

## chapter 6: Suprasegmentals / Supersegmental features

\* Segment → usually something that stands for a single sound

↳ supra → above / beyond

↳ when we talk about suprasegmentals we talk about things beyond the segment.

segmental features → are used to distinguish between sounds

suprasegmentals → don't actually replace one sound with another sound

1) Pitch variations

2) Amplitude → means how loud the sound is

3) Length\* → depending on the language (can be suprasegmental)  
↳ qualities which don't replace one segment with another segment

so length can be supersegmental and it can be a phonetic feature depending on the language

Ex: In Arabic length is a supersegmental feature

Pitch + Amplitude → Suprasegmentals

but length may or may not be supersegmental

↳ Syllable: a level of sounds where we create word → we put sound together into syllables and then we put syllables together into words

\* Note: every syllable contains 1 and only one vowel.



→ Syllable: it's a unit, bigger than sound but may contain just a single sound.

Ex: Eye /I/

/A/ → one vowel which means

just **mono syllabic word**.

→ every contraction of the muscles of the lungs is going to create some kind of unit of speech → create a single syllable

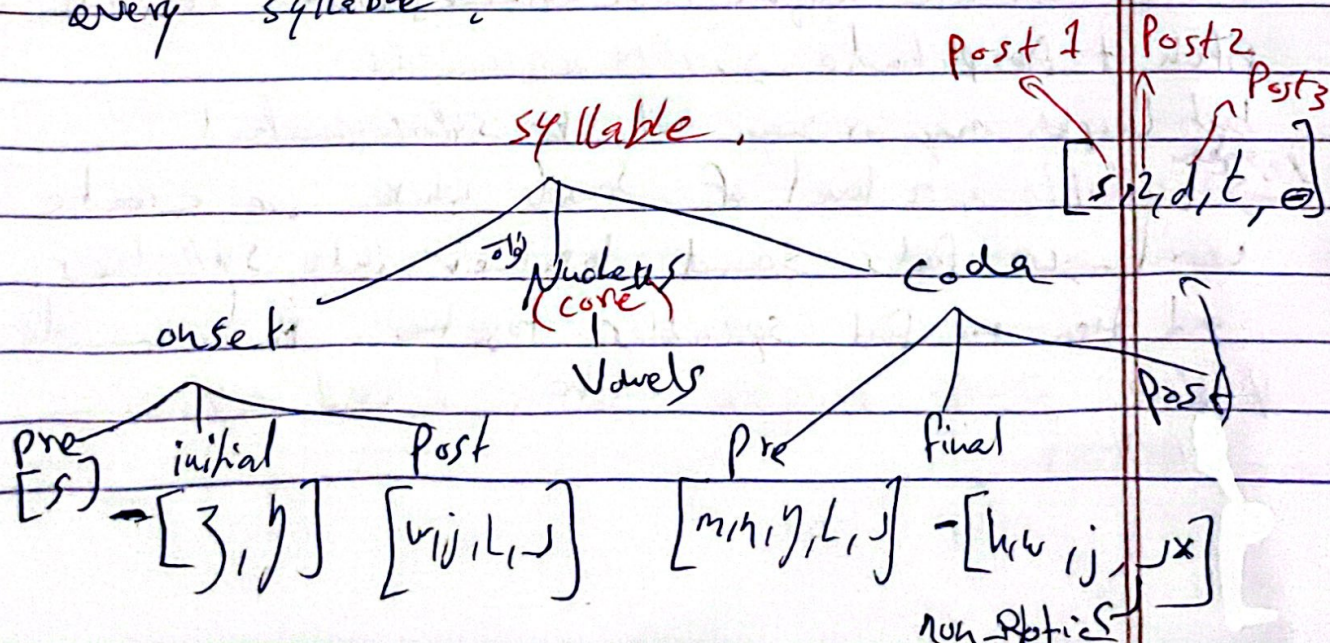
Ex: student

↳ we forced to create 2 muscular contractions

so it's difficult to pronounce words that have more syllables than to pronounce words with fewer syllables.

↳ Suprasegmentals in some cases influence single sound but in most cases they influence syllables

→ what kinds of sounds can we have in every syllable?





every vowel has to be located in the Nucleus.

vowels are called syllabic because <sup>(centre)</sup>.

they are the centre of a syllable

→ some languages don't have coda → Ex: most Japanese accents don't contain codas.

but in English maybe we have empty coda or maybe contain 1, 2, 3 or even 4 consonants.

so in English the coda is optional.

have coda / don't have coda (empty coda)

Ex: [stet]

onset

coda

Nucleus

→ we can have an empty coda

[et]

onset

coda

→ we don't have anything in the onset and we don't have anything in the coda.

optional → applies to the onset + coda, but it doesn't apply into Nucleus.

In Japanese, the coda cannot be occupied by either consonants or vowels. → (there's no coda)

In Arabic → we have onset (optional),

In Japanese, the smallest syllable is going to be an onset with one consonant and a coda with a vowel.

→ every letter is a consonant followed by a vowel.



In Japanese → the onset and the nucleus are obligatory.

→ Nucleus always mandatory.

② then onset → some language must have an onset

③ coda, (so it's more important than coda)

Optimal in every language

Why a vowel is always the centre of the nucleus?

→ concept of sonority. (Briser passage way)

more sonority → more audible & higher sonority.

quality → means sonority as well as

higher sonority

↓ usually means higher frequency (the number of vibrations)  
→ acoustic phonetic

In a syllable → the highest sonority is always located in nucleus (vowel).

→ highest sonority to the lowest sonority:-

1) Low vowels

2) High vowels

3) Glides / semi vowels

4) Nasals

5) Liquids

6) voiced fricatives

7) voiceless fricatives

8) voiced affricates

9) voiceless affricates

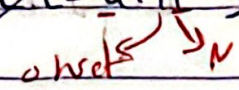
10) voiced plosives

11) voiceless plosives

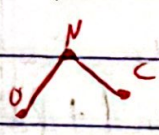


Rules: Less abstraction → more sonority  
 more abstraction → less sonority

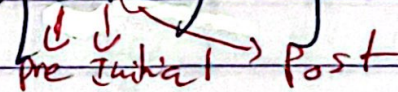
Ex: truly [tʁi.ju.li]

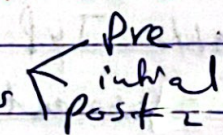
sonority: 

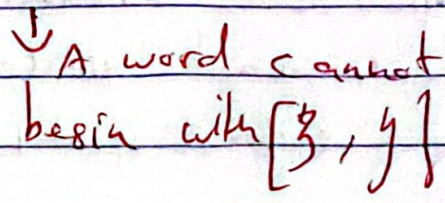
→ the highest level of sonority is in nucleus

 → at the end of the coda is going to drop  
 at the beginning of the onset is going to drop and in the middle is high / above

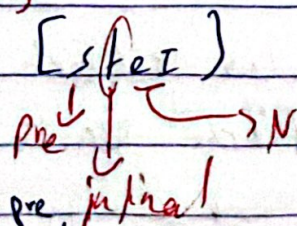
we have expectations / pattern consistency which  
 ↓ certain sounds that can appear

in certain shapes  
 ex: strengths [stɪŋgθs] → [stɪŋgθs]  
 (exceptions) 

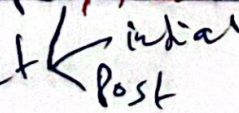
In onset we can have 3 positions:   
 so in English we can have an initial with  
 any consonants except for [ʒ, ʝ]

→ pre-initial position that is  
 located before the initial  
 position and the only sound  
 that allow [s]  A word cannot  
 begin with [ʒ, ʝ]

Ex: stay [steɪ]



Rule:

onset 

pre-initial

Initial

post

Initial + pre-initial + post



Rhotic [ɹ]

non Rhotic [-ɹ].

Ex: [fʊɹ] → Rhotic accent or [fʊd] → non Rhotic

initial → N → final

\* If we have 2 consonants in the coda  
↓ we have either pre + final or final + post

Ex: [gʊeɪ]

initial → N

Nasals + [l, ɹ]

[s, z, d, t, ɡ]

Ex: stringer [stɪŋɡɹ]

pre initial Post → N final → Post 1

\* Syllable Typology:-

Some segment combinations are language specific

ex: Mandatory onset (at least one consonant) in Fijian

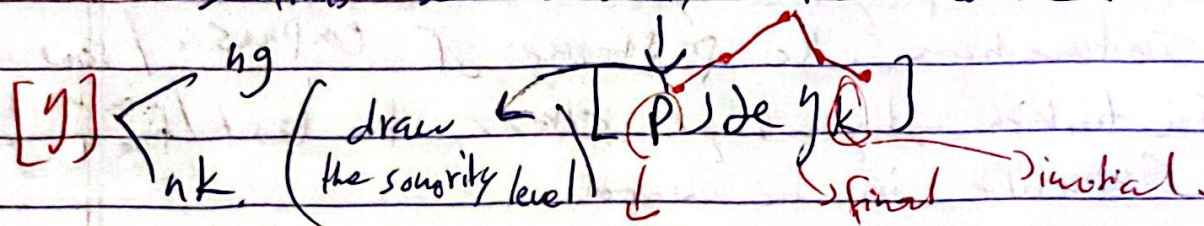
- 1) Nucleus is mandatory in all languages.
- 2) onset: no language prohibits it.
- 3) coda: no language requires it.

\* Stress → more muscular effort → louder, longer and involves more pitch variation.

Nucleus + coda → Rhyme



Prank → transcribe / sonority representation



Onset Maximisation principle → An onset is mandatory in some languages, but a coda isn't / onsets are preferred by languages.  
 means if we have a consonant stuck between an empty onset  
 → we only think of pre and post final if we have more than one consonant in the coda  
 when we draw the sonority level of the word → we have to investigate whether we have one syllable or more → the n. draw

Ex: star [stɑː]  
 onset: [s] nucleus: [ɑː] coda: [t]

\* stress → is an important aspect of suprasegmental / suprasegmental

syllable      stress      intonation

Stress → Emphatic stress (part of pragmatics)  
 Delimiting      Grammatical stress

We can stress a whole word and we can stress a one syllable



\* Stress is applied on syllables

→ Intonation, the patterns of emphasis / suprasegmental

In Turkish they always stress the last / final syllable in the word.

\* If stress is placed based on the boundaries of the word at the beginning or at the end  
→ called **Delimiting stress**

(drawing limits between words / syllables)

Ex: In-sult

→ we can stress the

2 syllables

first or the last syllable

based on whether it's

In-sult → verb

noun or verb

In-sult → noun

→ we place stress in words depending if they are nouns or verbs, adjectives.

\* So place stress depending on **grammatical**.

**Category** = grammatical stress

→ it marks

only applies to lexical

grammatical

words (nouns, verbs, adjectives, adverbs)

category but it doesn't apply to grammatical

Ex: and, or

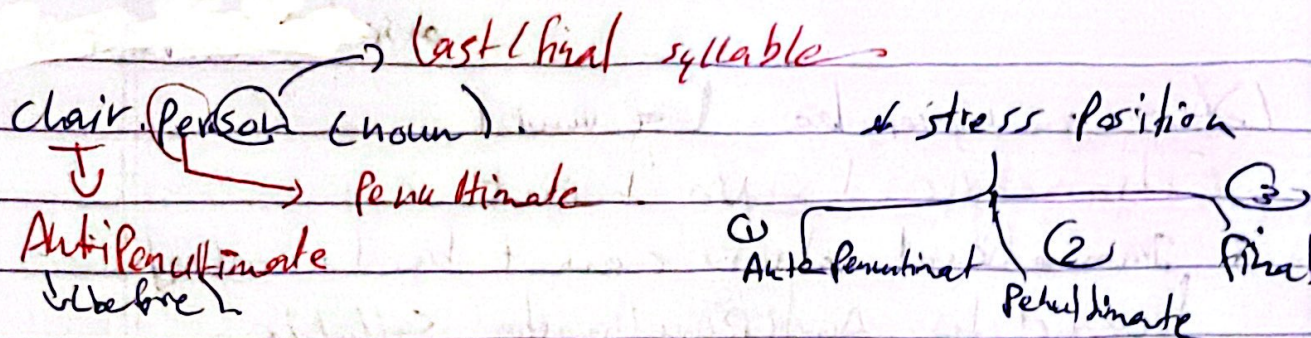
words.

[end] → don't have grammatical stress

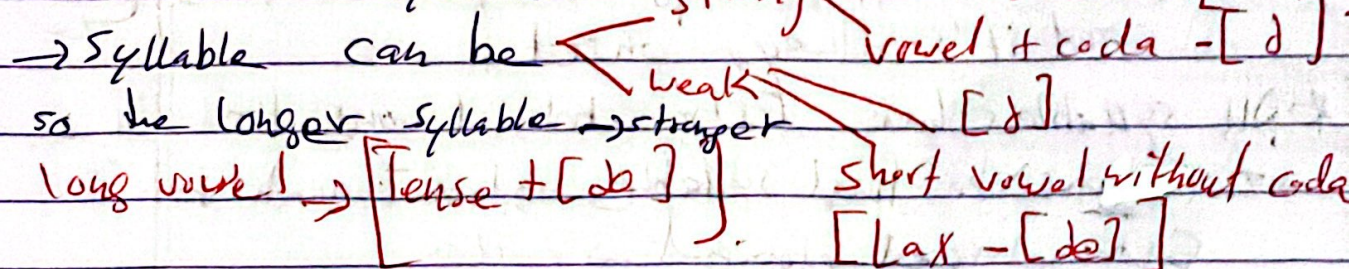
\* any word can be emphasized.

\* English is grammatical stress placement language.

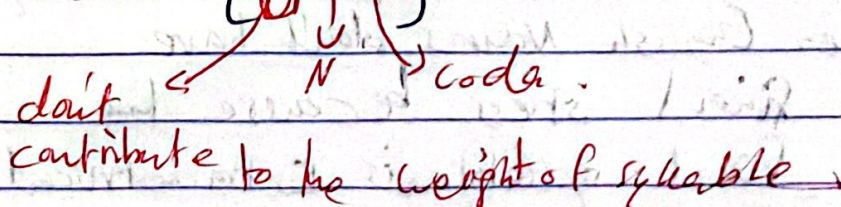




Rule: stress follows length → means the longer is syllable stresses more like when they located within short syllables.



The onset doesn't contribute to the weight of the syllable → Ex: [stɪk]



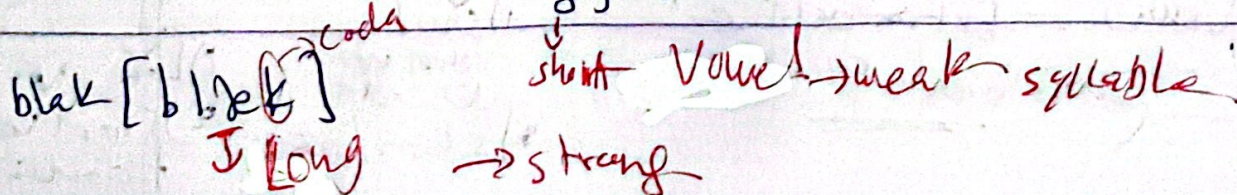
How we measure the weight of the syllable?

In the length of coda + Nucleus →

weights of syllable

Nucleus + coda are grouped together to indicate rhyming in words

Ex: broker [brʊkər]





weight = length  
onset = extrametrical

12) → can never be long vowel.

**Extrametrical** = No weight.

\* grammatical stress cannot be located beyond the Antipenultimate syllable

\* grammatical stress → **Final Penultimate**

→ Extrametrical element.

(↓ means it has no weight on syllable and it's always onset.)

\* All syllables have Extrametrical onsets

→ In (nouns) the final syllable → have another Extrametrical element → **coda**

\* **Nouns** have **Extrametrical** onset and coda.

\* In a noun the final syllable is always extrametrical

Rules: English Nouns don't have

final stress because the **final syllable** doesn't carry weight.

final syllable is Extrametrical (no weight).

**means weak syllable**

\* A strong syllables attracts stress, but a weak syllable rejects stress. **equal**

→ The larger syllable = more weight it has

\* stress placements in Nouns and verbs.

1) In nouns → Extrametrical element is **the (coda)**.

Nouns = **Extrametrical**

2) (final syllable)

**Syllables**

**Light**

- 1) short vowel with no coda
- 2) schwa / ə /

**Heavy**

- 1) Long vowel
- 2) short vowel + coda.



\* Can nouns have final stress? false because it's extrametrical → doesn't have weight, so it can't hold stress.

→ There are English words borrowed from other languages → Ex: crocodile → borrowed from the French word, not English, so it's means it follows the stress in French

irregular nouns that have final stress on final syllable

\* In English Nouns → we check the penultimate syllable → if we have 2 syllable words Ex: founding X extrametrical

Ex: Elephant → extrametrical. penultimate  
[lə] → penultimate

Antepenultimate light syllable vowel.

Ante → means before.

\* verbs: the extrametrical element in the verb is the final consonant → in the coda of the final syllable.

Ex: intend

[tɛnd]

coda (extrametrical).

Con'sider

[dɪdər]

penultimate stress.

X extrametrical.

\* If we have nucleus without a coda, we look into short vowel /ɒ/ + consonant → makes syllable heavy.



re. present <sup>why? (onset maximization)</sup> <sup>onset more important than coda</sup>

[2(5)u#]   
 short vowel + coda = heavy syllable   
 extrametrical

(2) stuck between an empty coda + empty onset   
 so it occupies the onset

Ex: de! cry

[k] (aɪ) → we don't have coda

↓   
 Tense vowel (long) even if it's without coda it's still heavy syllable

Ex: A. P. Peal → there's onset maximization principle   
 [pi:]

Extrametrical

/i:/ → long tense vowel which makes it heavy → so we have final stress, not penultimate stress

Rule:

Nouns → we check (Penultimate syllable)   
 heavy = penultimate   
 light = Antepenultimate

Verbs → we check final syllable without final consonant in the coda.

→ how we negate   
 if it's heavy or not? we check   
 the nucleus   
 Long vowel   
 short vowel   
 heavy   
 light   
 we have final stress   
 we have penultimate stress



Ex: Pain ~~into~~  $\rightarrow$  onset maximization

→ extrametraal. (the stop final syllable)

↓ diphthong → Long tense vowel → heavy syllable  
so it's penultimate stress because  
the penultimate syllable is heavy.

Ex: Comput ex → (noun) → Penultimate stress.  
 [ ] [ ] → extrametrical. because it's noun

→ extrametrical, because it's non

heavy (diphthong)

compute (verb).

$$\sqrt{f(x)}$$

↳ heavy → final stress because it's verb  
(long vowel)

when we only have 2 syllables, we can't have antepenultimate  
it's either penultimate or final

but if it's a noun with 2 syllables → the cent-  
3 stress final syllable in the noun. → Penultimate stress

Q: grammatical stress can influence prepositions?  
 ↳ false because prepositions is a grammatical word



## Nature of Penultimate Syllable → stress placement in Nouns:

→ 2 syllable words: stress on first syllable.

→ 3 or more syllable word: stress depends on nature of penultimate syllable:

(1) A heavy penultimate syllable is stressed

(2) A light penultimate syllable: left syllable is stressed (Antepenultimate)

(3) Exception: kangaroo, chimpanzee, balloon.

Note: weight attracts stress in English → quantity sensitive.

Ex: hy·pen·

↓  
Antepenultimate → Long vowel.

→ extrametrical always light.

→ In nouns we removed the final syllable, then check the penultimate syllable → if it's heavy,

we stress it, but if it's not stressed (light)

we moved backwards to Antepenultimate and stress it even if the antepenultimate isn't heavy.

ko·la·la

↓  
x

[7] → long → heavy.

\* Nouns: final syllable is ignored when measuring stress (extrametrical element).

\* Verbs: Coda in final syllable is ignored when measuring stress (extrametrical element).



↳ nature of penultimate syllable, stress placement in Adjectives:

→ Adjectives and adverbs can behave as nouns and can behave like verbs,  
so when they behave like nouns → we removed the final syllable as extrametrical, and when they behave like verbs we removed only the last consonant in the final syllable in the coda.

↳ Morphological element → suffixes at the end

Ex: 'wonderful<sup>x</sup>

↓ [fʊl]<sup>x</sup>  
Antepenultimate stress. suffix

'canfidenc<sup>x</sup>

↓ [s]<sup>x</sup>  
Antepenultimate suffix

rules: if we have an adjective or adverb that is attached to a suffix → we treat it like a noun → the whole final syllable is extrametrical

Ex: En. 'thrilling

[ŋ]<sup>x</sup> → extrametrical.

'solid<sup>x</sup> → doesn't have any suffixes attached to it so we don't remove the final syllable but we removed the final consonant in the final syllable in the coda → we treat it like verbs.

Ex. simple

[pɒl]<sup>x</sup>

'insane

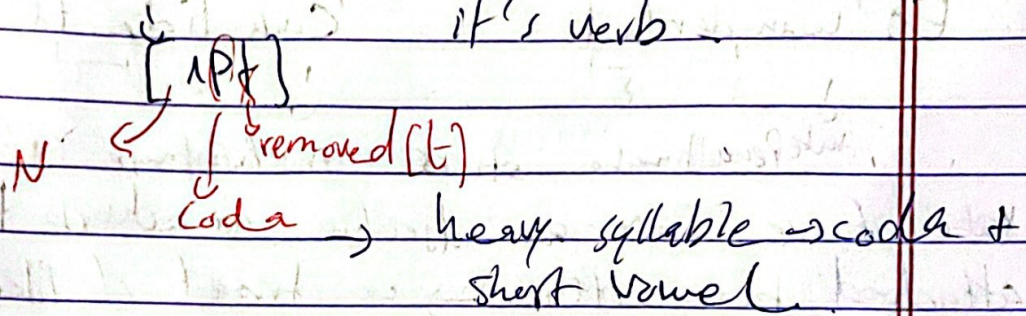
[seɪn]<sup>x</sup>

↓ extrametrical.



Primary stress doesn't travel beyond the Antepenultimate syllable.   
 So primary stress either   
 but nothing beyond them.   
 Final Penultimate   
 Antepenultimate

Adjectives and adverbs with suffixes have Penultimate stress or Antepenultimate stress.   
 However adjectives without a suffix have either final stress or penultimate stress.   
 Ex. corrupt → have final stress because it's verb.



We have exception when we have some suffixes called stress attracting / shifting suffixes.

Rule: stress shifting suffixes → attract stress to preceding syllable, or same syllable.

2) Stress neutral suffixes → have no effect on stress placement.

Examples of stress shifting suffixes:

-ic → photographic

↓  
Attracts stress.

↓ stress always located on penultimate syllable when we have -ic



-ity → Personality

-ation → Personification

→ suffix

Penultimate stress Penultimate stress

Irregular things about stress placement's rules is:

- 1) borrowed words.

- 2) stress shifting suffixes.

Examples of stress <sup>normal</sup> <sup>neutral</sup> suffixes:-

- 1) al → Personal

- 2) ly → Personally

- 3) ness → Squallidness

Normally suffixes are stress neutral / normal but be exceptions to have stress shifting suffix  
→ shifting moves stress from one point <sup>نقطة</sup> to a preceding point to the suffix.

✶ Eurhythm → the Rhythm of stress in actual sentences (stress patterns in languages).

we have 2 kinds of patterns in languages:

- 1) stressed syllable at the first then → unstressed

- 2) unstressed syllable at the first then → stressed

any stretch of stress (one stressed syllable associated with unstressed syllable) → called (Foot)

→ the stressed syllable is the leader of foot.

Stressed of Foot, syllable

because we can have 1 stressed only but we can have multiple unstressed syllables



# Eurythmy

## Foot

(2)

(1) left-headed

Foot or trochee

right-headed foot

or iamb

So if the stressed syllable is to the right, means at the end and unstressed syllables to the left, we have a right-headed foot = (Iambic foot). Ex: cro co'dile

unstressed

last syllable is

French is an Iambic language.

syllables.

stressed (foot).

multiple & unstressed syllables are followed by stressed syllable

So we have 1 foot include stressed syllable and 2

unstressed syllables are to the left in the head

English is left-headed foot (trochee).

trocheic language

It means it has stressed syllable to the left and unstressed syllables to the right → stressed syllable is at the beginning

every language have own stress patterns. left-headed include stressed syllable to the left then next to it unstressed syllable and the unstressed syllable follow that.



Mark stress degree on i -

1) Alligator:  $\rightarrow \left[ \underbrace{\text{de}}_{\text{foot}}, \underbrace{\text{I ge it d}}_{\text{foot}} \right] \rightarrow \text{we have 2 feet}$

2) parliamentarian [pɑːlɪmən'teəriən]  
 ↓  
 it's a word that contains 2 feet  
 secondary stress      primary stress  
 (ante penultimate)

because it has 2 stressed syllables.

\* If we have multiple words in a sequence  
↳ feet may extend to multiple words.

Every thing → concerned with the sequence of stressed and unstressed syllables/ patterns.

**Foot** → component of our rhythm consisting of a stressed syllable (the head) plus any associated unstressed syllables.

Left-headed foot or trochee: A foot made up of a stressed syllable followed by one or more unstressed syllables.

Right-headed foot or iamb: A foot in which the unstressed syllable(s) precede(s) the stressed syllable as in French: crocodile.

Notes we have stress in final syllable even though it's noun because (-er) stress shifting suffix that attracts stress to it like Engineer.