

*Interconnecting knowledge and information  
in Digital Humanities  
The case of the Backbone Thesaurus*

*DARIAH-Annual Event 2018, 22-24 May Paris*





- *Integration of new technologies and the traditional research.*

*Facilitating collaboration across different scientific fields.*



.... we have developed an  
***coherent overarching  
thesaurus***



*Our aims in building the BBT*



## ***Epistemological and methodological background of the BBT.***

*Interdisciplinary character of our goals.*

*Need for study of the epistemological principles and methodological preconditions.*

- **Basic epistemological principles**



1. The criteria of building the upper level categories and subsuming terms should be logically and intersubjectivity controlled

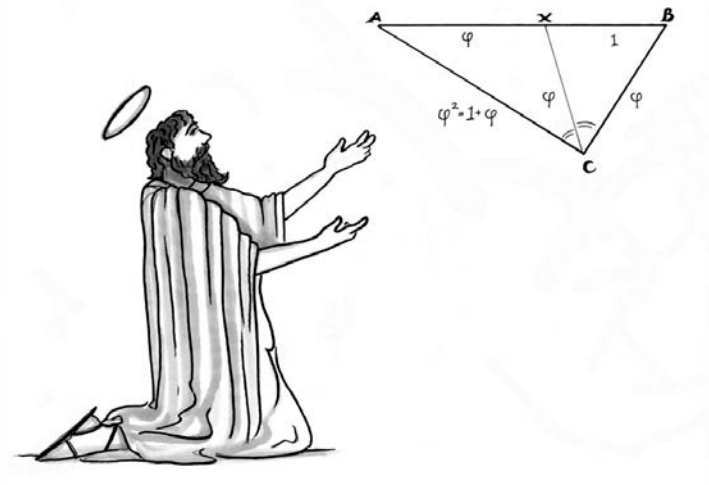


*content-oriented classification leads  
to inconsistencies  
and frequently to contradictions*

*Example: which is the common  
ground between the terms “wedding  
dress” and “wedding reception”?*

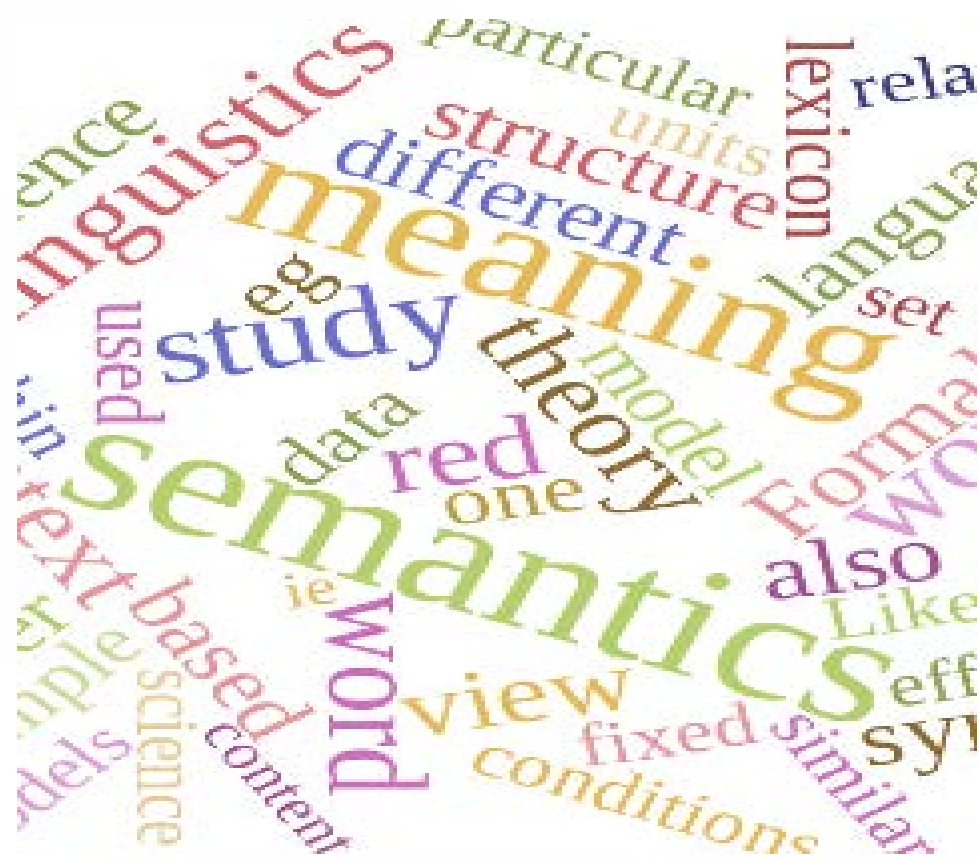
*Could it be “wedding” as a top-level  
category?*


**Important clarification:** The intersubjective character of the properties does not entail their ontological existence independently of the sphere of perception!





## 2. Epistemological principle: categorical semantics



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- The extension of a term is defined as the set of items for which it is true. It denotes the reference of a term, the range of its applicability by naming the particular items.

*For example, the extension of the term 'cat ' is the set of all the cats in the world; the extension of 'red' is the set of all the red things*

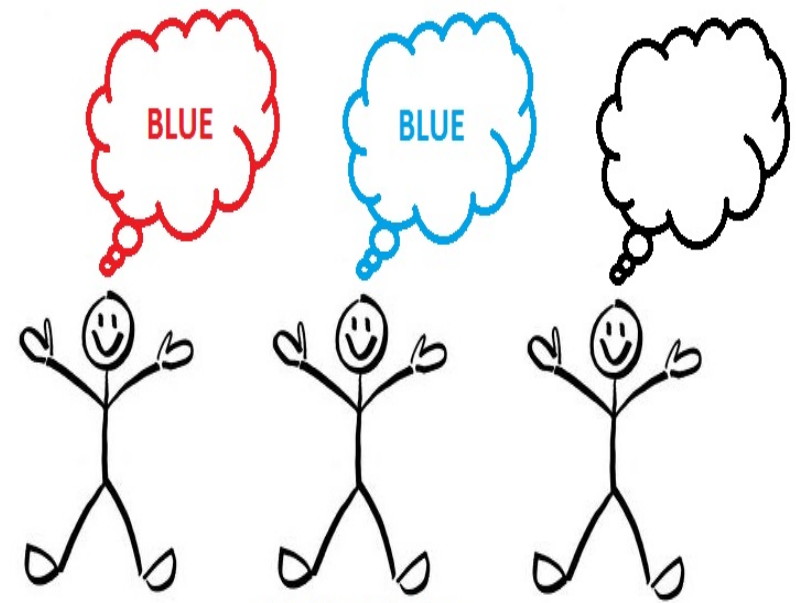
# Extension und Intension

- The intension of a term is the sum of its properties, state of affairs, qualities etc. that constitute the necessary and sufficient conditions for being in the extension of a term/concept

*For example, the intension of "bachelor" might be something like: adult, unmarried male. Being an adult, being unmarried, and being male are all necessary conditions for being a bachelor, and their conjunction is a sufficient condition*

# Extension und Intension

- ***Conventional intension***



[mindandphilosophy.blogspot.com](http://mindandphilosophy.blogspot.com)

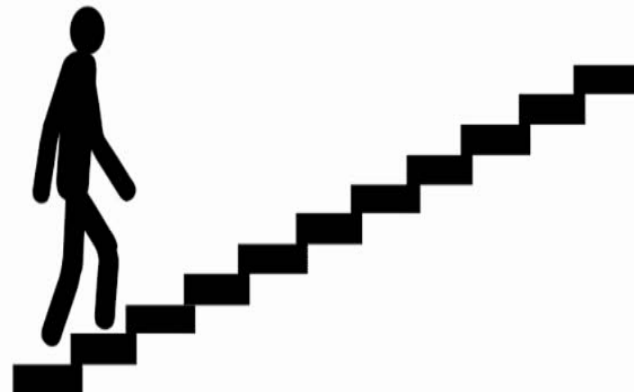


- *Methodological preconditions and tools*

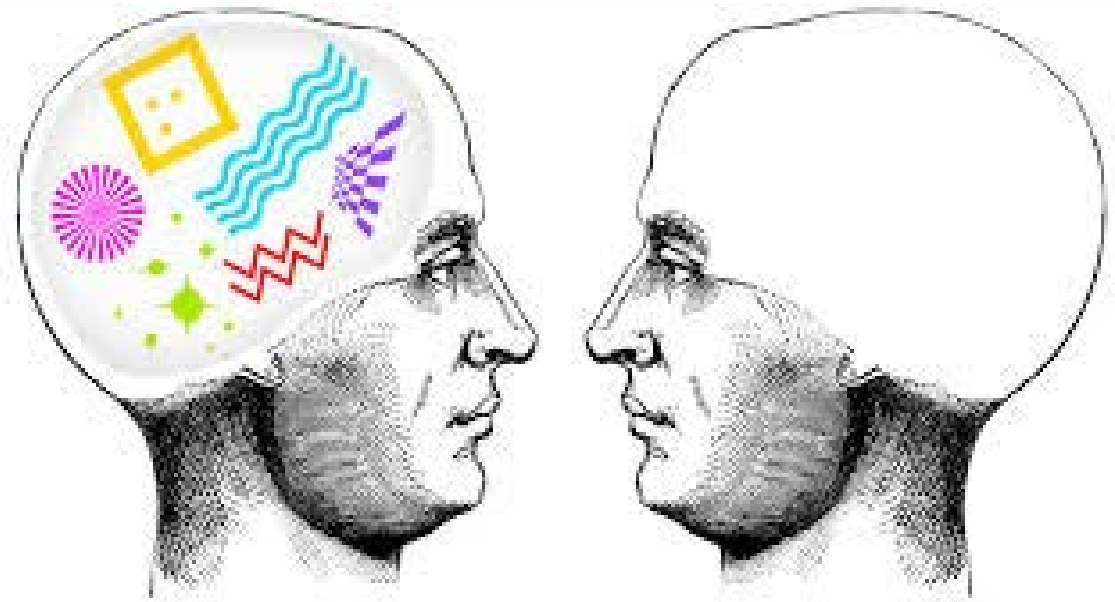
1. *Each concept has a purpose or utility*



## 2. *Bottom-up method*



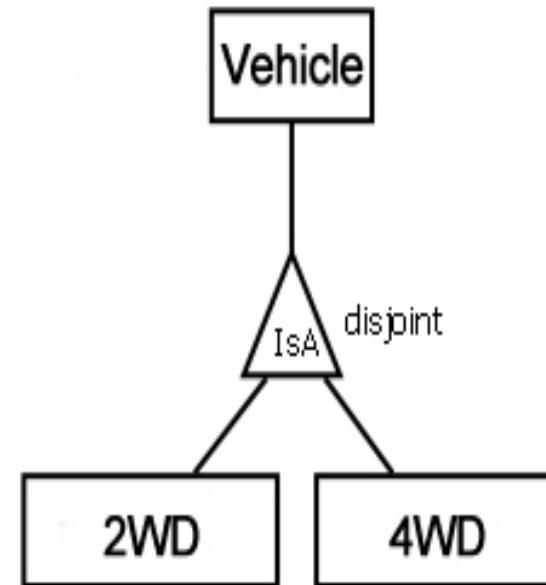
### 3. *Abstraction from the context of reference*



## 4. *IsA relationship*

*The IsA relationship reveals the common ground between narrower and broader terms.*

*Motorbike and truck: both are Vehicles!*





*How to recognize the intensional properties of a term.*

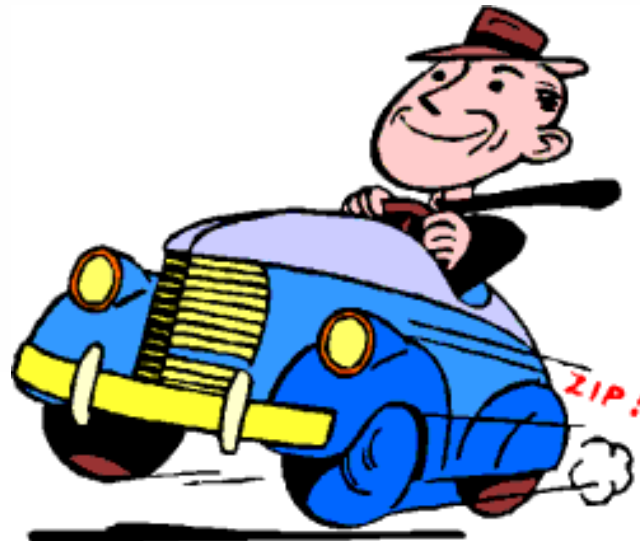


## *Practical rules and guidelines*



# 1. *Intensional vs incidental properties*

*E.g.: if we define “human” as “driver” i.e. by his incidental property to drive a car, then all people who do not drive are not human!*



## 2. Contradictions

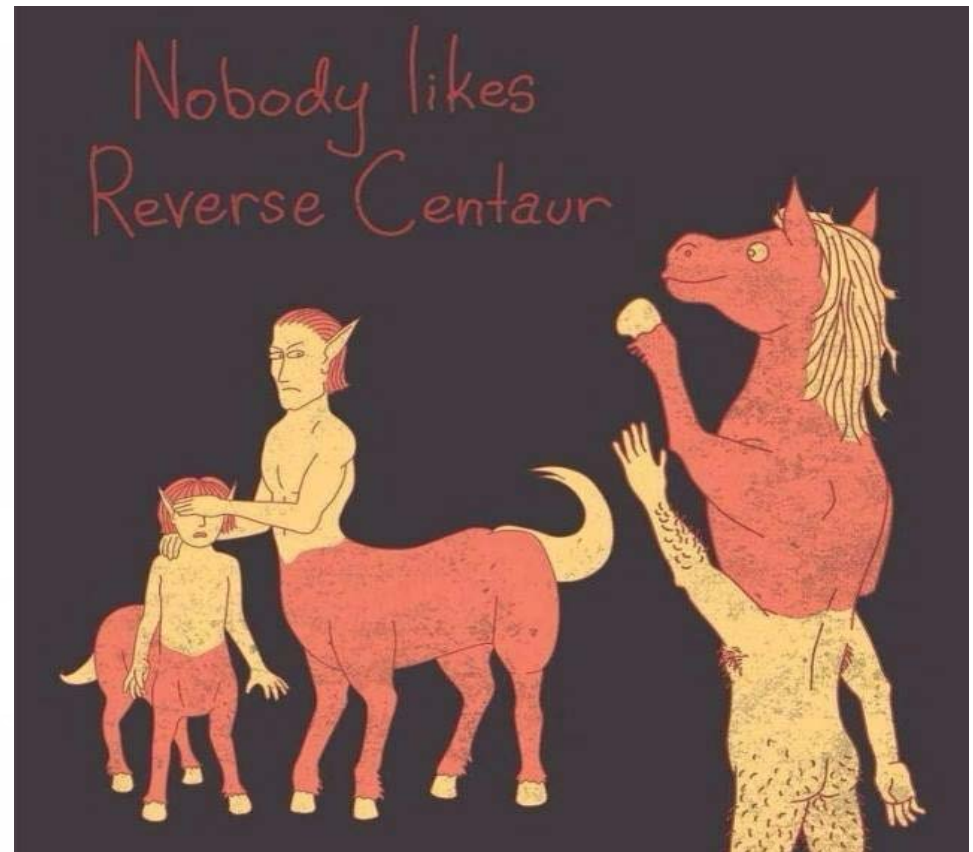
a) Terms are defined through self-contradictory properties:

*E.g. conflicts are intentional activities carried out by at least two actors and are caused by natural phenomena!*



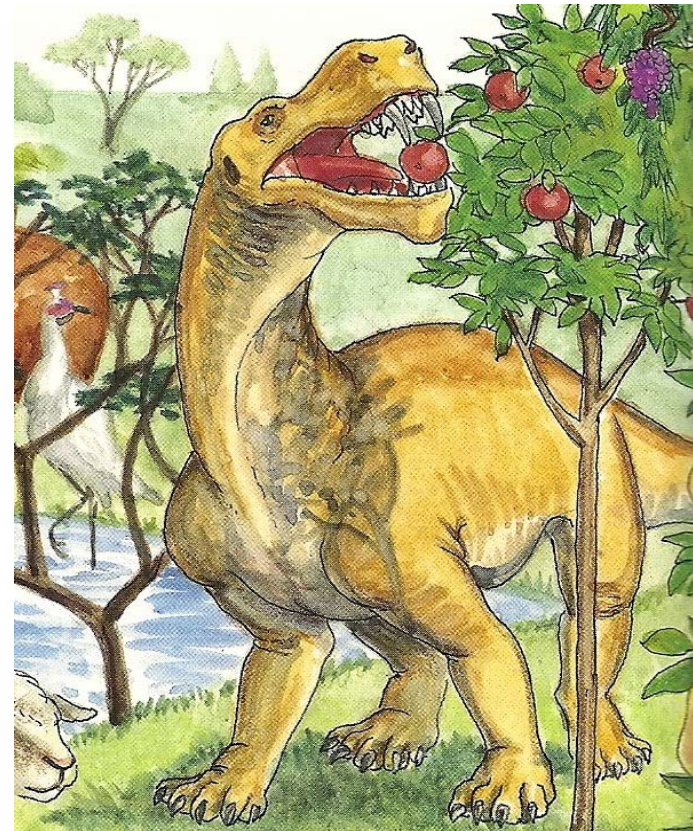
b) Reverse of the relation between broader and narrower term.

*E.g.: Stelae, which is a concrete piece of stone bearing inscriptions that can be transferred is the broader than the term “mobile objects” which comprises any object that can be transferred!*

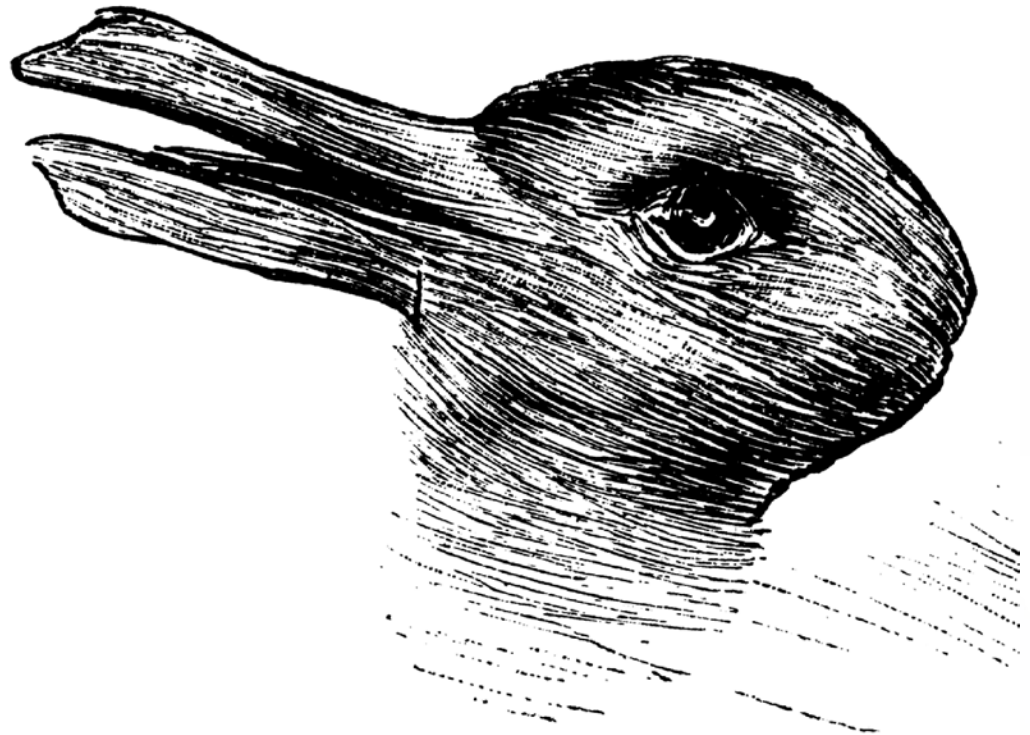


- c) A narrower term is attributed properties which contradicts at least one of the necessary properties attributed to its broader term.

*E.g.: if we subsume the term Stelae which is a mobil object under the broader term immobile objects, then “Stelae” seems to posses contradictory properties: it can and cannot be transferred!*

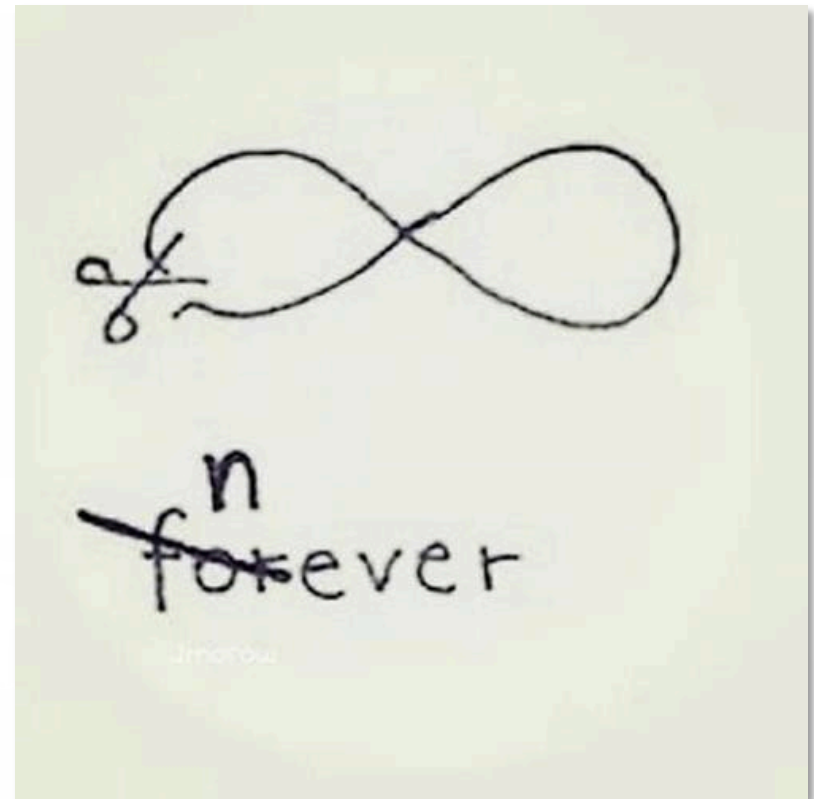


3. Avoid ambiguity:  
Duck or Rabbit?



a) *Avoid too broad concepts.*

*E.g. If we choose for an upper-level concept the term “research object”, we could subsume under this concept the whole thesaurus!*





*b) Ambiguity related with the polysyme of the terms*

*E.g. Mercury could mean: a metal, a planet, a God in mythology*



#### 4. *Identify the common meaning between the terms.*

*E.g. if we define wars as “armed conflicts” we exclude all the other forms of war that are not based on weapons”.*



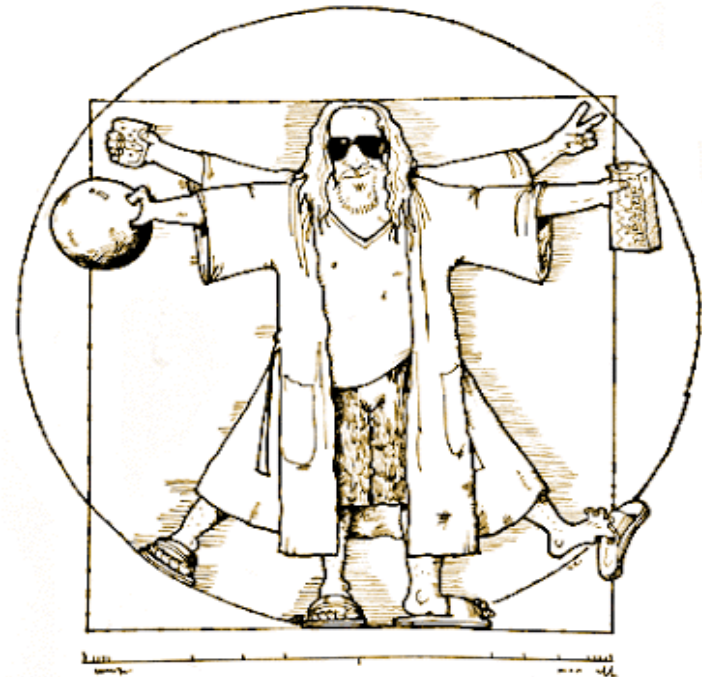
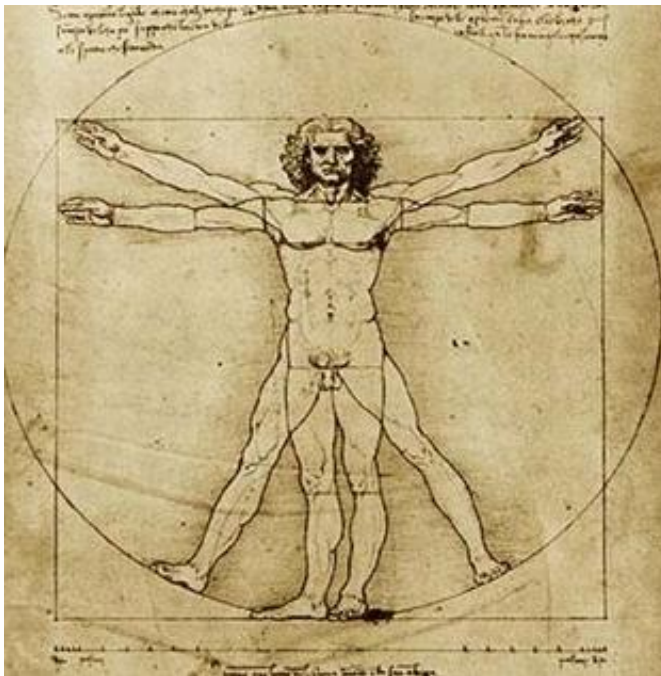
5. *Avoid introducing upper level concepts whose meaning is tied to a specific context.*

*E.g. X-Ray systems are used by many disciplines, such as medicine, material assaying, art conservation, archaeology. Classifying them as “medical instruments” or “archaeological instruments” would not render anything about their nature.*



## 6. Distinguish between universals and particulars.

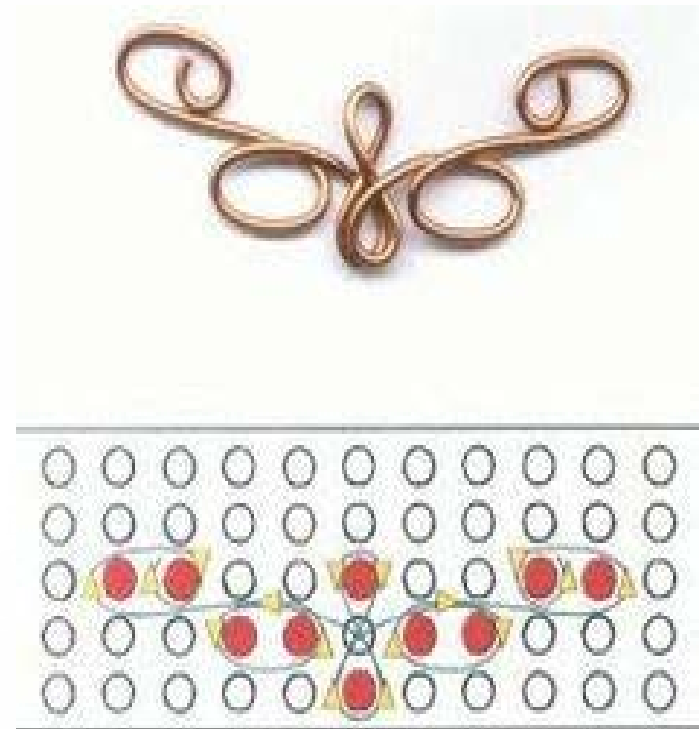
*E.g. the term ethnic groups is a specialization of groups because they designate a specific type of groups based on the origins of people, while the term Germans is not a specialization of groups, which establish a type of a group but a realization of a certain type of group which is based on the differentiation according to the (geopolitical etc.) origins of certain people.*





## 7. *The definition should correspond to the term and vice versa.*

*E.g. it is easy to get carried away by the affinity of the meaning and consider the term “distribution of roles” as a narrower term of the facet “groups and roles. But Distribution/allocation of roles is an action and there is a contradiction between the facet and the narrower terms!*



8. Define a concept/term according to the contemporary terminology we use to describe it.

*E.g. according to the contemporary approach of architecture it is a science while according to an earlier approach architecture is handwork.*



9. *The names you choose in order to express the meaning should not lead to ambiguities and confusions with other terms.*

*E.g. Although the term “book” is a material object we frequently use the term to denote the content of the book which is however a conceptual object.*



## activities

- disciplines
- human interactions
- intentional destructions
- functions
- other activities

## natural processes

- natural disasters
- geneses

## materials

### material things

- mobile objects
- built environment
- physical features
- structural parts of material things

## types of epochs

### conceptual objects

- symbolic objects
- propositional objects
- methods
- concepts

## groups and collectivities

### roles

- offices
- roles of interpersonal relations

## geopolitical units



<http://backbonethesaurus.eu>