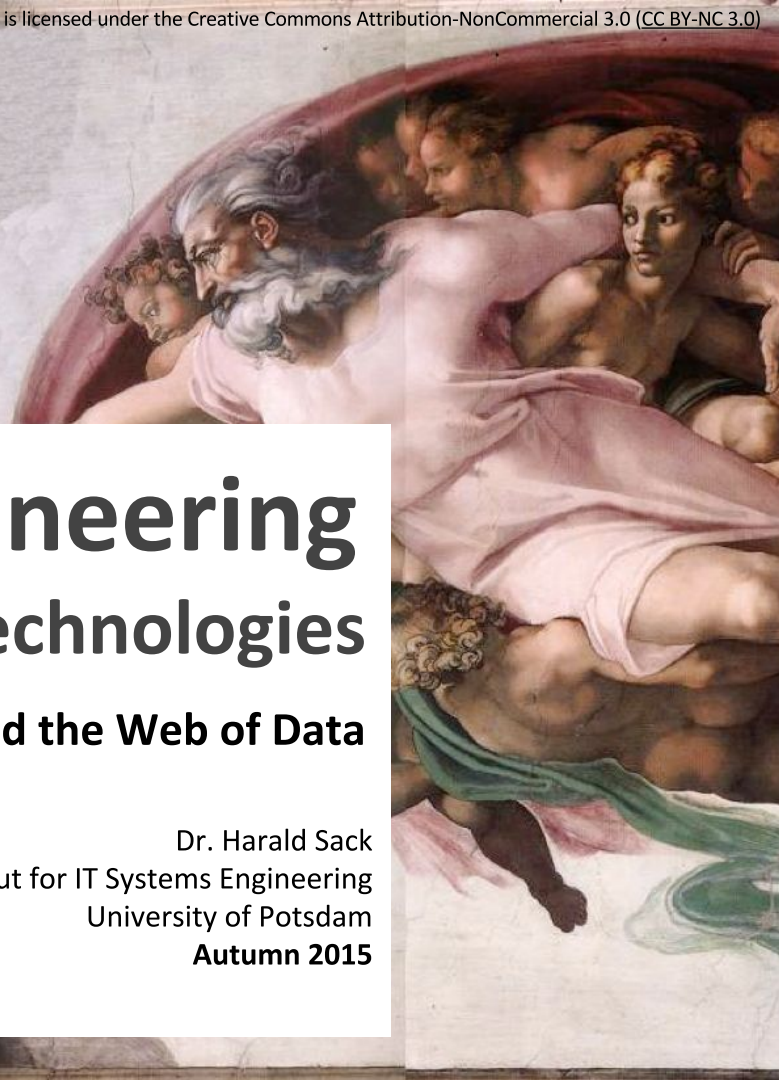
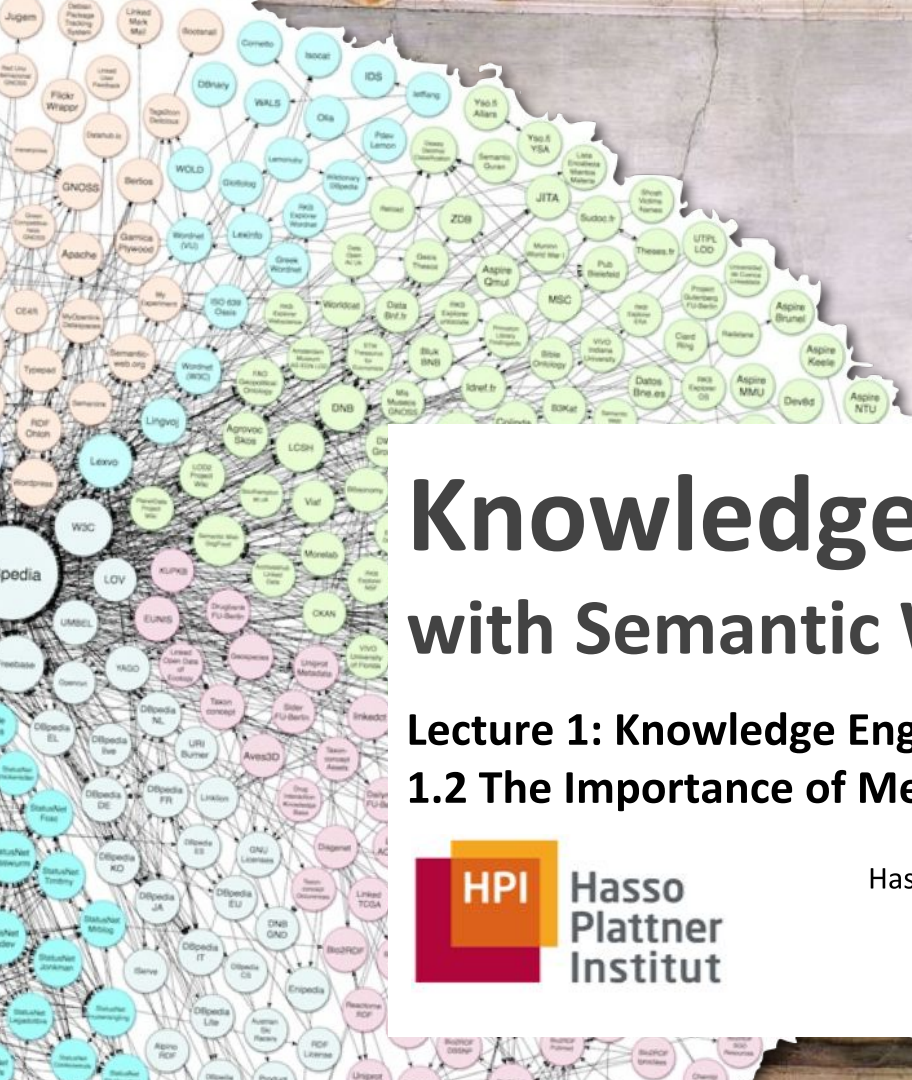




Knowledge Engineering with Semantic Web Technologies

Lecture 1: Knowledge Engineering and the Web of Data 1.2 The Importance of Meaning



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Meaning and Comprehension

- **Understanding** is the ability to grasp the **meaning of information**.
- Information is conveyed in a **message** using a **specific language**.
- Information is understood by the receiver of a message, if the receiver **interprets** the information **correctly**.

Meaning and Comprehension

- **Correct Interpretation** depends on
 - Syntax,
 - Semantics,
 - Context,
 - Pragmatics, and
 - Experience

Syntax

- =[greek] Arrangement, Ordering
- In **grammatics** syntax denotes the study of the principles and processes by which sentences are constructed in particular languages.
- In **formal languages**, syntax is just a set of rules, by which well formed expressions can be created from a fundamental set of symbols (alphabet).
- In **computer science**, syntax defines the normative structure of data.

- =[greek] pertains to the character, the study of meaning
- is part of the linguistics focussed on **Sense and Meaning** of language or symbols of language.
- is the **study of interpretation of signs or symbols** as used by agents or communities within particular circumstances and **contexts**.
- Semantics asks, how sense and meaning of complex concepts can be derived from simple concepts based on the **rules of syntax**.
- The semantics of a message depends on **context** and **pragmatics**.

- [lat.] contextus = interweaved
- denotes the **surrounding of a symbol** (concept) in an expression resp. its **relationship with surrounding expressions** (concepts) and further related elements,
- Contexts denotes **all elements of any sort of communication that define the interpretation of the communicated content.**
- We distinguish
 - **general contexts:**
place, time, interrelation of action in a message
 - **personal or social contexts:**
relation between sender and receiver of a message

Pragmatics

- [greek] = action
- reflects the **intention by which the language is used** to communicate a message.
- In linguistics pragmatics denotes the **study of applying language in different situations**.
- It also **denotes the intended purpose** of the speaker.
- Pragmatics studies **the ways in which context contributes to meaning**.

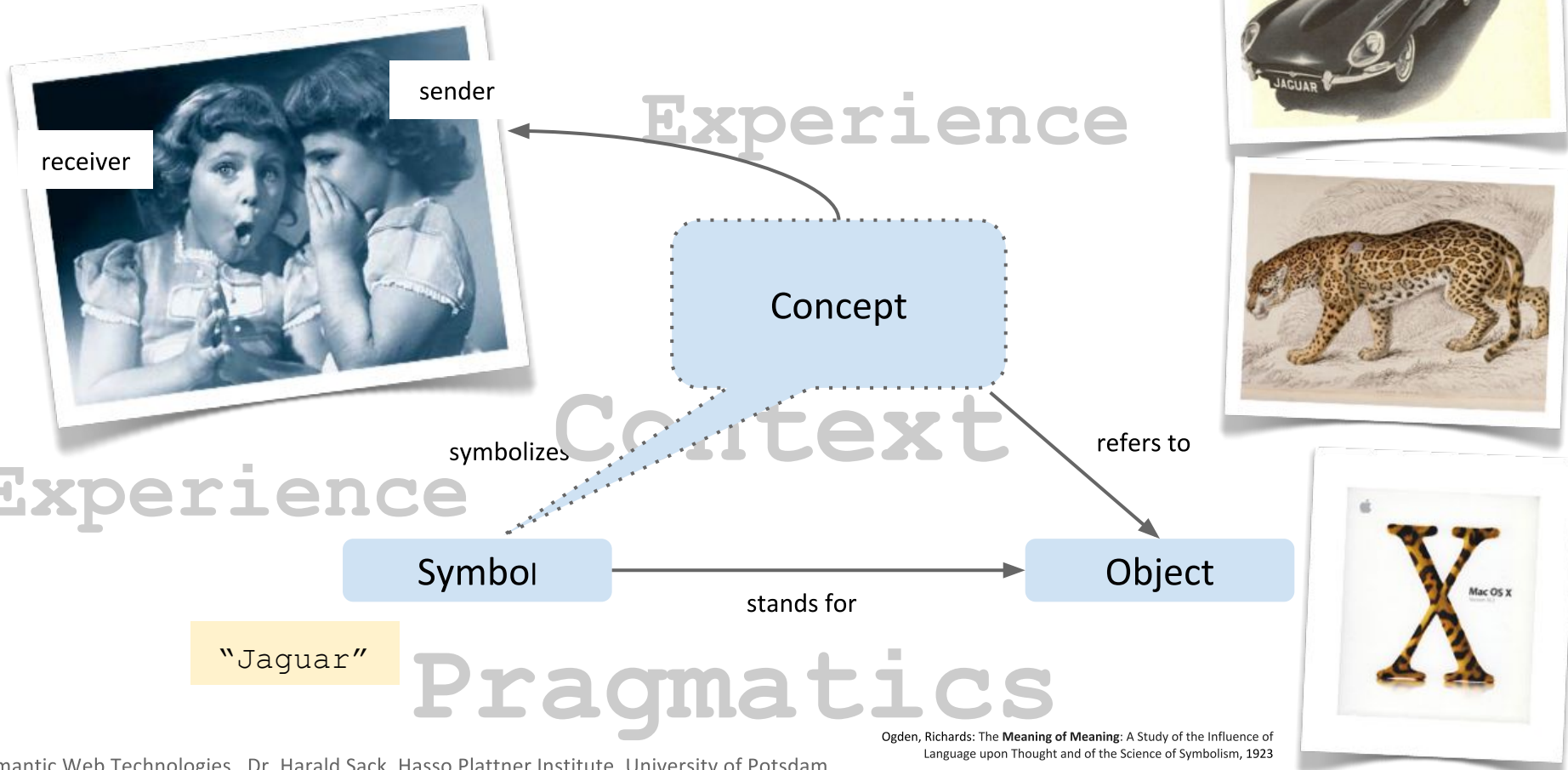
Experience

- **Experience** considers all information that you have learned and put in context with the world you are living in.
- Experience in this sense also often is referred to as **common sense knowledge** or **world knowledge**.

Successful Communication

- For **successful communication**,
 - information has to be correctly transmitted (**Syntax**)
 - the meaning (**Semantics**) of the transmitted information must be interpreted correctly (= **understanding**)
- **Understanding** depends on
 - the **context** of both sender and receiver and
 - the **pragmatics** of the sender
- **Context** of sender and receiver depend on
 - the **experience** (knowledge of the world) of both sender and receiver

Meaning



Ogden, Richards: *The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism*, 1923



In the (traditional) Web there is no explicit semantics



Next: 03 - Understanding Content on the Web

OpenHPI - Course Knowledge Engineering with Semantic Web Technologies

Lecture 1: Knowledge Engineering and the Web of Data