

Introduction to Logic:

Argumentation and Interpretation

Vysoká škola mezinárodních a veřejných vztahů

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Introduction to Logic: Argumentation and Interpretation

Annotation

The course offers an overview of topics in logic, communication, reasoning, interpretation and summary of their practical use in communication. It provides basic orientation in terminology of linguistic research and communication, persuasion and communication strategies, understanding the logic games, exercises and tasks, and offers the opportunity to learn the reasoning applied in various situations. The aim is that students not only get familiar with lectures, but also acquire the means of communication and argumentation through exercises and online tests.

Topics

1. Brief history of Logic and its place in science
2. Analysis of complex propositions using truth tables
3. The subject-predicate logic – Aristotelian square
4. Definitions and Terminology
5. Polysemy, synonymy, homonymy, antonymy
6. Analysis of faulty arguments
7. Interpretation – rules and approaches
8. Analysis of concrete dialogue

<http://mediaanthropology.webnode.cz/kurzy/introduction-to-logic/>

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Definitions and Terminology

presupposition (assumption), pragmatic and semantic (son's father); are distinguished from the logical entailment (youngest son has a sibling)

Theory of Terms

- term is an abstract entity that has different encoding, linguistic representations in different languages
- terms are non-illustrated entities (non-experiential, arbitrary: F. de Saussure)
- random properties of a concrete entity do not represent term
- Content of the term:** a set of attributes that inevitably belongs to all and only those objects that fall under the term
- Extent of term:** the set of objects that belong under the term
- Logical class: the summary of objects with common characteristics, which differ them from other objects

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Definitions and Terminology: Characteristics of Terms

- **Specific terms** (individual) apply to individual objects (Prague, capital of the Czech Republic, Vysehrad, Jan Novak)
- **General terms** refer to a group of objects of the same type (town, tree, car, ...)
- **Concrete terms** refer to a specific individual objects or their groups which can exist specifically and independently of the human thinking (mind), they are accessible to the senses of more people simultaneously (dog, table)
- **Abstract terms** apply to the characteristics of objects, which themselves do not exist as separate and are only available in thinking (mind) of a particular human (bravery, beauty, true, lie)

Source:

NYTROVÁ, Olga - PIKÁLKOVÁ, Marcela. Etika a logika v komunikaci. Praha: UJAK, 2007.

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Definitions and Terminology: Characteristics of Terms

- **Collective terms** apply to group of objects imaginable as one unit (forest, library)
- **Positive terms** indicate that an object has certain characteristics - symptoms (salty croissant, cheerful boy, decent man)
- **Negative terms** indicate that the object has not certain characteristics – symptoms (unsalty goulash, unfunny = sad story, indecent speech)

Category: scientific terms reflecting the most common and most important relationships and context (Philosophy: cause and effect, Physics: force, Biology: cell)

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Definitions and Terminology: Characteristics of Terms

Theory of terms

-Terms with non-empty extent:

- a) singular (the country's highest mountain)
- b) plural - with a finite number of objects (our class)
- c) an infinite number of subjects (even or odd numbers)

- Terms with empty extent:

- a) strictly empty (the largest prime number)
- b) quasi-empty (squared circle)

Terms with empty extent are imaginary or logically questionable.

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Definitions and Terminology: Characteristics of Terms

Theory of terms

-Conditions of extent of terms:

1. Consistent

- a) overlay (common intersection)
- b) subordination
- c) superiority
- d) equivalence

2. Inconsistent

-have not common elements

Poorer content means richer extent...

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Definitions and Terminology

Definitions are used for explanation and precise expression or to establish the meaning of an expression with other expressions.

A set of elementary concepts is called ***the vocabulary of the language***.

According to Aristotle the definition is ***horismós***, boundaries, and defining is the procedure of determining the nearest *genus* and *species* specification (man = *zoon politikon*).

Definition always involves *definiendum* (defined) and *definiens* (defining).

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Definitions and Terminology

Requirements for proper (correct) definition:

1. Logical-semantic
2. Logical-epistemological

Translatability (substitutability of definiend with definiens) and the ***extension identity*** of both. Definiens has to express only the essential features and it should contain only well known, precise, sharp expressions and positive forms of expressions.

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Definitions and Terminology

Analytical definition - the definition of a simple or complex expression, whose meaning is in language already traditionally defined

Synthetic definition – the definition of a new term, introduced into dictionaries and terminology

Nominal definitions (basic) must comply with:

- **Eliminability criterion** (substitutability)
- **Non-creativity criterion** (non-deductibility of new theorems)
- **Existence criterion** (there must be at least one item)

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Crossed definition – the definition of a “vicious circle“, definiendum and definiens overlap each other and there are also other elements (tautology - It is good to do good)

Broad definition – the extent of the definiens includes the extent of the definiendum

Narrow definition – Inadequate

Thank you for your attention!

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In case of a need, don't hesitate to contact me:

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