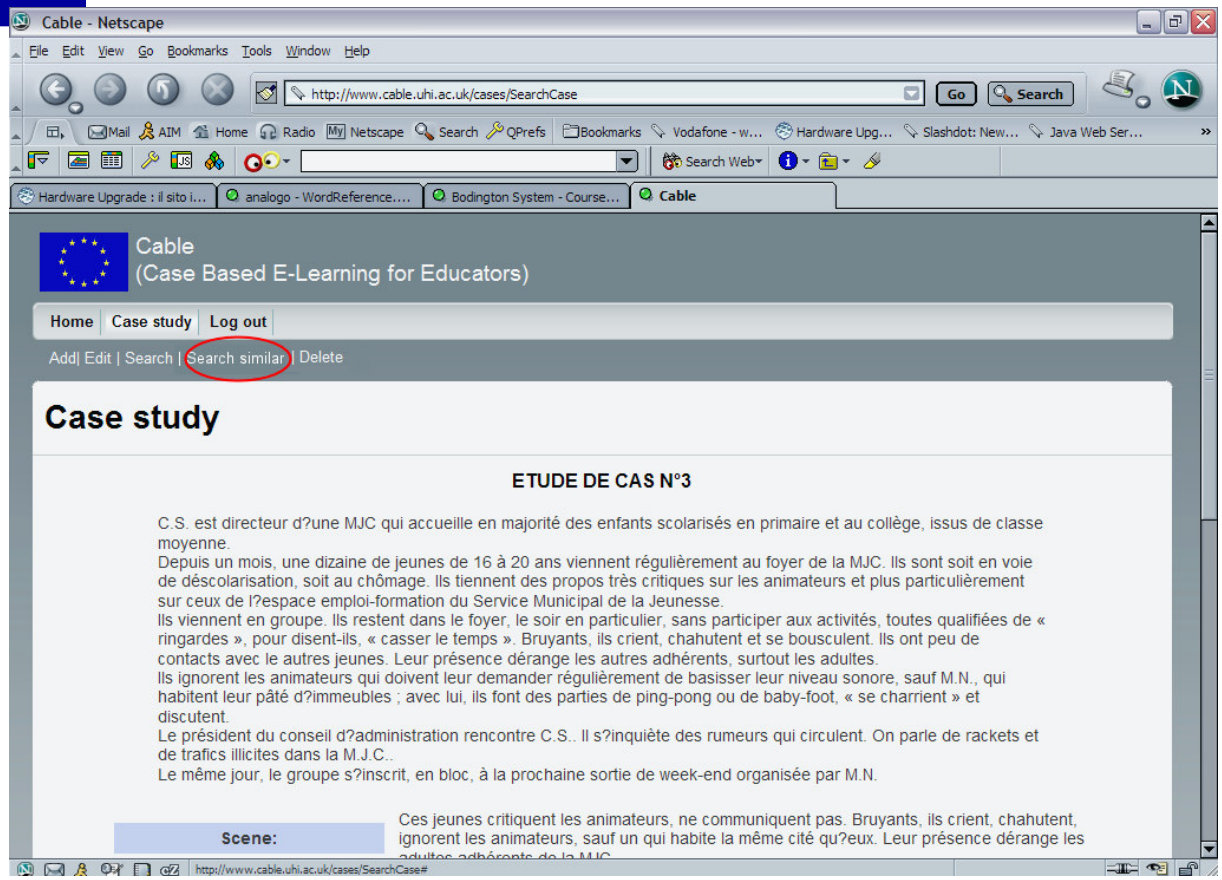
From lectures to case studies



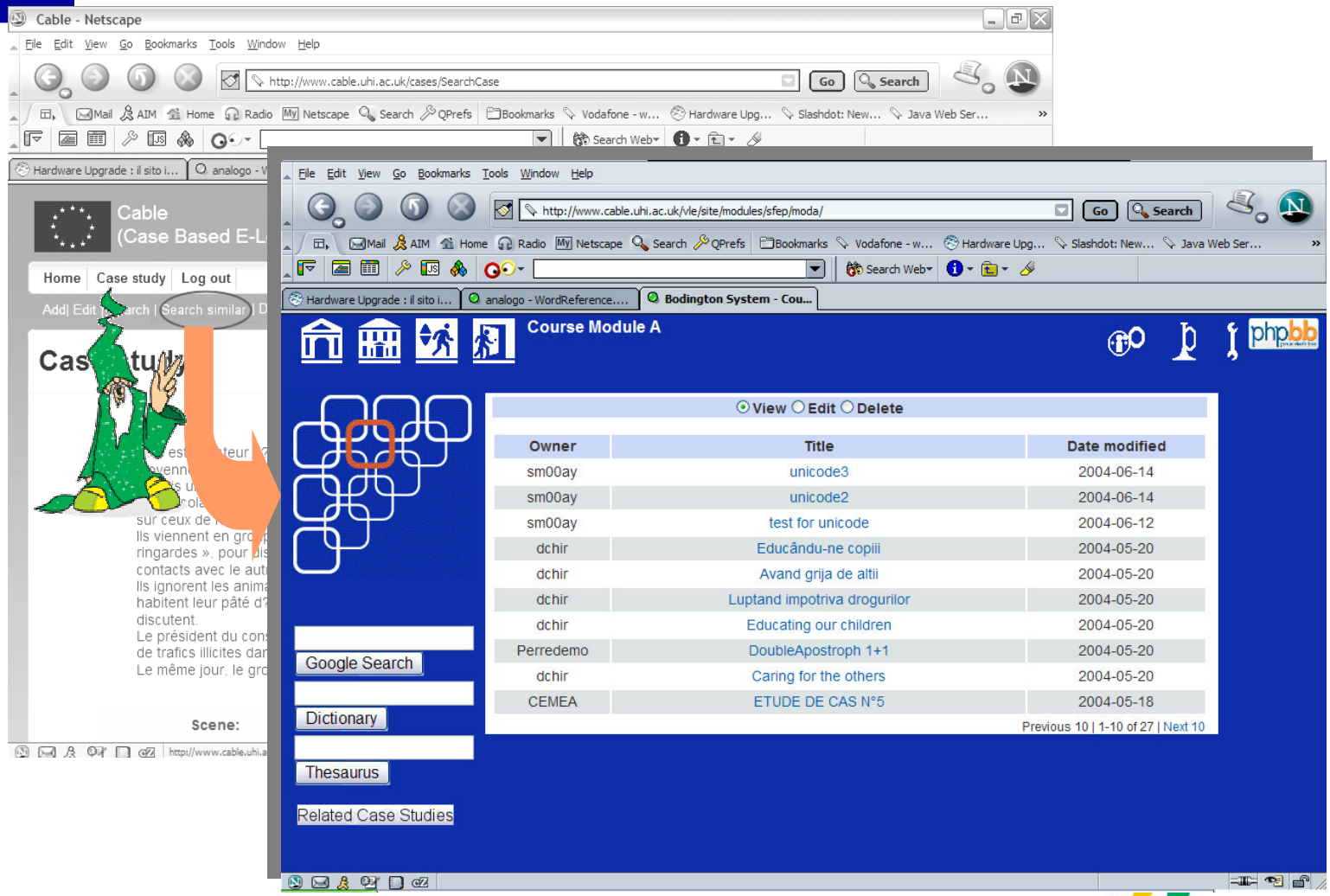
From lectures to case studies



Navigating case studies



Navigating case studies



General setting

Virtual circles

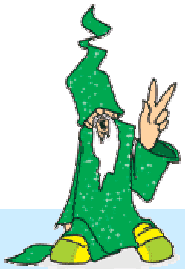
Theory

Praxis

E-learning

Case studies

What is this lecture **about**?



What is this case study **about**?

Ontology

What needs to be in the ontology?

«The hierarchical structuring of knowledge about things by subcategorising them according to their essential (or at least relevant and/or cognitive) qualities»

Source: *The Free On-line Dictionary of Computing, © 1993-2004 Denis Howe*

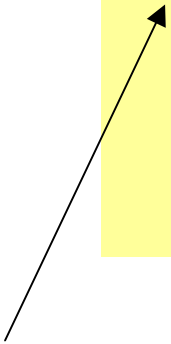
- Concepts
  - Derived from Keywords
  - Shared
  - Unambiguous definitions
  - Different languages/cultures
- Relationships
  - Concept containment
  - Other relationships (limited support)

Example

chair

Example

•A piece of furniture consisting of a seat, legs, back, and often arms, designed to accommodate one person.
•A seat of office, authority, or dignity, such as that of a bishop.
    •An office or position of authority, such as a professorship.
    •A person who holds an office or a position of authority, such as one who presides over a meeting or administers a department of instruction at a college; a chairperson.
•The position of a player in an orchestra.
•*Slang.* The electric chair.
•A seat carried about on poles; a sedan chair.
•Any of several devices that serve to support or secure, such as a metal block that supports and holds railroad track in position.



chair

Example

•**A piece of furniture consisting of a seat, legs, back, and often arms, designed to accommodate one person.**

chair

Example

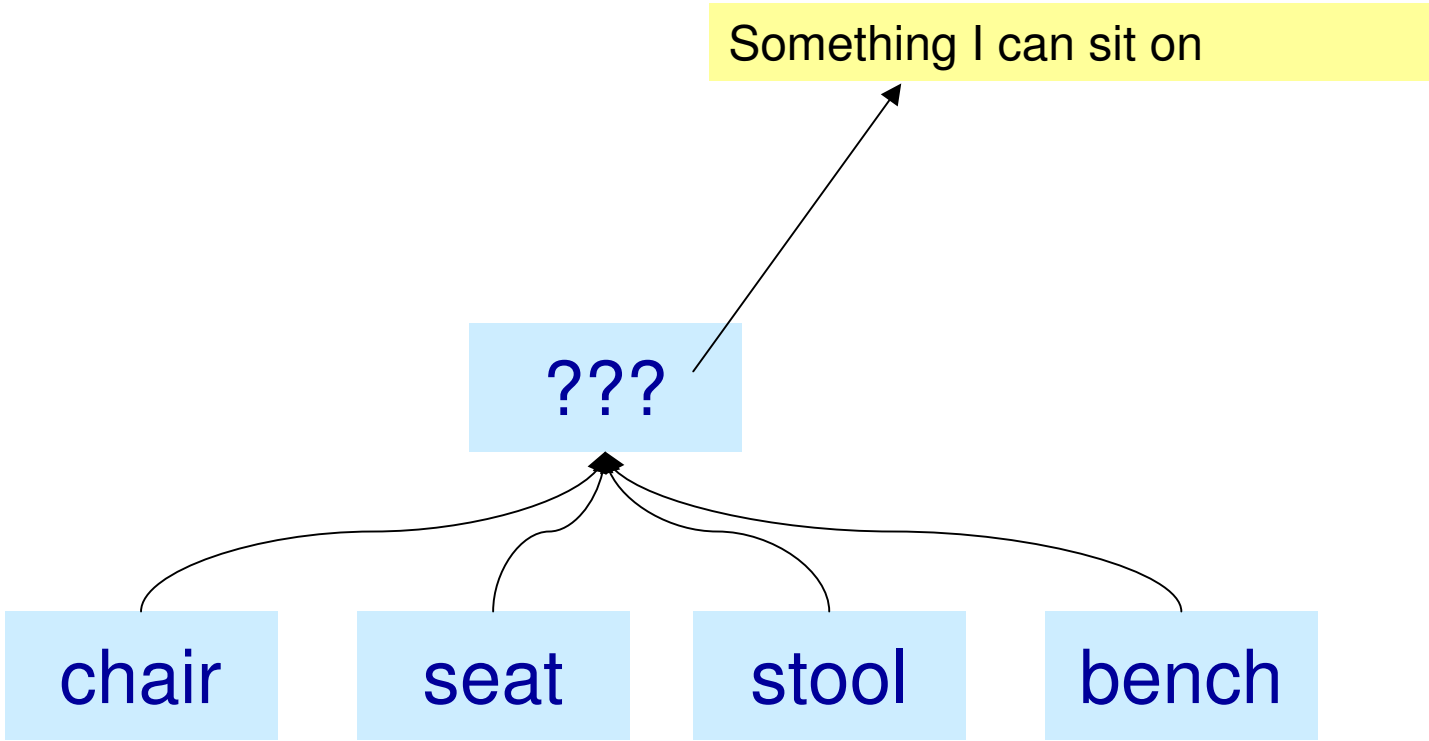
chair

seat

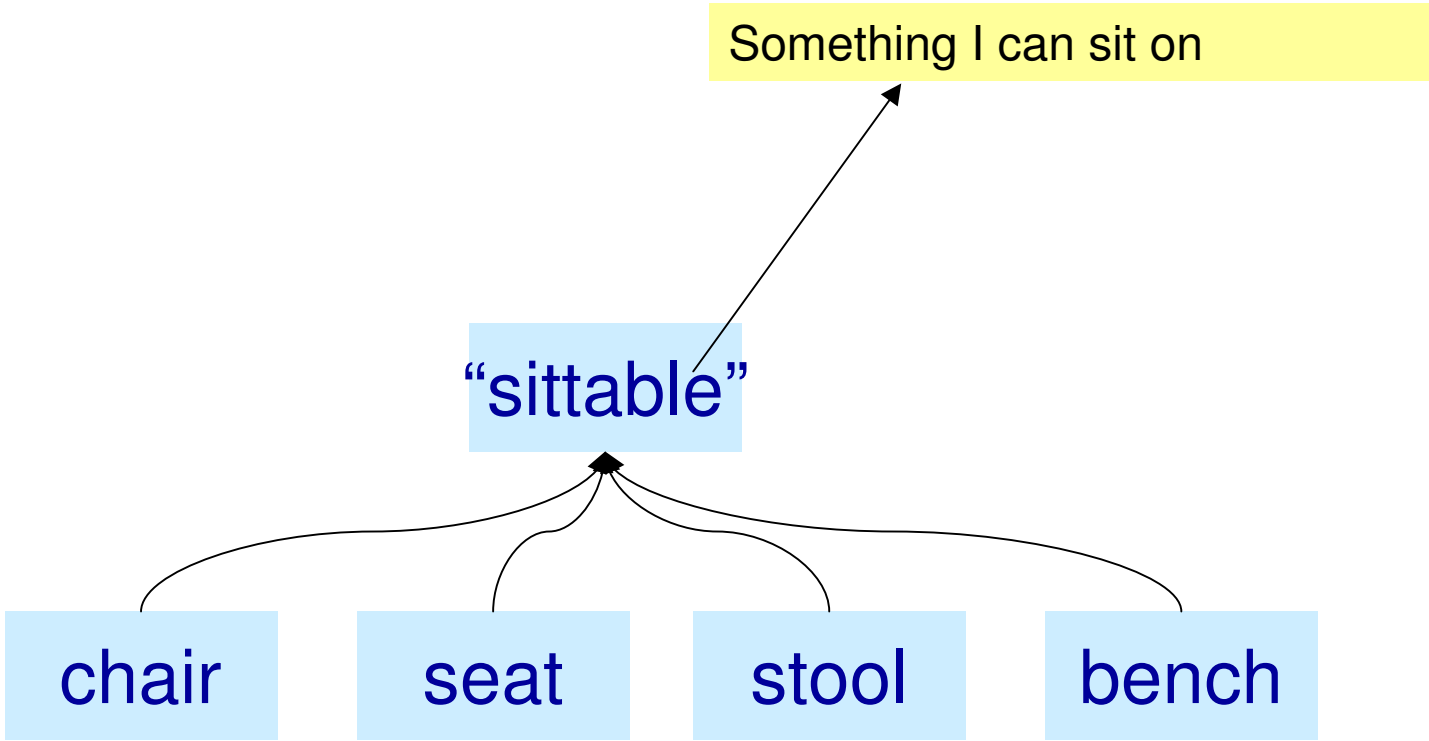
stool

bench

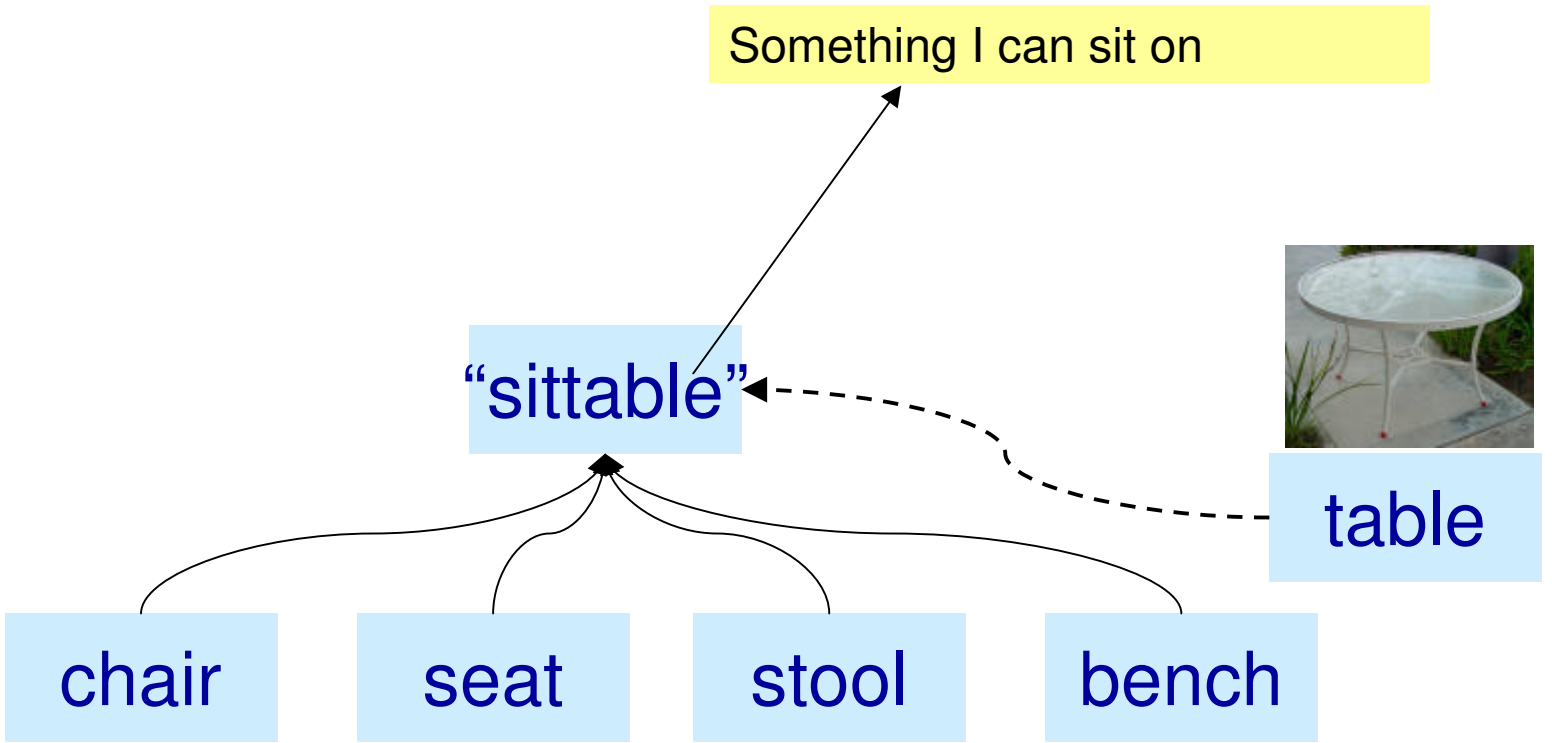
Example



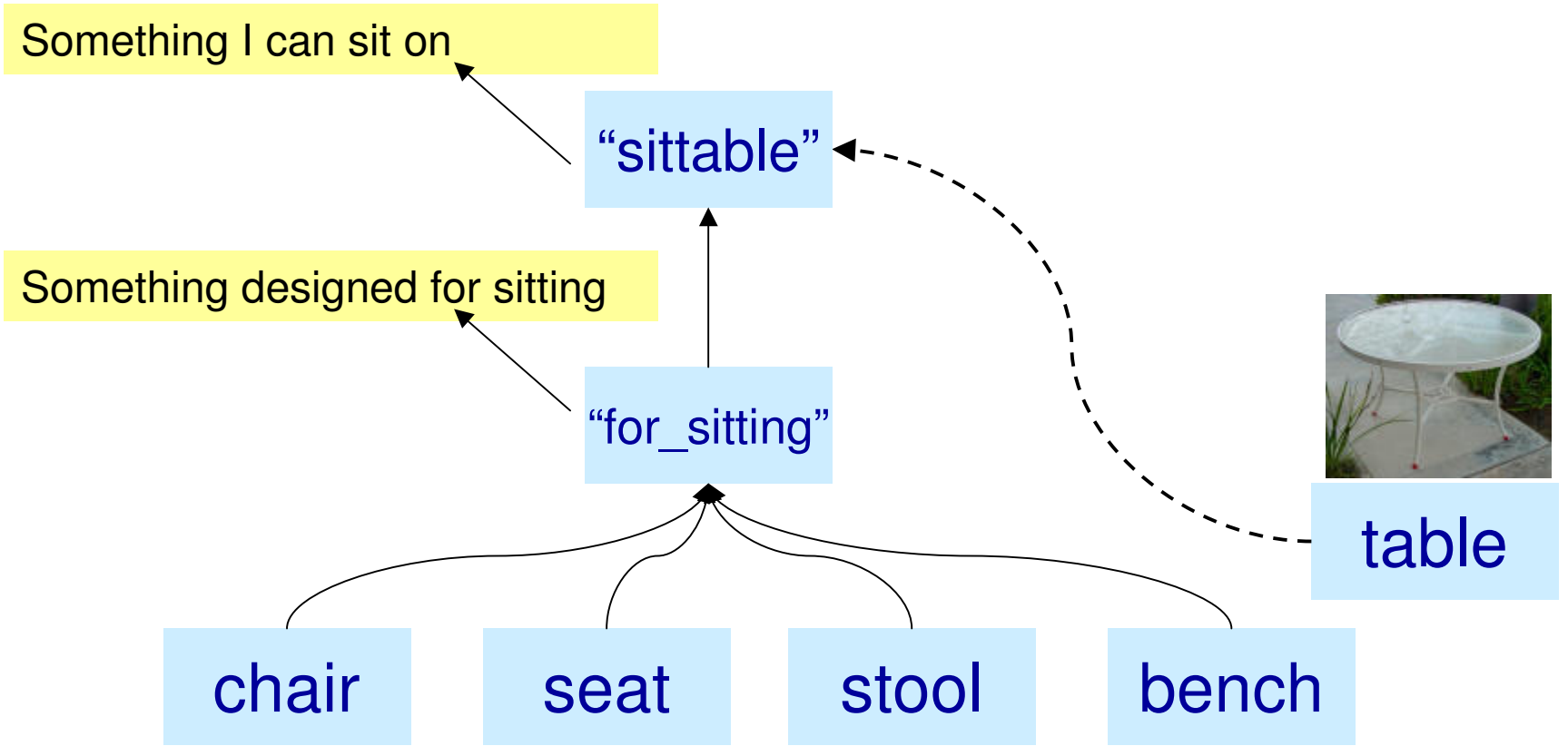
Example



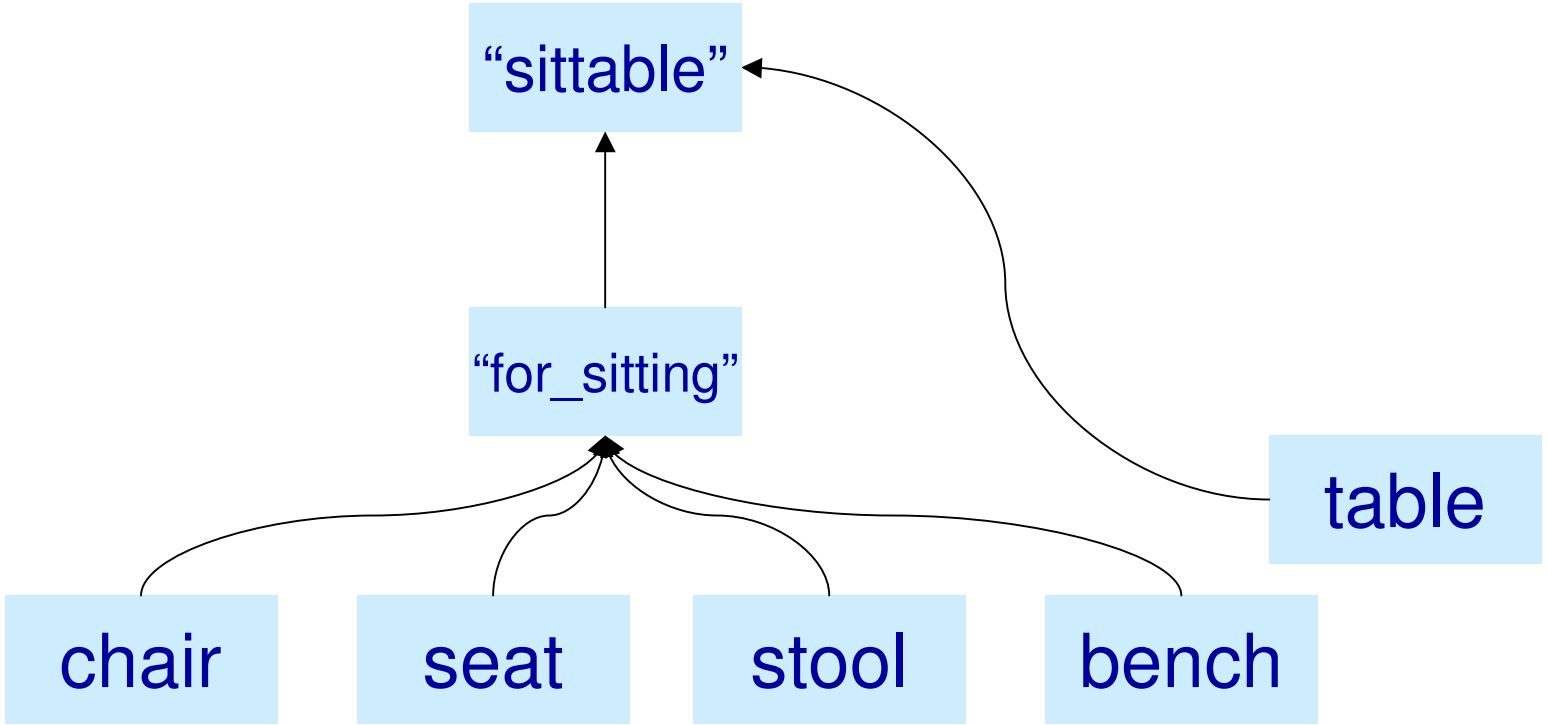
Example


Something I can sit on
“sittable”
table
chair
seat
stool
bench

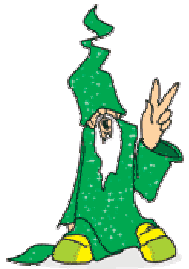
Example

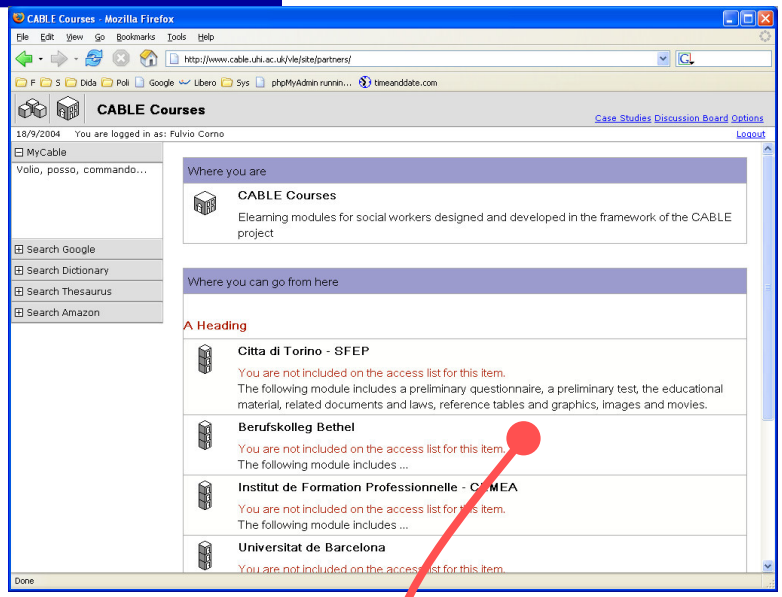

Something I can sit on
“sittable”
Something designed for sitting
“for_sitting”
table
chair
seat
stool
bench

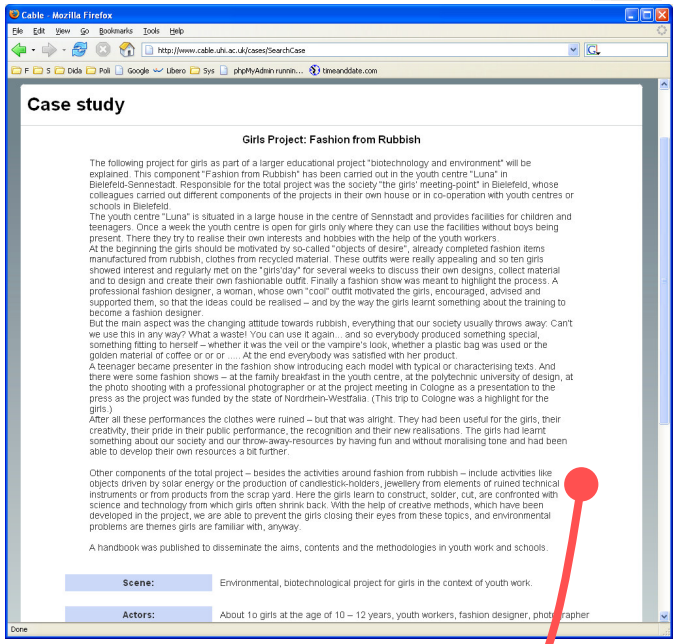
Ontology structure

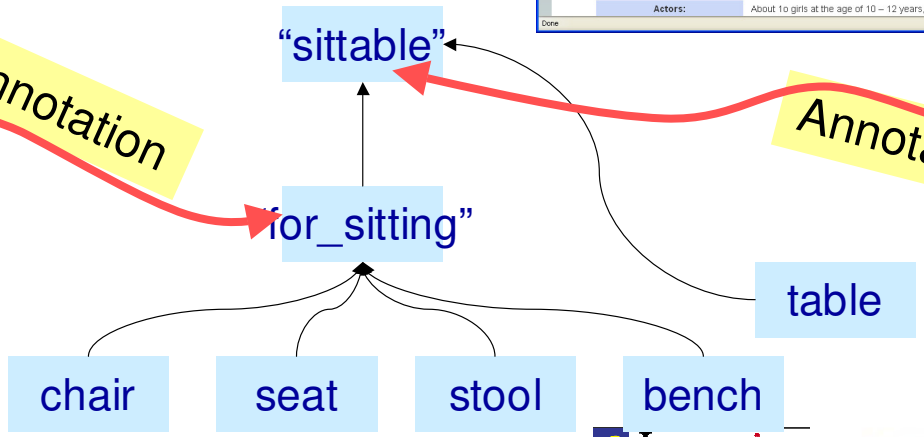


The wizard's trick









Ingredients

- Concepts
  - Shorthand name (internal use)
  - Synthetic title (to display in menus)
  - Definitions (real unambiguous shared definition)
- Relationships among concepts
  - is_a
  - Other
- Annotations
  - For case studies
  - For learning modules

Concepts

Synthetic title

Furniture to sit on

"sittable"

Shorthand name

Definition

Some piece of furniture that can be used to sit on, either by design or by its shape.

Internationalization

"sittable"

Shorthand name

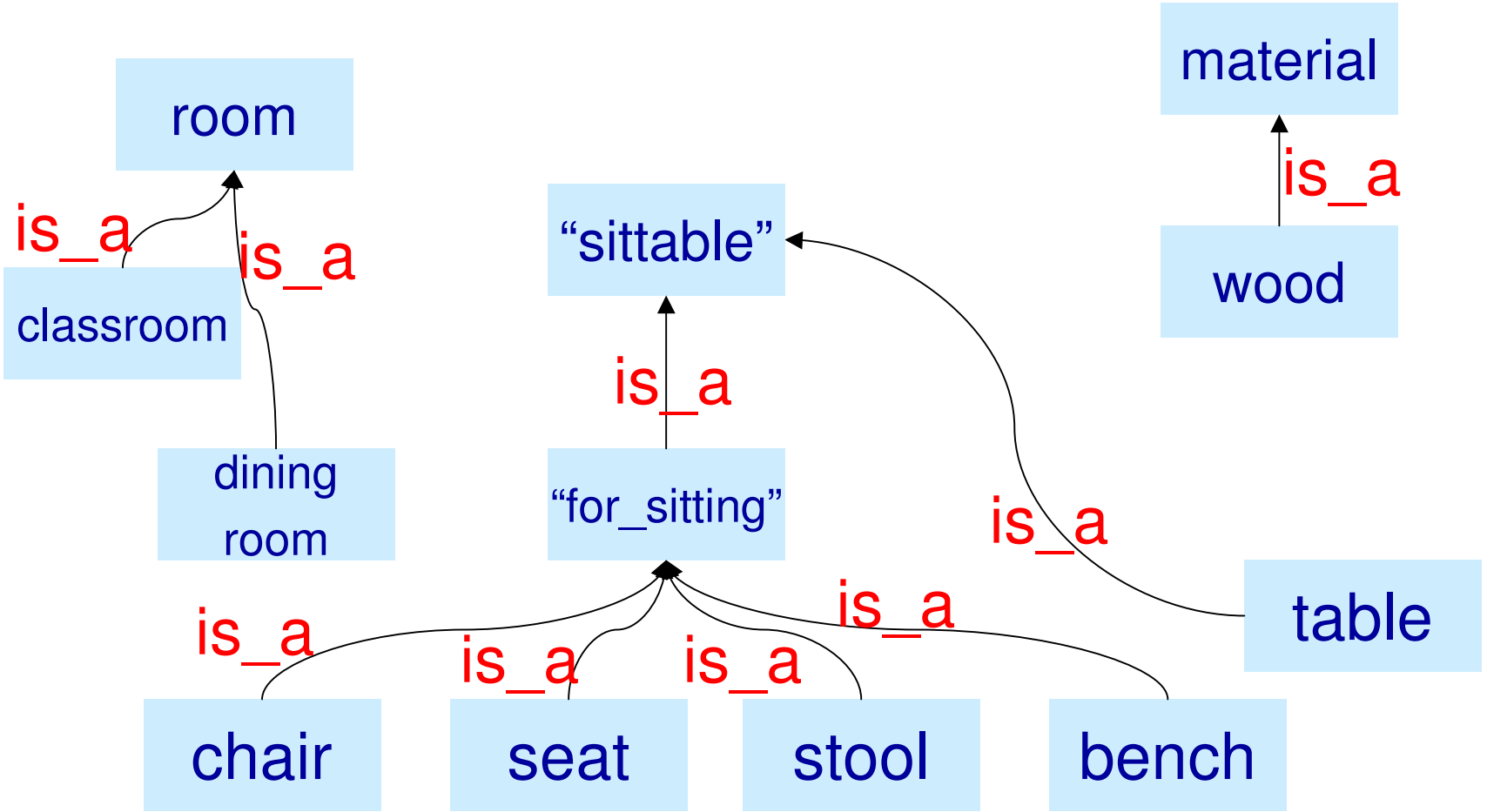
Synthetic title

Furniture to sit on

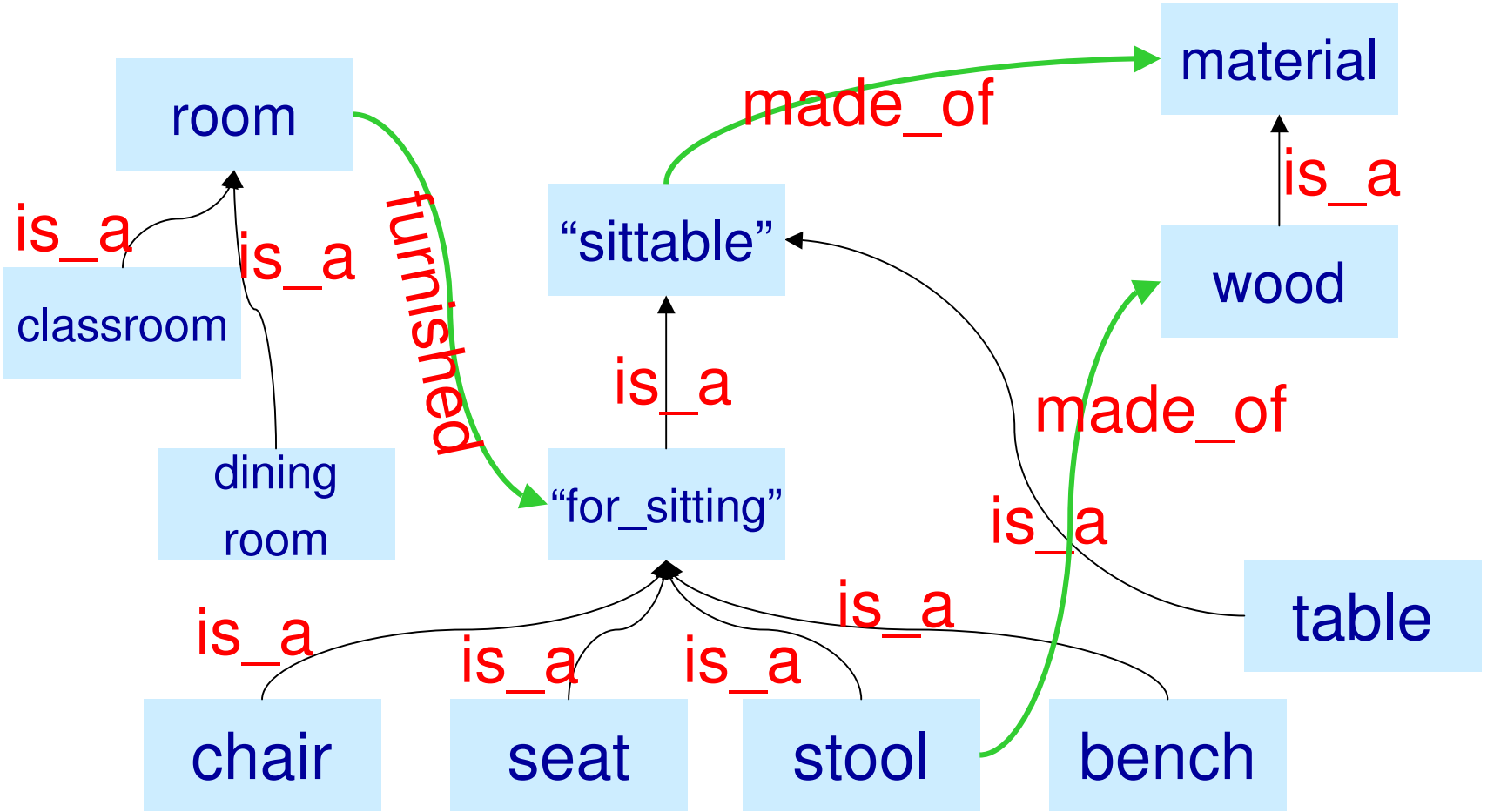
Definition

Some piece of furniture that can be used to sit on, either by design or by its shape.

Relationships



Relationships



Beware!

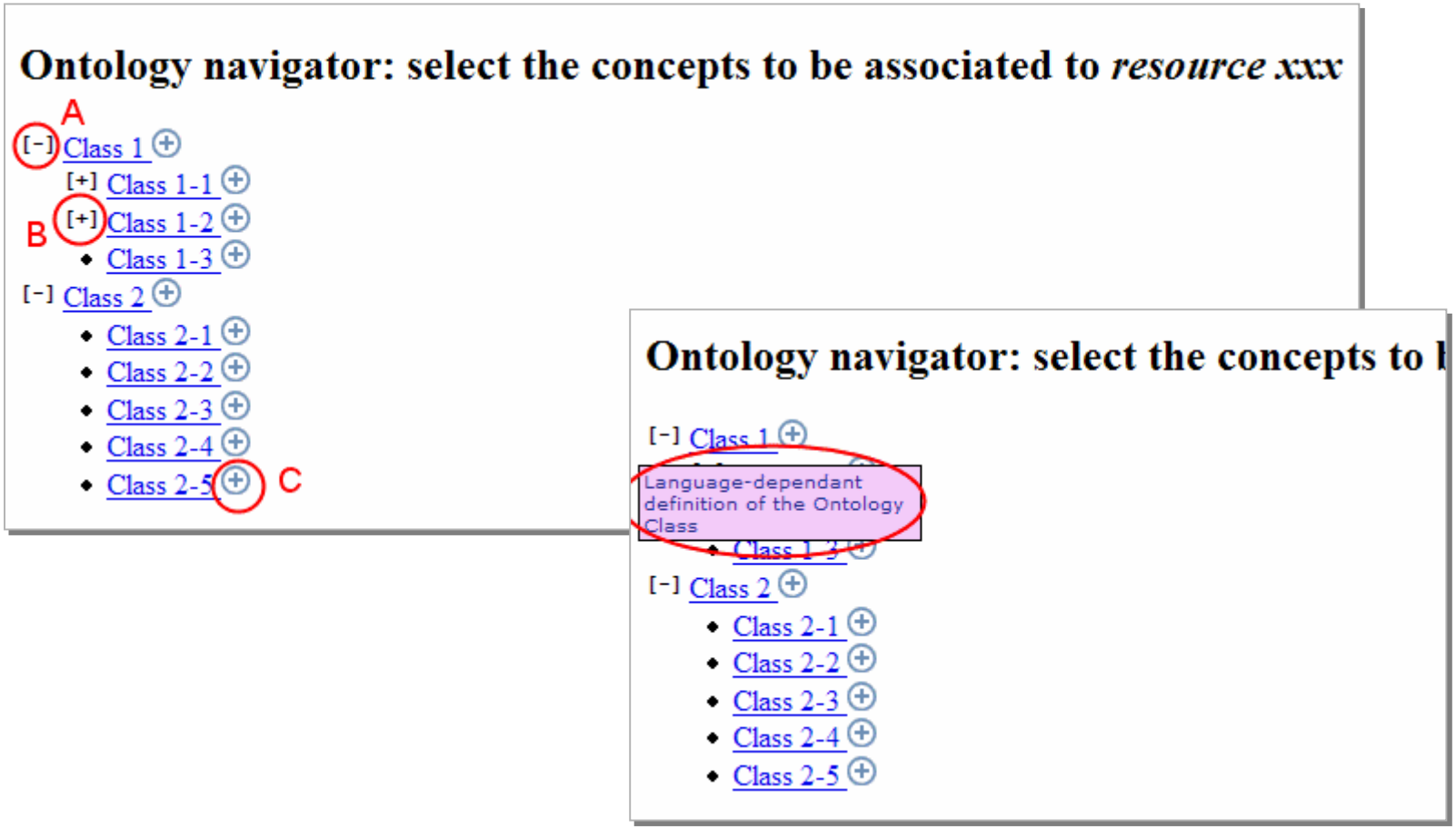
- Do not worry about relationships, for now!
- Relationships will emerge from concept definitions
- More important and urgent:
  - List relevant concepts
  - Provide definitions
  - Check, validate, discuss concepts and definitions

Annotations

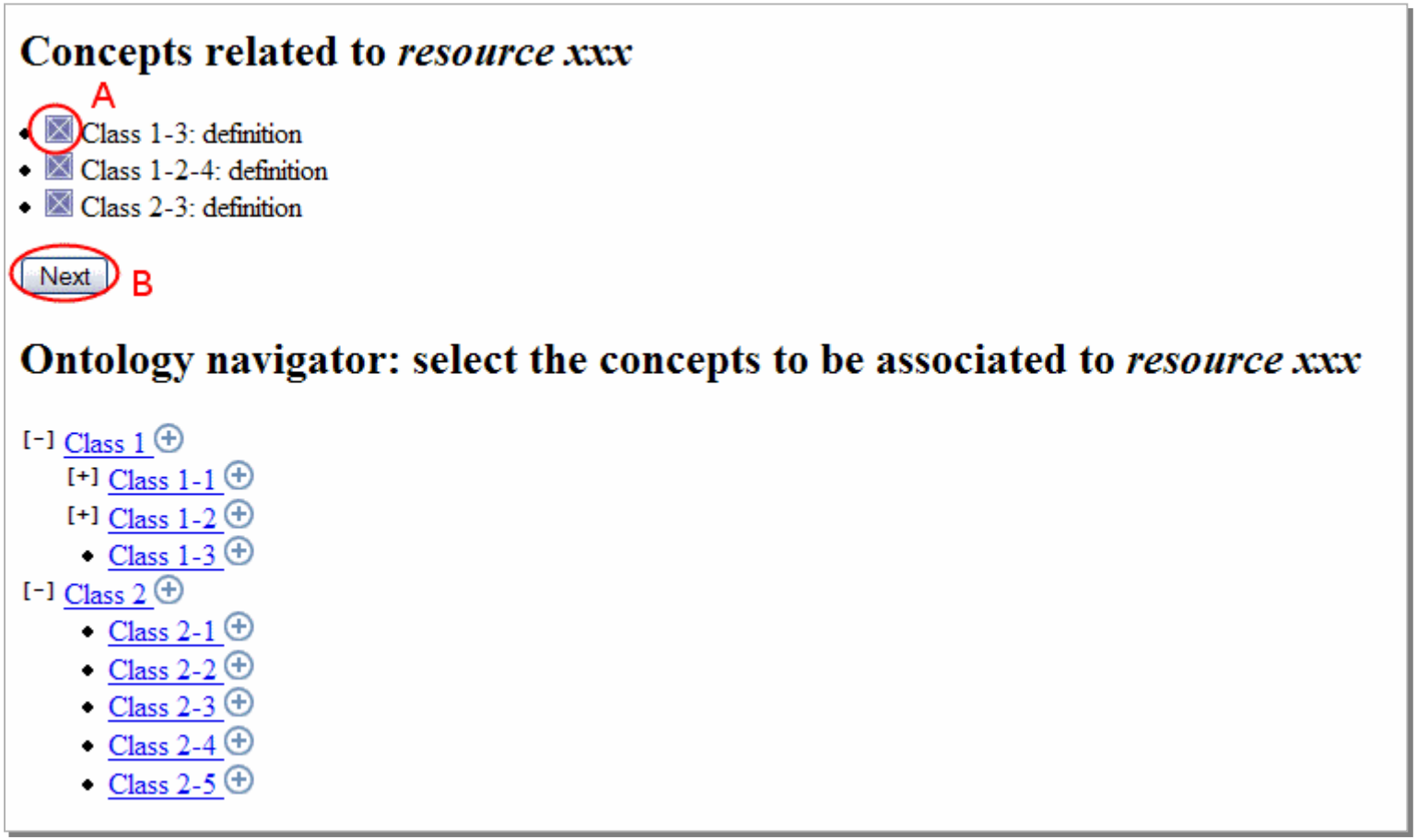
- The author of a Case Study specifies the **concepts** relevant to the case
- The author of a didactical module (Bodington “room”) specifies the **concepts** relevant to the module

- Easy to use interface!

Annotation interface (I)



Annotation interface (II)



Annotation interface (III)

Concepts related to *resource xxx*

			not relevant (remove)	*slightly relevant*	*relevant*	*highly relevant*
•	Class 1-3	definition	○	○	○	○
•	Class 1-2-4	definition	○	○	○	○
•	Class 2-3	definition	○	○	○	○

Previous Finish

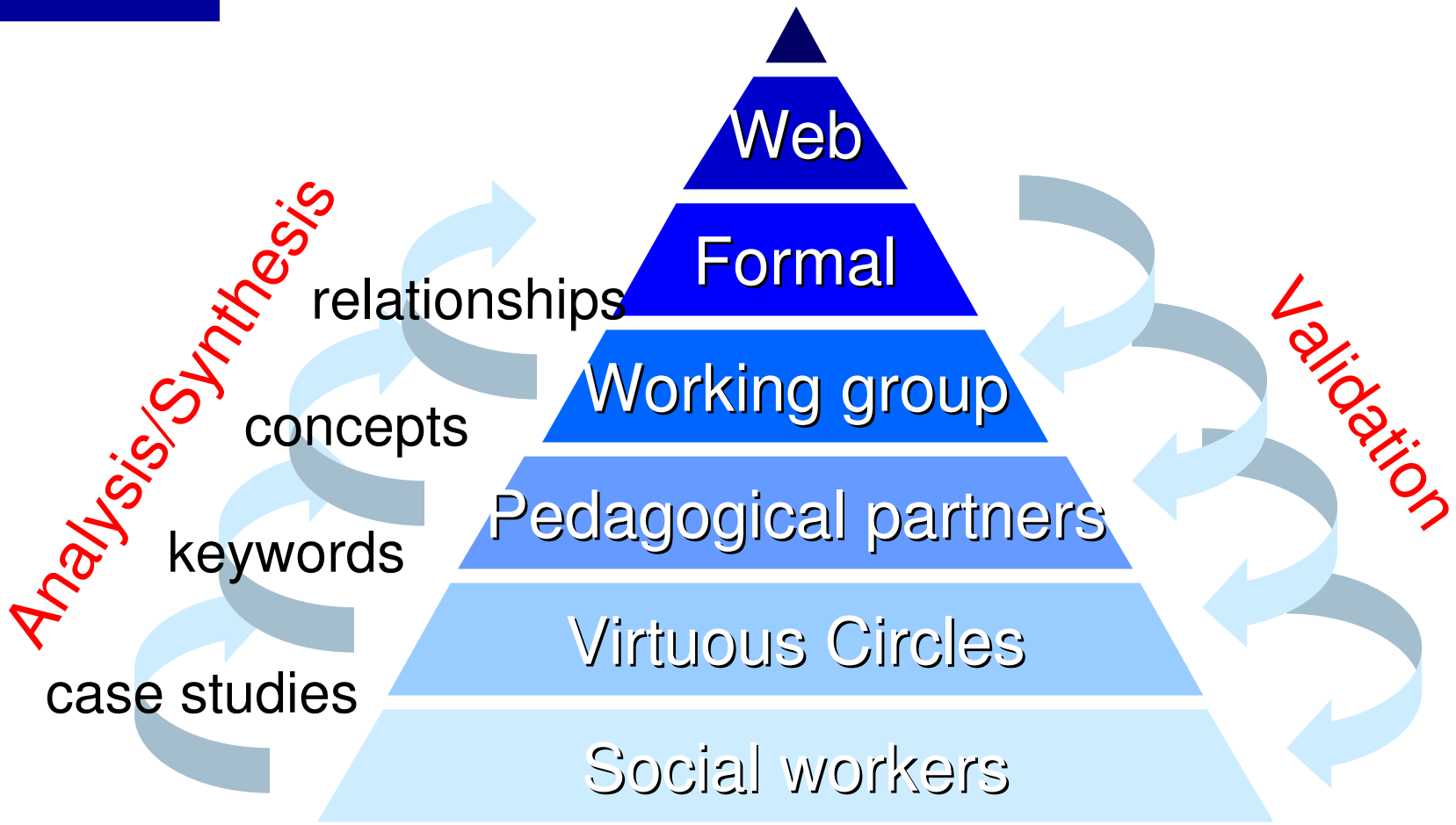
Do we agree?

And, How can we proceed from a practical point of view?

Practical Methodology (I)

- Ontology working group
  - One representative per partner
  - Proposes concepts, definitions, relationships
  - All partners contribute to **validation** and translation
- Case studies
  - Enough cases to be representative of the domain
  - For now, free-form keywords
  - Along time, formalized keywords
  - At the end of the project, navigation interface

Practical Methodology (II)

- Didactical modules (for CABLE)
  - Define formative needs and learning methodology
  - Assign relevant keywords
  - At the end of the project, navigation interface for annotation
- Technical development
  - E-Learning platform
  - Case studies database
  - Annotation interface
  - “Search relevant case studies ” buttons

Ontology development