

# **Introduction to Linguistics**

## **Phonology – The Grammar of Sounds**

Class 2

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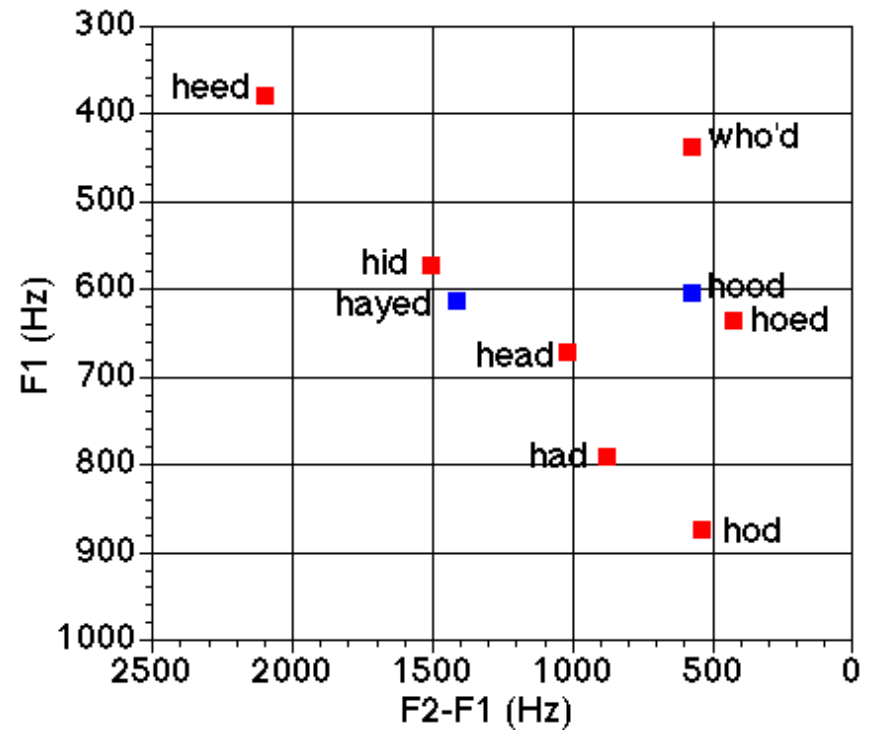
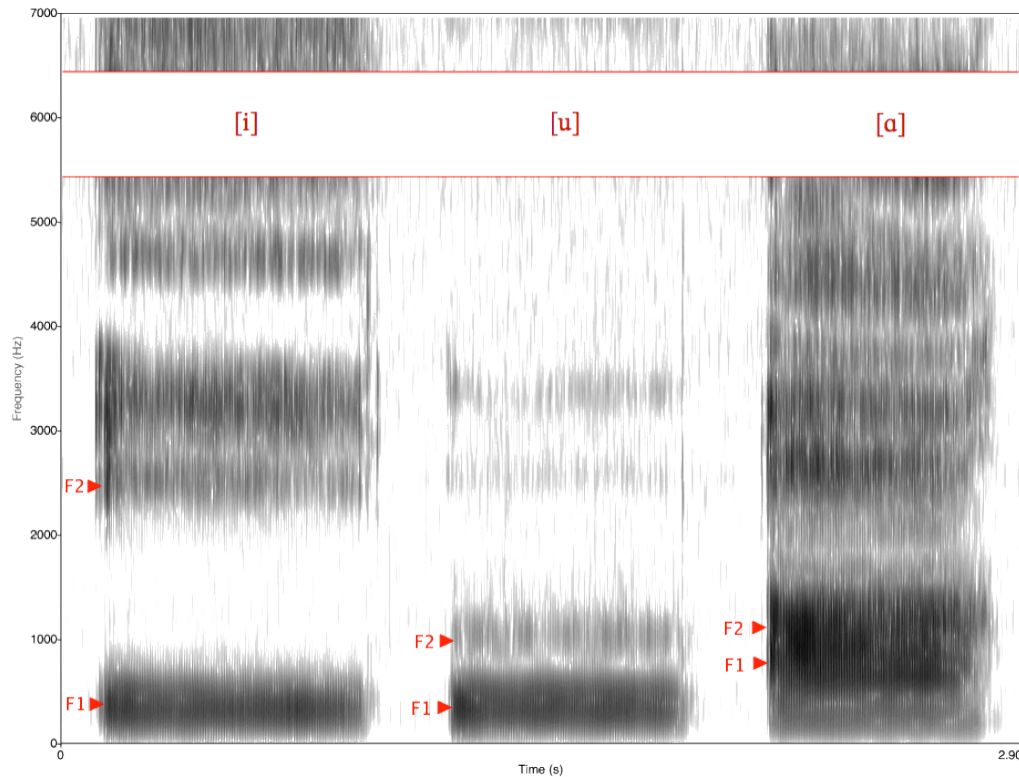
## **Before we begin – Phonetics Homework**

### **PRAAT**

Has anyone had troubles installing and getting PRAAT to work?

# Before we begin – Phonetics Homework

## Formants



## Before we begin – Phonetics Homework

### Formants

Two formants are important for identifying vowel quality.  
They correspond to the open/close and front/back dimensions

First formant  $F_1$  has higher frequencies for open vowels (such as [a]) and lower frequencies for closed vowels (such as [i] or [u])

Second formant  $F_2$  has higher frequencies for front vowels (such as [i]) + lower frequencies for back vowels (such as [u])

So:

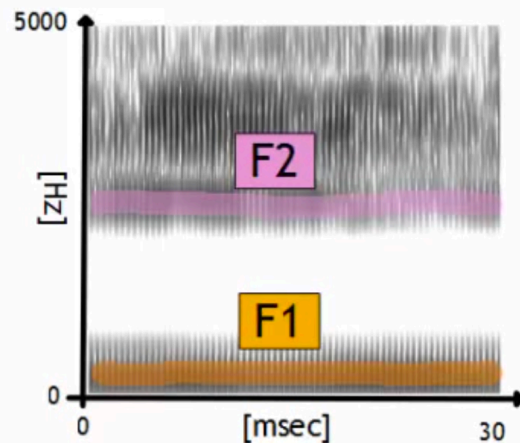
**[i] has low F1 and high F2**

**[a] has high F1 and low F2**

**[u] has low F1 and low F2**

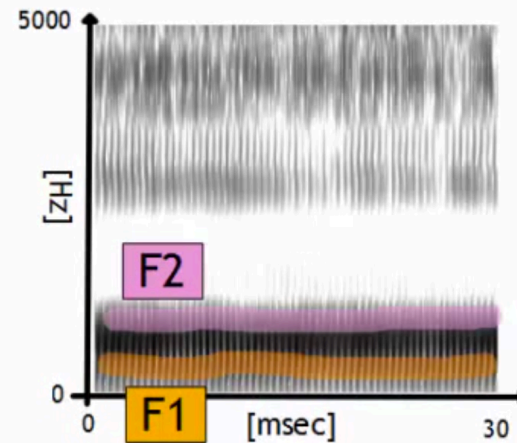
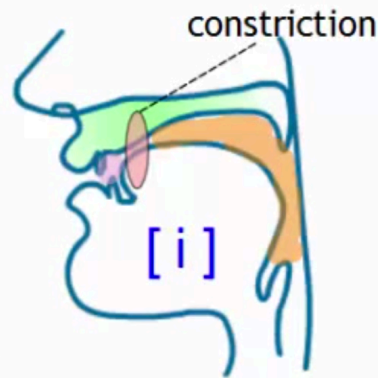
## Before we begin – Phonetics Homework

# Reading Spectrograms: Vowels



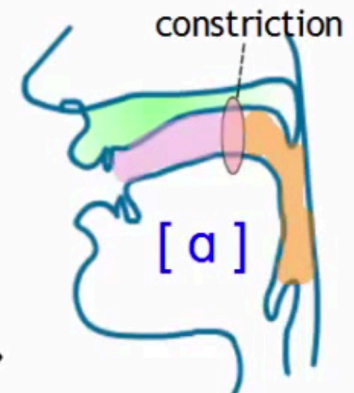
[i]

- F1 ~ 400 Hz
- F2 ~ 2,500 Hz



[a]

- F1 ~ 600 Hz
- F2 ~ 1,000 Hz



## **Before we begin – Phonetics Homework**

Thinking about the phonetic features you have studied in your phonetics and phonology course, please watch these videos

<https://www.youtube.com/watch?v=mWel5j-F8lE>

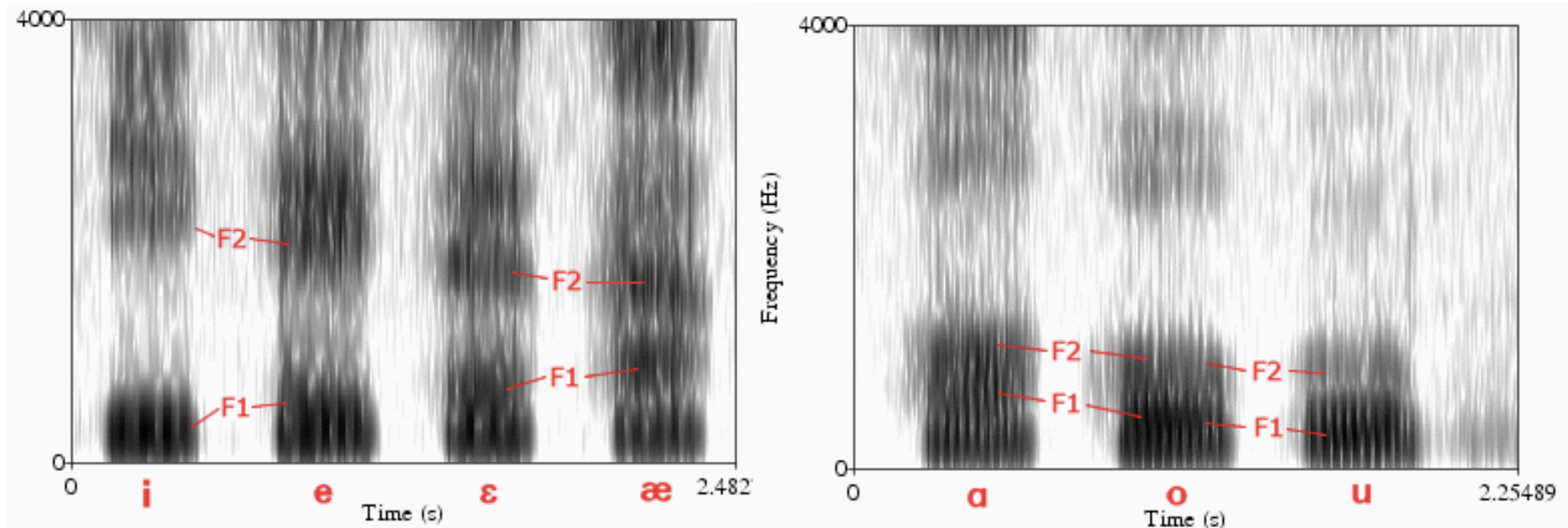
<https://www.youtube.com/watch?v=lfZ6XSRaRR8>

It will help you understand:

1. How to read a spectrogram
2. How amazing it is we can understand fluent speech

## SPECTROGRAM HOMEWORK (5% of final mark)

1. Record Sounds :        *i:*        *a:*
2. Save sound as .wav, give it a name – including your name
3. Create spectrogram – can you see the two vowels?
4. Save spectrogram as binary file, give it name – including your name
5. Email both files to StudentWork.GlynnP8@gmail.com by 08 Feb.



# Phonology

Where phonetics is the study of the sounds of language

Phonology is the study of the “grammar” of those sounds

Nikolai Trubetzkoy

A founder of the Prague School

A founder of structuralism

“Father” of modern phonology





# **Nikolai Trubetzkoy**

1939 - *Grundzüge der Phonologie* – posthumous publication

## **1. Phoneme**

The smallest distinctive unit within the structure of a given language.

## **2. Phonology – the grammar of sounds**

Human Language Sounds – language specific paradigms and universal laws

## **Sound Laws**

### **Verner's law (1875) Germanic Fricatives**

fricatives \*f, \*þ, \*s, \*h, \*h<sup>w</sup>,

when immediately following an unstressed syllable in the same word,

become voiced \*β, \*ð, \*z, \*ɣ, \*ɣ<sup>w</sup> r

## **Open and closed Syllables**

Why are the French so bad at languages?

Open syllables CV

Consonant - vowel

Closer Syllables CVC

Consonant – vowel - consonant

## CV vs. CVC languages

It's far from a black and white rule, but the tendency is clear

Germanic Languages are very CVC!

Cat, Kat, Katz

Latin Languages are very CV

chat, gato, gatto



**Prosody.....**

**What is it?**



'maʊntən

or maybe

'maʊnən

So,

The Americans eat their words

and

The French speak machine gun?

No! It's reduction!



## **Reduction**

Reduction is a crucial part of the phonology of many languages, especially European languages

English, Russian, Greek, Iberian Portuguese, Gujarati

but...

There is no reduction in French

**Reduction is not slang**

**Reduction is not bad speech**

**Reduction has nothing to do with speed of speech**

**It is an essential and basic part of the grammar!!!!!!**

## **Reduction is not like the schwa in French**

You can say

tabl

tablə

and even

tablɜ:

You can never ever ever say

maʊnteɪn

## **Segmental vs. Suprasegmental Phonetics and Phonology**

Some languages, like English, Russian and Greek  
Have incredibly complex suprasegmental “grammars”

Let’s look more closely at English

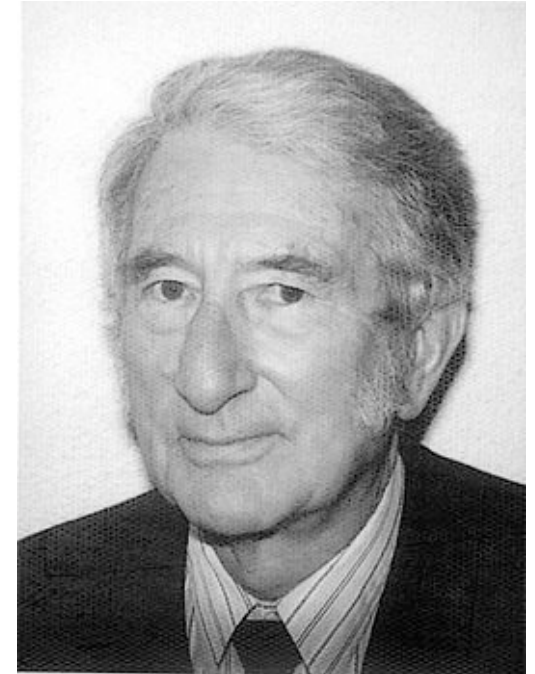
## **Halliday, M.A.K.**

*Intonation and grammar in British English* (1967)

A founder of functionalism

A founder of prosody

“Father” of Systemic Linguistics



Direct descendant of the Prague School

It is not enough to treat intonation systems as if they merely carried a set of emotional nuances ... English intonation contrasts are grammatical" (1967)



## **Prosody - Rhythm, Stress and Intonation**

English grammar (morphology) is one of the simplest in the world

French grammar is also one of the simplest in the world

but there is a tendency

as a language “looses” it’s “morphological grammar” it gains complexity elsewhere!

There is certainly the case in English where prosodic grammar is crucial and difficult

# Rhythm

In French, the length of a sentence (how long it takes to say) depends on the number of syllables

not in English!!

It depends on the metre that the sentence takes



## **Rhythm – da DUM!**

“iambic foot” - unstressed syllable followed by stressed syllable.

da DUM da DUM da DUM da DUM da DUM

## **Meters –**

Think of these a grammatical rules

Every utterance / sentence in English as a specific meter it **MUST** follow

Just like in French you have “accord”

## Iambic pentameter

/        x    x    /        x       /    x       /    x       /  
Now is the winter of our discontent

x    /    x       /        x       /        /    x        x       /    x  
To be or not to be, | that is the question

## **Exercise**

Once upon a starless midnight there was an owl who sat on the branch of an oak tree.

When saying a long sentence with many words in it, students often find it difficult to pause and link words properly

A problem that students have with English word rhythm is that they tend to give each syllable almost the same strength, length, and pitch

## **Stress and Reduction**

Just like in French, each word has a gender

In English, each word has a stress pattern.

If you don't know where the stress is, you don't know where the reduction is.

and you can't pronounce the word

## **Stress and Reduction**

Sometimes it is obvious, but sometimes it is not



## **Stress and Reduction**

photographer



A separate question

To separate the questions

## Stress Rules

### 1. Two syllable words:

The stress is on the first syllable, unless it's a “French” word

### 2. Three syllable words

The stress is on the first syllable, unless it's an “Italian” word

### 3. Long words

The stress is on the 3<sup>rd</sup> last syllable, unless it ends in *-ic*, *-ity*, *-tion*

These three rules will get you a long way, but it is more complicated than that and there are plenty of exceptions....



## **1. Two syllable words:**

Normally, Germanic languages have the stress on the first syllable.

*kettle, roaming, happy, cardboard, closer, blackbird, causal*

There are two basic exceptions to this

Exception 1: “French” words

*guitar, cigar, police, descend, retire, grenade*

but

there are lots of exceptions and what constitutes a French word is not always obvious

## **1. Two syllable words:**

## 2. Historical compounds with Germanic roots

*again, about*

*betroth, beget, bemoan*

Of course, as a language learner, it is sometimes easier to learn the exceptions than to learn what are Germanic compounds... especially since not all Germanic compounds behave this way

*forehead, forward, further....*

## 2. Three syllable words:

Again, normally, Germanic languages have the stress on the first syllable.

*terrible, infinite, massively...*

But in “Italian” words (which are, in fact, rarely Italian), it is in the middle

*banana, spaghetti, focaccia...*

but then, the French words also come back... *important, absolute...*

## 2. Long words

Long words are easier, they take what is called the antepenultimate stress (third last)

*ridiculous, uncontrollable, terrible, ubiquitous, photographer*

The exception is words that end in *-ic, -ity, -tion, -gious* where the stress falls before the suffix

*serendipity, television, Islamic, contagious, outrageous*

But there are exceptions

*catholic, absolutely...*

## 2. Long words: verbal suffix -ate

An interesting point is the reduction in –ate verbs

Nouns and adjectives reduce the ate, verbs do not

The stress does not change, but the reduction disappears

*to domesticate, to separate, to enunciate, to hydrate*

but

*separate question, Untied Emirates, two hydrates*

## Exercise

With your neighbour, write down

Three 2-syllable words

Three 3-syllable words

Three long words

1. Put a mark of the stressed syllable
2. Put a line through the unstressed syllable.

## **Weak-Strong Words**

There are 35 “words” in English that have two pronunciations

A normal – neutral pronunciation, called “weak”

and

A marked – empathic pronunciation, called “strong”

but, cannot, you, him, to, and, a, would

## Weak-Strong Words

But → strong form: /bʌt/ weak form: /bət/

Tell him to go → strong forms /hɪm/ /tu:/ weak form: /tel əm tə gəʊ/

I would like some fish and chips

/aɪ wʊd laɪk sʌm fɪʃ ænd tʃɪps/

/əd laɪk səm fɪʃ ən tʃɪps/



## **Adjective – Compound Disambiguation**

Stress is not just pronunciation, it is meaning too!

This is a blackbird



## Another Example

The sour cream is fresh, but the fresh cream is sour.

La crème épaisse est bonne, mais la crème fraîche a tourné.



**For next week**

Read Chapters 3-4, “The Sounds of Language”

In Yule, G. 2010 / 2014. *The Study of Language*. Cambridge: Cambridge University Press.

It is online.