

# Course Characterization and Structure

## Introduction

This course is for people who are generally good at:

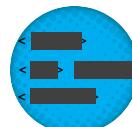
Math

$$\begin{aligned} 2x^6 \\ (x+a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k} \\ a^2 + b^2 = c^2 \\ A = \pi r^2 \end{aligned}$$

Logic



Programming



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## Linguistics as Cognitive Phenomena

We need linguistics for:

- Literature
- Rhetoric
- Professional Writing

Language as cognitive phenomena

- Metaphor
- Metonymy
- Antithesis

## Course Epitome: Provinces of Study

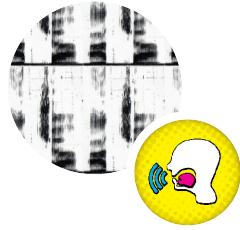
Sounds

Words

Phrases and sentences

Paragraphs, modules, and text

Acoustic  
Waveform



Phonetics

Meaning



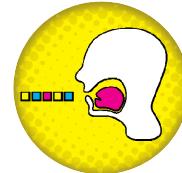
Semantics      Pragmatics

Icons: University of Waterloo; Waveform: Randy Harris

## Phonetics and Phonology



**Phonetics**  
Raw material



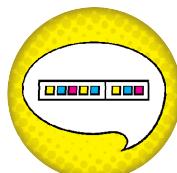
**Phonology**

- Language-specific exploitation of sounds
- Each language has its own specific phonology

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## Morphology and Lexis

The building blocks of language



**Morphology**

- The littlest bits of meaning
- un-, -ing, pre-, -ed
- Word that can't be broken down into smaller units

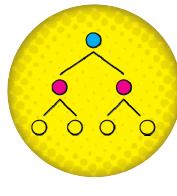


**Lexis**

- Words and their component parts
- 'word' – 1 morpheme
- 'word-s' – 2 morphemes

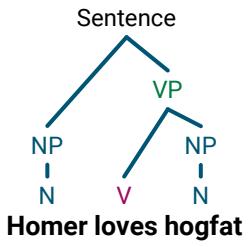
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## Syntax



Syntax

How words group  
into bigger structures



Homer loves hogfat

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## Levels (or Strata) of Linguistics

We will be looking at the individual components:

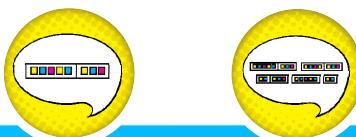


Phonetics and Phonology

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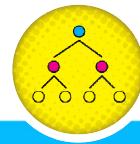
Morphology and Lexis

Phonetics and Phonology

University of Waterloo

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Syntax

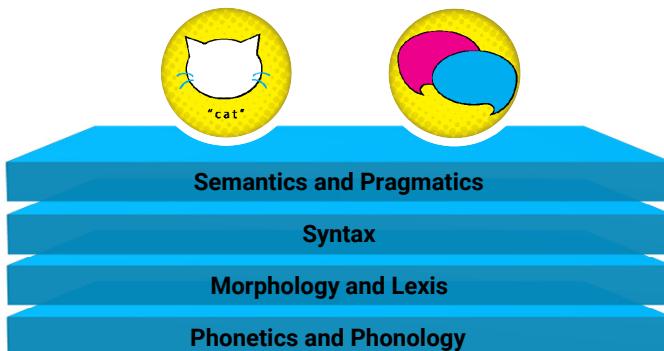
Morphology and Lexis

Phonetics and Phonology

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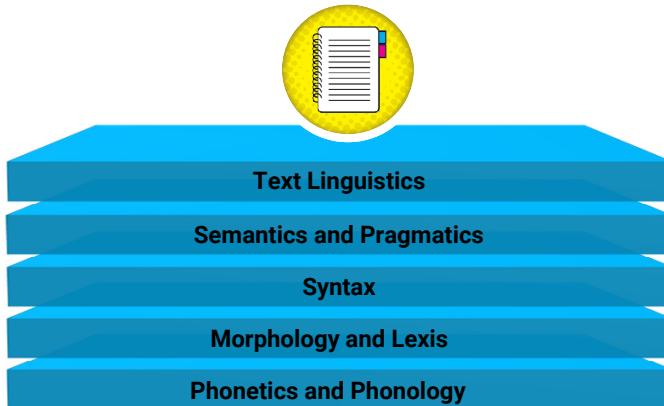
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## Levels (or Strata) of Linguistics

We will be looking at the individual components:



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## Structure of the Course



History  
of Language



The Nature  
of Language



The Nature  
of Linguistics



Words



Morphology



Syntax



Phonetics



Phonology



Semantics



Pragmatics



Texts

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# **Humans' Accommodations to Language**

## **Mammals Lactate**

Mammals have several distinctive traits

Some are specific to language

- Lactation
- Mammalian isolation cry
- Middle ear



Girl: Kharlamova/iStock/Thinkstock; Bullet\_Chained/iStock/Thinkstock; Bottle: MadKatV/iStock/Thinkstock

## Mammals Lactate

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**Neoteny:** a lengthy childhood



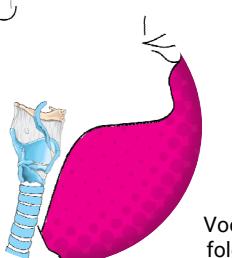
Girl: Kharlamova/iStock/Thinkstock; Bullet\_Chained/iStock/Thinkstock; Bottle: MadKatV/iStock/Thinkstock

## Speech Equipment

### Larynx

- Controls airflow
- Protects trachea
- Phonates (makes noise)

Larynx → ↗



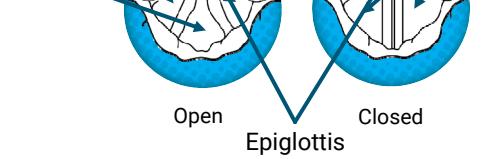
### Glottis

- Phonation
- Air flow

Vocal folds  
Glottis

### Epiglottis

Protects the trachea



Open      Closed

Medical drawings: LifeArt Super Anatomy Collections 1-9. Williams & Wilkins 1998; Glottis: University of Waterloo

## Speech Equipment

Human babies,  
apes and australopithecus



- Tongue rooted in the mouth
- Larynx behind mouth
- Can breathe and swallow at the same time

Adult homo erectus +



- Tongue rooted in the throat
- Larynx in throat
- Cannot breathe and swallow at the same time

Baby, Girl: Kharlamova/iStock/Thinkstock

## Speech Equipment

Lower tongue root + larynx + lips =

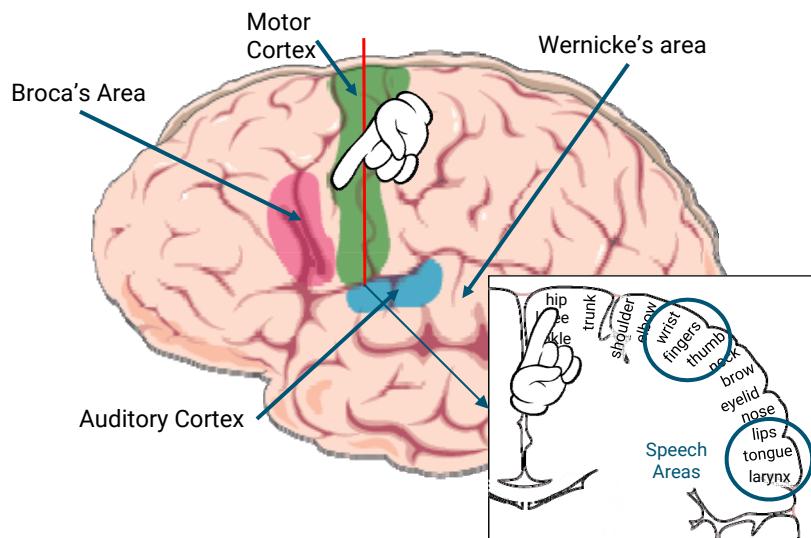
- Consonants
- Vowels
- Syllables
- Patterns of rhythm and modulation

**All of this together gives us speech**



Mouths: VectorStory/iStock/Thinkstock

## The Brain





# Language Areas

## Language Areas

- Language areas control elements and the combination of elements
- It's easiest to see in phrases and sentences
- Some animals have communicative systems, but not combinatorics principles

**"The dog bit the postman."**

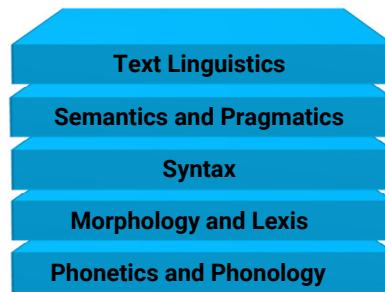
**"The postman bit the dog."**

## Duality of Patterning: Meaning

Meaning is ... meaning. One  
expressed by a word, phrase,  
sentence etc. that is expressed in  
3 levels:  
1. the thing one intends to  
say by language.  
2. the thing the  
language expresses.  
3. the thing the  
language creates.  
etc. 4. the thing one intends to  
say by language. 4b the thing the  
language expresses.  
5. the thing the  
language creates.  
etc. 5b the thing the  
language expresses.  
etc. 6. the thing the  
language creates.  
etc. 6b the thing the  
language expresses.

Elements combined in different ways:

- Sounds combine into syllables and morphemes
- Morphemes combine into words
- Words combine into phrases and sentences
- Sentences combine into turns or paragraphs



## Duality of Patterning: Creativity

**"Nanook ate the yellow snow cone  
and tap danced furiously."**

Creating:

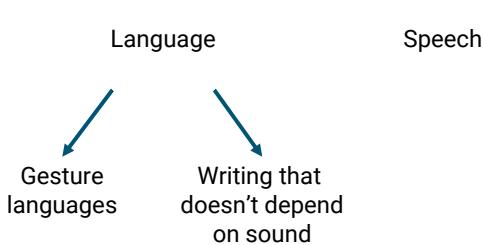
- new sentences
- new words
- new meanings
- new vocables

We have the sound [ŋ]

## Speech vs. Language

Lower tongue root + larynx = speech

Elements + combinatorics = language



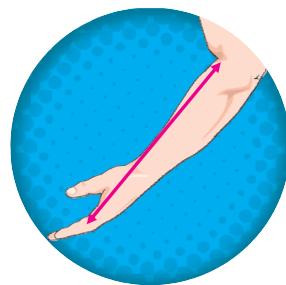
## Parity: All Languages are Equal

Anything in one language can be said in another.

**What if a language doesn't have a particular word?**

- Don't talk about "athads".
- Borrow the word from a different language.
- Flexibility makes parity.

"Athad"



Arm: LifeArt Super Anatomy Collections 1-9. Williams & Wilkins 1998.; Tofu: University of Waterloo

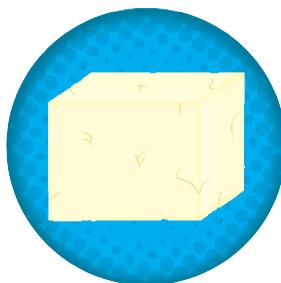
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"Tofu"



Arm: LifeArt Super Anatomy Collections 1-9. Williams & Wilkins 1998.; Tofu: University of Waterloo

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- Flexibility makes parity.

"Zeitgeist"



Arm: LifeArt Super Anatomy Collections 1-9. Williams & Wilkins 1998.; Tofu: University of Waterloo

## Parity: All Languages are Equal

Kwakiutl (or Kwak'wala) - A language of Canada



## Parity: All Languages are Equal

All languages are on par with one another in communicative abilities, but with different efficiencies

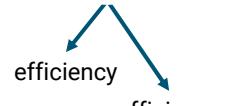
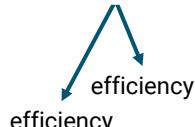
Language

=

Language

=

Language



## Universality



## Mutability

Languages change

**Why would we want to change our language?**

Fads

Neat → Groovy → Far-out → Radical → Cool



Political Scientist



Computer Scientist



Lawyer

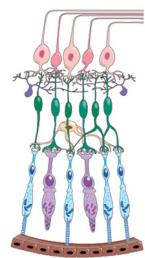
People: denis\_pc/Stock/Thinkstock

## Tacitness

A great deal of grammatical knowledge is tacit knowledge

/p/:

[p] vs [p<sup>h</sup>] vs [p<sup>-</sup>]

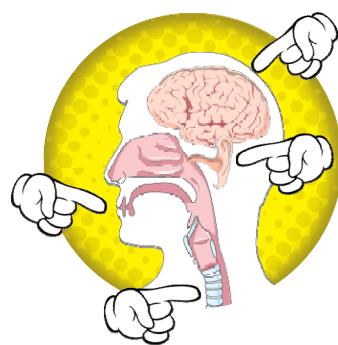


Eye: Yarj/iStock/Thinkstock; Cones and Rods: LifeArt Super Anatomy Collections 1-9. Williams & Wilkins 1998.

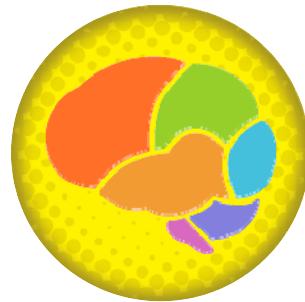
# Conclusion and Review

## Wired for Language

Anatomically



Conceptually



**Important:** Combinatorics are also constraints

## Language has Special Properties

### Duality of Patterning

Elements and combinatorics work on all levels of language

### Parity

Every language can say the same thing as every other language

### Mutability

All languages change

### Universality

All languages have the same basic repertoire (e.g. nouns and verbs)

### Tacitness

Much of language operates at a tacit ('unconscious') level

## Language has Special Properties

Some properties were only thought to be properties of language

Do only humans lie?



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