

Introducing Linguistics

Susanne Löhne, Katharina Voigt, Jakob Volhard & Maik Walter

Social, Cognitive and Affective Neuroscience
Freie Universität Berlin

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Overview

- 1 What is Linguistics?
- 2 Linguistic in Real Humans
 - Language Acquisition
 - The Linguistic Brain

Dividing Linguistics

- Phonetics
- Phonology
- Morphology
- Syntax
- Semantics
- Pragmatics

Dividing Linguistics

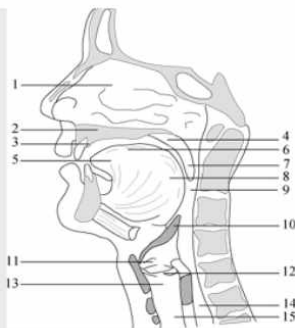
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Phonetics

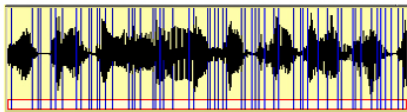
- Investigates 'speech sounds' versus 'sounds for communication'
→ speech is special!
- Properties: physical, physiological, articulatory, auditory; NOT linguistic function
- "Phones"
- manner and place of articulation

Phonetics

- (1) Nasal cavity
- (2) Hard palate
- (3) Alveolar ridge
- (4) Soft palate (Velum)
- (5) Tip of the tongue (Apex)
- (6) Dorsum
- (7) Uvula
- (8) Radix
- (9) Pharynx
- (10) Epiglottis
- (11) False vocal cords
- (12) Vocal cords
- (13) Larynx
- (14) Esophagus
- (15) Trachea.



Signal



Phonology

- Investigates sound structure
- Recognition and Classification
- Properties: linguistic role and function
- “Phonemes”

Morphology

- Study of word structure
- Properties: meaningful, forming words by concatenation, inflectional or non-inflectional; NOT syllables
- “Morphemes”

Syntax

- Analysis of sequences/patterns of words to structure sentences
- Ordering of sequences in general: embedding of one event into another

Semantics

- Mapping meaning to words and sentences as function of their structure
- Compositionality of meanings

Language Acquisition

“Nativists”

- Capacity for language is innate and domain-specific
- During learning the human brain is tuned to a certain set of parameters
- Poverty of the stimulus

“Empiricists”

- Capacity for language might be innate, but language bases on (statistical) learning
- Capacity is domain-general

Repetition?

Broca's aphasia:

- non-fluent aphasia
- good comprehension, impaired production
- Example: "Boy...cook...cookie...took...cookie"

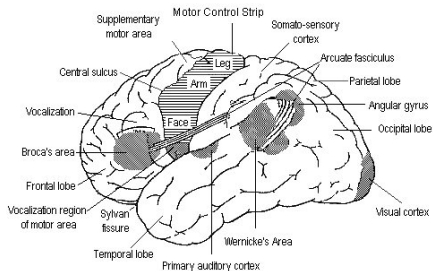
Wernicke's aphasia:

- fluent aphasia
- Good production, often nonsensical, impaired understanding
- Example: "I can't hill all of my way. I can't talk all of the things I do, and part of the part I can go alright, but I can't tell from the other people. I ususally most of my things. I know what can I talk and know what they are..."

The left side of the brain

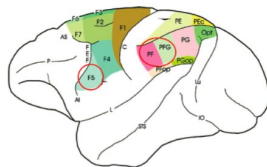
Split brain patients:

- Stimulus presentation to one side of hemisphere
- Presentation to right hemisphere: objects can't be verbalized, but can be grasped with left hand



"Mirror neurons"

Integration of action-perception-related information



- Sensorimotor neurons: activated both by sensory stimulation (also various modalities) and during action execution
- Mirror neurons: special type of sens.motor. neurons; both activated during action execution and observation of another individual performing a similar action; also during listening to action-related sounds

Moving on to.....

A case against the Motor Theory of Speech Perception