SYLLABLES AND SYLLABLE STRUCTURE

- **Syllable as a phonetic and phonological unit**

- **Syllable formation theories**

- **Syllable Structure**

- **Types of syllables in English**

- **Phonotactic constraints and Rules of Syllabification**

- **Functions of syllables**

Phonetical and phonological aspects of syllable

Phonetical level: the way we produce syllables

- syllable is a sound sequence, consisting of a **centre** which has <u>little or no obstruction to airflow</u> and which sounds comparatively <u>loud</u>; **before and after this centre** there will be <u>greater obstruction to airflow</u> and less loud sound.

Phonological level: the way phonemes are combined

- speech sounds forming a **single uninterrupted unit of utterance** which may be a **commonly recognized subdivision** of a word or the whole of a word.

SYLLABLE

Can be analysed from **acoustic**, **auditory**, **articulatory** and **functional** points of view:

1) acoustically and auditorily: force of utterance, or accent, pitch of the voice, sonority and length - prosodic features;

2) articulatory: syllabic formation and division;

3) functionally: constitutive, recognitive and distinctive properties of a syllable.

Syllable from a functional point of view

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

b) a syllable is constructed on the basis of **contrast of its constituents**;

c) the distribution of phonemes in the syllabic structure follows the rules which are specific enough for a particular language (**phonotactics**).

Syllable formation is based on the phonological opposition vowel – consonant. **Vowels** are usually **syllabic**, while **consonants** are **not**,

with the exception of the **sonorants** [l], [m], [n] which become **syllabic** if they occur in an **unstressed final position preceded by a noise consonant.**

Syllable Structure
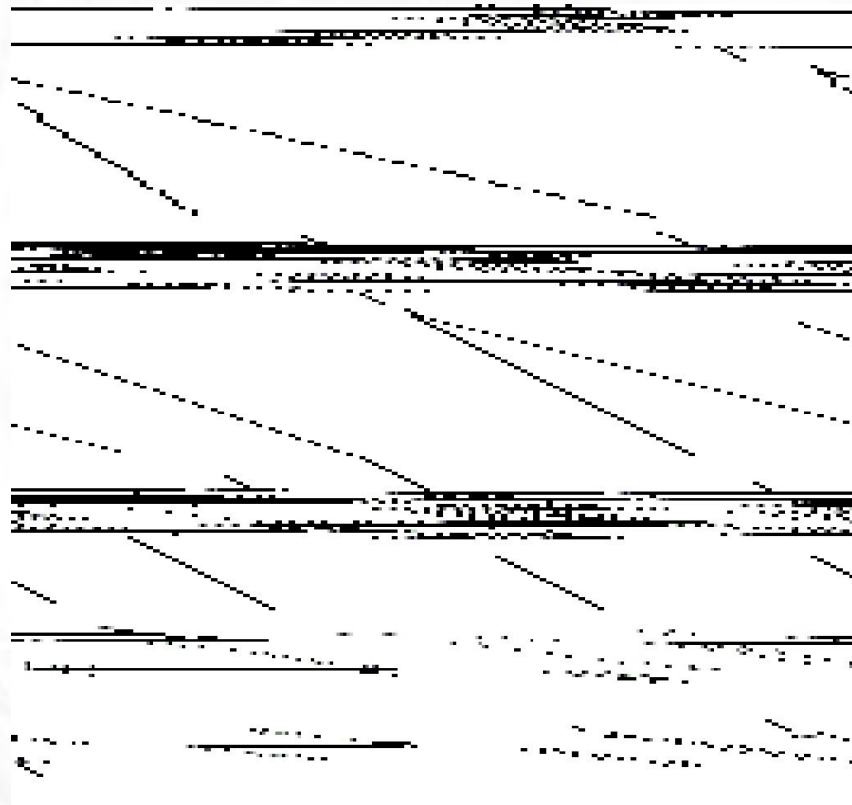
Examples:

- *flounce*

- *free*

- *each*

  - Onset = /fl/ = /fr/ = zero
  - Rhyme =/auns/ = /iː/ = /iːtʃ/
  - Nucleus = /au/ = /iː/ = /iː/
  - Coda = /ns/ = zero = / tʃ /

bottle, bottom, button, butter: second syllable [l], [m], [n] and [r].

Answer:

The onset of the word *stretch* is?

a. s　　　　b. st　　　　c. str　　d. tch

The nucleus of the word *preach* is?

a. pr　　b. ea　　　c. rea　　d. each

The rhyme of the word *fair* is?

a. air　　b. fai　　　c. fair　　d. ai

The principles of syllable classification. Types of syllables.

Syllabographs differ from phonetic syllables:

Ex.   **phonetic syllables   syllabographs:**

ranging   [ræn-d3iŋ]   rang-ing

maker   [mei-kə]   mak-er

Structural types

1. Fully open   V *ore, or*

2. Fully closed   CVC *fat*
(V between C)   CCVC *place*
                        CVCC *fact*
                        CCCVCC *street*
                        CVCCC facts
                        CVCCCC *sixths* [siksθs]

3. Covered at the   CV *too*
beginning   CCV *spy*
(one C or a sequence   CCCV *straw*
of C precede a vowel)

4. Covered at the end   VC *on*
(one C or more   VCC *act*
complete the syllable)   VCCC *acts*

Placement of vowels and consonants

Placement of VOWELS

open: the V is at the end, such a syllable is articulated with the opening of the mouth by the end: *e.g. they, wri-ter*

closed: which end in C, at the end of such a syllable the mouth is closed: *e.g. hun-dred, hat*

Placement of CONSONANTS

covered at the beginning: the C is at the beginning of the syllable: *e.g. tie*

covered at the end: the C is at the end of a syllable: *e.g. on*

Closed syllables

VC	**"am"**	/æm/
VCC	**"ant"**	/ænt/
VCCC	**"ants"**	/ænts/
CVC	**"man"**	/mæn/
CVCC	**"bond"**	/bɔnd/
CVCCC	**"bands"**	/bændz/
CVCCCC	**"sixths"**	/sɪksθs/
CCVC	**"brag"**	/bræg/
CCVCC	**"brags"**	/brægz/
CCVCCC	**"plants"**	/plænts/
CCCVC	**"spring"**	/sprɪŋ/
CCCVCC	**"springs"**	/sprɪŋz/

Open syllables

V	I	/ai/
CV	ME	/mi:/
CCV	SPY	/spai/
CCCV	SPRAY	/spræi/

Theories of Syllable

The most ancient theory states that there are as many syllables in a word as there are **vowels.**

- **expiratory, or chest pulse or pressure theory**

- **the sonority (*carrying power*) theory / the prominence theory**

- **muscular tension and three types of consonant theory**

- **loudness theory**

Sonority theory

Low vowels (aː, ɔ..).

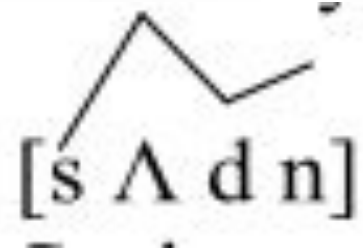High vowels (iː, i....)

Semivowels (j, w)

Liquids (1, r)

Nasals (m, n, ŋ)
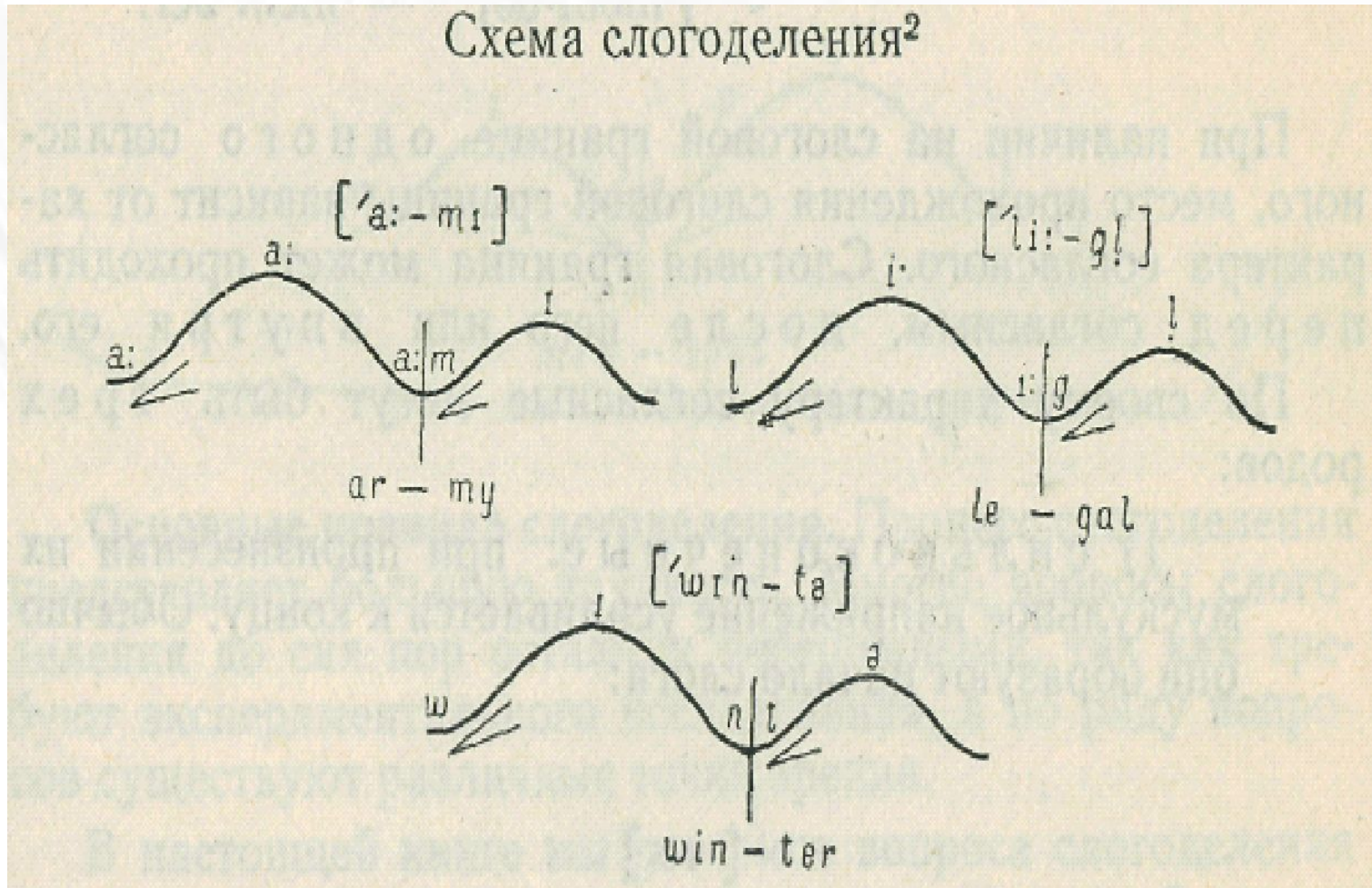
Fricatives (voiced) (v, z, ð)

Fricatives (voiceless) (f, θ, s)

Oral stops (voiced) (b, d, g)

Oral stops (voiceless) (p, t, k).

[s ʌ d n]

Theory of muscular tension

Схема слогоделения[2]

Types of consonants:

Ex.   initially strong consonants: **it, us, oath, add**;

finally strong consonants: **may, tea, new**;

geminate (double) consonants: **penknife, what time, midday.**

Initially strong consonants follow **short vowels. Finally strong** consonants follow **long vowels or diphthongs.**

Acoustically, finally strong consonants produce the impression of ablend with a vowel which follows.

Types of consonants

Ex.   **finally strong**   **initially strong**

not a tall one   not at all

a name   an aim

"strong-end" (fnally strong)

"weak-end" (finally weak) consonants

Rules of syllabification

Phonetic syllable divisions must be such as to avoid (as far as possible) creating consonant clusters which are not found in words in isolation:

CANDLE ['kæn. dl] or ['kænd. l] but not ['kæ. ndl]

Phonotactic constraints

Phonotactic constraints in English:

- all **three-consonant clusters** at the beginning of a word start with **/s/** (*'sprint', 'squire', 'stew'* etc);

- nasal consonants **cannot** occur as the second consonant in **word-initial consonant clusters** unless the first consonant is **/s/** (e.g. there are no words in English than begin with /bm/, /dn/ etc)

English-specific restaints:

splayed; strayed; scrape; spew; stewed; skewed; squish; squawk; squeal — CCCVC

When the third consonant is /w/ then the first two must be /sk/: *squish; squawk; squeal*

Whilst /spr/ and /str/ are permitted syllable-initially, /spw/ and /stw/ are not permitted syllable-initially in English: *strayed; scrape*

The number of final consonants in an English rhyme can range from one to four.
eg. /sɪk/ *sick*, /sɪks/ *six*, /siksθ/ *sixth*, /siksθs/ *sixths*

Syllable division rules in English

1. A syllable boundary coincides with a word boundary, and with the morphological boundary between elements in a compound:

displace [ˌdis 'pleis] CVC-CSVC *become* [bi 'kʌm] CV-CVS

countless ['kaunt ləs] CVSC-SVC *hardware* ['ha:d weə] CVC-SV

2. Consonants are syllabified with whichever of the two adjacent vowels is more strongly stressed, e.g. *farmer* ['fa:m - ə], *agenda* [ə ' - dzəndə].

If they are both unstressed, it goes with the leftward one: e.g.

cinema ['sin - əmə], delicious [di 'liʃəs], deliberate [di'lib ər ət].

Syllabification in English

3. Maximum onset principle: where two syllables are to be divided, any consonants between them should be attached to the right-hand syllable as far as possible**: EXTRA [ek-strƏ]**

4. The English diphthongs are <u>unisyllabic</u>, they make one vowel phoneme, while the so-called triphthongs are disyllabic, because they consist of a diphthong + the neutral vowel (schwa):

table	*science*	*flower*
CV-CS	CV-VSC	CSV-V

5. The English affricates [t͡ʃ], [d͡ʒ] cannot be split: *catching* [ˈkæt͡ʃ -iŋ]

Functions of the syllable

Constitutive: within syllable the relations between the distinctive features of the phonemes are revealed.

Distinctive: differentiates words and word forms.

e.g. ['nai-treit] *nitrate* – ['nait-reit] *night-rate*

a) in the degree of aspiration of [t] which is greater in the first member of the opposition than in the second;

b) in the slightly devoiced articulation of [r] in the first member of the opposition under the influence of the initial [t];

c) in the length of the diphthong [ai] which is shorter in the second member of the opposition, because it is followed by a voiceless consonant.

Different position of the point of syllable division

The **recognitive or identificatory** function facilitates identification of the syllables. It is conditioned by the pronunciation of the speaker. The listener can understand the meaning of the utterance only if he perceives the correct syllabic boundary.

e.g. *an aim* — *a name*
 mice kill — *my skill*
 an ice house — *a nice house*
 peace talks — *pea stalks*
 plate rack — *play track*
 I saw her eyes. — *I saw her rise.*
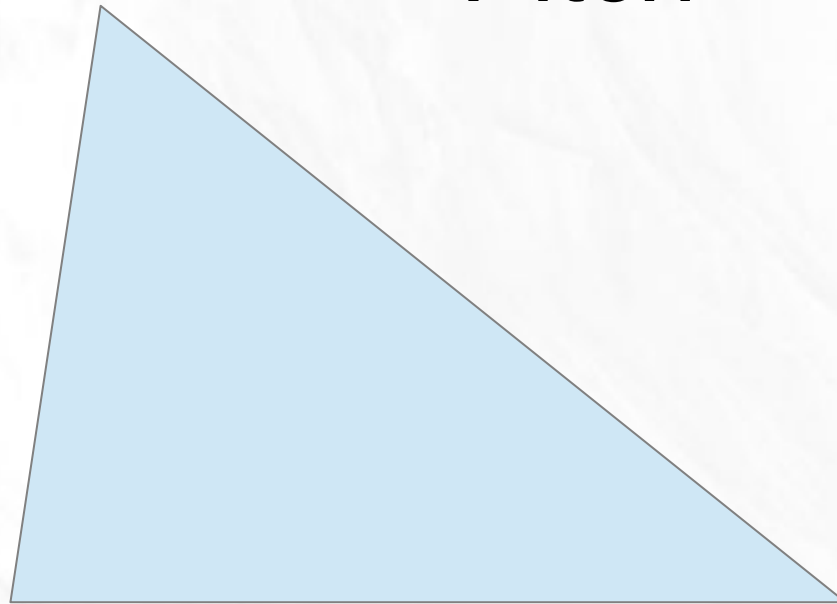 *I saw the meat.* — *I saw them eat.*

Stress: Accentual structure of English

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Components of stress

Pitch

Length   Loudness

Types of stress

- **Dynamic** stress: intensity of articulation (greater muscular energy).

- Musical (**tonic**) word stress: special prominence of a stressed syllable through the change of pitch (musical tone).

- **Quantitative:** length of stressed vowels is longer.

- **Qualitative:** achieved through the changes in the quality of the vowel under the stress.

Russian vs English stress: quantiative component vs qualitative (obligatory reduction of unstressed vowels)

e.g. transport [ˈtræspɔ:t], *museum* [mjuːˈziːəm],

hotel [hɜʊˈtel].

English word stress

English word stress: a <u>hierarchy of acoustic cues</u>

Perceptually most influential cue is (higher) **pitch**, the second most important cue in the hierarchy is (longer) **duration**, the third is (greater) **intensity** and the last is segmental (sound) **quality**.

Placement of stress (position)

- **Fixed** stress: stress is limited to a particular syllable (French, Finnish, Czech, Polish)

- **Free** stress (variable): no specific position in the word

Placement of stress (structural)

- **Shifting** stress: performs functions of differentiating lexical units, parts of speech, grammatical forms

- **Permannent** stress: always falls on a particular morphological unit

E.g.

(a) **na**tion   **na**tional   **na**tionalist **na**tionalise

(b) natio**na**lity nationa**li**stic   nationali**sa**tion

Degree of stress

- Primary
- Secondary: eˌxamiˈnation, ˌorganiˈ*sation*
- Tertiary: ˈsecreˌtary, ˈdictioˌnary.

Mark the most prominent syllable in the following words:

market   water   button   little

analyse   equality   antagonise   indemnify

Accentual variation

- **Recessive** tendency: e.g. *mother, daughter, brother, swallow; e.g. reason, colour, restaurant; e.g. foresee, begin, withdraw, apart.*

- **Rhythmical** tendency: e.g. *revolution, organi'sation, assimilation; e.g. 'cinema, 'situate, ar'ticulate; e.g. perso'nal — 'perso'nal — 'personal; , e.g. 'hospitable — ho'spitable, 'distribute — dis'tribute, 'aristocrat — a'ristocrat, 'laryngoscope — la'ryngoscope.*

- **Retentive** tendency: e.g. *'person – 'personal – perso'nality; e.g. .'person ~ 'personal - per'sonify.*

Typology of accentual structures

1. ['___] e.g. *'fafher, 'possibly, 'mother-in-law, 'gas-pipe.*

2. ['_ '_] *e.g. 'radio-'active, 're'write, 'diso'bey.*

3. ['_' _ '_] and 4. ['_' _ '_ '_] e.g. *'U'S'A, 'U'S'S'R*

5. ['_ ,___] e.g. *'hair-,dresser, 'substructure*

6. [, _'___]

a) the prefix and the root: m*aga'zine;* b) the root and the suffix: *,hospi'tality; c)* the prefix and the suffix: *disorganization.*

Functions of stress

- **Constitutive** function: word stress builds up a word by making one (or more) syllables more prominent than the others, it organizes the syllables of a word into a language unit.

- **Identificatory** (or **recognitive**) function: the recurrent stress pattern of the word helps the listener to recognize (identify) it in the flow of speech.

- **Distinctive** function: word stress is capable of differentiating the meaning of words or their forms.

Fulfill the tasks:

1) How does the meaning change with the change of word stress?

Example: *to susPECT* (meaning: to have an opinion);
a SUSpect (meaning: a person under suspicion);
to preSENT (meaning: to give, to introduce);
a PREsent (meaning: a gift).

to conflict, a conflict || to contest, a contest || to contract, a contract

to convert, a convert || to convict, a convict || to incline, an incline

to insult, an insult || to object, an object || to permit, a permit

to produce, a produce || to project, a project || to protest, a protest

to rebel, a rebel || to recall, a recall || to reject, a reject

to research, a research || to concert, a concert || to survey, a survey

Find the odd one in each row:

1. person   permanent   personal   persuade
2. *surgeon*   *surprise*   *surplus*   *surface*
3. *cylinder*   *recycle*   *bicycle*   *mystery*
4. *ceremony*   *compose*   *calculate*   *caravan*
5. *complete*   *company*   *comment*   *comical*
6. *comedy*   *command*   *comfortable* *compass*
7. *commentary*   *alert*   *legal*   *model*
8. *register*   *regular*   *request*   *reference*
9. *famous*   *curious*   *suspicious*   *numerous*

Find the odd one in each row:

10. *voluntary*   *compulsory*   *necessary*   *stationary*

11. *comfortable* *remarkable*   *profitable*   *sensible*

12. *energy*   *dignity*   *variety*   *poverty*

13. *contrast*   *conflict*   *contain*   *conduct*

14. *provide*   *present*   *permit*   *perfect*

15. *extract*   *express*   *export*   *escort*

16. *request*   *record*   *refund*   *refill*

17. *project*   *profit*   *protest*   *progress*

18. *conflict*   *conduct*   *conclude*   *content*