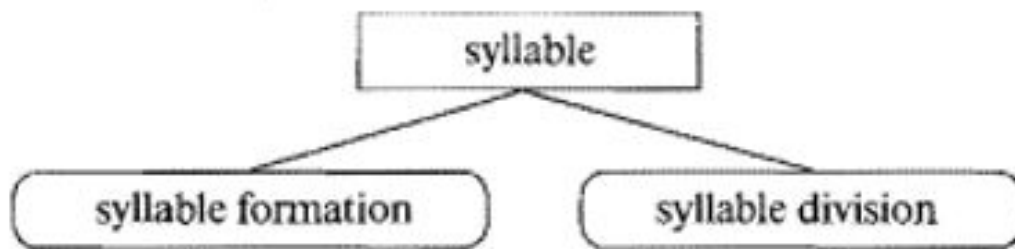

Theoretical phonetics

Lecture 5
Syllable

Outline

- 1. The phenomenon of the syllable. The review of syllabic theories**
- 2. Syllable formation**
- 3. Syllable division**

The Aspects of Syllable



Levels of syllables study

1. **Acoustic**
2. **Articulatory**
3. **Auditory**
4. **Functional**

Theories of syllable's study

- **Expiratory theory – (experimentally proved by R.H. Stetson)**- there are as many syllables in a word as there are expiration pulses
- **The sonority theory – (O. Jespersen)**- there are as many syllables in a word as there are peaks of prominence or sonority
- **The theory of muscular tension (L.V.Shcherba)**- a syllable is an arc of muscular tension, which is weak in the beginning and in the end and strong in the middle.
- **The loudness theory (by N.I. Zhinkin)** – the center of a syllable is the syllable forming phoneme

EXPIRATORY THEORY

Other names:

- Chest pulse theory
- Pressure theory by R. H. Stetson

- It is the oldest theory.
- Each syllable **corresponds to a single expiration.**
- A word contains as many syllables as there are such expirations made during its utterance.
- Each vowel sound is pronounced with a fresh expiration.
- The syllabic boundary is at the point where a fresh expiratory pulse begins.

Method of Investigation



Expiratory theory

- Nevertheless, the theory is **criticized by a number of scientists** (e.g. G.P. Torsuyev, A.C. Gimson).
- **[`si:ɪŋ]** – linguistically can be divided into **two units**, while there is only **one chest-pulse**.
- **[sta:]** – there are **two expiratory pulses**: the first is on the **[s]** and the second is on the **[ta:]** (which occurs due to the occlusion needed to articulate **[t]**), but the **word is still monosyllabic**.

SONORITY THEORY

= prominence theory by
Otto Jespersen
R.I. Avanesov

- **Sonority** – an acoustic property of speech sounds which determines this or that degree of their perceptibility.

The most sonorant are vowels, the least are voiceless plosive consonants



- A syllable contains one "peak" of sonority separated from other peaks by "valleys" of lower sonority.
- [**sæ**d.n] – [æ] and [n] are the peaks separated by [d], which is less sonorous.
- [**sæ**nd] – there is only one peak ([æ]) and, hence, one syllable.

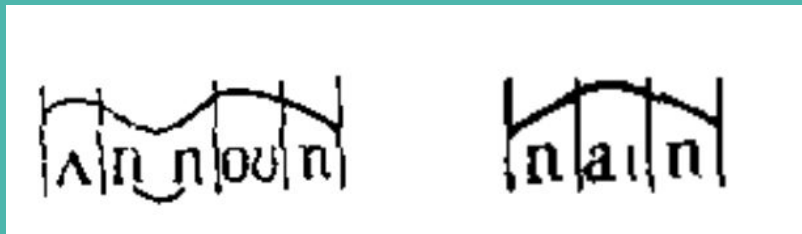


- The theory fails to explain the mechanism of the syllable formation and syllable division.
- [ˈeks-trə] or [ˈek-strə] ?
- [ə neim] or [ən eim] ?
- The sonority theory can only explain why this sequence consists of two syllables, but it cannot explain **by what means** and **at what points** it is divided into syllables in two different ways.

THEORY OF MUSCULAR TENSION

by L.V. Shcherba,
A.V. Vasilyev

- Sounds in connected speech are pronounced with alternative intensification and slackening of muscular tension.
- Each peak of intensification with the following slackening of tension forms a syllable.
- Sounds that are pronounced with intensification of muscular tension are termed **pitch sounds**.
- The syllable is **an arc of articulatory tension**.
- The pitch sound is the **centre of the syllable** and of the arc of tension (vowel or sonorant).



Loudness theory

by N.I. Zhinkin

- Shcherba's definition is modified:
- **The syllable is an arc of articulatory effort.**
- The arc of loudness of perception level is formed due to variations of the volume of the pharyngeal passage which is modified by contractions of its walls.
- The narrowing of the passage and the increase in muscular tension reinforce the actual loudness of a vowel, forming the peak of the syllable.

Conclusion

- All four theories consider the syllable as a kind of an arc.
- In case of *expiratory theory*, the peak of this arc is an expiration.
- In case of *sonority theory*, the peak is the most sonorous sound.
- In case of *tension theory*, the peak is a pitch sound.
- In case of *loudness theory*, the peak is the loudest sound.

Articulatory level

Some linguists consider the syllable to be a purely **articulatory unit** which lacks any functional value. This point of view is defended on the grounds that the *boundaries of the syllable do not always coincide* with those of the morphemes.

The **articulatory level** of analysis suggests the existence of universals, that is categories applicable for all languages

Functional level of analysis

treats each language separately, because as **A. Gimson** points out a similar sound sequence can be defined differently in different languages.

The definition of the syllable from the functional point

a) the syllable is a chain of phonemes of varying length;

b) the syllable is constructed on the basis of contrast of its constituents (which is usually of vowel consonant type);

c) the nucleus of the syllable is a vowel, the presence of consonants is optional;

there are no languages in which vowels are not used as syllable nuclei, however there are languages in which this function can be performed by consonants;

d) the distribution of consonants in syllable structure follows the rules which are specific for a particular language.

Syllable is

- A group of sounds that are pronounced together (Wells)
- One or more speech sounds forming a single uninterrupted unit of utterance which may be a whole word, or a commonly recognized and separable subdivision of a word (J. Kenyon)
- a speech unit consisting of a sound (V) or a sound sequence (VC, CS) one of which is heard to be more prominent than the others.

Syllable formation

- Only syllabic sounds are capable of forming syllables.
- Syllabic sounds are generally vowels and sonorants (in English).
- Sonorants become syllabic when they are joined to a preceding noise consonant.
- Among syllabic sonorants we find [l, n] and less commonly [m].
- Syllabic sonorants are indicated by [̩] placed beneath the symbol: **apple** ['æp̩], **trouble** ['trʌb̩].
- A word consisting of only one vowel sound represents a separate syllable (*I* [aɪ], *are* [ɑ:])
- Many words in English such as *parcel*, *level*, *person* can be pronounced with the neutral vowel before the sonorant thus making it non-syllabic

(['pɑ:s(ə)l],

['lev(ə)l],

['pɜ:s(ə)n]

Number of syllables may vary from one to 8

1. *Come* (1)
2. *City* (2)
3. *Family* (3)
4. *Simplicity* (4)
5. *Unnaturally* (5)
6. *Incompatibility* (7)
7. *Unintelligibility* (8)

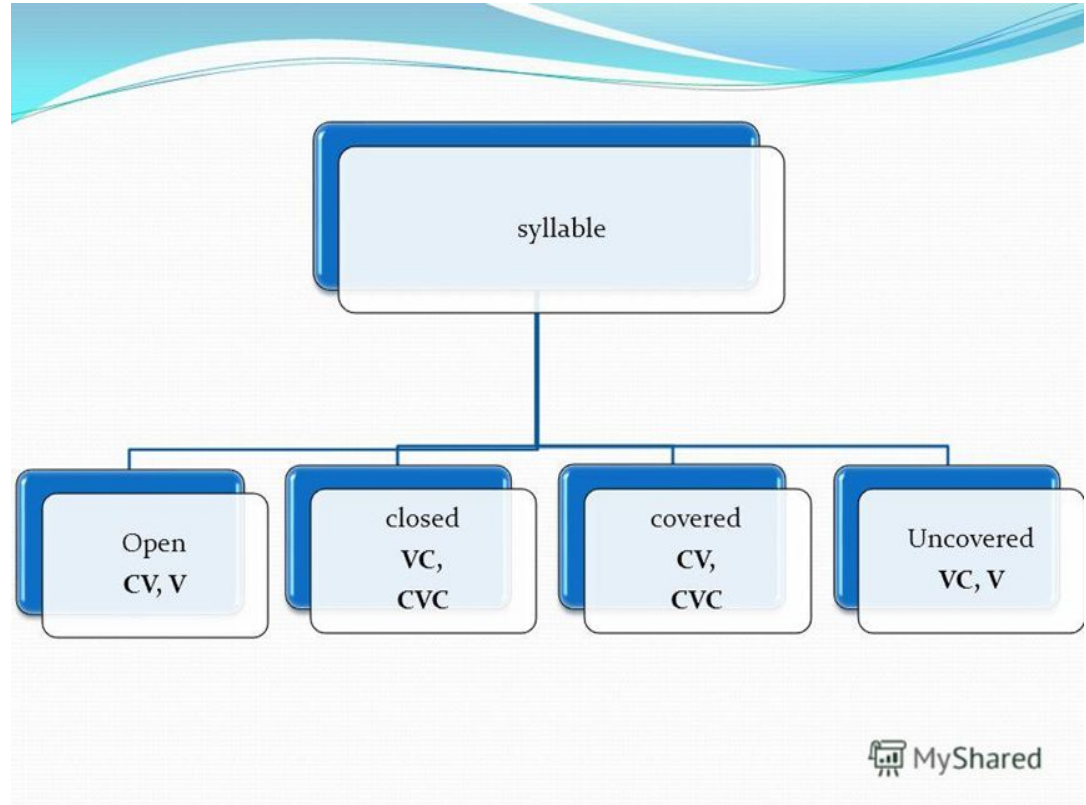
Types of syllables

Placement of Vowels

- *Open: e.g. they, wri-ter*
- *Closed: e.g. hun-dred, hat*

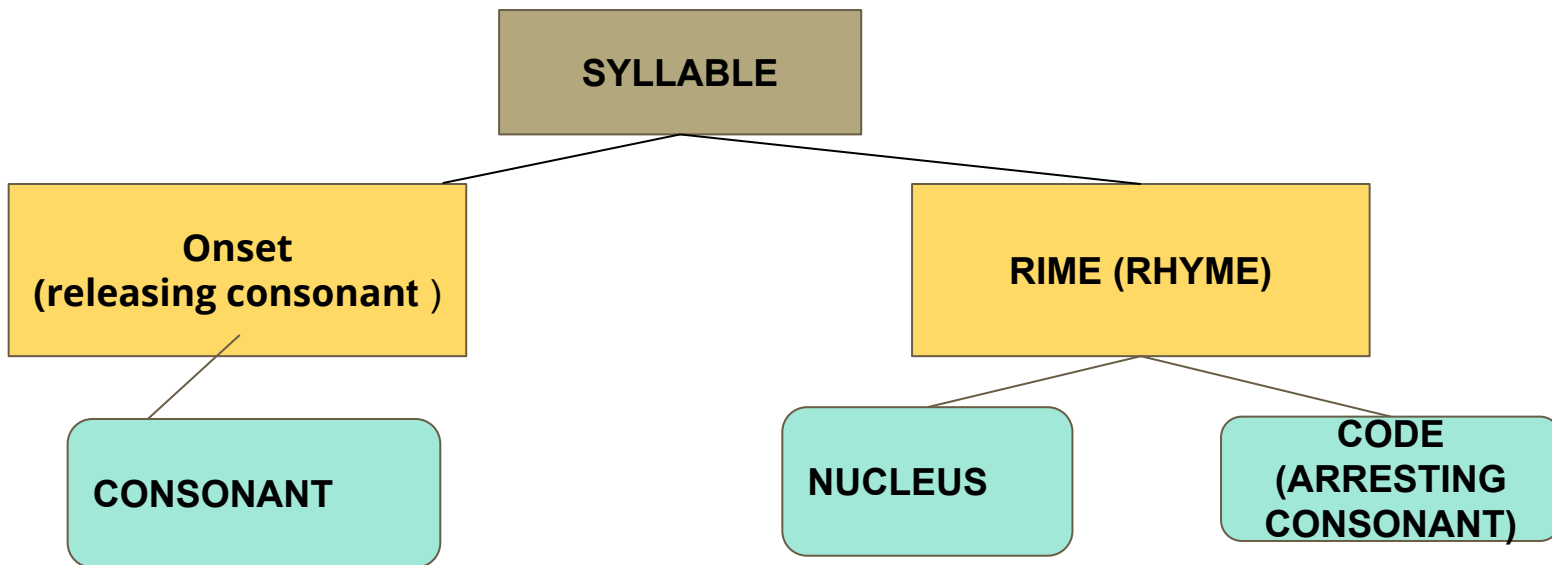
Placement of Consonants

- *Covered: e.g. tie*
- *Uncovered: e.g. on*

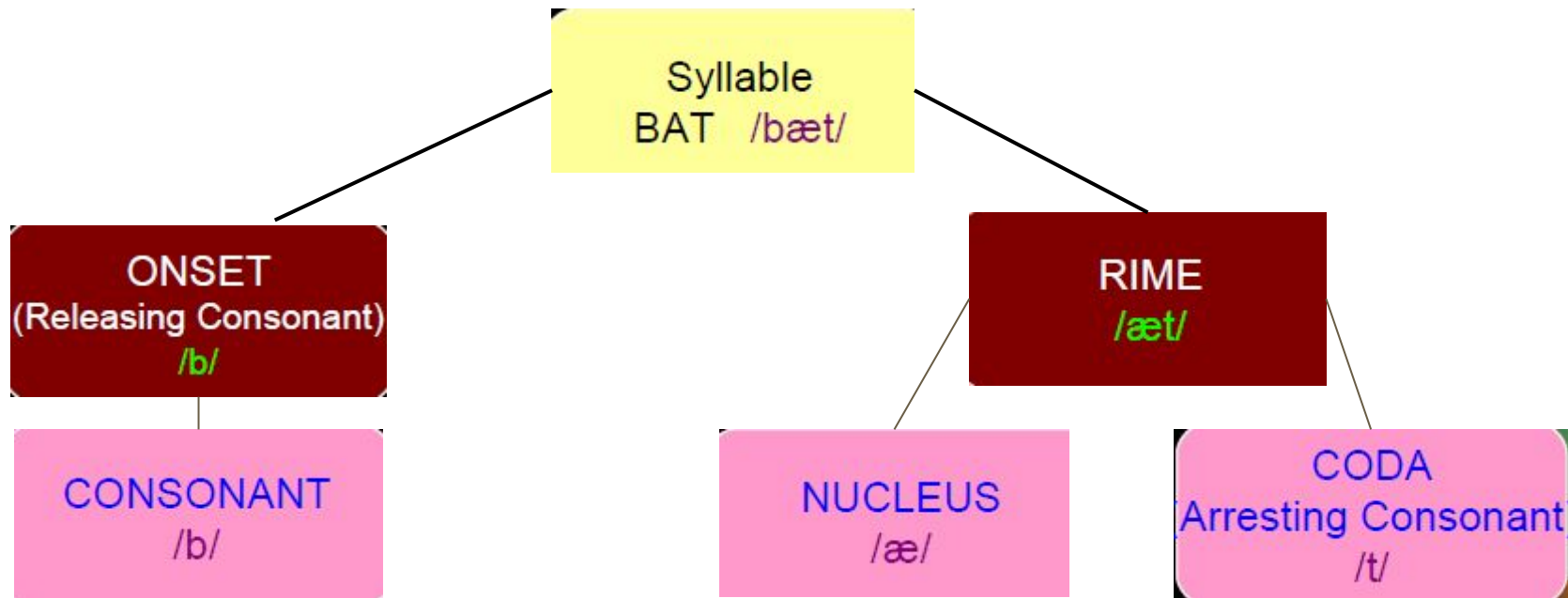


The Structure of a syllable

sound (V) or a sound sequence (VC. CS)



EXAMPLE



Syllable Division Rules

One syllable words

- A one syllable word is NEVER divided.
- It has one or more letters but ONE VOWEL sound - e.g. *beat*, and is produced by a single voice impulse
- The English diphthongs are monosyllabic.

Compound word

A compound word is divided according to the meaning
e.g. *base-ball*, *cow-boy*, *sun-set*

VCCV

When two or more consonants come between two vowels. The word is usually divided between two consonants:

VC/CV

BET/TER

ATH/LETE

FOR/GOT

PIC/TURE

SHOT/GUN/

WHIP/ LASH

VC/CCV

IN/ SPECT

EN/TRENCH

SPEND/THRIFT

V/CV

When a single consonant comes between two vowels in a word, the word is usually divided BEFORE the consonant and the long vowel or diphthong

MU/SIC

PO/LITE

PA/PER

LO/CATE

VC/V

When a single consonant comes between two vowels in a word, the word is usually divided AFTER the consonant when the first vowel is short

CLEV/ER

LEM/ON

ROB/IN TRAV/EL

Syllable Division Rules

When a word has a PREFIX/ SUFFIX, the word is divided between the affix and the root

MELT/ED

SOFT/NESS

DIS/TURB

DIVISION PROCESS

- Cross off silent -e (if there is one at the end)
- Mark the vowels (v)
- Mark the consonants between vowels (C)
- Determine the correct syllable pattern
- Divide
- Identify syllable types
- Pronounce each syllable and blend the word

Functions of the syllable

constitutive	distinctive	recognitive
<p>syllables constitute the material forms of all the words, phrases and sentences</p>	<p>syllabic boundaries may differentiate one word (or phrase, or sentence) from another word</p> <p><i>bet/ - /betə/,</i></p> <p><i>/dri:m/ - /dri:mɪ/,</i></p> <p><i>/sli:p/ - /ə'sli:p/.</i></p> <p><i>A name – an aim</i></p>	<p>syllabic boundaries may differentiate one word (or phrase, or sentence) from another word</p> <p><i>Pea stalks</i></p> <p><i>Peace talks</i></p>