

What does “term meaning” mean?

Gulliver's Travels
by Jonathan Swift (1667-1745)



Prof. Christophe Roche

- University Savoie Mont-Blanc (France)
- University of Liaocheng (China)

www.christophe-roche.fr



Pr Christophe Roche

Condillac Research Group – LISTIC Lab
University Savoie Mont Blanc
France

roche@univ-savoie.fr

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Home

www.christophe-roche.fr

- Full Professor in Artificial Intelligence, University Savoie Mont-Blanc (France)
- Special Appointment Professor, University of Liaocheng (China)
- Head of the [Condillac Research Group](#) on « Terminology & Ontology » – LISTIC Lab. University Savoie Mont-Blanc (France)
- Dean of the [KETRC](#) Research Center on « Knowledge Engineering and Terminology », University of Liaocheng (China)
- Researcher & Lecturer at University NOVA of Lisbon – CLUNL Linguistic Research Center (Portugal)

- PhD in Artificial Intelligence (INPG Grenoble – 1984)
- Domains of interest: Artificial Intelligence, Linguistics, Digital Humanities, Knowledge Representation, Terminology, Ontology, Ontoterminology

- Chairman of the [TOTh Conferences](#)
- Chairman of the AFNOR Commission on Terminology (X03A)
- Project Leader of the ISO Standards on Terminology (ISO 1087-1 & ISO 704)

- 2017 Talent Foreign Expert (Shandong Province)
- 2018 "Qilu Friendship" Award (Shandong Province)

[Terminology Coordination Unit: Interview with Christophe Roche](#)

Contact: Prof Dr. Christophe Roche

Equipe Condillac – LISTIC Lab.

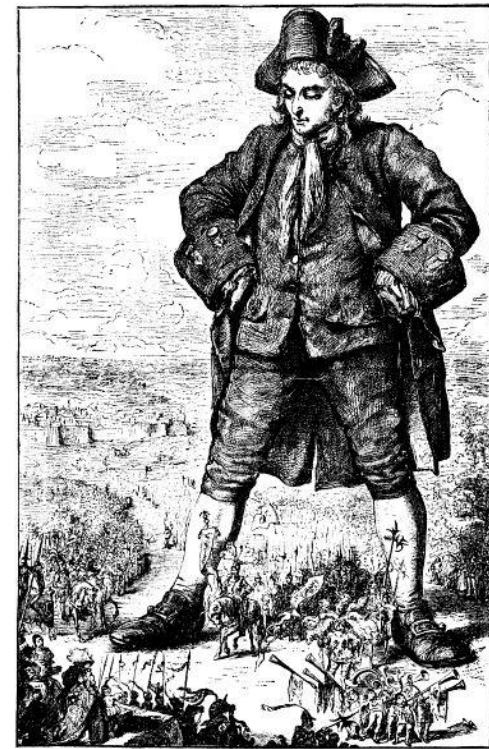
Campus Scientifique – Université Savoie Mont-Blanc

73 376 – Le Bourget du Lac cedex – France

tel: +33 (0) 479 758 779 – mob: +33 (0) 686 250 705

roche@univ-savoie.fr – www.condillac.org – www.christophe-roche.fr

Gulliver's Travels by Jonathan Swift



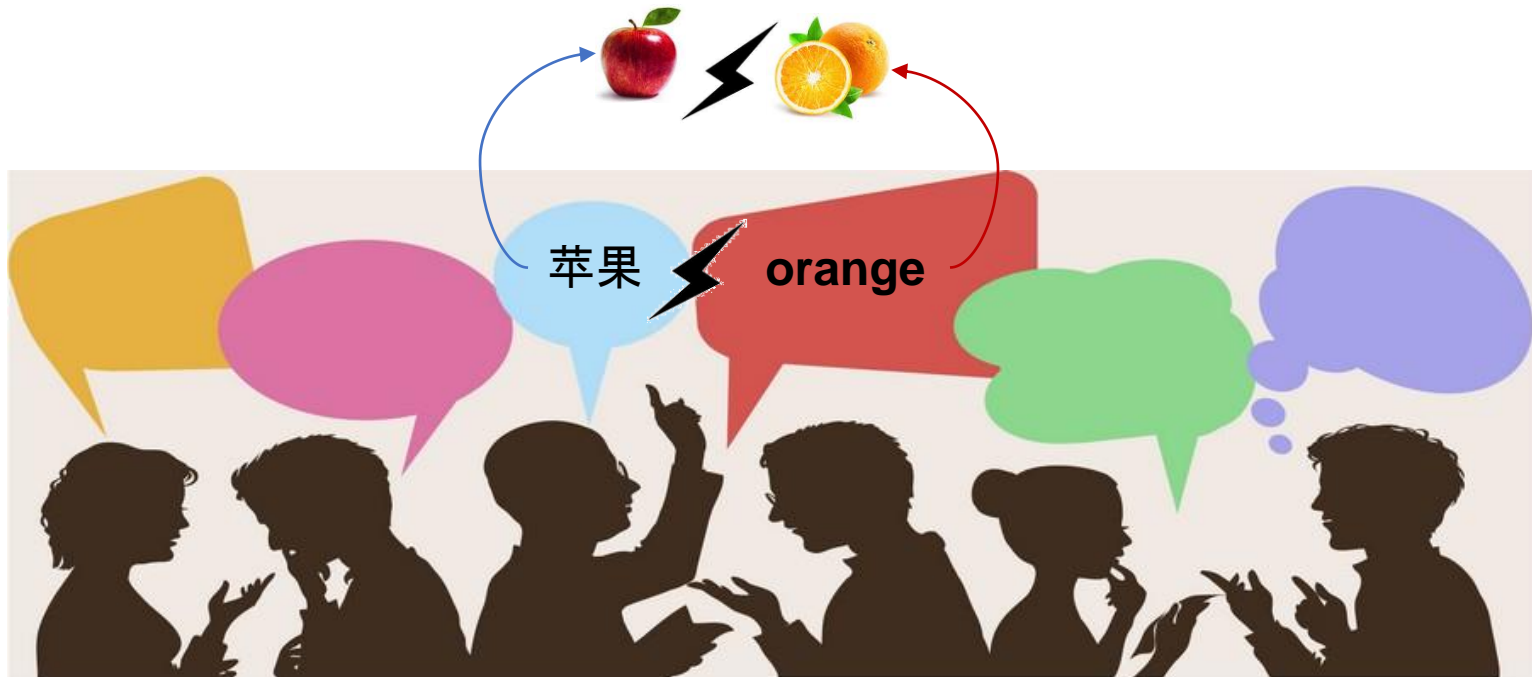
“[...] since words are only names for things, it would be more convenient for all men to carry about them such things as were necessary to express the particular business they are to discourse on”

“Gavagai” in “Word & Object”, Quine

Communication & Meaning

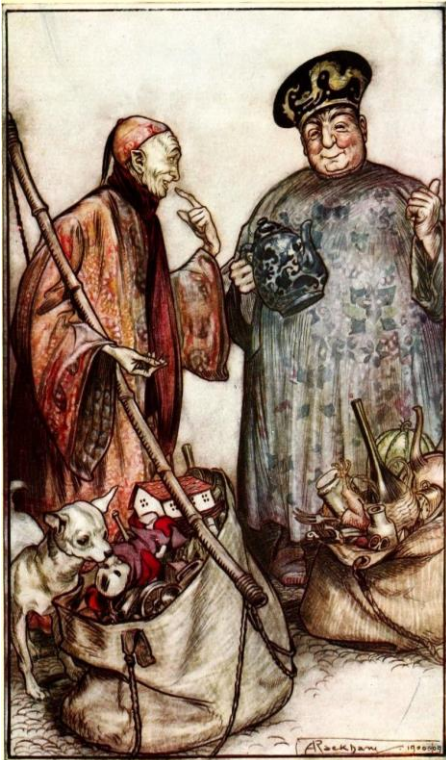
Meaning depends on:

- the **intention** of the speakers
- **knowledge** about the world



What does “term meaning” mean?

Gulliver's Travels
by Jonathan Swift (1667-1745)



Term?



What is a term?

term

*A term is a word or expression with a specific meaning, especially one which is used in relation to a particular subject. **Collins***

A word or phrase used to describe a thing or to express a concept, especially in a particular kind of language or branch of study.

Oxford Dictionary

***verbal designation of a general concept
in a specific subject field.***

ISO 1087-1



What is a term?

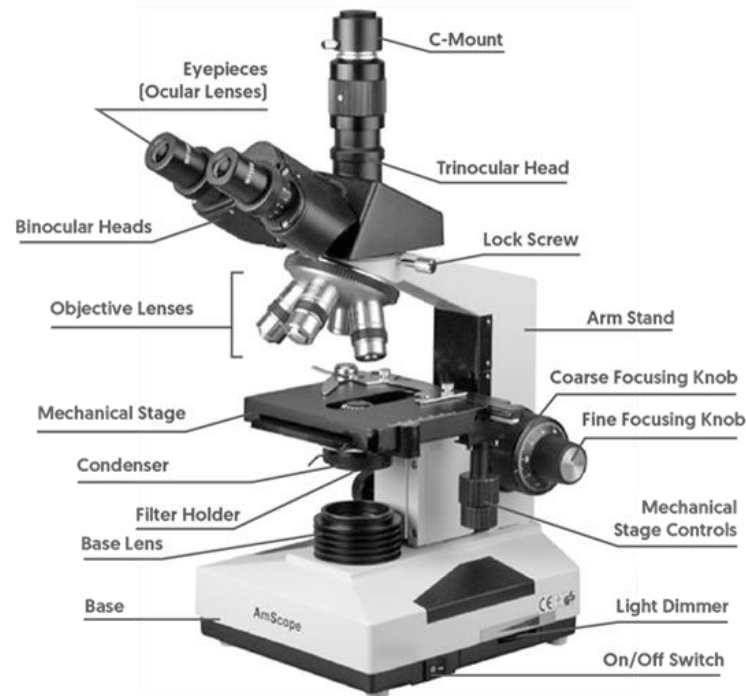
✓ It is a word 显微镜 microscope μικροσκόπιο

✓ It is a lexical unit electron microscope

✓ But not any lexical unit

✓ A lexical unit which designates a **specialized knowledge**

✓ Is any lexical unit designating a specialized knowledge a term?



Terminology



The terminology of a subject is the set of special words and expressions used in connection with it.

Collins

The body of terms used with a particular technical application in a subject of study, profession, etc.

Oxford

special words or expressions used in relation to a particular subject or activity

Cambridge

- “**set of designations** belonging to one special language” [ISO 1087-1]
- “**science** studying the structure, formation, development, usage and management of terminologies in various subject fields” [ISO 1087-1]

a **term** is a “**verbal designation** of a **general concept** in a specific subject field” [ISO 1087-1]

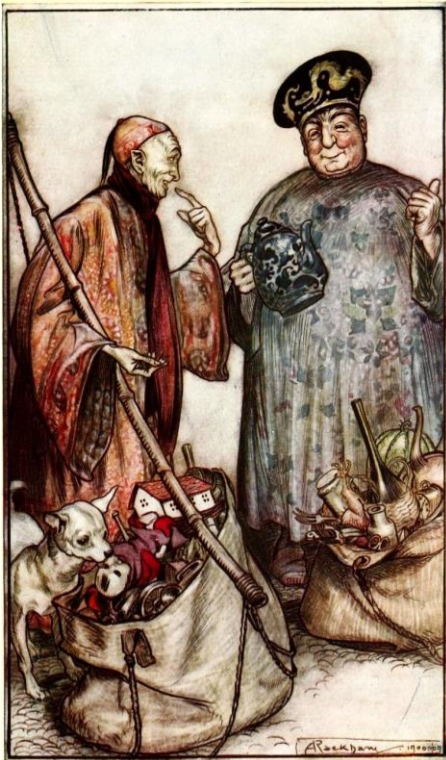


Terminology work is multidisciplinary and draws support from a number of disciplines (e.g. logic, epistemology, philosophy of science, linguistics, translation studies, information science and cognitive sciences) in its study of concepts and their representations in special language and general language. It combines elements from many theoretical approaches that deal with the description, ordering and transfer of knowledge.

The terminology work dealt with in this International Standard is concerned with terminology used for unambiguous communication in natural, human language. The goal of terminology work as described in this International Standard is, thus, a clarification and standardization of concepts and terminology for communication between humans. Terminology work may be used as input for information modelling and data modelling, but this International Standard does not cover the relation with these fields.

What does “term meaning” mean?

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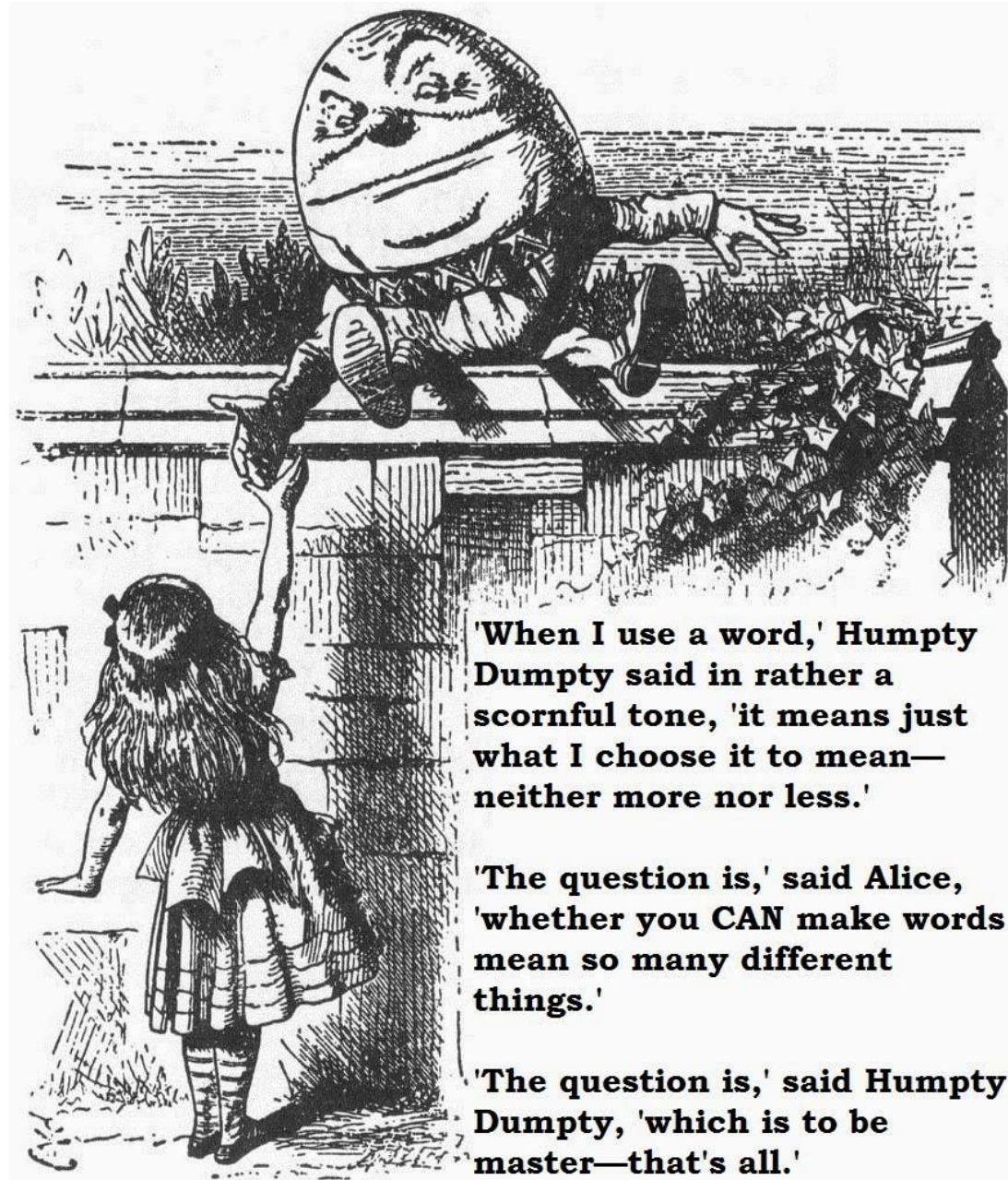


meaning?



What is the meaning of a term?

'Must a name mean something?'
Alice asked



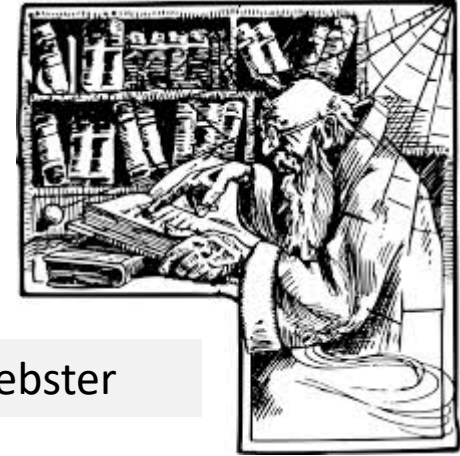
'When I use a word,' Humpty Dumpty said in rather a scornful tone, 'it means just what I choose it to mean—neither more nor less.'

'The question is,' said Alice, 'whether you CAN make words mean so many different things.'

'The question is,' said Humpty Dumpty, 'which is to be master—that's all.'

"Through the looking-glass"
Lewis Carroll

Meaning?



“the thing one intends to convey especially by language” Merriam-Webster

“What is meant by a word, text, concept, or action” Oxford *living* Dictionaries

“The meaning of a word, expression, or gesture is the thing or idea that it refers to or represents and which can be explained using other words”
Collins

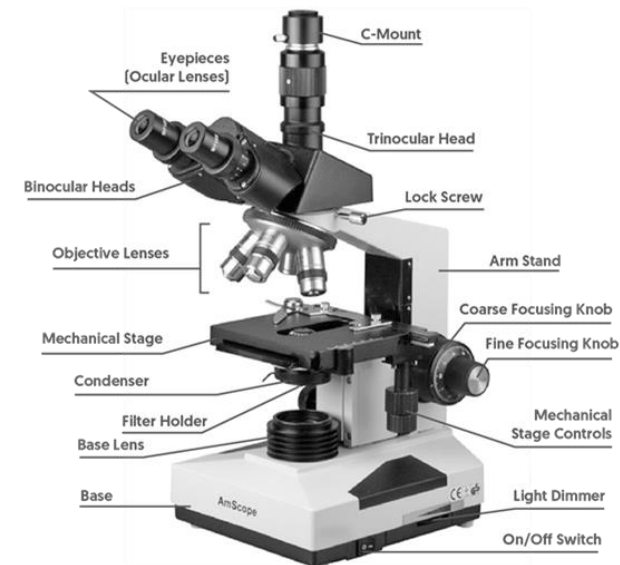
“The meaning of something is what it expresses or represents” Cambridge

What is the meaning of a term?

The concept denoted by the term?
(*definition of name*)

The definition of the concept denoted by the term?
(*definition of thing*)

The meaning of the term in discourse?
(*definition of word*)



2 types of term definition

Lexicographic definition (*definition of word*)

- the definition (meaning, signified) of the term built in discourse?
- standardized signified?
- definition in a natural language of the denoted object?

The History of the Computer Mouse

Today, the mouse is an essential input device for all modern computers but it wasn't so long ago that computers had no mouse and no graphical user interface. Data was entered by typing commands on a keyboard.

The mouse was invented by Douglas Engelbart in 1964 and

consisted of a wooden shell, circuit board and two metal wheels that came into contact with the surface it was being used on.

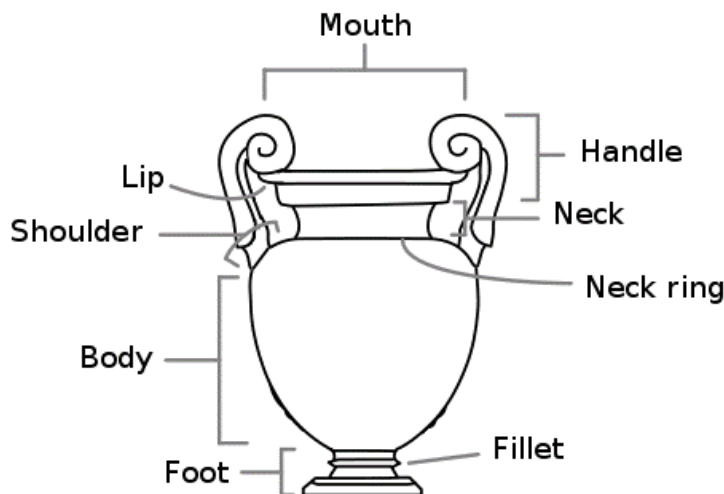
It was 8 years later in 1972 that Bill English developed the design further by inventing what is known as the "Ball Mouse" that we know today. The ball replaced the wheels and was capable of monitoring movement in any direction. The ball came into contact with two rollers that in turn spun wheels with graduations on them that could be turned into electrical pulses representing direction and speed.

At the time Bill English was working for Xerox Parc (Palo Alto Research Centre) the research and development centre set up by Xerox to 'design the future of computing'. The mouse became part of the ground breaking Xerox Alto computer system which was the first minicomputer system to offer a graphical user interface.

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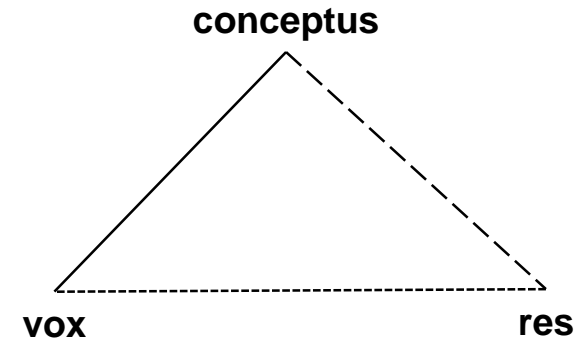
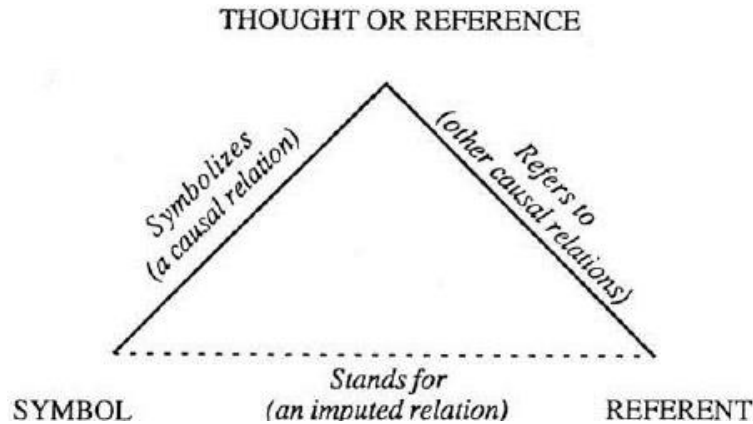
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Terminological definition (*definition of thing*)



The definition of the concept denoted by the term

Semantic Triangles



“The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism”
by C. K. Ogden and I. A. Richards (1923)

scholastic

A **term** is a “verbal designation of a **concept**” ISO 1087-1

Concept?

Concept name *versus* Term ?



Double dimension of Terminology

Terminology

« There is no term without concept »

Linguistic

The History of the Computer Mouse

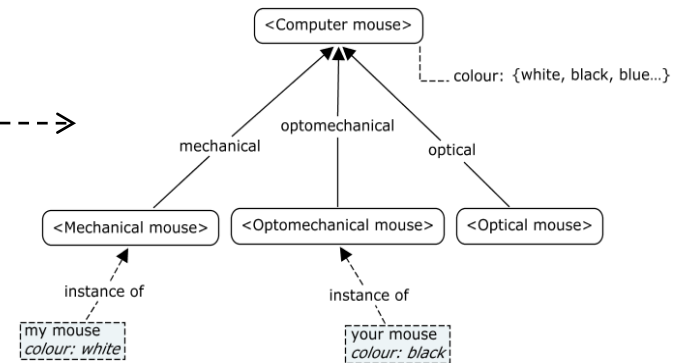
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Conceptual



Which language?

- natural?
- artificial?



Double dimension of Terminology

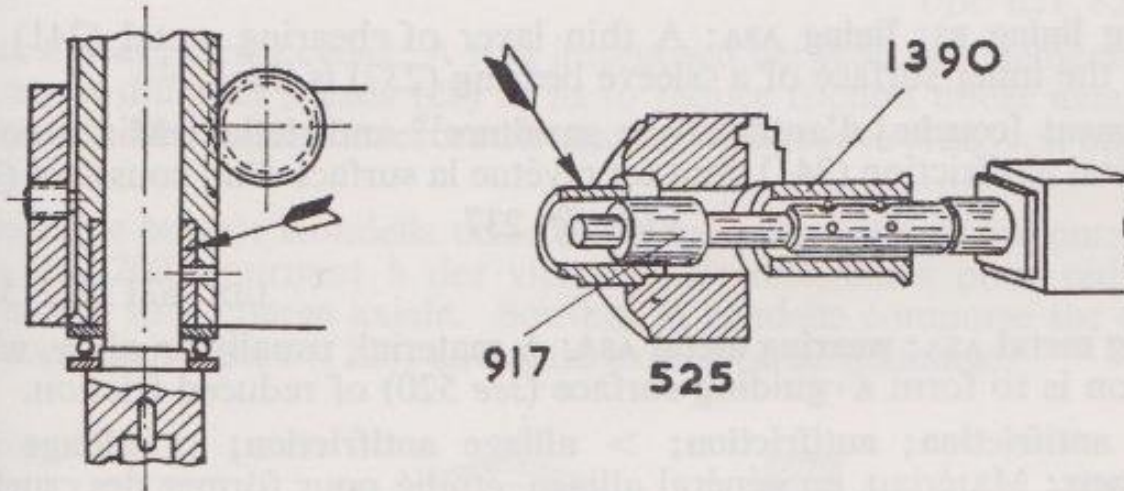
“The Machine Tool: an Interlingual dictionary of basic concepts” *E. Wüster*

236

UDC 621.822.5,1 f1

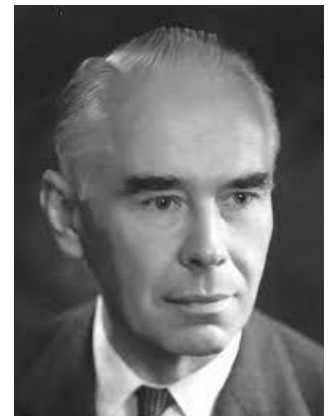
guide bush(ing); guiding bush: A bushing (234) serving as guide (547, 528) for a cylindrical rotary element (209) which is subjected to very small radial stresses.

douille de guidage; manchon pilote; bague de guidage: Coussinet en une pièce (234) servant de guide (547, 528) à un élément (209) cylindrique en rotation et soumis à des efforts radiaux très faibles.



Vide spec. fig. 915

1898-1977

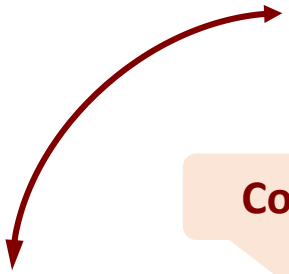


Relationship between Lexical system & Conceptual system

Terms

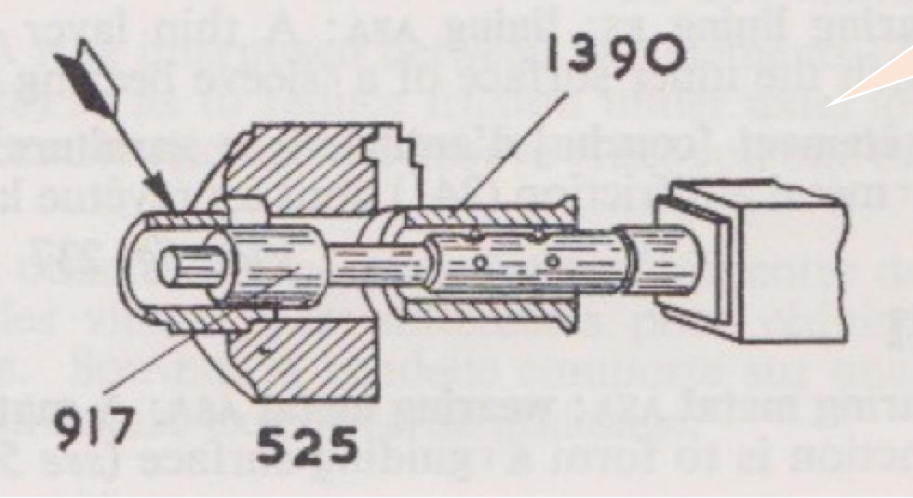
Definition (explanation) of the concept in natural language

guide bush(ing); guiding bush: A bushing (234) serving as guide (547, 528) for a cylindrical rotary element (209) which is subjected to very small radial stresses.



Concept

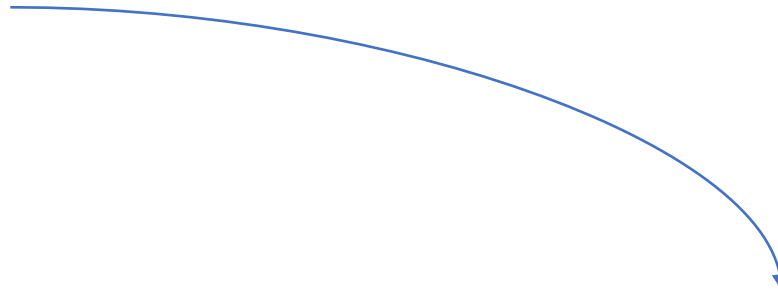
Definition (representation) of the concept in an artificial (formal) language



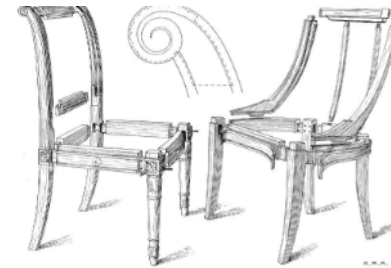
Term

- ✓ A term is a verbal designation of a concept

“chair”



<Seat for one person with feet with back without arm>



concept



Term Meaning

- ✓ The meaning of a term is the definition of the concept denoted by the term

Definition of “definition”?



In which language?

- natural language?
- formal language?

Are languages equivalent?

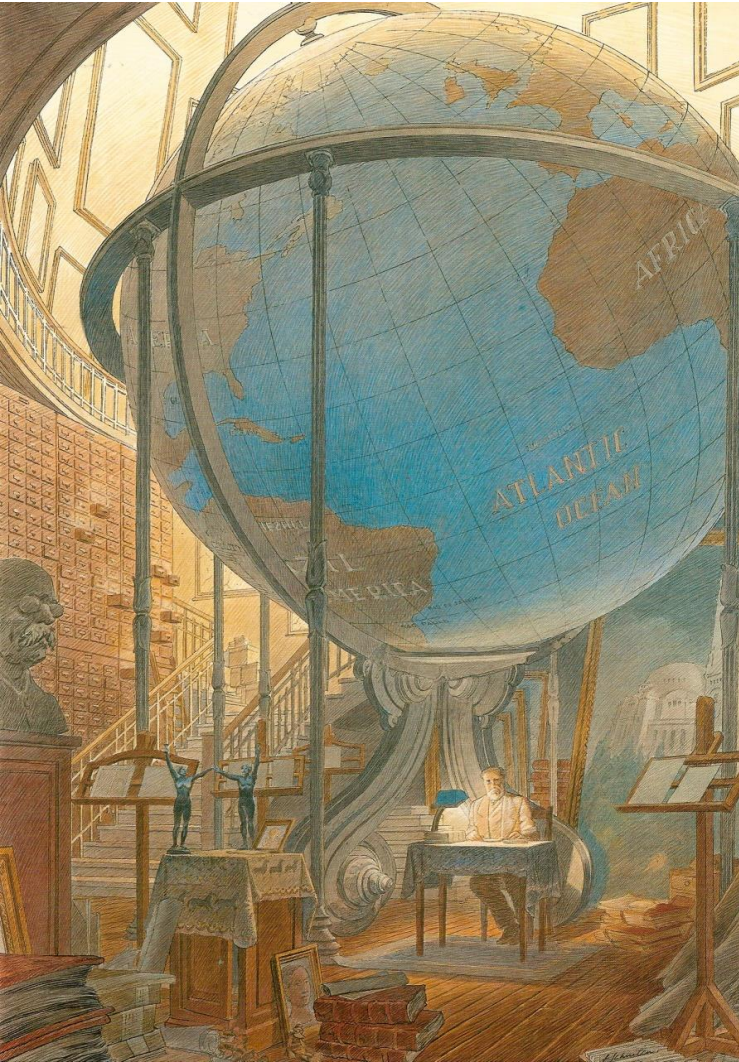
<Seat for one person with feet with back without arm>

::= <Seat> + /for one person/ + /with feet/ + /with back/ + /without arm/

chair: seat for one person with feet with back without arm



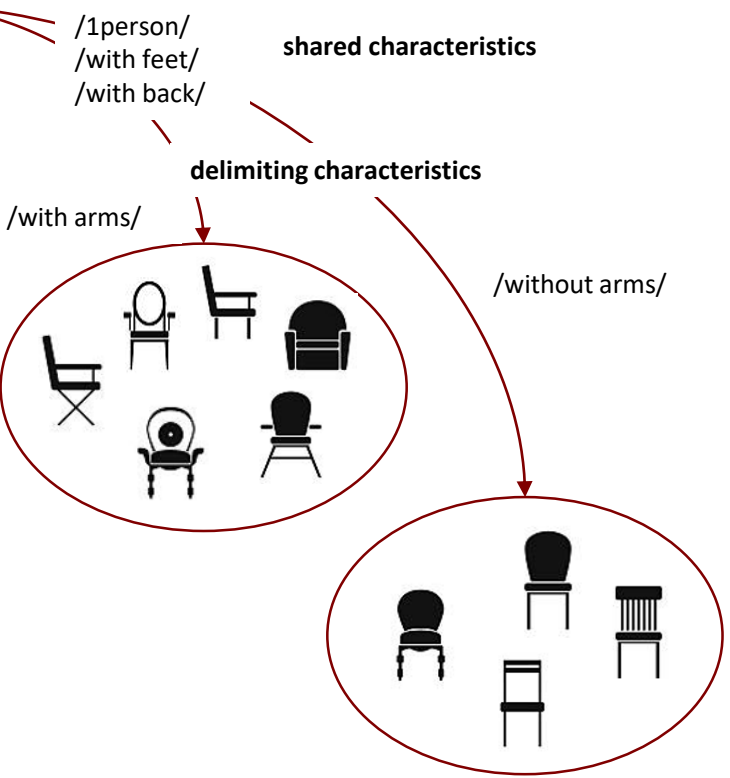
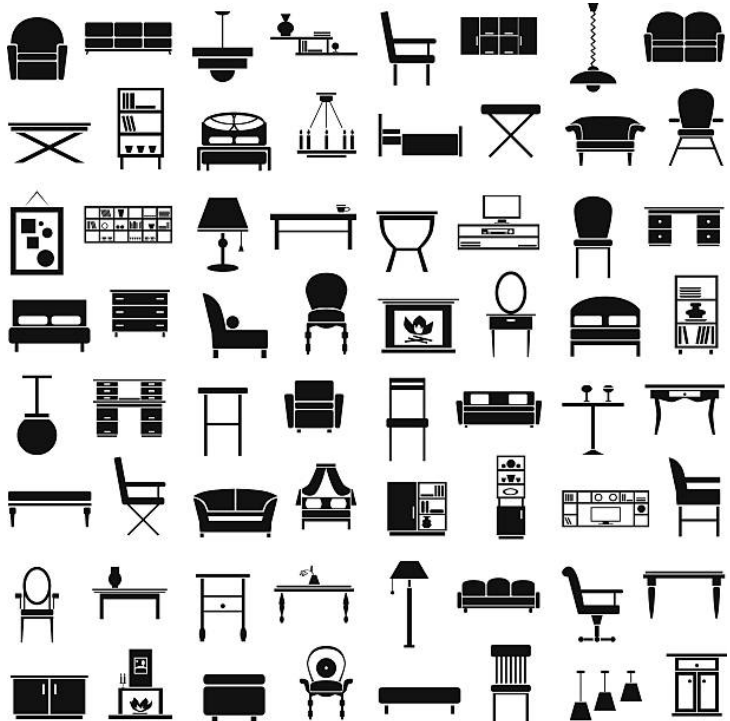
CONCEPTUAL ISSUES



Concept

Concept : Unit of knowledge
about a plurality of things

- ✓ Understanding the World
- ✓ Organizing the objects



Conceptualization

Conceptualize: Form a concept or idea of (something). Oxford Dictionary.

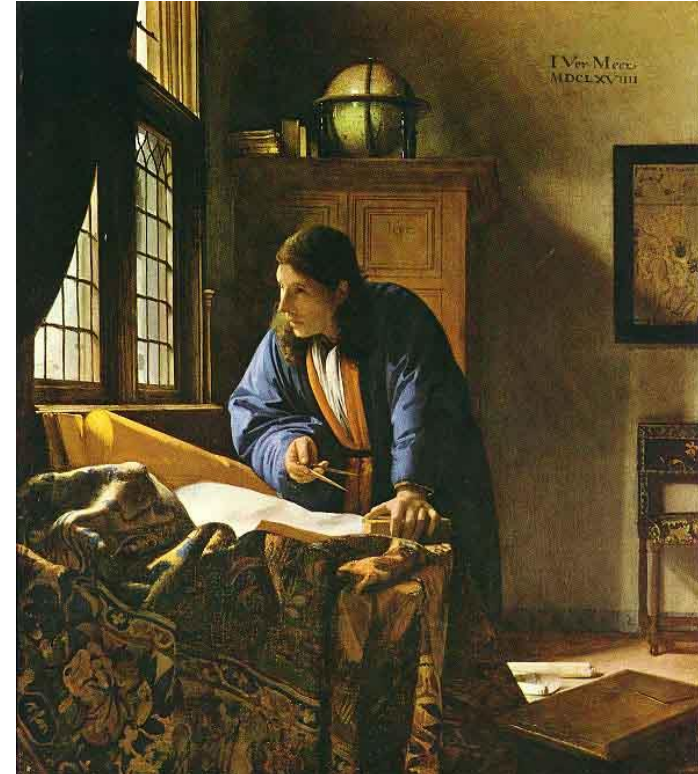
Conceptualize: to form (a concept or concepts) out of observations, experience, data, etc . Collins

- Goals:**
- To *understand* the world
 - To *put in order* the objects which populate the world

Domain



Understanding & Representing

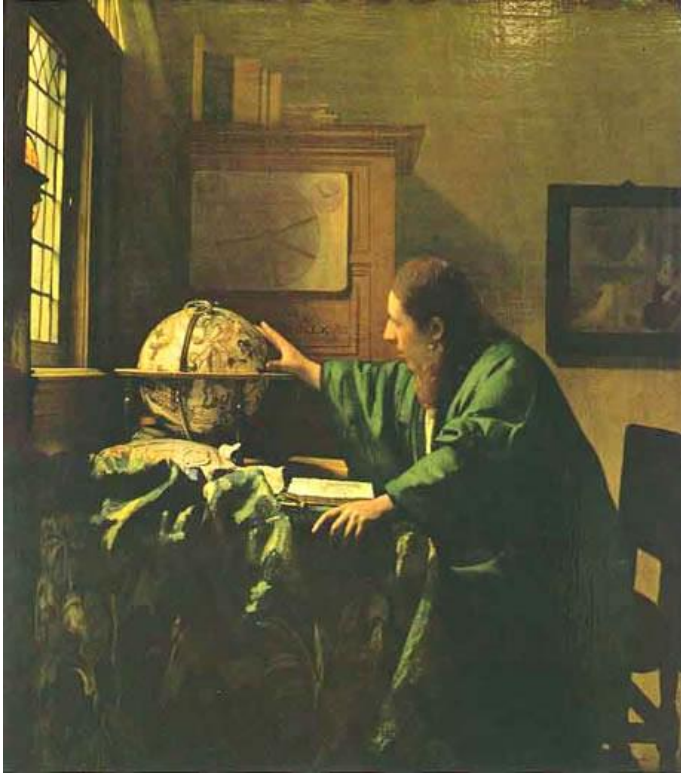


Epistemological Principles



Language of Representation

Understanding



Epistemological Principles

Epistemological Principles

Individual (object, thing)?

Concept?

Nature?

Class?

Property?

Characteristic?

Essential Characteristic?

Descriptive Characteristic?



Conceptual System ?

Categories of Thought

Relations?

- generic/specific
- partitive
- associative



Epistemological Principles



As they are **perceived**

To **describe** objects

As they are **thought**

To **define** concepts

ISO Epistemological Principles

Concept: Unit of knowledge created by a unique combination of characteristics [ISO 1087-1]

Characteristic: abstraction of a property of an object or of a set of objects

Delimiting characteristic: essential characteristic used for distinguishing a concept from related concepts



ISO Epistemological Principles

Relations [ISO 1087-1]

3.2.20

hierarchical relation

relation between two **concepts** (3.2.1) which may be either a **generic relation** (3.2.21) or a **partitive relation** (3.2.22)

3.2.21

generic relation

genus-species relation

relation between two **concepts** (3.2.1) where the **intension** (3.2.9) of one of the concepts includes that of the other concept and at least one additional **delimiting characteristic** (3.2.7)

3.2.22

partitive relation

part-whole relation

relation between two **concepts** (3.2.1) where one of the concepts constitutes the whole and the other concept a part of that whole

3.2.23

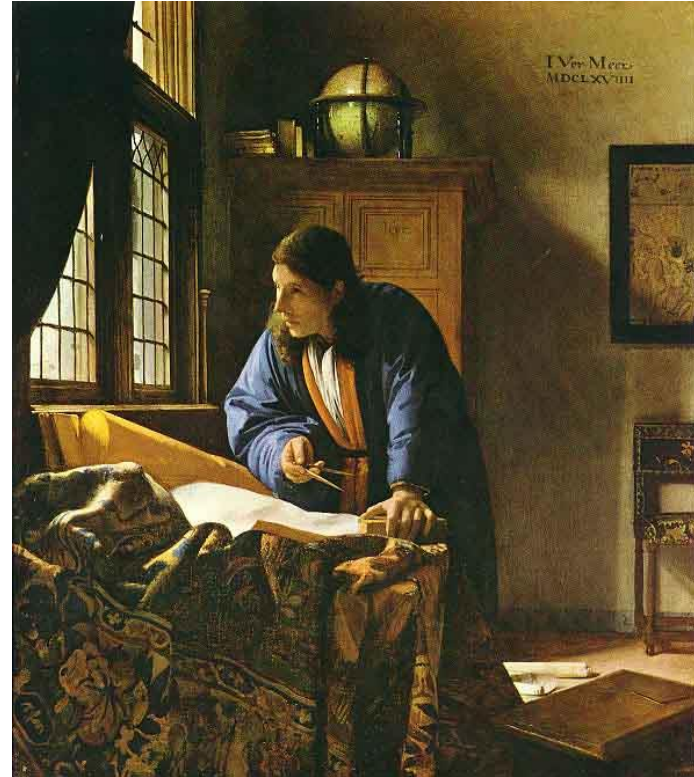
associative relation

pragmatic relation

relation between two **concepts** (3.2.1) having a non-hierarchical thematic connection by virtue of experience



Representing



Language of Representation

Languages of Representation

There is no knowledge without language

☑ Natural Language

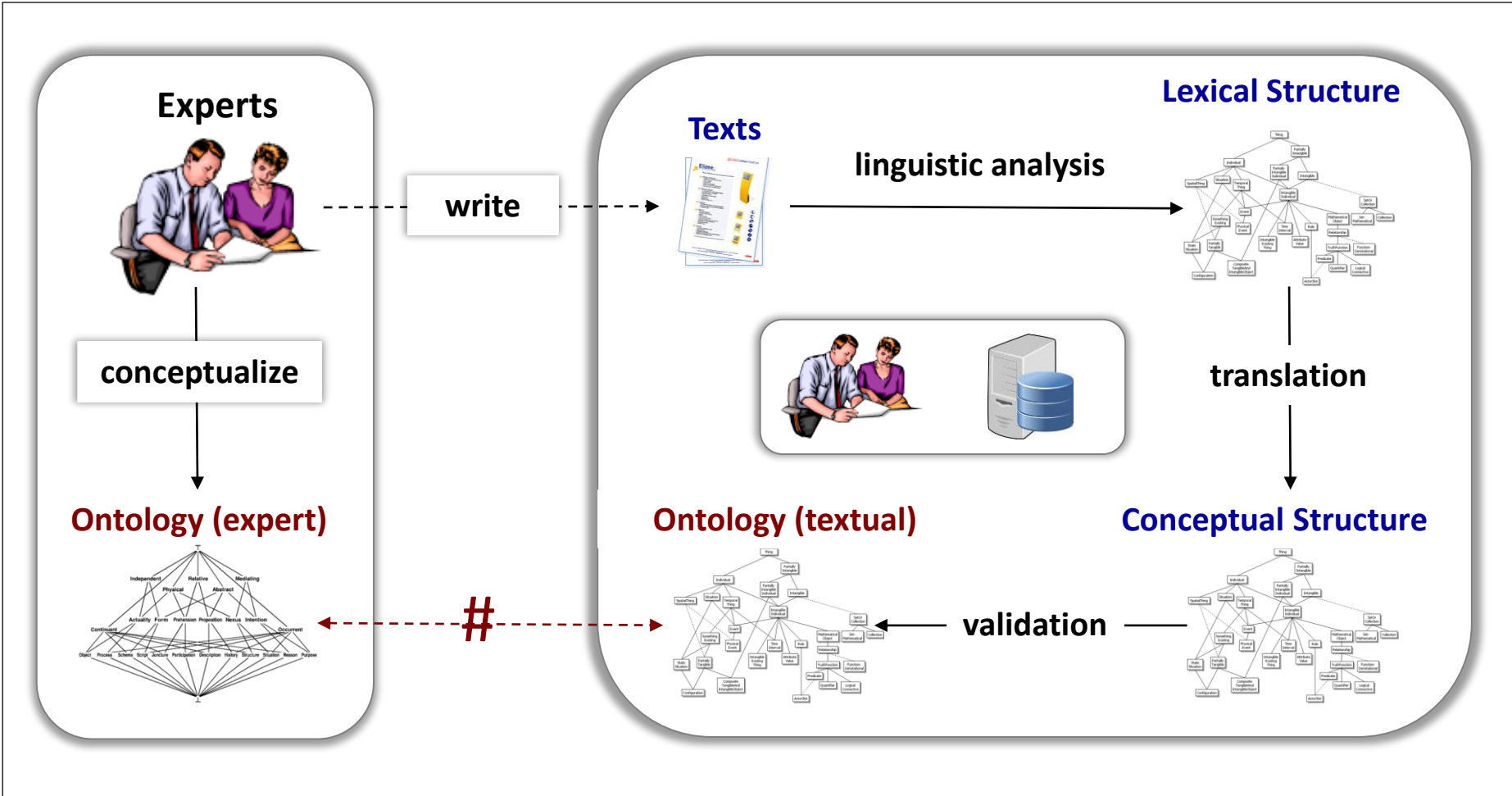
the force of attraction or repulsion acting along a straight line between two electric charges is directly proportional to the product of the charges and inversely to the square of the distance between them

☑ Artificial Languages

$$\vec{F}_{1 \rightarrow 2} = \frac{q_1 q_2}{4\pi\epsilon_0 \|\vec{r}_{12}\|^2} \cdot \frac{\vec{r}_{12}}{\|\vec{r}_{12}\|}$$

Categories of Language

Languages of Representation

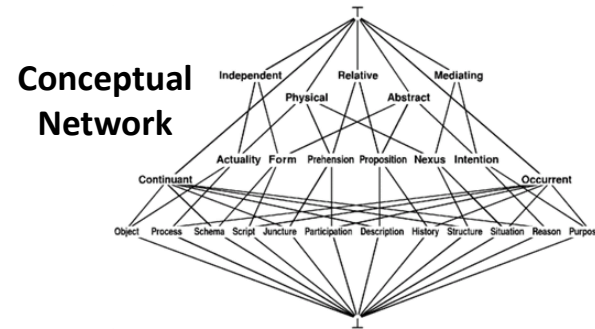
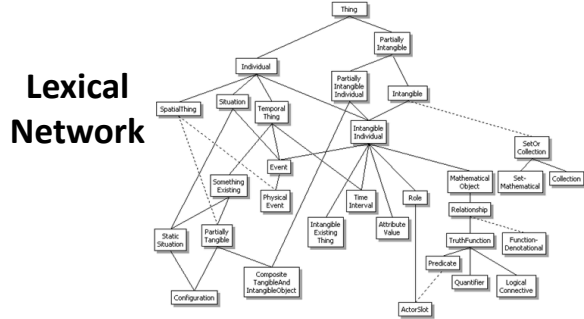
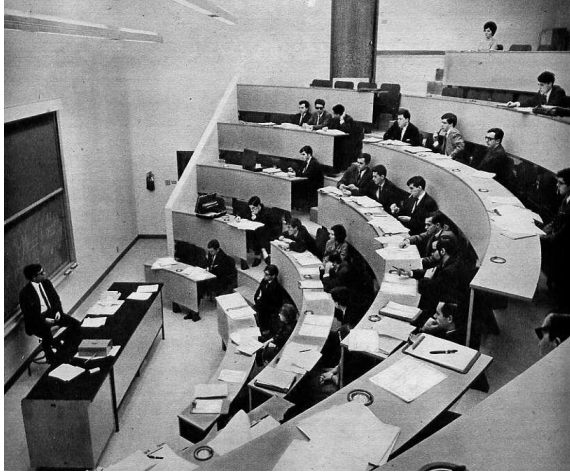


Natural language *versus* Formal languages

Saying

is not

Modelling



☑ 2 different and linked semiotic systems handled by different rules

☑ The lexical structure and the conceptual structure do not match

The discourse on knowledge should not be confused with knowledge itself

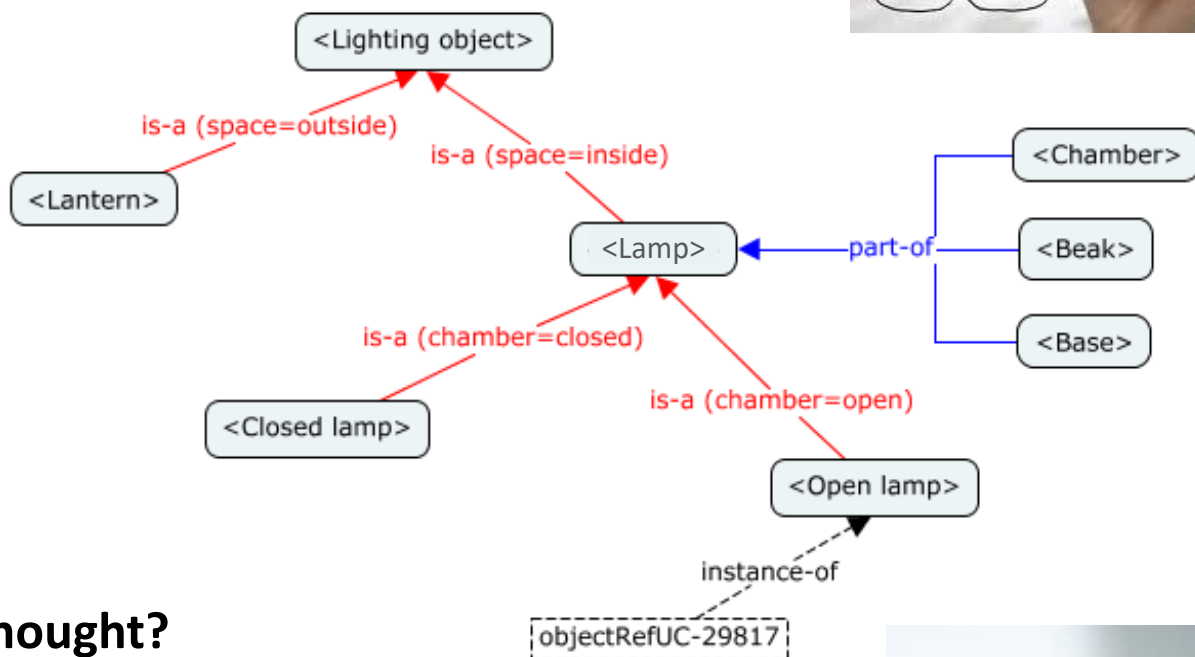
Graphical Notation



✓ Easy to use

✓ Human Readable

✓ Semi-Formal



- Categories of thought?
- Methodology?
- Coherency?
- Operationalization?

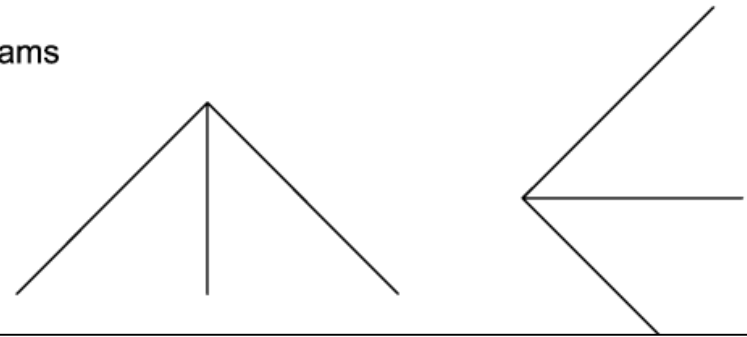


Graphical Notation

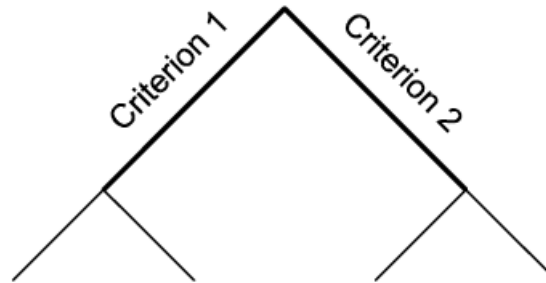
ISO Graphical Notation

[ISO 1087-1]
[ISO 704]

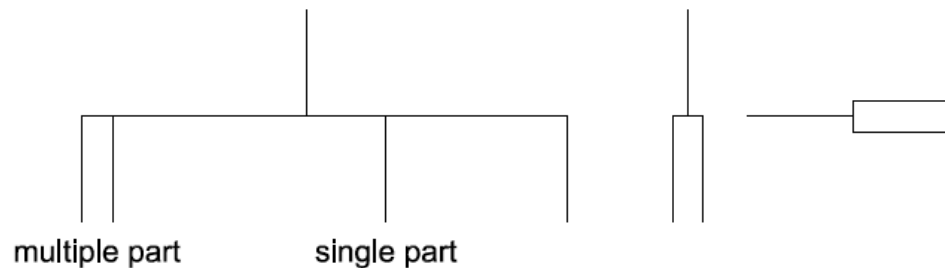
Generic relations
are represented by tree diagrams



Multidimensional subdivision:
criteria of subdivisions
are represented by thicker lines

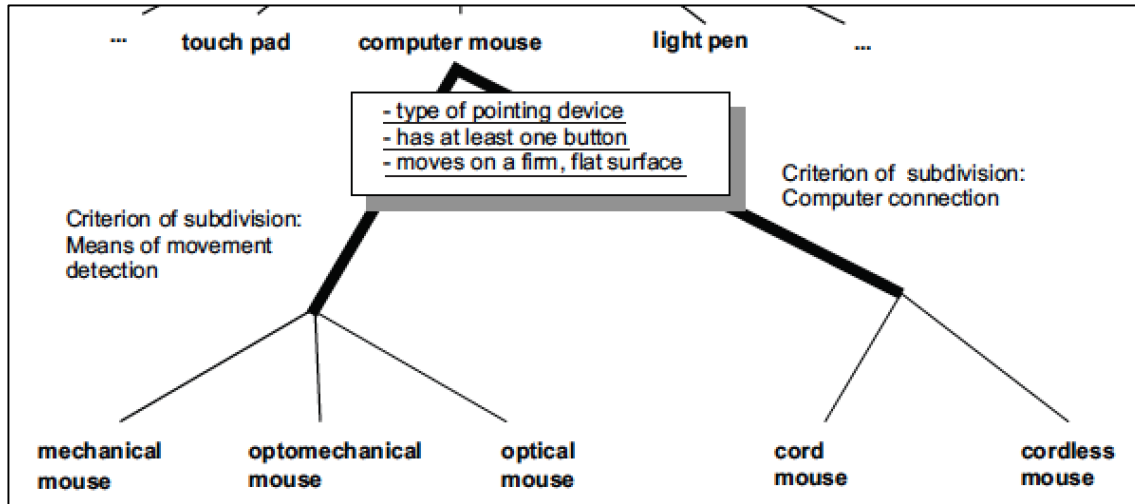


Partitive relations
are represented by rake diagrams



Graphical Notation

ISO 704



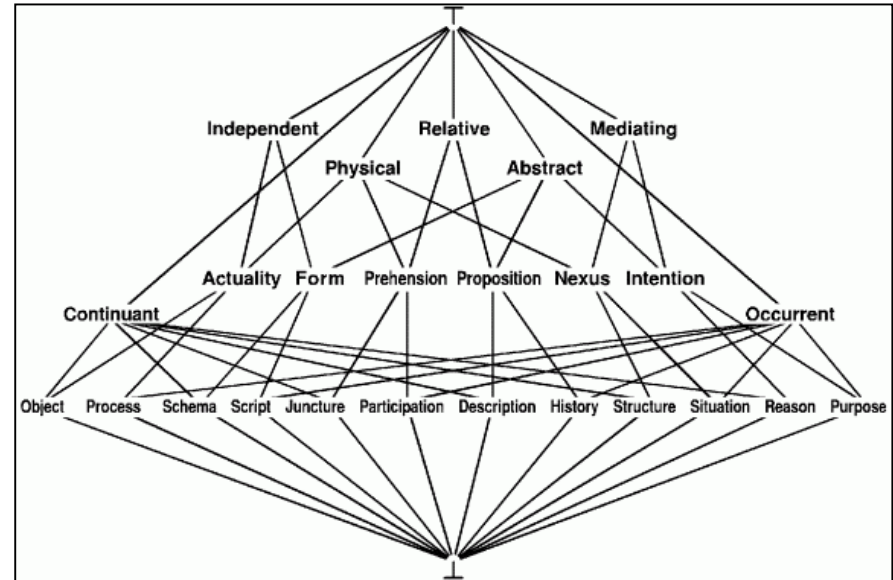
ISO 24156-1: Graphic notations for concept modelling in terminology work
Part 1: Guidelines for using UML notation in terminology work



Formal Language

Syntax and Semantics:

- ✓ Clear
- ✓ Precise
- ✓ Formally specified



➔ Properties of Axiomatic System

Definitions are:

- Objective
- Coherent
- Precise
- Consensual
- Reusable
- Sharable
- Readable (for an expert)

Artificial Intelligence

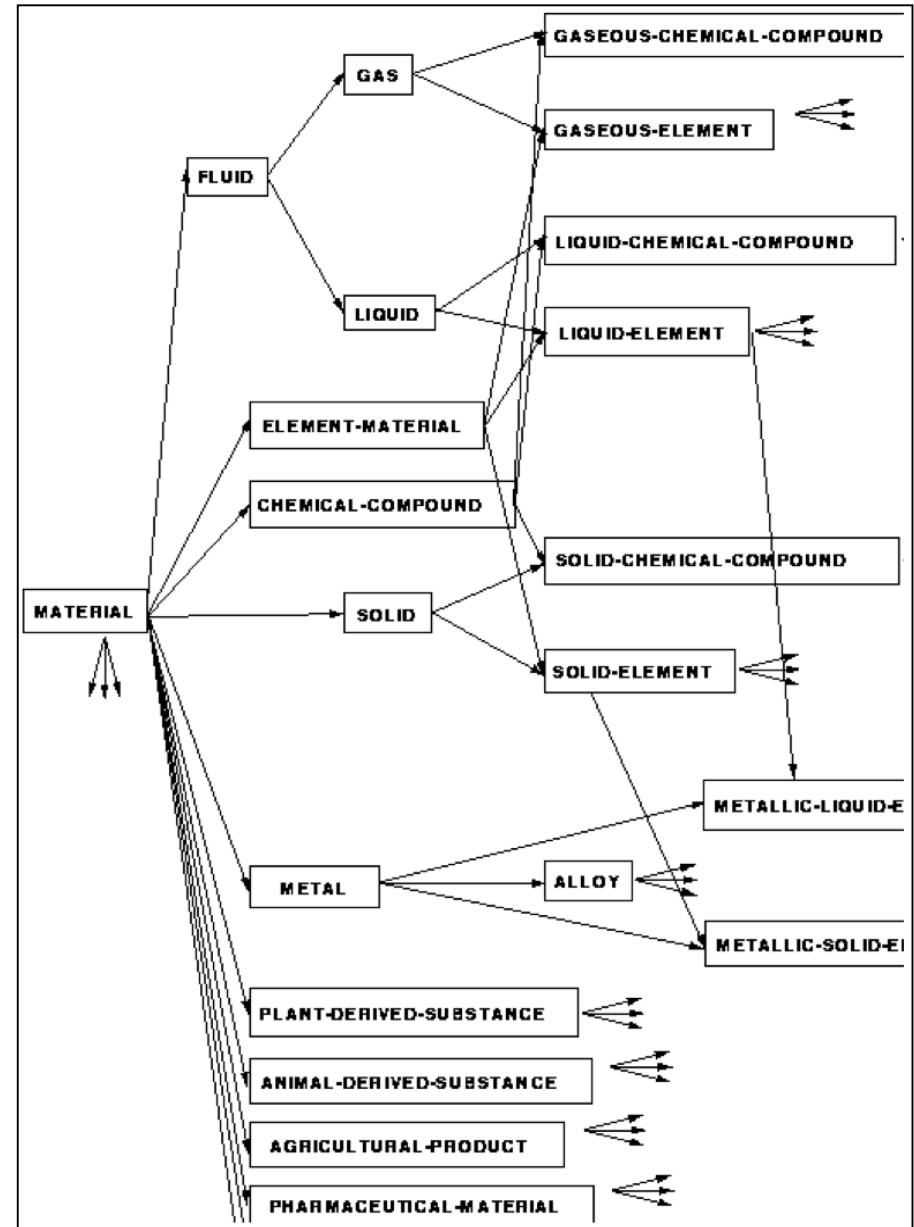
Schema (Frame) - Minsky

Define the **object structure**

A **class** is defined as a set of **slots** with **values**

(defun-class lamp
 (is-a 'lighting-object)
 (space 'inside)
 (has-part 'chamber 'beak 'base))

Clear, powerful, readable both by human
and computer



Logic

A concept is a well formed formula

Definition:

$\text{Pocket-Watch}(x) ::= \text{Time-Piece}(x) \wedge \text{Portable}(x) \wedge \text{Pocket}(x)$

Properties:

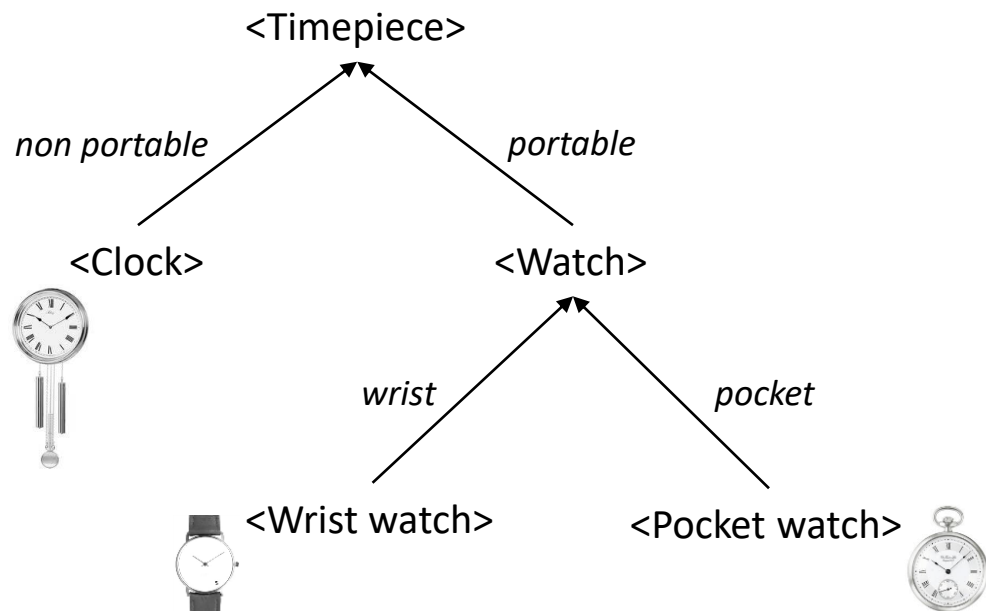
$\models \neg (\text{Pocket}(x) \wedge \text{Wrist}(x))$

Reasoning:

$\text{Portable}(x) \rightarrow (\text{Wrist-Watch}(x) \vee \text{Pocket-Watch}(x))$

Computer readable:

Description Logic



Logic is necessary

Which Language?

X The expression of knowledge is limited to the well formed formulas of the theory

X The formal languages **are not** equivalent

The Sapir-Whorf's hypothesis is true for all languages

- *Power of expression : categories of thought supported by the categories of the language*
- *Logical Properties*
- *Operationalization*

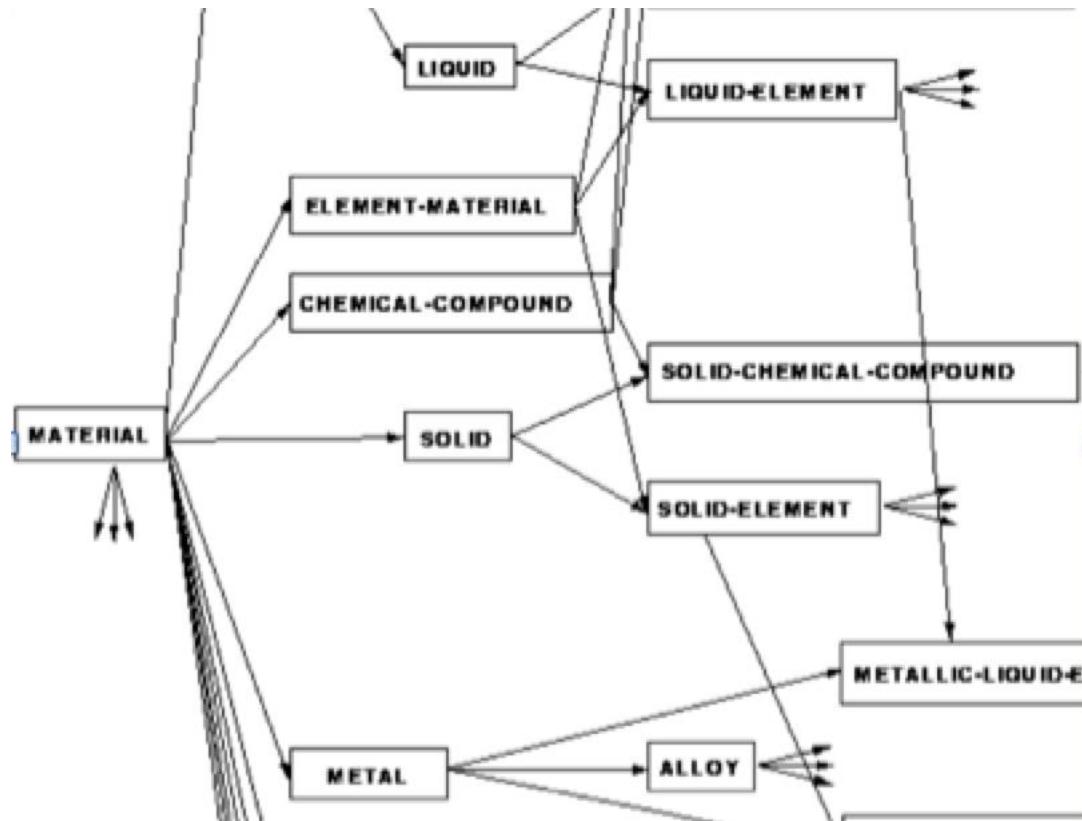
Which Language?

Epistemological Problems

X Logic

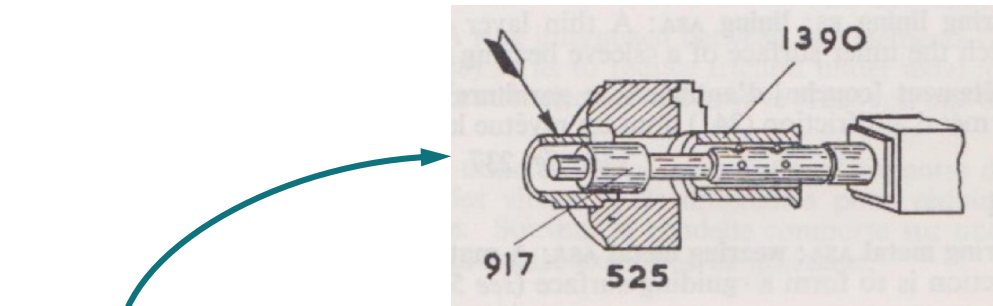
Man(x), Reasonable (x), Sick(x)

X Frame Languages



Which Language?

- ☞ Use a language whose categories of language support the categories of thought
- ☞ Use a formal and computer-readable language



Interest?

- ✓ Objective definitions
- ✓ Constructive definitions
- ✓ Operationalization



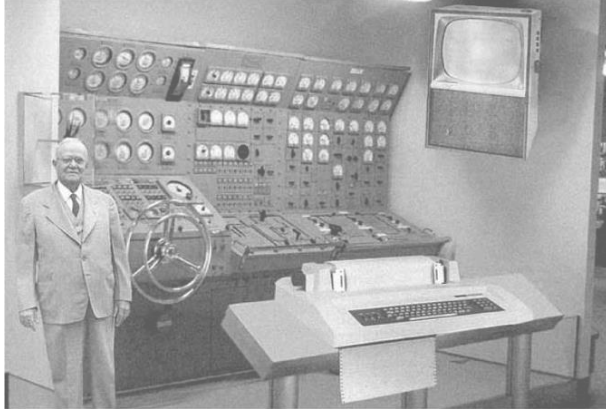
➔ **Ontology** 

ONTOLOGY



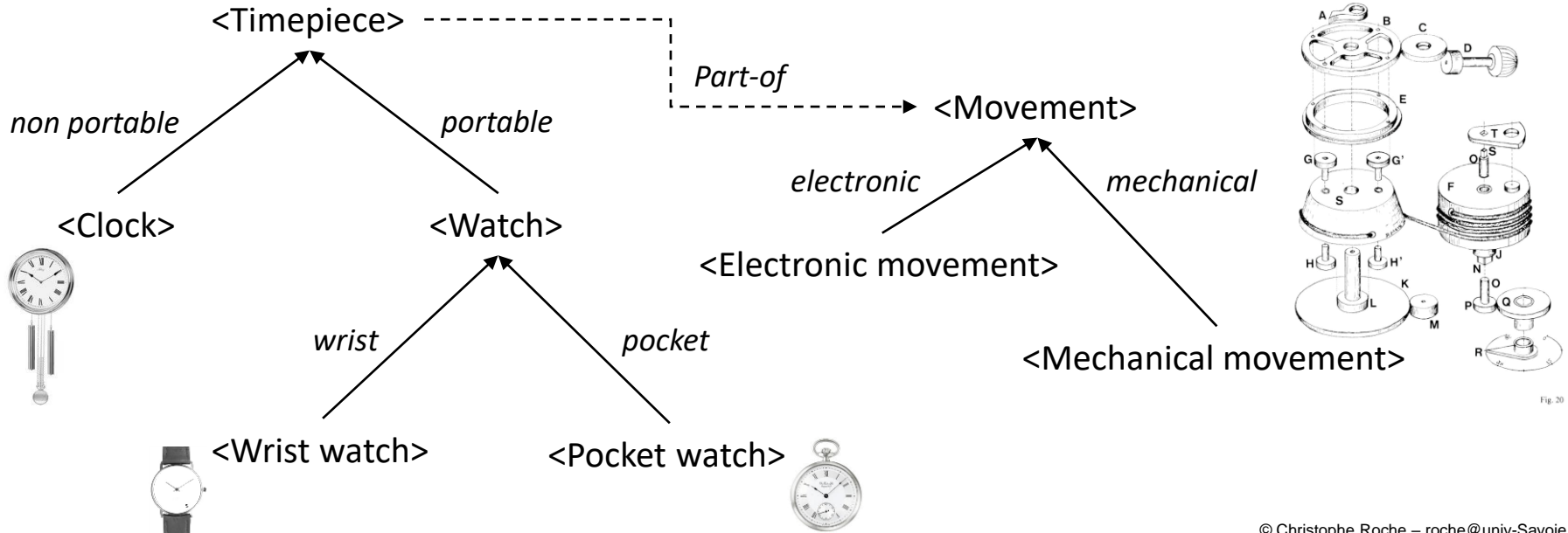
Ontology

Knowledge Engineering



“A specification of a conceptualization” T. Gruber

A definition in a **formal** and **computer readable language** of a set of **concepts** and of their **relationships**



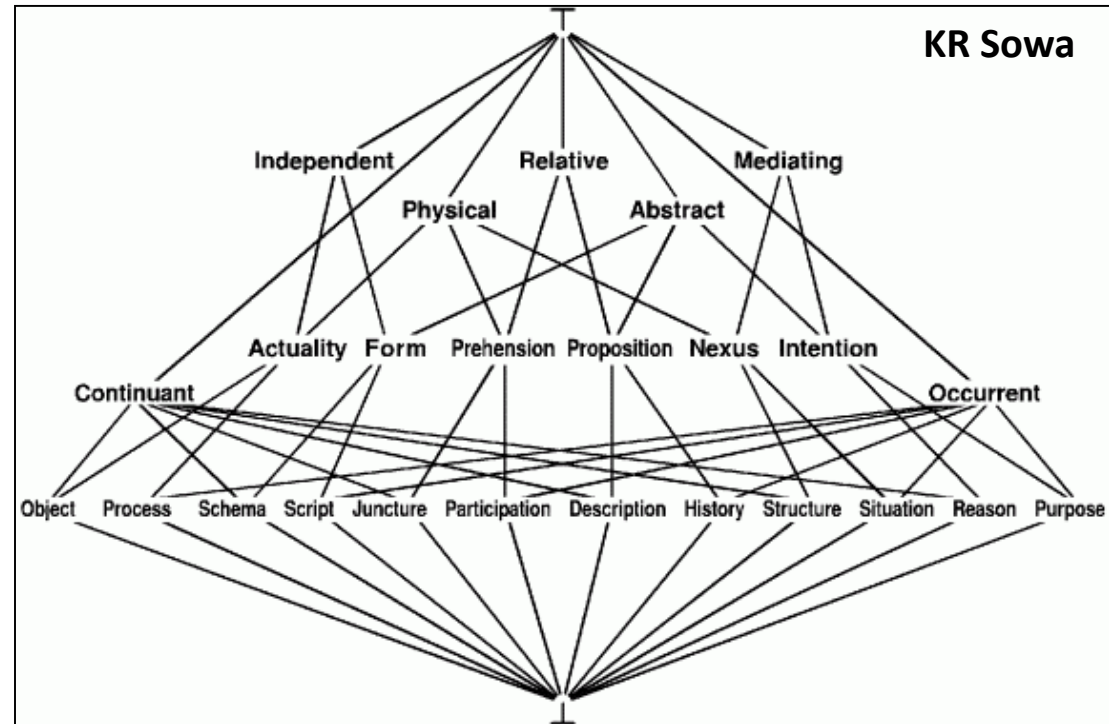
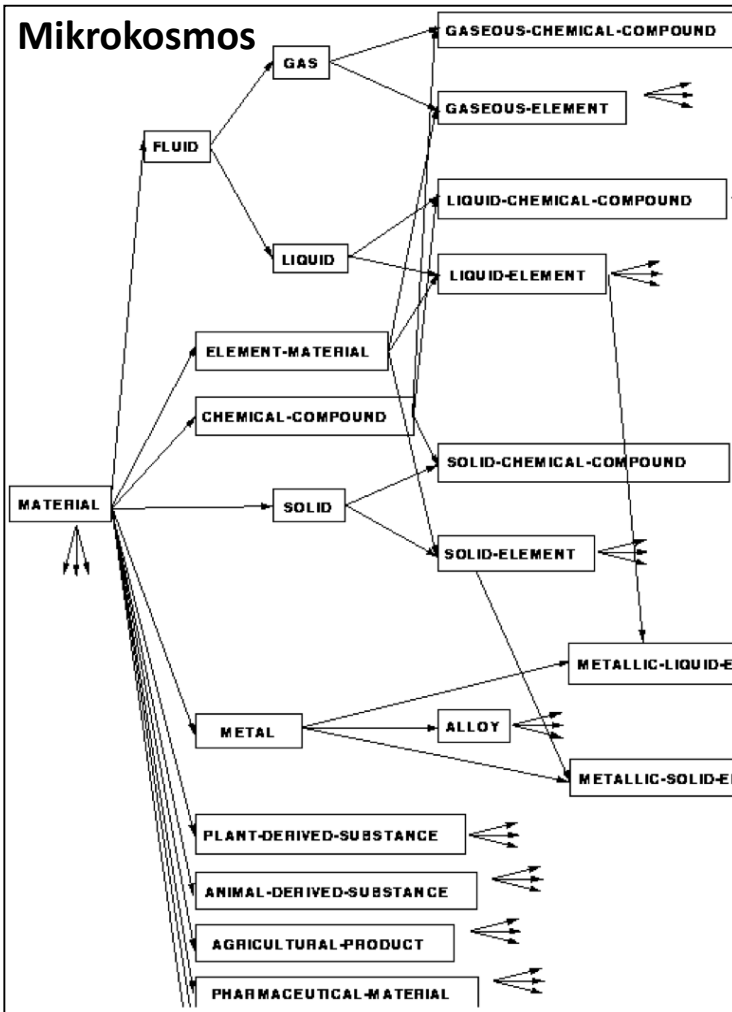
Operational Language



IT Applications of Terminology:

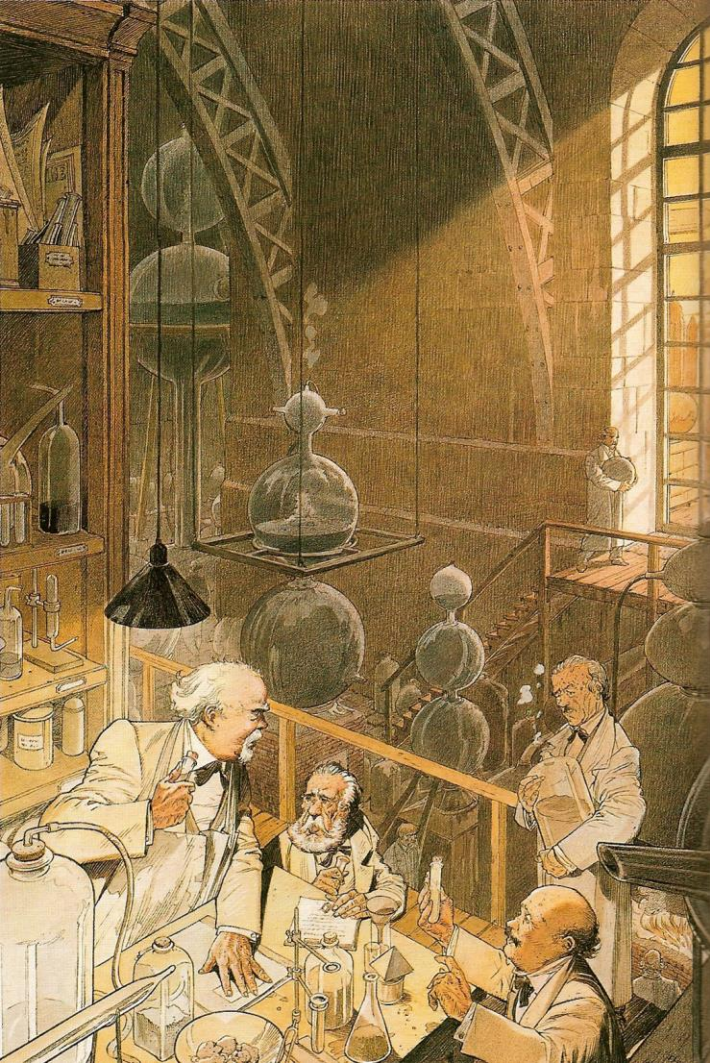
- ✓ Semantic (Multilingual) Search Engine
- ✓ (Multilingual) Content Management Systems
- ✓ (Multilingual) Specialized Encyclopedias
- ✓ Knowledge Capitalization
- ✓ Semantic web

Ontology



$$\text{form}(x) = \text{independent}(x) \wedge \text{abstract}(x)$$

ONTOTERMINOLOGY



Ontology + Terminology

Terminology

« There is no term without concept »

Linguistic

Conceptual

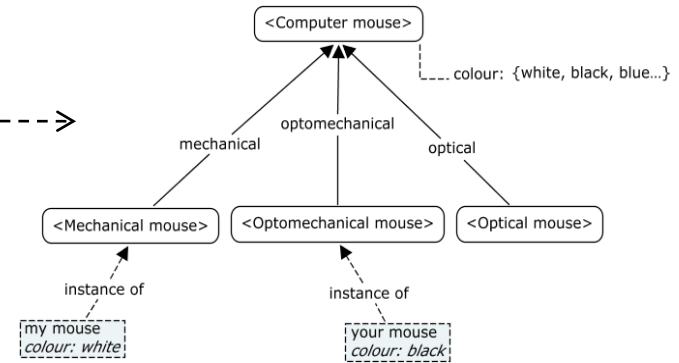
The History of the Computer Mouse

Today, the mouse is an essential input device for all modern computers but it wasn't so long ago that computers had no mouse and no graphical user interface. Data was entered by typing commands on a keyboard.

The mouse was invented by Douglas Engelbart in 1964 and consisted of a wooden shell, circuit board and two metal wheels that came into contact with the surface it was being used on.

It was 8 years later in 1972 that Bill English developed the design further by inventing what is known as the "Ball Mouse" that we know today. The ball replaced the wheels and was capable of monitoring movement in any direction. The ball came into contact with two rollers that in turn spun wheels with graduations on them that could be turned into electrical pulses representing direction and speed.

At the time Bill English was working for Xerox Parc (Palo Alto Research Centre) the research and development centre set-up by Xerox to 'design the future of computing'. The mouse became part of the ground breaking Xerox Alto computer system which was the first minicomputer system to offer a graphical user interface.



Ontology



Ontology + Terminology

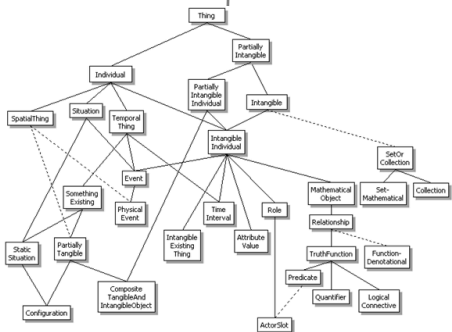
Ontoterminology: a terminology whose conceptual system is a formal ontology

- multilingualism
- linguistic diversity

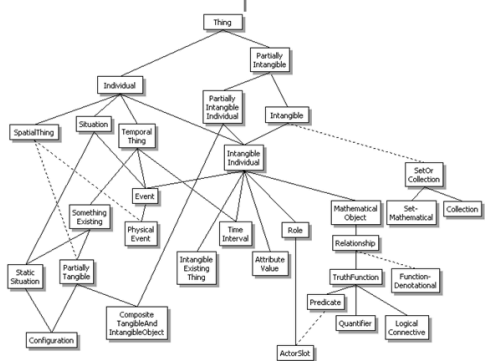
Ontology



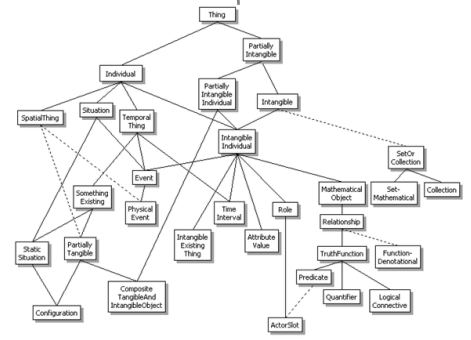
Linguistic network



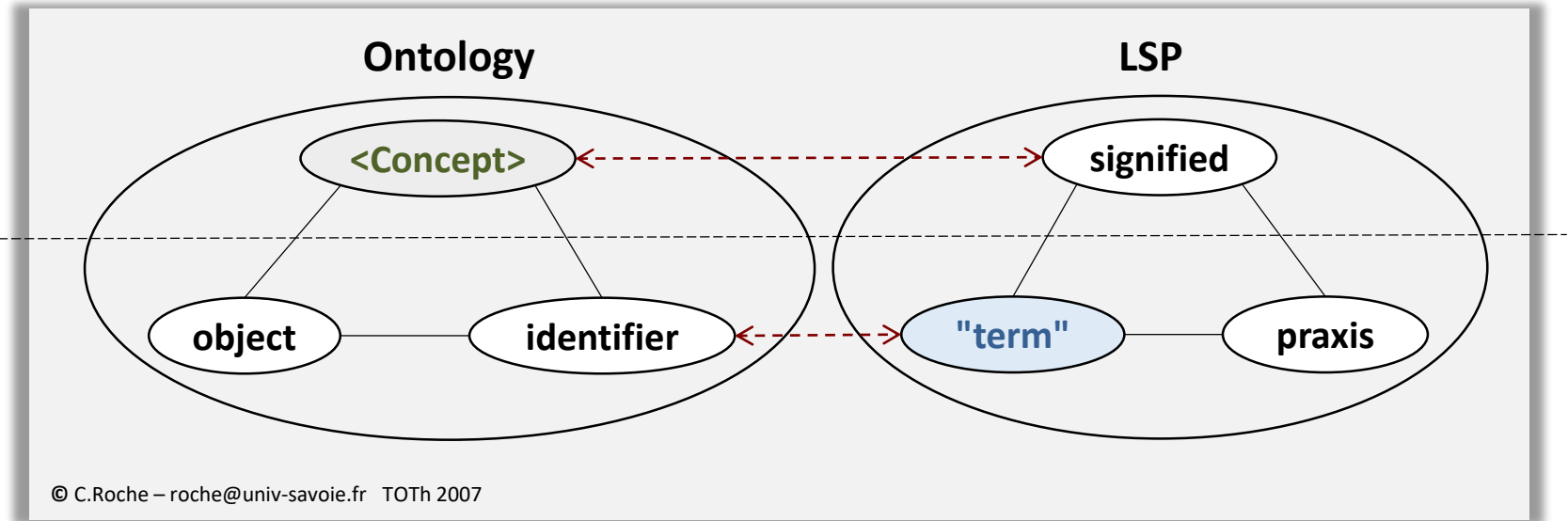
Linguistic network



Linguistic network



Double Semantic Triangle



➔ a **signified** is not a **concept**

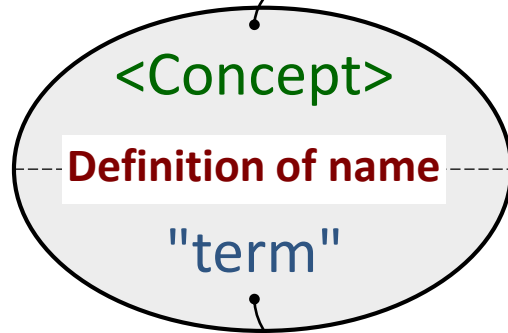
➔ a **term** (designation, signifier) is not the identifier of the concept (**concept name**)

A term is given

A concept name is built: Chinese is a suitable language for building neoterms

Ontoterminology

Ontoterm



Definition of thing (concept)

- ontological
- formal
- constructive (operationalization)

Definition of word (term)

- explanation in natural language
- connotative information

Ontoterminology

« Ontoterminology **standardizes** the only thing that can be standardized, namely **knowledge** of the field, and **preserves** what must be preserved, namely **linguistic diversity** »

« If a **conceptualization** is **worded** in **natural language**, it is **defined** in a **formal language** guided by **epistemological principles** »

CONCLUSION

There is no Terminology without a Concept Theory

- ✓ **Essential Characteristic**
- ✓ **Descriptive Characteristic**
- ✓ **Concept: combination of essential characteristics**
- ✓ **Relation**

CONCLUSION

How to represent essential characteristic in an A.I. language?

```
(defun-class class  
  (slot value)  
  (slot value)  
  ... )
```

```
(defun-class lamp  
  (is-a 'lighting-object)  
  (space 'inside)  
  (has-part '(chamber 'beak 'base)) ...)
```

1

```
(defun-class lamp  
  (is-a 'lighting-object)  
  (essential-characteristic-list '(inside)  
  (has-part '(chamber 'beak 'base)) ...)
```

2



CONCLUSION

How to represent essential characteristic in a Logic language (Protégé)?

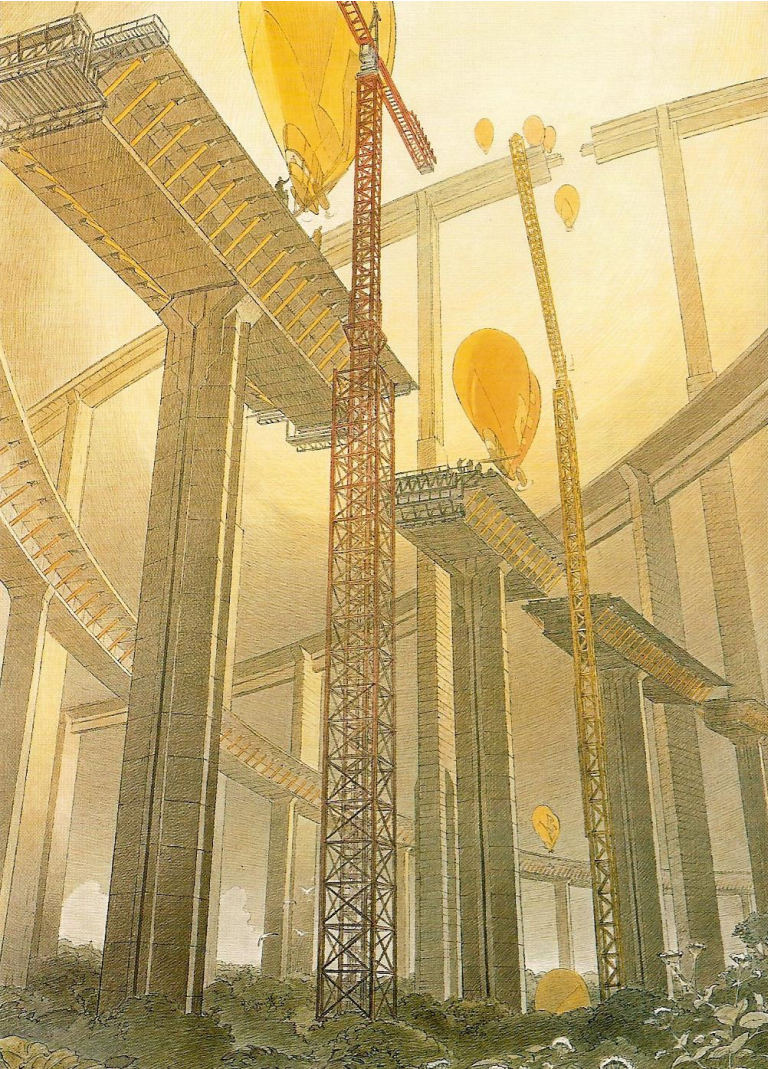
$\text{Lamp}(x) ::= \text{LightingObject}(x) \wedge \text{InsideSpace}(x)$

$\text{Lamp}(x) \rightarrow \exists y,z,t / \text{Chamber}(y) \wedge \text{HasPart}(x,y) \wedge \dots$



- Essential characteristic == Class
- Essential characteristic == individual

Onto-Terminology: Theory & Practice



Part 2: Practice

- Environments:
CmapTools, Protégé, Tedi
- Example

Example

Terminology of seats

椅子

armchair

fauteuil

扶手椅



chaise



chair



stool

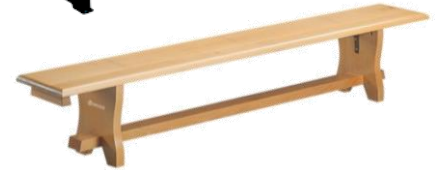
tabouret



bench

长凳

banc



pouf

canapé

长椅



couch



Example

Definition of:

- “chaise” in French
- “chair” in English
- “椅子” in Chinese

Translations

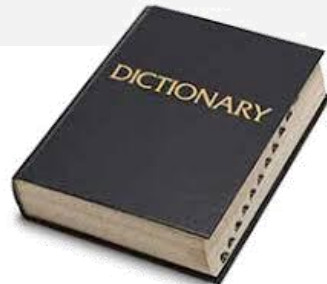


Example

Definition of: - “chaise” ? French
- “chair” ? English
- “椅子” ? Chinese

chair:

- A separate seat for one person, typically with a back and four legs (<https://en.oxforddictionaries.com/>)
- A chair is a piece of furniture for one person to sit on. Chairs have a back and four legs (<https://www.collinsdictionary.com/>).
- a piece of furniture for one person to sit on, with a back, legs, and sometimes two arms (<https://www.macmillandictionary.com/>)
- a seat for one person, with a support for the back (WordNet)



Example

Definition of: - “chaise” ? French
- “chair” ? English
- “椅子” ? Chinese

chaise:

- siège à dossier et généralement sans bras.

Le **T**résor
de la **L**angue
Française
informatisé



Example

Definition of: - “chaise” ? French
- “chair” ? English
- “椅子” ? Chinese

椅子:

- 椅，无靠背的称为櫈，是一件用來坐的傢具，為腳物家具的一種，一般包括一個座位、椅背，有時還包括扶手，通常會有椅腳使座位高於地面。当椅子坐久后坐墊便会熱。



紫檀圈椅（一对）

明晚期

Red Sandalwood Round-backed Armchairs Carved with Flowers (Pair)

Late Ming dynasty



Example

Definition of: - “chaise” ? French
- “chair” ? English
- “椅子” ? Chinese



Terminology: the **definition of a term** is the **definition of the concept** denoted by the term expressed in a **natural language**

How to **define the concepts** denoted by the terms “seat”, “chair”, “armchair”, “bench”, etc. ?

Theory of Concept for Terminology (C.T.T)



What is (are) the difference(s) between:

- a *chair* and a *armchair* ?
- a *chair* and a *bench* ?
- a *couch* and a *bench* with back and arms ?
- ...

Array of Differences

Essential characteristics:

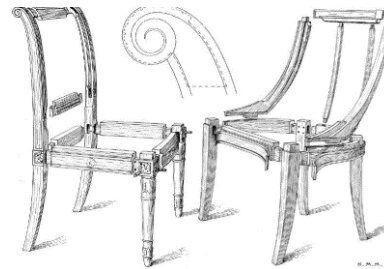
- /one person/ or /several persons/
- /with feet/ or /without feet/
- /with back /or /without back/
- /with arms/ or /without arms/
- /for interior/ or /for exterior/
- /comfortable/ or /not comfortable/

Descriptive characteristics:

- material
- colour
- weight

Parts of :

- arm
- feet
- back

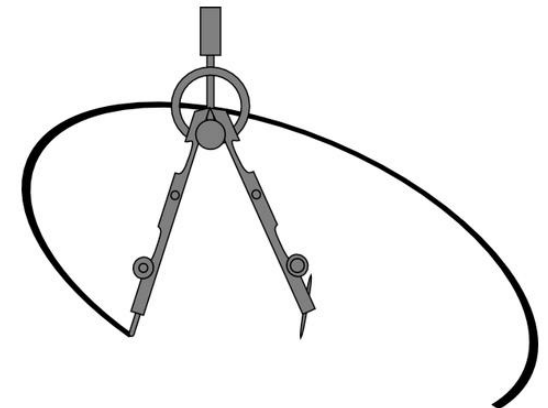
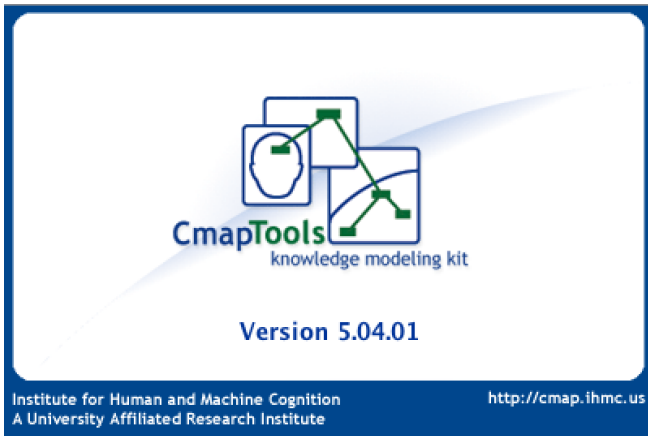


Properties:

- no arms without back



Tools & Environments



<http://cmap.ihmc.us/>

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RESEARCH CMAPTOOLS PEOPLE ABOUT OUTREACH

The Institute for Human & Machine Cognition (IHMC) pioneers technologies aimed at leveraging and extending human capabilities. Explore our research areas to see what we're doing.

FEATURED RESEARCH

Human-Machine Communication & Language Processing

Computational & Philosophical Foundations

Intentions, Beliefs & Trust



Concept maps are graphical tools for organizing and representing knowledge. They include **concepts**, usually enclosed in circles or boxes of some type, and **relationships** between concepts indicated by a connecting line linking two concepts. Words on the line, referred to as linking words or linking phrases, specify the relationship between the two concepts. (<http://cmap.ihmc.us/docs/theory-of-concept-maps.php>)

Cmap software is a result of research conducted at the Florida Institute for Human & Machine Cognition (IHMC). It empowers users to construct, navigate, share and criticize knowledge models represented as concept maps.

Concept maps are graphical tools for organizing and representing knowledge. They include concepts, usually enclosed in circles or boxes of some type, and relationships between concepts indicated by a connecting line linking two concepts.





✓ Epistemological Principles

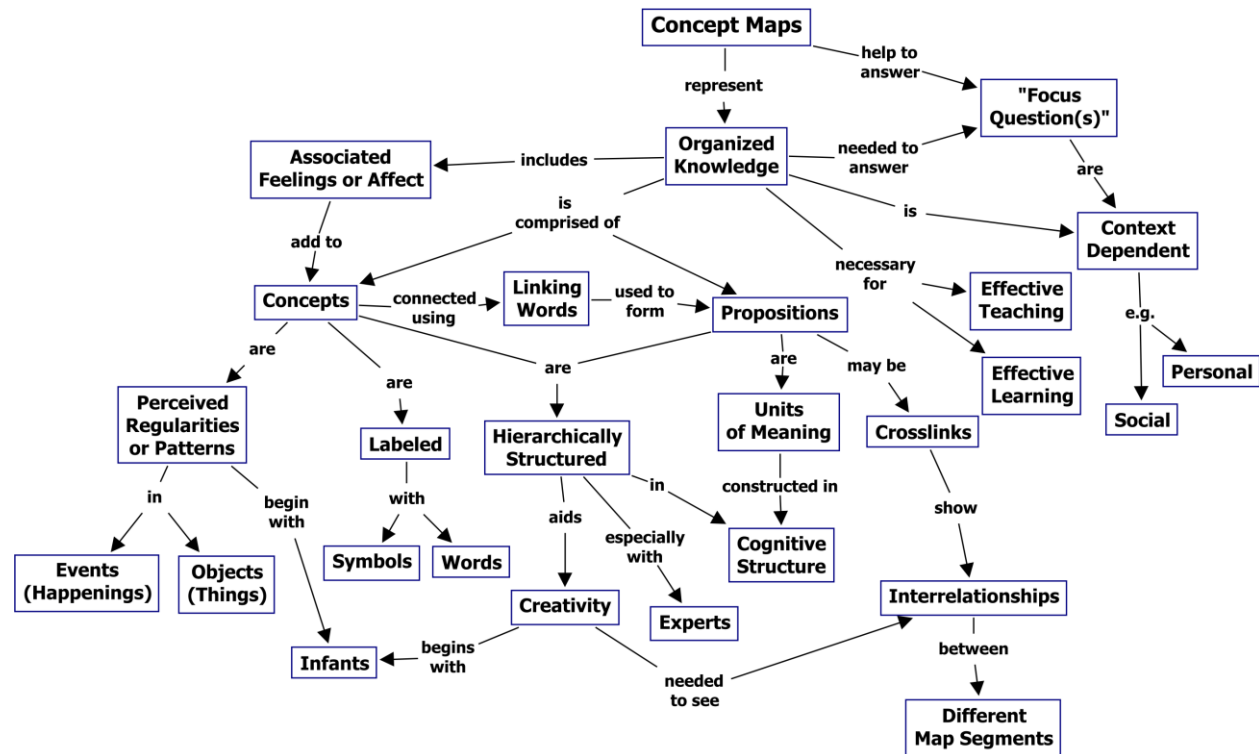
Concept: *Concept as a perceived regularity in events or objects, or records of events or objects, designated by a label.*

Proposition: *Propositions are statements about some object or event in the universe, either naturally occurring or constructed. Propositions contain two or more concepts connected using linking words or phrases to form a meaningful statement.*

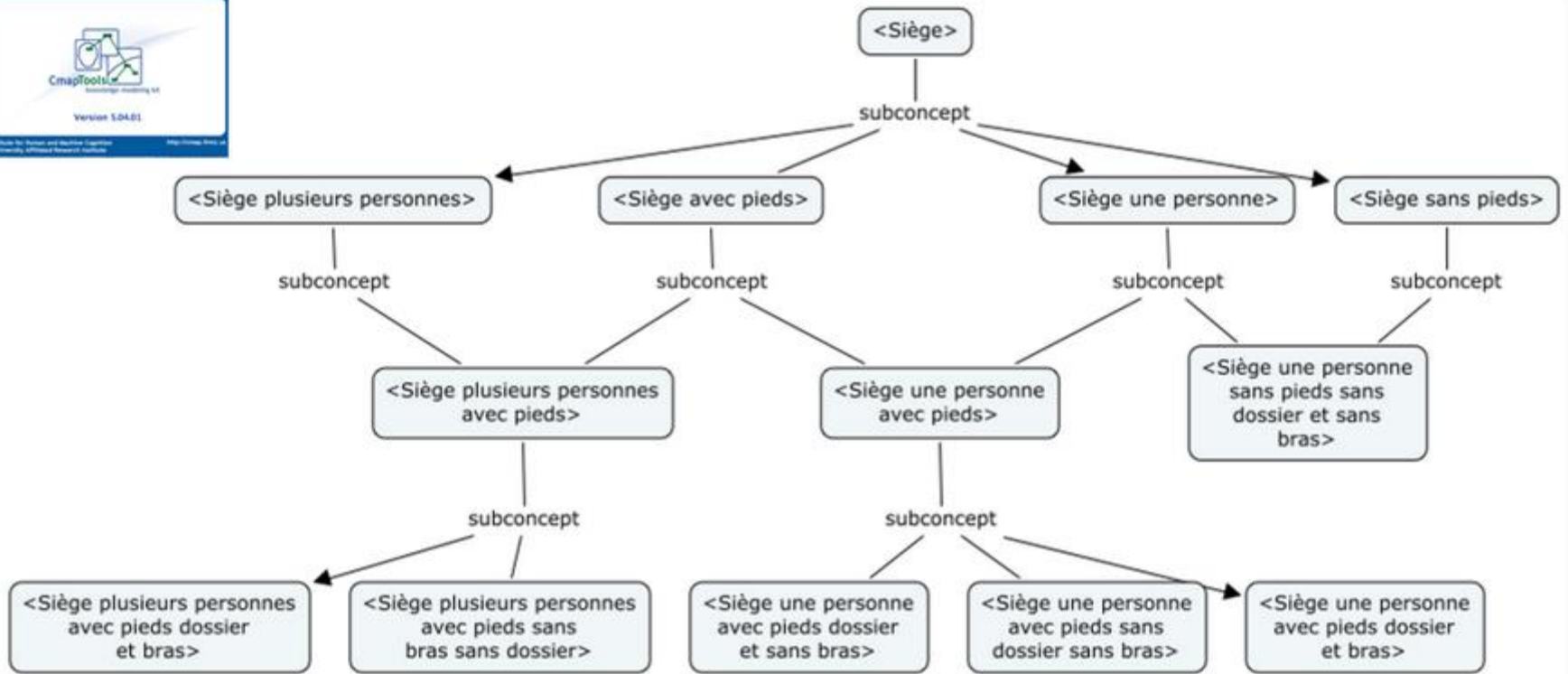
✓ Representation

Concept: *Node*

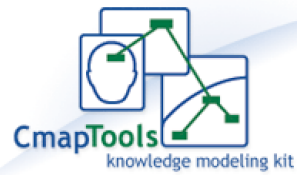
Proposition: *labeled link*



Conceptual System



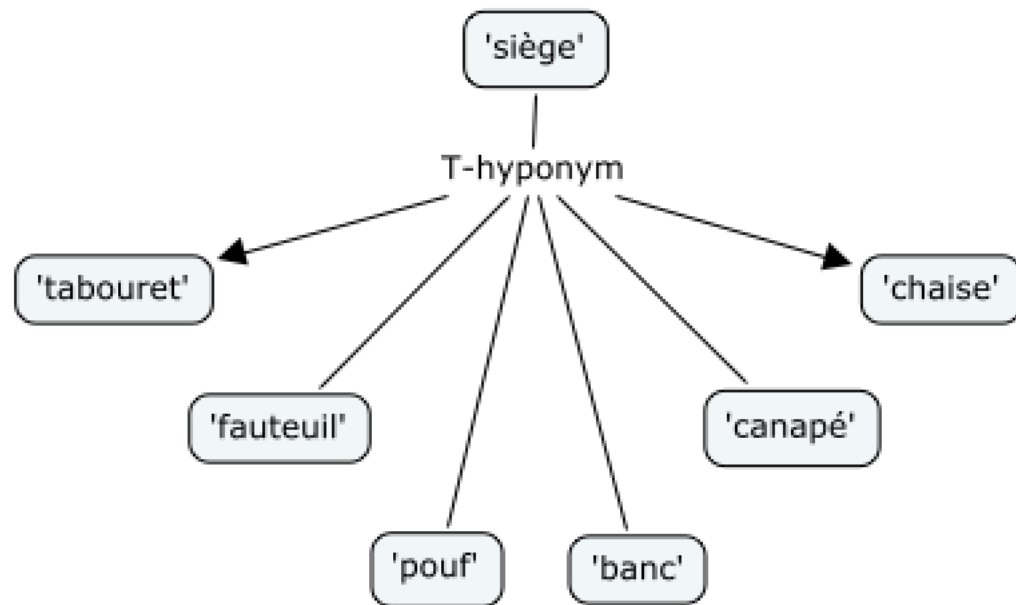
Lexical Network



Version 5.04.01

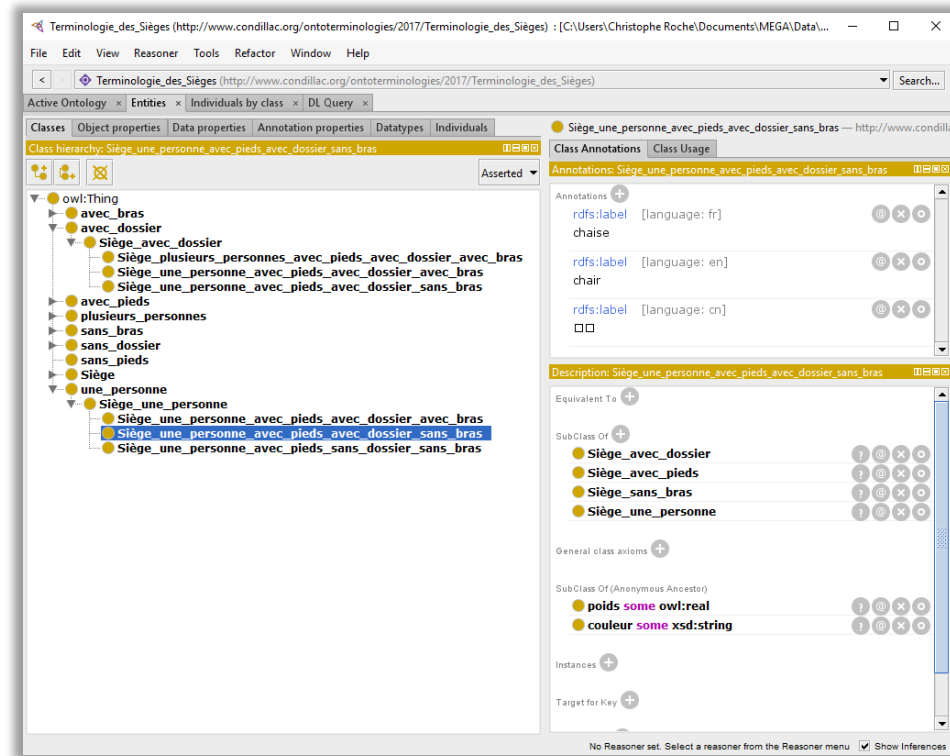
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<http://cmap.ihmc.us>



Protégé

Protégé is a free, open source ontology editor and a knowledge management system. Protégé provides a graphic user interface to define ontologies. It also includes deductive classifiers to validate that models are consistent and to infer new information based on the analysis of an ontology. Like Eclipse, Protégé is a framework for which various other projects suggest plugins. This application is written in Java and heavily uses Swing to create the user interface. Protégé recently has over 300,000 registered users.[4] According to a 2009 book it is "the leading ontological engineering tool".[5]



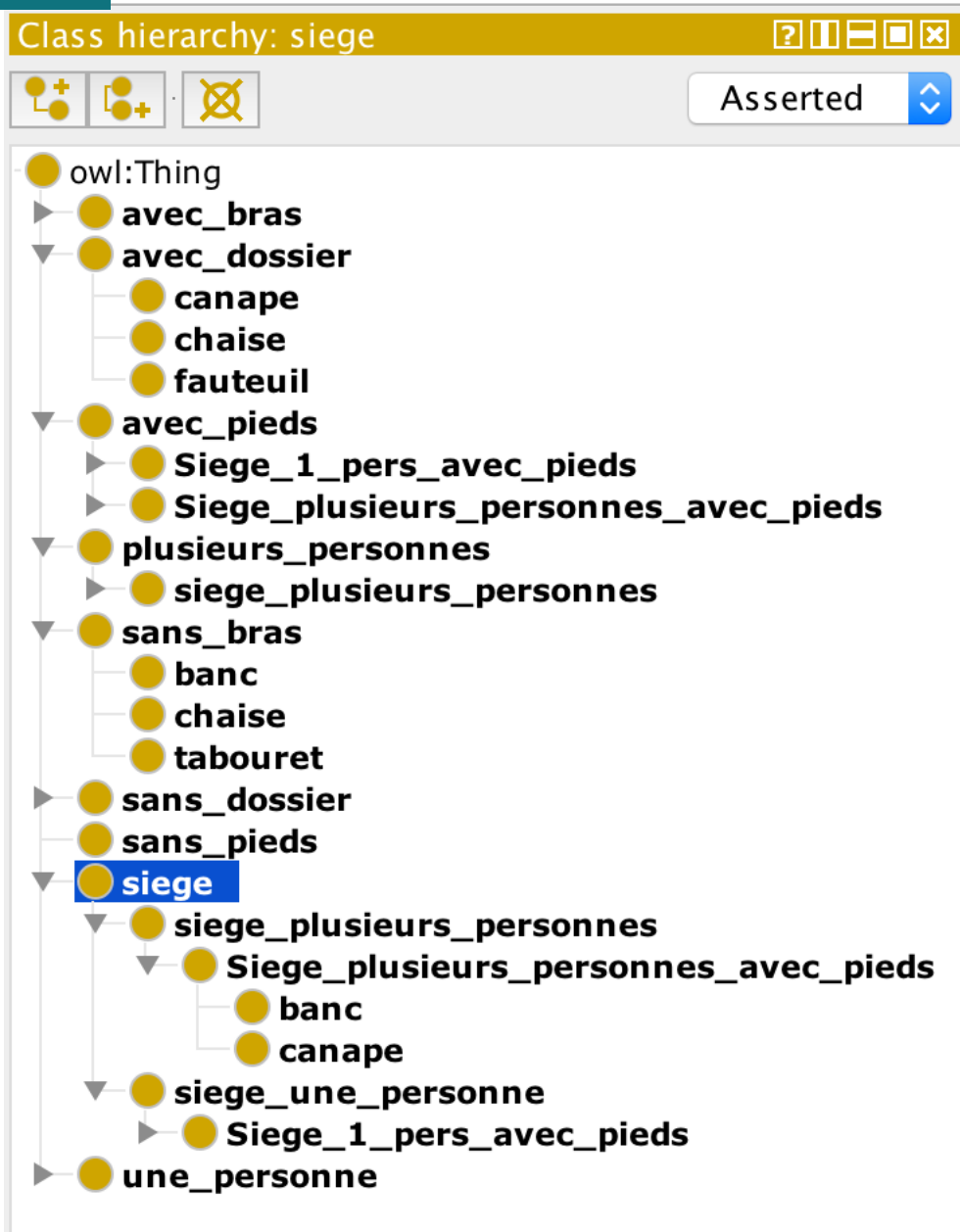
Protégé is being developed at Stanford University and is made available under the BSD 2-clause license.[6] Earlier versions of the tool were developed in collaboration with the University of Manchester.

The screenshot displays the Protégé ontology editor interface. The top browser window shows the URL: <http://www.condillac.org/ontoterminologies/2017/Sièges>. The main interface is divided into several panes:

- Class hierarchy: siege**: A tree view on the left showing the hierarchy of classes. The root is `owl:Thing`, which branches into `avec_bras`, `avec_dossier`, `plusieurs_personnes`, `sans_bras`, `sans_dossier`, `sans_pieds`, and `siege`. The `siege` class is highlighted in blue. Under `siege`, there are subclasses like `siege_une_personne` and `siege_plusieurs_personnes`.
- OntoGraf**: A graph view on the right showing the relationships between classes. The `siege` class is highlighted in green. It is a subclass of `owl:Thing`. It has subclasses `avec_pieds` and `siege_une_personne`. `avec_pieds` is further divided into `Siege_plusieurs_personnes_avec_pieds` and `Siege_1_pers_avec_pieds`. `siege_une_personne` is a subclass of `une_personne`. The graph also shows instances of `canape`, `banc`, `tabouret`, `chaise`, and `fauteuil` as subclasses of the various `Siege...` classes.

At the bottom of the interface, there is a status bar with the text: "No Reasoner set. Select a reasoner from the Reasoner menu" and a checked checkbox for "Show Inferences".

Protégé



The screenshot displays the Protégé ontology editor interface. The main window title is "Terminologie_des_Sièges (http://www.condillac.org/ontoterminologies/2017/Terminologie_des_Sièges)". The interface includes a menu bar (File, Edit, View, Reasoner, Tools, Refactor, Window, Help) and a search bar.

The "Active Ontology" tab shows the "Terminologie_des_Sièges" ontology. The "Class hierarchy" view is active, showing a tree structure of classes. The selected class is "Siège_une_personne_avec_pieds_avec_dossier_sans_bras".

The "Class Annotations" view shows the following annotations for the selected class:

- Annotation: `rdfs:label` [language: fr] with value "chaise".
- Annotation: `rdfs:label` [language: en] with value "chair".
- Annotation: `rdfs:label` [language: cn] with value "".

The "Description" view shows the following information for the selected class:

- Equivalent To: (empty)
- SubClass Of: `Siège_avec_dossier`, `Siège_avec_pieds`, `Siège_sans_bras`, and `Siège_une_personne`.
- General class axioms: (empty)
- SubClass Of (Anonymous Ancestor): `poids some owl:real` and `couleur some xsd:string`.
- Instances: (empty)
- Target for Key: (empty)

The status bar at the bottom indicates "No Reasoner set. Select a reasoner from the Reasoner menu" and "Show Inferences" is checked.

TEDI

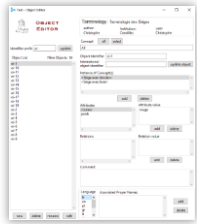
ontoTerminology EDITor

www.ontoterminology.com

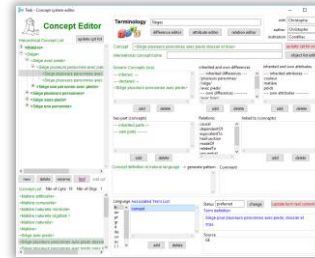


Tedi is a software environment dedicated to ontoterminology building providing several specialized editors.

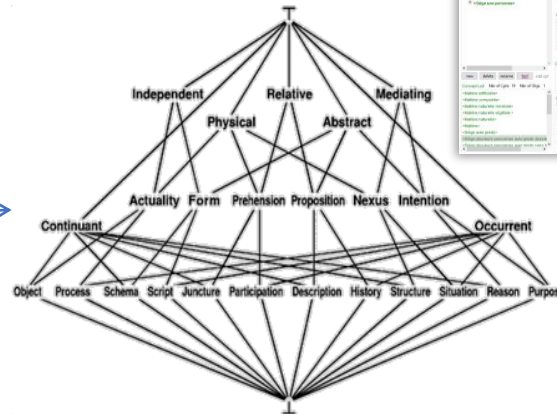
Object editor



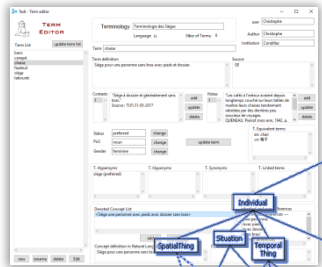
Concept editor



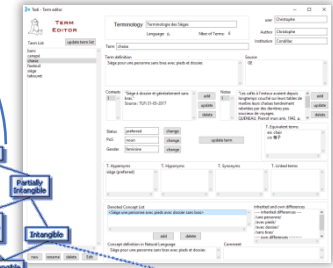
Ontology



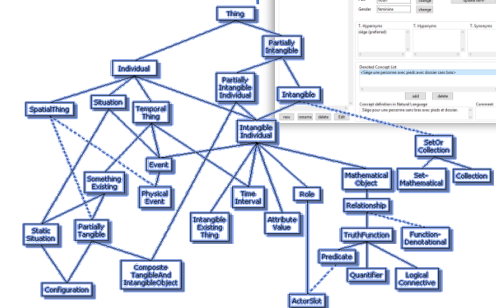
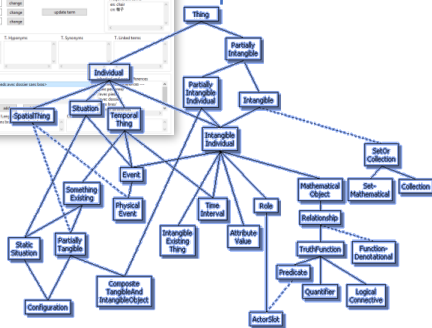
Term editor



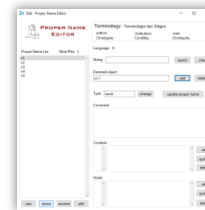
Term editor



Networks of terms



Proper name editor



Concept Theory of Terminology (C.T.T.)

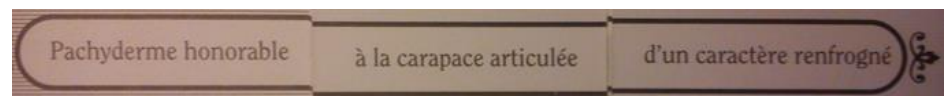
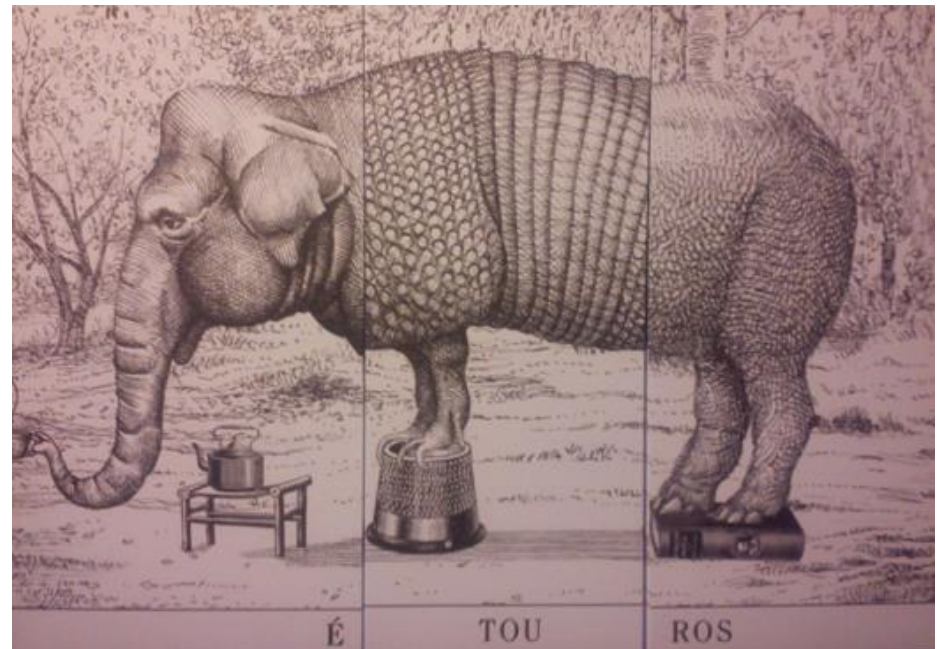
Ontology relies on a Concept Theory

Tedi is based on the **C.T.T.** (Concept Theory of Terminology)

CTT epistemological principles:

- essential characteristic
- descriptive characteristic
- axis of analysis
- concept
- relation

CTT logical properties



Concept editor: Organizing concepts

explicit name of concept

inferred and declared generic concepts

inherited and declared essential characteristics

inherited and declared descriptive characteristics


relations

terms

The screenshot shows the 'Concept Editor' interface. On the left is a 'Hierarchical Concept List' showing a tree structure of concepts under '<Seat>'. The main area is titled 'Terminology' and contains several panels: 'Concept' (with a text field for '<Seat for one person with feet with back without arms>'), 'International concept name', 'Generic Concepts (isa)' (with 'inferred' and 'declared' sections), 'inherited and own differences', 'inherited and own attributes', 'has-part (concepts)', 'Relations' (with a list of relation types like 'causal', 'dependentOf', etc.), and 'linked to (concepts)'. At the bottom, there is a 'Concept definition in natural language' field, a 'Comment' field, and an 'Associated Term List' showing the term 'chair' in English. A 'Language' dropdown is set to 'en'. The interface includes various buttons like 'add', 'delete', 'update cpt txt content', and 'update term text content'. Callouts with red boxes and lines point to specific elements: 'explicit name of concept' points to the 'Concept' field; 'inferred and declared generic concepts' points to the 'Generic Concepts (isa)' section; 'inherited and declared essential characteristics' points to the 'inherited and own attributes' panel; 'inherited and declared descriptive characteristics' points to the 'inherited and own differences' panel; 'relations' points to the 'Relations' list; and 'terms' points to the 'Associated Term List'.

Term Editor

Tedi - Term editor

 **Term Editor** [web help](#)

Terminology Terminologie des Sièges

Language: fr Last update: 4 août 2018

user: Christophe
author: Christophe
institution: Condillac

Term:

Term definition -> generate pattern definition ?

Status:
PoS:
Gender:

Source:

Contexts:

1	"Les cafés à l'entour avaient depuis longtemps couché sur leurs tables de marbre leurs chaises tendrement rabotées par des derrières peu soucieux de voyages. QUENEAU, Pierrot mon ami, 1942, p. 100" Source	<input type="button" value="add"/> <input type="button" value="update"/> <input type="button" value="delete"/>
---	--	--

Notes:

1	Siège à dossier et généralement sans bras. Source : TLFi 31/05/2017	<input type="button" value="add"/> <input type="button" value="update"/> <input type="button" value="delete"/>
---	---	--

Orthographic variations:

Inflected forms:

T. Equivalent terms:

T. Hypernyms:

T. Hyponyms:

T. Synonyms:

T. Linked terms:

Denoted Concept List:

inherited and own differences:

Concept definition in Natural Language:
Comment:

edit term

Exchange Formats

Tedi - Multilingual Ontoterminology editor

update

Version 0.99

Multilingual Ontoterminology Editor

new OTB load OTB save OTB edit OTB OTB path file c:\Users\Christophe Roche\Documents\MEGA\Data\Projets - C

Ontoterminology List

Sièges

author Christophe

creation date 29 juin 2017 last update 2 septembre 2017

domain Meubles

sub domain Sièges

other domains

number of concepts 19

number of terms 18

comment

update metadata

concept search term search

import export

ontoterminology editor

TEDI

ONTOTERMINOLOGY EDITOR

Standard Vers. 0.97

login

p.u.l.to Condillac Research Group

V 0.97 - 2017/04/16 inspect

© Christophe Roche
roche@univ-savoie.fr
www.christophe-roche.fr/tedi

dead line: 31/12/2017




Différents formats d'export :

- Échange et partage d'ontoterminologies ;
- Exploitation pour différentes applications ;
- CSV (Cmap), HTML (navigateurs), RDF/OWL (Protégé), JSON, OTE (Tedi viewer), SKOS

```
<Siège une personne>  
<Siège> subconcept <Siège une personne>  
<Siège une personne avec pieds dossier et sans bras>  
<Siège une personne avec pieds> subconcept <Siège une personne avec pieds dossier et sans bras>  
<Siège une personne sans pieds sans dossier et sans bras>  
<Siège une personne> subconcept <Siège une personne sans pieds sans dossier et sans bras>  
<Siège sans pieds> subconcept <Siège une personne sans pieds sans dossier et sans bras>  
<Siège une personne avec pieds>  
<Siège une personne avec pieds>
```

```
subconcept <Siège une personne avec pieds>  
subconcept <Siège plusieurs personnes avec pieds>
```

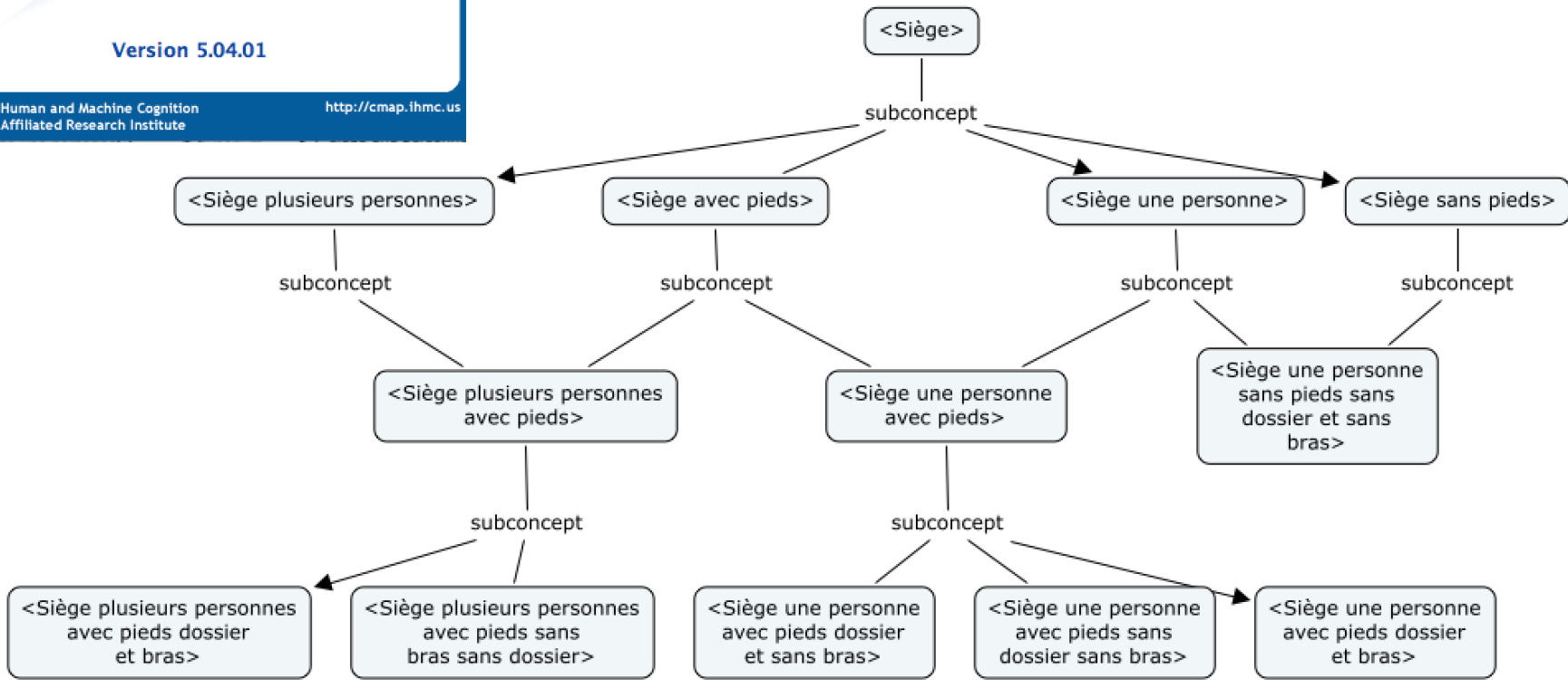


CmapTools
knowledge modeling kit

Version 5.04.01

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<http://cmap.ihmc.us>



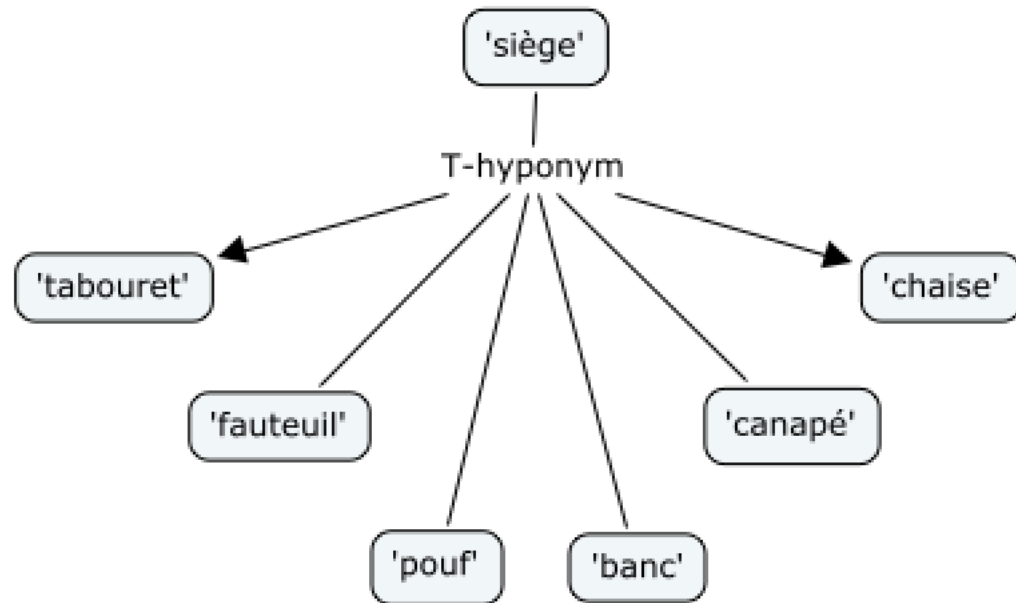
```
'banc'  
'tabouret'  
'chaise'  
'siège'  
'siège' T-hyponym  
'siège' T-hyponym  
'siège' T-hyponym  
'siège' T-hyponym  
'siège' T-hyponym  
'siège' T-hyponym  
'canapé'  
'fauteuil'  
'pouf'  
'banc'  
'canapé'  
'chaise'  
'fauteuil'  
'pouf'  
'tabouret'
```



Version 5.04.01

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<http://cmap.ihmc.us>



Protégé (OWL)

Slèges (http://www.condillac.org/ontoterminologies/2017/Slèges) : [Users/cr/MEGA/Data/Projets - Contrats/TEDI/3 OTB/Slèges.owl]

Slèges (http://www.condillac.org/ontoterminologies/2017/Slèges)

Active Ontology x Entities x Classes x Object Properties x Data Properties x Individuals by class x OWLViz x DL Query x OntoGraf x

Class hierarchy: siege Asserted

owl:Thing

- avec_bras
- avec_dossier
 - canape
 - chaise
 - fauteuil
- avec_pieds
 - Siege_1_pers_avec_pieds
 - Siege_plusieurs_personnes_avec_pieds
- plusieurs_personnes
 - siege_plusieurs_personnes
- sans_bras
 - banc
 - chaise
 - tabouret
- sans_dossier
- sans_pieds
- siege**
 - siege_plusieurs_personnes
 - Siege_plusieurs_personnes_avec_pieds
 - banc
 - canape
 - siege_une_personne
 - Siege_1_pers_avec_pieds
 - une_personne

OntoGraf:

Search: contains Search Clear

```
graph TD; owl:Thing --> plusieurs_personnes; owl:Thing --> une_personne; plusieurs_personnes --> siege_plusieurs_personnes; plusieurs_personnes --> avec_pieds; siege_plusieurs_personnes --> Siege_plusieurs_personnes_avec_pieds; siege_plusieurs_personnes --> banc; avec_pieds --> siege_une_personne; avec_pieds --> tabouret; siege_une_personne --> Siege_1_pers_avec_pieds; Siege_1_pers_avec_pieds --> chaise; Siege_1_pers_avec_pieds --> fauteuil; siege --> siege_plusieurs_personnes; siege --> avec_pieds; siege --> siege_une_personne; siege --> une_personne;
```

Dynamic HTML Format

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Tedi Onto-Dictionary on "Terminologie des Sièges" (fr)

Date: 5 février 2018 - Time: 18:38:13 - Version: 1.0 - www.ontoterminology.com/tedi

search:

- banc
- bergère
- canapé
- chaise**
- chaise d'intérieur
- fauteuil
- pouf
- siège
- tabouret

chaise

Definition: [Siège pour une personne sans bras avec pieds et dossier.](#)

Status: preferred

Source: GE

See also: chaise d'intérieur (alternative),

Context(s):

1) "Les cafés à l'entour avaient depuis longtemps couché sur leurs tables de marbre leurs chaises tendrement rabotées par des derrières peu soucieux de voyages. QUENEAU, Pierrot mon ami, 1942, p. 199." Source : TLFi 31/05/2017

Note(s):

1) Siège à dossier et généralement sans bras. Source : TLFi 31/05/2017

Equivalent(s):

- en: chair
- cn: 椅子

Concept: <Siège une personne avec pieds dossier et sans bras>


essential characteristic(s): /sans bras/, /avec dossier/, /une personne/, /siège/, /avec pieds/,

a kind of: <Siège une personne avec pieds>,


linked to: <Dossier>, <Pied>,

Web reference: [Le grand salon de l'Impératrice au château de Fontainebleau du temps de l'impératrice Eugénie](#)

Illustration: Chaise, 1809, bois peint. Versailles, musée national du château, T 507 C.



Video: [Une visite au Louvre](#)



CONCLUSION

The definition of term is the definition of the concept denoted by the term

- **Dedicated Concept Theory**
- **Software Environment**
- **Methodology**

