



北京建筑大学
BEIJING UNIVERSITY OF CIVIL
ENGINEERING AND ARCHITECTURE

语义

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- 语义
 - “语”就是符号。如：汉字，英文字母，数字，以及任何其他图形或符号
 - “义”指当前语境下的意义。如“王”在历史中代表最高地位，在打牌中代表最大的牌
- 语义是语言的含义。
 - 符号是语言载体，本身无任何意义
 - 赋予符号意义后，符号才能变为信息
- 数据语义是数据的含义。
 - 数据是一种符号，本身无任何意义
 - 赋予数据意义后，数据才能变为信息

中文名

语义

外文名

semantic

定义

数据的含义

含义

对数据符号的解释

- 领域性

- 语义是依赖于领域存在的。如“王”在**历史**中代表最高地位，在**打牌**中代表最大的牌

- 异构性

- 同一事物解释不同
 - 同一事物不同领域含义不同

- 主观性

- 个体对语义理解的差异性

胡适的文章《充分世界化与全盘西化》中有这么一段

名词之争

二十年前，美国“展望周报”(The Outlook)总编辑阿博特(Lyman Abbott)发表了一部自传，其第一篇里记他的父亲的谈话，说：“自古以来，**凡哲学上和神学上的争论，十分之九都只是名词上的争论。**”阿博特在这句话的后面加上了一句评论，他说：“我父亲的话是不错的。但我年纪越大，越感觉到他老人家的算术还有点小错。其实剩下的那十分之一，也还只是名词上的争论。”

领域性、异构性和主观性才迫切需要制定各类标准

唯名论与唯实论



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唯实论 (Realism)



柏拉图



普遍与个体

概念与事物

唯名论 (Nominalism)



亚里士多德

与普遍性有关的三个问题：

- 普遍性是独立存在的实体，还是只存在于思想中的概念？
- 如果普遍性是实体，它是有形的还是无形的？
- 如果普遍性是无形的，它是与可感物分离的还是存在于可感物中？



波菲利

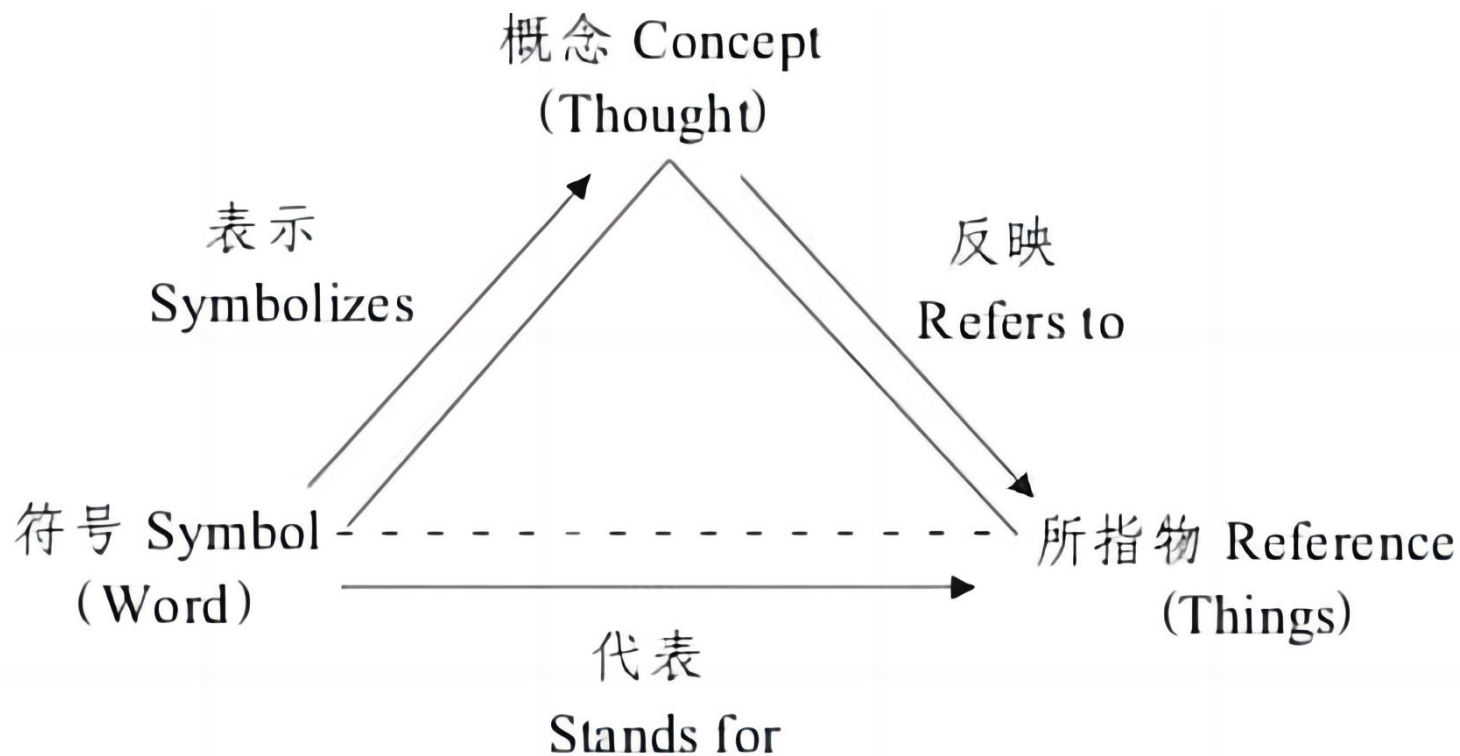
唯名论中的普遍性 (universals) 就是语义或面向对象中的类 (classes)，事物就是对象 (object)

概念论 (Conceptualism) 是与“存在论”“本体论”一致的概念



The Meaning of Meaning Model

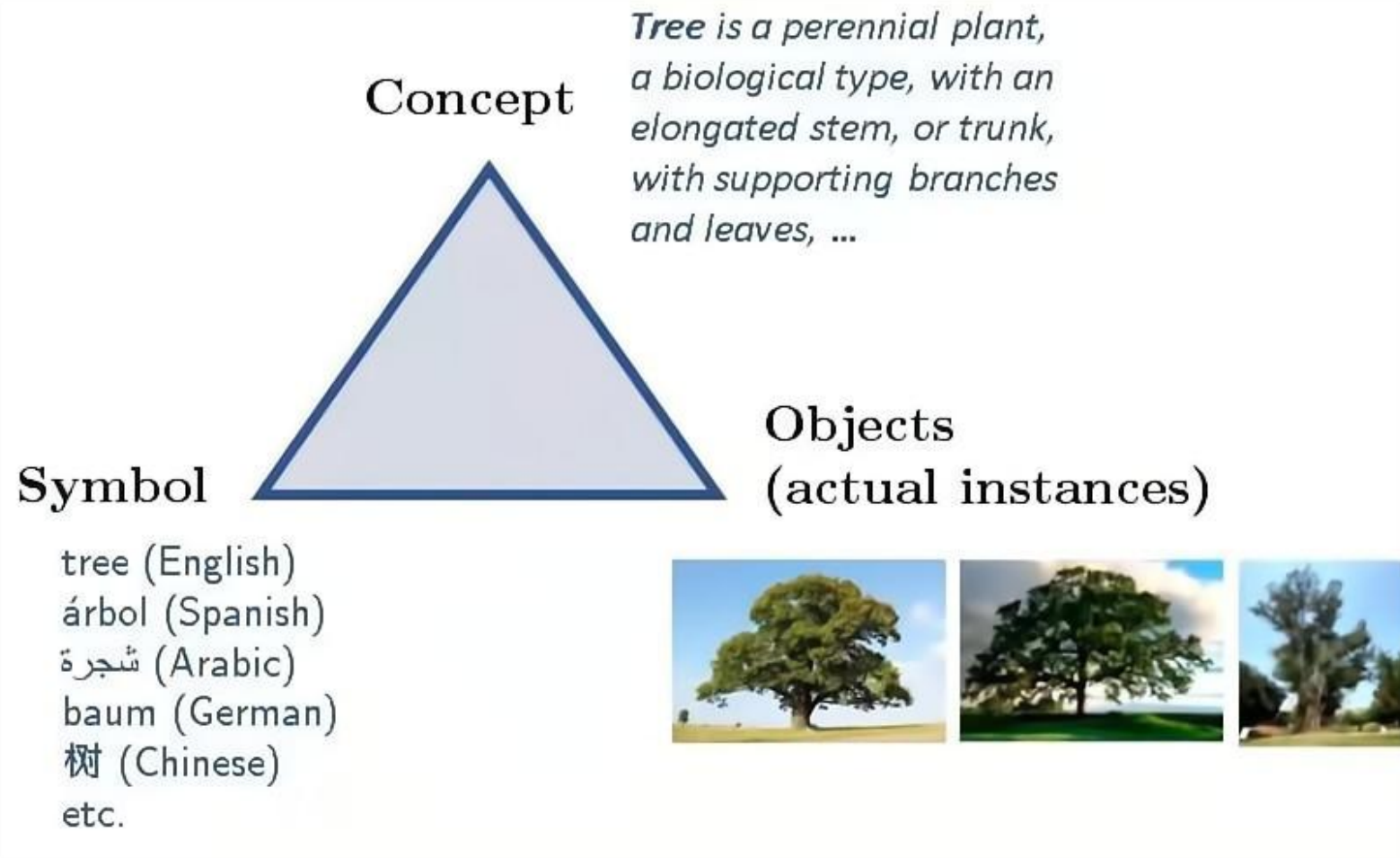
Charles Kay Ogden (1889–1957)
&
Ivor Armstrong Richards (1893 – 1979)



语义三角 (续)



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- **Wikipedia**
- **百度百科**
- **IFC**
-

**一个语义概念就
是一条知识。**

语义三角案例——维基百科



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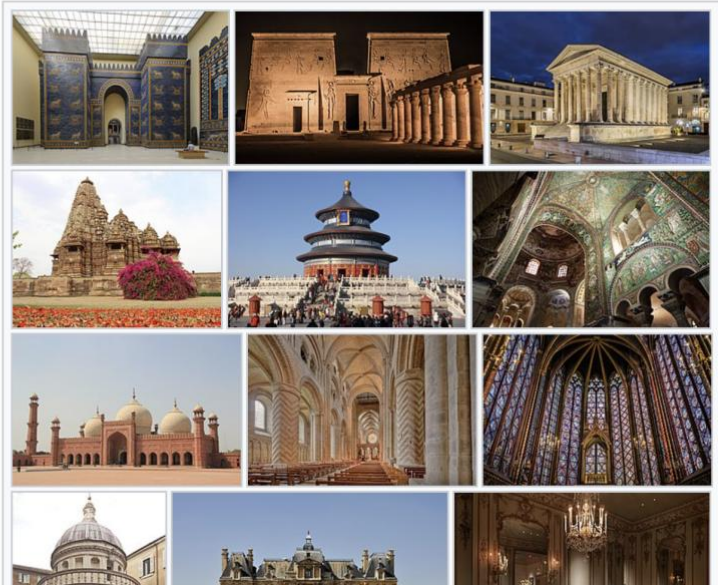
From Wikipedia, the free encyclopedia

*For the act of making buildings, see [Construction](#). For structures not intended for human use, see [Nonbuilding structure](#). For other uses, see [Building \(disambiguation\)](#). For another use of "Edifice", see [Casio Edifice](#). For *technical reasons*, "[Building #19](#)" redirects here. For the store chain, see [Building 19](#).*

A **building**, or **edifice**, is a [structure](#) with a [roof](#) and^[1] [walls](#) standing more or less permanently in one place, such as a [house](#) or [factory](#).^[1] Buildings come in a variety of sizes, shapes, and functions, and have been adapted throughout history for a wide number of factors, from [building materials](#) available, to weather conditions, land prices, ground conditions, specific uses, and aesthetic reasons. To better understand the term *building* compare the list of [nonbuilding structures](#).

Buildings serve several societal needs – primarily as shelter from weather, security, living space, privacy, to store belongings, and to comfortably live and work. A building as a shelter represents a physical division of the [human habitat](#) (a place of comfort and safety) and the *outside* (a place that at times may be harsh and harmful).

Ever since the first [cave paintings](#), buildings have also become objects or canvasses of much artistic expression. In recent years, interest in [sustainable](#) planning and building practices has also become an intentional part of the design process of many new buildings and other structures.



语义三角案例——IFC

standards.buildingsmart.org/IFC/RELEASE/IFC2x3/TC1/HTML/ifcsharedbldgelements/lexical/ifcdoor.htm

Home Schema Express-g Definition Attribute Rule Inheritance References

IfcDoor

符号

概念

Definition from ISO 6707-1:1989: Construction for closing an opening, intended primarily for access with hinged, pivoted or sliding operation.

Definition from buildingSMART: The door is a building element that is predominately used to provide controlled access for people and goods. It includes constructions with hinged, pivoted, sliding, and additionally revolving and folding operations. A door consists of a lining and one or several panels, properties concerning the lining and panel are defined by the *IfcDoorLiningProperties* and the *IfcDoorPanelProperties*.

The door entity, *IfcDoor*, defines a particular occurrence of a door inserted in the spatial context of a project. A door can:

- either be inserted as a filler in an opening, then the *IfcDoor* has an inverse attribute *FillsVoids* provided,
- or be a "free standing" door, then the *IfcDoor* has no inverse attribute *FillsVoids* provided.

实例

The actual parameter of the door and/or its shape are defined by the *IfcDoor* as the occurrence definition (or project instance), or by the *IfcDoorStyle* as the specific definition (or project type). Parameters are given:

- at the *IfcDoor* for occurrence specific parameters. The *IfcDoor* specifies:
 - the door width and height
 - the door opening direction (by the y-axis of the *ObjectPlacement*)
- at the *IfcDoorStyle*, to which the *IfcDoor* is related by the inverse relationship *IsDefinedBy* pointing to *IfcRelDefinesByType*, for style parameters common to all occurrences of the same style.
 - the operation type (single swing, double swing, revolving, etc.)
 - the door hinge side (by using two different styles for right and left opening doors)
 - the construction type
 - the particular attributes for the lining by the *IfcDoorLiningProperties*
 - the particular attributes for the panels by the *IfcDoorPanelProperties*

The *IfcDoor* is normally inserted into an *IfcOpeningElement* (but does not need to - see above) using the *IfcRelFillsElement* relationship. It is also directly linked to the spatial structure of the project (and here normally to the *IfcBuildingStorey*, or to the *IfcSpace*) using the *IfcRelContainedInSpatialStructure* relationship.

HISTORY New entity in IFC Release 1.0.

- 语境包括情景语境和语言语境
 - 情景语境指语言交际活动发生的事件、地点、说话人和听话人、已经说话时的活动等语言之外的因素
 - 语言语境就是语言的上下文（context）。一个词/一句话的意义常常取决于它前后的词语或句子。
- 行为主义
- 功能主义
- 心灵主义

当前，计算机领域，如自然语言理解（或计算语言学），仍然在解决：语境问题。

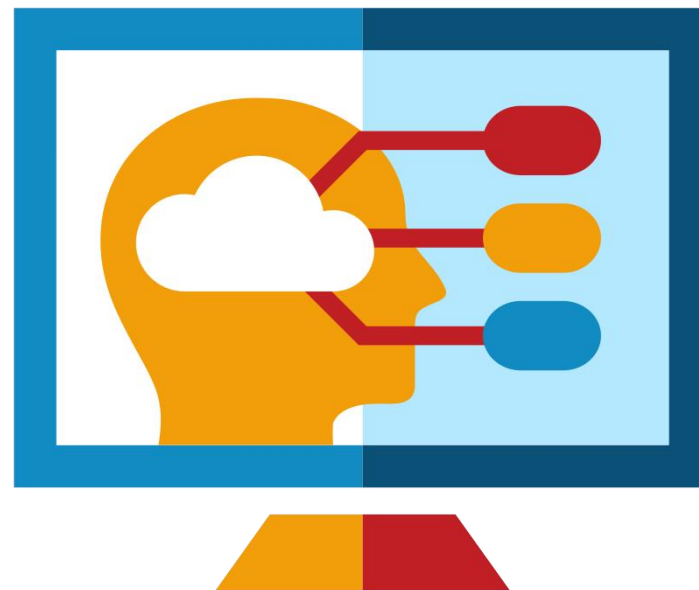
语义理论：从面向人到面向机器



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人



机器



语义

主
监
审
统
录

讲
制
稿
筹
制

周小平
刘德利
王雨康
斯 琴
王雨康