



# Wordnet from A to Z

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# Outline of my talk

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History

What is WordNet?

- A Concept vs. Lexical form
- Relations
- Practice

Development Projects

Usage

Enhancements

Wordnets in the world



# What is WordNet?

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# What Wikipedia says about WordNet

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WordNet is a [lexical database](#) for the [English language](#).

It groups [English words](#) into sets of [synonyms](#) called [synsets](#), provides short definitions and usage examples, and records a number of relations among these synonym sets or their members. WordNet can thus be seen as a combination of [dictionary](#) and [thesaurus](#).

While it is accessible to human users via a web browser, its primary use is in automatic [text analysis](#) and [artificial intelligence](#) applications. (?)

The [database](#) and [software](#) tools have been released under a [BSD style license](#) and are freely available for download from the WordNet website. Both the lexicographic data (*lexicographer files*) and the compiler (*called grind*) for producing the distributed database are available.

# Authors of the (first) WordNet

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WordNet was created in the Cognitive Science Laboratory of Princeton University under the direction of psychology professor **George Armitage Miller** starting in 1985 and has been directed in recent years by **Christiane Fellbaum**

- That is why it is usually called „the Princeton WordNet“ (PWN)

George Miller and Christiane Fellbaum were awarded the 2006 Antonio Zampolli Prize for their work with WordNet.

# What do authors say about this resource?

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## Abstract:

- WordNet is an on-line lexical reference system **whose design is inspired by current psycholinguistic theories of human lexical memory**. English nouns, verbs, and adjectives are organized into synonym sets, each representing one underlying lexical concept. Different relations link the synonym sets.

Miller, George A., et al. "Introduction to wordnet: An on-line lexical database\*." *International journal of lexicography* 3.4 (1990): 235-244.

More details can be found in „5papers“:

<http://wordnetcode.princeton.edu/5papers.pdf>

# What do authors say about this resource?

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## Summary:

- In a modern, computer era, alphabetic search for words is not enough;
- „...however,... it is grossly inefficient to use these powerful machines as little more than rapid page-turners.“
- „Beginning with word association studies at the turn of the century ..., psycholinguists have discovered many synchronic properties of the mental lexicon that can be exploited in lexicography.“
- „The initial idea was to provide an aid to use in searching dictionaries conceptually, rather than merely alphabetically—it was to be used in close conjunction with an on-line dictionary of the conventional type.“

# Synset – the basic unit of WordNet

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- **Synset** – synonym set;
- A synset is a representation of a concept – a definition is added only to facilitate development and usage;
- Instead of talking about „words“, when talking about WordNet, in order to reduce ambiguity “word form” or „literal“ is used to refer to the physical utterance or superficial form and “word meaning” to refer to the lexicalized concept that a form can be used to express.
- „These synonym sets (synsets) do not explain what the concepts are; they merely signify that the concepts exist.“



# A wordform – concept relation

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- This relation is many-to-many
- Example:
  - **{board, plank}** - def: a stout length of sawn timber; made in a wide variety of sizes and used for many purposes
  - **{board, table}** - def: food or meals in general; usage: „she sets a fine table“; „room and board“
- A concept can be lexicalized by several word forms (one concept – two word forms, **board** and **plank**)
- A word form can be used for lexicalization of several concepts (one word form – **board** – can be used for two and many more concepts)

# What are synonyms?

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According to one definition two expressions are synonymous if the substitution of one for the other never changes the truth value of a sentence in which the substitution is made.

By that definition, true synonyms are rare, if they exist at all.

A weakened version of this definition would make synonymy relative to a context: two expressions are synonymous in a linguistic context C if the substitution of one for the other in C does not alter the truth value.

For example, the substitution of *plank* for *board* will seldom alter truth values in carpentry contexts, although there are other contexts of *board* where that substitution would be totally inappropriate.

It is convenient to assume that the relation is symmetric: if x is similar to y, then y is equally similar to x.

# Partitioning of WordNet

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- The definition of synonymy in terms of substitutability makes it necessary to partition WordNet into nouns, verbs, adjectives, and adverbs.
- If concepts are represented by synsets, and if synonyms must be interchangeable, then words in different syntactic categories cannot be synonyms (cannot form synsets) because they are not interchangeable.
- Nouns express nominal concepts, verbs express verbal concepts, and modifiers provide ways to qualify those concepts.
- The use of synsets to represent word meanings is consistent with psycholinguistic evidence that nouns, verbs, and modifiers are organized independently in semantic memory.

# Other relations - antonymy

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- The antonym of a word  $x$  is sometimes *not-x*, but not always. For example, *rich* and *poor* are antonyms, but to say that someone is *not rich* does not imply that they must be poor.
- Antonymy is a symmetric relation;
- **Antonymy is a lexical relation between word forms, not a semantic relation between word meanings.**
- Example:
  - the meanings {**rise, ascend**} and {**fall, descend**} are conceptual opposites, but they are not antonyms;
  - **rise/fall** and **ascend/descend** are antonyms
  - but most people would reject **rise** and **descend**, or **ascend** and **fall**, as antonyms

# Hyponymy/hypernymy (1)

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- Called also subordination/superordination, subset/superset, or the **ISA relation**)
- hyponymy/hypernymy is a semantic relation between word meanings, not a lexical relation between word forms.
- Example:
  - **{maple}** is a hyponym of **{tree}**, and **{tree}** is a hyponym of **{plant}**
- A concept represented by the synset  $\{x, x', \dots\}$  is a hyponym of the concept represented by the synset  $\{y, y', \dots\}$  if one can say (in English) „An  $x$  is a (kind of)  $y$ “.

# Hyponymy/hypernymy (2)

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- Hyponymy is **transitive** and **asymmetrical**, and, since there is normally a single superordinate, it generates a hierarchical semantic structure, in which a hyponym is said to be below its superordinate.
- A hyponym inherits all the features of the more generic concept and **adds at least one feature** that distinguishes it from its superordinate and from any other hyponyms of that superordinate
- Example:
  - maple inherits the features of its superordinate, tree, but is distinguished from other trees by the hardness of its wood, the shape of its leaves, the use of its sap for syrup, etc.
- This relation is the central organizing principle for the nouns in WordNet, also for verbs, but noun hierarchy is much deeper.

# Meronymy/holonymy (1)

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- Called also part-whole or **HASA relation**
- A concept represented by the synset {x, x',...} is a meronym of a concept represented by the synset {y, y',...} if one can say (in English) that „A y has an x (as a part)“ or „An x is a part of y“.
- The meronymic relation is **transitive** (with qualifications) and **asymmetrical**
- It can be used to construct a part hierarchy
- Example:
  - **{mouth, muzzle}** is a meronym of **{face, countenance}**
  - **{wheel}** is a meronym of **{wheeled vehicle}** (not of **{vehicle}**, because there are vehicles without wheels - parts are not inherited “upward” )

# WordNet in practice – Princeton Wordnet

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- Example of one noun synset:
  - Synset
    - {**dog, domestic\_dog, Canis\_familiaris**}
  - Definition
    - a member of the genus Canis (probably descended from the common wolf) that has been domesticated by man since prehistoric times; occurs in many breeds;
  - Usage
    - "the dog barked all night"



# Dog – upward hierarchy

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```
{entity}
  {physical_entity}
    {object, physical_object}
      {whole, unit}
        {living_thing, animate_thing}
          {organism, being}
            {animal, animate_being, beast, brute, creature, fauna}
              {chordate}
                {vertebrate, craniate}
                  {mammal, mammalian}
                    {placental, placental_mammal, eutherian, eutherian_mammal}
                      {carnivore}
                        {canine, canid}
                          {dog, domestic_dog, Canis_familiaris}
```

The diagram illustrates the upward hierarchy of a dog. It shows a list of taxonomic levels from the most specific to the most general. Two red arrows indicate the path from the specific to the general: one arrow points from the 'dog' level to the 'domestic\_animal, domesticated\_animal' level, and another arrow points from the 'domestic\_animal, domesticated\_animal' level to the 'chordate' level.

# Dog –downward hierarchy

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**{dog, domestic\_dog, Canis\_familiaris}**

{puppy\_dog}

{hunting\_dog}

    {hound, hound\_dog}

        {basset, basset\_hound}

{working\_dog}

...

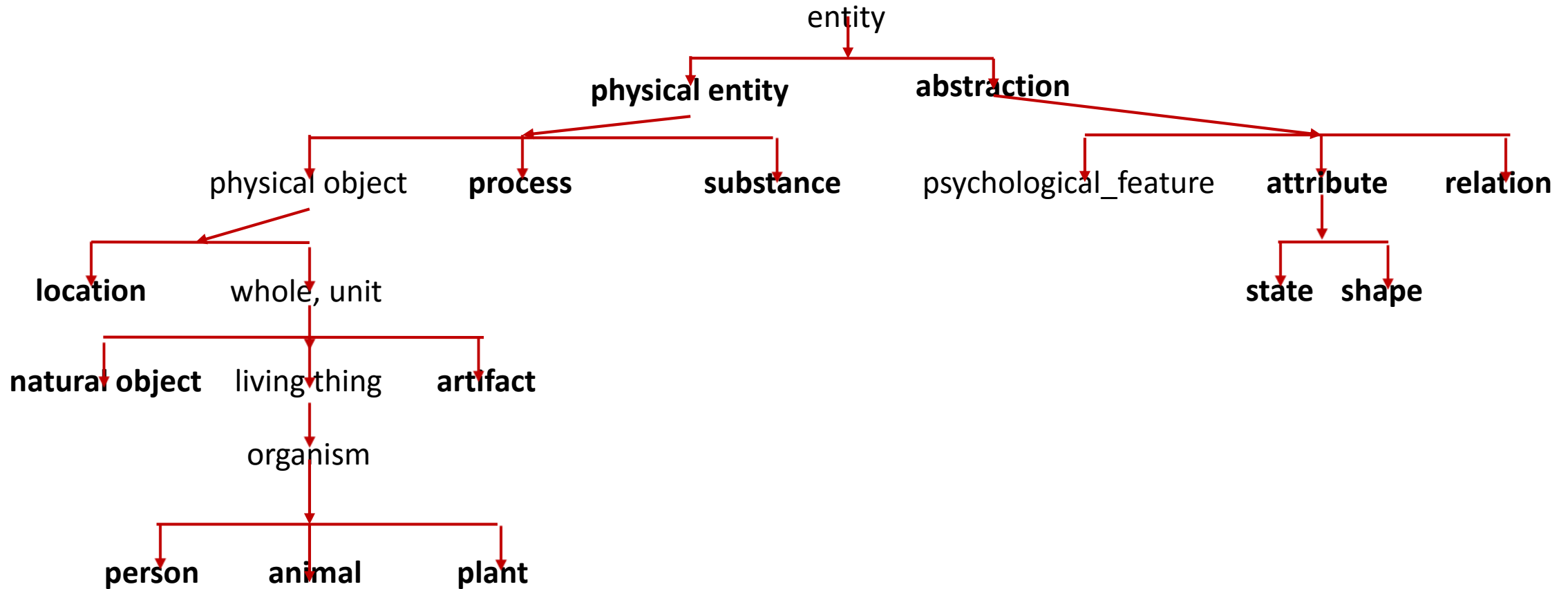
# 25 unique beginners for noun synsets

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<b>{act, action, activity}</b>	<b>{food}</b>	<b>{possession}</b>
<b>{animal, fauna}</b>	<b>{location, place}</b>	<b>{process}</b>
<b>{artifact}</b>	<b>{motive}</b>	<b>{quantity, amount}</b>
<b>{attribute, property}</b>	<b>{group, collection}</b>	<b>{relation}</b>
<b>{body, corpus}</b>	<b>{natural object}</b>	<b>{shape}</b>
<b>{cognition, knowledge}</b>	<b>{natural phenomenon}</b>	<b>{state, condition}</b>
<b>{communication}</b>	<b>{person, human being}</b>	<b>{substance}</b>
<b>{event, happening}</b>	<b>{plant, flora}</b>	<b>{time}</b>
<b>{feeling, emotion}</b>		

# Organization of top levels

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# Dog – additional relations

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- MemberHolonym

- {Canis, genus\_Canis}

- Def: type genus of the Canidae: domestic and wild dogs; wolves; jackals

- {pack} (dog is a member of a pack)

- Def: a group of hunting animals

- PartMeronym

- {flag} (flag is a part of a dog)

- Def: a conspicuously marked or shaped tail

# Meronymy/holonymy (2)

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Three types of meronymy/holonymy relation:

- PartHolonym (**mouse button is a *part* of a computer mouse**)
  - **{mouse, computer\_mouse}** (def: a hand-operated electronic device that controls the coordinates of a cursor...)
  - **{mouse\_button}** (Def: a push button on the mouse)
- MemberHolonym (**a rodent is a *member* of Rodentia**)
  - **{rodent, gnawer}** (def: relatively small placental mammals having a single pair of constantly growing incisor...)
  - **{Rodentia, order\_Rodentia}** (def: small gnawing animals: porcupines; rats; mice; squirrels; marmots; beavers; gophers; ...)
- SubstanceHolonym (**protein is a *substance* of milk**)
  - **{protein}** (def: any of a large group of nitrogenous organic compounds that are essential constituents of living beings)
  - **{milk}** (def: a white nutritious liquid secreted by mammals and used as food by human beings)

# Antonymy – between different Part-of-Speech

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## Verbs

- **{open, open\_up}**
  - def: cause to open or to become open;
- Antonym: **{close, shut}**
  - def: move so that an opening or passage is obstructed; make shut;

## Nouns

- **{sadness, unhappiness}**
  - def: emotions experienced when not in a state of well-being
- Antonym: **{joy, joyousness, joyfulness}**
  - def: the emotion of great happiness

## Adjectives

- **{ugly}**
  - def: displeasing to the senses
- **{beautiful}**
  - def: delighting the senses or exciting intellectual or emotional admiration;

# To fry – (shallow) hierarchy

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**{fry}: cook on a hot surface using fat; "fry the pancakes,,**

```
{change}
```

```
  {change_integrity}
```

```
    {cook}
```

```
      {fry}
```

```
        {frizzle}
```

```
        {deep-fat-fry}
```

```
        {pan-fry}
```

```
        ...
```



# Verb clusters

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<b>Verbs of Bodily Functions and Care (<i>sweat</i>)</b>	<b>Motion Verbs (<i>move</i>)</b>
<b>Verbs of Change (<i>change</i>)</b>	<b>Emotion or Psych Verbs (<i>feel</i>)</b>
<b>Verbs of Communication (<i>tell</i>)</b>	<b>Stative Verbs (<i>have, wear</i>)</b>
<b>Competition Verbs (<i>race</i>)</b>	<b>Perception Verbs (<i>see</i>)</b>
<b>Consumption Verbs (<i>drink</i>)</b>	<b>Verbs of Possession (<i>possess, own</i>)</b>
<b>Contact Verbs (<i>touch</i>)</b>	<b>Verbs of Social Interaction (<i>request, impeach</i>)</b>
<b>Cognition Verbs (<i>think</i>)</b>	<b>Weather Verbs (<i>thunder</i>)</b>
<b>Creation Verbs (<i>create</i>)</b>	

# Other verb relations

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## Cause (1)

- **{burn, combust}**
  - def: cause to burn or combust;
  - Usage: "The sun burned off the fog"; "We combust coal and other fossil fuels,,
- **{burn, combust}**
  - def: undergo combustion;
  - Usage: "Maple wood burns well,,

## Cause (2)

- **{feed, give}**
  - Def: give food to
  - Usage: "Feed the starving children in India";
- **{eat}**
  - Def: take in solid food;
  - Usage: "She was eating a banana"

## Other verb relations (2)

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Entailment - the relation between two verbs  $V_1$  and  $V_2$  that holds when the sentence *Someone  $V_1$*  logically entails the sentence *Someone  $V_2$*

- {**abort**}: terminate a pregnancy by undergoing an abortion} **entails**
- {**conceive**}: become pregnant; undergo conception
- {**snore, saw\_wood, saw\_logs**}: breathe noisily during one's sleep **entails**
- {**sleep, kip, slumber, log\_Z's, catch\_some\_Z's**}: be asleep

# Other relations

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## Cross-Part-Of-Speech

- Attribute:
  - adjective **{perfect}** – noun **{perfection, flawlessness, ne\_plus\_ultra}**
  - Adjective **{clean}** – noun **{cleanness}**
- Derivationally related:
  - Verb **{abort}** – noun **{abortion}**
  - Adjective **{dirty, soiled, unclean}** - noun **{dirtiness, uncleanness}**
- Similar (all Part-Of-Speech)
  - Adjective **{dirty, soiled, unclean}** - **{unwashed}, {sooty}, {maculate}, {greasy, oily}...**
- SeeAlso (all Part-Of-Speech)
  - Adjective **{dirty, soiled, unclean}** - **{untidy}**

# TopicDomain

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**{cooking, cookery, preparation}**: the act of preparing something (as food) by the application of heat

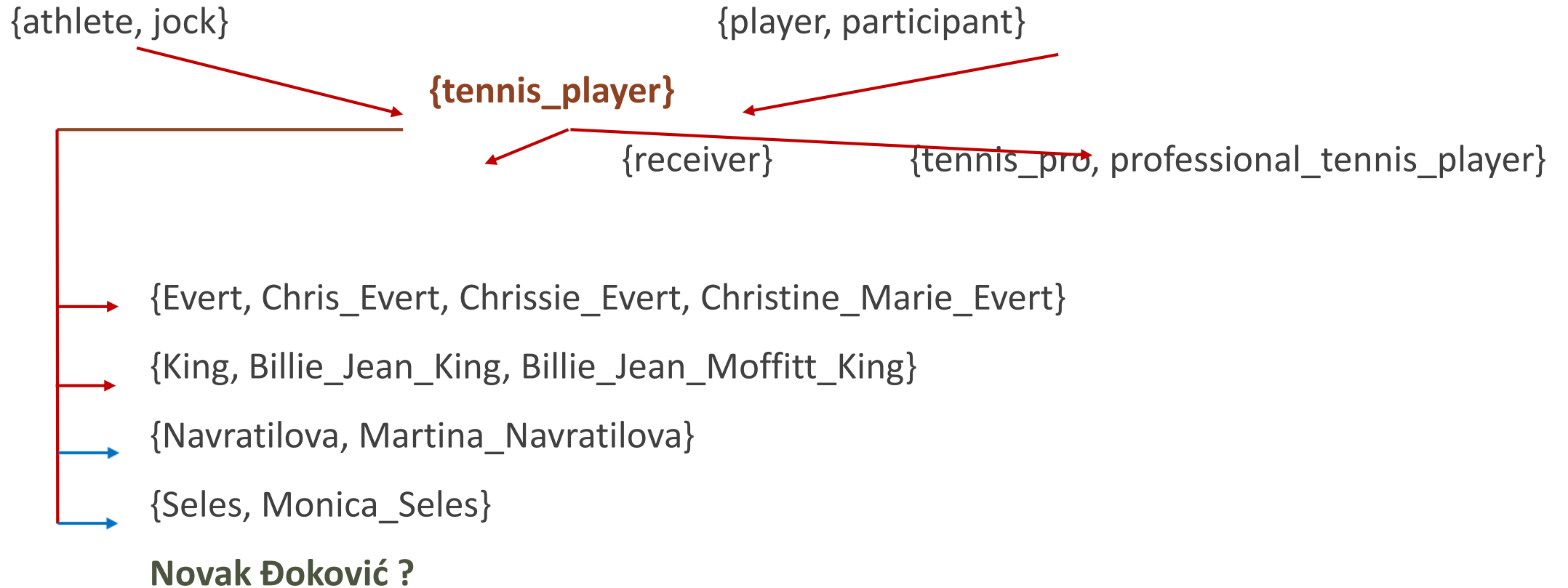
- Verb **{fry}**: cook on a hot surface using fat
- Noun **{curry}**: (East Indian cookery) a pungent dish of vegetables or meats flavored with curry powder and usually eaten with rice

**{sport, athletics}**: an active diversion requiring physical exertion and competition}

- Adjective **{loose}**: (of a ball in sport) not in the possession or control of any player
- Noun **{offside}**: (sport) the mistake of occupying an illegal position on the playing field (in football, soccer, ice hockey, field hockey, etc.)
- Verb **{shoot}**: score; "shoot a basket"; "shoot a goal"

# InstanceHyponym

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# WordNet 3.0 statistics (according to Piek Vossen, VU University Amsterdam)

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<b>POS</b>	<b>Unique strings</b>	<b>Synsets</b>	<b>Word-Sense Pairs</b>
<b>Noun</b>	<b>117,798</b>	<b>82,115</b>	<b>146,312</b>
<b>Verb</b>	<b>11,529</b>	<b>13,767</b>	<b>25,047</b>
<b>Adjective</b>	<b>21,479</b>	<b>18,156</b>	<b>30,002</b>
<b>Adverb</b>	<b>4,481</b>	<b>3,621</b>	<b>5,580</b>
<b>Total</b>	<b>155,287</b>	<b>117,659</b>	<b>206,941</b>

# Projects

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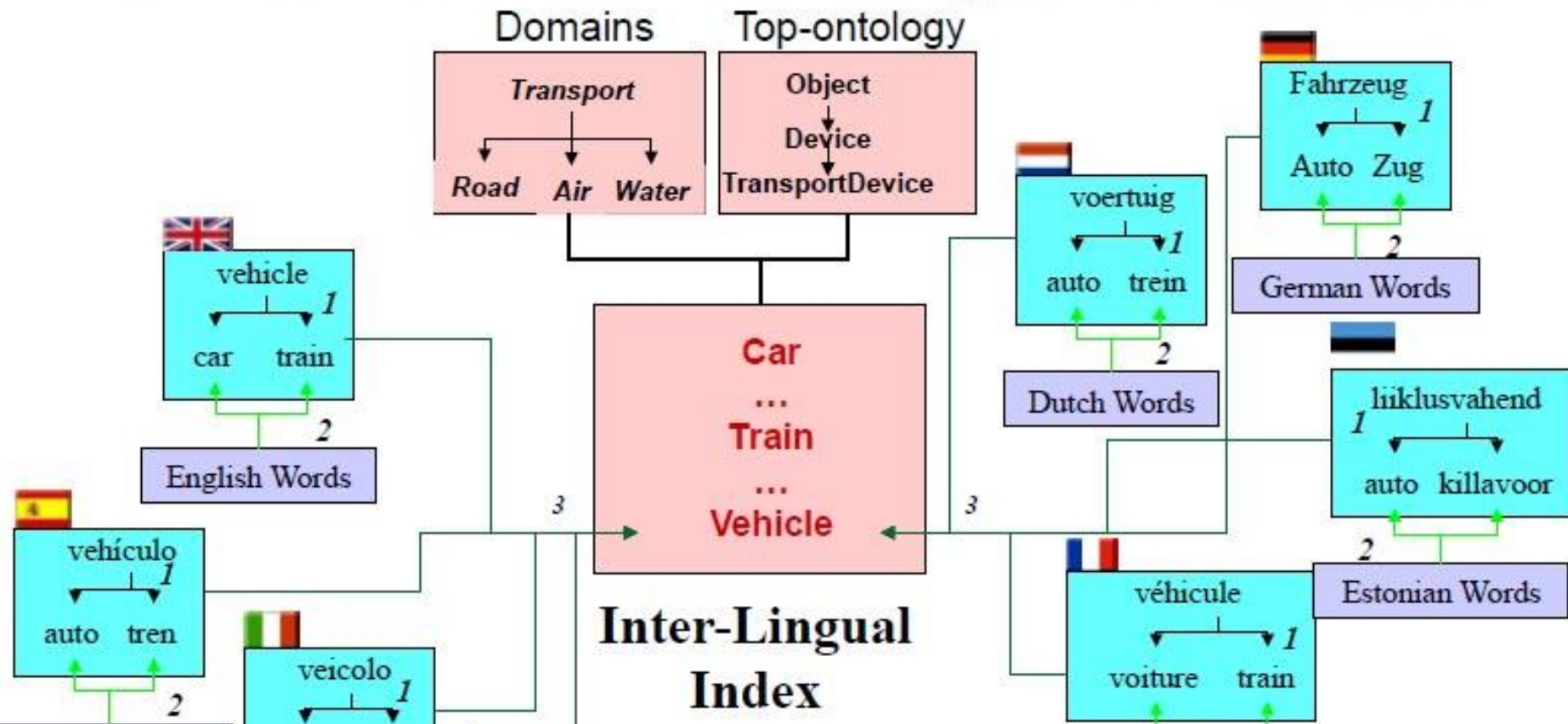
# EuroWordNet

## (project: March 1996 – June 1999)

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- EuroWordNet is a multilingual database with wordnets for several European languages (Dutch, Italian, Spanish, German, French, Czech and Estonian).
- The wordnets are structured in the same way as the American wordnet for English in terms of synsets (sets of synonymous words) with basic semantic relations between them.
- Each wordnet represents a unique language-internal system of lexicalizations.
- In addition, the wordnets are linked to an **Inter-Lingual-Index**, based on the Princeton wordnet. Via this index, the languages are interconnected so that it is possible to go from the words in one language to similar words in any other language.
- The index also gives access to a shared top-ontology of 63 semantic distinctions. This top-ontology provides a common semantic framework for all the languages

# EuroWordNet Multilingual database



Vossen, P. "From WordNet to EuroWordNet to the Global WordNet Grid: anchoring languages to universal meaning." *Guest lecture, Language Engineering Applications, February, 26th (2009).*

2  
Czech Words

# Multilingual Balkan Wordnet

IST-2000-29388 [September 2001 – August 2004]



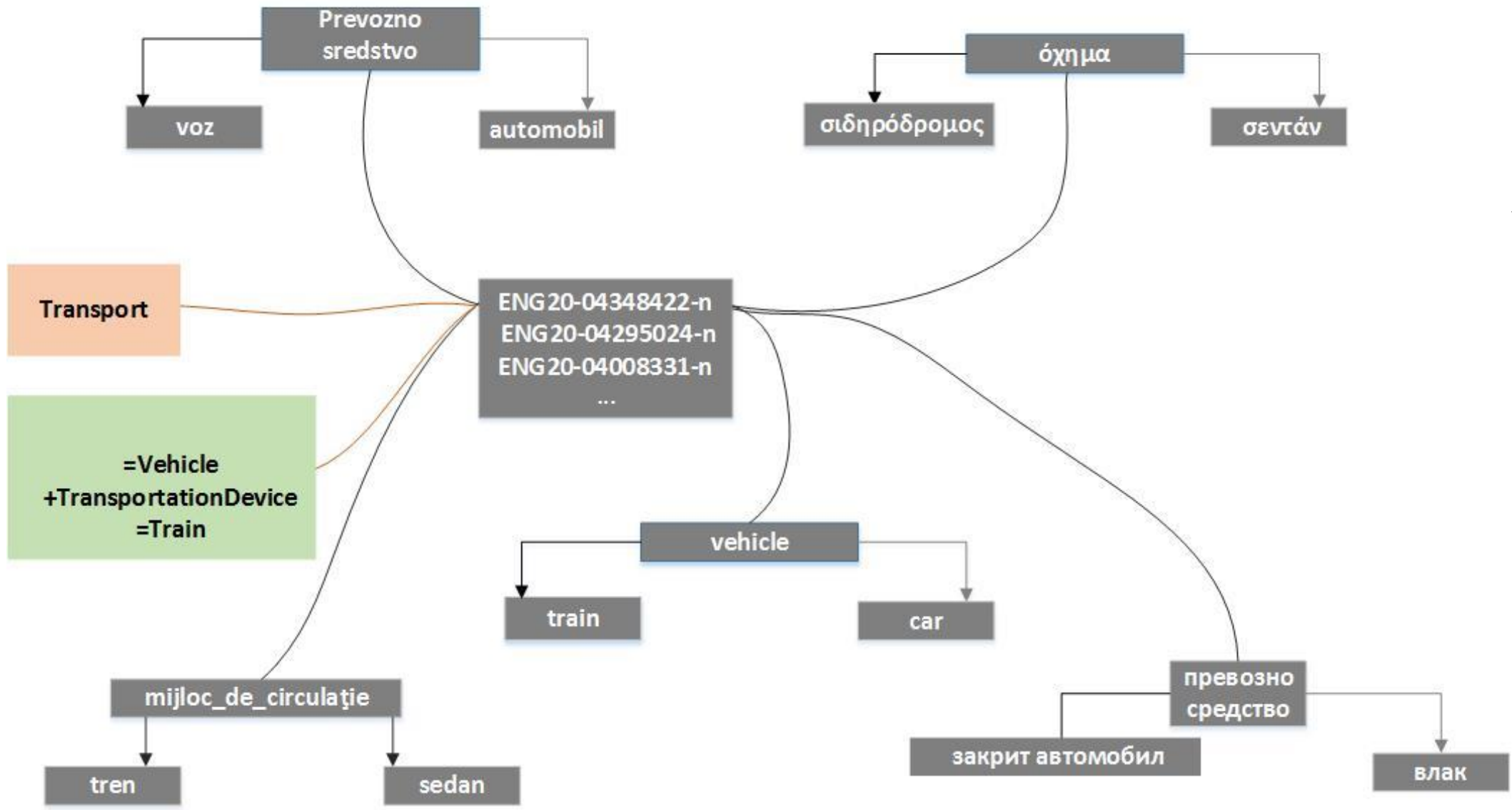
The project consortium consisted of 13 institutions from:

Bulgaria  
Greece  
Romania  
Serbia  
Turkey  
France  
Nederland  
Czech Republic

# The aims of the *BalkaNet* project

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- The development of the multilingual resources for the Balkan languages (Bulgarian, Greek, Romanian, Serbian, Turkish, and Czech)
- The enhancement of the semantic network EuroWordNet
- The definition of Balkan specific concepts
- The integration of semantic networks into applications based on natural language processing (e.g. classification of web documents)



# Development models

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There are two main models for building a multilingual wordnet:

- **A merge model** consists of building a language specific wordnet independently from other wordnets (and from PWN)
  - Used in EuroWordnet (in a second phase the correspondences between individual wordnets was established), Polish Wordnet (plWordNet 2.0)
- **A expand model** (translation-based model) consists of building a language specific wordnet keeping as much as possible of the semantic relations available in PWN. This is done by building the new synsets in correspondence with the PWN synsets, whenever possible, and importing semantic relations from the corresponding English synsets;
  - Used in Balkanet project and many other projects

# Balkan specific concepts

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- a concept specific for a particular Balkan language (*стара штедња* ‘foreign currency saving accounts frozen by factual bankruptcy’ for Serbian),
- a concept originating from one Balkan language which has spread to other Balkan and European languages (*Атенат у Сарајеву* ‘the assassination in Sarajevo’),
- a concept which is not necessarily specific for the Balkans only, but which is recognized as common in this area, while at the same time it has not been registered in PWN (*пирамидална банка* ‘banks offering extremely high interest rates’).

# Concepts recognized by all Balkan languages

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Bulgarian	кадаиф	халва
Greek	κανταΐφι	χαλβάς
Romanian	cataif	halva
Serbian	кадаиф	алва
Turkish	kadayıf	kağıt helva





# Enhancements

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# Wordnet Domain Hierarchy

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The WordNet Domains Hierarchy (**WDH**) is a language-independent resource composed of 164, hierarchically organized, domain labels (e.g. Architecture, Sport, Medicine).

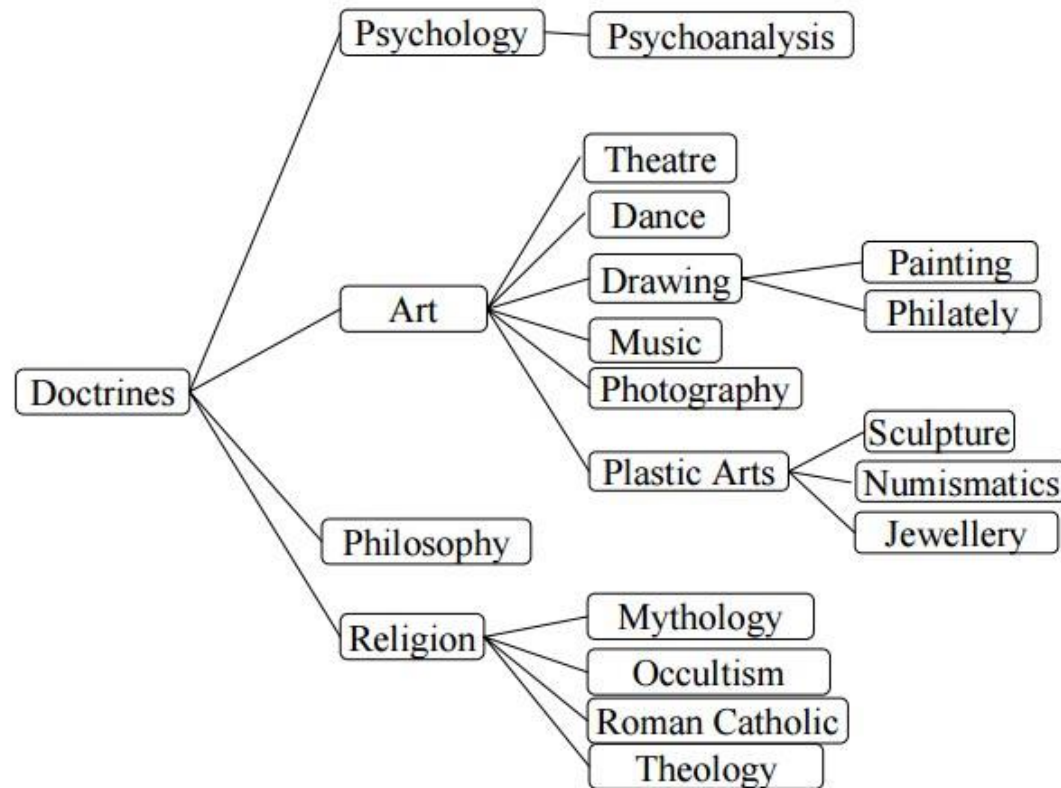
WordNet Domains is a lexical resource developed at ITCirst where each WordNet synset is annotated with one or more domain labels selected from a domain hierarchy which was specifically created to this purpose.

The first version of the WDH was composed of 164 domain labels selected starting from the subject field codes used in current dictionaries, and the subject codes contained in **the Dewey Decimal Classification (DDC)**, a general knowledge organization tool which is the most widely used taxonomy for library organization purposes.

More info: <http://wndomains.fbk.eu/index.html>

# One of the five main trees in the WordNet Domains original hierarchy

Other 4 trees are:  
free\_time  
applied\_science  
pure\_science  
social\_science



The label FACTOTUM was assigned in case all other labels could not be assigned.

# One „word“ – many labels (domains) – example *board*

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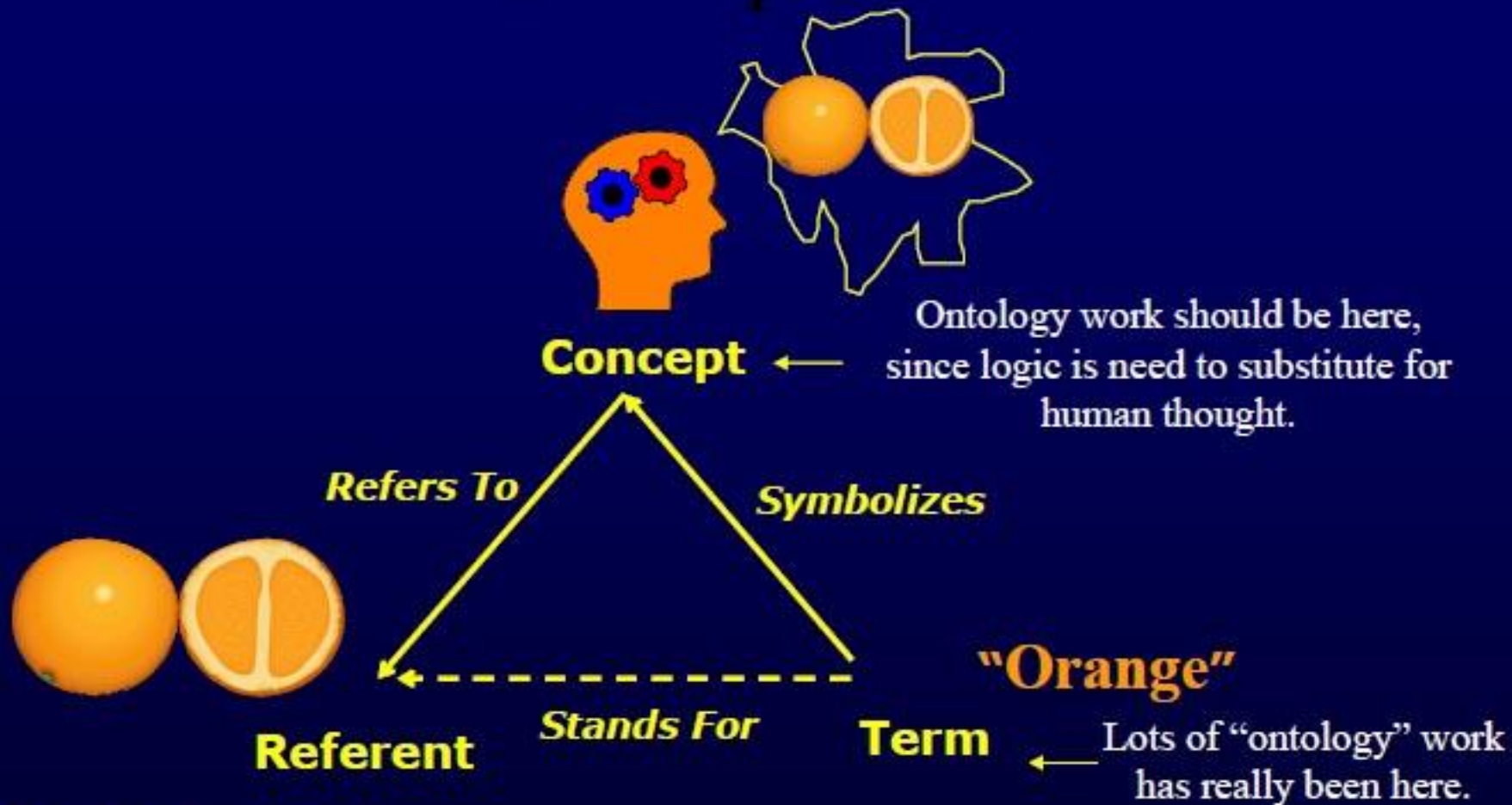
Synset definition	domain
a flat portable surface (usually rectangular) designed for board game	play
a printed circuit that can be inserted into expansion slots in a computer to increase ...	computer science
electrical device consisting of a flat insulated surface that contains switches ...	electronics
a table at which meals are served	furniture
a vertical surface on which information can be displayed to public view	electronics
food or meals in general	food
a flat piece of material designed for a special purpose	factotum
a stout length of sawn timber; made in a wide variety of sizes and used for many purpose	buildings
a committee having supervisory powers	administration

# SUMO – The Suggested Upper Merged Ontology (SUMO)

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- An ontology is a set of definitions in a formal language for terms describing the world.
- An Upper Ontology is an attempt to capture the most general and reusable terms and definitions.
- **SUMO:**
  - 1000 terms, 4000 axioms (assertions), 750 rules;
  - Mapped by hand to all of WordNet 1.6;
    - then ported to newer versions
  - Associated domain ontologies totaling 20,000 terms and 60,000 axioms;
  - Free
    - SUMO is owned by IEEE but basically public domain
    - Domain ontologies are released under GNU
    - [www.ontologyportal.org](http://www.ontologyportal.org)

# Terms and Concepts



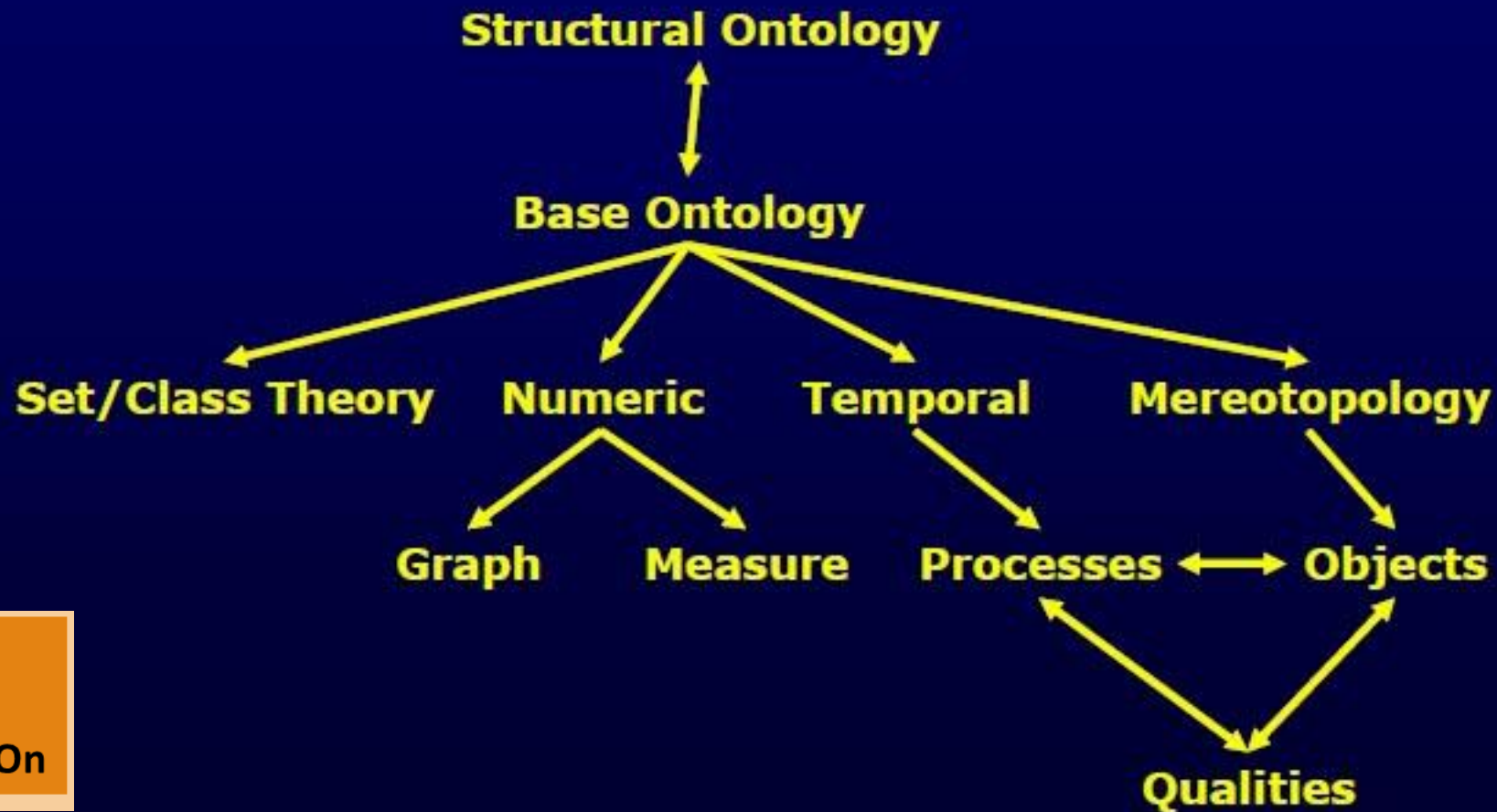
Slide adapted from (c) Key-Sun Choi for Pan Localization 2005

from the slide of [Bargmeyer, Bruce, Open Metadata Forum, Berlin, 2005]

C.K. Ogden/I.A. Richards, *The Meaning of Meaning: A Study in the Influence of Language upon Thought and The Science of Symbolism* London 1923, 10th edition 1969

Adam Pease  
Articulate Software  
Presented at PANL1On

# SUMO Structure



Adam Pease  
Articulate Software  
Presented at PANL10n

# Relations between SUMO concepts and Wordnet Synsets

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- Synonymy
  - **{battle, conflict, fight, engagement}** -> SUMO Battle= (Domain: history)
- Subordination
  - **{naval\_battle}** -> SUMO Battle+ (Domain: history)
- Instance
  - **{Trafalgar, battle\_of\_Trafalgar}** -> SUMO Battle@ (Domain:history)
- Less straightforward
  - **{writer, author}** -> SUMO authors= (Domain: literature)
  - **{dramatist, playwright}** -> SUMO Position+ (Domain: literature)
  - **{poet}** -> SUMO authors+ (Domain: literature)
  - **{Brecht, Bertolt\_Brecht}** -> SUMO Man@ (Domain:literature)



# Wordnet to SUMO Mapping and SUMO formalism

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**{plant, flora, plant\_life}**: (botany) a living organism lacking the power of locomotion

SUMO: **Plant** = (domain: **biology**

SUMO has axioms that explain formally what a plant is

(=>

(and

(instance ?SUBSTANCE PlantSubstance)

(instance ?PLANT Organism)

(part ?SUBSTANCE ?PLANT))

(instance ?PLANT Plant))

# Why are SUMO and WordNet important

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- Semantic word sense disambiguation
  - “The board approved the pay raise.”
    - Piece of wood, or corporate government?
- Anaphoric resolution
  - “Betty saw Susan asleep on the couch. She put her to bed.”
    - Sleeping people do not perform intentional actions

**Adam Pease**  
**Articulate Software**  
**Presented at PANL1On**

# SentiWordNet

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**SentiWordNet** is a lexical resource explicitly devised for supporting sentiment classification and opinion mining applications.

SentiWordnet is the result of automatically annotating all WORDNET synsets according to their degrees of positivity, negativity, and neutrality.

Each synset  $s$  is associated to three numerical scores  $Pos(s)$ ,  $Neg(s)$ , and  $Obj(s)$  which indicate how positive, negative, and “objective” (i.e., neutral) the terms contained in the synset are.

Each of the three scores ranges in the interval  $[0.0, 1.0]$ , and their sum is 1.0 for each synset.

# SentiWordNet

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- Different senses of the same term may have different opinion-related properties.
- Example for the adjective *estimable* from SentiWordNet 1.0:
- **{computable, estimable}** def: may be computed or estimated Pos=0, Neg=0, Obj=1.
- **{estimable}** def: deserving of respect or high regard Pos=0.75, Neg=0.0, Obj=0.25.

# Usage

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# Software

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- EuroWordNet - Polaris: a wordnet editing tool for creating, editing and exporting wordnets
- Balkanet – VisDic: XML-based WordNet editor
- DEBVisDic: a client-server application that was used for the editing of several WordNets ((Dutch in Cornetto project, Polish, Hungarian, several African languages, Chinese)
- Many research teams have developed their own development software
  - Example: for Serbian – SWNE <http://sm.jerteh.rs/Default.aspx> hosted by JeRTeh, Society for Language Resources and Technologies (Serbia)

# Usage of wordnets

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- Improve recall of textual based analysis:
- Query → Index
  - Synonyms: commence → begin
  - Hypernyms: taxi → car
  - Hyponyms: car → taxi
  - Meronyms: trunk → elephant
  - Lexical entailments: used a gun → shot
- Inferencing:
  - what things can be used for transport?
- Expressions in language generation and translation:
  - alternative words and paraphrases

# Recall improvement

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## Improvement of web search

- For Serbian **VebRanka** (<http://hlt.rgf.bg.ac.rs/VeBranka/About.aspx?param=1>)

## Anaphora resolution:

- The **girl** fell off the table. **She**... / –The **glass** fell off the table. **It**...

## Coreference resolution:

- When he moved the **furniture**, the antique **table** got damaged.
- The young **puppy** damaged the furniture. The **pet** felt at home.

## Summarizers:

- Sentence selection based on word counts → concept counts

Named entity types: detect locations, organizations, people, etc.



# Other usages

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- Data sparseness for machine learning: hapaxes can be replaced by semantic classes
- Use redundancy for more robustness: spelling correction and speech recognition can built semantic expectations using Wordnet and make better choices
- Sentiment and opinion mining, sentiment classification
  - For Serbian (SAFOS)
- Vocabulary learning



# Wordnets in the World

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# Global WordNet

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## Global WordNet Association - <http://globalwordnet.org/>

- A free, public and non-commercial organization that provides a platform for discussing, sharing and connecting wordnets for all languages in the world.
- Organizes **GWA Conferences** – 8 conferences up to now
- **Global WordNet Grid** - which is being build around a shared set of concepts used in many wordnet projects.
- List of all wordnets in the world (contact persons, licences etc. <http://globalwordnet.org/wordnets-in-the-world/>)