НУРУМБЕТОВА Г. А., ЕШИМБЕТОВА Г. Д., ДАУЛЕТМУРАТОВА Х.

ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ

НӨКИС – 2019

ӨЗБЕКСТАН РЕСПУБЛИКАСЫ ЖОҚАРЫ ҲӘМ ОРТА АРНАЎЛЫ БИЛИМ МИНИСТРЛИГИ

БЕРДАҚ АТЫНДАҒЫ ҚАРАҚАЛПАҚ МӘМЛЕКЕТЛИК УНИВЕРСИТЕТИ

Шет тиллери факультети

Инглис тили ҳәм әдебияты кафедрасы

Нурумбетова Г. А., Ешимбетова Г. Д.,
Даулетмуратова Х.

ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ

Оқыў-методикалық қолланба

Нөкис – 2019

Нурумбетова Г. А., Ешимбетова Г. Д., Даулетмуратова Х.
«ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ»
пәниниң оқытыў методикалық қолланбасы – Нөкис: ҚМУ 2019 – 240 бет.

Бул оқытыў методикалық қолланба **«ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ»** болып **«ИНГЛИС ТИЛИ ТЕОРИЯЛЫҚ ФОНЕТИКАСЫ»** пәниниң екинши басқышы ҳәм даўамы болып есапланады ҳәмде Мәмлекетлик тәлим стандарты ҳәм үлги ис бағдарламасы тийкарында дүзилген ҳәмде, оқытыў тематикалық ис бағдарлама режесин, пәнниң оқытылыў технологиясын, шегаралық хәм жуўмақлаўшы вариантларын хәм тестлерин, семинар ҳәм өз бетинше жумыслар дизимин өз ишине алады.

Қарақалпақ мәмлекетлик университети Илимий-методикалық Кеңеси баслығы, оқыў ислери бойынша проректор М. Ибрагимов.

«Инглис тили фонологиялық системасы» пәниниң оқытыў методикалық қолланбасы «Шет тиллери» факультети Илимий-методикалық Кеңеси мәжилисинде додаланды, баспадан шығарыў ҳәм қолланыўға усыныс етилди. 2019 жыл «5» январь «1» санлы баянламасы**.** «Шет тиллери» факультет Илимий-методикалық Кеңеси баслығы п.и.к., доцент Дж. Курбанбаев

«Инглис тили фонологиялық системасы» пәниниң оқытыў методикалық қолланбасы «Инглис тили ҳәм әдебияты» кафедрасы мәжилисинде додаланды, баспадан шығарыў ҳәм қолланыўға усыныс етиледи. 2018 жыл «25» декабрь «4» санлы баянламасы. Кафедра баслығы ф.и.к., доцент Д. Хаджиева

Пикир билдириўшилер: Тлеумуратов Г. ф.и.к., доцент
Тажиева Д. п.и.к., доцент

«Инглис тили фонологиялық системасы» *пәниниң оқытыў методикалық қолланбасы Бердақ атындағы Қарақалпақ мәмлекетлик университети Илимий-методикалық Кеңеси мәжилисинде додаланды, баспадан шығарыў ҳәм қолланыўға усыныс етилди. 2019 жыл « 7 » январь «3» санлы баянламасы.*

«ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ» пәнин оқытыў бойынша методикалық көрсетпе

«Инглис тили фонологиялық системасы» пәниниң оқыў процессиндеги орны ҳәм студентлер билимине талаплар

Бул оқытыў методикалық қолланбасы «Инглис тили фонологиялық системасы» пәни бойынша Мәмлекетлик Тәлим Стандарты ҳәм үлги ис бағдарлама тийкарында дүзилген оқыў ис бағдарламасы, жыллық тематикалық календарь режеси, пәнниң оқытыў технологиясы, шегаралық ҳәм жуўмақлаўшы қадағалаў тестлери, семинар ҳәм өз бетинше жумыслар дизими ҳәм көргизбели оқыў қуралларын өз ишине қамтыйды. Бул оқытыў методикалық қолланба «Инглис тили фонологиялық системасы» пәни бойынша студентлериниң терең билимге ийе болыўына ҳәм оны әмелиятта қолланыў уқыблылықларын қәлиплестириўге бағдарланған.

Ҳәзирги заман «Инглис тили фонологиялық системасы» ҳәм «Инглис тили теориялық фонетикасы» курсы усы тилдиң, фонетика ҳәм фонология басқышларына тийисли барлық ҳәдийслерди теориялық көз қарастан үйренеди.

- Фонология тил илиминиң тараўы сыпатында.
- Фонема тил бирлиги сыпатында.
- Фонеманың фонологиялық мектеплер тәрепинен берилген анықламалары.
- Фонология тилдиң сес ҳәм акустик қәсийетлерин сөзлер ҳәм гәп ағымындағы қубылыслардың ҳәдийслерин үйренетуғын лингвистиклық тараўы.

Теориялық ҳәм әмелий излениўлер:

- Сегментал фонология ҳәм бирликлери.
- Суперсегментал фонология ҳәм бирликлери.

Фонетиканың үйрениў обьектине қарай түрлери:

- Улыўмалық фонология
- Диалетологиялық фонологиясы
- Тарийхый фонология
- Салыстырмалы-типологиялық фонология

Фонологияның аспектлери, түрлери ҳәм изертлеў методлары, артикуляцион сес ҳәм гәп ағымындағы аспектлери.

Транскрипция: фонологиялық транскрипция – фонема, силлабема, графема, акцентема, интонема.

Фонология тил илиминиң басқа тараўлары менен байланыслары.

Бул курста тек Британия, Америка илимпазлардың теориялық пикирлери ғана емес, ал рус ҳәм Европа тилшилери және тюркий тиллер, соның ишинде өзбек, қарақалпақ илимпазлардың усы пән бойынша ерискен табыслары ҳәм пикирлерине орын берилген.

Курстың тийкарғы мақсети – студентлерге инглис тили фонетикасы ҳәм фонология системасынан терең билим бериўден ибарат. Бул пәнди үйренип өзлестирген студент төмендеги ўазыйпаларды орынлаўы тийис:

а) фонологияның басқа лингвистикалық пәнлери арасында тутқан орнын билиў;

б) тил сеслериниң акустикалық, физиологиялық ҳәм инглис тилиниң диалектлер функционаллық аспектлерин парық етиў;

в) инглис тилиниң буўын дүзилиси, акцентлик, акустикалық структурасы ҳәм олардың студенттиң ана тилинде буўын ҳәм пәт өзгешеликлерин ийелеў;

г) инглис тилинде гәплердиң интонацион дүзилиси;

д) инглис тилиниң әдебий (норматив), диалектлер ҳәм акцентлерге тән айтылыў нормаларын билиў ҳәм оларды инглис тилин миллий аудиторияда оқытыў усылларын билиўлери тийис.

«ИНГЛИС ТИЛИ ФОНОЛОГИЯЛЫҚ СИСТЕМАСЫ» пәни бойынша студентлердиң билимине, оқыўына ҳәм көнликпелерине қойылатуғын талаплар

Бул курсты тыңлап тамамлаған студентлер, лекцияларда берилген теориялық билимлерди терең үйренип, ҳәр түрли айтылыў формаларын тийисли жеринде әмелде пайдаланып билиў, диалектлер ҳәм акцентлердиң, парықларын түсиндире билиў қәбилетине ийе болыўлары лазым.

Фонологияның бөлимлеринде көтерилген мәселелер бойынша берилген пикирлерди түсиндире билиўлери, ҳәмде сол мәселелерге өзлериниң көз қарасларын билдириўге умтылыўлары талап етиледи.

Оқыў жобасындағы басқа пәнлер менен байланысы теориялық фонетикасы ҳәм инглис тили фонологиялық системасы жоқары оқыў орнында өтилетуғын барлық пәнлер менен тиккелей байланысқан.

1. Тилдиң басқышларындағы сеслер, буўынлар, сөзлер ҳәтте гәп дүзилислеринде ҳәр қандай сегментал ҳәм супрасегментал өзгерислер фонетика ҳәм фонологияның хызметлери арқалы жүз береди.
2. Тилдеги бир басқыштың сөйлесиўге өтиўи екинши басқыштың хызметин талап етеди.
3. Студентлер усындай байланысларды олардың, формаларын, инглис тилиниң айтылыўларының себеплерин билиўлери керек.
4. Студентлер ҳәзирги заман инглис тили айтылыўының үстем бағдарларын, ҳәмде дүнья жүзине таралған диалектлериниң паркына дыққат аўдара отырып билип барыўлары, оларды қәсип қәнийгелигине таярлаў, сегментал ҳәм суперсегментал фонетикалық ҳәм фонологиялық қәтелерди өзлери аңсызлаўы, оларды анықлаў усылларын, ҳәмде оларды сапластырыў жоллары үстинде ислеўи керек.
5. Фонология улыўма тил илиминиң бир бөлеги екенлиги, соның менен бир қатарда, басқа пәнлер физиология, акустика, психология ҳәм психолингвистика, социология ҳәм социолингвистика, нейролингвистика, жоқары математика, статистика ҳәм эксперименталь фонетикаға байланыслы екенлигин көрсетиледи.
6. Аудиториялық сабақлардың көлеми, оқытыў ҳәм студентлердиң билимин баҳалаў жобасы, пәнниң бағдарламасы менен тәмийнлениўи.

«**Инглис тили фонологиялық системасы**» пәни «**Инглис тили теориялық фонетикасы**» пәнниң екинши ҳәм айырылмас баскышы ретинде «Шет тили ҳәм адебияты» бакалавр бағдары «Инглис тили» қәнигелиги студентлери ушын өтиледи.

«**Инглис тили теориялық фонетикасы**» ҳәм «**Инглис тили фонологиялық системасы**» пән бойынша ҳәммеси болып 100 саат, соның ишинде 28 саат лекция, 30 саат семинар ҳәм 42 саат өзбетинше жумысы саатлар болып бөлистирилген.

«**Инглис тили теориялық фонетикасы**» ҳәм «**Инглис тили фонологиялық системасы**» пәнди оқытыўдағы жаңа технологиялар ҳәр бир пәнди өзлестириў ҳәм оқытыўдың үш усылы бар. Теориялық пән болғаны ушын оны әмелият пенен байланыстырып алып барыў талап етиледи.

Курсты жобаластырыў әпиўайы фонологиялық материаллардан қурамалы теорияға өтип барылады. Фонологиялық бирликлерди тиккелей көрип, гүзетип, тыңлап түсиниў усылы, яғный аудиторияда аудио-видео үскенелер кең қоллаўды талап етиледи.

Семинар сабақларында ҳәм әмелий жумысларын ислеў даўамында студенттиң билим көлеми анықланады. Студентлерге илимий әдебият үстинде ислеў, презентация, проект жумысларын шөлкемлестириў, реферат, курс ҳәм диплом жумыслрын жазыў бойынша мәслаҳәтлар бериледи. Илимий дереклерден қандай пайдаланыў, үйренилип атырған мәселени критикалық ҳәм унамлы анализ ете билиў, әдебиятлардағы пикирлерди улыўмаластырыўы үйрениледи.

English Phonology System

5111400 - Шет тили ҳәм әдебияты (инглис тили)

бакалавр бағдары студентлери ушын

PREFACE

Phonological analysis of English often concentrates on or uses, as a reference point, one or more of the prestige or standard accents, such as Received Pronunciation for England, General American for the United States and General Australian for Australia. Nevertheless, many other dialects of English are spoken, which have developed independently from these standardized accents, particularly regional dialects. Information about these standardized accents functions only as a *limited* guide to all of English Phonology, which one can later expand upon once one becomes more familiar with some of the many other dialects of English that are spoken.

Like many other languages, English has wide variation in pronunciation, both historically and from dialect to dialect. In general, however, the regional dialects of English share a largely similar but not identical Phonological system. Among other things, most dialects have vowel reduction in unstressed syllables and a complex set of Phonological features that distinguish fortis and lenis consonants: stop, affricate, and fricatives. Most dialects of English preserve the consonant /**w**/ spelled [**w**] and many preserve /θ/, /ð/ spelled [th], while most other Germanic languages have shifted them to /v/ and /**t**/, /**d**/: compare English *will* [**wil**] and *then* [**ðen**] with German *will* [**vil**] 'want' *denn* [**den**] 'because'.

The Study Guide has the following aims: to help learners of English specializing in Cross-cultural Communication organize their Self-study sessions by learning and using the fundamental principles of the English Phonological system, as lingua franca, and by understanding the basic segmental, supra-segmental and different English dialects linguistic phenomena involved in constructing spoken English, to provide access to different scholars' opinions on Phonology phenomena in excerpts of Selection of Reading Materials Packet which are available, and to develop practical segmental and prosodic analysis skills through fluency-oriented tasks, leading to better performance in interactive situations and in decision-making about the diagnosis and treatment of pronunciation and spelling issues in Teaching English as a Second Language or Teaching English as a Foreign Language.

COURSE DESCRIPTION

More specifically, the Course of the English Phonology System introduces students to the standard accents: Received Pronunciation, General American, General Australian and other popular transcription systems, to the syllabic structure of different Englishes: the distribution of stress within a word, the consonant and vowel systems and the supra-segmental features, such as intonation in the broad sense of the word and rhythm. The Course is taught through lectures, in the form of problem discussions, practical tasks, group sessions, oral presentations and project work. The course is intended:

- to increase interest, motivation and raise the confidence of the students in applying the concepts of the English Phonology System to a variety of practical tasks, including language teaching;
- to facilitate the students' ability to approach discourse-oriented objectives with regard to key concepts of Phonetics and Phonology;
- to highlight information management and conversation management functions of Segmental Phonology of the phrase and word which may reveal the speaker's social identity, the speaker-listener relationship, degree of interest or involvement in the discourse: reticence, assertiveness, concern, sarcasm, surprise, etc.
- to comment on the phonological phenomena in connected speech (sound modifications, sentence stress, intonation, etc.), the type and style it represents in Modern English including the dialects of present-day English all over the world.
- to build upon the students' knowledge of English grammar (spelling and punctuation) with relevance to phonology phenomena;
- Manifestation of Segmental Phonology of the phrase and word and its linguistic functions from the Phonological point of view – Units of the syllable in its Stress and Foot

Part I. SOUNDS, SPELLINGS AND SYMBOLS
- Phonetics and phonology
- Variation
- The International Phonetic Alphabet

Part II. THE PHONEME
- Variation and when to ignore it
- Conditioned variation in written language
- The phoneme. The reality of the phoneme

Part III. DESCRIBING ENGLISH CONSONANTS
- What's inside a phonetic symbol
- Consonant classification
- The anatomy of a consonant

Part IV. DEFINING DISTRIBUTIONS: CONSONANT ALLOPHONES
- Phonemes revisited
- Making generalizations
- Making statements more precise
- A more economical feature system
- Natural classes. A warning note on phonological rules

Part V. CRITERIA FOR CONTRAST: THE PHONEME SYSTEM
- Minimal pairs and beyond
- Phonetic similarity and defective distributions
- Free variation
- Neutralization
- Phonology and morphology
- Rules and constraints
- The phoneme system

Part VI. DESCRIBING VOWELS
- Vowels versus consonants
- The anatomy of a vowel
- Vowel classification

Part VII. VOWEL PHONEMES
- Establishing vowel contrasts
- Vowel features and allophonic rules
- Phonetic similarity and defective distribution
- Free variation, neutralization and morpho-phonemics

Part VIII. VARIATION BETWEEN ACCENTS
- The importance of accent
- Systemic differences
- Realization differences
- Distributional differences

Part IX. SYLLABLES
- Phonology above the segment
- The syllable
- Constituents of the syllable
- The grammar of syllables: patterns of acceptability
- Justifying the constituents

Part X. THE WORD AND ABOVE
- Phonological units above the syllable
- Stress
- The foot
- Segmental phonology of the phrase and word

SEMINAR PRESENTATIONS PLAN

Seminar № 1

Phonology and Phonetics as a Branch of Linguistics

Seminar № 2

Phonological Theories

Seminar № 3

The Principal Types of English Pronunciation

Seminar № 4

The System of Consonant Phonemes

Seminar № 5

The System of Vowel Phonemes

Seminar № 6

The Syllabic Structure of English

Seminar № 7

Word Stress

Seminar № 8

Intonation

Seminar № 9

Combinatory-Positional Changes

Seminar № 10

Phoneme and Stress Alternations. Morphonology

PRACTICAL TASKS PLAN

PRACTICAL TASKS № 1

THE PHONEME: THE SAME BUT DIFFERENT		
	Problems for discussion: 1. Variation and when to ignore it 2. Conditioned variation in written language 3. The phoneme. The reality of the phoneme	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 2

DESCRIBING ENGLISH CONSONANTS		
	Problems for discussion: 1. What's inside a phonetic symbol? 2. Consonant classification 3. The anatomy of a consonant	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 3

DEFINING DISTRIBUTIONS: CONSONANT ALLOPHONES		
	Problems for discussion: 1. Phonemes revisited	

	2. Making generalizations 3. Making statements more precise 4. A more economical feature system 5. Natural classes. A warning note on phonological rules	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
	Exercise 5	
	Exercise 6	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 4

CRITERIA FOR CONTRAST: THE PHONEME SYSTEM		
	Problems for discussion: 1. Minimal pairs and beyond 2. Phonetic similarity and defective distributions 3. Free variation 4. Neutralization 5. Phonology and Morphology 6. Rules and constraints 7. The phoneme system	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 5

DESCRIBING VOWELS		
	Problems for discussion: 1. Vowels versus consonants 2. The anatomy of a vowel 3. Vowel classification	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 6

VOWEL PHONEMES		
	Problems for discussion: 1. Establishing vowel contrasts 2. Vowel features and allophonic rules 3. Phonetic similarity and defective distribution 4. Free variation, Neutralization and Morphophonemics	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	

	Exercise 4	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 7

VARIATION BETWEEN ACCENTS		
	Problems for discussion: 1. The importance of accent 2. Systemic differences 3. Realization differences 4. Distributional differences	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 8

SYLLABLES		
	Problems for discussion: 1. Phonology above the segment 2. The syllable 3. Constituents of the syllable 4. The grammar of syllables: patterns of acceptability 5. Justifying the constituents	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
Discussion of the exercises		
Recommendations for reading		

PRACTICAL TASKS № 9

THE WORD AND ABOVE		
	Problems for discussion: 1. Phonological units above the Syllable 2. Stress 3. The foot 4. Segmental Phonology of the phrase and word	
DISCUSSION EXERCISES		
	Exercise 1	
	Exercise 2	
	Exercise 3	
	Exercise 4	
	Exercise 5	
Discussion of the exercises		
Recommendations for reading		

Grading: To successfully complete the course, students are required:

• to participate in class discussions (20 % of the final grade) demonstrating an appropriate level of understanding of the considered issues and an ability to reinforce arguments with illustrations. The presentation materials can be extracted from any kind of source and from any type of English resources.

• to complete a final test (20 % of the final grade) which involves analyzing all the phonology phenomena: modifications, segmental and supra-segmental types and styles of

English Phonology producing in all viewed dialects and accents specifying prominent and tonic syllables in the word, phrase and utterance patterns used.

- to complete a final assignment (20 % of the final grade) which involves analyzing all the phononology phenomena: modifications, segmental and supra-segmental types and styles of English Phonology producing in all viewed dialects and accents specifying prominent and tonic syllables in the word, phrase and utterance patterns used.
- to sit a final examination (30% of the final grade) which consists of an oral presentations and a written essay of the theoretical aspects of the course and the analysis of natural speech phenomena.

English Phonology System

5111400 - Шет тили ҳәм әдебияты (инглис тили)
бакалавр бағдары студентлери ушын

THEORETICAL ASPECTS OF THE COURSE

THEORETICAL ASPECTS OF THE COURSE

This Study Guide has the following tasks:
Lectures
Seminar presentations
Practical tasks

LECTURES

ENGLISH PHONOLOGY SYSTEM in LECTURES

Table of Contents

Lecture		Problems for discussion		Tasks
Lecture 1		**SOUNDS, SPELLINGS AND SYMBOLS**	1	Take the NOTES of the Lecture 1
Problems for discussion:	1	Phonetics and phonology	2	Make the glossary of the main notions and give their definitions
	2	Variation	3	Discussion exercises
	3	The International Phonetic Alphabet	4	Questions for discussion at seminar № 1
			5	Presentation
Lecture 2		**THE PHONEME**	1	Take the NOTES of the Lecture 2
Problems for discussion:	1	Variation and when to ignore it	2	Make the glossary of the main notions and give their definitions
	2	Conditioned variation in written language	3	Discussion exercises
	3	The phoneme	4	Questions for discussion at seminar № 2
	4	Some further examples	5	Presentation
	5	The reality of the phoneme		
Lecture 3		**DESCRIBING ENGLISH CONSONANTS**	1	Take the NOTES of the Lecture 3
Problems for discussion:	1	What's inside a phonetic symbol	2	Make the glossary of the main notions and give their definitions
	2	Consonant classification	3	Discussion exercises
	3	The anatomy of a consonant	4	Presentation
			5	Questions for discussion at seminar № 3
Lecture 4		**DEFINING DISTRIBUTIONS: CONSONANT ALLOPHONES**	1	Take the NOTES of the Lecture 4
Problems for discussion:	1	Phonemes revisited	2	Make the glossary of the main notions and give their definitions
	2	Making generalizations	3	Discussion exercises
	3	Making statements more precise	4	Presentation
	4	A more economical feature system	5	Questions for discussion at seminar № 4
	5	Natural classes		
	6	A warning note on phonological rules		
Lecture 5		**CRITERIA FOR CONTRAST: THE PHONEME SYSTEM**	1	Take the NOTES of the Lecture 5
Problems for discussion:	1	Minimal pairs and beyond	2	Make the glossary of the main notions and give their definitions
	2	Phonetic similarity and defective distributions	3	Discussion exercises
	3	Free variation	4	Presentation
	4	Neutralization	5	Questions for discussion at seminar № 5
	5	Phonology and morphology		
	6	Rules and constraints		
	7	The phoneme system		
Lecture 6		**DESCRIBING VOWELS**	1	Take the NOTES of the Lecture 6
Problems for discussion:	1	Vowels versus consonants	2	Make the glossary of the main notions and give their definitions

	2	The anatomy of a vowel	3	Discussion exercises
	3	Vowel classification	4	Presentation
			5	Questions for discussion at seminar № 6
Lecture 7		**VOWEL PHONEMES**	1	Take the NOTES of the Lecture 7
Problems for discussion:	1	The same but different again	2	Make the glossary of the main notions and give their definitions
	2	Establishing vowel contrasts	3	Discussion exercises
	3	Vowel features and allophonic rules	4	Presentation
	4	Phonetic similarity and defective distribution	5	Questions for discussion at seminar № 7
	5	Free variation, neutralization and Morphophonemics		
Lecture 8		**VARIATION BETWEEN ACCENTS**	1	Take the NOTES of the Lecture 8
Problems for discussion:	1	The importance of accent	2	Make the glossary of the main notions and give their definitions
	2	Systemic differences	3	Discussion exercises
	3	Realization differences	4	Presentation
	4	Distributional differences	5	Questions for discussion at seminar № 8
Lecture 9		**SYLLABLES**	1	Take the NOTES of the Lecture 9
Problems for discussion:	1	Phonology above the segment	2	Make the glossary of the main notions and give their definitions
	2	The syllable	3	Discussion exercises
	3	Constituents of the syllable	4	Presentation
	4	The grammar of syllables: patterns of acceptability	5	Questions for discussion at seminar № 9
	5	Justifying the constituents		
Lecture 10		**THE WORD AND ABOVE**	1	Take the NOTES of the Lecture 10
Problems for discussion:	1	Phonological units above the syllable	2	Make the glossary of the main notions and give their definitions
	2	Stress	3	Discussion exercises
	3	The foot	4	Presentation
	4	Segmental phonology of the phrase and word	5	Questions for discussion at seminar № 10

ABBREVIATIONS

/T/ – Archiphoneme is symbolized by a capital letter

<a> – triangle brackets are conventionally used for spellings, it is symbolized a grapheme

AuE – Australian English; GAuE – General Australian English

C – Consonant

Cph – consonant phoneme

CSPs – Connected Speech Processes

CUP – Cambridge University Press

EE – Estuary English – was coined in 1984 by David Rosewarne – английский говор в дельте Темзы

EUP – Edinburgh University Press

GA – General American pronunciation – The American English – Western American English GenAm – Network English widely used by the US media and enjoys intelligibility throughout the country

IPA – the International Phonetic Association (the IPA)

L2 – second language

LI – first language = native language = mother tongue

MT – mother tongue = first language = native language

NL – native language = first language = mother tongue

NZE – New Zealand English – 'NEWZILID'

OUP – Oxford University Press

RP – Received Pronunciation = Standard Pronunciation –'English English'

RP – Received Pronunciation = Standard Southern British English – sometimes called RP or Received Pronunciation

S – Stronger syllable

S – 'Stronger than an adjacent Weaker'

SBE — Southern British English

SgE – Singapore English

SSBE – Southern Standard British English

SSE – Scottish Standard English – Scottish equivalent of SSBE

SW – Stronger and Weaker syllables

V – Vowel

Vph – vowel phoneme

W – 'Weaker than an adjacent Stronger'

W – Weaker syllable

WS – Weaker and Stronger syllables

Σ – (capital sigma) indicates a Foot

σ – (small sigma) indicates a Syllable

Lecture 1
SOUNDS, SPELLINGS and SYMBOLS

1.1 Phonetics and phonology
1.2 Variation
1.3 The International Phonetic Alphabet

1.1 PHONETICS and PHONOLOGY

Although the species has the scientific name *Homo sapiens*, '*thinking human*', it has often been suggested that an even more appropriate name would be *Homo loquens*, or '*speaking human*'. Many species have sound-based signaling systems, and can communicate with other members of the same species on various topics of mutual interest, like approaching danger or where the next meal is coming from. Most humans: leaving aside for now native users of **sign languages**, also use **sounds** for **linguistic signaling**; but the structure of the human **vocal organs** allows a particularly wide range of **sounds** to be used, and they are also put together in an extraordinarily sophisticated way.

There are two sub-disciplines in **Linguistics** which deal with **sound**, namely **Phonetics** and **Phonology**, which is to provide an outline of the **sounds** of various **English accents** and how those **sounds** combine and pattern together; we will need aspects of both.

Phonetics provides objective ways of **describing** and **analyzing** the range of **sounds** humans use in their **languages**. More specifically, **Articulatory Phonetics** identifies precisely which **speech organs** and muscles are involved in producing the different **sounds** of the World's **languages**. Those sounds are then transmitted from the speaker to the hearer, and **Acoustic Phonetics** and **Auditory Phonetics** focus on the **Physics of speech** as it travels through the air in the form of **sound waves**, and the effect those waves have on a hearer's ears and brain. It follows that **Phonetics** has strong associations with **Anatomy**, **Physiology**, **Physics** and **Neurology**.

Phonology is the branch of Linguistics concerned with the study of speech sounds with reference to their distribution and patterning. A linguist who specializes in Phonology is known as a **phonologist**. As discussed below, the boundaries between the fields of **Phonology** and **Phonetics** are not always sharply defined. However, although knowing what **sounds** we can in **principle make** and **use** is part of understanding what makes us human, each person grows up **learning** and **speaking** only a particular human language or languages, and each language only makes use of a subset of the full range of possible, **producible sounds** and **distinguishable sounds**. When we turn to the characteristics of the **English Sound System** that make it **specifically English**, and different from French or Welsh or Quechua, we move into the domain of **Phonology**, which is the **language-specific selection** and **organization** of **sounds** to signal **meanings**. **Phonologists** are interested in the sound patterns of particular languages, and in what speakers and hearers need to know, and children need to learn, to be speakers of those languages: in that sense, it is close to **Psychology**.

'A primary goal of **Phonology**,' say J. Cole and J. Hualde, '*is to discover the elements that serve as the building blocks of speech*' **[Cole,Hualde:2011:35]**

In '*Fundamental Concepts in Phonology*' Ken Lodge observes that **Phonology** '*is about differences of meaning signaled by sound*' **[Lodge:2009:144]**

Phonological knowledge is not something we can necessarily access and talk about in detail: we often have **intuitions** about language without knowing where they come

from, or exactly how to express them. But the knowledge is certainly there. For instance, speakers of English will tend to agree that the word *snil* is a possible but non-existent word, whereas **fnil* is not possible, as the asterisk conventionally shows. In the usual **linguistic terms**, *snil* is an accidental gap in the vocabulary, while **fnil* is a systematic gap, which results from the **Rules** of the **English Sound System**. However, English speakers are not consciously aware of those rules, and are highly unlikely to tell a linguist asking about those words that the absence of **fnil* reflects the unacceptability of word-initial **consonant sequences**, or **clusters**, with [**fn-**] in English: the more likely answer is that *snil* '*sounds all right*', and if we are lucky, our informant will produce similar words like *sniff* or *snip* to back up the argument, but that **fnil* '*just sounds wrong*'. It is the job of the **phonologist** to express **generalizations** of this sort in precise terms: after all, just because knowledge is not conscious, this does not mean it is unreal, unimportant or not worth understanding. When we run downstairs, we don't consciously think '*left gluteus maximus, left foot, right arm; right gluteus maximus, right foot, left arm*' on each pair of steps. In fact, we are unlikely to make any conscious decisions at all, below the level of wanting to go downstairs in the first place; and relatively few people will know the names of the muscles involved. In fact, becoming consciously aware of the individual activities involved is quite likely to disrupt the overall process: think about what we are doing, and we finish the descent nose-first. All of this is very **reminiscent** of our everyday **use of spoken language**. We decide to speak, and what about, but the nuts and bolts of speech production are beyond our conscious reach; and thinking deliberately about what we are saying, and how we are saying it, is likely to cause self-consciousness and hesitation, interrupting the flow of **Fluent Speech** rather than improving matters. Both language and mobility, crawling, walking, and running downstairs; emerge in developing children by similar combinations of mental and physical maturation, internal abilities, and input from the outside world. As we go along, what we have learned becomes easy, **fluent** and **automatic**; we only become dimly aware of what complexity lies behind our actions when we realize we have made a **speech error**, or see and hear a child struggling to say a word or take a step. **Phonologists**, like **anatomists** and **physiologists**, aim to help us understand the nature of that underlying complexity, and to describe fully and formally what we know in a particular domain, but don't know we know.

'The aim of **Phonology** is to discover the principles that govern the way sounds are organized in languages and to explain the variations that occur. We begin by analyzing an individual language to determine which sound units are used and which patterns they form – the language's *sound system*. We then compare the properties of different sound systems, and work out hypotheses about the rules underlying the use of sounds in particular groups of languages. Ultimately, phonologists want to make statements that apply to all languages

'Whereas **Phonetics** is the study of *all* possible speech sounds, **Phonology** studies the way in which a language's speakers systematically use a *selection* of these sounds in order to express meaning.

'There is a further way of drawing the **distinction**. No two speakers have anatomically identical vocal tracts, and thus no one produces sounds in exactly the same way as anyone else … Yet when using our language we are able to discount much of this **variation**, and focus on only those **sounds**, or **properties** of sound, that are important for the communication of meaning. We think of our fellow speakers as using the '*same*'

sounds, even though **acoustically** they are not. **Phonology** is the study of how we find order within the apparent chaos of speech sounds **[Crystal:2005:105]**

'When we talk about the '**Sound System**' of English, we are referring to the number of **Phonemes** which are used in a language and to how they are organized **[Crystal:2003:77]**

The **relationship** between **Phonetics** and **Phonology** is a complex one, but we might initially approach **Phonology** as **narrowed-down Phonetics**. Quite small babies, in the babbling phase, produce the whole range of possible human sounds, including some which they never hear from parents or siblings: a baby in an **English-speaking environment** will spontaneously make **consonants** which are not found in any European language, but are to be found closest to home in an African language, say, or one from the Caucasus. However, that child will then narrow down the range of **sounds** from the full human complement to only those found in the language(s) hearing and learning, and will claim, when later trying to learn at school another language with a **different sound inventory**, that cannot be possibly produce **unfamiliar sounds** and made perfectly naturally when only a few months old. Or within a language, subtle **mechanical analysis** of **speech** reveals that every utterance of the same word, even by the same speaker, will be a tiny fraction different from every other; yet hearers who share that language will effortlessly identify the same word in each case. In this sense, **Phonetics** supplies an embarrassment of riches, providing much more information than speakers seem to use or need: all those speakers, and every utterance different!

Phonology, on the other hand, involves a **reduction** to the essential information, to what speakers and hearers think they are **saying** and **hearing**.

'**Phonetics** interfaces with **Phonology** in three ways:

- First, **Phonetics** defines **distinctive features**.
- Second, **Phonetics** explains many **phonological patterns**. These two interfaces constitute what has come to be called the '**Substantive Grounding**' of **Phonology**.
- Finally, **Phonetics** implements **Phonological representations**'

[Archangeli:1997:14]

The number and depth of these interfaces is so great that one is naturally moved to ask how autonomous **Phonetics** and **Phonology** are from one another and whether one can be largely reduced to the other'. The answers to these questions in the current literature could not differ more. At one extreme, Ohala argues that there is in fact no interface between **Phonetics** and **Phonology** because the latter can largely if not completely be reduced to the former [**Ohala:1990b]**

At the opposite extreme, Hale and Reiss argue for excluding **Phonetics** entirely from **Phonology** because the latter is about computation, while the former is about something else. Between these extremes is a large variety of other answers to these questions [**Hale: 2000;Kingston:2007]**

The perspective shifts from more units to fewer, from huge variety to relative invariance, from absolutely concrete to relatively abstract; like comparing the particular rose we can see from the window, or roses generally in all their variety: old-fashioned, bushy, briar; scented or not; red, yellow, shocking pink, to The Rose, an almost ideal and **abstract category** to which we can assign the many **different actual variants**. A white dog-rose, a huge overblown pink cabbage rose, and a new, genetically engineered variety can all be roses with no contradiction involved. In **linguistic terms**, it's not just that we say *tomahto* and *tomayto*; it's that we say *tomahto* and *tomahto* and *tomahto*, and the three utterances are subtly different, but we both think we said the same thing three times.

1.2. VARIATION

The discussion so far may suggest a rather straightforward **dichotomy**: **Phonetics** is **universal**, while **Phonology** is **language-specific**. But things are not quite that simple.

- First, **phonologists** also attempt to distinguish those patterns which are characteristic of a **single language** and simply reflect its history, from others where a more universal motivation is at issue. In the case of the absence of **fnil*, or more generally the absence of word-initial [**fn-**] clusters, we are dealing with a fact of **modern English**. It is perfectly possible to produce this **combination** of **sounds**; there are words in many languages, including Norwegian *fnise* 'giggle', *fnugg* 'speck', which begin with just that **cluster**; and indeed, it was quite normal in earlier periods of English – *sneeze*, for example, has the Old English ancestor *fneēsan*, while Old English *fnæd* meant '*hem, edge, fringe*'; but it is not part of the **inventory** of **sound combinations** which English speakers learn and use today.
- The same goes for other **initial clusters**, such as [**kn-**]: this again was common in Old English, as in *cniwan* '*to know*', and survives into **Modern English spelling**, though it is now simply pronounced [**n**]; again, [**kn-**] is also perfectly normal in other languages, including German, where we find *Knabe* 'boy', *Knie* 'knee'.
- On the other hand, if we say the words *intemperate* and *incoherent* to ourselves as naturally as we can, and concentrate on the first **consonant** written ***n***, we may observe that this signals two **different sounds**. In *intemperate*, the front of our tongue moves up behind our top front teeth for the ***n***, and stays there for the ***t***; but in *incoherent*, we are producing the sound usually indicated by /-*ing*/ in English spelling, with our tongue raised much further back in the mouth, since that's where it's going for the following [**k**] – spelled ***c***.

Processes of **assimilation** like this involve two sounds close together in a word becoming closer together in terms of **pronunciation**, making life easier for the speaker by reducing vocal tract gymnastics. **Assimilation** is an everyday occurrence in every human language; and it is particularly common for *nasal sounds*, like the ones spelled /***n***/ here, to **assimilate** to following **consonants**. Explaining universal tendencies like this one will involve an **alliance** of **Phonology** and **Phonetics**: so **phonologists** are interested in **universals** too.

However, **phonological differences** also exist below the level of the language: frequently, two people think of themselves as speakers of the same language, but vary in their usage: sometimes we do say *tomayto*, while we say *tomahto*. This is not just an automatic, **phonetic matter**: in some cases a single speaker will always use one variant, but in others, individuals will use different variants on different occasions. It also has nothing to do with the **physical characteristics** of the different speakers, or the different environments in which they may find themselves, although this was a common belief in the days before **linguists** adopted a rigorous **scientific methodology**: thus, Thomas Low Nichols, a 19th century commentator on American English, speculates that

'*I know of no physiological reason why a Yankee should talk through his nose, unless he got in the habit of shutting his mouth to keep out the cold fogs and drizzling north-easters of Massachusetts Bay*'

There is a natural tendency for geographically distant **accents** to become more different; the same tendency has led the various Romance languages, such as Italian, Spanish, Romanian and French, to diverge from their common ancestor, Latin. In addition, speakers often wish, again sub-consciously, to declare their allegiance to a

particular area or social group by using the **language** of that group; these **accent** differences can be **powerful social markers**, on which we judge and are judged.

Furthermore, although there are **agreed conventions**, which form the basis of the **Phonology of languages** and of **accents**, those conventions can be subverted in various ways, just as is the case for other areas of human behaviour. In short, even **phonologically** speaking, there is more than one English – indeed, on one level, there are as many Englishes as there are people who say they speak English. Providing an adequate and accurate **phonological description** is therefore a challenge: on the one hand, a **single system** for English would be too abstract, and would conceal many **meaningful differences** between speakers; on the other, a speaker-by-speaker account would be too detailed, and neglect what unifies speakers and allows them to recognize one another as using the same system. In what follows, we will concentrate on a small number of

- Southern Standard British English (SSBE);
- Scottish Standard English (SSE);
- General American (GA)

the most frequently encountered **broadcasting variety** in the United States; and

- New Zealand English (NZE)

All of these are abstractions, and combine together a range of constantly shifting **sub-varieties**; but they are useful to illustrate the range of **variation** within English, and represent groupings recognizable to their speakers, providing a level of accuracy which a **monolithic** '**English**' **system** could not.

1.3 THE INTERNATIONAL PHONETIC ALPHABET

So far, the examples given have been rather general ones, or have involved analogies from outside language. Giving more detailed examples demands a more specific vocabulary, and a **notation system** dedicated to the **description of sounds**. The **English spelling system**, although it is the **system of transcription** we are most used to, is both too **restrictive** and too **lenient** to do the job.

Without a **Universal Transcription System** for **Phonetics** and **Phonology**, writing down the unfamiliar sounds of other languages presents an almost insuperable challenge. Take, for example, a sound which is used only **paralinguistically** in English; that is, for some purpose outside the **language system** itself, but which is a perfectly ordinary **consonant** in other languages, just as **[b]** in *but* or **[l]** in *list* are in English, namely the '*tut-tut*' sound made to signal disapproval. When we see this, we do not think of a whole word, but of a **repeated clicking**. This description is hopelessly inadequate, however, for anyone else trying to recognize the **sound** in question, or learn how to make it. Hearing a native speaker use the '**tut-tut**' **click** in a language where it is an ordinary consonant does not help us understand how the **sound** is **made** or how it **compares** with others. Likewise, adopting the usual **spelling from** that language; assuming it is not one of the many without an **orthography**, might let us write the '**tut-tut**' **sound** down; but this **technique** would not produce a **universal system** for writing sounds of the world's languages, since linguists would tend to use their own **Spelling Systems** as far as possible, and opt for representations from the languages they happened to know for other **sounds**. There would be little consistency, and generalization of such a system would be difficult.

The situation is worse with '*exotic*' **sounds** which do not happen to coincide even with those used **paralinguistically** in English: groping towards a description in ordinary English is far too vague to allow **accurate reproduction of the sound** in question; and

indeed, such sounds tended by early commentators to be regarded as **unstable** or not **quite proper**. John Leighton Wilson, who published a brief description of the **African** language **Grebo** in 1838, had considerable difficulties with **sounds** which do not have an **obvious English spelling**, and tended to resolve this by simply not transcribing them at all. Thus, he notes that

'*There is a consonant sound intermediate between **b** and **p**, which is omitted ... with the expectation that it will, in the course of time, gradually conform to one or the other of the two sounds to which it seems allied*'.

Similarly, he observes

'*a few words in the language so completely nasal that they cannot be properly spelled by any combination of letters whatever*'.

It is for these reasons that the **International Phonetic Alphabet** (**IPA**) was proposed in **1888**; it has been under constant review ever since by the **International Phonetic Association** (**IPA**) and the latest revision dates from **1996**. It is true that a certain amount of learning is required to become familiar with the conventions of the **IPA** and the **characteristics of sounds** underlying the notation: but once we know that 'tut-tut' is [|], an **alveolar click**, it will always be possible to produce the relevant sound accurately; to write it down unambiguously; and to recognize it in other languages.

Although a **Universal System of Description and Transcription** might be desirable in principle and even in practice when dealing with unfamiliar languages and sounds, readers of a book both in and on English might question the necessity of learning the **IPA**. However, precisely the same types of problems encountered above also appear in connection with the **Phonology of English**, and some new ones besides.

- First, there is considerable ambiguity in the **English Spelling System**, and it works in both directions: many sounds to one spelling, and many spellings to one sound. The former situation results in '*eye-rhymes*', or forms which look as if they ought to have the **same pronunciation**, but don't. There are various doggerel poems about this sort of ambiguity, often written by non-native speakers who have struggled with the system: one begins by pointing out a set of *eye-rhymes* –

'I gather you already know, of *plough* and *cough* and *through* and *dough*'

Those four words, which we might expect to *rhyme* on the basis of the **spelling**, in fact end in four quite different **vowels**, and *cough* has a final consonant too. On the other hand, *see*, *sea*, *people*, *amoeba* and *fiend* have the same **long** [**i:**] **vowel**, but five **different spellings**.

- Despite these multiple ambiguities, attempts are regularly made to indicate **pronunciations** using the **Spelling System**. None are wholly successful, for a variety of different reasons. The lack of precision involved can be particularly frustrating for **phonologists** trying to discover characteristics of earlier stages of English. John Hart, a well-known 16th century grammarian, gives many **descriptions** of the **pronunciations** of his time, but the lack of a **Standard Transcription System** hampers him when it comes to one of the major mysteries of **English Phonology** at this period, namely the sound of the vowel spelled /***a***/. John Hart mentions this explicitly, and tells us that it is made '*with wyde opening of the mouthe*, *as when a man yawneth*': but does that mean a **back vowel**, the sort now found for **Southern BrE** speakers in *father*, or a **front vowel**, like the *father* **vowel** for New Zealanders or Australians? Similarly, Thomas Low Nichols, discussing mid-19th-century American English, notes that 'It is certain that men open their mouths and broaden their speech as they go West, until on the Mississippi they will tell you '*thar are heaps of bar* [**bear**] *over thar, whar I was raised*'.

Here we have two related difficulties: the nature of the /***a***/ vowel, and what the orthographic /***r***/ means, if anything. Most BrE speakers; those from Scotland, Northern Ireland and some areas of the West Country excepted, will **pronounce** [**r**] only immediately before a **vowel**: so a London English speaker would naturally read the quote with [**r**] at the end of the first *thar*, *bar* and *whar*, but not the second *thar*, where the next word begins with a **consonant**. However, a **Scot** would produce [**r**] in all these words, regardless of the following sound. Which is closer to what Thomas Low Nichols intended? Orthographic /***r***/ is still problematic today: when Michael Bateman, in a newspaper cookery column, writes that 'This cook, too, couldn't pronounce the word. It's not **pah-eller**; it's **pie ey-yar**' he is producing a ***helpful guide*** for most English English speakers, who will understand that his '**transcription**' of *paella* indicates a final vowel, since they would not pronounce **[r]** in this context in English; but he is quite likely to confuse Scots or Americans, who would pronounce [**r**] wherever ***r*** appears in **English spelling**, and may therefore get the mistaken idea that *paella* has a final [**r**] in Spanish.

In short, the fact that there are **many different Englishes**, and that each quite properly has its own **phonological interpretations** of the same **Spelling System**, which, remember, is multiply ambiguous in the first place, means we encounter inevitable difficulties in trying to use **spelling** to give **explicit information about sounds**.

The same problems arise in a slightly different context when writers try to adapt the **Spelling System** to indicate **accent differences**:

'*Good flight*?' asked Jessica at Christchurch Airport.

I melodramatically bowed a depressurization-deaf ear towards her … before answering that it had been a little gruelling.

'You are a bit pale. But you'll still be able to get breakfast at the hotel … '

What Jessica actually said was

git brikfist it the hitil = get breakfast at the hotel

The **Kiwi accent** is a **vowel-vice voice**, in which the /***e***/ is squeezed to an /***i***/, the /***a***/ elongated to an /***ee***/.

A New Zealander, for example, writes with a ***pin***, and signals agreement with the word ***yis***.

pin = pen

yis = yes

[**M. Lawson**. The Battle for Room Service: Journeys to all the safe places:**Picador:1994:22**]

Mark Lawson succeeds in showing that a difference exists between **New Zealand English** and **English**, and provides a very rough approximation of that difference. However, anyone who has listened to **New Zealand speakers** will know that their pronunciation of *pen* is not identical to **Southern BrE** *pin*, as Mark Lawson's notation would suggest; and readers who have not encountered the variety might arrive at a number of different interpretations of his comments that **New Zealand vowels** are '***squeezed***' or '***elongated***'. The **National Centre for English Cultural Tradition** in Sheffield has produced a list of local phrases, again rendered in a modified version of **English spelling**: it includes

intitot = 'Isn't it hot?'

eez gooinooam = 'he's going home'

lerrus gerrus andzwesht = 'Let's get our hands washed'

Sometimes the modifications are obvious; the lack of /***h***/ in *intitot* suggests that no [**h**] is pronounced, and the substitution of /***r***/ for /***t***/ in *lerrus gerrus* signals the common

Northern English weakening of [**t**] to [**r**] **between vowels**. But why double /***rr***/? The double vowel letters in *gooinooam* presumably signal **long vowels**; but the /***rr***/ in *lerrus* certainly does not mean a long consonant. Such lists are amusing when the reader knows the variety in question; but reading the list in a respectable imitation of an unfamiliar **accent** would be rather a hit and miss affair.

The same goes for **dialect literature**, even when there is an informally agreed set of emendations to the **Spelling System**, as is perhaps the case for **Scottish English**. Tom Leonard's poem '*Unrelated Incidents* (3)' begins:

this is thi	a talk wia	aboot thi
six a clock	BBC accent	trooth wia
news thi	iz coz yi	voice lik
man said n	widny wahnt	wanna yoo
thi reason	mi ti talk	scruff

Again, many of the **alterations** are entirely transparent for a reader who is familiar with **Scottish English** – *aboot* does sound like *a-boot* rather than having the **diphthong** usually found in **SBrE** *about*, and *windy* rather than *wouldn't* is both clear and accurate. However, not everything is so obvious. *Trooth* is written to match *aboot*, and the two words do have the same **vowel** in **Scots** – but the former is pronounced like its English English **equivalent**, whereas the latter is not; so we might ask, why alter both? *Thi* is consistently written for *the*, and there is indeed a slight difference in those **final vowels** between the two **varieties**; but if we compare **Tom Leonard** with **Mark Lawson**, the impression given is that *thi* = *the* for a **Scot sounds** like *pin* = *pen* for a **New Zealander**, which is not the case at all.

In some cases of this type, there are attempts to introduce **new symbols** into the **English Spelling System** to represent **Accent Differences**: one particularly common device is to use an **apostrophe**. This has become a fairly conventional and familiar device; but again, it turns out to be ambiguous. For instance, take the three phrases

I feel 'ot,
She was waitin'
Give us the bu'er.

The first is perhaps the most straightforward: many speakers of **Non-Standard Varieties** of English consistently drop their [**h**]s, and we all do, in pronouns under **low stress**, for instance, as in *What did he say*?, where [**h**] will be pronounced only in extraordinarily **careful speech**. In this case, then, the apostrophe means the standard [**h**] is omitted. This might, however, lead us to believe that an **apostrophe** always **means** something is **missing**, relative to the **Standard Pronunciation**. Informal characterizations might support this hypothesis, since speakers producing forms like *waitin'* and *bu'er* are frequently described as '*dropping their **gs***' and '*dropping their **ts***' or '*swallowing their **ts***' respectively: an article in *The Independent* of 28 June 2000 reports that '… the entire cast of *East Enders* … swallow their ***ts, ps*** and ***ks*** like true Glasgow speakers when using such words as "*sta'ement*" and "*sea'belt*"

However, the **phonetic facts** suggest otherwise. Whereas ***'ot*** simply lacks an initial **consonant**, *waitin'* does not lack a final one: instead, the final [**ŋ**] of *waiting* has been replaced by [**n**] – recall the discussion of *incoherent* versus *intemperate* above. For most speakers, apart from some from the **Midlands** and **north** of **England**, there was no [**g**] to drop in the first place, simply one **nasal** in more formal circumstances, which shifts to another **nasal** in informal conversation.

In *bu'er*, we also find one **consonant**, this time [**t**], being replaced by another, the **glottal stop**; but this time, the replacement is only found in English as an alternative for another sound. It has no independent **orthographic representation**, and is strongly associated with informal, ***non-standard*** and ***stigmatized*** usage.

If we are to consider these **variants** objectively, however, we need a **System of Notation** which will allow us to observe them neutrally, providing **transcriptions** of each variety in its own terms: seeing the ***glottal stop*** as **IPA** [ʔ], which is a **perfectly normal consonant** in, say, **Arabic**, rather than regarding it as an **un-symbolizable** grunt, or a **debased form** of another **consonant**, may allow us to analyze the facts of **accent variation** without seeing every departure from an idealized **Standard Variety** as requiring apology. The linguistic arbitrariness but social grounding of such judgments is apparent from forms like *car park* – a **standard SBrE pronunciation** will have no [**r**] in either word, and to a **Scottish English** speaker with both [**r**]s invariably produced, there is certainly something missing; but we have not seen this represented as *ca' pa'k*, or heard southerners accused of '*swallowing their* [**r**]s'.

For all these cases, what we need is a consistent, agreed **System of Transcription**, so that we can assess the accent differences we find and compare them with confidence. Of course, no purely **Phonetic System** is going to help with the meaning of items of vocabulary a reader has not met before – an **IPA transcription** will not tell us what a *bampot* is, or *glaur*, or a *beagie*, if we don't know. But at least we have the comfort of knowing how the natives pronounce it.

At the same time, this is an introductory text on English, and not a handbook of **General Phonetics**, so only those sections of the **IPA** relevant to **English sounds** will be considered, beginning with **consonants** in Lecture 3, and moving on to **vowels**, where most **Accent Variation** in English is concentrated. However, before introducing the **IPA** in detail, we must also confront a **Phonological** issue. As we have already seen, native speakers of a language cannot always be relied upon to hear every **theoretically discernible gradation of sound**. In some cases, the **IPA** supplies **alternative symbols** in cases where speakers will be quite sure they are hearing the same thing; and this is not a universal limitation of human ears, but rather varies from language to language. To illustrate this, and to resolve the problem that sometimes speakers think they are hearing something quite different from what they objectively are hearing, we must introduce the concept of the **Phoneme**.

RECOMMENDATIONS FOR READING

Comparisons of human and animal language are provided in

- Aitchison **[Aitchison Jean (1983)** ***The Articulate Mammal***, **London: Hutchinson]**,

and there is relevant discussion in

- Pinker [**Pinker Steven (1994)** ***The Language Instinct*****, London: Penguin**].
- Fletcher and MacWhinney **[Fletcher P., B. MacWhinney (1994)** ***The Handbook of Child Language*****, Oxford: Blackwell]** is a collection of papers on aspects of language acquisition.
- Trudgill **[Trudgill Peter (2000)** ***The Dialects of England*** **2nd ed. Oxford: Blackwell]** provides an accessible introduction to dialects and why they are important, although it is fairly narrowly focused on England.

A detailed account of the history and usage of the **IPA** is provided in

• International Phonetic Association [**International Phonetic Association (1999)** ***The Handbook of the International Phonetic Association*****, Cambridge: CUP**]
and further information is available at http://www.arts.gla.ac.uk/IPA/ipa.html

Lecture 2
THE PHONEME: THE SAME BUT DIFFERENT

2.1 Variation and when to ignore it
2.2 Conditioned variation in written language
2.3 The phoneme
2.4 Some further examples
2.5 The reality of the phoneme

2.1 VARIATION AND WHEN TO IGNORE IT

Recognizing that two objects or concepts are '***the same but different***' ought to present a **major philosophical problem**; the phrase itself seems self-contradictory. However, in practice we categorize elements of our world in just this way on an everyday basis. A two-year-old child can grasp the fact that the right shoe and left shoe are very similar, but actually belong on different feet; and as adults, we have no difficulty in recognizing that lemons and limes are different but both citrus fruits, or that misery and happiness are different but both emotions. This sort of hierarchical classification is exactly what is at issue when we turn to the notion of the **Phoneme**.

Humans excel at ignoring perceptible differences which are not relevant for particular purposes. To illustrate this, let us take a piece of paper and write our normal signature six times. There will certainly be minor differences between them, but we will still easily recognize all those six signatures as ours, with the minor modifications only detectable by uncharacteristically close scrutiny. Perhaps more to the point, someone else, checking our signature against the one on our credit card, will also disregard those minor variants, and recognize the general pattern as identifying us. There are exceptions, of course: some alterations are obvious, and usually environmentally controlled, so if someone jolts our elbow, or the paper slips, we apologize and sign again.

On the whole, however, the human mind seems to abstract away from irrelevant, automatic variation, and to focus on higher-level patterns; though we are typically unaware of that abstraction, and of the complex processes underlying it. This relatively high tolerance level is why **mechanical systems** constructed to **recognize hand-written** or **spoken language** are still elementary and highly **complex**, and why they require so much training from each potential user.

2.2. CONDITIONED VARIATION in WRITTEN LANGUAGE

Since we are more used to thinking explicitly about **written language** than about our **speech**, one way of approaching this issue of abstraction is through our conscious knowledge of the rules of writing. When children learn to write, they have to master the conventions governing the use of capital and lower-case letters. Children often tend to learn to write their name before anything else, and this will have an initial capital; and children are also great generalizers, and indeed over-generalizers; for instance, first words often have a much wider range of meanings than their adult equivalents. Thus, for a one-year-old, *cat* may mean '*any animal*', whether real, toy, or picture, *tractor* '*any vehicle*', and *Daddy* '*any male adult*'; these broad senses are later progressively narrowed down. It follows that children may at first try to write all words with initial capitals, until

they are taught the accepted usage, which in modern English is for capitals to appear on proper names, *I*, and the first word in each sentence, and lower-case letters elsewhere, giving the prescribed patterns in (1).

(1)

a.	Anna	*annA
	Africa	*africA
b.	An apple for Anna	
c.	Give Anna an apple	

Precisely how the capital and lower-case letters are written by an individual is not relevant, as long as they are recognizable and consistently distinct from other letters – *an* needs to be distinguished from *on*, and *An* from *In*, but it does not especially matter whether we find *a*, ɑ or ɑ for lower-case, and A, *A A* or for capital; it all depends who we copy when we first learn, what our writing instruments and our grip on them are like, or typographically, which of the burgeoning range of fonts we fancy.

Again, we seem readily able to perceive that all these subtly different variants can be grouped into classes. There is a set of lower-case and a set of capital letters and the rules governing their distribution relate to those classes as units, regardless of the particular form produced on a certain occasion of writing. Moreover, the lower-case and capital sets together belong to a single, higher-order unit: they are all forms or realizations of '*the letter* a', an ideal and abstract unit to which we mentally compare and assign actual written forms. '*The letter* a' never itself appears on paper, but it is conceptually real for us as users of the alphabet: this *abstract unit* is a **grapheme**, symbolized <**a**>; **triangle brackets** are conventionally used for **spellings**. The choice of symbol is purely conventional: since it is a conceptual unit, and since we do not know what units look like in the brain, we might as well use an arbitrary sign like <∫>, or <✪>, or give it a name: <**a**> is *Annie Apple* in the children's Letter land series for beginning readers. However, it is convenient to use a form that looks like one of the actual realizations, as this will help us to match up the *abstract grapheme* with the actual graphs which manifest it in actual writing.

The rules governing the *distribution* of <**a**> and other **graphemes** are not, however, absolute natural laws. Learning that proper names and sentences begin with capitals is appropriate for a child writing modern English, but not for a child learning German, who would need to learn instead that all nouns; not just Anna and Africa but also Apfel '*apple*', always begin with a capital letter, as well as all sentences. A similar strong tendency is observable in earlier stages of English too, and although literary style is not absolutely consistent in this respect, there are many more capitals in the work of a **poet** like **John Milton**, for instance, than in written English today; *see* (2).

Of Mans First Disobedience, and the Fruit
Of that Forbidden Tree, whose mortal taste
Brought Death into the World, and all our woe,
With loss of *Eden*, till one greater Man
Restore us, and regain the blissful Seat,
Sing Heav'nly Muse …[**Milton. *Paradise Lost*. Book1. First 6 lines**]

2.3. THE PHONEME

'***Phonology*** *is not only about phonemes and allophones.* ***Phonology*** *also concerns itself with the principles governing the* ***Phoneme*** **Systems** *– that is, with what sounds languages 'like' to have, which sets of sounds are most common and why; and which are rare and also why. It turns out that there are prototype-based explanations for why the* ***Phoneme System*** *of the languages of the world has the sounds that they do, with physiological, acoustic, and perceptual explanations for the preference for some sounds over others*' **[Sampson:2008:88]**

Children do not learn the **Rules of Spoken Language** by explicit instruction, but rather by a combination of copying what they hear, and building up mental **Generalizations** based on their experiences. How much they are helped in this by some **internal structure** in the brain dedicated to **Language acquisition**, which linguists call a **Language Acquisition Device** or **Language Faculty**, is still a matter of debate.

Nonetheless, **Aspects of Spoken Language** show very strong similarities to the types of patterns outlined above for writing. Again, some differences between units matter, because replacing one with another will cause a different meaning to be conveyed in the language in question: let us replace the initial sound [**k**] in ***c****all* with [**t**], and we have ***t****all*, an entirely different English word. Correspondingly, English speakers perceive [**k**] and [**t**] as entirely **separate sounds**, and find them rather easy to distinguish.

In other cases, two sounds which phoneticians can equally easily tell apart will be regarded as the same by native speakers. For instance, let us say the phrase

k*itchen* ***c****upboard*

to ourselves, and think about the first sounds of the two words. Despite the difference in spelling: another case where **orthography**, as we saw also in the last Lecture, is not an entirely reliable guide to the sounds of a language, native speakers will tend to think of those initial consonants as the same – both are [**k**]s. However, if we say the phrase several times, slowly, and think uncharacteristically carefully about whether our articulators are doing the same at the beginning of both words, we will find that there is a **discernible difference**. For the **first sound** in ***k****itchen*, our tongue will be raised towards the roof of the mouth, further forward than for the beginning of ***c****upboard*; and for ***k****itchen*, the lips will be spread apart a little more too, while for ***c****upboard* the mouth will be more open. Unless we are from Australia or New Zealand, for reasons we shall discover in Lecture 8, this **difference** is even clearer from the phrase ***c****ar* ***k****eys*, this time with the first word having the initial sound produced further back in the mouth, and the second further forward.

In **IPA terms**, these can be transcribed as [**k**], the *cupboard* sound, and [**c**], the *kitchen* sound. However, in English [**k**] and [**c**] do not signal different meanings as [**k**] and [**t**] do in *call* versus *tall*; instead, we can always predict that [**k**] will appear before one set of vowels, which we call **back vowels**, like the [**ʌ**] of *cupboard* or the [**ɑ:**] a **SBrE** speaker has in *car*, while [***c***] appears before **front vowels**, like the [**ɪ**] of *kitchen* or the [**i:**] in **SBrE** *keys*. Typically, speakers control predictable differences of this type automatically and subconsciously, and sometimes resist any suggestion that the sounds involved, like [**k**] and [**c**] in English, are different at all, requiring uncharacteristically close and persistent listening to tell the two apart. The difference between [**k**] and [**c**] in English is redundant; in **phonological terms**, this means the **difference** arises automatically in different contexts, but does not convey any new information. Returning to the *orthographic analogy*, recall that every instance of a hand-written *a* or *A* will be different from every other instance, even produced by the same person. In just the same

way, the same speaker producing the same words, say, multiple repetitions of *kitchen cupboard* will produce minutely different instances of [**k**] and [**c**]. However, a hierarchical organization of these **variants** can be made: in terms of **spelling**, we can characterize **variants** as belonging to the lower-case or capital set, and those in turn as realizations of the **abstract grapheme** <**a**>. The subclasses have a consistent and predictable **distribution**, with upper-case at the beginnings of proper nouns and sentences, and lower-case everywhere else: we can say that this distribution is rule-governed. Similarly again, we can classify all the variants we hear as belonging to either **fronter** [**c**] or **backer** [**k**], although we are not, at least without a little **phonetic** consciousness-raising, aware of that difference in the way we are with *a* and *A*; presumably the fact that we learn writing later, and with more explicit instruction, accounts for our higher level of awareness here. In turn, [**c**] and [**k**], which native speakers regard as the same, are *realizations of an abstract unit* we call the **phoneme**, where the ending /***-eme***/, as in *grap**heme***, means '**some abstract unit**'. **Phonemes** appear between slash brackets, and are conventionally represented by **IPA symbols**, in this case /**k**/. As with **graphemes**, we could in principle use an **abstract symbol** for this **abstract unit**, say /ʃ/, or /✪/, or give it a number or a name: but again, it is convenient and clear to use the same **symbol** as one of its **realizations**. Those realizations, here [**k**] and [**c**], are **allophones** of the **phoneme** /**k**/. To qualify as **allophones** of the same **phoneme**, two or more **phones**, that is sounds, must meet two **criteria**.

- First, their **distribution** must be predictable: we must be able to specify where one will turn up, and where the other; and those sets of contexts must not overlap. If this is true, the two **phones** are said to be in complementary **distribution**.
- Second, if one **phone** is exceptionally substituted for the other in the **same context** that substitution must not correspond to a meaning difference.

Even if we say *kitchen cupboard* with the [**k**] first and the [**c**] second and that won't be easy, because we have been doing the opposite as long as we have been speaking English – it will be even harder than trying to write at the normal speed while substituting small *a* for capital *A* and vice versa, another English speaker will only notice that there is something vaguely odd about the speech. If that we may think we have an unfamiliar **accent**; but crucially, we will understand that we mean '*kitchen cupboard*', and not something else. This would not be so where a **realization** of one **phoneme** is replaced by a realization of another: if the [**k**] **allophone** of /**k**/ is replaced by the [**t**] **allophone** of /**t**/, then *tall* will be understood instead of *call*.

Finally, just as the **orthographic rules** can vary between languages and across time, so no two languages or periods will have exactly the same **Phonology**. Although in English [**k**] and [**c**] are **allophones** of the same **phoneme**, and are regarded as the **same sound**, in Hungarian they are **different phonemes**. We can test for this by looking for **Minimal pairs**: that is, pairs of words differing in meaning, where the only difference in sound is that one has one of the two **phones** at issue where the other has the other; think of *tall* and *call*. In Hungarian, we find **Minimal pairs** like *kuka* [**kuka**] 'dustbin' and *kutya* [**kuca**] 'dog'. It follows that [**k**] and [**c**] are not in complementary but in **contrastive distribution**; that interchanging them does make a meaning difference between words; and hence that [**k**] and [**c**] belong to **different phonemes**, /**k**/ and /**c**/ respectively, in Hungarian. Unsurprisingly, speakers of Hungarian find the **difference** between [**k**] and [**c**] glaringly obvious, and would be extremely surprised to find that English speakers typically lump them together as the **same sound**.

As for differences between periods of the same language, it is straight-forward to demonstrate that Modern English [**f**] and [**v**] **contrast**, or are in **complementary distribution**, since minimal pairs like ***f****at* [**f**] versus ***v****at* [**v**], *lea****f*** versus *lea****v****e*, or *sa****f****er* versus *sa****v****er* are easy to come by. The **Phoneme System** of Modern English therefore contains both /**f**/ and /**v**/. However, the situation was very different in Old English, as the examples in (3) show.

(3) **Old English**

hla[**v**]ord	<hla**f**ord>	'***l****ord*'
heo[**v**]on	<heo**f**on>	'*hea****v****en*'
æ[**f**]ter	<æfter>	'*a****f****ter*'
[**f**]isc	<**f**isc>	'***f****ish*'
o[**v**]er	<o**f**er>	'*o****v****er*'
heal[**f**]	<heal**f**>	'*hal****f*** '

Instead of **Minimal pairs**, we find predictable, **Complementary distribution**, with [**v**] appearing medially, between vowels, and [**f**] in other positions. Consequently, [**f**] and [**v**] can be analyzed as **allophones** of one **phoneme**, which we might call /**f**/: Old English speakers would have regarded [**f**] and [**v**] as the same, just as Modern English speakers think of [**k**] and [**c**] as the **same sound**. Later in the history of English, many words like *very, virtue* and *veal* were borrowed from French, bringing with them **initial** [**v**], which had not previously been found in English. The **distribution** of [**f**] and [**v**] therefore ceased to be **complementary**, since both could appear in **word-initial position**, creating **Minimal pairs** like *very* and *ferry*, or *veal* and *feel*. In consequence, [**v**] stopped being an **allophone** of /**f**/, and became a **phoneme** in its own right, producing the **opposition** of /**f**/ – realized as [**f**] and /**v**/ – realized as [**v**], we find today.

2.4 SOME FURTHER EXAMPLES

'**Phonemics** is the study of **Phonemes** in their various aspects, i.e. their establishment, description, occurrence, arrangement, etc. **Phonemes** fall under two categories,

- **segmental** *or* **linear phonemes**
- **supra-segmental** *or* **non-linear phonemes**

The term '**Phonemics**' with the above-mentioned sense attached to it, was widely used in the heyday of Post-Bloomfieldian Linguistics in America, in particular from the 1930s to the 1950s, and continues to be used by present-day Post-Bloomfieldians. Note in this connection that Leonard Bloomsfield (1887-1949) used the term **Phonology** not '**Phonemics**' and talked about

- **Primary phonemes** and
- **Secondary phonemes**

while using the adjectival form '**phonemic**' elsewhere. The term '**Phonology**' not '**Phonemics**' is generally used by contemporary linguists of other schools' **[Tsutomu:2004:48]**

The notion of the **Phoneme** is a notoriously difficult one to come to terms with at first. This is not altogether surprising: it isn't every day that we are told we know a whole range of things we didn't know we knew and moreover that this knowledge seems likely to be structured in terms of a set of mental units we didn't know we had. However, the fact that **phonemes** are so central to **Phonology** means it is well worth giving a few extra examples, to make the concept a little more familiar.

First, let us return to Modern English /**t**/ and /**k**/, which we have already met in *tall* versus *call*; in fact, we can add *Paul* to make a **minimal triplet**, adding /**p**/ to the **Phoneme System**. Now let us hold a piece of paper up in front of the mouth by the bottom of the sheet, so the top is free to flap about, and, let us try saying *Paul, tall, call*. We will find that a little puff of air is released after the initial /**p**/, /**t**/ and /**k**/, making the paper move slightly: this is called **Aspiration**, and signaled in **IPA transcription** by adding a **superscript** [**h**] after the symbol in question. This means that /**p**/, /**t**/ and /**k**/ have the **allophones** [**ph**], [**th**] and [**kh**] word-initially; the **Aspiration** is most noticeable with [**ph**], since it is articulated with the lips, nearest to where the air exits.

However, /**p**/, /**t**/ and /**k**/ really do have to be right at the beginning of the word for these **allophones** to appear. Let us try to make ourselves aware of the initial **aspiration** in *pill, till* and *kill*; this time, we will again be producing [**ph**] and [**th**], but the **allophone** of /**k**/ will be slightly different; the front vowel in *kill* conditions a **fronter**, **aspirated** [**ch**]. If we add an initial [**s**] and do the piece of paper trick again, we will find that there is no discernible movement. After [**s**], we find plain, **un-aspirated allophones** [**p**], [**t**] and [**c**] in *spill, still* and *skill* and un-aspirated [**k**] in *scold*, as opposed to [**kh**] in *cold*, where /**k**/ is followed by a **back vowel**.

It follows that **phonemes** can have a **whole range** of **allophones**. Illustrating with just one **Phoneme**, Modern English /**k**/, we have now identified word-initial **aspirated** [**kh**] in *call*, *cold*; fronter, **aspirated** [**ch**] before **front vowels**, as in *kill, kitchen*; **un-aspirated** [**k**] in *scold*; and un-aspirated [**c**] in *skill*. That deals with the beginnings of words. At the ends, /**k**/ is very frequently accompanied by a **partial glottal stop**; this is known as **glottal reinforcement**, and the **final sound** in *back* is signaled in **IPA** terms as [**ʔk**]. When a following word begins with [**g**], for instance, this [**ʔk**] is sometimes replaced by a **glottal stop**, as in *back garden*, where we may perceive the [**ʔ**] **allophone** of /**k**/ as almost a pause before the [g]. **Glottalization** of this kind is much more common for /**t**/: as we saw in the last lecture, **glottal stops** are increasingly found **in non-standard accents** in forms like *sta**t**ement, sea**t**belt, bu**tt**er*, meaning that the **glottal stop** in English can be an **allophone** of both /**k**/ and /**t**/. We return to this issue of overlap in Lecture 5.

For a final example, let us turn to a **Phoneme** we have not considered before, namely /**l**/. /**l**/ has only two main **allophones** in English, depending on its position in the word – unless we speak some varieties of Irish or Welsh English, or Geordie, the variety spoken around Newcastle, in which case we have only the first realization described below; conversely, some varieties of Scottish English only have the **second allophone**. If we say *lull*, or *lilt*, we will notice that the **first** /**l**/ in each case is pronounced with the tip of our tongue up behind our top front teeth, while the **second** /**l**/ additionally has the tongue raised further back. This time the **distribution** of the **allophones** does not depend on the **frontness** or **backness** of the adjacent vowel, since *lull* has a **back vowel**, while *lilt* has a **front vowel**, but both have the **fronter** [**l**] first, and the **backer** [ɬ] second. In the case of /**l**/, what matters – roughly speaking; we will come up with a better **generalization** in Lecture 9, is whether the /**l**/ **proceeds** or **follows** the **vowel** in the word:

- if /**l**/ comes first, it is pronounced as '**clear**', **fronter** [**l**], as also in clear; and
- if the vowel comes first, /**l**/ is realized as '**dark**', more **back** [ɬ], as in *dull*.

The two are obviously in complementary **distribution**, and hence can both straightforwardly be assigned to the same **Phoneme** /**l**/ in Modern English.

We find a different story in Scots Gaelic, however, where **Minimal pairs** can be found for the **clear** and **dark variants** of /**l**/. For instance, the words *baile* 'a town' and

balla 'a wall' are pronounced identically, except for the **clear** [**l**] in *baile*, and the dark [ɬ] in *balla*. Whereas substituting **clear** for **dark pronunciations**, or vice versa, in English would be picked up by listeners as slightly, intangibly peculiar, for a **Scots Gaelic** speaker the **difference** is both easily **noticeable** and **meaningful**, since a substitution will simply produce the wrong word. Again, we find that **differences** which in one language are automatic to the point of inaudibility without training are highly salient and have important **linguistic consequences** in another.

2.5 THE REALITY of the PHONEME

We have already seen that the **Phoneme System** of a speaker's native language and specifically the **difference** between **pairs of sounds** which contrast and **pairs** which do not, strongly condition the **perceptions**: the early 20th century **American linguist Sapir** concludes that

'*What the native speaker hears is not phonetic elements but **phonemes***'

However, the **Phoneme** is a **psychologically real unit** in other ways too, since it does not only condition what we hear, but also what we do.

First, **Alphabetic Spelling Systems** are frequently based on the **phonemes** of a language: there are various reported cases of linguists teaching **variants** of the **IPA** to speakers of languages which lacked orthographies, and providing **inventories of symbols** which covered all the **phones** of the language, but where speakers subsequently made use of only one **symbol** per **phoneme**.

In Old English, both [**f**] and [**v**], which were then in complementary distribution, were spelled <**f**>, whereas in Modern English contrastive /**f**/ and /**v**/ typically correspond to <**f**> or <**ph**>; versus <**v**>. Similarly, in Hungarian /**k**/ and /**c**/ are consistently distinguished as <**k**> and <**ty**>. The alphabet has several times been borrowed by speakers of one language from those of another, and has been remodeled in some respects to fit the **Borrowing Phoneme System** better. So, the first letter of the Semitic alphabet represents the **glottal stop** [ʔ], which is **phonemically distinctive** in Arabic, for example:

but when this alphabet was borrowed by the Greeks, that first letter, Greek alpha, was taken to represent the vowel which begins the word *alpha* itself. Although Greek speakers would commonly produce an **initial glottal stop** on a word like *alpha*, as would English speakers, especially when saying the word **emphatically**, they would not observe it or want to symbolize it, since [ʔ] is not a **phoneme** of Greek. We should not, however, as we saw in the last chapter, assume that we can simply read the **Phoneme System** off the **Spelling System**, since there is not always a one-to-one correlation. Hence, English does have two **Orthographic Symbols** for /**k**/, namely <**k**> and <**c**>, but these do not systematically signal two separate **allophones**: the **Spelling System** simply has a redundant **Extra Symbol** here. Furthermore, some **phonemes** are spelled consistently, but not with a single graph, so the **phonemic difference** between the English nasals /**m**/, /**n**/ and /**ŋ**/ in *ra**m**, ra**n*** and *ra**ng***, is signaled **orthographically** by <**m**>, <**n**> and <**ng**> or <**nk**> in *ra**nk***.

More importantly, our **Native Phoneme System** tends to get in the way when we try to learn other languages. It is perhaps unsurprising that we should find it difficult at first to produce sounds which do not figure at all in our **first language**. However, it is just as difficult, and sometimes worse, to learn sounds which are **phonemically contrastive** in the language we are learning, but **allophones** of a single **phoneme** in our **Native System**. For instance, there is no contrast between **aspirated** [**th**] and **un-aspirated** [**t**] in English; we can predict that the former appears only word-initially. In

Chengtu Chinese, however, /**t**/ contrasts with /**th**/, as we find minimal pairs like [**tou**] '*a unit of dry measure for grain*' versus [**thou**] '*to tremble*'; the same is true in Thai, where [**tam**] '*to pound*' contrasts with [**tham**] '*to do*', establishing a **phonemic distinction** of /**t**/ and /**th**/. When a native English speaker tries to learn Chengtu Chinese, or Thai, it will be found this distinction extremely awkward to replicate, despite the fact that it always used both these sounds. The problem is that, whereas a totally new and unfamiliar sound simply has to be learned from scratch, an old sound in a new role requires further processes of adjustment: the English speaking Thai learner has to suppress the instinctive and subconscious division of the **aspirated** and **un-aspirated** sounds, and learn to produce both in the same context. In perceptual terms, it is again easier to hear a completely new sound, which will initially be extremely easy to perceive because of its very unfamiliarity, than to learn to distinguish 2 sounds which have conceptually been considered as one and the same. Conversely, a Korean speaker, who has [**r**] and [**l**] as **allophones** of a single **phoneme**, with [**r**] produced between vowels and [**l**] everywhere, else, will make errors in learning English, finding **minimal pairs** like *lot* and *rot* highly counter-intuitive, and tending to produce [**l**] at the beginning of both, but [**r**] medially in both *lolly* and *lorry*. A combination of unlearning and learning are needed to get those patterns right.

In Lecture 4, we shall return to **phonemes** and **allophones**, and develop more precise ways of stating exactly where each **allophone** occurs. First, however, we need some more **phonetic detail** on the **consonants** of English, and some more **Technical Vocabulary** to describe how they are produced.

RECOMMENDATIONS FOR READING

Further discussion of **Phoneme analysis** can be found in a number of recent textbooks on **English Phonology** or **Phonology** in general.

- Carr [**Carr Philip (1999)** ***English Phonetics and Phonology: An Introduction***, **Oxford: Blackwell**]
- Davenport and Hannahs [**Davenport Mike, S. J. Hannahs (1998)** ***Introducing Phonetics and Phonology*****, London: Arnold**], provide brief, approachable outlines;
- Giegerich **[Giegerich Heinz J. (1992)** ***English Phonology: An Introduction*****, Cambridge: CUP]** is written at a slightly higher level, and also deals with more theoretical shortcomings of the phoneme.

Students interested in writing systems, and in the history of writing, might consult

- Sampson [**Sampson Geoffrey (2008)** ***Writing Systems*****, London: Hutchinson**] or
- Coulmas [**Coulmas Florian (1988)** ***The Writing Systems of the World***, **Oxford: Blackwell**]

Issues of language acquisition and the question of innateness are debated in Steven [**Pinker Steven (1994)** ***The Language Instinct***, **London: Penguin**]

Lecture 3
DESCRIBING ENGLISH CONSONANTS

3.1 What's inside a phonetic symbol?
3.2 Consonant classification
3.3 The anatomy of a consonant
3.3.1 What is the airstream mechanism?
3.3.2 Voiced or voiceless?
3.3.3 Oral or nasal?

3.3.4 What is the manner of articulation?
a) stops
b) fricatives
c) approximants
3.3.5 Is the airflow central or lateral?
3.3.6 What is the place of articulation?
a) bilabial
b) labio-dental
c) dental
d) alveolar
e) post alveolar
f) palatal
g) velar
h) glottal

3.1 WHAT'S INSIDE A PHONETIC SYMBOL?

There are the 24 **Consonant Phonemes** found in most dialects of English, in addition to /**x**/, whose distribution is more limited. Fortis consonants are always voiceless, aspirated in **Syllable onset**, except in clusters beginning with /**s**/, and sometimes also glottalized to an extent in **Syllable coda** – most likely to occur with /**t**/ – **T-glottalization**, while **lenis consonants** are always **un-aspirated** and un-glottalized, and generally partially or fully voiced. The **alveolar consonants** are usually apical, i.e. pronounced with the tip of the tongue touching or approaching the roof of the mouth, though some speakers produce them laminally, i.e. with the blade of the tongue **[Rogers:2014:20]**

So far, we have considered the **IPA** essentially as an alternative **writing system**, which allows us to express a larger range of **Sounds** than the English **Spelling System** would. However, looking only at those **Symbols** might suggest that we are dealing with individual, self-contained units when we consider **phonemes** and **allophones**: each is like a locked black box labeled with an **IPA Symbol**.

In fact, each **IPA Symbol** is shorthand for a whole range of properties, and those properties explain how the particular segment being **symbolized** is **pronounced**; unpacking the black box for each **sound** reveals not a jumble, but an **internal structure**, and understanding that structure allows us to make **comparisons** with other **Sounds**. When we know that [**k**], for instance, is a **voiceless velar plosive**, we can start to see what **properties** it shares with other **sounds** which might also be **voiceless**, or **velar**, or **plosives**; we can also see how it **differs** from other **sounds** which are not **voiceless**, or **velar**, or **plosives**. Furthermore, we shall see what properties **different allophones** of the same **phoneme** share, which might allow them to be regarded as '**the same**' by speakers of English: that is, we can work out what particular **phonetic features** speakers of English tend to ignore, and which they are aware of. Since this may be very different for speakers of other languages, unpacking **IPA notation** in this way also allows **cross-linguistic comparisons** to be made. In this lecture, we shall therefore consider a very **basic** set of **phonetic features** which enable us to describe the **articulation** of the **consonants** of English, and to assess their **differences** and **similarities**.

3.2 CONSONANT CLASSIFICATION

A biologist looking at some particular creature wants to know various things about it, to work out where it should be placed in conventional biological classification. Some properties are visible and therefore easy to work out, such as how many legs it has or whether it has fur, feathers or scales. In other cases, closer observation will be needed: tooth shape cannot usually be checked from a distance. Still other properties are behavioural, and our biologist might need to observe the creature over a longer period of time to figure out whether it lays eggs or bears live young, or what it eats.

The same goes for **Phonetic Classification**: some properties are straight-forwardly observable when you look in a mirror, or can be figured out easily from feeling what the articulators are doing. Other features are harder to spot, and need some extra training before we will become aware of them. Furthermore, we also need to remember that **phonemes** are realized as various **different allophones**, so we must build up a picture of all the possible environments where that **Phoneme** can occur and what happens there, to sort out how it behaves.

Biologists today are, of course, working within an agreed classification: when they observe a creature with particular physical traits, or particular behaviours, they can slot it into a framework of the bivores and carnivores; mammals, insects, birds and reptiles; vertebrates and invertebrates; and so on.

Fortunately, **phoneticians** and **phonologists** have a similar, generally agreed framework for **sounds**. For consonants, we need to know six things to arrive at a **classification**: in the rest of this lecture, we shall consider these 6 sets of properties in turn, and assess which English **phonemes** fit into each category. **Vowel classification** involves rather different features, and we return to this in Lecture 6: we are beginning with **consonants** because many of their properties are easier to ascertain from self-observation, and because the **Systems of Consonant Phonemes** in different **accents** of English vary far less than the **vowels**.

3.3 THE ANATOMY of a CONSONANT

3.3.1 WHAT IS THE AIRSTREAM MECHANISM?

Speech is audible because the **movements** of **articulators**: to be discussed in subsequent sections, cause the air to **vibrate**, forming **sound waves** which travel to the hearer's ears, and set up vibrations in the inner ear, which are then translated into **sounds** again by the brain. Since **sound waves** need air, it follows that **articulatory vibrations** will only make **sound waves** if there is a moving body of air available. **Airstreams** can be set in motion, or initiated, in three ways; however, only one is used in English, and indeed is found in every language of the world.

Essentially, speaking is modified breathing: it makes use of the resources involved in normal respiration, but in a more controlled way. When we are simply breathing quietly, the phases of breathing in and out last approximately the same time, and expiration is not under our physical control; it simply occurs as an automatic consequence of having breathed in. However, when we are speaking, the phase of breathing out is significantly longer, depending on the length of the utterance we want to produce. A network of muscles, like the inter-costal muscles between our ribs, come into play to make breathing out smoother, more gradual and more controlled during **speech**, providing a **regular flow** of air which can then be modified by the **articulators** in various ways.

All the **sounds** of English, both **consonants** and **vowels**, are produced on this **pulmonic egressive airstream**, where the initiator is the **lungs** and the rest of the **respiratory system**, and the direction of airflow is outwards: this is overwhelmingly the most **common Airstream Mechanism** in every **language** of the world. It can generally be taken for granted that the **sounds** under discussion below are **pulmonic egressive**, but we should remember to give that information in a complete description: so the **labial nasal** [**m**], which, as we shall see, is produced using the lips hence **labial**, and with airflow through the nose – hence **nasal**, is strictly a **pulmonic egressive labial nasal**.

It is possible to produce speech using a **pulmonic ingressive airstream**. No language seems to use this airstream regularly for particular sounds, although it has been reported in various cultures as a means of voice disguise: if we try to breathe in and speak at the same time, we will find that the pitch of the voice raises significantly.

There are two other **airstreams** which may be involved in **speech**, although even in languages where these are used, they will characterize only a few **sounds**, interpolated in a stream of **pulmonic egressive speech**. The first is the **glottalic airstream mechanism**, initiated by a movement of the **larynx**, which is where we can feel our '**Adam's apple**' protruding slightly about half-way up our throat. The larynx can move up or down, and the **glottalic airstream** can therefore be either **ingressive** or **egressive**, producing sounds known as **implosives** and **ejectives** respectively; none of these occur in English.

Finally, the '**tut-tut**' **click sound** [|] is produced on a **velaric airstream**, which operates only **ingressively**. When we make [|] we can feel that the back of our tongue is pressed against the roof of our mouth, stopping air from moving any further back; a little air is then drawn into the mouth further forward, and the closure with the tongue is released to make a click. Neither the **glottalic airstream** nor the **velaric airstream** provide airflow with the volume or controllability of the **Pulmonic System**.

3.3.2 VOICED or VOICELESS?

A major division among **Speech sounds** which is relevant for all languages is the **Dichotomy of voiced** and **voiceless**. If we put our fingers on our '**Adam's apple**' or '**voice-box**' – technically the **larynx**, and produce a very long [**zzzzzzz**], we should feel vibration; this shows that [**z**] is a **voiced sound**. On the other hand, if we make a very long [**sssssss**], we will not feel the same sort of activity: [**s**] is a **voiceless sound**.

Pulmonic egressive air flows through the **trachea**, or **windpipe**, and up into the **larynx**, voiceless sound or pause, voicing will not last for so long or be so strong. Consequently, although English has the minimal pairs *tip – dip*, *latter – ladder*, *bit – bid* for /**t**/ versus /**d**/, [**d**] is only voiced throughout its production in *ladder*, where it is medial and surrounded by voiced vowels. Word-initially, we are more likely to identify /**t**/ in *tip* by its **aspiration**, and /**d**/ in *dip* by lack of aspiration, than rely on voicing.

Voicelessness and **voicing** are the two **main settings** of **phonation**, or states of the **glottis**: for English at least, the only other relevant case, and again one which is used **paralinguistically**, is **whisper**. In **Whisper phonation**, the vocal folds are close together but not closed; the reduced size of the glottis allows air to pass, but with some **turbulence** which is heard as the **characteristic hiss** of **whisper**.

3.3.3 ORAL or NASAL?

The next major issue is where the **pulmonic egressive airstream** used in English goes. For most **sounds**, air passes from the **lungs**, up through a long tube composed of the **trachea**, or **windpipe**; the **larynx**; and the **pharynx**, which opens out into the back of the **oral cavity**. The air passes the various articulators in the **mouth**, and exits at the **lips**;

and all these **vocal organs** are shown in Figure 3.1. However, for 3 English sounds, air passes through the **nasal cavity** instead.

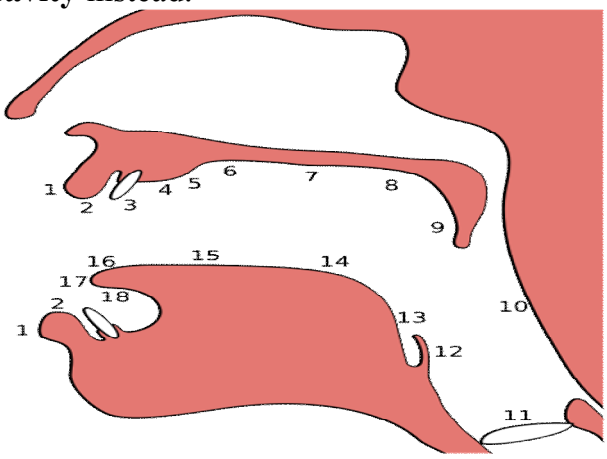


Figure 3.1. THE VOCAL TRACT

Exo-labial (outer part of lip)
Endo-labial (inner part of lip)
Dental (teeth)
Alveolar (front part of alveolar ridge)
Post-alveolar (rear part of alveolar ridge & slightly behind it)
Pre-palatal (front part of hard palate that arches upward)
Palatal (hard palate)
Velar (soft palate)
Uvular (a.k.a. *Post-velar*; uvula)
Pharyngeal (pharyngeal wall)
Glottal (a.k.a. *Laryngeal*; vocal folds)
Epiglottal (epiglottis)
Radical (tongue root)
Postero-dorsal (back of tongue body)
Antero-dorsal (front of tongue body)
Laminal (tongue blade)
Apical (apex or tongue tip)
Sub-laminal (a.k.a. *Sub-apical*; underside of tongue)

Notes:

Some phoneticians may define terms slightly differently and may include more or less distinctions, e.g. *Post-velar* could be an area between *Velar* and *Uvular*; or *Exo-labial* and *Endo-labial* could be subsumed under *Labial*. The scheme used above is from [**Catford:1977**].

Pharyngeal can usefully be divided into different regions.

The term *Retroflex* is better thought of as a particular combination of a sublaminal or apical active articulator and an alveolar or post alveolar or pre-palatal or palatal passive region. *Radical* is often considered to be both the *upper tongue root* (#13) and the *lower tongue root* including the *epiglottis* (#12)

The key to whether air can flow through the **nose** is the **velum**, or **soft palate**, which we can identify by curling the tip of our tongue up and running it back along the roof of our mouth until we feel the hard, bony palate giving way to something squashier. For **oral sounds**, the **velum** is raised and pushed against the back wall of the **pharynx**, cutting off access to the **nose**. However, for [**m**], [**n**] and [**ŋ**] in *ra**m**, ra**n***

and *rang*, the **velum** is lowered, so that air moving up from the **lungs** must flow through the **nose**. If we produce a **long** [**s**], we will be able to feel that air is passing only through the **mouth**; conversely, if we hum a **long** [**m**], we will notice that air continues to flow through our **nose** while our lips are pressed together, with that closure being released only at the end of the [**m**]. *When someone suffering from a cold tells you*

'*I've got a cold* ***id by dose***'

instead of

'*I've got a cold i****n m****y* ***n****ose*'

this is failing to **produce** [**n**] and [**m**] because soft tissue swelling blocks air access to the **nose** and perforce makes all sounds temporarily **oral**.

Nasal sounds, like [**m**] and [**n**], are produced with air only passing through the **nasal cavity** for at least part of their production. On the other hand, **nasalized sounds**, like the **vowel** in *can*, preceding a **nasal consonant**, as opposed to the vowel in *cat*, which precedes an **oral one**, are characterized by airflow through both **nose** and **mouth** simultaneously.

3.3.4 WHAT IS THE MANNER OF ARTICULATION?

To produce any **consonant**, an active articulator, usually located somewhere along the base of the **vocal tract**, moves towards a **passive articulator**, somewhere along the top. Where those articulators are, determines the consonant's place of articulation, as we shall see in the next section. How close the **active** and **passive** articulators get, determines the **Manner** of **Articulation**. There are three main **Manners** of **Articulation**, and one subsidiary case which in a sense is intermediate between the first two.

a) **STOPS**

If the **active** and **passive** articulators actually touch, stopping airflow through the **oral cavity** completely for a brief period, the sound articulated is a **Stop**. If we put our lips together to produce [**p**] ***p****ea*, and hold them in that position, we will feel the build-up of air which is then released when we move from the **Stop** to the following **vowel**. Further back in the **vocal tract**, [**t**] ***t****ea* and [**k**] ***k****ey* are also **Stop sounds**. More accurately, all these are **plosives**, the term for **Oral Stops** produced on a **pulmonic egressive** airstream, just as **clicks** are **Stops** produced on a **velaric ingressive** airstream, for instance. **Plosives** may be **voiceless**, like [**p**], [**t**] and [**k**], or **voiced**, like their **equivalents** [**b**], [**d**] and [**g**].

Since the definition of a **Stop** involves the complete, transient obstruction of the *oral* cavity, it also includes **nasal sounds**, where airflow continues through the **nose**. English [**m**], [**n**] and [**ŋ**] are therefore **Nasal Stops**, although they are typically referred to simply as **nasals**, as there are no **distinctive** English **nasals** involving other manners of articulation. All these **nasals** are also **voiced**.

Finally, some varieties of English also have **Subtypes** of **Stops** known as **Taps** or **Trills**. While a **plosive** is characterized by a **complete obstruction** of oral airflow, followed generally by release of that airflow, a **Tap** is a very quick, ballistic movement where the active articulator strikes a glancing blow against the **passive** one; interruption of the **airstream** is real, but extremely **brief**. Many Scots speakers have a **Tapped allophone** [**ɾ**] of the **phoneme** /**r**/ between **vowels**, as in *arrow, very*;

many American speakers have a similar **Tap** as a realization of /**t**/ in *but**t**er, wa**t**er*. **Trills** are repeated **Taps**, where the active articulator vibrates against the passive one. **Trilled** [**r**] is now rather uncommon for speakers of English, although attempts at imitating Scots often involve furious rolling of [**r**]s.

b) **FRICATIVES**

During the production of a **Fricative**, the active and passive articulators are brought close together, but not near enough to totally block the **oral cavity**. This **close approximation** of the articulators means the air coming from the **lungs** has to squeeze through a narrow gap at high speed, creating **Turbulence**, or local audible **Friction**, which is heard as hissing for a **Voiceless Fricative**, and buzzing for a voiced one. English [**f**] in ***f**ive* and [**s**] in ***s**ize* are **voiceless fricatives**, while [**v**] in *fi**v**e* and [**z**] in *si**z**e* are **voiced**.

The subclass of **Affricates** consists of sounds which start as **Stops** and end up as **Fricatives**; but as we shall see in Lrcture 5, they behave as single, **complex sounds** rather than sequences. **Stops** generally involve quick release of their complete articulatory closure; but if this release is slow, or delayed, the articulators will pass through a stage of **close approximation** appropriate for a **Fricative**. The two relevant **sounds** for English are [**tʃ**] at the beginning and end of ***ch**urch*, and its voiced equivalent **[dʒ]**, found at the beginning and end of *ju**dg**e*. If we pronounce these words extremely slowly, we should be able to identify the **Stop** and **Fricative** phases.

c) **APPROXIMANTS**

It is relatively easy to recognize a **Stop** or **Fricative**, and to diagnose the articulators involved, since these are either touching or so close that their location can be felt. In **Approximants**, on the other hand, the active and passive articulators never become sufficiently close to create audible **friction**. Instead, the **Open Approximation** of the articulators alters the shape of the **oral cavity**, and leads to the production of a particular sound quality.

There are four **Approximant consonant phonemes** in English: /**j**/ in ***y**es*, /**w**/ in ***w**et*, /**r**/ in ***r**ed*, although as we have seen, /**r**/ may have a **tapped allophone** for some speakers and /**l**/ in ***l**et*. All these **Approximants** are **voiced**.

3.3.5 IS THE AIRFLOW CENTRAL OR LATERAL?

This parameter is rather a minor one, since it distinguishes only one **phoneme** of English from all others. For almost all English **consonants**, the airflow through the **oral cavity** is **Central**. Recall that **Fricatives**, like [**s**] or [**f**], are produced with close approximation of the active and passive articulators; however, if we produce any **Fricative**, we will feel that our articulators are actually pushed together quite tightly at the sides of the **oral cavity**, with the actual close **approximation**, and hence the narrow gap for airflow, left in the middle.

The same is true for all the **Approximants** except one: if we produce *rip* and *lip*, and focus on the initial **consonants**, we will notice that while the outgoing air for /**r**/, as usual, moves along the **Centre** of the **mouth**, for /**l**/ it moves down the sides. If we find this difficult to feel, try making the related **voiceless Fricative** sound found in Welsh names spelled with <**ll**>, like *Llewellyn*; because this is a **Fricative** and involves close **approximation** of the articulators, the airflow is easier to observe. Alternatively, let us try making an [**l**] **ingressively**, pulling the air into our mouth instead of breathing it out, and feel the cold air moving inwards along the sides of our

tongue. In English, both the **clear** and the **dark allophones** of /**l**/, and only these, have **lateral** airflow, and are known as **Lateral Approximants**.

Since the only case where the **Central** versus lateral difference is **distinctive** in English involves /**r**/ and /**l**/, these should consistently be described as **Central** and **Lateral** respectively. Although in a particularly thorough description, all other sounds; except **nasals**, which have no oral airflow at all, should be explicitly stated to be **Central**, this definition will generally be understood rather than stated below, since the other English **sounds** do not contrast with **Lateral sounds** of the same **Place** and **Manner of articulation**, meaning that confusion is highly unlikely.

3.3.6 WHAT IS THE PLACE OF ARTICULATION?

As we have seen, the location of the active and passive articulators determines the **Place of Articulation** for a **consonant**. In English, **consonants** are produced at eight places of articulation. Since we have now covered all the other **articulatory parameters** required to describe **consonants**, introducing and defining these places will allow us to build up a **Complete Consonant Phoneme System** for English. In the tables below, the **Phoneme** or **Allophone** in question is initial in the example word, unless another part of that word is **bold-face**.

a) **BILABIAL**

For a **Bilabial sound**, the active articulator is the **bottom lip**, and the passive articulator is the **top lip**.

/**p**/	***p**ie*	voiceless bilabial plosive
/**b**/	***b**y*	voiced bilabial plosive
/**m**/	***m**y*	voiced bilabial nasal

There is at least one further English **phoneme** which to an extent fits under this heading: this is the **Approximant** /**w**/ in *wet*. In producing [**w**], the lips are certainly **approximated**, though not enough to cause friction or obstruct the airflow; but we should be able to feel that the back of our tongue is also bunched up. This additional articulation takes place at the velum, so that [**w**] is not simply a **labial sound**, but a **labial-velar** one. In some **accents** of English, notably those spoken in Scotland and New Zealand, this /**w**/ contrasts with /ʍ/, **the voiceless labial-velar fricative**, which tends to occur in words spelled <**wh-**>. If we have the same pronunciation for *witch* and *which*, or *Wales* and *whales*, then we have only /**w**/; if these are consistently different for us, then these **minimal pairs** establish a **contrast** of /**w**/ and /ʍ/.

/**w**/	***w**itch*	voiced labial-velar approximant
/ʍ/	***wh**ich*	voiceless labial-velar fricative

b) **LABIO–DENTAL**

For **Labio-Dental sounds**, the active articulator is again the **bottom lip**, but this time it moves up to the top front teeth. Note that these sounds are **Labio-Dental**, while /**w**/ and /ʍ/ are **Labial-Velar**, because in the first case, articulation takes place only at a single location, while in the second, there are two separate, simultaneous articulations.

/**f**/	***f**at*	voiceless labio- dental fricative

/**v**/	***v**at*	voiced labio-dental fricative

c) **DENTAL**

In most English sounds, and most speech sounds in general, the active articulator is part of the **tongue**; to avoid confusion, places of articulation where the **tongue** is involved are therefore generally called after the passive articulator. For the two **Dental Fricatives**, it follows that the passive articulator is the **top front teeth**; the active articulator is the **tip** of the **tongue**. The **tongue** itself is conventionally divided into

- **the tip** – the very front;
- **the blade** – just behind the blade, and lying opposite the alveolar ridge;
- **the front** – just behind the blade, and lying opposite the hard palate;
- **the back** – behind the front, and lying opposite the velum; and
- **the root** – right at the base, lying opposite the wall of the pharynx.

[**θ**]	***th**igh*	voiceless dental fricative
[**ð**]	***th**y*	voiced dental fricative

d) **ALVEOLAR**

Alveolar sounds are produced by the **tip** or **blade** of the **tongue** moving up towards the **Alveolar ridge**, the bony protrusion we can feel if we curl our tongue back just behind our top front teeth.

/**t**/	***t**ie*	voiceless alveolar plosive
/**d**/	***d**ie*	voiced alveolar plosive
/**n**/	***n**igh*	voiced alveolar nasal
/**s**/	***s**ip*	voiceless alveolar fricative
/**z**/	*z**i**p*	voiced alveolar fricative
/**r**/	***r**ip*	voiced alveolar central approximant
/**l**/	***l**ip*	voiced alveolar lateral approximant

The symbol /**r**/ is used for the **phoneme** here **primarily** because it is typographically convenient; but different realizations of /**r**/ are found throughout the English-speaking world, and as we have seen, [**r**] itself, the **Voiced Alveolar Trill**, is rather rare. The **tapped** realization of [**ɾ**] is also **Alveolar**; but another even more common pronunciation is not. This is the voiced **Retroflex Approximant**, [**ɹ**], which is produced with the tip of the tongue curled back slightly behind the **Alveolar ridge**; this is the most common realization of /**r**/ for speakers of Southern Standard BrE and GA.

e) **POST-ALVEOLAR**

If we move our tongue tip back behind the **Alveolar ridge**, we will feel the **hard palate**, which then, moving further back again, becomes the **soft palate**, or **velum**. **Post-alveolar sounds** are produced with the **blade of the tongue** as the active articulator, and the adjoining parts of the **alveolar ridge** and the **hard palate** as the passive one. They include two **Fricatives**, and the **Affricates** introduced in the last section.

/**ʃ**/	***sh**ip*	voiceless post-alveolar fricative
/**ʒ**/	*bei**g**e*	voiced post-alveolar fricative
/**tʃ**/	***ch**unk*	voiceless post-alveolar affricate

/dʒ/	*junk*	voiced post-alveolar affricate

f) **PALATAL**

Palatals are produced by the **front of the tongue**, which moves up towards the **hard palate**. We have so far encountered 2 **Palatal Sounds**: the **Approximant** /**j**/ in *yes*, and the **Voiceless Palatal Stop** [**c**] in ***k****itchen*. Recall, however, that [**c**] is the **Allophone** of /**k**/ found before certain **vowels**; **Velar** [**k**] appears elsewhere. There is a similar pattern for /**g**/, which has as **allophones velar** [**g**] in ***g****arden* and **Palatal** [**ɟ**] in *give*. Since we are constructing a **Phoneme System** here, these **Allophones** are not included in the list.

/**j**/	**y**es	voiced palatal approximant

g) **VELAR**

For **Velar sounds**, the active articulator is the **back of the tongue**, and the passive articulator is the **Velum**, or **Soft Palate**. The **labial-velar approximant** and **fricative** /**w**/ and /ʍ/ are not included here, as they were discussed above with the **Bilabials**; however, it should be remembered that these **doubly-articulated sounds** strictly belong under **both headings**. Similarly, although the '**dark** ɫ' realization, [ɫ], is also **Velar**, it does not appear in the list below as it is an **Allophone** of /**l**/.There is a further **accent difference** involving **Velar sounds**: in some varieties of English, notably Scottish ones, there is a **Voiceless Velar Fricative**, /**x**/: this is the sound at the end of Scots *loch*, which speakers of other **accents** typically replace with a [**k**].

/**k**/	**c**ot	voiceless velar plosive
/**g**/	**g**ot	voiced velar plosive
/**ŋ**/	ra**ng**	voiced velar nasal
/**x**/	lo**ch**	voiceless velar fricative

h) **GLOTTAL**

Glottal sounds are in the minority in articulatory terms, since they do not involve the **tongue**: instead, the articulators are the **vocal folds**, which constitute a place of articulation as well as having a crucial role in **voicing**. English has two **Glottal sounds**. The first is **Allophonic**, namely the **Glottal Stop** [**ʔ**], which appears as an **intervocalic realization** of /**t**/ in many **accents**, as in *butter*. The **Glottal Stop** is technically **voiceless**; though in fact it could hardly be anything else, since when the **vocal folds** are pressed together to completely obstruct the airstream, as must be the case for a **Stop sound**, air cannot simultaneously be passing through to **cause vibration**. The second, the **Voiceless Glottal Fricative** [**h**], is a **phoneme** in its own right.

/**h**/	*high*	voiceless glottal fricative

RECOMMENDATIONS FOR READING

Of the textbooks recommended in the last lecture,

- Davenport and Hannahs **[Davenport Mike, S.J. Hannahs (1998)** ***Introducing Phonetics and Phonology*****, London: Arnold]** provides the most accessible and comprehensive introduction to **Articulatory Phonetics**, as well as a useful chapter on **Acoustic Phonetics**, which is not dealt with here.

Some useful general introductions to **Phonetics** are

• Roach [**Roach Peter (2001)** ***English Phonetics and Phonology: A Practical Course*** **2nd ed. Cambridge: CUP**], which may be of special help to non-native speakers;

• Ball and Rahilly [**Ball Martin, Joan Rahilly (1999)** ***Phonetics: The Science of Speech***, **London: Arnold**];

• Catford [**Catford J.C. (1988)** ***A Practical Course in Phonetics*****, Oxford: OUP**] and

• Ladefoged [**Ladefoged Peter (1993)** ***A Course in Phonetics*** **(3rd ed.), New York: Harcourt Brace Jovanovitch**]

The most comprehensive account of our current understanding of **Phonetics** is

• Laver [**Laver John (1994)** ***Principle of Phonetics***, **Cambridge: CUP**]

A detailed account of the history and usage of the IPA is provided in International Phonetic Association (1999) [**International Phonetic Association (1999)**, ***The Handbook of the International Phonetic Association***, **Cambridge: CUP**],

and further information is available at http://www.arts.gla.ac.uk/IPA/ipa.html

Lecture 4
DEFINING DISTRIBUTIONS: CONSONANT ALLOPHONES

4.1 Phonemes revisited
4.2 Making generalizations
4.3 Making statements more precise
4.4 A more economical feature system
4.5 Natural classes
4.6 A warning note on phonological rules

4.1 PHONEMES REVISITED

As we saw in Lecture 3, the two major criteria for establishing **Phonemic contrast** are predictability of occurrence, and invariance of meaning. That is to say, if we are dealing with two **Allophones** of the same **Phoneme**, the two must occur in non-overlapping sets of environments. Furthermore, there cannot be any minimal pairs, where substituting one of our focus **sounds** for the other in exactly the same **context** creates a **difference** in meaning. These two criteria establish conclusively that English **[ɹ]** and [**l**] belong to **distinct Phonemes**: there are many minimal pairs, like *rip* and *lip*, *rot* and *lot*, *marrow* and *mallow*, so clearly the two **phones** occur in the same contexts; and substituting one for the other does create a **meaning difference**. On the other hand, **clear**, **alveolar** [**l**] and **dark**, **velar** [ɫ] occur in predictably different environments: in **Standard Southern British English**, the **clear**, **more front** one appears word-initially or between **vowels**, as in *lip, lot, mallow*, and the **dark**, **more back** one **word-finally** or **before a consonant**, as in *pill, tall, halt*. Since there are no minimal pairs, and substituting one variant for the other will **not make** a **meaning difference**, [**l**] and [ɫ] are **necessarily allophones** of a single phoneme /**l**/.

Equipped with the articulatory descriptions from the last lecture, we can now progress to a more detailed account of the **distribution of allophones**. In doing so, we will also discover that certain **Phonemes form groups**, in that they have similar

Allophones in similar environments. We must try to identify what members of such groups have in common, and what makes certain **Phonemes** work together.

4.2 MAKING GENERALIZATIONS

In Lecture 2, several examples of **Allophonic variation** were considered. In one case, we found that /**k**/ has two **variant pronunciations**, namely **Velar** [**k**] in *cupboard* and **Palatal** [**c**] in *kitchen*. Another involved /**p**/, /**t**/ and /**k**/, which have **Aspirated Allophones**, with a perceptible release of air, in *pill, till* and *kill* but **Un-aspirated Allophones** in *spill, still* and *skill* or *sip, sit* and *sick*.

However, providing a list of words where the **relevant Allophone** appears is only our starting point. Phonologists are interested in

- **Generalizations** about the language they are working on and indeed in
- **Generalizations** about language in general; and
- **Generalizations** are not best expressed simply as lists, as these do not reveal the factors which the forms in the lists have in common

Identifying these factors will help us to understand why the particular **Allophone** appears in that context and not elsewhere, and to predict what will happen in other words with a similar context. As an example, recall the [**c**] and [**k**] **Allophones** of /**k**/. English speakers, with the exception of New Zealanders and Australians, will have **Palatal** and **Velar pronunciations** distributed as in (1).

kitchen	[**cɪtʃən**]	*keys*	[**ci:z**]
cupboard	[**kʌbəd**]	*car*	[**kɑ:**]

If we were asked to predict the pronunciation of the initial sounds of *keep, cool, ceilidh*, for non-Scots, pronounced exactly as *Kayleigh*; and *koala*, we would not get very far by considering. As just two lists of words: how could we tell whether each of these examples fitted into the [**c**] list or the [**k**] list? The key is to consider what connects the words where each **Allophone** appears: and the answer is that [**c**] appears before a **front vowel** – more detail on vowels is in Lecture 6, while [**k**] precedes a **back vowel**. It follows that *k**ee**p* and *c**ei**lidh* will also have [**c**], since the **bold-faced vowels** are **front**, while *c**oo**l* and *k**o**ala* will have [**k**], as the **bold-faced vowels** are **back**. Since **front vowels** are made roughly at the **hard palate**, and so is **palatal** [**c**], while **back vowels** are produced at the **velum**, as is **velar** [**k**], the **pairs of vowels** and **consonants** 'match'. It is extremely common for **sounds** to become more similar, or to **assimilate** to one another, in this sort of way. As the previous lecture showed, the **vocal organs** undergo very complex, coordinated movements during speech, and anything that simplifies the gymnastics involved while not jeopardizing comprehension is understandably very welcome to speakers. Specifying what the different examples have in common therefore allows us to understand the results we find, and make predictions about the behaviour of other forms with the same environment. And as we might expect, /**g**/, which matches /**k**/ in every respect except **voicing**, behaves in exactly the same way, being **palatalized** before the same set of **vowels** as /**k**/ in the same varieties.

In the case of /**p**/, /**t**/ and /**k**/ **Aspiration**, the relevant conditioning factor is not the shape of an adjacent segment, but rather position in the word – more accurately, as we shall see in Lecture 9 in the **Syllable**. What *pill, till* and *kill* have in common – along with *peel, pass, play, pretty* and many others, is that the /**p**/ /**t**/ or /**k**/ is right at

the beginning of the word. In *spill, still, skill, sip, sit* and *sick* and many others, it is not right at the beginning of the word; either another consonant precedes it or it is word-final. We can test this hypothesis by finding lots of other examples where /**p**/ /**t**/ and /**k**/ appear word-initially, and checking whether there is **Aspiration**.

So long as we keep finding **aspirated Allophones** there, and nowhere else, our **Generalization** holds. If we find counterexamples, where either **aspirated** forms appear in other contexts, or word-initial **Allophones** of /**p**/, /**t**/ or /**k**/ are not **aspirated**, we have to modify our **Generalization** to include them. After a while, when we keep finding data that agree with our observation and not finding data that disagree, we can feel more confident that our **Generalization** is the right one, and regard our hypothesis as confirmed.

4.3 MAKING STATEMENTS MORE PRECISE

The next question is how we should express these **Generalizations**. Having established that certain sounds are **Allophones** of the same **Phoneme**, and that they are in complementary **distribution**, we might write a statement like To say what happens to the **Phoneme** or **Phonemes** in question, and where. (2)

a.	/**k**/ and /ɡ/ become [**c**] and [**ɟ**] when they are followed by a front vowel. They are pronounced as [**k**] and [**g**] in all other contexts
b.	/**p**/, /**t**/ and /**k**/ become [**ph**], [**th**] and [**kh**] at the very beginning of a word. In other contexts, i.e. after another consonant or at the end of a word, they are pronounced as [**p**], [**t**] and [**k**]

These statements express the main **Generalization** in each case. However, making a statement in normal English can be unclear and unwieldy, so phonologists typically use a more formal notation which helps us to work out exactly what is being said; it is easier that way to identify what a counterexample would be, and to see what predictions are being made. The English statement also does not tell us why /**p**/, /**t**/ and /**k**/ are affected, rather than just one or two of them; or why these three sounds should behave similarly, rather than /**p**/, /**s**/ and /**r**/, for instance. Similarly, we cannot see what /**k**/ and /**g**/ have in common or indeed what the resulting **Allophones** have in common, simply by looking at the **Phoneme symbols**

Introducing the **Articulatory Descriptions** from Lecture 3 immediately makes our statements more adequate and more precise, as we can now express what particular sets of sounds have in common (3).

a.	**Velar stops** become **palatal** when they are followed by a **front vowel** They are pronounced as **velar** in all other contexts
b.	**Voiceless stops** are **aspirated** at the very **beginning** of a word Elsewhere, they are **un-aspirated**

We can take this one step further by regarding each of the **articulatory descriptions** as a **binary feature**: that is, a sound is either **voiceless** or **voiced**, and these are opposites; similarly, a sound is either **nasal** or **not nasal**. Instead of **voiced** and **voiceless**, or **oral** and **nasal**, we can then write **[+voice**] and **[–voice**], **[–nasal**] and **[+nasal**]. This may seem like introducing needless complexity; but once we used to the notation, it is much easier to compare these rather formal statements, and to see what the **important aspects** are. These **distinctive features** allow each segment to be

regarded as a **simultaneously articulated set**, or **matrix**, of binary features, as shown in (4).

(4)

/p/	/z/	/l/
[**–voice**]	[**+voice**]	[**+voice**]
[**–nasal**]	[**–nasal**]	[**–nasal**]
[**+labial**]	[**–labial**]	[**–labial**]
[**–alveolar**]	[**+alveolar**]	[**+alveolar**]
[**+stop**]	[**–stop**]	[**–stop**]
[**–fricative**]	[**+fricative**]	[**–fricative**]
[**–approximant**]	[**–approximant**]	[**+approximant**]
[**+central**]	[**+central**]	[**–central**]

These features, however, are not entirely satisfactory. They do describe **phonetic characteristics** of **sounds**; but we are trying to provide a **Phonological description**, not a phonetic one, and one interesting **Phonological fact** is that **features** and **Phonemes** fall into classes. For instance, the **matrices** in (4) have to include **values** for all three of the **features** [**Stop**], [**Fricative**] and [**Approximant**], despite the fact that any sound can be only one of these. Together, they provide a classification for **Manner** of **Articulation**; but (4) lists them all as if they were as independent as [**Nasal**], [**Voice**] and [**Alveolar**]. Similarly, in (4) values are given for [**Labial**] and [**Alveolar**], and we would have to add [**Labio-dental**], [**Dental**], [**Post-alveolar**], [**Palatal**], [**Velar**], [**Glottal**] for English alone: but again, it is simply not possible for a single **consonant** to be either **Labio-dental** or **Velar**, for instance, or both **Alveolar** and **Labial**. We are missing the **Generalization** that together, this group of features makes up the dimension of **Place of Articulation**.

One possible way of overcoming this lack of economy in the feature system is to group sets of features together, and write redundancy rules to show which values can be predicted. Redundancy rules take the shape shown in (5).

(5)

[**+stop**]	→	[**–fricative**, **–approximant**]
[**+fricative**]	→	[**–stop**, **–approximant**]
[**+labial**]	→	[**–labiodental**, **–dental,** **–alveolar**,**–palatal** …]
[**+alveolar**]	→	[**–labial**, **–labiodental**, **–dental**, **–palatal** …]

The **first rule** says

‘If a segment is a **Stop**, it cannot also be either a **Fricative** or an **Approximant**’. All these **Redundancy Rules** are **universal** – that is, they hold for all human languages, and are in a sense statement of logical possibilities. Particular languages may also rule out combinations of features which are **theoretically possible**, and which may occur routinely in many other languages.

Two language-specific redundancy rules for English are given in (6):

- the first tells us that English has no **Palatal Nasal** –although Italian and French do, and

• the second, that English has only **Lateral Approximants** – though Welsh, for instance, has also a lateral fricative.

These **Redundancy Rules** cannot be written the other way around: it would not be accurate to say that **Non-palatals** are all **Nasal** in English, or that all **Approximants** are **Lateral**.

(6)

[+**nasal**]	→	[–**palatal**]
[+**lateral**]	→	[+**approximant**]

While we should expect to have to state redundancy rules of the sort in (6), since these express quirks of particular languages, it seems unfortunate that our feature system is not structured so as to factor out the **Universal Redundancies** in (5). However, to produce a better **Phonological Feature System**, we first need to spell out what we want such a system to achieve.

4.4 A MORE ECONOMICAL FEATURE SYSTEM

Some requirements of a **Phonological Feature System** are as follows:

• **the** system should be relatively economical

• **it** should enlighten us about which combinations of features can go together universally, and therefore which segments and segment-types are universally possible. That is, many universal redundancy rules of the sort in (5) should not have to be written explicitly, as they will follow from the feature system.

• **it** should allow us to group together those segments and segment-types which characteristically behave similarly in the world's languages.

Certain **Elementary Phonetic Features** can be adopted without further question into our revised system: for instance, **[±oral]**, **[±lateral]** and **[±voice]** do correspond to binary oppositions, and help us to **distinguish classes of consonants** in English and other languages. The main problems involve **Place and Manner of Articulation**. Turning first to **Manner of Articulation**, we might initially wish any sensible feature system to distinguish **vowels** from **consonants**. This is a division of which we are all intuitively aware, although that awareness may owe something to written as well as spoken language. Children learn early that, in the English alphabet, the vowel letters are <**a e i o u**>, though these, alone and in combination, can signal a much larger number of **vowel sounds**. When challenged to write a word 'without vowels', English speakers might respond with *spy* or *fly*, but not *type*, although the <**y**> in all three cases indicates the vowel [**aɪ**], while the <**e**> in *type* does not correspond to a vowel in speech or indeed, to anything at all. Nonetheless, there is a general awareness that **vowels** and **consonants** form different categories integral to **Phonology** and **Phonetics** – an assumption central to the organization of these lectures, where the two classes are introduced in different lectures. This **binary opposition** between **vowels** and **consonants** is not entirely clear-cut. For instance, **vowels** are almost always **voiced**: it is highly unusual for languages to have **phonemically voiceless vowels**, and those that do always have **voiced** ones too. However, there are also **consonants** which are almost always **voiced**: this is true of **nasals**, and also of **approximants** like English /**j**/ /**w**/ /**l**/ /**r**/. We might say that these **consonants** are **closer** to **vowels** than **Stops** and **Fricatives**, which can be either **voiced** or **voiceless**, and indeed often occur in pairs distinguished only by **[+voice]** – think of English /**p**/ /**b**/, /**t**/ /**d**/, /**k**/ /**g**/, /**f**/ /**v**/,

/**s**//**z**/ Similarly, **vowels**, as we shall see in Lecture 9, form the essential, central part of **syllables**: it is possible to have a **syllable consisting** only of a **vowel**, as in *I* or *eye*, *a, oh*, but **consonants** appear at **syllable margins**, preceding or following **vowels**, as in *sigh*, *side*, *at*, *dough*. Nonetheless, some **consonants** may become **syllabic** under certain circumstances. **Nasals** and **approximants** can be **syllabic** in English: for instance, in the second **syllables** of *but**ton**, bot**tom**, lit**tle*** and *fa**ther***, for speakers who have an [**ɹ**] there, there is no **vowel**, only a **syllabic consonant**. We may think we are producing a vowel, probably partly because there is a **vowel graph** in the spelling; but in fact most speakers will move straight from one **consonant** to the next, although the **syllabic consonant** has its own **phonetic character**. In **IPA notation**, this is signaled by a small vertical line under the **consonant symbol**, giving [**bʌtn̩**], [**bɒtm̩**], [**lɪt̩l**], [**faðɹ**]. It is not possible for **oral stops** and **fricatives** to become **syllabic** in this way: in *lifted* or *horses*, there must be a vowel before the final [**d**] or [**z**].

This evidence seems to suggest that, on the one hand, we should distinguish all **consonants** from **vowels**. On the other hand, in many **phonological processes** in many different languages, the **class** of **stops** and **fricatives** behaves differently from the **class** of **vowels**, **nasals**, and **approximant consonants**, so that these two **categories** should be **distinguishable** too. Since these classifications cross-cut one another, it is clearly not possible to get the right results using a **single binary feature**, or indeed using any features proposed so far. For example, although we could describe the **class** of **nasals**, **vowels** and **approximants** as [**–stop**, **–fricative**], a negative definition of this kind does not really explain why they form a class, or what they have in common.

Many phonologists would use 3 features, the so-called **Major Class Features**, to produce these classifications.

- First, we can distinguish **consonants** from **vowels** using the feature [**±syllabic**]; sounds which are [**+syllabic**] form the core, or nucleus, of a syllable, while [**–syllabic**] sounds form **syllabic margins**. **Vowels** are therefore [**+syllabic**], and all **consonants** [**–syllabic**], though some **consonants** like English /**m**/ /**n**/ /**l**/ /**r**/ may have [**+syllabic**] **allophones** in certain **contexts**.
- Second, the feature [**±consonantal**] distinguishes [**+consonantal**] **Oral Stops**, **Fricatives**, **Nasals** and '**LIQUIDS**' – the cover term for /**r**/ and /**l**/ sounds, from [**–consonantal**] glides like English /**j**/, /**w**/ and **vowels**. The crucial distinction here is an articulatory one: in [**+consonantal**] **sounds**, the air flow is **obstructed** in the **oral cavity**, either being **stopped completely**, or causing local audible **friction**; whereas for [**–consonantal**] **sounds**, air flow is continuous and unimpeded: remember that for **nasal stops**, although airflow continues **uninterrupted** through the **nose**, there is a complete closure in the **oral cavity**.
- Finally, [**±sonorant**] distinguishes **nasals**, **vowels** and all **approximants** from **oral stops** and **fricatives**; the former set, the **sonorants**, are characteristically voiced, while the latter, the **obstruents**, may be either **voiced** or **voiceless**.

As (7) shows, the combination of these three binary features actually distinguishes 4 major classes of segments.

(7)

All vowels	[**+syllabic**, **–consonantal,** **+sonorant**]
Glides (English /**j w**/)	**[–syllabic**, **–consonantal**, **+sonorant**]
Liquids and nasals (sonorant consonants)	[**–syllabic**, **+consonantal**, **+sonorant**]
Oral stops and fricatives (obstruent consonants)	[**–syllabic**, **+consonantal**, **–sonorant**]

However, we can produce further, **Flexible** groupings, to reflect the fact that composite categories often behave in the same way **phonologically**. For example,

- vowels, nasals and all approximants are [**+sonorant**];
- vowels and glides alone are [**–consonantal**];

and we can divide our earlier, intuitive classes of **consonants** and **vowels** using [**±syllabic**]. The introduction of these major class features resolves some of our earlier difficulties with **Manner** of **Articulation**; but we are still not able to distinguish **Stops** from **Affricates** or **Fricatives**. To finish the job of accounting for **Manner**, we must introduce two further features:

- The more **important** of these is [**±continuant**], which separates the **Oral Stops** and **Nasal Stops**, which are [**–continuant**] and have airflow **stopped** in the **oral tract**, from all other sounds, which are [**+continuant**] and have continuous **oral** airflow throughout their production.
- Second, the **Affricates** /**tʃ**/ and /**dʒ**/, which we have rather been ignoring up to now, can be classified as a **subtype** of **Oral Plosive**; but the complete **articulatory closure**, for these sounds only, is released more gradually than usual, so that the **Affricates** incorporate a **Fricative** phase. The **affricates** are generally described as [**+delayed release**], while other **Stops** are [**–delayed release**].

Despite these advances in dealing with **Manner of Articulations**, there remain problems with place. Recall that, if all **Places of Articulation** are stated independently, a **consonant** which is [**+alveolar**] will also have to be listed as **[–labial**], **[–dental**], **[–palatal**], **[–velar**] and so on. To illustrate this problem, let us consider the different **Phonetic Shapes** of the prefix /*un*-/ in (8).

(8)

unarmed	[**n**]
unpleasant	[**m**]
unfavourable	[**ɱ**]
unthinkable	[**n̪**]
unstable	[**n**]
uncomplicated	[**ŋ**]

The **prefix consonant** is always **Nasal**, but its **Place** of **Articulation** alters depending on the following segment:

- before a vowel or an alveolar consonant, like [**s**], the nasal is alveolar;
- before a **bilabial consonant** like [**p**], it is **bilabial**;
- before a **labio-dental** like [**f**], it is **labio-dental** [**ɱ**];
- before a **dental**, it is **dental** [**n̪**]; and

• before a **velar**, in this case [**k**], it is also **velar**.

We can write these **Generalizations** as a series of **Phonological Rules**, as in (9). These **Rules** have the same format as the redundancy rules proposed above; but instead of stating **Generalizations** about **necessary combinations** of features, or **excluded combinations**, they summarize **processes** which take place in the **Structure of a Particular Language**, in a certain **context**.

(9)

[**+nasal**]					
[**+alveolar**]	→	[**– alveolar**]	/	_____	[**+labial**]
[**–labial**]		[**+labial**]			
[**–dental**]					
[**–velar**]					
[**+nasal**]					
[**+alveolar**]	→	[**– alveolar**]	/	_____	[**+dental**]
[**–dental**]		[**+dental**]			
[**–labial**]					
[**–velar**]					
[**+nasal**]					
[**+alveolar**]	→	[**– alveolar**]	/	_____	[**+velar**]
[**–velar**]		[**+velar**]			
[**–labial**]					
[**–dental**]					

… and so on

In these **Rules**, the material furthest left is the input to the **process**, or what we start with – **Nasals** with **different place features** in each case. The **arrow** means '**becomes**', or **technically** 'is **rewritten as**'; and there then follows a specification of the change that takes place. In (9), this always involves **Changing the Place of Articulation**. Any feature which is not explicitly mentioned in the middle section of the statement is taken to be unchanged; so in the first **Rule**, the **consonant** involved stays **[+nasal]**, **[–dental]**, **[–velar]** but changes its values for

[±alveolar] and **[±labial]**

The rest of the statement following the environment bar ' / ' which can be paraphrased as '*in the following environment*', specifies the **context** where this **particular realization** appears. In (9), the environment always involves a following sound with a particular **Place of Articulation**: the line signals where the input fits into the sequence. The problem is that this **System of Features**, with several different **Places** of **Articulation** each expressed using a **different feature**, will lead to gross duplication in the statement of what is, in fact, a rather simple and straightforward **Generalization**: /**n**/ comes to share the **Place of Articulation** of the **following consonant**. What seems to matter here is that the **Place of Articulation** of the output matches that of the **conditioning context**. If we were to regard all the **place features**

as **subdivisions** of a higher-order feature '**place**', we could state the **whole Rule** as in (10).

(10)

[+**nasal**]					
[+**alveolar**]	→	[**α place**]	/	_____	[**α place**]

This **Rule** tells us that the **Place of Articulation** of the **input consonant**, an **alveolar nasal**, comes to match the place of the following segment, using a Greek letter variable. If the output and conditioning context also matched in **Voicing** and **Nasality**, for instance, further Greek letter variables could be introduced, so that the **output** and **context** would be specified as

[**α place**]
[**β voice**]
[**γ nasal**]

A more advanced subpart of **Phonology**, **feature geometry**, investigates which features might be characterized as **variants** of a **super ordinate feature** like '**place**' in this way.

Although recognizing a **super ordinate** '**place**' **feature** allows an economical statement of this particular process, we also need a way of referring to each individual **Place** of **Articulation**: after all, not all **consonants** will always undergo all **Rules** in the same way, and indeed the input of (10) is still restricted to the **Alveolar Nasal**. It seems we must reject **features** like **[±alveolar**], **[±velar**] and turn again to a more **economical Phonological Feature set**, which ideally should also help us group together those **Places of Articulation** which typically behave similarly **cross-linguistically**. One generally accepted solution involves the two features **[±anterior**] and **[±coronal**], [+**anterior**] **sounds** are those where the **Passive Articulator** is the **alveolar ridge** or further forward; this includes

- labial
- labio-dental
- dental and
- alveolar sounds

[–**anterior**] **sounds** are produced further **back** in the **vocal tract**; for English, this will include

- post alveolar
- palatal
- velar and
- glottal sounds

and also, note, the

- labial-velars /**w**/ and /**ʍ**/

For [+**coronal**] sounds, the **Active Articulator** is

- the tip of the tongue
- blade of the tongue or
- front of the tongue

so including

- dental

- alveolar
- post alveolar and
- palatal consonants

in English; conversely, [**–coronal**] **sounds**, such as

- labials
- labio-dentals
- labial-velars
- velars and
- glottals

do not involve the **front parts** of the **tongue**. This **System** is undoubtedly economical, even though we require one further feature [**±strident**], to distinguish **Fricatives** like /**s**/ from /**θ**/: these will both be **[–syllabic**], **[+consonantal**], [**–sonorant**], **[+anterior**], **[+coronal**] in the **Feature System** developed so far. [**+strident**] **sounds** in English are [**f**], [**v**], [**s**], [**z**], [ʃ], [ʒ], [**t**ʃ], [**d**ʒ]. **Rule** (11) applies these features to English [**k**] and [**c**]. Note that it is common practice to exclude features which are not absolutely necessary to distinguish the sound or sounds referred to from others in the language: thus, although the input /**k**/ is strictly also **[–nasal**], [**–lateral**], [**–delayed**], **[–release**], [**–strident**] these redundant feature values need not be included, as /**k**/ is already uniquely identified from the features given.

(11)

[**–syllabic**]					
[**+consonantal**]					
[**–sonorant**]					
[**–voice**]	→	[**+coronal**]	/	_____	**front vowel**
[**–continuant**]					
[**–anterior**]					
[**–coronal**]					

Ideally, the explanation for the presence of a certain **Allophone** in a certain context should be available in the **Rule** itself. In (11), however, /**k**/ becomes [**+coronal**] before a **front vowel**; but the connection between [**coronal**] and [**front**] is obscured by the different descriptions conventionally used for vowels and **consonants**. We return to **Vowel Features** in Lectures 6 and 7.

4.5 NATURAL CLASSES

The major class features identify several categories of sounds which recur **cross-linguistically** in different **Phonological Rules**. Feature notation can also show why certain **sounds** behave similarly in similar **contexts**, within these larger classes. For instance, English /**p**/, /**t**/ and /**k**/ **Aspirate** at the **beginnings of words**.

- All three may also be **glottally reinforced** at the ends of words.
- All three are **un-aspirated** after /**s**/; and no other English **Phoneme** has the same range of **Allophones**, in the same environments.

In **Feature terms**, although /**p**/, /**t**/, /**k**/ differ in **Place of Articulation**, all 3 are **obstruent consonants**, and within this class, are

[–voice]

[–**nasal**]

[–**continuant**]

A group of phonemes which show the same behaviour in the **same Contexts**, and which share the **same Features**, constitute a **Natural Class**. More formally, a **Natural Class** of **Phonemes** can be identified using a smaller number of features than any individual member of that class.

As (12) shows, the class of **Voiceless Plosives** /**p**/, /**t**/ and /**k**/, can be defined uniquely using only three **Features**. If we subtract one of the **Plosives**, we need more **Features**, since we must then specify the **Place** of **Articulation**; and the same is true in defining a **single Plosive** unambiguously.

(12)

/**p t k**/	/**p t**/	/**p**/
[**–voice**]	[**–voice**]	[**–voice**]
[**–nasal**]	[**–nasal**]	[**–nasal**]
[**–continuant**]	[**–continuant]**	[**–continuant**]
	[**+anterior**]	[**+anterior**]
		[**–coronal**]

Phonological Rules very typically affect **Natural Classes of Phonemes**. For example, **medial voicing** of /**f**/ to [**v**] in Old English, discussed briefly in Lecture 2, did not only affect that **Labial Fricative**, but also the other members of the **Voiceless Fricative Class**, /**s**/ and /**θ**/. If we wrote a rule for /**f**/ alone, it would have to exclude the other **Voiceless Fricatives**, so that the input would have to include

[+anterior]

[–coronal]

however, the more **General Fricative Voicing Rule** in (13) requires fewer features to characterize the input, as we would expect when a **Natural Class** is involved.

(13)

[**+continuant**]						
[**+consonantal**]						
[**– voice**]	→	[**+voice**]	/	[**+voice**]	_____	[**+voice**]

This **Rule** also neatly captures the connection between the process and its **conditioning context**, and therefore shows the motivation for the development: the **Fricatives**, which are **Generally Voiceless**, become **voiced** between **voiced sounds**. This will often mean between **vowels**, as in *heofon* and *hlaford*; but it may also mean between a **vowel** and a **voiced consonant**, as in *hæfde*. If **voicing** takes place between **voiced sounds**, instead of having to **switch off Vocal Fold vibration** for a single **segment** and then switch it back on again, the **Vocal Folds** can continue **vibrating** through the whole sequence. **Voicing** the **fricative** in this context is therefore another example of **Assimilation**, where one sound is **influenced** by another close to it in the utterance.

4.6 A WARNING NOTE ON PHONOLOGICAL RULES

Paradoxically, **Phonological Rules** are *not* rules in one of the common, everyday English meanings of that word; they are **not regulations**, which spell out what *must*

happen. Instead, they are **Formal Descriptions** of what *does* happen, for **speakers** of a particular **variety** of a particular **language** at a particular **time**. Some **Phonological Rules** may also state what *sometimes* happens, with the outcome depending on issues outside **Phonology** and **Phonetics** altogether. For example, if we say *hamster* slowly and carefully, it will sound like [**hamstə**] or [**hamstəɹ**], depending on whether we 'drop our [**r**]s' in this context or not: we return to this issue in Lecture 8, and to **Vowels** in Lecture 6 and 7, and learn much about the **vowel symbols**. If we say the word quickly several times, we will **produce** something closer to our **normal**, **casual speech pronunciation**, and it is highly likely that there will be an **extra consonant** in there, giving [**hampstə**] or [**hampstəɹ**] instead.

As the **rate of speech** increases, **adjacent sounds influence** one another even more than usual, because the same **complex articulations** are taking place in even less time. Here, the articulators are moving from a **voiced nasal Stop** [**m**], to a **voiceless alveolar Fricative** [**s**], so that almost every possible property has to change all at once: apart from the **source** and **direction** of the airstream, which all English **sounds** have in common anyway. In **Fast Speech**, not all these transitions may be perfectly coordinated: the **extraneous** [**p**] appears when the speaker has succeeded in **switching off voicing**, and raising the **velum** to cut off airflow through the **nose**, but has not yet shifted from **Stop to Fricative**, or from **Labial to Alveolar**. There is consequently a brief moment when the features appropriate for [**p**] are all in place, before the **Place** and **Manner** of **Articulation** are also altered to produce the **intended** [**s**]. Listing the feature composition of [**m**], [**p**] and [**s**], as in (14), reveals that [**p**] **shares half the features** of each of [**m**] and [**s**], so it is entirely understandable that [**p**] should arise from this casual speech process.

(14)

[**m**]	[**p**]	[**s**]
[**+voice**]	[**–voice**]	[**–voice**]
[**–continuant**]	[**–continuant**]	[**+continuant**]
[**+nasal**]	[**–nasal**]	[**–nasal**]
[**+anterior**]	[**+anterior**]	[**+anterior**]
[**–coronal**]	[**–coronal**]	[**+coronal**]

A very similar process arises in words like *mince* and *prince*, which can become **homophonous**, that is, identical in sound, to *mints* and *prints* in **fast speech**. Here, the transition is from [**n**], a **voiced alveolar nasal stop**, to [**s**], a **voiceless alveolar oral fricative**, and the half-way house is [**t**], which this time shares its **Place** of **Articulation** with both neighbours, but differs from [**n**] in **voicing** and **nasality**, and from [**s**] in **Manner of Articulation**. In both *hamster* and *mince, prince*, however, the casual speech process creating the extra **medial plosive** is an optional one. This does not mean that it is consciously controlled by the speaker: but the formality of the situation, the identity of the person we are talking to, and even the topic of conversation can determine how likely these **casual speech processes** are. In a **formal style**, for instance asking a question after a lecture, or having a job interview, we are far more likely to make a **careful transition** from **Nasal** to **Fricative** in words of this kind, while **informal style**, for instance chatting to friends over a drink, is

much more conducive to **Intrusion** of the '**extra**' Plosive. These issues of **formality** and **social context**, which are the domain of **Sociolinguistics**, are not directly within the scope of **Phonetics** and **Phonology**, although they clearly influence speakers' **phonetic** and **phonological behaviour**.

If speakers of English keep pronouncing [**hampstə**] – *hamster* and [**prɪnts**] – *prince* in sufficient numbers, and in enough contexts, these **pronunciations** may become the **Norm**, extending even into formal circumstances, and being learned as the canonical pronunciation by children: this is exactly what has already happened in *bramble*, and the name *Dempster*. Even now, children, and occasionally adults too, spell *hamster* as *hampster*, showing that they may believe this to be the '**correct**' **form**.

Developments from **casual** to **formal pronunciation** are one **Source** of **Language Change**, and mean that **Phonological Rules** and **Systems** can **vary** between languages, and can **change** over time. For instance, as we saw earlier, modern English has a **phonemic contrast** between /**f**/ and /**v**/, but in Old English, [**f**] and [**v**] were **allophones** of a **single Phoneme**, /**f**/.

No **Feature System** is perfect; however carefully designed a system is, it will not in itself explain all the **properties** of a **particular language**, which may sometimes reflect **quirks** and **idiosyncrasies** which have arisen during the history of that system. Equally, some **developments** of one **sound** into another are perfectly **Natural** in a particular **context**, but the **Feature System** fails to express this transparently because it is so closely linked to **articulation**: **voiceless sonorants** are rare simply because they are rather difficult to hear, and the best possible features, if they lack an **Acoustic Aspect**, will fail to reflect that fact. Just as we are all speakers and hearers, so **sounds** have both **Articulatory** and **Acoustic Components**: sometimes one of these is relevant in determining **Allophonic Variation**, sometimes the other – and sometimes both. For instance, it is quite common **cross-linguistically** for **labial sounds**, like [**p**] or [**f**], to turn into **velar** ones, like [**k**] or [**x**], and vice versa: in words like *cough*, the <**gh**> originally signaled a **Velar Fricative**, [**x**], which has historically become [**f**]. In **Articulatory** terms, **labials** and **velars** have little in common: indeed, they are produced almost at opposite ends of the vocal tract. We can at least use [–**coronal**] for the composite set of **labials** and **velars**; but this would also, counterfactually, include **glottals**; and in any case, **negative definitions** are of limited usefulness – why should two classes of **consonants** work together because both do *not* involve the front of the **tongue**?.

However, **Acoustic Analysis** reveals a striking similarity in the profile of energy making up **labials** and **velars**, so that the two categories are heard as more similar than we might expect. In addition, the **vowel** in *cough* is pronounced with **rounded lips**; if this **lip-rounding** is carried on just a little too long, so that it affects the following **consonant**, the articulators will also be in a position appropriate for [**f**]. In this case, **Articulatory** and **Acoustic Factors** have worked together to change the [**x**] of earlier English to the [**f**] we find today. Most **Phonological Feature Systems** are based uniquely either on **Articulatory** or on **Acoustic Factors**: either way, we would miss part of the story in a case like this.

However, adopting a **Feature System** of one sort or another is invaluable in formalizing **Phonological Rules**; in sharpening up our thinking when formulating

such **rules**; in seeing **segments** like [**p**] or [**s**] as short-hand for a bundle of **properties**, rather than as mysterious, self-contained **units**; and in trying to explain why certain **sounds** and **groups** of **sounds** behave in the way they do. Despite some **limitations**, the **Feature System** outlined above will therefore be used in the rest of these lectures.

RECOMMENDATIONS FOR READING

- Giegerich **[Giegerich Heinz J. (1992) *English Phonology: An Introduction*, Cambridge: CUP]** provides a clear and detailed overview of **Distinctive Features** of the sort introduced here, with special emphasis on English.

Consideration of features and **Feature Theory**, and the **Mechanics** of rule-writing, is also included in most recent general textbooks on **Phonology**, including

- Carr [**Carr Philip (1993) *Phonology*, London: Macmillan**],
- Durand [**Durand Jacques (1990) *Generative and Non-Linear Phonology*, London: Longman**],
- Katamba [**Katamba Francis (1988), *An Introduction to Phonology*, London: Longman**]
- Spencer [**Spencer Andrew (1996), *Phonology*, Oxford: Blackwell**].
- Lass **[Lass Roger (1984) *Phonology*, Cambridge: CUP]** provides a particularly helpful critique of some elements of Feature Theory, including binarity and the emphasis on Articulation.

The features used here are ultimately derived from

- Chomsky and Halle **[Chomsky Noam Morris Halle (1968) *The Sound Pattern of English*, New York: Harper & Row]**, although this is not an easy book for beginners, and should be approached with caution.

Lecture 5
CRITERIA FOR CONTRAST: the PHONEME SYSTEM

5.1 Minimal pairs and beyond
5.2 Phonetic similarity and defective distributions
5.2.1 Phonetic similarity
5.2.2 Defective distribution
5.3 Free variation
5.4 Neutralisation
5.5 Phonology and morphology
5.6 Rules and constraints
5.7 The phoneme system

5.1 MINIMAL PAIRS AND BEYOND

The main business of the last lecture was the **Construction of Rules** stating **Allophonic Distributions**. These **Rules** in turn were based on the **identification** of **Phonemes**, for which we relied on the two **fundamental tools** of **Predictability of Occurrence** and **Invariance of Meaning**:

- If two sounds occur in non-overlapping, predictable sets of contexts, and if substituting one for the other does not make a **Semantic Difference**, then those two sounds must necessarily be **Allophones** of a **Single Phoneme**.

• On the other hand, if those two sounds can occur in the same environments, producing different words, they belong to **Different Phonemes**. This diagnosis is confirmed by the commutation test, which involves putting different sounds in a particular context, to see if **Minimal Pairs** result. An example for English **consonants** is given in (1).

(1) **Context: /-at/**

pat	**/p/**	sat	**/s/**
bat	**/b/**	gnat	**/n/**
mat	**/m/**	rat	**/r/**
fat	**/f/**	chat	**/tʃ/**
vat	**/v/**	cat	**/k/**
that	**/ð/**	hat	**/h/**
tat	**/t/**	sat	**/s/**

Accidental gaps in the English vocabulary mean that no lexical item **jat*, or **lat*, or **dat* is available. However, **Minimal pairs** can be found in slightly different contexts to establish / **dʒ** /, /**l**/, /**g**/ and so on as **consonant Phonemes** of English: hence, we find *sip zip dip tip lip*, or *cot dot shot jot*. Considering a range of contexts provides evidence for all the **consonant Phonemes** of English, which are plotted on a chart in (2): the **voiceless labial-velar** and **velar fricatives** /**ʍ**/ and /**x**/ appear in brackets because they are found only in some varieties of English.

(2)

	labial	labio-dental	dental	alveolar	post-alveolar	palatal	velar	glottal
plosive	**p b**			**t d**			**k g**	
nasal	**m**			**n**			**ŋ**	
affricate					**tʃ dʒ**			
fricative	**(ʍ)**	**f v**	**θ ð**	**s z**	**ʃ ʒ**		**(x)**	**h**
approximant	**w**			**l r**		**j**		

Minimal pairs and the **Commutation Test** alone will generally suffice to establish the members of a **Phoneme System**: according to Charles Hockett, a mid-20th century American linguist who was very influential in the development of **Phoneme Theory**

'***Minimal pairs*** *are the analyst's delight, and he seeks them whenever there is any hope of finding them*'[**Ch.Hockett**]

However, there are some circumstances where **Phonemes** cannot be established by **Minimal pairs** alone, and we need supplementary criteria for phonemicization, or **Phonological units** above and beyond the **Phoneme**. In the sections below, we turn to these special cases, and also to a consideration of the **Phoneme System** itself, and its **relevance** and **reality** for language users.

5.2 PHONETIC SIMILARITY and DEFECTIVE DISTRIBUTIONS

5.2.1 PHONETIC SIMILARITY

In the vast majority of cases, applying the **Phoneme** tests will provide results in keeping with native speakers' **intuitions** about which **sounds** belong together; very often, as we have seen, **Allophones** of a single **Phoneme** will not in fact be **distinguishable** for a native speaker at all, without a certain amount of **phonetic training**. However, there are some cases where sticking to those tests too rigidly can have quite the **opposite consequence**.

One of the best-known and most obvious examples of this kind in English involves [**h**] and [**ŋ**]. The **Minimal Pairs** in (5.1) show that [**h**] contrasts with a number of English **consonant Phonemes** word-initially; but there is no **Minimal Pair** for [**ŋ**]. Conversely, in word-final position, it is straightforward to find contrasts for [**ŋ**], as in *rang, ran, ram, rat, rack, rag, rap, rash*; but there is no **Equivalent Minimal Pair** for [**h**]. The generalization extractable from this is that [**h**] appears only before a stressed vowel or at the beginning of a **syllable**; see Lecture 9, as in *hat, ahead, apprehensive, vehicular* but not *vehicle*, where <**h**> appears in the spelling, but there is no [**h**], as the **stress** here falls on the first vowel. On the other hand, [**ŋ**] is not **permissible syllable-initially**: it can appear only at the end of a syllable, either alone, as in *rang, hanger*, or before a **velar plosive**, either [**k**] or [**g**], as in *rink, stinker, finger, stronger*.

What this means, in purely **technical terms**, is that [**h**] and [**ŋ**] are in **Complementary distribution**. One appears only **syllable-initially**, where the other never does; and in consequence, there is no **possible Minimal Pair** which will distinguish the two. If we take only predictability of occurrence and invariance of meaning into account, we will be forced into setting up a **Phoneme** which we might symbolize as /**ɧ**/, which is realized as [**h**] in one set of environments, and [**ŋ**] in another.

It is not going to be easy to convince native speakers of English that this is the right solution – not because we have to work on bringing previously subconscious intuitions to the surface, but because those **intuitions** suggest strongly that [**h**] and [**ŋ**] are **entirely separate** and **unrelated**. There is some evidence in favour of that view, too.

- First, although we have seen that the English **Spelling System** is not absolutely and reliably phonemic, different spellings are never consistently used for different **Allophones** of a single **Phoneme**, as would be the case for [**h**] <**h**> and [**ŋ**] <**ng**> / <**nk**>.
- Second, native speakers can easily tell the two **sounds** apart, which would not be true, for instance, of **clear** and **dark variants** of /**l**/, or **aspirated** and **un-aspirated allophones** of /**p**/. Since our core criteria for **Allophone** very generally give the right results, it is probably unwise to mess about with them much; but we can add a further condition on determining **Allophone**, which applies both to the '**normal**' cases and to the situation of [**h**] and [**ŋ**].

In brief, this additional criterion for **Allophony States** that all the **allophones** of a **Phoneme** must be **phonetically similar**. Using distinctive features allows this rather vague notion to be quantified: but there is still no straightforward equation for determining what counts as **Phonetically Similar** and what does not. However, although we cannot draw a dividing line which will be universally applicable, for instance requiring that the **allophones** of a single **Phoneme** must be different by no more than three **features**, we might at least hypothesize that two sounds are highly unlikely to be **allophones** of the same **Phoneme** if the number of **contrasting feature** values is higher than the number of **shared ones**. For [**h**] and [**ŋ**], this produces an unambiguous result: both are **consonants**, but there the similarity ends.

[**h**]	is a voiceless fricative	while	[**ŋ**]	is a voiced stop
[**h**]	is oral	while	[**ŋ**]	is nasal
[**h**]	is glottal	while	[**ŋ**]	is velar
[**h**]	is an obstruent	while	[**ŋ**]	is a sonorant

On almost every parameter which could distinguish the two **consonants**, they are in fact distinct. Rather than setting up a single **Phoneme** with two such bizarrely different realizations, invoking **phonetic similarity** allows us to justify regarding /**h**/ and /**ŋ**/ as **distinct Phonemes**, despite the lack of **Minimal Pairs**.

Phonetic Similarity also helps in cases where a single **Allophone** could **theoretically** be assigned to more than one possible **Phoneme**, a situation commonly encountered when members of a **Natural Class** of **Phonemes** undergo the same **Rule**. For instance, we have seen that in Old English, the **voiceless fricatives** /**f**/ /**θ**/ /**s**/ were **voiced** between **voiced sounds**. It follows that the entire **voiceless fricative Allophones** were in complementary distribution with all the **voiced** ones, since [**v**] [**ð**] [**z**] could appear only between **voiced sounds**, and [**f**] [**θ**] [**s**] could appear only elsewhere. Purely on the grounds of **predictability** of **occurrence** and **invariance** of meaning, there is no guidance on which of these we should assign to which **Phoneme**: in theory we could set up one **Phoneme** with **Allophones** [**f**] and [**z**], a second with [**θ**] and [**v**], and a third with [**s**] and [**ð**], if all that matters is for one **Allophone** to be **voiceless** and the other to be **voiced**. We might also feel that this solution would make Old English speakers turn in their graves: their **intuitions** are highly likely to have favoured grouping the two **labial sounds** together, the two **dentals**, and the two **alveolars**. Again, this **intuitive solution** is supported by a requirement of **Phonetic Similarity**, this time involving the assignment of the two most **similar Allophones**, those sharing a **place of articulation**, to a single **Phoneme** in each case. In Modern English, a precisely similar problem and solution arise with the **Voiceless Stop Phonemes** and their **aspirated** and **un-aspirated Allophones**.

5.2.2 DEFECTIVE DISTRIBUTION

Of course, if /**h**/ and /**ŋ**/ were entirely **normal Phonemes**, we would not have got into the problematic situation of regarding them as potential realizations of the same **Phoneme** in the first place. In the normal case, we would expect some realization of every **Phoneme** in a language to appear in every possible

environment: **initially**, **medially**, and **finally** in the word, and also before and after other **consonants** in **clusters**. There are, however, two types of exception to this **sweeping Generalization**.

First, there are the **Phonotactic Constraints** of a language, which spell out which combinations of sounds are possible. In English, as we saw in the exercises to the last lecture, only rather few **three-consonant clusters** are permissible; and the first **consonant** in the **sequence** must always be /**s**/. **Nasal stops** in English can cluster only with **oral stops** sharing the same place of **articulation** – unless the **oral stop** marks the Past Tense, as in *harmed*; hence *lamp, clamber, plant, land, rink, finger*, but not **lamk*, **lanp*, *[**laŋt**]. Even more specifically, /**v**/ and /**m**/ cannot be the first member of any **initial consonant cluster**, although both can occur **alone initially**, **medially** and finally; and /**h**/ **never clusters** at all – although, again, this was possible in Old English, where there are forms like *hring* 'ring', *hwæl* 'whale'. **Phonotactic statements** of this kind restrict the **length** and composition of possible clusters, on a **language-specific** and **period-specific** basis.

Secondly, some **Phonemes** have **Defective Distributions**: they are not only restricted in the combinations of consonants they can form, but are simply absent from some positions in the word. English /**h**/ and /**ŋ**/ both fall into this category, since the former is available only **syllable-initially**, and the latter only **syllable-finally**. It is because those **Defective Distributions** are mutually exclusive that English [**h**] and [**ŋ**] are in **complementary distribution**.

Phonemes with **Defective Distributions** like this are relatively rare. Sometimes, their defectiveness follows from their historical development: [**ŋ**] is derived historically from a sequence of [**nk**] or [**nɡ**] where the **nasal assimilated** to the **Place of Articulation** of the following **consonant**; and since **initial clusters** of **nasal** plus **stop** are not permissible in earlier English or today, the appropriate context for [**ŋ**] never arose word-initially. Similarly, a chain of sound changes leading to the **weakening** and **loss** of /**h**/ before **consonants** and **word-finally** has left it '**stranded**' only **syllable-initially** before a **vowel**; and there is a parallel story in **non-rhotic varieties** of English, where /**r**/ is **pronounced** before a **vowel**, but not before a **consonant** or a pause, meaning that [**ɹ**] appears in *red, bread, very*, but not in *dark, car*. Often, **defectively distributed Phonemes** are relatively new arrivals. For instance, the newest member of the English **Consonant System** is probably /**ʒ**/, which developed in Middle and Early Modern English from **sequences** of [**zj**] in *measure, treasure*, and from French loans such as *rouge, beige*: the [**zj**] sequence does not appear **word-initially**, and although French does allow [ʒ] here, as in *jamais* 'never', no words with that structure have been borrowed into English, leading to an apparent prohibition on **word-initial** English [ʒ] which is really accidental, and may change in time, as suggested by recent loans like *gîte*.

5.3 FREE VARIATION

The previous section dealt with an exception to the criterion of predictability of occurrence: two sounds which are in **complementary distribution** are normally

assigned to a **single Phoneme**, but where this would conflict with **phonetic similarity** and with native speakers' **intuitions**, it is appropriate to set up two **distinct Phonemes** and seek an alternative explanation for the complementarity, in terms of **Defective Distributions**. In this section, we turn to an exception to the other main criterion for **allophony**, **Invariance of Meaning**.

When one sound is substituted for another and no meaning difference arises, we are dealing with two **Allophones** of the same **Phoneme**. An English speaker who produces a **dark** [ɬ] in initial position may be regarded as having an **unfamiliar accent**, or some sort of **minor speech impediment**, but there is little danger that *light* pronounced with **initial** [ɬ] is going to be mistaken for another word entirely. However, sometimes there is more than one possible **pronunciation** in the same **word** or **context**; this is known as **Free Variation**, and raises two possible **Theoretical problems**.

First, we require complementary **distribution** to assign two sounds to a single **Phoneme**; and yet a speaker of Scottish English, for example, may sometimes produce a **tapped allophone** of /**r**/ in *very*, and on other occasions, an **approximant**. There are no possible minimal pairs for **tapped** [ɾ] versus **approximant** [ɹ], and an **Allophonic Rule** can indeed be written, such that the **tap** appears **inter-vocalically**, as in *very*, and the **approximant word-initially** and **word-finally**. Apparent exceptions are **sociolinguistically motivated**: perhaps the Scot is talking to an English English speaker, who will typically not use the **tap**, and is subconsciously accommodating the speech towards that of the interlocutor; perhaps to try to sound less like a Scot; or perhaps in a very **formal situation**, where more **Standard Pronunciations** are favoured. Clearly, such **Stylistic Variation** is not free in **sociolinguistic terms**, though it is known as **Free Variation Phonologically** because there is no watertight **Phonological** or **Phonetic Context** determining the appearance of one **Allophone** rather than the other. The **variable appearance** of a **glottal stop** of [**t**] medially in *butter*, for instance, would fall into the same category, and the frequency of occurrence of the two variants would be subject to explanation in the same **Sociolinguistic terms**.

The second type of **Free Variation** is the converse of the first, and potentially more problematic. Here, instead of finding two **Allophones** of a single **Phoneme** in the **same context**, violating complementary **distribution**, we see two sounds which on other criteria belong to **different Phonemes**, failing to make the meaning difference we expect. Sometimes the **difference** can be explained in **geographical terms**: for instance, SBE speakers say *tomahto*, and North American speakers typically say *tomayto*, producing the *same lexical item* with consistently **different vowels**. Those two vowels, [**ɑ**] and [**eɪ**] respectively, nonetheless **contrast** for speakers of both **accents**, although as we shall see in more detail in the next 3 lectures, they appear in **different sets of words**: a SBE speaker will have relevant **Minimal Pairs** in *psalm* and *same*, or *grass* and *grace*, while a GA speaker will **contrast** *lot* with *late*, or *odd* with *aid*. The two **different pronunciations** of *tomato* are therefore simply **characteristic** of speakers from **different areas**.

In other cases, the same speaker uses different **Phonemes** in the same word on **different occasions** of utterance. Some speakers consistently **pronounce** *economic* with the [**ɛ**] of ***e****lephant*, and others with the [**i**] of ***ea****t*; but many more produce sometimes one, and sometimes the other. And yet there are plenty of **Minimal Pairs** to establish a **contrast** between /**ɛ**/ in *pet, hell* or *bed*, and /**i**/ in *peat*, *heal* or *bead*, outside that single problematic lexical item.

/**ɛ**/	/**i**/
pet	peat
hell	heal
bed	Bead

The same is true for *either* and *neither*, which some speakers produce with [**i**], others with the [**aɪ**] of *high*, and *still* others with variation between the two. Again, there is no question that /**i**/ and /**aɪ**/ constitute **different Phonemes**, with **Minimal Pairs** including *he* and *high, heed* and *hide*, or *steal* and *stile*.

[**i:**]	[**ai**]
he	high
heed	hide
steal	stile

This is **theoretically problematic**: two sounds which on all other criteria belong to **different Phonemes** are nonetheless found in the same context without making a meaning difference, directly contravening invariance of meaning. However, such examples tend to be few and far between, and involve only single **lexical items**; and again, the explanation is typically **sociolinguistic**. These pronunciations often develop in different **geographical areas**, and then one spreads into the territory of the other. One **variant** may become **stigmatized**, and the other **fashionable**; but this **stylistic variation** can disappear over time, leaving two rather **neutral alternatives**. In such cases, the resulting **variation** can be truly **free**; but as long as the **Phonemes** involved can be identified on the basis of **Minimal Pairs** elsewhere, these can simply be regarded as one-off exceptions. They are parallel to cases where a speaker stores two words, from the same **historical source** but each now appropriate in a **different dialect**, like the Scot who uses *kirk* with fellow Scots, but otherwise *church*; or indeed, to the use of **historically** unrelated **synonyms** like *sofa* and *settee*.

5.4 NEUTRALIZATION

This second type of **Free Variation** can also be seen as constituting the tip of a much larger **theoretical** iceberg. In the

[**i:**]conomic – [**i**]conomic

cases, two otherwise **contrastive sounds** are both possible in a single word. The contrast between two **Phonemes** may also be interrupted more systematically, in a particular **Phonological context**; in this case, rather than the two **Phonemes** being equally possible alternatives, we find some form intermediate between the two.

One example involves the **voiceless** and **voiced** English **plosives**. These seem to contrast in all possible positions in the word: **Minimal pairs** can be found for /**t**/ and /**d**/

- **initially**, as in ***t**ill* versus ***d**ill*;
- **medially**, in *ma**tt**er* versus *ma**dd**er*;
- **finally**, as in *li**t*** versus *li**d***; and in
- **consonant clusters**, as in ***tr**ill*, *fo**nt*** versus ***dr**ill*, *fo**nd***

– and the same is true for the **labial** and **velar plosives**.

However, **no contrast** is possible in an **initial cluster**, after /**s**/: ***sp**ill, **st**ill* and ***sk**ill* are perfectly normal English words, but there is no ****sb**ill, ****sd**ill* or ****sg**ill*. This phenomenon is known as **Neutralization**, because the otherwise robust and regular contrast between two sets of phonemes is **Neutralized**, or **suspended**, in a particular context – in this case, after /**s**/.

In fact, matters are slightly more complicated yet. Although the spelling might suggest that the sounds found after /**s**/ are realizations of the **voiceless stops**, we have already seen that, in one crucial respect, they do not behave as we would expect **voiceless stops** to behave at the **beginning** of a word: that is, they are not **aspirated**. On the other hand, they do not behave like realizations of /**b**/ /**d**/ /**ɡ**/ either, since they are not **voiced**. That is to say, the whatever-it-is that appears after /**s**/ has something in common with both /**p**/ and /**b**/, or /**t**/ and /**d**/, or /**k**/ and /**ɡ**/, being an **oral plosive** of a particular place of articulation. But in another sense, it is neither one nor the other, since it **lacks Aspiration**, which is the **Distinctive phonetic characteristic** of an **initial voiceless stop**, and it also lacks **voicing**, the **main signature** of an **initial voiced** one.

There are two further pieces of evidence, one **practical** and the other **theoretical**, in support of the **in-between status** of the sounds following /**s**/. If a recording is made of ***sp**ill, **st**ill, **sk**ill*, the [**s**] is **erased**, and the remaining portion is played to native speakers of English, they find it difficult to tell whether the words are *pill, till, kill*, or *bill, dill, gill*. Furthermore, we might argue that a /**t**/ is a /**t**/ because it contrasts with /**d**/ – **phonemes** are defined by the other **phonemes** in the system they belong to. To take an analogy, again from written English, children learning to write often have difficulty in placing the **loop** for a <**b**> right at the base of the upstroke, and it sometimes appears a little higher than in adult writing – which is fine, as long as it doesn't migrate so high as to be mistaken for a <**p**>, where the **loop** is meant to appear at the top. What matters is maintaining **distinctness** between the two; and the same is true in speech, where a realization of /**d**/, for instance, can be more or less **voiced** in different circumstances, as long as it does not become confused with realizations of /**t**/. In a case where the two cannot possibly **contrast**, as after /**s**/ in English, /**t**/ cannot be defined as it normally is, precisely because here alone, it does **not contrast** with /**d**/. It follows again that the **voiceless**, **un-aspirated sound** after /**s**/ in *still* cannot be a **normal Allophone** of /**t**/.

Phonologists call the unit found in a position of **Neutralization** an **Archiphoneme**. The **Archiphoneme** is symbolized by a capital letter, and is composed of all the properties which the **neutralized Phonemes** have in common, but not the properties which typically distinguish them, as shown in (3).

(3)

+
+oral
+stop
+alveolar
0 voice

The **Archiphoneme** /**T**/ is proposed where the normal opposition between /**t**/ and /**d**/ is suspended, so neither /**t**/ nor /**d**/ is a possibility. /**T**/ is an intermediate form, sharing the feature values common to /**t**/ and /**d**/, but with no value possible for **voicing**, since there is no **contrast** of **voiced** and **voiceless** in this context. **Neutralization** is therefore the **Defective distribution** of a class of **phonemes**, involving a particular **Phonological context** – rather than a **single word**, as in the *either* or *neither* case.

There are many other cases of **Neutralization** in English, but for the time being, we shall consider only one. In many varieties of English, the **normal contrasts between vowels** break down before /**r**/. To take one example, BrE speakers will tend to maintain a **three-way contrast** of *Mary, merry* and *marry*, whereas many speakers of GA suspend the usual **contrast** of /**eɪ**/, /**ɛ**/ and /**æ**/, as **established by minimal triplets** like *sail, sell* and *Sal* or *pain, pen* and *pan*, in this environment, making *Mary, merry* and *marry* **homophones**. Although the **vowel** found here often **sounds** like [**ɛ**], this cannot be regarded as a normal realization of /**ɛ**/, since /**ɛ**/ is a **Phoneme** which contrasts with /**eɪ**/ and /**æ**/, and that contrast is not possible here. So, we can set up an **Archiphoneme** /**E**/ in just those cases before /**r**/, again signaling that a **contrast** otherwise found in all environments fails to manifest itself here.

5.5 PHONOLOGY and MORPHOLOGY

The **Archiphoneme** is useful in signaling cases where **Oppositions** are suspended, but has two problems.

- First, a representation like /**mEri**/ is 3 ways ambiguous for a General American speaker, since it could be *Mary, merry* or *marr*y: this might in fact be quite appropriate, because the three **sound** the **same** at the **Phonetic level**, but it would be helpful to have a way of **identifying**, somewhere in the **Phonology**, just which is which.
- Secondly, in some cases that look rather like **Neutralization**, the **Archiphoneme** cannot really be invoked.

For instance, the English ***regular plural ending on nouns*** is marked by an <**s**> **spelling**, which means more than one thing **Phonologically**: in *cats, caps, chiefs*, where the final sound of the stem is **voiceless**, the plural suffix is realized as **voiceless** [**s**]; in *dogs, heads, pans, hooves, dolls, eyes*, where the **final sound** of the stem is **voiced**, the plural suffix is also **voiced** [**z**]; and finally, in cases where

the stem ends in a sibilant, namely [**s**] – [**z**]; [ʃ] – [ʒ]; [**t**ʃ] – [**d**ʒ], a vowel is inserted for reasons of ease of articulation, since sequences of two sibilants are not allowed in English, giving *horses, bushes, churches* with [**əz**] or [**ɪz**]. This might, on the face of it, seem to be a purely **Phonetic matter**, involving **Assimilation** of the plural ending to the last segment of the stem; but there is more to it than that. If **voicing Assimilation** were necessary in **final clusters**, forms like *hence, face, loss* would not be possible words of English, since they involve final sequences of a **voiced consonant** or **vowel**, followed by **voiceless** [**s**]. What matters, in the plural cases, is what that **final sound** is doing: the cases where it is a **suffix indicating plural** behave **differently** from those in which it is part of the stem.

Similarly, singular and plural noun forms like

lea**f** – lea**v**es,

hoo**f** – hoo**v**es,

kni**f**e – kni**v**es

might initially appear to represent a case of **Neutralization**, where the usual contrast between /**f**/ and /**v**/ is suspended before /**z**/ – recall that this <**s**> is pronounced voiced. However, whatever is going on here cannot be ascribed straightforwardly to the **Phonetic context**, since there are also cases, as in (4), where either the singular and plural both have **voiceless fricatives**, or both have **voiced** ones.

(4)

chie**f** – chie**f**s	roo**f** – roo**f**s
hi**v**e – hi**v**es	sto**v**e – sto**v**es

Neutralization always involves a **regular suspension** of **contrast** in a particular **Phonetic context**. Here, we are dealing with an **alternation** between two **phonemes**, /**f**/ and /**v**/, in a particular grammatical context. *Leaf* has a **final** /**f**/, and *leaves* a **medial** /**v**/ – there is no intermediate, **Archiphonemic** form here. The determining factor is neither **phonetic** nor **phonological**: it is simply a fact about certain English nouns: **including** *leaf, hoof, knife, life, wife*, but **excluding** *chief, roof, hive, stove* that they have /**f**/ in some forms, notably the singular, and /**v**/ in others, notably the plural.

Such **alternation** between **Phonemes**, depending on **grammatical facts**, is very common. For instance, before certain suffixes, the shape of the **final consonant** of a stem may change: hence /**k**/, /**s**/ and /ʃ/, otherwise three **distinct Phonemes** as in *kin, sin* and *shin*, occur predictably depending whether the stem *electri**c*** stands alone, or has a following suffix. Similar alternations involve *president* and other words derived from that, as shown in (5). English speakers can perfectly well pronounce [**k**] before the sound sequence [**ɪti**], as in *kitty*, or [**t**] before [**i**], as in *pretty* or *Betty*: the fact that these sounds do not appear in *electricity* or *presidency*, where we find [**s**] instead, reflects the function of *-ity* and *-y* as suffixes in those cases.

(5)

electri[**k**]	electri[**s**]ity	electri[ʃ]ian
presiden[**t**]	presiden[**s**]y	presiden[ʃ]ial

5.6 RULES and CONSTRAINTS

Most interactions of **Phonology** with **Morphology**, the part of **Linguistics** which studies how words are made up of **meaningful units**, like **stems** and **suffixes**, are beyond the scope of these lectures, although the overlap between the two areas, commonly known as **Morphophonemics**, has been extremely important in the development of **Phonological Theory** over the last 50 years. Indeed, the difference between phonetically conditioned **Allophony** and **Neutralization**, which involve only the **Phonetics** and **Phonology**, and cases where we also need to invoke **Morphological** issues, is central to one of the most important current debates in **Phonology**.

In the last lecture, **Generalizations** about the **distribution** of **Allophones** were stated in terms of rules, the assumption being that children learn these rules as they learn their native language, and start to see that forms fall into principled categories and behave according to regular patterns. **Rule-based theories** also include **Constraints** –

- **Static**
- **Universal** or
- **language-specific statements**

of possibility in terms of segment shapes or combinations: these include both the redundancy rules discussed in Lecture 4, and **Phonotactic Constraints**.

However, since the mid-1990s, an alternative approach has developed, as part of the **Phonological Theory** called **Optimality Theory**. Phonologists working in **Optimality Theory** do not write rules; they **express** *all* **Phonological Generalizations** using **Constraints**. Instead of saying that a particular underlying or starting form changes into something else in a particular environment, which is what rules do, **Constraints** set out what must happen, or what cannot happen, as in the examples in (6), which express regularities we have already identified for English. (6) **ASPIRATION**: **Voiceless stops are aspirated syllable-initially *s** [**b**] [**d**] [**g**] There are no sequences of [**s**] plus a **voiced stop.**

In most versions of **Optimality Theory**, all the **Constraints** are assumed to be **universal** and **innate**: children are born with the constraints already in place, so all they have to do is work out how **important** each **constraint** is in the structure of the language they are learning, and produce a ranking accordingly. For an English-learning child, the two **constraints** in (6) must be quite important, because it is true that **voiceless** stops *are* aspirated at the beginnings of **syllables**, and there *are* no sequences of [**s**] plus a **voiced stop**; consequently, English speakers will rank these two **Constraints** high. However, for children learning a language *without* **aspiration**, or *with* **clusters** of [**s**] plus **voiced stop**, these **Constraints** will not match the **linguistic facts** they hear; they will therefore be ranked low down in the list, so they have no obvious effect. On the other hand, a child learning German, say, would have to pay special attention to a **constraint** banning **voiced stops** from the ends of words, since this is a position of **Neutralization** in German, permitting only **voiceless stops**; but a child learning English will rank that

constraint very low, as words like *hand, lob, fog* show that this constraint does not affect the **structure** of **English**.

Constraints of this sort seem to work quite well when we are dealing only with **Phonetic** and **Phonological** factors, and may be appropriate alternatives to **Rules** in the clearly conditioned types of **Allophonic Variation** we have considered, and for **Neutralization**. However, they are not quite so helpful when it comes to the interaction of **Morphology** and **Phonology**, where alternations are often not clearly universally motivated, but **involve facts** about the **structure** and **lexical** items of that specific language alone. Analyzing such cases using **Optimality Theory** may require a highly **complex system** of **Constraints**, as we will have to accept that all the possible **Constraints** for anything that could ever happen in any language are already there in every child's brain at birth. These issues are likely to lead to further debate in **Phonology** in future years.

5.7 THE PHONEME SYSTEM

The introduction of features reveals **Phonemes**, not as the **ultimate**, **smallest unit** of the **Phonology**, but as **cover-symbols** for a range of properties. However, it also permits a higher-level perspective, exploring **Natural classes**, and the motivation for similar patterns of behavior in groups of **Phonemes**. These groupings can also be considered at the level of the **Phoneme System** as a whole.

Just as the **Phoneme**, although an abstract unit, seems to have some **Degree of Reality** for native speakers and to shape their **perceptions**, so the **Phoneme System**, at an even higher level of **abstraction**, also reflects speakers' **intuitions** and may shape the development of a language.

For one thing, setting out a **Phoneme System** can be extremely helpful to a phonologist in deciding which **Phonemes** to propose for particular groups of **Allophones**, and in checking that her decisions accord with native speakers' **intuitions**. For instance, some phonologists consider the English **velar nasal** as a **phonemic sequence** of /**ng**/ and /**nk**/, as it certainly was historically, even in cases where no [**g**] or [**k**] now appears **phonetically**: hence, *hang* would be analyzed as /**hang**/, with the **alveolar nasal** having a **velar Allophone** before **velar plosives**, and the **velar plosive** subsequently being deleted after a **velar nasal** at the ends of **syllables**.

However, native speakers find the three **nasals** [**m**], [**n**] and [**ŋ**] easy to distinguish, although they may well not easily perceive cases which are more clearly **Allophones** of /**n**/, such as the **labio-dental nasal** [**ɱ**] in *unfortunate*. Their perception of /**ŋ**/ as separate from /**n**/ may be encouraged by the shape of the **Stop System** in general, where **voiced** and **voiceless plosives** and a distinctive **nasal Stop** go together at the **labial** /**b**/ /**p**/ /**m**/ and **alveolar** /**d**/ /**t**/ /**n**/ places of articulation, with /**g**/ /**k**/ /**ŋ**/ providing a parallel set of **velars**.

Similarly, consider the English **affricates**, [**tʃ**] and [**dʒ**], in *church* and *judge*. These could be **phonemicized** either as single units – albeit single units with 2 phases: recall that **affricates** have a **Stop phase**, followed by a brief **Fricative phase** as the **Stop** is gradually released, or as **clusters** of **consonants**. In deciding which option to adopt, phonologists try to establish how the **Affricates** behave. Do they follow the pattern of **single Phonemes** in English, or do they act like **clusters**? In English, **initial clusters** of a **Plosive** plus a **Fricative** are extremely rare, and tend to be restricted to words obviously borrowed from other languages, like *psittacosis* or *dvandva* – a Sanskrit term for a type of **compound word**. However, the **Affricates** occur quite freely both **initially** and **finally**, where such **clusters** are more common, making them seem less like **clusters**, and more like **single units**. **Phonetically**, **Affricates** are also typically **shorter** than a sequence of **Stop** plus **Fricative**, so that in *why choose*, the **Fricative** component in particular is significantly **shorter** than in *white shoes*. If the **voiceless Affricate** were **aspirated** word-**initially** or **glottally** reinforced word-**finally**, there would be additional good reasons for seeing this as essentially a **Stop**, rather than a sequence.

Phoneme Systems often seem to have the shape they do for essentially **phonetic reasons**. For instance, if there are too many **distinctive sounds** with similar features, they are likely to be misperceived, and may gradually merge historically: there is a general tendency for languages to have a reasonable **margin of safety** between **sounds**, so that words can be kept apart without the sort of effort which is inconsistent with fast, casual speech. Recall the discussion above of **distinguishing** <**p**> and <**b**> in writing, where there is a certain amount of tolerance built into the system concerning the **placement** of the **loop**; this would not be maintained if an intermediate **symbol**, <ط>, was introduced. Similarly, it is possible to keep the **Allophones** of **labial**, alveolar and **velar stops** distinct, because there is a considerable amount of **phonetic space** between them in terms of **articulation**; in English, **palatal allophones** of /**k**/ /**ɡ**/, or **dental allophones** of /**t**/ /**d**/ do not interfere with the realizations of any other stops. The story would be different if English also had contrastive **palatal stop** and **dental stop**.

As well as being determined by the need for reasonable margins of error, so that processes of **Assimilation**, for instance, can take place without encroaching too greatly on the territory of **adjacent Phonemes**, systems also seem to favour symmetry. Thus, English has **pairs** of **contrastive voiced** and **voiceless stops** at the **labial**, **alveolar** and **velar Places of Articulation**. If gaps arise in systems of this kind, they are very commonly filled by change in the language or by borrowing: the Old Irish **stop system** had a /**b**/ but no /**p**/, and /**p**/ was borrowed from Latin. In the case of the English **Fricatives**, when **voiced** /**v**/ /**ð**/ /**z**/ came to **contrast** with pre-existing /**f**/ /**θ**/ /**s**/ in Middle English, there was no **voiced** counterpart for either /**ʃ**/ or /**h**/: however, /**ʒ**/ has subsequently been introduced by simplification of the [**zj**] **cluster** and in loans from French, while /**h**/ is increasingly marginal, appearing only syllable-initially; indeed, in some **accents**, like Cockney,

it is routinely dropped in that position too, and might be said to be absent from the system altogether.

Looking at **Phoneme Systems** may perhaps help phonologists identify **weak spots** in the language which are likely targets for later changes, as well as exemplifying some of the **general principles** native speakers pay attention to when learning and using their language.

RECOMMENDATIONS FOR READING

Difficulties with the **Phoneme**, and issues of **neutralization** and Morphophonemics, are discussed in

- Giegerich [**Giegerich Heinz J. (1992)** ***English Phonology: An Introduction***, **Cambridge: CUP**]
- Carr [**Carr Philip (1993)** ***Phonology***, **London: Macmillan**],
- Durand [**Durand Jacques (1990)** ***Generative and Non-Linear Phonology***, **London: Longman**],
- Katamba [**Katamba Francis (1988)** ***An Introduction to Phonology***, **London**: **Longman**],
- Lass [**Lass Roger (1984)** ***Phonology***, **Cambridge: CUP**].
- Spencer **[Spencer Andrew (1996),** ***Phonology*****, Oxford: Blackwell]**
- Archangeli and Langendoen [**Archangeli Diana, D**. **Terence Langendoen (eds) (1997)** ***Optimality Theory: An Overview***, **Oxford: Blackwell]** is the most accessible general introduction to Optimality Theory;
- Kager [**Kager René (1999)** ***Optimality Theory*****, Cambridge: CUP**] gives a more detailed account.
- Gussenhoven and Jacobs [**Gussenhoven Carlos, Haike Jacobs (1998)** ***Understanding Phonology*****, London: Arnold**] is a recent textbook on **Phonology** written from an **Optimality Theoretic** point of view.

Lecture 6
DESCRIBING VOWELS

6.1 Vowels versus consonants
6.2 The anatomy of a vowel
6.2.1 The front–back dimension
6.2.2 The high–low dimension
6.2.3 Lip position
6.2.4 Length
6.2.5 Monophthongs and diphthongs
6.3 Vowel classification

6.1 VOWELS versus CONSONANTS

Several examples in the last lecture involved **Vowels**: for instance, we found that there is **free variation** for some speakers between [**i**] and [**ɛ**] in *economic*, but that these two vowels nonetheless contrast, as shown by **Minimal Pairs** like

pet – peat
hell – heal

We also saw that the usual contrast of /**eɪ**/, /**ɛ**/ and /**æ**/ is neutralized before /**r**/ for many General American speakers, who pronounce *Mary, merry* and *marry* **homophonously**. It follows that the central ideas of **Phonemic Contrast**, with

Minimal pairs determining the members of the **Phoneme System**, and **Rules** showing **Allophonic Variation** in different contexts, apply equally to **Vowels** and to consonants; **Free Variation**, **Phonetic Similarity** and **Neutralization** affect both **Classes of Sounds** too. A more detailed demonstration of these issues for **Vowels**, and the establishment of **Vowel Phoneme Systems** for different varieties of English, will be the focus of Lectures 7 and 8.

However, when we turn to the **Physical description** of actual **Vowel Sounds**, it is not possible simply to reuse the parameters and features already introduced for **consonants**. Of course, **vowels** and **consonants** are all **Speech sounds**; and in English at least, they are all produced using the same **pulmonic egressive airstream**. In almost all other respects, however, the features which allow us to classify and understand **consonants** are less than helpful in distinguishing between **vowels**.

In Lecture 3, six **articulatory parameters** were introduced: knowing the value for each of these allowed us to describe English **consonants** unambiguously, and would extend to further **consonants** found in other languages. To describe a **consonant** in **Articulatory terms**, we needed to know the **Airstream Mechanism** involved; the **state** of the **glottis**, determining whether the sound is **voiced** or **voiceless**; the **position** of the **velum**, which either allows or stops **airflow** through the **nose**, making the **consonant nasal** or **oral**; the **Manner of Articulation**, namely **Stop**, **Affricate**, **Fricative** or **Approximant**; whether **airflow** is **central** or **lateral**; and finally, the **Place of Articulation**, and consequently the identity and position of the **active** and **passive** articulators.

Unfortunately, almost none of these help us in **classifying vowels**. All **vowels**, universally, are produced on a **Pulmonic Egressive Airstream**, with **central airflow**: there is no contrast between **central** and **lateral vowels**. It is possible, but rare, for vowels to be **voiceless** or **nasal**; in English, however, all **Vowel Phonemes** are **voiced** and **oral**, and **voiceless** and **nasal allophones** appear only in very specific circumstances, as we shall see later. **Vowels** are all **continuants**: that is, airflow through the oral tract is not significantly obstructed during their production, so they are all **approximants** on the **Consonant Manner Classification**: there are no **stop**, **fricative** or **affricate vowels**. Finally, although we shall distinguish between **Vowels** in terms of **Place of Articulation**, the range of options is much more restricted than for **consonants**, where places from **labial** to **glottal** are distinguished in English alone. All **Vowels** are produced in a very limited '**vowel space**' in the **centre** of the **oral tract**, roughly **between palatal** and **velar** in **consonantal** terms; and the **Place of Articulation** will also be much more difficult to ascertain from self-observation, since the tongue never moves close enough to the roof of the mouth in **vowel** production to make its position easy to feel.

It follows that an **adequate Vowel Classification** requires new **features** and **descriptive parameters** which are better designed to capture the ways in which **vowels** *do* vary. This kind of situation, where **two classes** of objects or concepts share some essential unity, but need different descriptors, is not unique to **vowels** and **consonants**. For instance, plants and animals are both categories of living

things; they both populate the world widely, and are mutually necessary in terms of their complementary roles in gas exchange, for instance. They both require the same basic nutrients, operate according to the same chemical principles, and have common structures, including identical cell types. However, there is just as little point in classifying plants according to whether or not they are mammals, or have feathers, or are carnivores or herbivores, as there is in categorizing animals as being evergreen or dropping their leaves, bearing cones or flowers, or producing fruit or not. At that lower classificatory level, it is simply necessary to recognize the divergence of the two categories by using different distinguishing features.

Equally, **vowels** and **consonants** are both speech sounds, and are both necessary for language, since they play complementary roles in structuring syllables and words. Both are formed by modifications of a moving airstream, carried out by the actions of the **vocal folds** and **articulatory organs**. However, below this very general, common level, **consonants** and **vowels** operate as different sets, and to allow us to produce as precise and insightful a classification of each set as possible, they must be described in different terms.

6.2 THE ANATOMY of a VOWEL

A phoneme of a language or dialect is an abstraction of a speech sound or of a group of different sounds which are all perceived to have the same function by speakers of that particular language or dialect. For example, the English word *through* consists of three phonemes: the initial '**th**' sound, the '**r**' sound, and a **vowel sound**. The phonemes in this and many other English words do not always correspond directly to the letters used to spell them – English orthography is not as strongly phonemic as that of many other languages.

The number and distribution of phonemes in English vary from dialect to dialect, and also depend on the interpretation of the individual researcher. The number of consonant phonemes is generally put at 24, or slightly more. The number of vowels is subject to greater variation; there are 20 **Vowel Phonemes** in Received Pronunciation, 14-16 in GA and 20-21 in AuE. The pronunciation keys used in dictionaries generally contain a slightly greater number of symbols than this, to take account of certain sounds used in foreign words and certain noticeable distinctions that may not be – strictly speaking phonemic.

In classifying **Vowels**, we need not indicate **Airstream Mechanism**; since it will always be **pulmonic egressive** and we can generally assume that **Vowels** are all **voiced** and **oral**: **allophonic** exceptions will be discussed in Lecture 7. To describe **Vowels** adequately and accurately, we then need to consider 3 different **parameters**, all of which can be seen as modifications of the **Place of Articulation** or **Manner of Articulation** continua for **consonants**: as we shall see, these are **height**, **frontness** and **rounding**. Additionally, vowels may be **long** or **short** – long ones are marked with a following /**:**/ below, and **Monophthongs** or **Diphthongs**. The examples in the sections below will be from Standard Southern British English – sometimes called **RP**, or Received Pronunciation, and GA, the most widely spoken variety of English in the United States, excluding the southern states, and the eastern seaboard, especially Boston, New England and New York

City. SSBE and GA are generally thought of by English and American speakers respectively as not having any strong regional marking, and both are **varieties** highly likely to be heard in broadcasting, for instance in reading the television or radio news. Further **accents** will be introduced in Lectures 7 and 8.

6.2.1 THE FRONT–BACK DIMENSION

Front Vowels are produced with the **front** of the **tongue** raised towards the **hard palate**, although **not raised enough**, remember, to obstruct the air flow and cause local friction; **vowels** are **Approximants**. The **Vowels** in (1) are **Front**. These could, in principle, equally be described as **palatal**, and this might be helpful in making **Phonological Rules** transparent: recall that in Lecture 4, the **Rule Palatalizing Velar /k/ /ɡ/** before **Front Vowels** in *kitchen, key, give, geese* looked rather perplexing as the relationship between **palatal** and **front** was not obvious. However, calling **Front Vowels** palatal would be misleading, since **frontness** covers a larger area than [**palatal**], as we shall see below; and it contrasts with completely different alternatives, namely **Central** and **Back**, rather than labial, alveolar, dental, velar and so on.

(1) **Front Vowels**

	SSBE	GA
kit	**ɪ**	**ɪ**
dress	**ɛ**	**ɛ**
trap	**a**	**æ**
fleece	**i:**	**i:**
face	**eɪ**	**eɪ**

Conversely, **Back Vowels** have the **back** of the **tongue** raised, towards the soft palate or velum. The **vowels** in (2) are **Back**.

(2) **Back Vowels**

	SSBE	GA
lot	**ɒ**	**ɑ:**
foot	**ʊ**	**ʊ**
palm	**ɑ:**	**ɑ:**
thought	**ɔ:**	**ɔ:**
goat	**əʊ**	**o:**
goose	**u:**	**u:**

There is also a class of **Vowels** between **front** and **back**: these are known as **Central Vowels**, and involve a raising of the body of the tongue towards the area where the **hard** and **soft palate** join. **Central Vowels** are exemplified in (3). The most common of these in English, [**ə**] is known as **Schwa**, and only appears in **unstressed syllables**.

(3) **Central Vowels**

	SSBE	GA
about	**ə**	**ə**

nurse	ɜ:	ɜr
strut	ʌ	ʌ

6.2.2 THE HIGH–LOW DIMENSION

High Vowels have the tongue raised most towards the roof of the mouth; if the raising was significantly greater, then **Friction** would be produced, making a **fricative consonant**, not a vowel. The **High Vowels** from the last section are in

(4) **High Vowels**

	SSBE	GA
kit	ɪ	ɪ
fleece	i:	i:
foot	ʊ	ʊ
goose	u:	u:

Low vowels are those where the **tongue** is not raised at all, but **rather lowered** from its resting position: when we produce a **low vowel**, we will be able to feel our **mouth opening** and our **jaw dropping**, even if it is not very easy to figure out quite what our **tongue** is doing. **Low vowels** are given in (5).

(5) **Low Vowels**

	SSBE	GA
trap	a	æ
lot	ɑ:	ɑ:
palm	ɑ:	ɑ:

Again, there is a further class intermediate between **high** and **low**, namely the **mid-vowels**, shown in (6). These can if necessary be further sub-classified as **high-mid vowels** – like the *face* and *goat* **vowels** or **low-mid vowels** – like the *dress*, *thought*, *strut* **vowels**, depending on whether they are nearer the **high-end** of the scale, or nearer the **low-end**.

(6) **Mid Vowels**

	SSBE	GA
face	eɪ	eɪ
goat	oʊ	o:
dress	ɛ	ɛ
lot	ɒ	
thought	ɔ:	ɔ:
about	ə	ə
nurse	ɜ:	ɜr
strut	ʌ	ʌ

6.2.3 LIP POSITION

In the **high back** [**u:**] **vowel** of *goose*, there is **tongue raising** in the region of the **soft palate**; but in addition, the **lips** are **rounded**. **Vowels** in any of the previous categories may be either **rounded**, where the **lips** are **protruded**

forwards, or **unrounded**, where the **lips** may be either in a **neutral position**, or sometimes **slightly spread** – as for a **high front vowel**, like [**i:**] *fleece*. However, it is overwhelmingly more common **cross-linguistically** for **back vowels** to be **rounded** than for **front** ones, and for **high vowels** to be **rounded** than **low** ones; this is borne out in English, as we can see in (7).

(7) **Rounded Vowels**

	SSBE	**GA**
lot	**ɒ**	
foot ʊʊ	**ʊ**	**ʊ**
thought	**ɔ:**	**ɔ:**
goat	**oʊ**	**o:**
goose	**u:**	**u:**

6.2.4 LENGTH

Using these three dimensions of **frontness**, **height** and **rounding**, we can now define the vowel in *fleece* as **high**, **front** and **unrounded**; that in *goose* as **high**, **back** and **rounded**; and the **unstressed Vowel** of *about*, **schwa**, as **mid**, **central** and **unrounded**. However, our elementary descriptions would class the *kit* **Vowel** as **high**, **front** and **unrounded**, and the *foot* **Vowel** as **high**, **back** and **rounded**; these labels make them indistinguishable from the clearly different **vowels** of *fleece* and *goose* respectively. SSBE and GA speakers very readily perceive the *fleece* and *kit* **vowels**, and the *goose* and *foot* **vowels**, as different; and there are plenty of minimal pairs to support a **Phoneme distinction**, as in

p**ea**t – p**i**t
l**ea**p – l**i**p
L**u**ke – l**oo**k and
f**oo**l – f**u**ll

This **distinction** is usually made in terms of **vowel length**: in SSBE and GA, the **vowels** in (8) are consistently produced as **longer** than those in (9).

(8) **Long Vowels**

	SSBE	**GA**		**SSBE**	**GA**
fleece	**i:**	**i:**	palm	**ɑ:**	**ɑ:**
goose	**u:**	**u:**	lot		**ɑ:**
goat		**o:**	nurse	**ɜ:**	**ɜr**
thought	**ɔ:**	**ɔ:**			

(9) **Short Vowels**

	SSBE	**GA**		**SSBE**	**GA**
kit	**ɪ**	**ɪ**	foot	**ʊ**	**ʊ**
dress	**ɛ**	**ɛ**	about	**ə**	**ə**
trap	**a**	**æ**	strut	**ʌ**	**ʌ**
lot	**ɒ**				

This is not to say, however, that the *only* difference between [**i:**] and [**ɪ**], or [**u:**] and [**ʊ**], is one of **Length**: the **Quantity** difference goes along with a difference in quality. [**i:**] is **higher** and **fronter** than [**ɪ**]; [**u:**] is **higher** and **backer** than [**ʊ**]; and similarly, [**ɑ:**] in *palm* is **lower** and **backer** than the corresponding **short** [**a**] in *trap*. In general, **Long vowels** in English are more peripheral, or articulated in a more extreme and definite way, than their **Short counterparts**. Some phonologists use a feature [**±tense**] rather than **Length** to express this difference, with the **long**, more peripheral **vowels** being [**+tense**], and the **short**, more **centralized** ones being [**–tense**], or **lax**.

[±tense] = Length

[**+tense**] = **long**, more peripheral **vowels**

[– tense] = short, more centralized, lax, vowels

6.2.5 MONOPHTHONGS and DIPHTHONGS

Most of the **vowels** we have considered so far have been monophthongs, in which the **quality** of the **vowel** stays fairly consistent from the beginning of its production to the end. However, there are also several **Diphthongs** in English. **Diphthongs** change in **quality** during their production, and are typically transcribed with one starting point, and a quite different end point; as might be expected from this description, **Diphthongs** are **typically long vowels**. In English, all **Diphthongs** have the first element as longer as and more prominent than the second, and are known as **falling Diphthongs**. Three **Diphthongs** are found very generally in **accents** of English, and are shown in (10).

(10) **Diphthongs (i)**

	SSBE	**GA**
price	**aɪ**	**aɪ**
mouth	**aʊ**	**aʊ**
choice	**ɔɪ**	**ɔɪ**

The **long high-mid front** and **back vowels** in *face* and *goat* are also characteristically **diphthongal** in SSBE and GA, as shown in (11).

(11) **Diphthongs (ii)**

	SSBE	**GA**
face	**eɪ**	**eɪ**
goat	**oʊ**	**o:**

Finally, SSBE has a third set of **Diphthongs**, which are known as the **Centering Diphthongs** as they all have the **mid-central vowel** schwa [**ə**] as the second element. These **Centering Diphthongs** developed historically before /**r**/, which was then lost following vowels in the ancestor of SSBE; they consequently appear mainly where there is an <**r**> in the spelling, although they have now been **generalized** to some other words, like *idea*. GA speakers have a **diphthong** in *idea*, but still **pronounce** the historical [**ɹ**] in *near*, *square*, *force*, *cure* and therefore lack **Centering Diphthongs** in these words.

(12) **Centering Diphthongs**

	SSBE	GA
near	**ɪə**	**ir**
square	**ɛə**	**ɛr**
force	**ə/ɔ:**	**o:r**
cure	**ʊə**	**ʊr**

6.3 VOWEL CLASSIFICATION

The labels outlined in the previous section are helpful, but may leave questions unresolved when used in comparisons between different languages or different **accents** of the same language. Thus, French [**u:**] in *rouge* is very close in **quality** to English [**u:**] in *goose*, but not identical; the French vowel is a little more peripheral, slightly higher and more back. Similarly, [**o:**] in *rose* for a GA speaker is slightly lower and more centralized than 'the same' vowel for a speaker of Scottish English. None of the descriptors introduced so far would allow us to make these **distinctions** clear, since in the **systems of the languages** or **accents** concerned, these pairs of **vowels** would quite appropriately be described as **long**, **high**, **back** and **rounded**, or **long**, **high-mid**, **back** and **rounded** respectively.

Furthermore, a **Classification** of this sort, based essentially on **articulation**, is arguably less appropriate for **vowels** than for **consonants**. In uttering a **vowel**, the important thing is to **produce** a **particular** sort of **auditory impression**, so that someone listening **understands** which **vowel** in the **System** we are aiming at; but it does not especially matter which **Articulatory Strategies** we use to convey that **auditory impression**. If we were asked to produce an [**u:**], but not allowed to round your lips, then with a certain amount of practice we could make at least something very similar; and yet it would not be a rounded vowel in the **Articulatory Sense**, although we would have modified the shape of our **vocal tract** to make it sound like one. This is not possible with most **consonants**, where the auditory impression depends on the particular **articulators used**, and how close they get, not just the overall shape of the **vocal tract** and the effect that has on a passing airstream. It is true that the whole **oral tract** is a continuum, but it is easier to see the places for **consonants** as definite '**stopping off places**' along that continuum, helped by the fact that most **consonants** are **obstruents**, and we can feel what articulators are involved.

One possible solution is to abandon an articulatory approach to **Vowel Classification** altogether, and turn instead to an **Analysis of the Speech** wave itself: but **Acoustic Phonetics** is beyond the scope of this lecture. In any case, it is true that most speakers of particular **accents** or even **languages** will produce certain **vowels** in an **articulatorily similar fashion**. For comparative purposes, what we need is an approach which allows **Vowel Qualities** to be expressed as relative rather than absolute **values**.

We can achieve this **Comparative perspective** by plotting **Vowels** on a diagram rather than simply defining them in **isolation**. The diagram conventionally used for this purpose is known as the **Vowel Quadrilateral**, and is an idealized representation of the **Vowel Space**, roughly between **palatal** and **velar**, where

Vowels can be produced in the **vocal tract**. The left edge corresponds to the **palatal** area, and hence to **front vowels**, and the right edge to the **velar** area, and **back vowels**. The top line extends slightly further than the bottom one because there is physically more space along the roof of the mouth than along the base. Finally, the chart is conventionally divided into 6 sectors, allowing

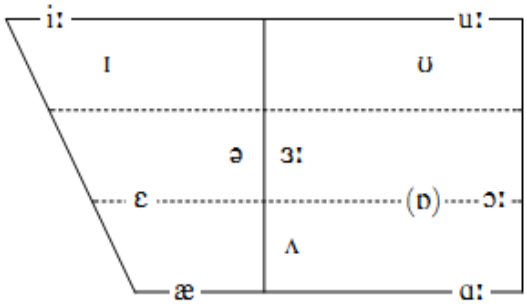
- **high vowel**
- **high-mid vowel**
- **low-mid vowel**
- **low vowel**

to be plotted, as well as

- **front vowel**
- **central vowel**
- **back vowel**

There is no way of reading information on rounding directly from the **Vowel Quadrilateral**, so that **vowels** are typically plotted using an **IPA** symbol rather than a dot; it is essential to learn these **IPA symbols** to see which refer to **rounded vowels**, and which to **unrounded vowels**. The SSBE and **GA monophthongs** discussed in Section 6.2 are plotted in (13); the **monophthongs** of the two **accents** are similar enough to include on a single chart, although the [ɒ] **vowel** is bracketed, since it occurs in SSBE but not in GA, where words like lot have low [**ɑ:**] instead.

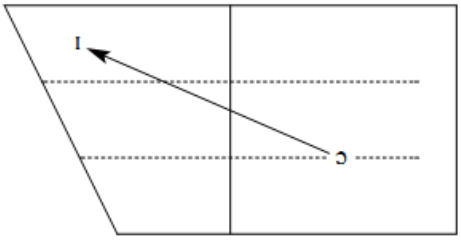
(13) **SSBE and GA monophthongs**



Diphthongs are not really well suited to description in terms of the labels introduced above, since they are essentially trajectories of articulation starting at one point and moving to another; in this respect, they are **parallel** to **affricate consonants**. Saying that [ɔ] in *noise*, for instance, is a **low-mid back rounded vowel** followed by a **high front unrounded vowel** would not distinguish it from a sequence of vowels in different syllables or even different words; but the **diphthong** in *noise* is clearly different from the sequence of independent **vowels** in *law is*. Using the **Vowel quadrilateral**, we can plot the changes in pronunciation involved in the production of a **diphthong** using arrows, as in (14). Plotting several **diphthongs** in this way can lead to a very messy chart, but it is nonetheless helpful in clarifying exactly how a particular **diphthong** is composed, and what its starting and stopping points are; and the notation reminds us that a symbolic

representation like [ɔɪ] is actually short-hand for a gradual articulatory and auditory movement.

(14)

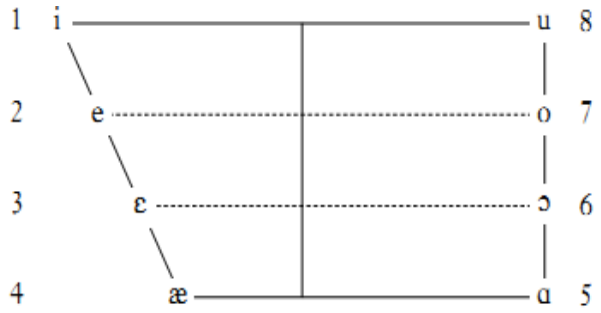


However, plotting **vowels** on the **quadrilateral** is only reliable if the person doing the plotting is quite confident about the **Quality** to hear, and this can be difficult to judge without a good deal of experience, especially if a non-native **accent** or language is being described. To provide a universal frame of reference for such situations, phoneticians often work with an idealized set of vowels known as the **Cardinal Vowels**:

Cardinal Vowel 1	**[i]**	Cardinal Vowel 5	**[ɑ]**
Cardinal Vowel 2	**[e]**	Cardinal Vowel 6	**[ɔ]**
Cardinal Vowel 3	**[ɛ]**	Cardinal Vowel 7	**[o]**
Cardinal Vowel 4	**[æ]**	Cardinal Vowel 8	**[u]**

For our purposes, we need introduce only the **Primary Cardinals**, which are conventionally numbered 1–8. **Cardinal Vowel 1** is produced by raising and fronting the **tongue** as much as possible; any further, and a **palatal fricative** would result. This **vowel** is like a very extreme form of English [**i:**] in *fleece*. Its opposite, in a sense, is **Cardinal Vowel 5**, the lowest, **backest vowel** that can be produced without turning into a **fricative**; this is like a lower, **backer version** of SSBE [**ɑ:**] in *palm*. Between these 2 fixed points, organized equidistantly around the very edges of the **Vowel quadrilateral**, are the other 6 **primary cardinal vowels**, as shown in (15). **Cardinal 8** is like English [**u:**] in *goose*, but again **higher** and **backer**; similarly, **Cardinals 3**, **4** and **6** can be compared with the **vowels** of English *dress, trap* and *thought*, albeit more extreme in **articulation**. Finally, **Cardinals 2** and **7** are, as we shall see in Lectures 7 and 8, like the **monophthongal pronunciations** of a Scottish English speaker in words like *day, go*. The steps between **Cardinals 1–4** and **5–8** should be **articulatorily** and **acoustically equidistant**, and **lip rounding** also increases from **Cardinals** 6, through 7, to 8.

(15) **The Primary Cardinal Vowels**



In truth, the only way of learning the **Cardinal Vowels** properly, and ensuring that they can act as a fixed set of reference points as they were designed to do, is to learn them from someone who already knows the **System**, and do a considerable amount of practice: various tapes and videos are available if you wish to do this. For the moment, what matters is to have an idea of what the **Cardinal Vowels** are, and what the theoretical justification for such a **System** is, in terms of describing the vowels of an unfamiliar language, or giving a principled account of the differences between the **vowels** of English and some other language, or different **accents** of English. We turn to such **differences**, as well as a more detailed outline of English **Vowel Phonemes** and **Allophones**, in the next two lectures.

RECOMMENDATIONS FOR READING

The reading recommended in Lecture 3 is equally suitable for this lecture, although we should concentrate this time on sections relating to vowels rather than consonants. Sound changes, and their contribution to the present-day structure of the language, have been mentioned several times above and in earlier lectures: if it is interesting the language changes, we might consult

- Campbell [**Campbell Lyle (1998)** ***Historical Linguistics***, **EUP**] or
- Trask [**Trask R. L. (1996)** ***Historical Linguistics***, **London: Arnold**].

Lecture 7
VOWEL PHONEMES

7.1 The same but different again
7.2 Establishing vowel contrasts
7.2.1 Minimal pairs
7.2.2 Standard lexical sets
7.3 Vowel features and allophonic rules
7.4 Phonetic similarity and defective distribution
7.5 Free variation, Neutralization and Morphophonemics

7.1 THE SAME BUT DIFFERENT AGAIN

As we saw in the last lecture, most of the features which work well in classifying and describing **consonants** are entirely inappropriate for **vowels**, while **vowels** vary in **dimensions** – such as tongue height, which are not relevant for **consonants**. However, when we turn to the criteria for establishing **Phonemes**, and the exceptions to these reviewed in Lectures 2 and 5, it turns out that **vowels** and **consonants** behave very similarly indeed. The sections below therefore fulfill a dual role of providing more information about **vowels**, while allowing some revision of notions like

- **complementary distribution**
- **allophonic rules**
- **free variation**
- **neutralization and**
- **phonetic similarity**

which were first introduced mainly in connection with **consonants**.

7.2 ESTABLISHING VOWEL CONTRASTS

7.2.1 MINIMAL PAIRS

Minimal pairs and the **Commutation test** are the main tools available to the phonologists in ascertaining **phonemic contrast** among both **consonants** and **vowels**. A **Minimal pair** list for **SSBE – Southern Standard British English vowels** appears in (1).

(1) **Vowel Minimal Pairs**

bit	/**ɪ**/	boat	/**oʊ**/
bet	/**ɛ**/	bought	/**ɔ:**/
bat	/**æ**/	boot	/**u:**/
but	/**ʌ**/	bite	/**aɪ**/
beat	/**i:**/	bout	/**aʊ**/
bait	/**eɪ**/	sherbet	/**ə**/
Bart	/**ɑ:**/	Bert	/**ɜ:**/

The list above provides evidence for almost all phonemically contrastive vowels of SSBE, with a very small number of exceptions. Since **schwa** only appears in **unstressed syllables**, where most of the other **vowels** cannot appear, we must make do with **near-minimal comparisons** in this case, contrasting the **second**, **unstressed syllable** of *sherbet* with the various **stressed syllables** in (1). The **short vowels** /**ʊ**/ and /**ɒ**/, and the **centering diphthongs**, which were listed as **SSBE vowels** in the last lecture, do not appear in the **selected context** /**b-t**/; but the additional data in (2) shows that /**ʊ**/ and /**ɒ**/ on the one hand, and the three **centering diphthongs** on the other, contrast both with one another and with representative members of the list in (1). **Phonemic contrast** is a transitive relationship, meaning that if phoneme [***a***] contrasts with phoneme [***b***], and phoneme [***b***] contrasts with phoneme [***c***], then phonemes [***a***] and [***c***] also contrast: this means that if a contrast can be established between one of the 'left-out' vowels and any vowel in (1), then that vowel can be taken as contrasting with all the vowels in (1).

(2)

pit /**ɪ**/	put /**ʊ**/	pot /**ɒ**/	peat /**i:**/
leer /**ɪə**/	lair /**ɛə**/	lure /**ʊə**/	lore /**ɔ:**/

Sets of **Minimal pairs** like this may work very well for one **accent**, but not for another. Some disparities of this sort were discussed in earlier lectures; for

instance, **Minimal pairs** like *lock* /**k**/ versus *loch* /**x**/, or *witch* /**w**/ versus *which* /**ʍ**/ will be relevant for many Scottish speakers in establishing the **voiceless velar** and **labial-velar fricative phonemes**, but both members of the pairs will have /**k**/ and /**w**/ respectively in many other **accents** of English. Although this was a rather minor issue for **consonants**, it is much more important in discussing **Vowel Phoneme Systems**, since as we shall see in Lecture 8, most **accent variation** in English involves **vowels**.

7.2.2 STANDARD LEXICAL SETS

The oppositions established for SSBE in (1) and (2) cannot, then, be transferred automatically to other accents. For instance, GA has no **Centering diphthong phonemes**; *leer, lair* and *lure* have the /**iː**/, /**eɪ**/ and /**uː**/ vowels of *beat, bait* and *boot*, followed in each case by /**r**/. GA also lacks the /**ɔ**/ vowel of SSBE *pot*; but we cannot assume that all the words with /**ɔ**/ in SSBE have a single, different **phoneme** in GA. On the contrary, some words, like *lot, pot, sock, possible* have GA /**ɑː**/, as also in *palm, father, Bart, far* in both **accents**; but others, including *cloth, cough, cross, long* have GA /**ɔː**/, as also in *thought, sauce, north, war* in both **accents**.

It follows that lists of **Minimal pairs** are suitable when our goal is the establishment of a **Phoneme System** for a **single accent**; but they may not be the best option when different accents are being compared. An alternative is to use a system introduced by John Wells involving '**Standard Lexical Sets**', as shown in (3). The key word for each **Standard Lexical Set** appears conventionally in capital letters, and is shorthand for a whole list of other words sharing the same vowel, although the precise **vowel** they do share may vary from **accent** to **accent**

(3) **Standard Lexical Sets [Wells:1983]**

SSBE	GA	Set number	Keyword	SSBE	GA	Set number	Keyword
ɪ	ɪ	1	KIT	oʊ	oː	14	GOAT
ɛ	ɛ	2	DRESS	uː	uː	15	GOOSE
a	æ	3	TRAP	aɪ	aɪ	16	PRICE
ɒ	ɑː	4	LOT	ɔɪ	ɔɪ	17	CHOICE
ʌ	ʌ	5	STRUT	aʊ	aʊ	18	MOUTH
ʊ	ʊ	6	FOOT	ɪə	ir	19	NEAR
ɑː	æ	7	BATH	ɛə	eɪr	20	SQUARE
ɒ	ɔː	8	CLOTH	ɑː	ɑr	21	START
ɜː	ɜ	9	NORTH	ɔː	ɔr	22	NORTH
iː	iː	10	FLEECE	ɔː	or	23	FORCE
eɪ	eɪ	11	FACE	ʊə	ur	24	CURE
ɑː	ɑː	12	PALM	ɪ	i	25	HAPPY

ɔ:	ɔ:	13	THOUGHT	ə	ər	26	LETTER
oʊ	o:	14	GOAT	ə	ə	27	COMMA

These **Lexical Sets** allow comparison between **accents** to be made much more straightforwardly: we can now ask which **vowel** speakers of a particular **accent** have in the **KIT** set, or whether they have the same vowel in **NORTH** and **FORCE**, as SSBE does or two **different vowels**, as GA does. We could add that many speakers of Northern English will have /**ʊ**/ in **STRUT** as well as **FOOT**, and /**a**/ in **BATH** as well as **TRAP**, pinpointing two of the differences most commonly noted between **north** and **south**. The point of the **Standard Lexical Sets** is not to show that oppositions exist in all these contexts: in fact, there may be no **accent** of English which contrasts 27 **Phonemically Different Vowels** in the 27 **Lexical Sets**, or even 24, for the **stressed vowels**. Instead, the **aim** is to allow differences between **accents**, and sometimes between speakers of the **same accent**, perhaps in different generations, to be pinpointed and discussed.

More detail on accent variation will be given in the next lecture. For the moment, to illustrate the usefulness of the **Standard Lexical Sets**, the **vowels** of two further **accents** are given in (4). **Standard Scottish English** or **SSE** is the **Scottish equivalent** of **SSBE**: a relatively un-localized, socially prestigious **accent**. Many middle-class Scots have **SSE** as a **native variety**; many others use it in **formal situations**, and it is widely heard in the media, in education and in the Scottish Parliament. It is to be contrasted with Scots, sometimes called '**broad Scots**', a divergent range of **Non-standard Scottish dialects** which differ from **English Standard English** not only in **Phonetics** and **Phonology**, but also in **Vocabulary** and **Grammar**. The final example is NZE, a relatively recent variety which shares some characteristics with the other extraterritorial Englishes spoken in Australia and South Africa, but also has some **Distinctive Characteristics** of its own, notably the fact that schwa appears in stressed position, in the **KIT lexical set**.

(4)

SSE	NZE	Set number	Keyword	SSE	NZE	Set number	Keyword
ɪ	ə	1	KIT	o	əu	14	GOAT
ɛ	e	2	DRESS	u	ɨ□:	15	GOOSE
a	ɛ	3	TRAP	ʌɪ	aɪ	16	PRICE
ɒ	ɒ	4	LOT	ɔɪ	ɔɪ	17	CHOICE
ʌ	ʌ	5	STRUT	ʌʊ	aʊ	18	MOUTH
u	ʊ	6	FOOT	ir	iə	19	NEAR
a	a:	7	BATH	er	eə	20	SQUARE
ɒ	ɒ	8	CLOTH	ar	a:	21	START
ʌr	ɜ:	9	NURCE	ɒr	ɔ:	22	NORTH
i	ɪi	10	FLEECE	or	ɔ:	23	FORCE

e	**ɛɪ**	**11**	**FACE**	**ur**	**uə**	**24**	**CURE**
a	**a:**	**12**	**PALM**	**i**	**i**	**25**	**HAPPY**
ɒ	**ɔ:**	**13**	**THOUGHT**	**ər**	**ə**	**26**	**LETTER**
o	**əu**	**14**	**GOAT**	**ʌ**	**ə**	**27**	**COMMA**

A number of **differences** between these **accents**, and between each of them and SSBE or GA, can be read off these lists. For instance, SSE does not contrast the **TRAP** and **PALM** vowels, so that *Sam* and *psalm*, which are **Minimal Pairs** for all the other **varieties** considered so far, are **homophonous** for Scottish speakers, both having **short low front** /**a**/. In NZE, *Sam* and *psalm* do form a **Minimal Pair**, but not with **low short front** /**a**/ or /**æ**/ versus **low long back** /**ɑ:**/: instead, in NZE we find **mid short front** /**ɛ**/ as opposed to **low long back front** /**a:**/. Both the **TRAP** and **DRESS vowels** in NZE are **higher** than those of SSBE or GA, while the **long vowels** of **FLEECE**, **FACE**, **GOAT** and **GOOSE** are very characteristically **diphthongs**.

Recall, however, that **Phonemes** are **abstract units**, and thus could potentially be symbolized using any **IPA**, or indeed any other character. The **symbols** chosen for particular **Phonemes** in the lists above are not the only possibilities; they reflect a choice made by a particular phonologist. It is elected to use a **symbol** for each **Phoneme**, in each **Accent**, which corresponds to one of the main **Allophones** of that **Phoneme**: that is, in many cases speakers of the **accent** in question will actually **pronounce** the **symbol** given in the list, with its **normal IPA value**. Thus, NZE speakers will often say [**ɛ**] in *trap*, and [**e**] in *dress*, and will typically have a **diphthongal** pronunciation of *fleece, goose, goat* and *face*. However, for some phonologists the **symbols** used in (4) would not be the most obvious choices. This highlights a decision phonologists must make in establishing a **Phoneme System**. On the one hand, we may wish our **Phonemes** to be fairly concrete, reflecting quite closely what speakers actually do in at least some of their everyday pronunciations; this is the choice made here. It follows that there will be significant **symbol differences** between the **Vowel Systems** of different **accents**. On the other hand, some phonologists feel it is more important to reflect the fact that English is a single language, and believe that speakers must have **common mental representations** to allow them to understand one another, even if they **speak** rather **different accents**. In that case, **Common Phoneme Symbols** might be chosen. For instance, instead of using /**ii**/ for **FLEECE** in NZE, we would select /**i:**/, stressing that this is the same **Phoneme** as in SSBE or GA, although there would then have to be an **Allophonic Rule** to say that this **Phoneme** is very typically **diphthongized** for most New Zealanders.

The second solution has the advantage that it stresses the common features speakers of English might share, at least in terms of **mental representations**, although they may sound very different in actual conversation. It therefore maintains a **strong difference** between **Abstract Phonology**, and **Concrete Phonetics**: the /**a**/ **Phoneme** in **TRAP** would be low [**a**] for SSBE, but low mid [**ɛ**] for NZE, while the /**ɛ**/ **Phoneme** of **DRESS** would be high mid [**e**] for NZE, and low mid [**ɛ**] in all the other accents we have examined, meaning that **Phonemes**

potentially have very different realizations, and the same realization can belong to different **Phonemes** in different **Accents**. At this point, we do not know enough about how speakers store and process their language mentally to prove which is the most appropriate solution; but it is worth asking how speakers would learn a very abstract system, which does not reflect the **phonetic qualities** they hear around them during **language acquisition**.

If a New Zealander pronounces the **FLEECE vowel** as a **diphthong**, and hears NZE or Australian English, which also tends to have a **diphthong** here, much more often than British or American **accents**, why would such a speaker assume this **Vowel Phoneme** should be stored as anything other than a **diphthong**?

And why should the '**right**' **value** for the **Phoneme** corresponds to what is **pronounced** in BrE or AmE, rather than in New Zealand or Australia?

The decision between representations which are close to **Phonetic Reality**, but with considerable **Accent Variation** and potentially rather **messy systems**, or rather **Abstract Phonemes**, with streamlined and economical **systems** unifying the speakers of **different varieties**, must be confronted whenever we move away from **Surface Phonetics** and into **Phonology**. In this part, we will continue to use **Phoneme Symbols** which correspond to major **Allophones** of those **Phonemes** in the **Accent** concerned; but other, more abstract alternatives can be found in the recommended further reading.

7.3 VOWEL FEATURES and ALLOPHONIC RULES

Once **phonemic contrasts** have been established for the **accent** in question, and the appropriate representation for each **Phoneme** has been selected, the realizations of those **Phonemes** must be determined and rules written to describe **Allophonic Variation**. Again, features and rule notation can be used to formalize these statements. We saw in Lecture 4 that Vowels are:

[+syllabic], [–**consonantal**], **[+sonorant]**, **[+voice]**, **[–nasal]**

To distinguish English **Vowels** appropriately, we also require the **features:**

[±high], **[±mid]** for the dimension of **tongue height**;

[±front] **[±back]** for **Place** of **Articulation**; and **[±round]**

These give the **illustrative Matrix** in (5).

(5)

	[high]	**[mid]**	**[front]**	**[back]**	**[round]**
[**i**]	+	--	+	--	--
[**e**]	+	+	+	--	--
[**ɛ**]	--	+	+	--	--
[**a**]	--	--	+	--	--
[**u**]	+	--	--	+	+
[**o**]	+	+	--	+	+
[**ɔ**]	--	+	--	+	+
[**ɑ**]	--	--	--	+	--
[**ə**]	--	+	--	--	--

These features can distinguish

- **4 Contrastive Degrees of Vowel Height**, and
- **3 Degrees of Frontness**

which allows all **varieties** of English to be **described**. However, /**i:**/ and /**ɪ**/, and /**u:**/ and /**ʊ**/, will be **identical** in this **Matrix**. In SSBE and GA, the former in each pair is typically **long**, and the latter **short**; and **long vowels** are also **articulated** more **extremely**, or more **peripherally** than corresponding **short** ones:

- the **long high front vowel** is higher and fronter than the **short high front vowel**, while
- the **long high back vowel** is higher and backer than its short counterpart.

The question is whether we regard this as primarily a **quality** or a **quantity difference**. If we take **Quality** as **primary**, we can regard /**i**/, /**u**/, /**ɑ**/, /**ɔ**/ as [+**tense**], or more peripheral, and simply write a redundancy rule to say that all **tense vowels** are **Phonetically Long**. On the other hand, we could do the **opposite**, and take **length** as the **Important Factor**, so these **vowels** are **long** /**i:**/, /**u:**/, /**ɑ:**/ and /**ɔ:**/, and redundantly also more peripheral.

For most **accents** of English, we could choose either **solution**, although most phonologists would select either **length** or **tenseness** as relevant at the **Phoneme level**, with the other simply following automatically, to minimize redundancy in the **system**. However, in SSE and Scots **dialects**, it matters which we choose. This is because vowels in Scottish **accents**, and some related Northern Irish accents, are **unique** among **varieties** of English in one respect: we can predict where **vowels** are **Phonetically Long**, and where they are **Phonetically Short**. **Vowels** become **long** before /**r**/ /**v**/ /**ð**/ /**z**/ /**ʒ**/ and at the **end** of a **word**, but they are **short** everywhere else, as shown in (6).

(6) **The Scottish Vowel Length Rule**

/**i**/	[**i**]	beat	wreath	leaf	bean
	[**i:**]	beer	wreathe	leave	agree
/**o**/	[**o**]	boat	close (adj)	foal	ode
	[**o:**]	bow	close (v)	four	owe

/**i**/, /**ɛ**/ and /**ʌ**/, which are **short** and **lax** in other **accents**, do not lengthen in any circumstances. In SSE and Scots, then, we can define the two classes of **Phonemic Vowels** as **lax** – the three which never lengthen, and **tense** – the others, which are sometimes **long** and sometimes **short**, in predictably different environments. It is possible to predict **length** from [±**tense**], but not the other way around. The **Allophonic Rule** involved will then state that **Tense Vowels** lengthen before /**r**/, before a **voiced fricative**, or before a **word boundary**, that is, in **word-final position**, to account for the data in (6).

Other **Allophonic Rules** are more **general**. For instance, in all varieties of English, **Vowels** become **nasalized** immediately before **nasal consonants**; the **velum lowers** in anticipation of the forthcoming **nasal**, and allows air to flow through the **nasal** as well as the oral cavity during the production of the **vowel**. If we produce *cat* and *can*, then regardless of whether our **vowel** is **front** or **back**, there will be a **slight difference** in **quality** due to **nasalization** in the second case;

we may hear this as a **slight lowering** of the **pitch**. This **Rule** is shown in (7); note that the **symbol V** here means 'any vowel'.

(7)

V	→	**[+nasal]**	/	-------	**[+nasal]**

Just as for **consonants**, then, some **Allophonic Rules** specifying the realizations of **Vowel Phonemes** are found very generally in English and may in fact, as in the case of the **nasalization** process in (7), reflect **Universal Phonetic Tendencies**; others, like the **Scottish Vowel Length Rule**, are peculiar to certain **accents**.

7.4 PHONETIC SIMILARITY and DEFECTIVE DISTRIBUTION

Just as we saw for **consonants** in Lecture 5, **Phonetic Similarity** can help us decide which **vowel allophones** to assign to which **phonemes**, and **Defective Distributions** hinder our decision-making. For instance, **schwa** in **accents** other than NZE is confined to **unstressed positions**, and therefore does not strictly speaking contrast with most other **vowels**. Its **Defective Distribution** means it could be regarded as the **unstressed allophone** of almost any other **Vowel Phoneme**. So, **schwa** appears in the **Unstressed Syllables** of *about, father, fathom, sherbet, pompous*; but which **Vowel Phoneme** is involved in each case? Since speakers do not tend to produce **vowels** other than **schwa** in any of these forms, even when speaking rather carefully, it is difficult to say. We could say that there is wholesale **Neutralization** of **Vowel Phonemes** in **unstressed syllables**; alternatively, because speakers of English can hear the **difference** between **schwa** and other **vowels** quite reliably, and seem to regard **schwa** as a **distinct vowel**, the best solution might be to accept that **schwa** is a **Phoneme** of English in its own right, albeit with a **defective distribution**.

Again as with **consonants**, **Defective Distributions** often result from **language change**. For instance, spelling evidence from Old English indicates that a much wider range of **vowels** was probably found in **unstressed syllables** at that period; these have gradually merged into **schwa** during the history of English. Similarly, the **Centering Diphthongs** of SSBE are generally found where there is an <**r**> in the **spelling**, and where other **accents**, like SSE and GA, have combinations of a **vowel** found elsewhere in the **system**, plus [ɹ]. Historically, all **varieties** of English followed the SSE or GA pattern; but **accents** like SSBE lost [ɹ] in certain **contexts**, with a related **change** in the realization of **vowels** producing the **Centering Diphthongs**.

As for **Phonetic Similarity**, it will again help to resolve situations where one **Allophone** could potentially **belong** to more than one phoneme, although phonologists and native speakers, apply this criterion so automatically as to scarcely justify making it an **explicit step** in **Phonemic Analysis**. In the case of vowel **nasalization** before **nasals**, for instance, there is a situation of complementary **distribution** between

• ALL **nasalized allophones** on the one hand, since these can appear only adjacent to a **nasal consonant**, and

• ALL **oral allophones** on the other hand. It is **theoretically possible** that [**u:**] and [**ĩ:**], or [**ɛ**] and [**ũ**], might be assigned to the **same Phoneme**, if we took only **Complementary Distribution** into account.

However, since the members of these **Vowel Pairs** differ from one another with respect to more features than simply [**nasal**], notably in terms of **frontness**; and since there are **alternative pairings** available, namely [**i:**] and [**ĩ:**], or [**ʊ**] and [**ũ**], where **nasalization** is the only **difference** at issue, these minimally different, more **phonetically similar pairings** will be used in establishing which two realizations belong to each **Phoneme**.

7.5 FREE VARIATION, NEUTRALIZATION and MORPHOPHONEMICS

Some examples involving **Free Variation** between **Vowel Phonemes** were reviewed in Lecture 5: for instance, *economic* can be pronounced, for the same speaker, with the **DRESS vowel** on some occasions and the **FLEECE vowel** on others, and although this conflicts with the requirement that different **Phonemes** should not be substitutable without causing a change in meaning to be conveyed, such a marginal case involving only a single lexical item should not in fact compromise the **distinction** between /**ɛ**/ and /**i:**/, given the significant number of **Minimal Pairs** establishing their contrast.

Free Variation also occurs between **Allophones** of a single **Phoneme**. This again correlates with **sociolinguistic** conditioning rather than **linguistic** conditioning. For instance, in NZE some speakers produce /**ɜ:**/, the **NURSE vowel**, with **lip-rounding**, more significantly so in informal circumstances. Similarly, New Yorkers may produce the **FLEECE vowel** and **GOOSE vowel** as **Monophthongs** in formal situations, but prefer **Diphthongs** in **casual speech**; and the **Quality** of the **Diphthongs** varies too, with [**ɪi**], [**ʊu**] being more common for **middle-class speakers**, but more **central first elements**, and hence a greater distance between the two parts of the **Diphthongs**, for **working-class speakers**. Some cases of **Free Variation** reflect language change in progress: so, in SSBE older speakers may still produce **Centering Diphthongs** in **CURE** and **SQUARE** words, while younger ones almost invariably **smooth** these **Diphthongs** out and produce **Monopthongal** [**ɔ:**], [**ɛ:**]. Younger speakers might use the pronunciations more typical of the older generation when they are talking to older relatives, or in formal circumstances.

Cases of **Neutralization** tend not to be subject to **sociolinguistic influence** in this way, but rather reflect a tendency for certain otherwise contrastive sets or pairs of **vowels** to fall together with a single realization in a particular **Phonological Context**. In the last lecture, we saw that the **DRESS vowel**, **TRAP vowel** and **SQUARE vowel** are **Neutralized** for many GA speakers before /**r**/, so that *merry, marry* and *Mary* become **homophonous**: in this **context**, rather than the usual /**ɛ**/,

/**æ**/, /**eɪ**/ **Opposition**, we might propose **archiphonemic** /**E**/, realized as [**ɛ**]. **Neutralizations** of this sort are extremely common for English **vowels**. To take just 2 further examples, speakers from the southern states of the USA have a **Neutralization** of the **KIT vowel** and **DRESS vowel** before /**n**/, so that *pin* and *pen* are **homophonous**; and for many speakers of SSE and Scots, the **opposition** between the **KIT vowel** and **STRUT vowel** is suspended before /**r**/, so that *fir* and *fur* are both **pronounced** with [**ʌ**].

However, whereas suspension of **contrast** takes place in a particular **Phonological Context**, and will affect all lexical items with that **context**, in other cases we are dealing with an **interaction** of **Morphology** and **Phonology**; here, we cannot invoke **Neutralization**. For instance, the discussion of the **Scottish Vowel Length Rule** above does not quite tell the full story, since we also find **alternations** of **long** and short **vowels** in the cases in (8).

(8)

Short	**Long**
greed	*agreed*
brood	*brewed*
bonus	*slowness*
typing	*tie-pin*

From the **Scottish Vowel Length Rule** examples considered earlier, we concluded that **vowel length** is not contrastive in SSE and Scots, since it was possible to predict that **long vowels** appear before certain **consonants** or at the **end of a word**, while **short** ones appear **elsewhere**. However, the data in (8) appear, on purely **Phonological Grounds**, to constitute **Minimal Pairs** for **short** and **long vowels**. In fact, what seems to matter is the **Structure of the Words** concerned. The **vowels** in the '**Long**' column of (8) are in a sense **word-final**; they precede the **inflectional ending** [**d**] marking Past Tense; or the suffix /***-ness***/; or appear at the end of the first element of a compound, which is a word in its own right, as in *tie*. This is not true for the '**Short**' **column**, where the words are not separable in this way. The **Scottish Vowel Length Rule** must therefore be **rewritten** to take account of the **Morphological Structure** of words: it operates before /**r**/ and **Voiced Fricatives**, at the end of a word, and also at the **end of a Morpheme**, or meaningful unit within the word; in the cases in (8), the **affected Vowel** is at the end of a stem. In other cases, **different Vowel Phonemes** alternate with one another before particular suffixes, as we found for **consonants** in Lecture 5 where the final [**k**] of *electric* became [**s**] or [**ʃ**] before certain suffixes, as in *electricity* and *electrician*. One of the best-known cases in English, and one which affects all varieties, involves pairs of words like those in (9).

(9)

divine – divinity	line – linear	/**aɪ**/ – /**ɪ**/
serene – serenity	supreme – supremacy	/**i:**/ – /**ɛ**/
sane – sanity	explain – explanatory	/**eɪ**/ – /**æ**/

These **Vowel Shift Alternations** – so-called because the patterns reflect the operation of a sound change called the **Great Vowel Shift** several hundred years ago – the **Great Vowel Shift** was a massive **sound change** affecting the **long**

vowels of English during the 15th to 18th centuries. The **long vowels** were either **narrowed** or **diphthongized.**

So **Vowel Shift Alternations** involve pairs of **Phonemes** which very clearly contrast in English – the members of the **PRICE** and **KIT, FLEECE** and **DRESS**, and **FACE** and **TRAP** pairs of **Standard Lexical Sets**. **Minimal Pairs** are common for all of these; let us take

type and *tip*,
peat and *pet*,
lake and *lack*,

for instance. However, the presence of each member of these pairs can be predicted in certain contexts only; and native speakers tend to regard the pairs involved, such as divine and divinity as related **forms of the same word**. This is **not Neutralization**, because the context involved is **not** specifically **Phonetic** or **Phonological**: it is **Morphological**. That is, what matters is not the **length** of the **word**, or the **segment** following the **vowel** in question, but the **presence** or **absence** of one of a **particular set of suffixes**. In **un-derived forms**, that is, those with no suffix at all, we find the **tense vowel** or **long vowel**, here /**aɪ**/, /**i:**/ or /**eɪ**/; but in **derived forms**, with a suffix like /-*ity*/, /-*ar*/, /-*acy*/, /-*ation*/, a corresponding **lax vowel** or **short vowel** /**ɪ**/, /**ɛ**/ or /**æ**/ appears instead. This alternation is a property of the lexical item concerned; **vowel changes** typically appear when certain suffixes are added, but there are exceptions like *obese*, with /**i:**/ in the **un-derived** stem, and the **same vowel**, rather than the /**ɛ**/ we might predict, in *obesity*, regardless of the presence of the suffix /-*ity*/. Opting out in this way does not seem to be a possibility in cases of **Neutralization**, but is quite common in cases of **Morphophonemics**, or the interaction between **Phonology** and **Morphology**.

To put it another way, not all **alternations** involving **Morphology** are completely productive. Some are: this means that every single relevant word of English *obeys* the regularity involved; so, all those nouns which form their plural using a /-*s*/ suffix will have this pronounced as [**s**] after a **voiceless final sound** in the stem, [**z**] after a **voiced** one, and [**ɪz**] after a **sibilant**; not only this, but any new nouns which are borrowed into English from other languages, or just made up, will also follow this pattern. Others are fairly regular, but not entirely so: this goes for the **Vowel Shift** cases above. And yet others are not regular at all, but are simply **properties of individual lexical items** which children or second-language learners have to learn as such. The fact that *teach* has the Past Tense *taught* is an **Idiosyncrasy** of modern English which has to be mastered; but although knowing this relationship will help a learner of English to use *teach* and *taught* appropriately, it will not help when it comes to learning other verbs, because *preach* does not have the Past Tense **praught*, and *caught* does not have the Present Tense **ceach*. Knowing where we should draw the line between extremely **regular cases** which clearly involve **exceptionalness** rules or **Generalizations**, fairly regular ones which may be stated as **Rules** with exceptions, and one-off or several-off cases where there is **no Rule** at all but a good deal of **Rote-learning**, is one of the major challenges of **Morphophonology**. The only comfort is that native speakers, at least during **acquisition** and sometimes later too, find it just as much

of a challenge, as amply demonstrated by **Overgeneralizations** like Past Tense *swang* from *swing* – on the pattern of *swim – swam* or Past Tense [**trɛt**] from *treat* – on the pattern of *meet – met*.

RECOMMENDATIONS FOR READING

The **General Phonology** textbooks recommended for Lecture 5 are also relevant here. The **Standard Lexical Set** approach is set out in detail in

- Wells [**Wells J. C. (1983)** ***Accents of English*** **(3 vols), Cambridge: CUP**], which also provides a wealth of information on Varieties of English.

More detail on the linguistic situation in Scotland and the Varieties Spoken there can be found in

- Jones [**Jones Charles ed**. **(1997)** ***The Edinburgh History of the Scots Language*****, Edinburgh**: **EUP**]

Lecture 8
VARIATION BETWEEN ACCENTS

8.1 The importance of accent
8.2 Systemic differences
8.3 Realization differences
8.4 Distributional differences

8.1 THE IMPORTANCE OF ACCENT

Every speaker of English has a **particular System** of his or her own, known by linguists as that individual's **Idiolect**. However, considering language only at the **Idiolectal Level** might produce extremely thorough and detailed descriptions, but would give rather little insight into why individuals speak in the way they do. To understand this, we must identify higher-level groupings, and investigate **geographical accent** and **social accent**. That is to say, individuals adopt a particular **Mode of speech** or more accurately, move along a continuum of **Modes of speech** depending on

- who they want to identify with,
- who they are talking to, and
- what impression they want to make

Not all these 'decisions' are conscious, of course. Small children learn to speak as their immediate family members do; but quite soon, the peer group at school, even nursery, becomes at least equally important; and later, older children, then television presenters, actors or sporting heroes may become **role models**, leading to modifications in **accent**. Consequently, **age-related differences** appear in all **varieties**; some will be transient, as a particular TV show falls out of fashion and the words or pronunciations borrowed from it disappear; others will become entrenched in young people's language, and may persist into adulthood, becoming entirely **standard forms** for the next generation.

This **flexibility**, and the associated facts of **variation** and gradual change, means that phonologists face a Catch-22 situation. On the one hand, **describing idiolects** will give seriously limited information, since it will not reveal the groups an individual belongs to, or the dynamics of those groups. On the other hand, we must take care that the groups are not described at too abstract a level. Any

description of '**an accent**' is necessarily an idealization, since no two speakers will use precisely the **same system** in precisely the same way: our physical idiosyncrasies, different backgrounds, and different preferences and **Aspirations** will see to that. Nonetheless, two speakers of, say, Scottish Standard English, or NZE, will have a **common core of features**, which allows them to be grouped together by speakers of the same **Accent**, by speakers of other **accents**, and by phonologists. Not everyone is equally adept at making these **identifications**, of course. Speakers of other **varieties** may succeed in **placing accents** only within a very wide geographical boundary: thus, a speaker of GA may have **difficulty** in distinguishing a Scottish from an Irish speaker; while conversely, a Scot may **confuse** Americans and Canadians. Within groups, however, much more subtle **distinctions** are perceived and have **geographical or social meaning**: hence, one speaker of SSE may **identify** another as coming from Glasgow rather than Edinburgh, and perhaps even from a particular area of the city; and may well base assumptions to do with social class and level of education on those **linguistic factors**.

Accent is clearly extremely important, as one of the major tools we use in drawing inferences about our fellow humans, and in projecting particular images of ourselves. Phonologists should, then, be able to do as speakers do, in **identifying** and classifying **accents**, but with a more **technical** rather than emotional **classification** of the **differences** and **similarities** between them. An **Accent**, in **phonological terms**, is an **Idealized System** which speakers of that **variety share**. Although slight differences in its use may be apparent, both across and within individuals, its speakers will still share more in common with one another, and with that **Idealized accent system**, than with speakers of any other **Idealized accent system**.

Standard Accents should also be described in just the same way as **non-standard** ones, as they provide just the same sort of **social** and **geographical information** about their users: that is, although it is quite common for speakers of a **Standard Accent**, such as SSBE in the south of England, to claim that they have **no accent**, other speakers and phonologists know **different**.

A more detailed appreciation of the cues speakers attend to in **different accents**, and the **social judgments** they make on that basis, is a matter for **Sociolinguistics** and **Dialectology** rather than **Phonology**. The main contribution a phonologist can make is to produce a **classification** of **Types of Differences** between **Accents**, which can then be used in **distinguishing** any set of **systems**; and that is the goal of this lecture. In the next 3 sections, then, we shall introduce a three-way **Classification** of **Accent Differences**, and illustrate these using examples involving both **consonants** and **vowels**.

- First, the Systems of two Accents may contain different numbers of phonemes, so Different Phonemic Oppositions can be established for them: these are Systemic Differences.
- Second, the same Phonemes may have different Allophones: these are Realization Differences.

• Finally, there are **Distributional Differences**, whereby the same lexical item may have **different Phonemes** in two **different varieties**; or alternatively, the **same Phoneme** may have a **Phonological Restriction** on its **distribution** in one **variety** but not another.

8.2 SYSTEMIC DIFFERENCES

The first and most obvious **Difference** between **Accents** is the **Systemic type**, where a **Phoneme Opposition** is present in one variety, but absent in another. **Consonantal** examples in English are relatively rare. As we have already seen, some **varieties** of English, notably SSE, Scots and NZE, have a **contrast** between /**w**/ and /**ʍ**/, as evidenced by **Minimal Pairs** like *Wales* and *whales*, or *witch* and *which*. Similarly, SSE and Scots have the **voiceless velar fricative** /**x**/, which contrasts with /**k**/ for instance in *loch* versus *lock*, but which is absent from other **accents**. NZE speakers will therefore tend to have one more **Phoneme**, and Scots and SSE speakers two more, than the **Norm** for **Accents** of English.

Conversely, some **Accents** have fewer **consonant phonemes** than most **accents** of English. For instance, in Cockney and various other **inner-city English accents**, [**h**]-dropping is so common, and so unrestricted in terms of **Formality of Speech**, that we might regard /**h**/ as having **disappeared** from the system altogether. This is also true for some **varieties** of Jamaican English. In many parts of the West Indies, notably the Bahamas and Bermuda, there is **no contrast** between /**v**/ and /**w**/, with either [**w**] or a **voiced bilabial fricative** [**β**] being used for both, meaning that /**v**/ is **absent** from the **Phonemic** and **Phonetic Systems**. The same contrast is **typically missing** in Indian English, but the **opposition** is resolved in a rather **different direction**, with the **labio-dental approximant** [**ʋ**] very frequently being used for the **initial sound** of *wine* and *vine*, or *west* and *vest*. Again, there is only a **single Phoneme** in this case in Indian English.

The number of **Accent Differences** involving **vowels**, and the extent of **variation** in that domain, is very significantly greater than in the case of **consonants** for **systemic**, **realizational** and **distributional differences**. This probably reflects the fact that the **Vowel Systems** of all English **varieties** are relatively large, so that a considerable number of **vowels** occupy a rather **restricted articulatory** and **perceptual space**; in consequence, whenever and wherever one **vowel changes**, it is highly likely to start to encroach on the territory of some **adjacent vowel**. It follows that a **development** beginning as a fairly **minor change** in the **pronunciation** of a **single vowel** will readily have a **knock-on effect** on other **vowels** in the **System**, so that **Accent Differences** in this area rapidly snow-ball. In addition, as we saw in earlier lectures, the **Phonetics** of **vowels** is a very fluid area, with each dimension of **Vowel Classification** forming a continuum, so that small shifts in **pronunciation** are extremely common, and **variation** between **accents**, especially when speakers of those **accents** are not in day-to-day communication with each other, **develops easily**.

Systemic differences in the case of **Vowel Phonemes** can be read easily from lists of **Standard Lexical Sets** and the systems plotted from these on **vowel**

quadrilaterals. If for the moment we stick to the four **Reference Accents** introduced in the last lecture, namely SSBE, GA, SSE and NZE, we can see that SSBE has the largest number of **Oppositions**, with the others each lacking a certain number of these. Comparing GA to SSBE, we find that GA lacks /**ɒ**/, so that **LOT words** are produced with /**ɑ:**/, as are **PALM words**, while **CLOTH** has the /**ɔ:**/ of **THOUGHT**. In this respect, SSBE is '**old-fashioned**': it maintains the ancestral state shared by the two **Accents**. However, in GA realizations of the earlier /**ɒ**/ have changed their quality and merged, or become identical with the realizations of either /**ɑ:**/ or /**ɔ:**/. GA also lacks the **centering diphthongs** of SSBE, so that **NEAR, SQUARE, CURE** share the **vowels** of **FLEECE, FACE, GOOSE** respectively, but since GA is **rhotic**, the former lexical sets also have a realization of /**r**/, while the latter do not. In this case, however, the **historical innovation** has been in SSBE. At the time of the initial settlement of British immigrants in North America, most **varieties** of English were **rhotic**, as GA still is; but the ancestor of SSBE has subsequently become **non-rhotic**. The **loss** of /**r**/ before a **consonant** or a **pause** in SSBE has had various repercussions on the **Vowel System**, most notably the **development** of the **centering diphthongs**.

In **systemic terms**, NZE lacks only one of the **oppositions** found in SSBE, namely that between /**ɪ**/ and /**ə**/; in NZE, both **KIT** and **LETTER** words have **schwa**. There are more **differences** in **symbols** between the SSBE and NZE lexical set lists in Lecture 7; but these typically reflect **realizational**, and sometimes **distributional**, rather than **systemic differences**, as we shall see in the next two sections. That is to say, to represent the **vowel** of NZE **TRAP** as /**ɛ**/ and **DRESS** as /**e**/, **FLEECE** as /**ɪi**/ and **FACE** as /**ɛɪ**/, to highlight the **typical realizational Differences** between the two **Accents**. However, in **Phonemic Terms**, the **TRAP** and **DRESS vowel**, and the **FLEECE** and **FACE vowel**, still **contrast** in NZE just as they do in SSBE. That is, the pairs of **Vowel Phonemes** in (1) are **Equivalent**: they are **symbolized Differently** because they are very generally **pronounced differently** and we could equally well have chosen the same **Phonemic Symbols** in each case, to emphasis this parity, at the cost of a slightly more abstract system for NZE; – see the **discussion** in Lecture 7.2.2 above, but the members of the pairs are doing the same job in the **different accents**.

(1)

SSBE	NZE	
ɛ	e	DRESS
æ	ɛ	TRAP
ɪ:	ɪi	FLEECE
eɪ	ɛɪ	FACE

When we turn to SSE, however, we find a considerably reduced **System** relative to SSBE. As we might expect, given that SSE is **rhotic**, it lacks the **centering Diphthongs**, so that **NEAR, SQUARE, CURE** share the **vowels** of

FLEECE, FACE, GOOSE, though the former will have a final [ɹ] following the **vowel**. SSE also typically lacks the /**ɛ:**/ **vowel** of **NURSE**, with [**ʌr**] appearing here instead; so the **NURSE** and **STRUT** sets share the **same vowel**. Leaving aside **vowels** before /**r**/, however, there are three **Main Oppositions** in SSBE which are not part of the SSE **system**, as shown in (2).

(2)

SSBE	SSE	
a	**a**	**TRAP**
ɑ:	**a**	**PALM**
ɒ	**ɒ**	**LOT**
ɔ:	**ɒ**	**THOUGHT**
ʊ	**u**	**FOOT**
u:	**u**	**GOOSE**

Each of these three contrasting pairs of **Vowel Phonemes** in SSBE corresponds to a **single Phoneme** in SSE. While *Sam – psalm, cot – caught,* and *pull – pool* are **Minimal Pairs** in SSBE, establishing the **Oppositions** between /**a**/ and /**ɑ:**/, /**ɒ**/ and /**ɔ:**/, and /**ʊ**/ and /**u:**/ respectively, for SSE speakers the members of each pair will be **homophonous**. There is **no Vowel Quality Difference**; and the **Scottish Vowel Length Rule**, which makes **vowel length** predictable for SSE and Scots, means there is no contrastive **Vowel Quantity** either. There is some **variation** in SSE in this respect: speakers who have more contact with SSBE, or who identify in some way with English English, may have some or all of these **Oppositions** in their speech. If an SSE speaker has only one of these contrasts, it is highly likely to be /**a**/ – /**ɑ**/; if /**ʊ**/ and /**u**/ are contrasted, we can predict that the /**ɒ**/ – /**ɔ**/ and /**a**/ – /**ɑ**/ pairs also form part of the **System**.

Of course, such **Systemic Differences** are not restricted to the reference **Accents** surveyed above and in Lecture 7. For instance, within BrE, many **Accents** of the north of England and north Midlands fail to **contrast** /**ʊ**/ and /**ʌ**/, so that *put* and *putt*, or *book* and *buck* all have /**ʊ**/. In some parts of the western United States, speakers typically lack the /**ɑ:**/ – /**ɔ:**/ **Opposition** found in GA, and will therefore have /**ɑ:**/ in both *cot* and *caught*. Other **varieties** of English have an even more extreme **Reduction** of the **Vowel System** relative to SSBE. These are typically **Accents** which began life as **second language Varieties** of English: that is, they were at least initially learned by native speakers of languages other than English, although they may subsequently have become **Official Language Varieties** in particular territories, and be spoken natively by more recent generations. Inevitably, these **Varieties** have been **influenced** by the **native languages** of their speakers, showing that language contact can also be a powerful motivating force in **Accent Variation**.

One case involves SgE. Singapore became a British colony in 1819, and English was introduced to a population of native speakers of Chinese, Malay, Tamil and a number of other languages. Increasingly today, children attend English-medium schools, and use English at home, so that SgE is becoming established as a **Native Variety**. Its **structure**, however, shows significant influence from other languages, notably Malay and Hokkien, the Chinese '**dialect**' with the largest number of speakers in Singapore. As with many **accents**, there is a continuum of **variation** in SgE, so that **non-native speakers** are likely to have **pronunciations** more **distant** from, say, SSBE: thus, while a native SgE speaker will say [**maɪl**] '*mile*', a **second-language speaker** who is much more **influenced** by his **native language** may say [**mʌʊ**]. Increasingly, younger speakers of SgE are also looking to AmE rather than BrE as a **Reference Variety**, so that further change in the **System** is likely. The **System** presented as SgE in (3) is **Characteristic** of **Native** or **Near-native speakers**. Note that SgE has **no** contrastive **differences** of **vowel length**, and that /**ɯ**/ is the **IPA symbol** for a **high back unrounded vowel**.

(3)

SSBE	SgE	Set number	Keyword	SSBE	SgE	Set number	Keyword
ɪ	i	1	KIT	oʊ	o	14	GOAT
ɛ	ɛ	2	DRESS	u:	u	15	GOOSE
a	ɛ	3	TRAP	aɪ	ai	16	PRICE
ɑ	ɔ	4	LOT	ɔɪ	ɔi	17	CHOICE
ʌ	ʌ	5	STRUT	aʊ	au	18	MOUTH
ʊ	u	6	FOOT	ɪə	iə	19	NEAR
ɑ	ɛ	7	BATH	ɛə	ɛ	20	SQUARE
ɒ	ɔ	8	CLOTH	ɑ	ʌ	21	START
ɜ:	ɯ	9	NURSE	ɔ:	ɔ	22	NORTH
i:	i	10	FLEECE	ɔ:	o	23	FORCE
eɪ	e	11	FACE	ʊə	uə	24	CURE
ɑ:	ʌ	12	PALM	ɪ	i	25	HAPPY
ɔ:	ɔ	13	THOUGHT	ə	ə	26	LETTER
oʊ	o	14	GOAT	ə	ə	27	COMMA

As (3) shows, many of the **Vowel Oppositions** found in SSBE are absent from SgE; and in the great majority of cases, the main reason for the **changes** in SgE is the structure of other languages spoken in Singapore. – The same contact influences account for realization **Differences** between SgE and other Englishes, which we consider in the next section. Looking at the **various Phoneme** mergers in SgE in more detail, we find the patterns in (4).

(4)

Lexical sets	Merged SgE vowel	Malay	Hokkien
DRESS, PRAP, BATH	ɛ	e	e
KIT, FLEECE	i	i	i
LOT, THOUGHT	ɔ		ɔ
FOOT, GOOSE	u	ʊ, u	u
STRAT, PALM, START	ʌ	no low back vowels	no low back vowels

In all these cases, lexical sets which have **Distinct Vowels** in SSBE, and often in other **Accents** too, share a **single Vowel** in SgE; and furthermore, this **Vowel** tends to correspond to the **vowel** found in either Hokkien, or Malay, or both. Thus, instead of /**ɛ**/ versus /**a**/, SgE has only /**ɛ**/; both Hokkien and Malay have only a **higher Vowel** in this area, namely /**e**/, and realizationally, SgE /**ɛ**/ raises to [**e**] before **plosives** and **affricates**, as in *head, neck*, **Neutralizing** the **opposition** between /**e**/, the **monophthong** found in **FACE** words, and /**ɛ**/ in **TRAP**, **DRESS** in this **context**, so that *bread – braid, red – raid, bed – bade* are **homophones**. The merger of the **KIT, FLEECE** sets follows the pattern for Malay and Hokkien, and the same is true of **STRAT/PALM/START**; neither Malay nor Hokkien has any **low back vowels**, and the SgE **vowel** for all these sets is **higher** and more **central**; in SgE this merger means that *cart* and *cut*, or *charm* and *chum*, are **homophonous**. In the cases of **LOT/THOUGHT**, and **FOOT/GOOSE**, SgE follows the Hokkien pattern; Malay has neither /**ɒ**/ nor /**ɔ**/, but both /**ʊ**/ and /**u**/. Whichever local language has exerted most **influence** in any particular instance, it is clear that **Native Language Systems** have acted as a **filter** or **template** for **non-native learners** of SgE, creating the **Vowel System** found today.

8.3 REALIZATIONAL DIFFERENCES

In the **Second Type** of **Accent Difference**, part of the **System** of **Phonemes** may be the same for two or more **accents**, but the **Realizations** of that **Phoneme** or **Set of Phonemes** will vary. For instance, in SSBE, SSE and GA, /**l**/ has two **main Allophones**, being **clear**, or **alveolar** [**l**] before a **stressed vowel**, as in *light, clear*, but **dark**, **velarized** [ɬ] after a **stressed Vowel**, as in *dull, hill*. This **Distribution** of **Allophones** is not the only possibility in English, however. In some **Accents**, /**l**/ is always realized as **clear**; this is true, for instance, of Tyneside English or 'Geordie', Welsh English, and some South African **varieties**. On the other hand, in Australia and New Zealand, /**l**/ is consistently pronounced **dark** [ɬ]; and indeed, **realizations** may be **pharyngeal** rather than **velar**, or in other words, **pronounced** with a **restriction** even further **back** in the **vocal tract**. In London English, there is a further **Allophone** of /**l**/, namely a **vocalized**, or **vowel-like**, **realization** finally or before a **consonant**: in *sell, tall, people, help*, /**l**/ is typically realized as a **high** or **high-mid-back Vowel** like [**ʊ**] or [**o**]. For younger speakers, **vocalization** is also taking hold in **medial position**, in words like *million*; and the process is also spreading beyond London, as part of the **shift** towards so-called 'Estuary English', a **mixture** of SSBE and London English which is arguably

becoming a **New Standard** for young people, especially in urban centers in the south of England.

The other English **liquid consonant** /**r**/ also provides plenty of scope for **Realizational Differences**. /**r**/ is typically an **alveolar** or slightly **retroflex approximant** for SSBE and GA, but at least in **medial position**, is frequently realized as an **alveolar tap** in SSE; the tap is also a common **realization** in South African English. In some parts of the north of England, notably in Northumberland and County Durham, a **voiced uvular fricative** [**ʁ**] is quite commonly found, although this may be receding gradually. In other areas of northern England, this time notably Yorkshire, Tyneside and Liverpool, [**ɹ**] appears as an **allophone** of /**t**/, typically between **vowels** and across a word-boundary, as in *not on* [**nɒɹɒn**], *lot of laughs* [**lɒɹə**…], *get a job* [**gɛɹə**…]. In Merseyside, **voiceless stops** are very generally realized as **fricatives** or **affricates** in **word-final position**, so that *cake, luck, bike* will be [**keɪx**], [**lʊx**], [**baɪx**]: whereas in Scots and SSE the appearance of [**x**] in *loch* constitutes a **Systemic Difference**, as there are **Minimal Pairs** establishing an **opposition** of /**x**/ and /**k**/, in Liverpool the **velar fricative** is clearly an **allophone** of /**k**/, so that the **Accent Difference** between, say, SSBE and Merseyside English in this respect is **realizational**, but **not systemic**.

Turning to **vowels**, one particularly salient example involves the **FACE** and **GOAT vowels**, which in SSBE, NZE and AuE are pronounced consistently as **diphthongs**. In GA, the **FACE vowel** is **diphthongal**, while the **GOAT vowel** may be a **monophthong**; and in SSE and SgE, both are **monophthongal**, with the predominant **allophones** being **high-mid** [**e**] and [**o**] in both **accents**. The **NURSE vowel** in SSBE is **mid central** [**ɜː**]; the same **Phoneme** in NZE is very generally **rounded**, while in SgE it is typically raised to **high-mid back unrounded** [**ɤ**], or **high back unrounded** [**ɯ**] as we might expect, Hokkien has [**ɤ**], Malay has both [**ɤ**] and [**ɯ**], but both **lack** [**ə**].

Sometimes, although these realizational **differences** have no direct impact on the **Phoneme System**, they do lead to **Neutralizations** of otherwise consistent **contrasts**. For instance, we saw in the last section that SgE speakers raise /**ɛ**/ to [**e**] before **plosives** and **affricates**; the **monophthongal** pronunciation of /**e**/ as [**e**] in **FACE words**, and the **lack** of any **systematic vowel-length** distinction in SgE means that the **contrast** of /**ɛ**/ and /**e**/ is suspended in this **context**, leading to **identical pronunciations** of *bread* and *braid*, or *wreck* and *rake*. It is also possible for realizational **differences** in **vowels** to lead to **allophonic differences** in **consonants**. For instance, right at the beginning of this lectures, we identified an **allophonic difference** between **velar** [**k**] and **palatal** [**c**], with the latter appearing adjacent to a **front vowel**. In SSBE, SSE and GA, this will mean that **velar** realizations will be produced in *cupboard* and *car*, **palatals** in *kitchen* and *keys*.

However, the **distribution** differs in other **varieties** of English, depending on their typical realizations of the **FLEECE** and **KIT vowels**. In NZE, **FLEECE** has a **high front diphthong**, so that *keys* will still have [**c**]; but no **fronting** will take place in *kitchen*, since the **KIT** set in NZE has **central** [**ə**]. On the other hand, in AuE, **KIT** has a rather **high**, **front** [**i**] **vowel** so that *kitchen* will certainly attract a **palatal** [**c**]; but in some **varieties** at least, the **diphthong** in *keys* is **central** [**əɪ**], which will therefore favour a **velar allophone** of /**k**/.

8.4 DISTRIBUTIONAL DIFFERENCES

Distributional differences fall into two subclasses.

- First, there are **Differences** in **Lexical incidence**: certain individual lexical items will simply have one **Vowel Phoneme** in some **Accents**, and another in others.

For example, British English speakers are quick to comment on American English /**aʊ**/ in *route*, or /**ɛ**/ in *lever*; Americans find British English /**ru:t**/ and /**lɪ:və(ɹ)**/ equally odd. Some Northern English English speakers have /**u:**/ rather than /**ʊ**/ in *look* and other <**oo**> **words**; and it is fairly well-known in Britain that words containing /**ɑ:**/ **vary** in English English, with *grass, dance, bath,* for instance, having /**a**/ for many northern speakers, but /**ɑ:**/ in the south, though both **varieties** have /**ɑ:**/ in *palm*. Similarly, in SSE, *weasel* has /**w**/, and *whelk* /**ʍ**/; but in Borders Scots, where these **Phonemes** also **contrast**, and where indeed most of the same **Minimal Pairs** like *Wales* and *whales*, *witch* and *which* work equally well, the **Lexical distribution** in these two words is reversed, with /**ʍ**/ in *weasel* and /**w**/ in *whelk*.

- On the other hand, a **Difference** in the **Distribution** of two **Phonemes** may depend on the **Phonological Context** rather than having to be learned as an **Idiosyncrasy** of individual lexical items.

For instance, in GA there is a very productive restriction on the **consonant** /**j**/ when it occurs before /**u:**/. Whereas in most British English [**j**] surfaces in *muse, use, fuse, view, duke, tube, new, assume,* in GA it appears only in the first four examples, and not in the cases where the /**u:**/ **vowel** is preceded by an **alveolar consonant**. There is also, as we have seen, a very clear **division** between **rhotic accents** of English, where /**r**/ can occur in all possible positions in the word; so [**ɹ**], or the appropriate realization for the **accent** in question, will surface in *red, bread, very, beer, beard, beer is*, and **non-rhotic** ones, where /**r**/ is permissible only between **vowels**, and will be pronounced in *red, bread, very, beer is*, but not the other cases.

VOWELS FOLLOW THE SAME PATTERNS

For instance, in many **varieties** of English, **schwa** is only available in **unstressed positions**, in ***a**bout, fath**er**, lett**er***; in NZE, however, its range is wider, since it appears also in **stressed syllables**, in the **KIT lexical set**. Similarly, in some **varieties** words like *happy* have a tense /**ɪ**/ **vowel** in the **second unstressed**

syllable; this is true for Tyneside English, SSE, GA and NZE. In SSBE, however, only **lax vowels** are permitted in **unstressed syllables**, so that /**i**/ appears in *happy* instead.

Not all these **Distributional restrictions** have to do with **stress**; some are the result of other developments in the **Consonant** or **Vowel Systems**.

For instance, the presence of the **centering diphthongs** before historical /**r**/ in SSBE and other **non-rhotic accents** means that **Non-low monophthongs** cannot appear in this context. On the other hand, in **rhotic Accents** like SSE and GA, there are no **centering Diphthongs**, and the **non-low Monophthongs** consequently have a broader range, with the same **Vowel** appearing in **FLEECE** and **NEAR, FACE** and **SQUARE**, **GOOSE** and **CURE**.

In defining how **Accents differ**, then, we must consider all three **Types of Variation**:

- **Systemic Variation**
- **Realization Variation** and
- **Distributional Variation**

Although some of these, notably the **Systemic Type**, may seem more important to a **phonologist**, since they involve **Differences** in the **Phoneme System**, we must remember that one of the phonologist's tasks is to **determine** what speakers of a language know, and how their knowledge is structured. It follows that we must be able to deal with the **lower-level realizational** and **Distributional Differences** too, since these are often precisely the point's native speakers notice in assessing **Differences** between their own **Accent** and another **Variety** of English. In any case, all of these **Types of Variation** will work together in distinguishing the **Phonological Systems** of **different Accents**, and as we have seen, **Variation** at one level very frequently has further implications for other areas of the **Phonology**.

RECOMMENDATIONS FOR READING

- Giegerich [**Giegerich Heinz J. (1992)** ***English Phonology: An Introduction*****, Cambridge: CUP**] provides phonological analyses of some of the varieties discussed here; characteristics of an overlapping set of Accents are also discussed in
- Carr [**Carr Philip (1999)** ***English Phonetics and Phonology: An Introduction***, **Oxford: Blackwell**].

Much of the data discussed here comes from

- Wells **[Wells J. C. (1982)** ***Accents of English*** **(3 vols) Cambridge: CUP]**, which covers a fairly **complete range of varieties** of English, although the Singapore English material is mainly from
- Tan [**Tan Ludwig (1998)** ***The vowel system of Singapore English***, **Unpublished M. Phil. essay Department of Linguistics University of Cambridge**]
- Trudgill [**Trudgill Peter (2000)** ***The Dialects of England*** **2nd ed. Oxford: Blackwell**] provides more detail on the Dialects of England in particular, and
- Wolfram and Schilling-Estes [**Wolfram Walt**, **Natalie Schilling-Estes (1996)** ***American English: Dialects and Variation*** **Oxford: Blackwell**] on American English.

More theoretical discussion of dialectology and Sociolinguistics respectively can be found in

- Chambers and Trudgill [**Chambers J. K. and Peter Trudgill (1980)** ***Dialectology*** **Cambridge: CUP**] and
- Hudson [**Hudson Richard A. (1995)**, ***Sociolinguistics*** **2nd ed. Cambridge: CUP**].

If you are interested in the history of English, a good introductory survey is

- Graddol, Leith and Swann [**Graddol David, Dick Leith, Joan Swann (1996)** ***English: History, Diversity and Change*****, London: Routledge**]

Lecture 9
SYLLABLES

9.1 Phonology above the segment
9.2 The syllable
9.3 Constituents of the syllable
9.4 The grammar of syllables: patterns of acceptability
9.4.1 Phonotactic constraints
9.4.2 The Sonority Sequencing Generalization
9.5 Justifying the constituents
9.5.1 Syllable-based processes
9.5.2 Onset Maximalizm
9.5.3 Literary applications of syllable constituents
9.5.4 Syllable weight

9.1 PHONOLOGY above the SEGMENT

At the end of the last lecture, we returned to the central issue and the central task for phonologists, of **assessing** what speakers know about the **Structure of their language**. In this lecture so far, we have concentrated on this **Knowledge** and the **Speech production** that reflects it, at the level of the **Segment** and below. That is, we have discussed **vowels** and **consonants**, the features of which they are composed and the judgments speakers make about them. However, as we shall see in this lecture and the next, **speakers' behaviour** and **intuitions** also indicate the presence of **Phonological organization** at a series of higher levels, above the single **Segment**. **Vowels** and **consonants** are not just strung together haphazardly into long, **unstructured strands**: instead, they form a series of larger units with their own internal structure and distribution, governed by their own **Rules**.

The first and smallest of these super ordinate units, the **Syllable**, will be the main focus of this lecture. Recognizing and understanding **Syllables** helps us state some **Phonological processes**, for example involving English /**l**/ and the **Aspiration** of **voiceless plosives**, more accurately and succinctly. As we shall see in Lecture 10, the **Syllable** and the next unit, the **Foot**, are also crucial in **analyzing** and **determining** the position of **Stress** within each **word**. Finally, in whole utterances consisting of a sentence or more, **Phonological processes** may apply between words, and **Rhythm** and **Intonation** produce the overall melody of longer stretches of **speech**.

9.2 THE SYLLABLE

Speakers certainly have an **Intuitive notion** of how many **Syllables** each word contains: for instance, speakers of English would generally agree that

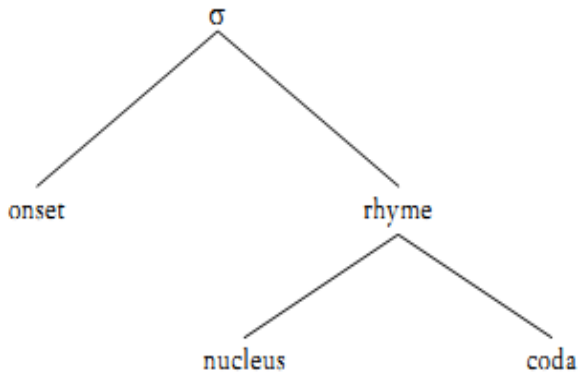
meadow
dangerous and
antidisestablishmentarianism

– allegedly 104 the **longest word** in the language, have two, three and twelve **syllables** respectively. It is less easy for speakers to reflect consciously on the internal **Structure of Syllables**, or to decide where one **Stops** and the next starts; but a wide **variety** of cross-linguistic **studies** have helped phonologists construct a **Universal template** for the **Syllable**, within which particular languages select certain options. The internal **Structure of the Syllable**, and evidence for its **subparts** from a range of English **Phonological processes**, will be the topic of this lecture.

9.3 CONSTITUENTS of the SYLLABLE

The **Universal Syllable Template** accepted by most phonologists is given in (1). Note that **small sigma** (**σ**) is shorthand for '**Syllable**'; **capital sigma** (**Σ**), as we shall see later, is used to symbolize the **Foot**.

(1)



The only compulsory part of the **Syllable**, and hence its **Head**, or most important, defining unit, is the **Nucleus**. This will generally contain a **vowel**, and recall that **vowels** are **[+syllabic]**: indeed, the **Syllable I**, or the first s**yllable** of *about*, consist only of a **Nucleus**. If no **vowel** is available, certain **consonants** can become **Nuclear**, and play the part of a **vowel**. In English, this is true of /**l**/, /**m**/, /**n**/, /**r**/ in **rhotic Accents**: that is, the **sonorant consonants**, in natural class terms. Each of the words *bottle, bottom, button, butter* has two **syllables**, and in each case, the **second syllable** consists only of **nuclear**, or **syllabic** [l̩], [m̩], [n̩], [ɹ̩].

Both the **Onset** and the **Coda** are optional constituents, and each, if filled, will contain one or more **consonants**. In English, *be* has an **Onset** but no **coda**; *eat* has a **Coda** but no **onset**; and *beat* has both. Recognizing the **Difference** between the **Nucleus**, which is primarily the domain of **vowels**, and the **onset** and **coda**, where we find **consonants**, also casts some light on the relationship between the **high vowels** /**i**/ /**u**/ and the **glides** /**j**/ /**w**/. **Phonetically**, it is very hard to detect any **Systematic Difference** between [**i**] and [**j**], or [**u**] and [**w**] respectively; however, we can now say that [**i**] and [**u**] are [**+syllabic**], while the **glides** are [**–syllabic**], so that in *ye*, [**j**] is in the **Onset** and [**ɪ:**] in the **Nucleus**, and similarly in *woo* [**w**] is an **Onset consonant** and [**u:**] a **Nuclear Vowel**. Clearly, [**j**] and [**ɪ:**] are extremely **similar Phonetically**; furthermore, since distinguishing **Syllable Peaks**, or **Nuclei**, from margins allows us to predict where each will occur, they are in **complementary Distribution**, and the same is true of [**w**] and [**u:**]. This makes [**j**]

and [**ɪ:**], and [**w**] and [**u:**], **Allophones** of a single **Phoneme**, with their **Distribution** determined by **Position in the Syllable**.

9.4 THE GRAMMAR of SYLLABLES: PATTERNS of ACCEPTABILITY

'*One way to understand the subject matter of **Phonology** is to contrast it with other fields within Linguistics. A very brief explanation is that **Phonology** is the study of sound structures in language, which is different from the study of **sentence structures** (Syntax), **word structures** (Morphology) or how **language change over time** (Historical Linguistics). But this is insufficient. An important feature of the structure of a sentence is how it is pronounces – its sound structure. The pronunciation of a given word is also a fundamental part of the structure of a word. And certainly the principles of pronunciation in a language are subject to change over time. So phonology has a relation to numerous domains of linguistics*.' **[Odden:2013]**

Patterns of permissibility vary in terms of filling these constituents of the syllable. In some languages, like Arabic, every **Syllable** must have an **Onset**; if a word without an **onset** in one **syllable** is borrowed from another language, for instance, a **Glottal Stop** [**ʔ**] will be inserted to meet that requirement. Conversely, in Hawaiian, no codas are allowed, so that **Coda consonants** in loanwords will be deleted, or have an **extra**, following **vowel introduced**, so the **consonant** becomes an **Onset** and therefore **legal**. However, there do not seem to be any languages which either insist on **codas**, or **rule** out **onsets**. The universal, basic **Syllable Type** is therefore **CV**: all known languages allow this, whether they have other, more complex **Syllable Types** in addition, or not.

9.4.1 PHONOTACTIC CONSTRAINTS

Even languages like English, which allow both **onsets** and **codas**, have restrictions on the permissible contents of those slots: these restrictions are known as **Phonotactic Constraints**. In particular, English allows **clusters** of two or three **consonants** in both **onsets** and **codas**; some languages have more **complex Cluster Types**, others only **CC**, and perhaps in the **onset** only. Some restrictions on the composition of **clusters** reflect structural **Idiosyncrasies** of English; these include the examples in (2).

(2) In a **CCC** onset, **C1** must be /**s**/

/**ŋ**/	does not appear in **onsets**
/**v ð z ʒ** /	do not form part of **onset clusters**
/**t d θ**/ plus /**l**/	do not form permissible **onset clusters**
/**h**/	does not appear in **codas**

Coda clusters of **nasal** plus **oral stop** are only acceptable if the two stops share the same **Place of Articulation**.

/**lg**/	is not a permissible **coda cluster**

9.4.2 THE SONORITY SEQUENCING GENERALIZATION

However, some other restrictions on possible **clusters** are not specific to English, but rather reflect universal prohibitions or requirements. The most notable **Phonological principle** which comes into play here is known as the **Sonority Sequencing Generalization**, and governs the shape of both **onsets** and **codas**. **Sonority** is related to the **difference** between

- **Sonorants** – sounds which are typically voiced, like **approximants**, **nasal stops** and **vowels**, and
- **Obstruents** – **oral stops** and **fricatives**, which may be either **voiced** or **voiceless**.

Sonorants are more **sonorous**; that is, their **acoustic properties** give them greater carrying power. If we stood at the front of a large room and said one sound as clearly as we could, a listener at the back would be much more likely to be able to **identify** a highly **sonorous sound** like [**ɑ**] than a sound at the other end of the sonority range, such as [**t**].

Our knowledge of **Acoustic Phonetics** and other aspects of **sound behaviour** can be combined to produce a **sonority scale** like the one given in (3). Here, the most **sonorous sounds** appear at the top, and the least **sonorous** at the bottom. Some English examples are given for each category.

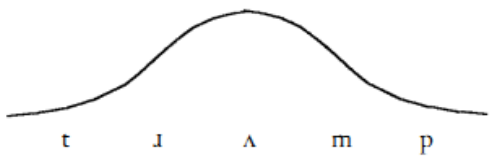
(3)

Low vowels	[**ɑ**] [**æ**] …
High vowels	[**ɪ**] [**u**] …
Glides	[**j**] [**w**]
Liquids	[**l**] [**ɹ**]
Nasals	[**m**] [**n**] [**ŋ**]
Voiced fricatives	[**v**] [**z**] …
Voiceless fricatives	[**f**] [**s**] …
Voiced plosives	[**b**] [**d**] [**g**]
Voiceless plosives	[**p**] [**t**] [**k**]

Natural Classes of **Sounds** which function together in **Phonological processes** are often composed of **single** or **adjacent levels** on the **Sonority** hierarchy. For instance, English **liquids** and **nasals** can be **syllabic**, and these are the **closest consonants** to the **vowel** series, with the exception of the **glides**; and as we have seen already, we might say that [**j**] [**w**] do have **syllabic counterparts**, namely the **high vowels**.

The **general Rule** expressed by the **Sonority Sequencing Generalization** is that syllables should show the **Sonority curve** in (4).

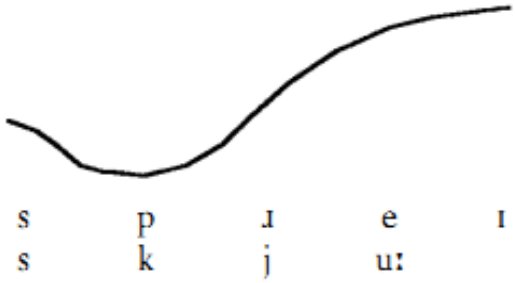
(4)



The **nucleus** constitutes the **Sonority peak** of the **syllable**, with **Sonority** decreasing gradually towards the margins. In **syllables** like *trump, prance, plant*, the outermost **consonants**, at the beginning of the **onset** and the end of the **coda**, are at the bottom end of the **Sonority scale**, while less marginal **consonants**, **adjacent** to the **vowel**, are also closer to the **vowel** in their **Sonority value**. Lack of adherence to the **Sonority Sequencing Generalization** therefore **Rules** out **onsets** like *[**lp**], *[**jm**], *[**ɹg**], although **onsets** with the same segments in the opposite order are found in *play, muse, grey*. Similarly, **Universal sonority restrictions** mean English lacks *[**pm**], *[**kl**], *[**mr**] **codas**, although again **clusters** with the **opposite order**, which do show **Descending sonority**, are attested in *lamp, silk, harm* – the last in **rhotic accents** only.

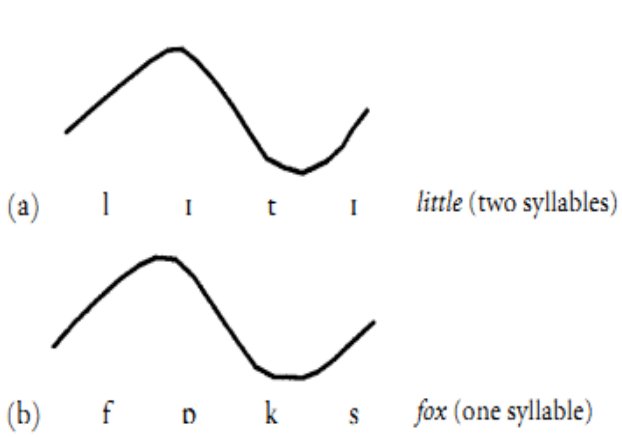
Like many **Rules**, the **Sonority Sequencing Generalization** has an exception, and this involves the behaviour of /**s**/. The **Onset clusters** in *spray, skew* have the **Sonority** profile in (5).

(5)



That is, the marginal **consonant** [**s**] has a higher **Sonority value** than the adjacent **voiceless plosive**: yet there is no question of drawing a **Syllable boundary** here and recognizing two **syllables** within the same word, as [**s**] is not one of the English **consonants** which can become **nuclear**, or **syllabic**. The same problem arises in **codas**. We would normally use a **Sonority pattern** like the one in (6a) to tell us that a **Syllable division** should be made, giving two **syllables** in *little,* but one in *lilt*. However, **codas** with both orders of **clusters** involving [**s**] are possible, as in *apse* and *asp*, or *axe* and *ask*; and the same **Sonority pattern** in (6b) must be analyzed, contrary to the **Sonority Sequencing Generalization**, as corresponding to a **single syllable**.

(6)



These exceptions are at least not random: **cross-linguistically**, violations of the **Sonority Sequencing Generalization** always seem to involve **coronal consonants**, those produced using the **tongue tip** or **tongue blade**, and typically **alveolar**, and especially /**s**/. Such **consonants** seem to behave exceptionally in a number of ways, and have to be excluded from various **Phonological Generalizations**, though it is not yet quite clear why.

9.5 JUSTIFYING the CONSTITUENTS

9.5.1 SYLLABLE-BASED PROCESSES

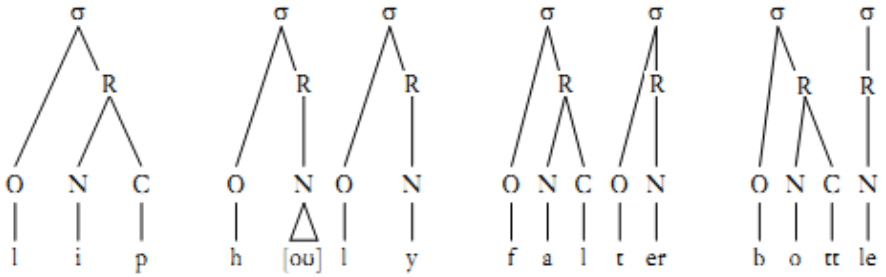
Recognizing the syllable as a **phonological unit**, and moreover a unit with the internal structure hypothesized in (1), allows us to write improved versions of some **Phonological Rules** introduced in previous lectures. Sometimes, what determines or conditions a **Phonological Process** or change is simply the nature of an **Adjacent Segment**: for example, we have seen that the **nasal** of the prefix /*in-*/ **Assimilates** to a following **consonant**, and that sounds frequently become **voiced** between other **voiced segments**. However, in other cases it is the position of a sound within the **syllable** that dictates its **Phonetic shape**. In turn, improvements in the statement of **Phonological Rules** may help justify or validate the constituents which are proposed for the **Syllable**.

First, the notion of the **Syllable** in general and the **onset** constituent in particular, helps us to state the environment for **Aspiration** of **Voiceless Stops** more accurately. The current, rather informal version predicts **Aspiration** in absolute word-initial position; as we already know, /**p**/ /**t**/ /**k**/ surface as **aspirated** in *pill, till, kill*, but not when preceded by /**s**/ in *spill*, *still, skill*. However, this is not the whole story, since we can also observe **Aspiration** in *repair, return, record*, though not in *respond, disturb*, and *discard*. In these examples, the **Voiceless Stops** are medial, not initial in the word: but in *repair, return, record*, they are the sole constituents of the **onset** for **Syllable** two, and therefore initial in that **syllable**. As for *respond, disturb, discard*, here also /**p**/ /**t**/ /**k**/ are part of the onset, but this time preceded by /**s**/; and since a preceding /**s**/ inhibits **Aspiration** in **onsets** word-initially, we should not be surprised that the same pattern is found in onsets word-medially. In short, **Aspiration** of **Voiceless Stops** takes place, not at the beginning of the word, but at the beginning of the **Onset**.

Similar support can be found for the **Second major constituent** of the **syllable**, namely the rhyme. As we have seen already, many varieties of English have two main **allophones** of /**l**/, **clear** or **alveolar** [**l**] and **dark** or **velarized** [ɫ], in complementary distribution. However, stating the nature of this complementarity is not entirely straightforward. In earlier lectures, the **Rule** for **velarization** of /**l**/ was informally stated as taking place after the **vowel** in a word, giving the correct results for *clear* versus *hill*, for instance. This works well enough when we are only dealing with **Word-initial cluster** versus **Word-final cluster**, but it leaves a **grey area** in **word-medial position**, where we find **dark** [ɫ] in *falter, hilltop*, but **clear** [**l**] in *holy, hilly*. Again, this is resolvable if we state the **Rule** in terms of the **Syllable**: **clear** [**l**] appears in **onset** position, and **dark** [ɫ] in the **coda**. In fact, this process does not only provide evidence for the contrast between **onset** and **coda**

position, but for the super-ordinate rhyme constituent, which consists of the **nucleus** plus the optional **coda**. In cases of **consonant syllabification**, where /**l**/ or another **sonorant consonant** comes to play the role of a **vowel** and therefore occupies the **nuclear position**, as in *bottle, little*, we find the **dark allophone**. /ɬ/-velarization, then, takes place in **syllable** rhymes, as shown in (7).

(7)



9.5.2 ONSET MAXIMALIZM

Of course, this **Rule** and similarly the earlier reformulation of **Aspiration** in **Syllable** terms will only work appropriately if we are drawing the boundaries between **Syllables**, and therefore determining what **consonants** are in the **Coda** of an earlier **syllable**, and which in the **Onset** of a later one, in the right way. We have already noted that the **Sonority Sequencing Generalization** provides one guide to drawing **syllable** boundaries; leaving aside the exceptional case of /**s**/ in clusters, we find that legal **syllables** exhibit a **sonority** profile which ascends from the left hand margin of the onset, up to a **sonority** peak in the **nucleus**, and subsequently descends to the right-hand margin of the **Coda**, as shown in (4) above. However, there is another, equally important principle governing **Syllable division**, namely **Onset Maximalizm**, also known as **Initial Maximalizm**, which is set out in (8).

(8) **Onset Maximalizm**

Where there is a choice, always assign as many **consonants** as possible to the **Onset**, and as few as possible to the **Coda**. However, remember that every word must also consist of a sequence of well formed **syllables**

Onset Maximalizm tells us that, in a word like *leader*; the medial /**d**/ must belong to the **second syllable**, where it can be located in the **Onset**, rather than the first, where it would have to be assigned to the less favoured **Coda**. This is a permissible analysis, because both [**li:**] and [**də(ɹ)**] are well-formed **syllables** of English: think of *lea*, or *Lee*, and the first **syllable** of *dirty*, or *Derwent*. The same goes for a word like *oyster*, where both parts of the **medial** /**st**/ **cluster** belong to the **Onset** of the second **syllable**, while the initial **diphthong** forms a **syllable** on its own. There are many **monosyllabic** words with initial /**st**/, like *stop, start, stitch*, *stoop*; and if /**st**/ make a well-formed **Onset** word-initially, then they can combine to make a well-formed **Onset** word-medially, too. We can use the same sort of argument to account for the alternation between dark [**ɫ**] in *hill*, but clear [**l**] in *hilly*. Since *hill* has only a **single syllable**, and moreover has a **vowel** occupying the **nuclear** slot, the /**l**/ must necessarily be in the **coda**, and is therefore **dark** [**ɫ**].

However, in *hilly*, there are two syllables, and **Onset Maximalizm** means /**l**/ must be in the **Onset** of the second, where it automatically surfaces as clear. This kind of alternation, where the form that surfaces depends on its position in the **syllable**, is quite common in English and other languages. For instance, in **non-rhotic accents** of English, /**r**/ has two realizations, namely [ɹ] in **Onsets**, and zero in **Codas**: it surfaces in *red, bread, very*, but not in *car, park*. Again, as with the alternation between **clear** and **dark** variants of /**l**/, we find that the addition of suffixes can change the situation: so for instance, *star* has no **final consonant** for non-rhotic speakers, but there is a **medial** [ɹ] in *starry*, where the /**r**/ constitutes the **Onset** of the **second syllable**. It also follows that **syllable** boundaries will not always coincide with **morpheme** boundaries, or boundaries between **meaningful units**: in *starry*, the two morphemes are *star*, the **stem**, and *-y*, the **suffix**, but the **syllables** are divided as *sta.rry* – note that a **dot** signals a **syllable boundary**. As we shall see in more detail in the next lecture, **similar alternations** arise across **word boundaries** in connected speech: thus, although *car* has no **final** [ɹ], and the same is true of *car keys*, where the second word begins with a **consonant**, in *car engine* the second word begins with a **vowel**, and the /**r**/ can be allocated to the **Onset** of that **syllable**, where it duly surfaces as [ɹ]. As far as native speakers' knowledge goes, there are two ways of analyzing this.

We could assume that speakers store *car* mentally as /**kɑr**/, and delete the /**r**/ before a **consonant** or **pause**. Alternatively, the entry in the mental lexicon or dictionary might be /**kɑ**/, with [ɹ] being inserted before **vowels**. Choices of this kind, and their implications, are vitally important for phonologists; but pursuing the issue here is beyond the scope of this lectures.

However, in a word like *falter*, we cannot straightforwardly assign the **medial** /**lt**/ to the **second syllable**. The **Sonority Sequencing Generalization** would allow the **syllable boundary** to follow /**lt**/ – compare *fault*, a well-formed monosyllabic word, but **Onset Maximalizm** forces the /**t**/ at least into the **Onset** of the next syllable. The **syllable boundary** cannot, however, precede the /**l**/ because /**lt**/ is not a possible **word-initial cluster** in English, and it consequently cannot be a **word-internal**, **syllable-initial cluster** either. On the other hand, in *bottle* our immediate reaction might be to proposed *bo.ttle*, which fits both the **Sonority Sequencing Generalization** and **Onset Maximalizm**. However, we then face a problem with the first syllable, which would on this analysis consist only of /**bɔ**/; and, as we shall see in Lecture 10, a **single short vowel** cannot make up the rhyme of a stressed syllable. The first **syllable** clearly needs a **Coda**; but *bott.le* is not quite right either, since native speakers, asked to check **syllable boundaries** by saying each syllable in the word twice, typically say *bot-bot-tle-tle*. The same is true of other words with the same problematic structure, like *syllable* in fact, which comes out as *syl-syl-la-la-ble-ble* ; it may not be coincidental that these are written with

double medial consonants. The usual solution here is to analyze the /**t**/ of *bottle* as **ambi-syllabic**: that is, as belonging simultaneously in both the **Coda** of the first syllable, and the **Onset** of the second. This does not conflict with either the **Sonority Sequencing Generalization** or **Onset Maximalizm**, but also accords with native speakers' **intuitions** and the **stress patterns** of English.

9.5.3 LITERARY APPLICATIONS of SYLLABLE CONSTITUENTS

Recognizing the **Onset** and rhyme does not only allow us to write more accurate versions of the **Phonological Rules**, and to understand alternations between sounds which arise when we add an affix or combine words into longer strings, thus creating different syllabifications. These two constituents are also integral parts of two rather different literary traditions. In alliterative poetry, the important constituent is the **Onset**, which must be identical in several words in a single line, and often, the more the better. An example from the Scots poetic tradition appears in (9); this is a short excerpt from the late 15th or early 16th century '*Flyting of Dunbar and Kennedie*'. A *flyting is* essentially a long string of insults, here hurled by each of the poets named in the title at the other, in turn. The use of **Alliteration**, which is clear even from the two lines given, extends throughout the fairly lengthy poem.

(9)

Conspiratour, cursit cocatrice, hell caa	(caa = crow)
Turk, trumpour, traitour, tyran intemperate …	

It is clear that almost all of the words in the first line begin with <**c**> /**k**/, and those in the second with <**t**> /**t**/; and in some cases, here *cocatrice, intemperate*, the alliterating sound may appear in word-internal onset positions too. More obviously, or at least more familiarly, the rhyme of the syllable determines poetic rhyme: for a perfect rhyme, the nucleus and **Coda**, if any, must be exactly the same, though whether there is an Onset or not, or what it is does not matter. That is, *meet* rhymes with *eat*, and with *beat*, and with *sweet*; but it does not rhyme with *might* or *mate*, where the **nucleus** is different; or with *bee*, where there is no **Coda**; or with *leek* or *beast,* where there is a **Coda**, but not one consisting of the **single consonant** /**t**/.

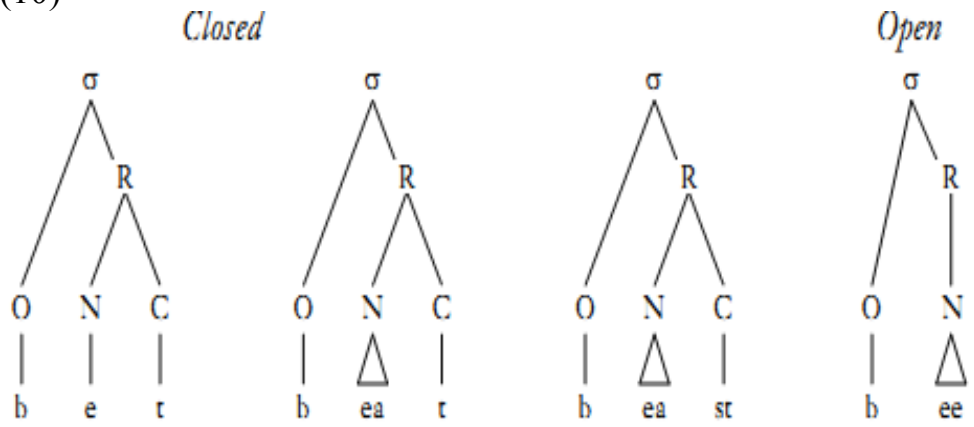
Most of the following except those that end with /**s**/, /**z**/, /**ʃ**/, /**ʒ**/, /**tʃ**/ or /**dʒ**/ can be extended with /**s**/ or /**z**/ representing the morpheme /-**s**/ /-**z**/. Similarly, most of the following except those that end with /**t**/ or /**d**/ can be extended with /**t**/ or /**d**/ representing the morpheme /-**t**/ /-**d**/. John Wells argues that a variety of Syllable Codas are possible in English, even /**ntr**/, /**ndr**/ in words like *entry* /**ˈɛntr.i**/ and *sundry* /**ˈsʌndr.i**/, with /**tr**/, /**dr**/ being treated as affricates along the lines of /**tʃ**/, /**dʒ**/. He argues that the traditional assumption that pre-vocalic consonants form a syllable with the following vowel is due to the influence of languages like French and Latin, where syllable structure is CVC**.**CVC regardless of stress placement. Disregarding such contentious cases, which do not occur at the ends of words, the following sequences can occur as the Coda **[Wells:1990:76-86]**

9.5.4 SYLLABLE WEIGHT

There is one further aspect of **Syllable Structure** which provides evidence for the **Syllable-Internal Structure** set out above. Here again, as in the case of poetic rhyme, the **nucleus** and **Coda** seem to work together, but the **Onset** does not contribute at all.

In fact, there are two further subdivisions of **Syllable Type**, and both depend on the structure of the rhyme. First, **Syllables** may be **closed** or **open**: a **closed syllable** has a **Coda**, while in an **open syllable** the rhyme consists of a **nucleus** alone, as shown in (10). It does not matter, for these calculations, whether the **nucleus** and **Coda** are simple, containing a single element, or branching, containing more than one: a branching **nucleus** would have a **long vowel** or **diphthong**, while a branching **Coda** would contain a **consonant cluster**.

(10)



There is a second, related **distinction** between **Light syllables** and **Heavy syllables**. A **light syllable** contains only a **short vowel** in the rhyme, with no **Coda**, as in the first syllable of *potato, report, about*. Although the first two cases have **Onsets**, and the third does not, all these **initial syllables** are still **light**, because **Onsets** are entirely irrelevant to the calculation of **Syllable Weight**. If a **syllable** has a complex rhyme, then it is **heavy**; and complexity can be achieved in two different ways.

- First, a **heavy syllable** may have a **short vowel**, but one or more **Coda consonants**, as in *bet, best*.
- Second, it may have a branching **nucleus**, consisting of a **long vowel** or **diphthong**; such a **syllable** will be **heavy** whether it also has a **filled Coda**, as in *beast, bite*, or not, as in *bee, by*.

As we shall see in detail in the next lecture, **Syllable Weight** is a major factor in determining the **Position of Stress** in a word: essentially, no **stressed syllable** in English may be **light**. This means that no **lexical word**, or **full word** of English can consist only of a **short vowel alone**, with or without an **Onset**, since such words, including **nouns**, **verbs** and **adjectives**, must be able to bear **stress**: thus, we have *be, say, loss*, but not *[**bɪ**], *[**sɛ**], *[**lɔ**]. On the other hand, **function words** like the **indefinite article** *a*, or the **pronunciation** [**tə**] for the **preposition** *to*, which are part of the grammatical structure of sentences and are characteristically unstressed, can be **light**. In cases where these do attract **stress**,

they have special **pronunciations** [**eɪ**] and [**tu:**], where the **vowel** is **long**, the **nucleus branches**, and the **syllable** is therefore **heavy**.

There is one set of cases where a conflict arises between **Syllable Weight** on the one hand and the guidelines for the **Placement of Syllable Boundaries** on the other: we have already encountered this in the discussion of *bottle* above. In most cases, these two aspects of **Syllable Structure** work together. For instance, *potato, report*, *about* – each has a **consonant** which could form either the **Coda** of the first **syllable**, or the **Onset** of the second **syllable**. **Onset Maximalizm** would force the second analysis, placing the first [**t**] of *potato*, the [**p**] of *report*, and the [**b**] of *about* in **Onset position**; this is supported by the evidence of **Aspiration** in the first two cases. The first **syllable** of each word is therefore **light**; and since all three syllables are **unstressed**, this is unproblematic. Similarly, in words like *penny, follow, camera, apple*, **Onset Maximalizm** would argue for the **syllabifications** *pe.nny, fo.llow, ca.me.ra,* and *a.pple.*

penny		*pe.nny*
follow		*fo.llow*
camera		*ca.me.ra*
apple		*a.pple*

However, in these cases the initial **syllable** is **stressed**, in direct contradiction of the pervasive English **Rule** which states that **no stressed syllable may be light**. In these cases, rather than overruling **Onset Maximalism** completely, we can regard the **problematic medial consonant** as **ambi-syllabic**, or belonging simultaneously in the **Coda** of the **first syllable** and the **Onset** of the **second syllable**. It therefore contributes to the **Weight** of the **initial**, **stressed syllable**; but its **phonetic realization** will typically reflect the fact that it is also in the **Onset** of the **second syllable**. Consequently, as we saw earlier, the /**l**/ in *hilly, follow* appears as **clear**, as befits an **Onset Consonant**, while /**r**/ in *carry* is realized as [**ɹ**], its usual value in **Onset position**, rather than being unpronounced, its usual fate in **Codas**.

Most varieties of English, as we see, have **syllabic consonants** in some words, principally [**l̩**], [**m̩**], [**n̩**], for example at the end of *bottle*, *rhythm*, *button*. In such cases, no phonetic vowel is pronounced between the last two consonants, and the last consonant forms a **syllable** on its own. Syllabic consonants are generally transcribed with a vertical line under the consonant letter, so that phonetic transcription of *bottle* would be [**ˈbɒtl̩**], [**ˈbɑɾl̩**], or [**ˈbɔɾl̩**] in RP, GA, and AuE respectively, and for *button* [**ˈbʌʔn̩**]. In theory, such consonants could be analyzed as individual phonemes. However, this would add several extra consonant phonemes to the inventory for English **[Roach:2009:100-101]** and phonologists prefer to identify **syllabic nasals** and **liquids** phonemically as /əC/ **[Kreidler:2004:84; Wells:1982:1-278]** Thus *button* is phonemically /**ˈbʌtən**/ or /**ˈbɐtən**/ and *bottle* is phonemically /**ˈbɒtəl**/, /**ˈbɑtəl**/, or /**ˈbɔtəl**/. /**θ**/, /**ð**/ are realized as stops in accents

affected by ***th***-stopping, such as Hiberno-English and the New York accent. They are merged with /**f**/, /**v**/ in accents affected by ***th***-fronting, such as some varieties of Cockney and African American Vernacular English.

The voiceless velar fricative /**x**/ is mainly used in Hiberno, Scottish, South African and Welsh English; words with /**x**/ in Scottish accents tend to be pronounced with /**k**/ in other dialects. The velar fricative sometimes appears in recent loan words such as *chutzpah*. Under the influence of Welsh and Africans, the actual phonetic realization of /**x**/ in Welsh English and White South African English is uvular [χ], rather than velar [**x**] **[Wells:1982:389,619;Bowerman:2004:939; Tench:1990:132**]

Dialects do not necessarily agree on the exact words in which /x/ appears; for instance, in Welsh English it appears in loanwords from Welsh, such as *Amlwch* /ˈ**æmlʊx**/, whereas in White South African English it appears only in loanwords from Afrikaans such as *gogga* /ˈ**xɒxə**/ 'insect' [**Wells:1982:389**,**619; Bowerman:2004:939]**

This phoneme is conventionally transcribed with the basic Latin letter /**r**/ – the IPA symbol for the alveolar trill, even though its pronunciation is usually a post-alveolar approximant [ɹ̠]. The trill does exist but it is rare, found only in Scottish dialects and sporadically in RP preceding a stressed vowel in highly emphatic speech or when placing special emphasis on a word. Similarly, the sound at the beginning of *huge* in most accents is a voiceless palatal fricative [**ç**], but this is analyzed phonemically as the consonant cluster /**hj**/ so that *huge* is transcribed /**hju:dʒ**/. As with /**hw**/, this does not mean that speakers pronounce [**h**] followed by [**j**]; the phonemic transcription /**hj**/ is simply a convenient way of representing the single sound [**ç**] **[Roach:2009:43]** The yod-dropping found in Norfolk dialect means that the traditional Norfolk pronunciation of *huge* is [**hʊudʒ**] and not [**çu:dʒ**]

In some conservative accents in Scotland, Ireland, the southern United States and New England, the digraph /**wh**/ in words like ***wh****ich* and ***wh****ine* represents a voiceless /***w***/ sound [**ʍ**], a voiceless labiovelar **[Gimson:2008:230;McMahon:2002:31; Giegerich:1992:36]** or approximant, **[Ladefoged:2006:68]** which contrasts with the voiced /***w***/ of *witch* and *wine*. In most dialects, this sound is lost, and is pronounced as a voiced /***w***/. Phonemically this sound is analyzed as a consonant cluster /**hw**/, rather than as a separate phoneme */**ʍ**/. Thus which and whine are transcribed phonemically as /**hwitʃ**/ and /**hwain**/. This does not mean that such speakers actually pronounce [**h**] followed by [**w**]: the phonemic transcription /**hw**/ is simply a convenient way of representing a single sound [**ʍ**] without analyzing such dialects as having an extra phoneme **[Roach:2009:43]**

RECOMMENDATIONS FOR READING

- Carr [**Carr Philip (1999),** ***English Phonetics and Phonology*****:** ***An Introduction*****, Oxford: Blackwell**],
- Giegerich [**Giegerich Heinz J. (1992),** ***English Phonology: An Introduction*****, Cambridge: CUP**],
- Hogg and McCully [**Hogg Richard M. and C.B. McCully (1987),** ***Metrical Phonology: A Coursebook*****, Cambridge: CUP**] and
- Spencer **[Spencer Andrew (1996),** ***Phonology*****, Oxford: Blackwell]**

all discuss the **Phonology** of the **Syllable** in much more detail than is possible in this lecture.

Information on the **Syllable** from a phonetic point of view can be found in

- Catford [**Catford J.C. (1988)** ***A Practical Course in Phonetics*****, Oxford: OUP**],
- Ladefoged [**Ladefoged Peter (1993)** ***A Course in Phonetics*** **(3rd ed.), New York: Harcourt, Brace Jovanovitch**] and
- Couper-Kuhlen [**Couper-Kuhlen Elisabeth (1986)** ***An Introduction to English Prosody*** **London: Arnold**].

Lecture 10
THE WORD AND ABOVE

10.1 Phonological units above the syllable
10.2 Stress
10.2.1 The phonetic characteristics of stress
10.2.2 Predicting stress placement
10.3 The foot
10.4 Segmental phonology of the phrase and word
10.4.1 Phrase-level processes
10.4.2 Word-internal Morphophonological processes

10.1 PHONOLOGICAL UNITS above the SYLLABLE

Native speakers who are not linguists may be slightly surprised by the discovery, discussed in the last lecture, that they can count **Syllables** and determine the **boundaries** between them. However, they will typically be much more consciously aware of the **word** as a **linguistic unit**, probably because words are **meaningful units**; moreover, in a highly literate society, we are familiar with **orthographic words**, which conveniently appear with white space on each side. Individual **spoken words** or **written words** can also appear in **isolation**: three of the four conversational turns in (1) consist, entirely appropriately and comprehensibly, of **single words**.

(1)
A: *Did you find a babysitter*?
B: *Yes*.
A: *Who*?
B: *Denise*.

However, **words**, like other **linguistic units**, are not entirely straight-forward and trouble-free for native speakers or for linguists. In particular, there are cases where it is difficult to determine how many words we are dealing with. For example,

Is *washing-machine* **one word** or **two words**?

Is it easier or more difficult to decide if we write it as *washing machine*, without the hyphen?

And if we conclude that this is **two words**, then

Where does that leave *teapot*, where two acceptable independent words seem to make up one larger one?

It seems that **compounds** like this take some time to become accepted in the speech community as **single words**: for a while, they appear as **two written words**, though signaling one **distinct concept semantically** – thus, *a washing-machine* washes clothes, not dishes, for which we have *dishwashers*, or cars, which go through *a carwash*. As they are encountered more commonly, they begin to be written with a hyphen, which ultimately drops to leave a **single orthographic word** – although speakers may think of a **compound** as a **single word** before this stage is reached.

Conversely, although *didn't, can't* or *it's* appear as **single written words**, speakers will tend to regard these as **sequences of two words**, contracted by the deletion of a vowel, as signaled by the apostrophe. So, *it's* – in *It's Saturday* – is a **short form** of *it is*, and therefore in a **sense two words**, as distinct from *its* – in *The cat ate its dinner*, which is a **single word** however you look at it.

For **phonological purposes**, we can simply note these tricky exceptional cases, and accept that native speakers typically have a good intuitive idea of what a **word** is, although this is an issue of considerable interest to morphologists. What we are interested in are the **phonological properties** of **words**; and the most important of these, in English at least, is **stress**. As we shall see, although each **word** has its own characteristic **stress** pattern when uttered in isolation, **words** are generally **produced** in strings, combining into **phrases** and whole **sentences**; and **phonological processes** also **operate** at these higher **levels**.

- First, the **position of stress** on the isolated word may change when that **word forms** part of a **larger unit**; and
- Secondly, some **segmental processes**, affecting **vowels** or **consonants**, may also apply between words.

10.2 STRESS

10.2.1 THE PHONETIC CHARACTERISTICS of STRESS

Native speakers of English are intuitively aware that certain **syllables** in each **word** and one **syllable** in particular, will be **more phonetically prominent** than others.

- In *father*, the **first syllable** seems stronger than the **second syllable**;
- in *about*, it is the other way around; and
- in *syllable*, the **first syllable** stands out from the rest

These more **prominent syllables** are **stressed**; and **stress** is a culminative **property**, signaled by a number of **subsidiary phonetic factors**, which work together to pick out a **stressed syllable** from the **unstressed syllables** which surround it. There are three important factors which combine to **signal stress**.

• First, the **vowels** of **stressed syllables** are produced with **higher fundamental frequency**; that is, the vocal folds vibrate more quickly, and this is heard as **higher pitch**.

• Secondly, the **duration** of **stressed syllables** is greater, and they are perceived as **longer**

• Thirdly, **stressed syllables** are produced with **greater intensity**, and are thus heard as louder than adjacent unstressed syllables

• In addition, **stress** has **effects** on **vowel quality**, in that vowels often reduce to **schwa** under **low stress**.

To take our earlier examples of *father*, *about*, and *syllable*, the **stressed syllables** have the **full vowels** [**ɑ:**], [**aʊ**] and [**ɪ**] respectively, but the **unstressed** ones typically have **schwa**; we do not say [**sɪlæbɛl**], for instance, but [**sɪləbəl**] or [**sɪləbl̩**].

The **interaction** of these **phonetic factors** produces an effect which is clearly audible, but crucially relative: that is, we cannot distinguish a stressed from an **unstressed syllable** if each is spoken in isolation, but only by comparing the **syllables** of a **word**, or a longer string, to see which are picked out as more **prominent**. Indeed, **within the word**, there can be more than one **level of stress**. Some words have only stressed versus unstressed syllables, as in *father*, *about* and *syllable*. However, in *entertainment*, the first and the third syllables bear some **degree of stress**. Both have **full vowels** [**ɛ**] and [**eɪ**], as opposed to the unstressed second and fourth **syllables with schwa**; but the third syllable is more stressed than the first. Phonologists distinguish **primary stress** – the **main stress** in the **word**, on the third syllable of *enter**tain**ment* – from **secondary stress** – a **lesser degree** of **stress** elsewhere, here initially. Special **IPA diacritic marks** are placed at the beginning of the **relevant syllable** to show **primary** and **secondary stress**, as in

entertainment [**ˌɛntə`teɪnmənt**],
about [**ə`baʊt**], and
father [**`fɑ:ðə**]

The difference between **secondary stress** and **no stress** is clear in a pair like

raider [**`ɹeɪdə(ɹ)**]

where the **second syllable** is **unstressed** and has **schwa**, versus

radar [**`ɹeɪ ˌdɑ (ɹ)**]

where both **syllables** have **full vowels** and some **degree of stress**, although in both words the **first syllable** is more **stressed** than **the second**.

10.2.2 PREDICTING STRESS PLACEMENT

The languages of the world fall into two **broad classes** in terms of **Stress position**. In fixed-stress languages, **Primary Stress** always or virtually always, **falls** on one **particular syllable**; thus, in Scots Gaelic, **main stress** is consistently **initial**, except in some English **loanwords**, such as *buntata* 'potato', where **Stress** stays on the **syllable** it occupies in the **source language**, here, the second.

Similarly, stress in Swahili consistently falls on the **Penultimate Syllable** of the word. On the other hand, languages may have **Free Stress**, like Russian; here, **words** which **differ semantically** may be identical in terms of **phonological segments**, and differ only in the position of **Stress**, as in Russian *`muka* 'torment' versus *mu`ka* 'flour'.

This division into **fixed languages** and **free-stress languages** is relevant to phonologists because it has a bearing on how children learning the language, and adults using it, are hypothesized to deal with **Stress**. In a **fixed-stress language**, we can assume that children will learn relatively quickly and easily that **Stress Placement** is **predictable**, and will formulate a rule to that effect; if they encounter exceptions to the rule, they may over-generalize the regular pattern, and have to unlearn it in just those cases, so that a child acquiring Scots Gaelic may well produce *`buntata* temporarily for English-influenced *bun`tata*. This is precisely like the situation with other **regular linguistic processes**, like the regular morphological plural rule adding /*-s*/ to nouns, which children typically over-generalize to give *oxes*, *mouses*, *tooths* at an early stage, before learning the appropriate form of these irregular nouns individually. In **free-stress** languages, on the other hand, part of language acquisition involves learning that the **position of stress** is not predictable, but instead has to be memorized as part of the **configuration of each individual word**, along with the particular combination of **vowels** and **consonants** that make it up. There are **no stress rules**: instead, speakers are assumed to have a **mental representation** of each **word** with **stress marked** on it.

English does not fall fully within either class: it is neither a wholly **fixed-stress language**, nor a wholly **free-stress language**. This is in large part a result of its **peculiar history**. English inherited from **Germanic** a **System** with **fixed stress** falling on the **first syllable** of the stem; but it has subsequently been strongly influenced by Latin, French and other Romance languages, because of the sheer number of words it has borrowed. It has therefore ended up with a **mixture** of

the **Germanic Stress Systems** and

the **Romance Stress Systems**

On the one hand, there are **pairs of words** which contrast only by virtue of the **Position** of **Stress**, such as

con`vert* (verb) vs. *`convert (noun)

pro`duce* (verb) vs. *`produce (noun)

This initially makes English look like a **Free Stress language**, like Russian, but turns out to reflect the fact that such **Stress Rules** as English has vary **depending on the lexical class** of the **word** they are applying to.

On the other hand, there are some **General Stress Rules**, as in (2), which do allow **Stress Placement** to be predicted in many English words.

(2)

a.	a.`ro.ma a. `gen.da `di.sci.pline	Noun rule: stress the penultimate syllable if heavy. If the penultimate syllable is light, stress the antepenult
b.	o.`bey	**Verb rule**: stress the **final syllable** if heavy.

	u.`surp a.`tone `ta.lly `hu.rry	If the final syllable is light, stress the penultimate syllable

These **Stress Rules** depend crucially on the **weight** of the **syllable**: recall from the last lecture that a **Syllable** will be **HEAVY** if it has a branching rhyme, composed of either a **long vowel** or **diphthong**, with or without a coda, or a **short vowel** with a **coda**. A syllable with a **short vowel** and **no coda** will be **LIGHT**. As (2a) shows, English **nouns** typically have **Stress** on the **Penultimate Syllable**, so long as that **Syllable** is **Heavy**, which it is in

- *aroma*, with a **long** [**o:**] **vowel** or a **diphthong** [**oʊ**] depending on the **Accent**, and in
- *agenda*, where the relevant **vowel** is **short** [**ɛ**], but followed by a **consonant**, [**n**]; this must be in the coda of **syllable two** rather than the onset of **syllable three**, since there are no ***[nd]** initial clusters in English

However, in *discipline* the **penultimate syllable** is **light** [**sɪ**]; the following [**pl**] **consonants** can both be in the onset of the **third syllable**, since there are initial clusters of this type in *play, plant, plastic* and so on. Since [**sɪ**] has only a **short vowel** and no **coda consonants**, it fails to attract stress by the **Noun Rule**, and the **Stress** instead falls on the previous, initial **Syllable**.

A similar pattern can be found for **verbs**, but with **Stress** falling consistently one **syllable** further **to the right**. That is, the **Verb Rule** preferentially **stresses Final syllables**, so long as these are **Heavy**.

So, *obey* with a final long vowel or diphthong, has Final stress, as do *usurp* having a **final syllable** [**ɜ:p**] for **SSBE**, with a **long vowel** and a **coda consonant**, and [**ʌɻp**] for **SSE**, for instance, with a **short vowel** and **two coda consonants**, and *atone* with a **long vowel** or **diphthong** plus a **consonant** in the coda. However, both *tally* and *hurry* have **final Light syllables**, in each case consisting only of a **short vowel** in the rhyme. It follows that these **cannot attract Stress**, which again falls in these cases one **Syllable further left**.

These **Stress Rules** are effective in accounting for **Stress Placement** in many English **nouns** and **verbs**, and for native speakers' actions in determining **Stress Placement** on ***borrowed words***, which are very frequently altered to conform to the English patterns. However, there are still **many exceptions**. A noun like *spaghetti*, for instance, thought by the **Noun Rule** to have **Antepenultimate Stress**, giving *`spaghetti*, since the **penultimate syllable** [**gɛ**] is **Light**; but in fact **Stress falls** on the **penultimate syllable**, following the original, Italian pattern – in English, the <**tt**> is of course pronounced as a single [**t**], not as two [**t**]s or a **long** [**t**].

Although the **Noun Rule** stresses **penultimate syllables** or **antepenultimate syllables**, nouns like *machine, police, report,* and *balloon* in fact have **Final stress**. There are also cases where the **Stress** could, in principle, appear anywhere: in *catamaran*, for instance, the **Stress** pattern is actually *`catama**,**ran*, with **Primary Stress** on the **first syllable** and **Secondary Stress** on the **final syllable**, again in

contradiction of the **Noun Rule**, which would predict *ca`tamaran*, as in *De`cameron*, with **Antepenultimate Stress** as the **penult** is **Light**. There is equally no good reason why we should not find ***,cata`maran***, as in ***,Alde`baran***; while another ***logical possibility***, ***,catama`ran***, has a pattern more commonly found in **phrases**, such as

,flash in the`pan, or

,Desperate`Dan

It seems that the **Noun Rule** and **Verb Rule** are misnomers; these are not really rules, though they do identify discernible tendencies.

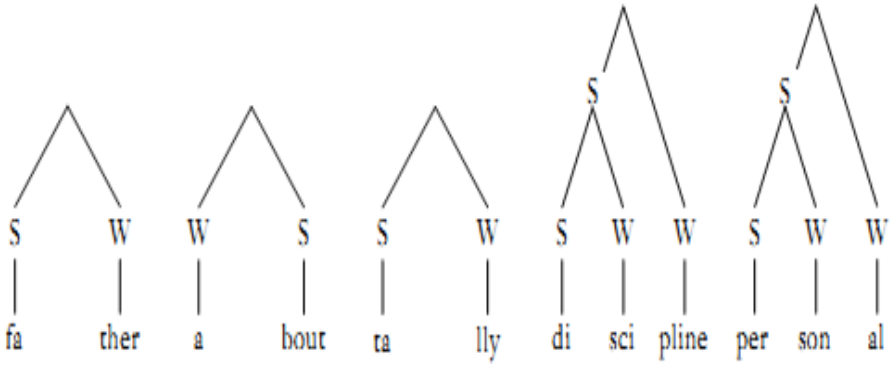
Leaving aside the question of **predictability**, we can certainly describe the **Position of Stress** on particular words accurately and clearly using **Tree Diagrams**. In these diagrams, which form part of a **theory** called **Metrical Phonology**, each **syllable** is labeled either **S** or **W**: and because **Stress**, as we saw above, is not an absolute but a relative property of **Syllables**, these labels do not mean '**Strong**' and '**Weak**', but '**Stronger than an adjacent W**' and '**Weaker than an adjacent S**', respectively.

S – '**Stronger** than an adjacent **W**'

W – '**Weaker** than an adjacent **S**'

Some illustrative trees are shown in (3).

(3)

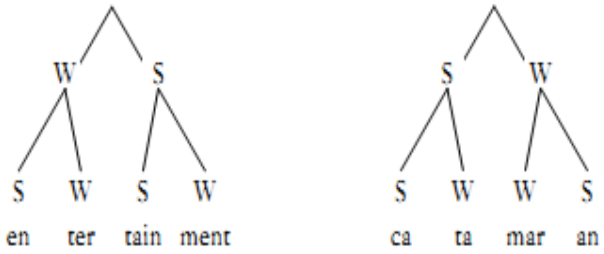


Trees of this sort allow us to compare different words at a glance and tell whether their prominence patterns, and thus the **Position of Stress**, are the same or not; from (3), we can see that *father* and *tally* share the same **Stress pattern**, though *about* has the relative prominence of its **two syllables** reversed. This is particularly important for **longer words** with more **syllables**, where **prominence patterns** are naturally more **complex**; so, (3) also shows that *discipline* and *personal* have the same **Stress Patterns**. Note that, even in longer words, **Metrical trees** can only branch in a binary way: that is, each higher S or W node can only branch into two **Lower-level** constituents, never more. This is straightforward enough for **disyllabic words** like *father, about* and *tally*; but in *discipline, personal*, **tree construction** involves **two steps**. Initially, the first two nodes are put together; then the **higher-level S** node these form is in turn combined with the **leftover W** syllable, to form another binary unit. This kind of pattern can be repeated in even longer words.

In cases involving both **primary stresses** and **secondary stresses**, these trees are particularly helpful: (4) clearly shows the different patterns for *entertainment*

and *catamaran*. In particular, the trees allow us easily to identify the **Main Stress** of each word, which will always be on the **Syllable** dominated by nodes **marked S** all the way up the tree.

(4)

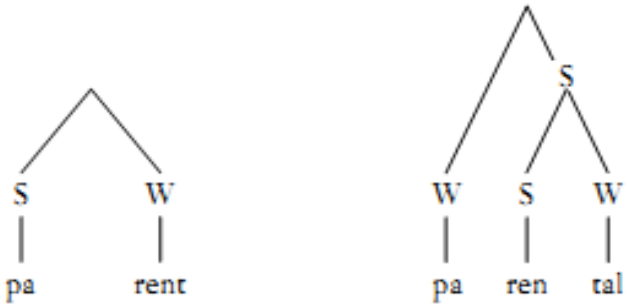


Finally, **Metrical trees** are useful in displaying the **Stress patterns** of related words. In English, as in many other languages, **Stress** interacts with the **morphology**, so that the addition of particular suffixes causes **Stress** to shift. Most suffixes are **Stress-neutral**, and do not affect **Stress placement** at all: for instance, if we add

`**a**tom	+	/-**ize**/	`atomize
`**ha**ppy	+	/-**ly**/	`happily
`grumpy	+	/-**ly**/	`grumpily
`**ki**tchen	+	/-ette/	,kitchen`**ette**
`**mo**ther	+	/-**ese**/	,mother`**ese**
`**a**tom	+	/-**ic**/	a`tom**ic**,
e`**lec**tric	+	/-**ity**/	elec`tric**ity**
`**pa**rent	+	/-**al**/	pa`rent**al**

/-***ize***/ to *`atom*, the result is *`atom**ize***; similarly, adding /-***ly***/ to *`happy* or *`grumpy* produces *`happi**ly***, *`grumpi**ly***, with **Stress** remaining on the **first syllable**. However, there are two other classes of suffixes which do influence **Stress placement**. The first are **Stress-attracting suffixes**, which themselves take the **Main stress** in a **morphologically complex word**: for example, adding /-***ette***/ to *`kitchen*, or /-***ese***/ to *`mother*, produces, *,kitchen`**ette*** *,mother`**ese***. Other suffixes, notably /-***ic***/, /-***ity***/ and adjective-forming /-***al***/, do not become **stressed** themselves, but cause the **Stress** on the stem to which they attach to retract one **syllable** to the right, so that *`atom*, *e`lectric* and *`parent* become *a`tom**ic***, *elec`tric**ity*** and *pa`rent**al***. The varying **Stress patterns** of related words like *parent* and *parent**al*** can very straightforwardly be compared using **tree diagrams**, as in (5).

(5)



There is one final category of word with its own characteristic **Stress pattern**. In English compounds, which are composed morphologically of two independent words but signal a single concept, **Stress** is characteristically on the first element, distinguishing the compounds *`greenhouse* and *`blackbird* from the phrases *a ,green`house*, *a ,black`bird*. Semantically too, the difference is obvious: there can be brown blackbirds (female blackbirds are brown), or blue greenhouses, but *The ,green`house is blue* is semantically ill-formed. In phrases, the adjectives *black* and *green* are directly descriptive of the noun, and have to be interpreted that way; on the other hand, the meaning of compounds are not determined compositionally, by simply adding together the meanings of the component parts, so that *greenhouse* signals a particular concept, with no particular specification of colour. **Stress** is clearly crucial in marking this difference between compounds and phrases; in noting it, however, we are already moving beyond the word, and into the domain of even larger **phonological units**.

10. 3 THE FOOT

So far we have been assuming that **syllables group** into words, with some words being composed of only a **single syllable**. Strictly, however, the word is not a **phonological unit**, but a **morphological unit** and **syntactic** one; and as we shall see in the next section, phonological processes are no great respecters of word boundaries, operating between words just as well as within them. The next biggest ***Phonological* Unit** above the **Syllable** is the **Foot**.

The normally accepted definition is that each **Phonological Foot** starts with a **stressed syllable**, though we shall encounter an apparent exception below, and continues up to, but not including, the **next stressed syllable**. This means that *cat in a hat* consists of **two feet**, the first containing *cat in a*, and the second, *hat*. Although *cat flap* consists of only two words or indeed one, if we agree this is a compound, as opposed to four in *cat in a hat*, it also consists of **two feet**, this time one for each **syllable**, since both *cat* and *flap* bear some degree of **stress**. Indeed, because English is a **stress-timed language**, allowing approximately the same amount of time to produce each foot, as opposed to **syllable-timed languages**, like French, which devote about the same amount of time to each syllable regardless of stress, *cat in a hat* and *cat flap* will have much the same **phonetic duration**. The same goes for *the cat sat on the mat*, with rather few **unstressed syllables** between the stressed ones, and *as snug as a bug in a rug*, with a regular pattern of two **unstressed syllables** to each **stress**. This **Isochrony of Feet**, whereby feet last for

much the same time regardless of the number of syllables in them, is responsible for the **characteristic rhythm** of English.

1.

cat in a **hat**			
1st foot		2nd foot	
cat in a,		hat.	
1st word	2nd word	3rd word	4th word
cat	in	a	hat

2.

cat flap	
1st foot	2nd foot
cat,	flap.
1st word	2nd word
cat	flap.

3.

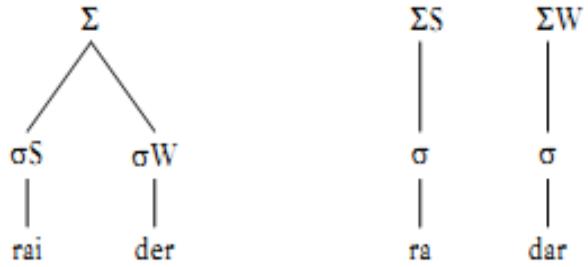
the **cat** sat on the **mat**					
1st foot			2nd foot		
the **cat** sat			on the **mat**		
1st word	2nd word	3rd word	4th word	5th word	6th word
the	cat	sat	on	the	mat

4.

as **snug** as a bug in a **rug**							
1st foot					2nd foot		
as **snug** as a bug					in a **rug**		
1st word	2nd word	3rd word	4th word	5th word	6th word	7th word	8th word
as	snug	as	a	bug	in	a	rug

Like **syllables**, **feet** can also be contrasted as **stronger** and **weaker**. Sometimes, there will be more than **one foot** to the word; for instance, as we saw earlier, a word like *`raider*, with **primary stress** on the **first syllable** and no stress on the second, can be opposed to *`ra,dar*, with **primary stress** versus **secondary stress**. It is not possible to capture this distinction using only **syllable-based trees**, since both *raider* and *radar* have a *stronger* **first syllable** and a *weaker* **second syllable**. However, these two **W** nodes are to be interpreted in two different ways, namely as indicating no stress in *raider*, but secondary stress in *radar*. To clarify the difference, we must recognize the **foot**. *Raider* then has a single **foot**, while *radar* has two, the first **S** and the second **W**. Recall that small sigma (**σ**) indicates a **syllable**, and capital sigma (**Σ**), a **foot**.

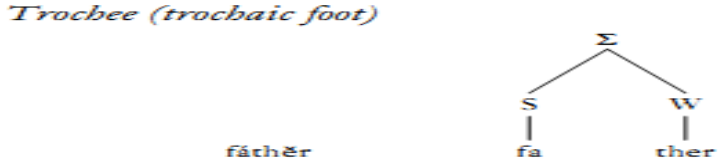
(6)

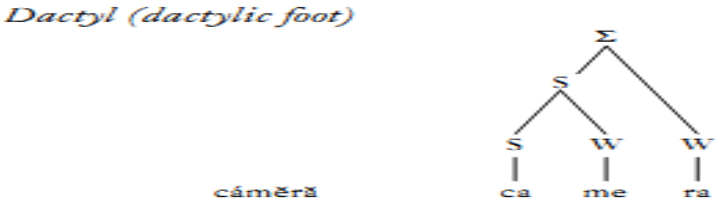


In other cases, the same number of feet may be spread over more than one word, so that *`cat ,flap* has two feet, related as **S** versus **W**, while *,cat in a `hat* also has two **feet**, although here the first foot is larger, including /*in a*/ as well as /*cat*/, and the prominence relationship of **WS** reflects the fact that /*cat flap*/ is a compound bearing initial **primary stress**, while /*cat in a hat*/ is a phrase, with main stress towards the end.

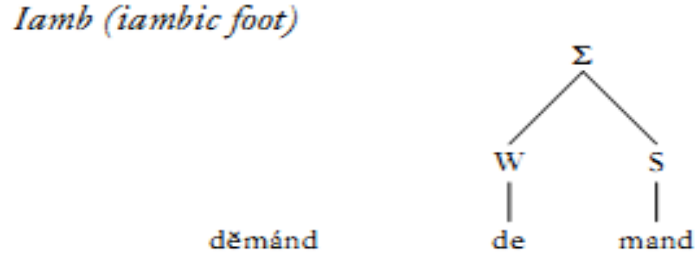
Feet can also be classified into types, three of which are shown in (7). The **iambic type**, structured **WS**, contradicts the claim above that all feet begin with a **stressed syllable**; but in fact, at the connected speech level, the first, **unstressed syllable** in such cases will typically become realigned, attaching to the preceding foot. So, in *cup of tea*, the **weak syllable** *of* will be more closely associated with the preceding **stronger syllable**, with which it then forms a **trochaic foot**, than with the following one, as evidenced by the **common contraction** *cuppa* for *cup of*.

(7) **Trochee (trochaic foot)**





Dactyl (dactylic foot)



These **Foot Types** are important in **scansion**, or **analyzing verse**. For example, the blank verse of Shakespeare's plays involves **iambic pentameters**: each line has five **iambic feet**, as shown in the metre of two lines from ***The Merchant of Venice*** (8).

(8)

Thě quálítý ŏf mércў ís nŏt stráined
Ĭt dróppěth ás thě géntlě ráin frŏm héaven

To take a less exalted example (9) shows 2 lines with rather different **metrical structure**. The first consists of 2 dactyls and a final '**degenerate**' **foot** composed of a **single stressed syllable**. Note that a foot of this kind, like *dock* here, or any monosyllabic word like *bit*, *cat* in normal conversation, cannot really be labeled as **S** or **W**: since **stress** is **relational**, it requires comparison with **surrounding feet**. The second line is again made up of **iambic feet**.

(9)

Híckŏry díckŏry dóck
Thě móuse răn úp thě clóck

Finally, taking another nursery rhyme, since these often have particularly **clear** and **simple metre**, a line like ***Márў, Márў quíte cŏntrárў*** is composed of four **trochaic feet**.

Poetry also provides an excellent illustration of the English preference for **alternating stress**. It does not especially matter whether we have sequences of **SWSWSWSW**, or **SWWSWWSWWSWW**; but what does matter is avoiding either lapses, where too many unstressed syllables intervene between **stresses**, or **clashes**, where stresses are adjacent, with no unstressed syllables in between at all. The English process of **Iambic Reversal** seems designed precisely to avoid **stress clashes** of this kind. It affects combinations of words which would, in isolation, have **final stress** on the first word and **initial stress** on the second. For instance, (10) shows that the **citation forms**: that is, the formal speech pronunciation of a word alone, rather than in a phrase, of *thirteen* and *champagne* have **final stress**.

(10)

A: *How many people turned up*?
B: ***,****Thir `teen*.

A: *What are you drinking*?
B: ***,****Cham`pagne*.

However, when **final-stressed** words like *thirteen* and *champagne* form phrases with **initial-stressed** ones like *players* or *cocktails*, the **stress** on the 1st word in each phrase moves to the left, so that in

`thir ,teen `players

and

`cham ,pagne `cocktails

both words have **initial stress**. This is clearly related to the preference of English speakers for **eurhythmic alternation** of **Stronger** and **Weaker syllables**, as illustrated in (11).

(11)

WS	**SW**		**SW**	**SW**
thirteen	*players*	→	*thirteen*	*players*
WS	**SW**		**SW**	**SW**
champagne	*cocktails*	→	*champagne*	*cocktails*

If these words retained their **normal stress** pattern once embedded in the phrases, we would find **clashing sequences** of **WSSW**, as shown on the left of (11), in **violation of eurhythmy**; consequently, the **prominence pattern** of the first word is reversed, changing from an **iamb** to a **trochee** – hence the name **Iambic Reversal**. The result is a sequence of two **trochaic feet**, giving SWSW and **ideal stress** alternation.

It is also possible, however, for the **normal stress** patterns of words to be disrupted and rearranged in an altogether less **regular** and **predictable** way, reflecting the fact that **stress** is not only a **phonological feature**, but can also be used by speakers to **emphasize** a **particular word** or **syllable**. If one speaker mishears or fails to hear another, an answer may involve **stressing** both **syllables** in a word, in violation of **eurhythmy**: so, the question

What did you say?

may quite appropriate elicit the response

`thir `teen

Similarly, although phrases typically have **final stress**, a speaker emphasizing the first word may well produce the pattern

a `cat in a `hat

rather than

a ,cat in a `hat

This is partly what makes the study of **intonation**, the prominence patterns of whole utterances, so complicated. It is true that there is a **typical** '**tune**' associated with each **utterance type** in English: for instance, **questions** typically have **raised pitch** towards the end of the sentence, while **statements** have a **pitch shift downwards** instead. However, the **stress patterns** of particular words, which may themselves be altered for emphasis, interact with these overall **tunes** in a highly complex and fluid way.

Furthermore, speakers can use **stress** and **intonation** to signal their attitude to what they are saying; so that although *No* spoken with **slightly dropping pitch** signals **neutral agreement**, it may also be produced with **rising pitch** to signal **surprise**, or indeed with **rising**, **falling**, and **rising intonation**, to show that the speaker is **unsure** or **doubtful**. In addition, **intonation** is just as **subject to change** over time, and under **sociolinguistic pressures**, as any other area of **Phonology**. To take one case in point, there is currently a growing trend for younger women in the south-east of England in particular to extend to statements the **high rising tune** characteristic of **questions**, so that

She's going out

She's going out?

will have the **same** characteristic **intonation** pattern for these speakers. Whatever the source of this innovation, with the influence of Australian television soaps like *Neighbours* being a favourite popular candidate, it shows that **intonation** is not **static**, and that there is no single, necessary connection between **particular patterns** and **particular utterance types**. These complexities, combined with the fact that the **analysis of intonation** has its own, **highly**

complex and often **variable**, technical terms and conventions, mean that it cannot be pursued further here.

10.4 SEGMENTAL PHONOLOGY of the PHRASE and WORD

10.4.1 PHRASE-LEVEL PROCESSES

Although the main focus of this part of the Lecture has inevitably been on **Stress** and **Prominence**, this is not the only **phonological characteristic** of the **word** and **phrase** levels: **segments** may also be affected by those **adjacent** to them. The bulk of these **segmental phonological processes** are characteristic of **fast speech** and **casual speech**, and are often referred to as **Connected Speech Processes** – **CSPs** for short. These generally involve either

- **assimilations** – whereby two adjacent sounds become more similar in quality, as the articulations used to produce them become more similar, or
- **reductions**

both these process types are natural consequences of talking more quickly and perhaps less carefully. Most CSPs are also optional, and will tend to be suspended or at least occur less frequently in more formal situations and in slower speech. To take just two examples, when two adjacent words have final and initial **stops**, these typically come to share the same place of articulation, so that *sit close* will tend to have

medial [**kk**], and *odd message* [**bm**].

si**t c**lose – [**kk**]

od**d m**essage – [**bm**]

Function words like *he*, *than*, *you, my* also frequently reduce to [**ɪ**], [**ðən**] or even [**ən**], [**jə**], [**mə**]: all these component processes, notably

loss of consonants – in *he, than*,

shortening of vowels – in *he* again, and

reduction of vowels to schwa – in *than, you, my*

as a result of loss of stress, are segmental weakenings.

Speaking quickly and **speaking informally** will also tend to **cut the duration** of **unstressed vowels** in full lexical words like *nouns*, *verbs* and *adjectives*, with a **concomitant effect** on their quality. In words like ***de**duce*, ***pro**found*, ***con**nect*, the **first syllable** in **careful speech** may contain a **full vowel**, [**i**], [**aʊ**] or [**ɔ**] respectively; but in faster speech and more relaxed circumstances, these are highly likely to be **reduced** to **schwa**

***de**duce* – [d**i** `dju:s] – [d**ə**`dju:s]

***pro**found* – [pr**aʊ** `faʊnd] – [pr**ə**`faʊnd]

***con**nect* – [k**ɔ** `nekt] – [k**ə**`nekt]

Work by D.B. Fry in 1947 reported that nearly 11% of **vowel phonemes** in English consisted of /**ə**/, with its nearest rival, at 8%, being /**i**/, the other **vowel** frequently found **in unstressed syllables**. To put this in perspective, all other vowels in the survey fell below 3%. This indicates clearly how common **unstressed syllables** were in 1947; and they are not likely to have **reduced** in

frequency since. In some cases, however, **vowels** do not only **reduce** in **fast speech**: they are **deleted [Fry:1947:103-106].**

A word like *connect*, in **connected speech**, could be pronounced either as [**kənɛkt**] or [**knɛkt**]; and in cases like this one, and *potato* [**pteɪtoʊ**], the result actually violates the **Phonotactics** of English, since *[**kn**] and *[**pt**] are not **permissible clusters**.

connect – [**kənɛkt**] → [**knɛkt**]

potato – [**pəteɪtoʊ**] → [**pteɪtoʊ**]

Such processes do not always affect vowels, however: sometimes both **vowels** and **consonants** are **elided** in **fast speech**, so that **whole syllables** may vanish when we compare the **citation forms of words** like *February*, *veterinary* with their **fast speech equivalents**,

February → [**fɛbɹi**], *veterinary* → [**vɛʔnɹi**]

Note also [**ʔ**] for /**t**/ in the second example; **reduction** of a **stop** to a **glottal stop**, or indeed to a **fricative**, is another example of **lenition** or **weakening**. Moreover, **phonological reductions** and **phonological assimilations** across word boundaries typically affect **consonants** rather than **vowels**. For example, at the phrase level, word-final /**s**/ followed by word-initial /**j**/ often combine to produce [ʃ], so that *race you* is often [**ɹeɪʃə**], not the **citation form** [**ɹeɪsju**].

race you → [**ɹeɪʃə**]

In this case, a very similar process also takes place word internally, resulting in medial [ʃ] in *racial*; but again typically, these word-internal cases are not so clearly optional, and [**ɹeɪsjəl**] would tend to be seen as old-fashioned or an example of a speaker trying too hard to speak 'correctly'.

racial – [**ɹeɪsjəl**] →[**ɹeɪʃəl**]

Another very common process applying between words is [**ɹ**]**-intrusion** in **non-rhotic accents** of English, where [**ɹ**] appears between [**ɑ**], [**ɔ**], or [**ə**] and another following vowel, although there is no <**r**> in the spelling and no **etymological** /**r**/ in the word concerned. For instance, the name of a tennis tournament, *the Stella Artois event*, will typically in casual speech be pronounced as [**ðəstɛləɹɑtwɑɹəvɛnt**], with intrusive [**ɹ**] after both cases of <**a**>;

the Stella Artois event – [**ðəstɛləɹɑtwɑɹəvɛnt**]

and similarly, we find well-known examples like *the idea is* [**ðiaɪdiəɹɪz**] and *law and order* [**lɔɹənɔdə**]. Again, this process also takes place within words, as in

sheep baa[**ɹ**]*ing*,

draw[ɹ]*ing*,

magenta[ɹ]*ish*.

the idea is – [**ðiaɪdiəɹɪz**]

law and order [**lɔɹənɔdə**]

sheep baa[ɹ]*ing*

draw[ɹ]ing

magenta[ɹ]*ish*

This might, on the face of it, seem a rather unusual **fast speech process**, since it involves the **addition of a segment**; but producing two vowels side-by-side appears to be rather difficult for speakers, and an **intrusive consonant** may allow more **fluid** and less **hesitant speech**. Many of these processes therefore have a **similar rationale**, in making life easier for speakers, and allowing speech tempo to be kept **consistently fast**.

10.4.2 WORD-INTERNAL MORPHOPHONOLOGICAL PROCESSES

However, there is another class of **Segmental Phonological Processes**. In contrast to the **Connected-Speech Processes** discussed above, these do not apply across word boundaries, but are rather confined **within words**, where they tend to take place in response to the addition of a particular suffix – generally those suffixes identified as **causing stress retraction** in 10.2.2. Forms with these suffixes are also prone to odd and irregular **segmental processes**. For instance, when the suffix /*-ity*/ is added to *electric*, the final [**k**] of *electric* becomes [**s**] in *electricity*. The same suffix may also alter the stem vowel: when /*-ity*/ is added to *divine, sane, serene*, the **long stressed vowels** of the stems are **shortened** in *divinity*, *sanity*, *serenity*. These changes are also unlike CSPs in that it is often hard to see why they take place where they do: while a fast **speech reduction** or **assimilation** is generally a response to **speed of speech**, and involves ease of **articulation pressures**, the word-internal type typically creates an alternation between two independent **phonemes**, not directly motivated by the **phonological context**, as in the /**k**/ and /**s**/ of *electric – electricity*. Even where there does seem to be a **reduction**, as in the shortening of the **stressed vowel** in *divine* to *divinity* on the addition of the /*-ity*/ suffix, it is not obvious why this particular suffix should have this effect; and it cannot be ascribed to speed of speech, since these **morphophonological processes** are obligatory, regardless of **speed of speech** or **sociolinguistic factors**: hence, the **citation forms** of *electricity*, *divinity* will also show these changes.

Although the affixes which provoke these **segmental changes** generally also influence the **position of stress**, this is not always the case. For instance, adding the Past Tense marker /***-t***/ or /***-d***/ to irregular verbs like *keep – kept*, *sleep – slept*, *leap – leapt* has no effect on stress, but does seem to cause a **categorical**

shortening of the stem **vowel**. One of the most **important jobs** for phonologists, bearing in mind the focus discussed throughout this issue on

- what speakers know about their language, and
- what they must be assumed to do in order to learn, produce and understand it,

is to work out where to draw the line between **productive processes** which speakers apply regularly and which they will **generalize** to new forms in the language, and **fossilized processes** which might have started out as regular **phonetic developments**, perhaps CSPs, in the history of the language, but which are now simply associated with individual words or small groups of words. That is, perfectly natural **phonetic processes** may in time become less transparent, and less regular. In the case of *keep – kept* or *divine – divinity*, we must ask ourselves whether the **processes of vowel shortening**, which perhaps were **regular** and **phonetically motivated** centuries ago, are still part of native speakers' **active knowledge** of English, and still involve those speakers in actual processes of **adding suffixes** and **shortening vowels**; or whether children must learn that words like *keep* and *divine* have related, but different forms which are stored separately and produced on appropriate **syntactic occasions**. Since **Phonology**, like all other areas of language, is consistently undergoing **change** and **development**, with new processes constantly arising and different **accents** diverging, our only definite conclusion can be that today's **connected-speech processes** will present tomorrow's **phonologists** with exactly the same problem.

RECOMMENDATIONS FOR READING

- Carr [**Carr Philip (1999) *English Phonetics and Phonology: An Introduction*, Oxford: Blackwell**]
- Giegerich [**Giegerich Heinz J. (1992) *English Phonology: An Introduction*, Cambridge: CUP**]
- Roach [**Roach Peter (2001) *English Phonetics and Phonology: A Practical Course* 2nd ed. Cambridge: CUP**] and
- Spencer **[Spencer Andrew (1996) *Phonology*, Oxford: Blackwell]**

all provide further information on the complexities of English stress, while

- Couper-Kuhlen [**Couper-Kuhlen Elisabeth (1986) *An Introduction to English Prosody*, London: Arnold**]
- Cruttenden [**Cruttenden Alan (1986), *Intonation*, Cambridge: CUP**] and
- Roach **[Roach Peter (2001) *English Phonetics and Phonology: A Practical Course* 2nd ed. Cambridge: CUP]**

give detailed descriptions of English Intonation and its analysis. A more theoretical approach to Intonation is reported in

- Ladd [**Ladd D. Robert (1996) *Intonational Phonology*, Cambridge: CUP**]

The difference between Phonological processes which interact with the morphology and those which are closer to the Phonetics forms the basis of Lexical Phonology;

- Kaisse and Shaw [**Kaisse Ellen** and **Patricia Shaw (1985)**, **'*On the theory of Lexical Phonology*'**, **Phonology Yearbook**, **2:1-30**] provide a helpful outline of this model.

REFERENCES

1. Aitchison J. The Articulate Mammal, London: Hutchinson. 1983.
2. Archangeli D., Langendoen D.T. (ed) Optimality Theory: An Overview. Oxford: Blackwell. 1997

3. Ball M., Rahilly J. Phonetics: The Science of Speech. London: Arnold. 1999.
4. Bowerman S. White South African English: Phonology. Mouton de Gruyter. 2004. pp. 931-942.
5. Campbell L. Historical Linguistics. Edinburgh: EUP. 1998
6. Carr Ph. English Phonetics and Phonology: An Introduction. Oxford: Blackwell. 1999.
7. Carr Ph. Phonology. London: Macmillan. 1993.
8. Catford J.C. A Practical Course in Phonetics. Oxford: OUP. 1988.
9. Catford J.C. Fundamental problems in phonetics. Bloomington. IN: IUP. 1977.
10. Chambers J.K., Trudgill P. Dialectology. Cambridge: CUP. 1980.
11. Chomsky N., Halle M. The Sound Pattern of English. New York: Harper & Row. 1968.
12. Cole J. Hualde J. A primary goal of Phonology. The Blackwell Companion to Phonology. 2011.
13. Coulmas F. The Writing Systems of the World. Oxford: Blackwell. 1988.
14. Couper-Kuhlen E. An Introduction to English Prosody. London: Arnold. 1986.
15. Cruttenden A. Intonation. Cambridge: CUP. 1986.
16. Crystal D. How Language Works. Overlook Press. 2005.
17. Crystal D. The Cambridge Encyclopedia of the English Language 2nd ed. Cambridge: CUP. 2003
18. Davenport M., Hannahs S.J. Introducing Phonetics and Phonology, London: Arnold. 1998.
19. Durand J. Generative and Non-Linear Phonology. London: Longman. 1990.
20. Fletcher P., MacWhinney B. The Handbook of Child Language. Oxford: Blackwell. 1994.
21. Fry D.B. The frequency of occurrence of speech sounds in Southern English. Archives néerlandaises de phonétique expérimentale 20.1947. pp. 103-106.
22. Geoffrey S.N. Phonology: A Cognitive Grammar Introduction. John Benjamins. 2008
23. Giegerich H.J. English Phonology: An Introduction. Cambridge: CUP. 1992.
24. Gimson A.C., Cruttenden A. ed. Pronunciation of English. Hodder. 2008.
25. Graddol D., Leith D., Swann J. English: History, Diversity and Change. London: Routledge. 1996
26. Gussenhoven C., Jacobs H. Understanding Phonology. London: Arnold. 1998.
27. Hogg R.M., McCully C.B. Metrical Phonology: A Course book. Cambridge: CUP. 1987.
28. Hudson R. A. Sociolinguistics. 2nd ed. Cambridge: CUP. 1995.
29. IPA. The Handbook of the International Phonetic Association. Cambridge: CUP. 1999.
30. Jones Ch. (ed.). The Edinburgh History of the Scots Language. Edinburgh: EUP. 1997.
31. Kager R. Optimality Theory. Cambridge: CUP. 1999.
32. Kaisse E., Shaw P. On the theory of Lexical Phonology. Phonology Yearbook 2 1985. pp.1-30
33. Katamba F. An Introduction to Phonology. London: Longman. 1988.
34. Kingston J. The Phonetics-Phonology Interface. Paul de Lacy ed. The Cambridge Handbook of Phonology. Cambridge: CUP. 2007
35. Kreidler Ch. The Pronunciation of English. Blackwell. 2004.
36. Ladd D. R. Intonational Phonology. Cambridge: CUP. 1996.
37. Ladefoged P. A Course in Phonetics 5th ed. Fort Worth: Harcourt College Publishers. 2006.
38. Lass R. Phonology. Cambridge: CUP. 1984.

39. Laver J. Principle of Phonetics. Cambridge: CUP. 1994.
40. Lodge K. Fundamental Concepts in Phonology. Cambridge: CUP. 2009.
41. McMahon A. An Introduction to English Phonology. Edinburgh. 2002.
42. Minifie F.D., Hixon Th.J., Williams F. (eds.). Normal aspects of speech, hearing and language. Englewood Cliffs. NJ: Prentice-Hall. 1973.
43. Odden D. Introducing Phonology. 2nd ed. Cambridge: CUP. 2013.
44. Pinker S. The Language Instinct. London: Penguin. 1994.
45. Roach P. English Phonetics and Phonology: A Practical Course. 4th ed. Cambridge: CUP. 2009
46. Rogers H. The Sounds of Language: An Introduction to Phonetics. 2nd ed. Routledge. 2014
47. Sampson G. Writing Systems, London: Hutchinson. 2008.
48. Schneider E.W., Burridge K., Kortmann B., Mesthrie R., Upton C. A handbook of varieties of English 1: Phonology. Mouton de Gruyter. 2004.
49. Spencer A. Phonology. Oxford: Blackwell. 1996.
50. Tan L. The vowel system of Singapore English. Unpublished M. Phil. essay. Department of Linguistics. University of Cambridge. 1998.
51. Tench P. The Pronunciation of English in Abercrave // Coupland N., Thomas A. R. English in Wales: Diversity, Conflict and Change. Multilingual Matters. Ltd. 1990. pp. 130-141.
52. Trask R.L. Historical Linguistics. London: Arnold. 1996.
53. Trudgill P. The Dialects of England. (2nd ed.) Oxford: Blackwell. 2000.
54. Tsutomu A. Phonology. The Linguistics Encyclopedia**.** 2nd ed Routledge. 2004
55. Tan L. The vowel system of Singapore English. Unpublished M. Phil. essay Department of Linguistics. Cambridge: CUP. 1998
56. Wells J.C. Accents of English. 3 vols. Cambridge: CUP. 1982.
57. Wells J.C. Syllabification and allophony //Ramsaran S. Studies in the Pronunciation of English: A Commemorative Volume in Honour of A.C. Gimson. London: Routledge. 1990. pp. 76-86
58. Wolfram W., Schilling-Estes N. American English: Dialects and Variation. Oxford: Blackwell. 1996.

English Phonology System

5111400 - Шет тили ҳәм әдебияты (инглис тили)
бакалавр бағдары студентлери ушын

SEMINAR PRESENTATIONS

TOPICS, QUESTIONS AND TASKS FOR DISCUSSION

SEMINAR PRESENTATIONS PLAN
ENGLISH PHONOLOGY SYSTEM in
TOPICS, QUESTIONS AND TASKS FOR DISCUSSION *AT SEMINARS*
Seminar № 1
Phonology and Phonetics as a Branch of Linguistics

	Questions for discussion
1	What does the term «language» denote? What is the distinction between the system and the structure of a language? What is the distinction between the terms «substance» and «form»? What do we mean by the content and expression? What forms of speech do you know?
2	Give the definition of phonology? Explain the theoretical, scientific and practical importance of phonology. What types of phonology do you know?
3	Explain the work of speech organs. What is phonetic basis?
4	What aspects of phonetics do we distinguish?
5	How do we define a speech sound from the articulatory point of view? What instrumental methods are used in the articulatory aspect?
6	What is a speech sound or an utterance from the acoustic point of view? What is fundamental frequency? What is intensity (or loudness)? What is a filter? What is the acoustic spectrum? What is a formant structure of a sound? What do we mean by harmonics (or overtones)? Explain the instrumental methods used in the acoustic aspect. What is the difference between quality and quantity features?
7	What does the term timbre denote? Explain the perceptual (auditory) aspect.
8	What does phonological aspect study? What is the difference between phonological aspect and phonetic aspect? What levels of phonetic and phonological investigation do you know? What does segmental phonology study? What does supra-segmental phonology study? Name the first founders of «the phoneme» concept. What is a Phoneme? Give its definition. What is an Allophone? What is a Minimal Pair? What is the phonological opposition? What is the non-phonological opposition? Explain the principle of preliminary phonological analysis. What is a distinctive (phonologically relevant) feature? What is a non-distinctive (phonologically irrelevant) feature? Why is the method of commutation used? What is meant by distribution? What types of distribution do you know? Explain the complementary distribution? What purpose is contrast distribution used for? Explain what free variation means. What is meant by Phonotactics?
9	Why do we use transcription? What types of transcription do you know? What forms of transcription are used in English? Explain the difference between phonetic and phonological transcriptions.
10	With what other fields of science is phonetics connected? What is the relationship between phonology and other branches of linguistics? What means of nonlinguistic communication do you know? What components of the phonetic and phonological structure do you know? Explain the

	difference between linguistic and non-linguistic relationship.

Seminar № 2

Phonological Theories

	Questions for discussion
1	Who is the founder of the phonological theory? What periods can be distinguished in the formation of the phonological theory? Explain I. A. Baudouin de Courtenay's phonological theory. How did I. A. Baudouin de Courtenay define the phoneme? Explain the further development of I. A. Baudouin de Courtenay's theory.
2	Give L.V. Shcherba's definition o f the phoneme. What are the theoretically and practically important ideas suggested by L.V. Shcherba? What phonological school develops L.V. Shcherba's theory? Who applied L.V. Shcherba's theory to English?
3	Give the definition of the phoneme by the Moscow Phonological school. What marked differences exist between the theories of Leningrad and Moscow phonological schools? Who suggested the term «phonemic line» and what does this term mean? What does hyper phoneme mean? Is the phoneme a bundle of distinctive features? Why? What is Morphonology?
4	What representatives of the Prague phonological school do you know? Explain the types of oppositions. What definition of a Phoneme was given by N.S. Trubetzkoy? What rules for the determination of individual Phonemes and Phoneme combinations have been suggested by this theory? Give the classification of Phonological Oppositions in relation to the entire System of Oppositions? What types of oppositions are distinguished according to the relationship between their members? What oppositions do we distinguish according to the distinctive force and their occurrence in different positions? What is Phonological Neutralization? What is the meaning of Archiphoneme?
5	Give D. Jones' explanation of a Phoneme. Why do we call D. Jones' theory an Acoustic one? What members of the Phoneme were suggested by D. Jones? Why is the Semantic Function of a Phoneme important? What Phonological approach was suggested by J. Firth?
6	What Phonological trends exist in the USA? Explain the basic phonological ideas of Descriptive Phonology? What is meant by Phonotagmemics?
7	Give an explanation of Paradigmatic relations. Give an explanation of Syntagmatic relations. What can be studied by the categorization of Phonological units in Paradigmatic and Syntagmatic levels? What functions of the Phonological units do you know? What is a Constitutive function? Give an explanation of the Distinctive function. What is a Delimitative function? Is Recognitive function important? What do we mean by Functional load? How do we measure a functional load? What is a power of Opposition?

	Is statistic data important in establishing the Functional load and power of Opposition?

Seminar № 3

The Principal Types of English Pronunciation

	Questions for discussion
1	What is a national language? What is a literary variant of a language? What is Dialectology What is an Orthoepic norm?
2	Explain three principal types of English pronunciation distinguished on the British Isles? What is the Southern English pronunciation? Why has RP (or GB) been chosen as a Standard for teaching in many countries? Where is Northern English spread? Explain the Northern English pronunciation. What are the marked features of the Scottish type of pronunciation in comparison with GB? What pronunciation features exist in the Cockney dialect?
3	What pronunciation types exist in the USA? Where is Eastern American pronunciation spread? What are its features? What pronunciation features exist in Southern America? What is called the «Southern drawl»? What pronunciation type is accepted as literary in the USA? Explain the marked differences between GB and GA vowels. What marked differences exist between GB and GA consonants? Explain the pronunciation of GA **/r/**. What differences exist between the distribution of vowel (or consonant) phonemes in GB and GA? Draw the vowel charts of GB and GA. What main differences exist in the notation of Phonetic Symbols given by British and American linguists? What are the marked differences in word accentuation between GB and GA? What is called spelling-pronunciation? Give examples from GB and GA. What differences exist between GB and GA intonation?
4	Explain the main features of Canadian pronunciation.
5	What do you know about the Australian pronunciation?
6	What main pronunciation features of New Zealand English are known?
7	What is known about the South African pronunciation? In what countries is English spoken?
8	What is Idiolect? What is bilingualism? What does School Phonetics study? What does comparative Typological Phonetics study? What other terms are used instead of it? What intra-dialectal phonetic variations are used in English? What do the terms Diaphone, Idiophone and Vibraphone denote? What type of English pronunciation do you study?
9	Explain the Stylistic variants of pronunciation?

Seminar № 4

The System of Consonant Phonemes

	Questions for discussion
1	What is the distinction between a vowel and a consonant sound?
2	Explain the general principles of the classification of consonants: a) What types of consonant phonemes may be distinguished according to the place of articulation? b) What types of consonant phonemes are distinguished on the basis of the manner of articulation? c) What pairs of consonant phonemes are distinguished according to presence or absence of

	voice? d) What consonant phonemes are distinguished according to the position of the soft palate? e) What differences exist in the inventories of consonant phonemes of English, Uzbek, Karakalpak and Russian? Explain the main differences between the articulations of English Uzbek, Karakalpak and Russian consonants. Draw the chart of consonant phonemes.
3	What is a simple, double, complex; opposition? Give the Phonological oppositions; mainly single, of consonants according to the place of articulation.
4	What Phonological Oppositions exist between the English, Uzbek, Karakalpak and Russian consonants according to the manner of production? a) How many affricate phonemes are there in English? b) Explain the phonological status of affricates. c) Will you compare the functional load and power of oppositions of some English consonant phonemes? d) What consonant oppositions may be established on the basis of the relationship between oppositions in the entire system of oppositions in English? e) What consonant oppositions exist between English consonants according to the character of its members? f) What is a bilateral (or multilateral) opposition? Give examples. g) What opposition is called privative? Give examples. h) Are there any gradual opposition in English? Give examples. i) What opposition is called equipollent? Give examples. j) What opposition is neutralizable? k) Can we use the term archiphoneme in English? What is an alternophoneme?
5	What are 4 major classes of phonemes in the Dichotomic classification? Explain the correlation between acoustic and articulatory terms in the Dichotomic Theory.
6	What Allophonic Variations of Consonant Phonemes are distinguished in English? What is the distinction between aspirated and non-aspirated allophones? Explain their distribution.

Seminar № 5

The System of Vowel Phonemes

Questions for discussion	
1	Explain the general principles of classifying vowels. What classes of vowels are distinguished by the horizontal movement of the tongue? What classes of vowels are distinguished by the height of the tongue? What vowels are rounded and unrounded? Are there quantitative distinctions between English vowels? What vowels are tense and lax? What is the difference between checked and free vowels? Give the classification of English vowels according to the stability of their articulation? What are the main differences in classifications of English, Uzbek, Karakalpak and Russian vowels? Draw the vowel chart of English, Uzbek, Karakalpak and Russian. Explain the articulatory correlates of the acoustic distinctive features. What acoustic distinctive features of vowels exist in English, Uzbek, Karakalpak and Russian? What is essential in the acoustic classification of vowels?
2	What subsystems of vowels may be distinguished within the system of English vowel phonemes?
3	Explain the Phonematic value of vowel-length in English. Is vowel-length a distinctive feature in English? What differences exist in the distribution of long and short vowels? What is the relationship between the features long-short, tense-lax, free-checked?
4	What approaches exist in the explanation of the Phonological Status of English Diphthongs?

	Explain the phonological interpretation of English diphthongs according to the unit-theory. What is the main argument in the explanation of Phonological Status of diphthongs suggested by American linguists? What vowels are unstressed? Explain the Phonological Status of /ə/. How do you explain the phonetic approach to unstressed vowels? What do we mean by reduction? What types of reduction may be distinguished?
5	What Phonological Oppositions (mainly single) exist among English vowels according the horizontal and vertical movement of the tongue? What other Types of Oppositions exist among English vowels?

Seminar № 6

The Syllabic Structure of English

	Questions for discussion
1	What is a syllable? What functions of the syllables do we distinguish?
2	What principles do we use in the classification of syllables? What types of syllables exist in English Uzbek, Karakalpak and Russian?
3	How do you explain the relationship between a syllable and a morpheme?
4	What theories of syllable formation and syllable division exist in modern linguistics? How did the ancient theory explain a syllable? Explain the expiratory theory of a syllable. What principle was suggested by the sonority theory of a syllable? Explain F. de Saussure's syllable theory. What components of the syllable have been defined by the theories referred to? Explain the syllable theory suggested by L.V. Shcherba? What is the peak of the syllable? Give the phonological definition of a syllable.
5	What consonants are syllabic in English? What consonant clusters may form separate syllables? Explain the contrast syllable and no-syllable. Are there any Syllabic Consonants in Uzbek, Karakalpak? Does the syllable division depend on the character of checked-free vowels? What is a Syllabeme?
6	What is a juncture and what types of juncture do we distinguish? Is syllable division distinctive in English? Give examples.

Seminar № 7

Word Stress

	Questions for discussion
1	What is meant by word stress? What do the term accentual structure, accentual type and accentual pattern mean? How is word stress defined from the articulatory point of view, acoustically and perceptually? What main types of word stress exist in languages? What type of word stress is used in English, Uzbek, Karakalpak? What is the culminative function of word stress? What is the difference between syllable-counting and mora-counting languages? What components of word stress do you know? What differences exist between English, Uzbek, Karakalpak according to the action of the components of word stress? What is the difference between word stress and sentence stress?
2	What types of word stress are distinguished by its position? What differences exist between English, Uzbek, Karakalpak word stress depending on its position? How many degrees of word stress are distinguished in English? What is the opinion of Soviet, British and American linguists concerning the degrees of Eng-

	lish word stress?
3	Why is the semantic factor important in English? How do you explain the morphological factor of word stress? What do we mean by the action of rhythmic factor? Why rhythmic-accentual structure is regarded a component of the phonetic structure of a word? What is a recessive accent and how do we distinguish its types? What is a rhythmical stress? Give examples. Explain the retentive tendency of word stress? What changes are taking place in present-day English word accentuation? How do you define free variation of accentual patterns? Give examples.
4.	What functions does word stress perform? What is the difference between morphological and demarcative stress? What is a word-accenteme? Give examples. Give minimal pairs, illustrating the contrast between primary and weak word-accentemes. Is a delimitative function of word stress important in English? Are there any stress alternations in English word derivation? Give examples. What accentual patterns of English words are distinguished? What is the 1st (II, III, IV, V, VI, VII, VIII, IX, X, XI, XII) accentual pattern?

Seminar № 8

Intonation

Questions for discussion	
1	What is intonation? Give its definition by Soviet, British and American linguists. What components of intonation do you know? What is Intonology or Intonological typology? What prosodic types of interference do you know? What aspects of intonation do you know? What is Phonostylistics and Intonational Stylistics? What is the text-forming function of intonation? What functions of intonation do we distinguish? How do you define a sense-group? Why is the Recognitive function of intonation important? What methods of indicating and describing intonation exist in English?
2	What is a Tonetic transcription? Explain R. Kingdon's Tonetic Notation. Explain L.E. Armstrong and I.C Ward's Tonetic Notation. What marks are used in the Tonetic Notation of intonation by Soviet linguists? Explain Tonetic Notation suggested by American linguists.
3	What functions does Speech Melody perform?
4	What is a Toneme ? What is an Intoneme? What is an Allotone? What differencies exist in the realization of Speech Melody between English, Uzbek, Karakalpak? Explain their presentation pattern. What Pitch ranges are distinguished in English?
5	What functions of Sentence-stress exist? What does the term Accentual Structure of a sentence mean? What do we mean by Timbre? Why is Rhythmic Structure important intonation? Explain the Tempo of speech and its Types. What function does Pausation perform?
6	What emphatic intonation means exist in English? How is the principle of compensation defined? What do we mean by emphasis and what types of it are distinguished? What variation of intonation components performs emotional function? How does speech melody function in

	emphatic intonation?
7	What is Paralinguistics? What paralinguistic means exist? What is the difference between Prosodic and Paralinguistic features of speech? What Voice Quality features are paralinguistic? What kinds of Tenseness are paralinguistic? What Types of Articulation are regarded paralinguistic? What does the Distribution of paralinguistic features depend on?

Seminar № 9

Combinatory-Positional Changes

	Questions for discussion
1	What do the Combinatory-positional changes depend on? Is there any Speech Effort Economy?
2	What is meant by Assimilation? What is the difference between Assimilation and Adaptation or Accomodation? What Types of Assimilation may be distinguished, affecting the Place of Articulation: the Manner of Production, the Work of Vocal Chords, and the Position of the Lips? Give examples. What Types of Assimilation may be distinguished according to Degree? What Types of Assimilation may be distinguished according to Direction? Explain the difference between Historical and Contextual Assimilations
3	What other Combinatory Positional Changes do you know; besides Assimilation? What do we mean by Adaptation? When do rounded Allophones of Consonant Phonemes occur? When do Fully Back Allophones of Consonant Phonemes occur? How does the dark [**l**] influence a Vowel Articulation? What is meant by Dissimilation? Give examples. What is an Elision? Give examples. What is Haplology? Give examples.

Seminar № 10

Phoneme and Stress Alternations

Morphonology

	Questions for discussion
1	What is Morphonology? Has it a unit of its own? What does Morphonology study? What Phoneme Alternations are regarded Morphonological? What Stress Alternations are regarded Morphonological? Give examples. Give an explanation of Regular Phonetic and Historical Alternations. What Types of Morphonological Alternations do we distinguish? Do Morphonological Alternations depend on the context or other factors? How is the English Suffixation realized in different Morphemes? Does the Alternation of Stress depend on adding different suffixes? Explain the Morphonological Function of Word Stress. Give examples.

English Phonology System

5111400 - Шет тили ҳәм әдебияты (инглис тили)
бакалавр бағдары студентлери ушын

PRACTICAL TASKS

EXERCISES

TESTS

VARIANTS

PRACTICAL TASKS № 1
SOUNDS, SPELLINGS and SYMBOLS

Problems for discussion:

1. Phonetics and phonology
2. Variation
3. The International Phonetic Alphabet

Make Presentation

Take the NOTES of the Lecture 1

Make the Glossary of the main notions and give their definitions

PRACTICAL TASKS № 2
THE PHONEME: THE SAME BUT DIFFERENT

Problems for discussion:

1. Variation and when to ignore it
2. Conditioned variation in written language
3. The phoneme
4. Some further examples
5. The reality of the phoneme

DISCUSSION EXERCISES

Exercise 1

A learner of English as a second language has the following pronunciations: note that [ʃ] is the symbol for the first sound in *ship*, and [**ð**] for the first sound in the:

that [**dat**]	dog [**dɒg**]	head [**hɛd**]
leather [**lɛðə**]	leader [**li:ðə**]	
sing [**ʃi ŋ**]	sat [**sat**]	loss [**lɒs**]
fish [**fiʃ**]	miss [**miʃ**]	push [**pus**]

How might you explain these non-native pronunciations? How do you think this learner would pronounce the bold-faced consonants in *Daddy*, *either*, *loathe*; *ship*, *pass*, *dish*, *usher*?

Exercise 2

Do the following sounds contrast in English? Find minimal pairs to support your hypothesis, ideally for initial, medial and final position in the word. Where minimal pairs for all positions do not seem to be available, write a short statement of where the sound in question can and cannot be found: [**m**], [**n**], [**ŋ**], [**p**], [**b**], [**t**], [**d**], [**k**], [**g**], [**l**], [**r**]

Exercise 3

The Ministry for Education in a certain country whose language has up to now been unwritten has hired two foreign linguists to produce orthography. Linguist A and Linguist B have suggested two rather different systems.

- Which one is most in line with the phonological structure of the language it is designed for?
- Why do you think the other linguist may have made different decisions?

Linguist A	Linguist B	pronunciation	meaning
bim	bim	[**bim**]	‘rug’
bin	bin	[**bin**]	‘head’
biŋ	bing	[**biŋ**]	‘wheel’
zag	zak	[**zak**]	‘parrot’
zib	zip	[**zip**]	‘ostrich’
azaŋ	azang	[**azaŋ**]	‘to speak’
obaz	obas	[**obas**]	‘to throw’
ham	ham	[**ham**]	‘egg’

mohiz	mohis	[**mohis**]	'to eat'
zigah	ziga	[**zigah**]	'to sing'
gig	gik	[**gik**]	'ant'
gah	ga	[**gah**]	'a song'
nagog	nagok	[**nagok**]	'to sting'
habiz	habis	[**habis**]	'to drink'

DISCUSSION OF THE EXERCISES

1. **Explaining these pronunciations involves two steps**:

- first, figure out what the relevant environments are; and
- second, try to work out why the learner is producing these pronunciations in those environments

In terms of environments,

- [**d**] appears word-initially and word-finally, and [**ð**] medially, between vowels;
- [ʃ] appears before or after an [**ɪ**] vowel, and [**s**] next to other vowels.

Since we know the speaker in this case is a learner of English, our first attempt at explanation might involve the patterns of her native language: we can hypothesize that in that language, [**d**] and [**ð**] are allophones of a single phoneme, and likewise [ʃ] and [**s**] are allophones of a single phoneme, with a distribution like the one our learner imposes on English. Predicted pronunciations would be:

Daddy	**[dæði]**
either	**[ð]**
loathe	**[d]**
ship	**[ʃ]**
pass	**[s]**
dish	**[ʃ]**
usher	**[s]**

2. One list of minimal pairs for initial position would be

my	*nigh*	*pie*	*buy*	*tie*	*die*	*guy*	*lie*	*rye*

You can add

me	*key*							

in a slightly different context. You should be able to produce similar lists medially and finally; what you won't find are cases of initial [**ŋ**], final [**h**], or for some speakers at least, final [**r**].

3. **The main point here is that some pairs of sounds are in complementary distribution** in this language: notably, voiced and voiceless pairs of sounds

[g] – [k]
[b] – [p]
[z] – [s]

do not contrast, since the voiced one appears initially and medially, and the voiceless one finally.

- Linguist A has noticed this, and uses a single symbol for each pair;
- Linguist B uses different graphs.
- Linguist A also uses a single symbol for [**ŋ**], which is a single consonant in this language, and represents [**h**] with <**h**> each time it is pronounced.
- Linguist B uses <**ng**> for [**ŋ**], making it looks like two consonants, and has no symbol for [**h**] word-finally.

In short,

- Linguist A is using a system designed for this particular language;
- Linguist B is following English patterns, and is probably a native speaker of English.

Recommendations for reading

1. Carr Ph. English Phonetics and Phonology: An Introduction. Oxford: Blackwell. 1999.
2. Coulmas F. The Writing Systems of the World. Oxford: Blackwell. 1988.
3. Davenport M., Hannahs S. J. Introducing Phonetics and Phonology. London: Arnold. 1998.
4. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP. 1992.
5. Sampson G. Writing Systems. London: Hutchinson. 1985.
6. Pinker S. The Language Instinct. London: Penguin. 1994.

PRACTICAL TASKS № 3
DESCRIBING ENGLISH CONSONANTS

Problems for discussion:

1. What's inside a phonetic symbol?
2. Consonant classification
3. The anatomy of a consonant

DISCUSSION EXERCISES

Exercise 1

a) Which of the following words begin with a **voiceless fricative**?
hang; *dogs*; *cut*; *ship*; *chip*; *foot*; *zip*; *sit*
b) Which of the following words begin with a *voiced sound*?
nap; *jug*; *knock*; *lot*; *pet*; *jump*; *fin*
c) Which of the following words ends with a *stop sound*?
nap; *hang*; *jug*; *nudge*; *bet*; *lamb*; *lots*
d) Which of the following words ends with an *alveolar sound*?
pot; *sad*; *boss*; *lamb*; *lamp*; *size*; *hen*; *call*
e) Which of the following words contain an *approximant consonant*?
wash; *hall*; *map*; *sing*; *sigh*; *red*; *yellow*

Exercise 2

a) What do the initial consonants of these words have in common?
wash; *let*; *right*; *yet*; *wish*; *rough*
b) What do the final consonants of these words have in common?
hop; *hot*; *pass*; *wish*; *rough*; *lock*; *scratch*
c) What do the initial consonants of these words have in common?
fish; *ship*; *zip*; *sigh*; *house*; *view*

Exercise 3

1. How do the consonants at the end of the words in List A differ from those at the end of the words in List B?

a)

List A	**List B**
ham	top
sin	lock
sing	rot

If you say [**si:ŋ**], ignore the final [ ] for this exercise.

b)

place	lake
lose	beg
half	dot

c)

dogs	rough
hall	cats
film	catch
cold	help

Exercise 4

Transcribe the words below. Then write as full a description as you can of all the consonants in each word, in your accent. For instance, in doze [**d**] is a pulmonic egressive central voiced alveolar stop; [**z**] is a pulmonic egressive central voiced alveolar fricative. Remember to pay attention to the sounds, and not to the spelling. Psalm Jester which climb heavy splint loch bought squelch

DISCUSSION OF THE EXERCISES

1.

(a)	hang, ship, foot, sit
(b)	nap, jug, knock, lot, jump
(c)	nap, hang, jug, bet, lamb
(d)	pot, sad, boss, size, hen, call
(e)	wash, hall, red, yellow

2.

(a)	They are all approximant consonants
(b)	They are all voiceless
(c)	They are all fricatives

3.

(a)	A: nasal, and voiced	B: oral, and voiceless
(b)	A: fricatives	B: plosives
(c)	A: voiced	B: voiceless

4. Note that ALL these consonants are pulmonic and egressive; and all are central except for [**l**]

[**sɑ:m**]	voiceless alveolar fricative; voiced bilabial nasal stop
[**dʒɛstə**]	voiced postalveolar affricate; voiceless alveolar fricative; voiceless alveolar plosive; and for some speakers, a final [**r**] = voiced alveolar central approximant
[**witʃ**] or [**ʍitʃ**]	voiced labial-velar approximant, or voiceless labial-velar fricative; voiceless postalveolar affricate
[**klaim**]	voiceless velar plosive; voiced alveolar lateral approximant; voiced bilabial nasal stop
[**hɛvi**]	voiceless glottal fricative; voiced labio-dental fricative
[**splint**]	voiceless alveolar plosive; voiceless bilabial plosive; voiced alveolar lateral approximant; voiced alveolar nasal stop; voiceless alveolar plosive
[**lɔk**] or [**lɔx**]	voiced alveolar lateral approximant; voiceless velar plosive, or voiceless velar fricative
[**bɔt**]	voiced bilabial plosive; voiceless alveolar plosive
[**skwɛltʃ**]	voiceless alveolar plosive; voiceless velar plosive; voiced labial-velar approximant; voiced alveolar lateral approximant; voiceless postalveolar affricate

Recommendations for reading

1. Ball M., Rahilly J. Phonetics: The Science of Speech, London: Arnold. 1999.
2. Catford J. C. A Practical Course in Phonetics, Oxford: OUP. 1988.
3. Davenport M., Hannahs S. J. Introducing Phonetics and Phonology. London: Arnold. 1998.
4. International Phonetic Association. The Handbook of the International Phonetic Association. Cambridge: CUP. 1999.
5. Ladefoged P. A Course in Phonetics. 3rd ed. New York: Harcourt. Brace. Jovanovitch. 1993.

6. Laver J. Principle of Phonetics. Cambridge: CUP. 1994.
7. Roach P. English Phonetics and Phonology: A Practical Course. 2nd ed. Cambridge: CUP. 2001.
8. http://www.arts.gla.ac.uk/IPA/ipa.html

PRACTICAL TASKS № 4
DEFINING DISTRIBUTIONS: CONSONANT ALLOPHONES

***Problems for discussion*:**

1. Phonemes revisited
2. Making generalizations
3. Making statements more precise
4. A more economical feature system
5. Natural classes
6. A warning note on phonological rules

Exercise 1

In Exercise 1 of Lecture 2, you were presented with the following pronunciations, from a learner of English as a second language.

that [**dat**]	leader [**li:ðə**]	fish [**fiʃ**]
dog [**dɒg**]	sing [**ʃi:ŋ**]	miss [**miʃ**]
head [**hɛd**]	sat [**sat**]	push [**pus**]
leather [**lɛðə**]	loss [**lɒs**]	

Write rules accounting for the distribution of the allophones of /**d**/ = [**d**] and [**ð**]; and /**s**/ = [**s**] and [**ʃ**], using binary features. Note that the symbol for a word boundary is #; so if a process takes place at the beginning of a word, we write / # ____ as the environment, and likewise / ____ # for the end.

Exercise 2

The following data appeared in Exercise 3 of Lecture 2. State the distribution of the voiced and voiceless allophones of /**b**/, /**z**/ and /**g**/ as economically as possible. How many rules do you need? Pronunciation meaning

[**bim**] 'rug' [**azaŋ**] 'to speak' [**ik**] 'ant'
[**bin**] 'head' [**obas**] 'to throw' [**ah**] 'a song'
[**zak**] 'parrot' [**mohis**] 'to eat' [**na ok**] 'to sting'
[**zip**] 'ostrich' [**zi ah**] 'to sing' [**habis**] 'to drink'

Exercise 3

Produce feature matrices, including all the features introduced in this lecture, for the following English sounds: [**l**], [**r**], [**p**], [**d**], [**s**], [**θ**], [**ŋ**], [**dʒ**], [**w**].

Exercise 4

In your matrices for Exercise 3, put brackets round the redundant features; that is, those which do not have to be included for the segment to be uniquely identified. In some cases, you may notice general patterns; if so, state these as redundancy rules.

Exercise 5

In each of the following lists, the sounds involved constitute a natural class for English, except that there is one odd sound. Find the odd one out in each case, and define the natural class using features.

(a) [**l**] [**ɹ**] [**b**] [**j**] [**w**]

(b) [**p**] [**g**] [**k**] [**ð**] [**d**] [**b**] [**t**]

(c) [**k**] [**n**] [**s**] [**t**] [**l**] [**d**] [**ɹ**] [**z**]

Exercise 6

Sequences of consonants, such as those at the beginning of ***tr**ain*, ***st**ray*, ***fl**y*, are known as **consonant clusters**.

- In two-consonant clusters which have [**s**] as the first consonant, what can the second consonant be?
- Can these consonants be grouped into a natural class or several natural classes?
- In three-consonant clusters which have [**s**] as the first consonant, what can the second and third consonants be?
- Can these consonants be grouped into a natural class or several natural classes?

DISCUSSION OF THE EXERCISES

1. These rules are written to say that /**d**/ becomes [**ð**] between vowels, and /**s**/ becomes [**ʃ**] either before or after [**i**]. You may if you wish also write a rule to say explicitly where [**d**] and [**s**] appear; e.g. [**d**] occurs word-initially and word-finally.

[**+voice**] [**+consonantal**] [**–sonorant**] [**+anterior**] [**+coronal**] [**–continuant**]	→	[**+continuant**]	/	vowel **----** vowel
[**–voice**] [**+consonantal**] [**–sonorant**] [**+anterior**] [**+coronal**] [**+continuant**]	→	[**–anterior**]	/	**____** [**i**] [**i**] **____**

2. You need a single rule to say that voiced obstruents, you needn't specify the place or whether these are continuants, to cover all the sounds involved, become voiceless at the ends of words:

[**+voice**] [**+consonantal**] [**–sonorant**]	→	[**–voice**]	/	**____**#

3.

/l/	is	[**–syllabic**, **+consonantal**, **+sonorant**, **+continuant**, **+voice**, **+lateral**, **–nasal**, **+anterior**, **+coronal**, **–delayed release**, **–strident**]
/r/	is	[**–syllabic**, **+consonantal**, **+sonorant**, **+continuant**, **+voice**, **–lateral**, **–nasal**, **+anterior**, **+coronal**, **–delayed release**, **–strident**]
/p/	is	[**–syllabic**, **+consonantal**, **–sonorant**, **–continuant**, **–voice**, **–lateral**, **–nasal**, **+anterior**, **–coronal**, **–delayed release**,**–strident**]
/d/	is	[**–syllabic**, **+consonantal**, **–sonorant**, **–continuant**, **+voice**, **–lateral**, **–nasal**, **+anterior**, **+coronal**, **–delayed release**, **–strident**]
/s/	is	[**–syllabic**, **+consonantal**, **–sonorant**, **+continuant**, **–voice**, **–lateral**, **–nasal**, **+anterior**, **+coronal**, **–delayed release**, **+strident**]
/θ/	is	[**–syllabic**, **+consonantal**, **–sonorant**, **+continuant**, **–voice**, **–lateral**, **–nasal**, **+anterior**, **+coronal**, **–delayed release**, **–strident**]
/ŋ/	is	[**–syllabic**, **+consonantal**, **+sonorant**, **–continuant**, **+voice**, **–lateral**, **+nasal**, **–anterior**, **–coronal**, **–delayed release**, **–strident**]
/dʒ/	is	[**–syllabic**, **+consonantal**, **–sonorant**, **–continuant**, **+voice**, **–lateral**, **–nasal**, **+anterior**, **+coronal**, **+delayed release**, **+strident**]
/w/	is	[**–syllabic**, **–consonantal**, **+sonorant**, **+continuant**, **+voice**, **–lateral**, **–nasal**,

		+anterior, **–coronal**, **–delayed release**, –**strident**]

4. Redundant features are:

/l/	everything except [+**lateral**] –/**l**/ is the only English lateral
/r/	[–**syllabic**, +**continuant**, +**voice**, **–nasal**, **–delayed release,–strident**]
/p/	[–**syllabic**, **–lateral**, **–nasal**, **–delayed release**, **–strident**]
/d/	[–**syllabic**, **–lateral**, **–nasal**, **–strident**]
/s/	[–**syllabic**, **–lateral**, **–nasal**, **–delayed release**]
/θ/	[–**syllabic**, **–lateral**, **–nasal**, **–delayed release**]
/ŋ/	everything except [+**nasal**, **–anterior**, **–coronal**]
/dʒ/	everything except [+**voice**, +**delayed release**]
/w/	[–**syllabic**, +**continuant**, +**voice**, **–nasal**, **–delayed release**, **–strident**]

5.

(a)	the odd one out is [**b**]; the class is [–**syllabic**, +**sonorant**, **–nasal**]
(b)	the odd one out is [**ð**]; the class is [–**nasal**, **–continuant**]
(c)	the odd one out is [**k**]; the class is [+**anterior**, +**coronal**, **–delayed release**]

6. In two-consonant clusters with [**s**] as the first consonant, the second may be a voiceless stop; a liquid; a nasal; a glide. The natural classes are [–**voice**, **–nasal**, **–continuant**] for the voiceless stops, and [–**syllabic**, +**sonorant**] for the others. In three-consonant clusters with [**s**] as the first consonant, the second must be a voiceless stop, *see above*, and the third a liquid or glide = [–**syllabic**, +**sonorant**, **–nasal**]

Recommendations for reading

1. Carr P. Phonology. London: Macmillan. 1993.
2. Chomsky N., Halle M. The Sound Pattern of English, New York: Harper & Row. 1968.
3. Durand J. Generative and Non-Linear Phonology. London: Longman. 1990.
4. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP. 1992.
5. Katamba F. An Introduction to Phonology. London: Longman. 1988.
6. Lass R. Phonology, Cambridge: CUP. 1984.
7. Spencer A. Phonology, Oxford: Blackwell. 1996.

PRACTICAL TASKS № 5
CRITERIA FOR CONTRAST: THE PHONEME SYSTEM

***Problems for discussion*:**

1. Minimal pairs and beyond
2. Phonetic similarity and defective distributions
3. Free variation
4. Neutralization
5. Phonology and Morphology
6. Rules and constraints
7. The phoneme system

Exercise 1

Find minimal pairs for the largest number of English consonant phonemes you can, in initial, medial and final positions in the word. Which list is longest? Note cases where you encounter defective distributions.

Exercise 2

The 'liquid' consonants, namely [**r**] and [**l**], devoice in English after voiceless consonants, giving [**pl̥eɪ**] *play*, [**tɹeɪ**] *tray*.

a) Of the allophones [**ɹ**], [**ɹ̥**], [**l**] and [**l̥**], which are in complementary distribution?

b) Which pairs of allophones would you assign to which phoneme, and how would you justify this decision?

c) Write the allophonic rule determining the distribution of voiced and devoiced liquids

Exercise 3

Choose a nursery rhyme or short poem. Transcribe it (that is, write it out in IPA notation) as accurately as you can for your own accent, using V for vowels but giving as much detail on consonant allophones as you can.

Exercise 4

In many (especially, but not only, urban) varieties of non-standard British English, the following pattern of distribution occurs for the voiceless plosives.

pill	[**phɪl**]	spill	[**spɪl**]	lip	[**lɪʔ**]
till	[**thɪl**]	still	[**stɪl**]	lit	[**lɪʔ**]
kill	[**khɪl**]	skill	[**skɪl**]	lick	[**lɪʔ**]

How can we describe the situation in word-final position phonologically? What symbol(s) might we choose to represent the unit(s) found here, and why?

DISCUSSION OF THE EXERCISES

1. You should be producing lists like the one in Exercise 2, Lecture 2. Defective distributions will involve initial [**h**], final [**ŋ**], and final [**r**] if you are a speaker of a non-rhotic accent.

2. Using only the criteria of predictability of occurrence and invariance of meaning, [**ɹ**] is in complementary distribution with both [□] and [**l̠**], and [**l**] with both [□] and [l̠].

3. The usual decision would be to assign [**ɹ**] and [□] to /**r**/, and [**l**] and [**l̠**] to /**l**/, on the grounds of phonetic similarity.

[– **syllabic**] [+**sonorant**] [–**nasal**]	→	[– **voice**]	/	[– **voice**]	------

There is no single answer here; it depends on the example you choose. However, there are some analyzed models in the chapter.

4. In word-final position, the usual three-way contrast of the voiceless stops is neutralized, and all three are realized by the glottal stop. It would be appropriate to recognize an archiphoneme here; we could use the symbol /**P**/, /**T**/ or /**K**/. Since the three voiceless stop phonemes /**p**/, /**t**/ and /**k**/ are usually distinguished by their place of articulation, the archiphoneme would be specified as [**–voice**, **–nasal**, **–continuant**] – the feature values the voiceless stops share, but would have no value for [**anterior**] or [**coronal**].

Recommendations for reading

1. Archangeli D., Langendoen D. T. Optimality Theory: An Overview. Oxford: Blackwell. 1997.
2. Carr P. Phonology. London: Macmillan. 1993.
3. Durand J. Generative and Non-Linear Phonology. London: Longman. 1990.
4. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP.1992.
5. Gussenhoven C., Jacobs H. Understanding Phonology. London: Arnold. 1998.
6. Kager R. Optimality Theory, Cambridge: CUP. 1999.
7. Katamba F. An Introduction to Phonology, London: Longman. 1988.
8. Lass R. Phonology, Cambridge: CUP. 1984.
9. Spencer A. Phonology. Oxford: Blackwell. 1996.

PRACTICAL TASKS № 6
DESCRIBING VOWELS

***Problems for discussion*:**

1. Vowels versus consonants
2. The anatomy of a vowel
3. Vowel classification

Exercise 1

a) Which of the following words contains a rounded vowel?

put	seek	hook	grew	grey	hoe	hold

b) Which of the following words contains a front vowel?

see	seat	met	tap	throw	tape	through

c) Which of the following words contains a high vowel?

see	seat	steak	throw	list	lost	through

d) Which of the following words contains a central vowel?

about	put	luck	hit	purse	father	kept

e) Which of the following words contains a high back vowel?

put	love	hit	heat	luck	look	food

Exercise 2

a) What do the vowels in these words have in common?

bet	hair	rose	post	love	purse	mate

b) What do the vowels in these words have in common?

see	leap	weird	pit	fiend	miss	crypt

c) What do the vowels in these words have in common?

height	boy	try	noise	loud	crowd	fine

d) What do the vowels in these words have in common?

flea	rude	piece	flu	stew	leave	sees

Exercise 3

Make vowel quadrilateral diagrams for all the diphthongs of SSBE, showing the position of the first and second elements and drawing lines and arrows connecting them

Exercise 4

Give as detailed a description as you can of the vowels in the following words:

father	leaving	hear	thoroughly	fast	haste	lookalike	sausage	ooze

DISCUSSION OF THE EXERCISES

1.

(a) put, hook, grew, hoe, hold

(b) see, seat, met, tap, tape

(c) see, seat, list, through

(d) about, luck, purse, father (second syllable)

(e) put, look, food

2.

(a) they are all mid vowels

(b) they are all high front vowels

(c) they are all diphthongs

(d) they are all long, high vowels

3. The diagrams here will follow the pattern of (6.15). For [**aɪ**], [**aʊ**], the arrow will start at low central, and move up to either high front, or high back. For [**eɪ**], [**oʊ**], the end points are the same, but the start points are high-mid front and high-mid back respectively. Centering diphthongs will all end at schwa.

father	long low back unrounded; short mid central unrounded
leaving	long high front unrounded; short high front unrounded
hear	centering diphthong; first element is short high front unrounded, second is short mid central unrounded. Speakers of rhotic varieties will have a long high front unrounded monophthong plus [**r**]
thoroughly	short low-mid central unrounded; short mid central unrounded; short high front unrounded
haste	diphthong, with first element high-mid front unrounded, and second element high front unrounded; or high-mid front unrounded monophthong
lookalike	short high back rounded; short mid central unrounded; diphthong, with first element low central unrounded, and second element high front unrounded
sausage	short low-mid back rounded; short mid central unrounded
ooze	long high back rounded

Recommendations for reading

1. Ball M., Rahilly J. Phonetics: The Science of Speech. London: Arnold. 1999.
2. Campbell L. Historical Linguistics. Edinburgh: EUP. 1998.
3. Catford J. C. A Practical Course in Phonetics. Oxford: OUP. 1988.
4. Davenport M., Hannahs S. J. Introducing Phonetics and Phonology. London: Arnold. 1998.
5. International Phonetic Association. The Handbook of the International Phonetic Association. Cambridge: CUP. 1999.
6. Ladefoged P. A Course in Phonetics. 3rd ed. New York: Harcourt. Brace. Jovanovitch. 1993.
7. Laver J. Principle of Phonetics. Cambridge: CUP. 1994.
8. Roach P. English Phonetics and Phonology: A Practical Course. 2nd ed. Cambridge: CUP. 2001.
9. Trask R. L. Historical Linguistics. London: Arnold. 1996.
10. http://www.arts.gla.ac.uk/IPA/ipa.html

PRACTICAL TASKS № 7
VOWEL PHONEMES

***Problems for discussion*:**

1. The same but different again
2. Establishing vowel contrasts
3. Vowel features and allophonic rules
4. Phonetic similarity and defective distribution
5. Free variation, Neutralization and Morphophonemics

Exercise 1

Make phonemic transcriptions for the following words, for

a) SSBE
b) GA
c) SSE
d) NZE

water	*grass*	*righteousness*	*holiday*	*pilchard*	*following*	*northeast*	*spoonful*

Exercise 2

Write rules for the following processes:

a. Front rounded vowels become unrounded before velars
b. Vowels devoice before voiceless consonants
c. [**i:**], [**u:**], [**ɪ**], [**ʊ**] become [**e:**], [**o:**], [**ɛ**], [**ɔ**] after clusters of two consonants, the second of which is a nasal
d. [**ɑ:**], [**ɔ:**] become [**u:**] before palatal consonants or at the beginnings of words

Exercise 3

Go back to the nursery rhyme or short poem you transcribed in the exercises to Lecture 5. Now, instead of using V for all vowels, transcribe the vowels using the reference accent from SSBE, GA, SSE and NZE, with which you are most familiar, or which is closest to your own.

Exercise 4

Make a list of the standard lexical sets, and write down which vowel phoneme you have in each of the twenty-seven cases. Which vowel symbols have you chosen to symbolize each phoneme, and why?

DISCUSSION OF THE EXERCISES

1.

	SSBE	GA	NZE	SSE
water	/**wɔ:tə**/	/**wɔ:tər**/	/**wɔtər**/	/**wɔ:tə**/
grass	/**grɑ:s**/	/**græs**/	/**gras**/	/**gra:s**/
righteousness	/**raɪtʃəsnɛs**/	/**raɪtʃəsnɛs**/	/**rɔɪtʃəsnɛs**/	/**raɪtʃəsnes**/
holiday	/**hɔlɪdeɪ**/	/**hɑ:lɪdeɪ**/	/**hɔlɪde**/	/**hɔlədɛɪ**/
pilchard	/**pɪltʃɜd**/	/**pɪltʃɜrd**/	/**pɪltʃɔrd**/	/**pəltʃɜd**/
following	/**fɔloʊɪŋ**/	/**fɑloʊɪŋ**/	/**fɔloɪŋ**/	/**fɔləuɪŋ**/
northeast	/**nɔ:θi:st**/	/**nɔrθi:st**/	/**nɔrθist**/	/**nɔ:θɪist**/
spoonful	/**spu:nfʊl**/	/**spu:nfʊl**/	/**spunful**/	/**spəunfʊl**/

2.

(a)	**[+syllabic] [+front] [+round]**	→	**[–round]**	/	**------**	**[–syllabic] [–anterior] [–coronal]**	
(b)	**[+syllabic] [–consonant] [+sonorant]**	→	**[–voice]**	/	**------**	**[–syllabic] [–voice]**	
(c)	**[+syllabic] [+high] [–mid]**	→	**[+mid]**	/	**[–syllabic]**	**[–syllabic] [+nasal]**	**------**
(d)	**[+syllabic] [–high] [–mid] [+back]**	→	**[+high]] [+round]**	/	**{ #------ { ------ { ------**	**[–syllabic]} [–anterior]} [+coronal]}**	

3. No specific answers can be given here, since there is too wide a choice of possible examples. However, consulting the table 3 and table 4 in Lecture 7 should help.

4. Again, this exercise depends on your accent, so no answers can be provided. In deciding which symbols to use, you should again consult table 3 and table 4 in Lecture 7, and may find it helpful to talk through your reasoning with fellow-students who have both similar and different accents.

Recommendations for reading

1. Archangeli D., Langendoen D.T. Optimality Theory: An Overview. Oxford: Blackwell. 1997.
2. Carr P. Phonology. London: Macmillan. 1993.
3. Durand J. Generative and Non-Linear Phonology. London: Longman. 1990.
4. Giegerich H.J. English Phonology: An Introduction. Cambridge: CUP. 1992.
5. Gussenhoven C., Jacobs H. Understanding Phonology, London: Arnold. 1998.
6. Jones Ch. The Edinburgh History of the Scots Language. Edinburgh: EUP. 1997.
7. Kager R. Optimality Theory, Cambridge: CUP. 1999.

8. Katamba F. An Introduction to Phonology. London: Longman. 1988.
9. Lass R. Phonology, Cambridge: CUP. 1984.
10. Spencer A. Phonology, Oxford: Blackwell. 1996.
11. Wells J. C. Accents of English. Vol. 1. An Introduction. Cambridge: CUP. 1982. pp. 1-278.
12. Wells J. C. Accents of English. Vol. 2.The British Isles. Cambridge: CUP. 1982. pp. 279-466
13. Wells J. C. Accents of English. Vol. 3. Beyond the British Isles. Cambridge: CUP. 1982. pp. 467-674.

PRACTICAL TASKS № 8
VARIATION BETWEEN ACCENTS

***Problems for discussion*:**

1. The importance of accent
2. Systemic differences
3. Realization differences
4. Distributional differences

Exercise 1

Plot your vowel system on a vowel quadrilateral. You may wish to use one diagram for monophthongs, and one for diphthongs; or even more than one for diphthongs if you have a system with a large number of these.

Exercise 2

What is your phonemic consonant system? Provide minimal pairs to establish the contrasts involved. Pay particular attention to whether your accent is rhotic or non-rhotic, and whether your system includes [ʍ] and [x] or not. Do any of the consonant phonemes of SSBE fail to contrast in your accent? Why might this be?

Exercise 3

Set out the differences between your variety, for both vowel and consonant systems, and

a) SSBE
b) GA
c) SSE
d) NZE
e) SgE

In each case, classify the discrepancies as systemic, realizational, or distributional. If you are a non-native speaker of English, or bilingual in English and another language, can you identify aspects of your native language(s) which might be responsible for some of the differences you have identified?

DISCUSSION OF THE EXERCISES

All the exercises in this lecture have a wide range of possible answers, depending on your particular accent. The advice for Exercise 4, Lecture 7 above may again be helpful in approaching these tasks. Before you begin, you should be sure you are confident about the differences between systemic, realization and distributional variation.

Recommendations for reading

1. Carr Ph. English Phonetics and Phonology: An Introduction. Oxford: Blackwell. 1999.
2. Chambers J. K., Trudgill P. Dialectology. Cambridge: CUP. 1980.
3. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP. 1992.
4. Graddol D., Leith D., Swann J. English: History, Diversity and Change. London: Routledge. 1996.
5. Hudson R. A. Sociolinguistics. 2nd ed. Cambridge: CUP. 1995.
6. Tan L. The vowel system of Singapore English. Unpublished M. Phil. Essay. Department of Linguistics. University of Cambridge. 1998.
7. Trudgill P. The Dialects of England. 2nd ed. Oxford: Blackwell. 2000.

8. Wells J. C. Accents of English. 3 vols. Cambridge: CUPress. 1982.
9. Wolfram W., Schilling-Estes N. American English: Dialects and Variation. Oxford: Blackwell. 1996.

PRACTICAL TASKS № 9
SYLLABLES

***Problems for discussion*:**

1. Phonology above the segment
2. The syllable
3. Constituents of the syllable
4. The grammar of syllables: patterns of acceptability
5. Justifying the constituents

Exercise 1

Mark the syllable boundaries in the following words. In each case, what led to your decision in placing the boundary there? You should consider the contribution of the Sonority Sequencing Generalization, Onset Maximalizm, and syllable weight: *danger, unstable, anxious, discipline, narrow, beyond, bottle, bottling*

Exercise 2

Draw syllable trees for each of the words from Exercise 1. In each case, and for each syllable, mark the Onset, Rhyme, Nucleus and Coda; indicate whether any of these constituents branch; and note any cases of ambisyllabicity.

Exercise 3

Make a list of all the two consonant clusters which are ruled out by the Sonority Sequencing Generalization in

a) onset and

b) coda position

For each one, try to think of an apparent exception in word-medial position, where in fact the first consonant of the apparent 'cluster' belongs in the coda of syllable one, and the second in the onset of syllable two. For example, sonority rules out final [**kn**]; an apparent, but not real, exception would be *ac**kn**owledge*.

Exercise 4

Make a list of at least five consonant clusters which are ruled out either by the Sonority Sequencing Generalization, or by the Phonotactic rules of English, but for which you can find actual exceptions which do contain these clusters. These may be recent loan words or foreign names. For example, English does not generally allow [ʃ] in onset clusters, but a number of borrowings from Yiddish, like [**ʃtʊm**], [**ʃtɪk**], do have these clusters.

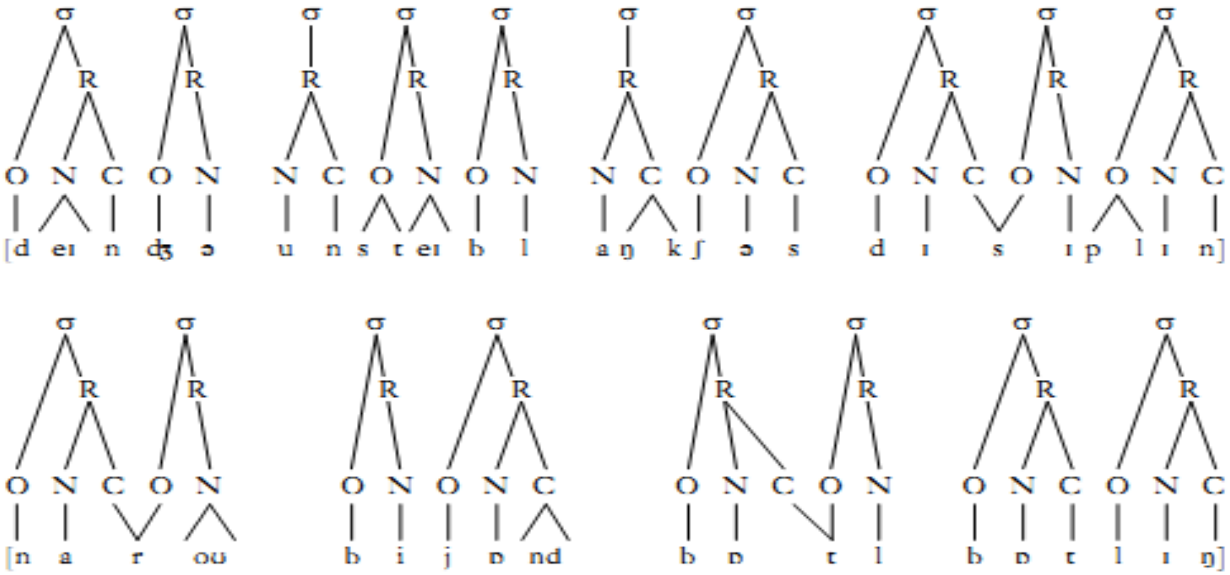
DISCUSSION OF THE EXERCISES

1.

dan.ger	Onset Maximalism might suggest *da.nger*, but there are no *[**ndʒ**] initial clusters in English
un.sta.ble	[**st**] is a permissible initial cluster; ***[nst]** is not, so the syllable division must be between [**n**] and [**s**]. However, note that [**s**] is higher in sonority than [**t**], so there is a violation of the Sonority Sequencing Generalization. In the third syllable, [**l**] is the nucleus or for speakers who have a schwa vowel in this syllable, the coda
an[**k.ʃ**]*ious*	Final [**ŋk**] is common in English: *tha**nk**, si**nk*** …, but not initial *[**kʃ**]
discipline	On the grounds of Onset Maximalizm, the syllabification should be *di.sci.pline*; but then the first two syllables would be light, and the first is stressed. There is likely to be ambisyllabicity between the first and second syllables therefore, giving *dis.sci.pline*.
nar.row	Another case of ambisyllabicity
be.yond	Here, the first syllable is unstressed and can be light; the glide [**j**] can therefore be

	in the onset of the second syllable only, prioritizing Onset Maximalizm
bot.tle	Another case of ambisyllabicity. It is true that there are no cases of onset *[**tl-**] clusters in English; but note that the syllabic [**l**] here is in the nucleus rather than the onset, so that Onset Maximalizm can be maintained
bott.ling	Here, the [**l**] is in the onset, since a vowel follows; and in this case therefore, the prohibition on onset *[**tl**] clusters means the [**t**] is in the coda of the first syllable only

2.



3. In this exercise, try to avoid making random lists of consonant clusters you can think of, and concentrate on narrowing down the possibilities using natural classes. For instance, in onset position, sonority rules out cases of liquids plus voiceless stops, so although [**pl**], [**pr**] are allowed, there are no initial clusters *[**lp**], *[**rp**], *[**lt**], *[**rt**],*[**lk**], *[**rk**]. Apparent medial exceptions would be *wallpaper, war-paint, alter, porter, alcohol, arcadia*.

If the order voiceless stop plus liquid is permissible in onsets, it follows that this order must be ruled out in codas – and indeed, in English we find coda [**lp**], [**lt**], [**lk**], for instance, in *pulp, halt, milk,* but not *[**pl**], *[**tl**],*[**kl**], with ascending sonority; apparent medial exceptions are *apply, Atlantic, acclimatize.*

4. Again, these are just some indicative examples. English Phonotactics generally forbid sequences of voiceless stop plus voiceless fricative, so *[**ps**] in onsets, but nonetheless we have *psittacosis*, *psyche*; similarly *[**ts**], but *tsetse –fly*. Likewise, English has no onsets with *[**vl**], but note the Russian name ***Vlad***.

Recommendations for reading

1. Carr Ph. English Phonetics and Phonology: An Introduction. Oxford: Blackwell. 1999.
2. Catford J. C. A Practical Course in Phonetics. Oxford: OUP. 1988.
3. Couper-Kuhlen E. An Introduction to English Prosody. London: Arnold. 1986.
4. Cruttenden A. Intonation. Cambridge: CUP. 1986.
5. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP.1992.
6. Hogg R. M., McCully C. B. Metrical Phonology: A Course book. Cambridge: CUP. 1987.
7. Ladefoged P. A Course in Phonetics. 3rd ed. New York: Harcourt. Brace. Jovanovitch. 1993.
8. Spencer A. Phonology. Oxford: Blackwell. 1996.

PRACTICAL TASKS № 10
THE WORD AND ABOVE

***Problems for discussion*:**

1. Phonological units above the syllable

2. Stress
3. The foot
4. Segmental phonology of the phrase and word

Exercise 1

Look back at the English stress rules presented in (2). Consider the adjectives

lovely	*beautiful*	*surreal*	*high-pitched*	*scarlet*	*noisy*	*sensible*

On the basis of these forms, Do you think adjectives typically follow the Noun Rule or the Verb Rule? Is there a single, general pattern for adjectives at all?

Exercise 2

Draw metrical SW trees for the following words:

person	*personal*	*personality*	*elephant*	*peninsula*	*disentanglement*

In each case, make sure that the syllable which carries main stress is dominated by **S** all the way up the tree.

Exercise 3

Find examples of English words which consist of the following foot structures:

one iamb	one trochee
one dactyl	one iamb followed by one trochee
one dactyl followed by one trochee	

Exercise 4

Find some examples of poems which contain mainly iambic, trochaic and dactylic feet.

Make a metrical analysis of several lines from each, using diacritics like *cát* over a stressed syllable, and *ŏf* over an unstressed one, to show what the foot structure is.

Exercise 5

Transcribe the following utterances in citation form and as appropriate for faster, more casual speech. In each case, say what connected speech processes you might expect to find in the second rendition:

I expect he has gone to meet her
Helen had a banana and a bread cake

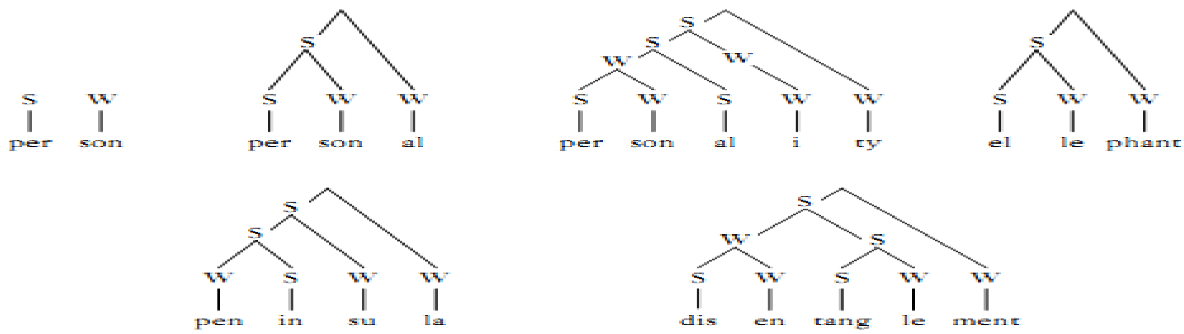
DISCUSSION OF THE EXERCISES

1. There is no absolutely clear preference for the noun or the verb pattern in the adjectives in the list, although most can be interpreted as following the Noun Rule. *Surreal* seems to follow the Verb Rule, since it has final stress, which is not characteristic of nouns – leaving e.g. *machine*, *police aside*. However, *beautiful*, *scarlet* clearly follow the Noun Rule; both have heavy final syllables, so if following the verb pattern, they should carry final stress. *Sensible* probably falls into the same category.

Lovely and *noisy* could follow either pattern, since their final syllables are short, meaning that stress would retract to the penultimate syllable in a verb, while the penult is the target for noun stress anyway.

High-pitched follows the usual compound pattern, with initial stress.

Can you think of other adjectives which might settle the issue?



2. one iamb – *suppose, believe, machine*

one trochee – *letter, open, answer*

one dactyl – *cinema, enemy, quality*

iamb plus trochee – these would be candidates for stress clashes, since the iamb has final stress, and the trochee, initial stress: the closest we can get would be compounds like *belief system, advance warning*.

dactyl plus trochee – *phantasmagoric, paediatrician, multiplication*.

3. The analysis here will depend very much on the poems you choose, and on how regular the rhythm is in each case. The brief examples worked out in the text should help; and you might find it useful to think initially what a rhythm made up of a sequence of each foot type in isolation would sound like.

4. Citation forms: for SSBE – other accents will vary:

[**aɪ ɛkspɛkt hɪ: haz gʌn tu mɪ:t hə:**]

[**hɛlən had ə bənɑ:nə end ə bɹɛd keɪk**]

Fast speech forms:

[**aspɛktɪzgʌntəmɪ:tə**]

[**hɛlənadəbnɑ:nəɹənəbɹɛgkeɪk**]

Note multiple reduction of vowels to schwa; assimilation of place of articulation of the first stop to the second in the middle of *bread cake*; intrusive [r]; reduction of *he has* to *he's*; dropping of [**h**] in *had*, *her* and *he*.

Recommendations for reading

1. Carr Ph. English Phonetics and Phonology: An Introduction, Oxford: Blackwell. 1999.
2. Couper-Kuhlen E. An Introduction to English Prosody. London: Arnold. 1986.
3. Cruttenden A. Intonation. Cambridge: CUP. 1986.
4. Giegerich H. J. English Phonology: An Introduction. Cambridge: CUP. 1992.
5. Kaisse E., Patricia Sh. On the theory of Lexical Phonology //Phonology Yearbook #2. 1985. pp. 1-30.
6. Ladd D. R. Intonational Phonology. Cambridge: CUP. 1996.
7. Roach P. English Phonetics and Phonology: A Practical Course. 2nd ed. Cambridge: CUP. 2001.
8. Spencer A. Phonology. Oxford: Blackwell. 1996.

	Questions
	What Is Phonology?
	What Is Phonetics?
	What Is the Great Vowel Shift?
	What Is Graphemics?
	What Exactly Is a Phoneme?
	Give the Definition and Examples of Allophones in English
	What Is a Grapheme?
	What are Phonotactic Constraints in Language?
	Explain Free Variation in Phonetics: You Say '*Tomato*' or '*Tomahto*'
	Design Features of Language: Duality of Patterning
	What Is Speech in Language Studies?
	Give Examples of Phonemes and Minimal Pairs in English: *Cheers* and *Jeers*.
	What Is an Accent?
	What Are Phonological Words? Definition and Examples of Linguists
	What Is Connected Speech, and What Are Its Characteristics?

TESTS
THEORETICAL PHONETICS AND ENGLISH PHONOLOGY SYSTEM

1. A greater degree of prominence which is caused mainly by pronouncing the stressed syllable a) on a different pitch level or with a change of pitch direction in it; b) with greater force of exhalation and greater muscular tension. The greater force of articulation is accompanied by an increase in the length of the sound in the stressed syllable, especially vowels. Vowels in the stressed syllables are not reduced (Leontyeva)

A. Stress B. Voicing C. Vocalization D. Peak

2. A stronger form of the 'functional' approach is advocated in the so-called 'abstract' view of the Phoneme, which regards phonemes as essentially independent of the acoustic and physiological properties associated with them that are of speech sounds. This view of the Phoneme was pioneered by …

A. L. Hjelmslev B. Nickolai Trubetskoy C. V.A. Vassilyev D. I.O. Baudouin de Courtenay

3. A systemic combination of 5 components of the language, i. e. the system of segmental phonemes; the phonemic component; the syllabic component; the accentual component, relating to accent – stress and pitch combined; intonation (Leontyeva)

A. Phonemic system B. Phonological system C. Phonetic system D. Sounds system

4. A unit of spoken message larger than a single sound and smaller than a word is a …

A. Syllable. B. Morpheme C. Allophone D. Sound

5. According to D. Jones, there are the following varieties of style: rapid familiar style, slower colloquial style, slow conversational style, natural style, acquired style, formal style

A. Styles of pronunciation B. Voicing C. Vocalization D. Peak

6. According to him the most important 6 Nuclear Tones in English are called Kinetic because the pitch of the voice moves upwards or downwards, or first one and then the other, during the whole duration of the tone. He also distinguishes Static tones, in which the ice remains steady on a given pitch throughout the duration of the tone: the High level tone, the Low level tone

A. A.C. Gimson B. G. Brown C. R. Kingdon D. J.C. Wells

7. According to J. Kenyon it is one or more speech sounds, forming a single uninterrupted unit of utterance, which may be a word, or a commonly recognized and separable subdivision of a word. It is a unity of segmental and supra-segmental qualities

A. Syllable B. Word forms C. Speech sounds D. Unity of words

8. According to the specific character of the work of the Speech Organs, Sounds in practically all the languages are subdivided into two major subtypes:

A. Vowels (V) and Consonants (C). B. Phonemes and Morphemes

C. Sounds and Phonemes D. Syllables and Words

9. After a word ending in [**ai**], [**i:**], or [**ɛ**], we often insert a [**j**] sound. '*I ate*' → '*I`yate*' → [**ai`jeit**]. How do we call this type of inserting sounds in connected speech

A. Assimilation B. Intrusion C. Elision D. Adaptation

10. After a word ending with the sounds [**oʊ**] or [**u:**], we often insert a [**w**] sound. '*You are not alone*' – '*you are*' – [**`ju: `a:**] '*youwə*' → [**`ju:wə**]. How do we call this type of inserting sounds in connected speech

A. Intrusion B. Epenthesis C. Elision D. Catenation

11. Articulatory features of RP Phonemes: A back-lingual, velar, occlusive, plosive nasal sonant

A. **[ð]** B. **[ŋ]** C. **[l]** D**. [j]**

12. Articulatory features of RP Phonemes: A bilabial, occlusive, plosive nasal sonant

A**. [ŋ]** B. **[m]** C. **[n]** D. **[p]**

13. Articulatory features of RP Phonemes: A centering diphthong with the [ə]-glide and short, lax, rounded, back advanced, low / open vowel phoneme

A. **[uə]** B. **[iə]** C. **[əu]** D. **[eə]**

14. Articulatory features of RP Phonemes: A closing diphthong with the [ɪ]-glide and short, lax, unrounded, front, mid / half-open Vowel phoneme

A. **[aɪ]** B. **[ɔɪ]** C. **[iə]** D**. [eɪ]**

15. Articulatory features of RP Phonemes: A closing diphthong with the [ɪ]-glide and short, lax, rounded, back, low / open vowel phoneme

A. **[aɪ]** B**. [ɔɪ]** C**. [iə]** D. **[eɪ]**

16. Articulatory features of RP Phonemes: A closing diphthong with the [u]-glide and short, lax, unrounded, central and mixed, mid vowel phoneme or short, lax, rounded, back, low and open vowel phoneme

A. **[uə]** B. **[iɜ]** C. **[eə]** D**. [ɜu]**

17. Articulatory features of RP Phonemes: A closing diphthong with the [u]-glide and short, lax, unrounded, central / mixed, mid vowel phoneme

A. **[uə]** B. **[au]** C. **[əu]** D. **[ɔu]**

18. Articulatory features of RP Phonemes: A closing diphthong with the [u]-glide and tense, unrounded, back, low / open vowel phoneme

A**. [au]** B. **[ɔu]** C. **[uə]** D**. [əu]**

19. Articulatory features of RP Phonemes: A fore-ligual, inter-dental, constrictive, fricative , voiceless, fortis consonant phoneme

A. **[d]** B. **[ð]** C**. [θ]** D. **[t]**

20. Articulatory features of RP Phonemes: A fore-ligual, palato-alveolar, constrictive, fricative, voiced, lenis consonant phoneme

A**. [ʃ]** B. **[tʃ]** C. **[ʒ]** D. **[dʒ]**

21. Articulatory features of RP Phonemes: A fore-lingual, alveolar, constrictive, fricative, voiced, lenis consonant phoneme

A. **[z]** B**. [r]** C. **[ʃ]** D**. [s]**

22. Articulatory features of RP Phonemes: A glottal, constrictive, fricative, voiceless, fortis consonant phoneme

A. **[h]** B. **[l]** C. **[b]** D. **[k]**

23. How do we call this type of **small words that are barely pronounced**? '*set fire **to the rain**, watched it pour ...*' – '***to the rain***' **–** [**tu ðe`rein**] → '***təthə`rain***' – [**təðə`rein**].

A. Epenthesis B. The schwa C. Smoothing D. Compression

24. Articulatory features of RP Phonemes: A labial, bilabial, occlusive, plosive, voiced, lenis consonant phoneme

A. **[b]** B. **[n]** C. **[f]** D**. [p]**

25. Articulatory features of RP Phonemes: A labial, labio-dental, constrictive, fricative, voiceless, fortis consonant phoneme

A. **[v]** B. **[b]** C. **[p]** D. **[f]**

26. Articulatory features of RP Phonemes: A lingual, back-lingual, occlusive, plosive, voiced, lenis consonant phoneme

A. **[g]** B. **[ŋ]** C. **[k]** D. **[r]**

27. Articulatory features of RP Phonemes: A lingual, fore-lingual, alveolar, occlusive, plosive, voiced, lenis consonant phoneme **[d]**

A. **[d]** B. **[m]** C. **[t]** D**. [dʒ]**

28. Articulatory features of RP Phonemes: A monophthong, half-long, lax, unrounded, front, low / open Vowel phoneme of the wide variety

A. **[ɒ]** B**. [æ]** C. **[ɒ]** D**. [ʌ]**

29. Articulatory features of RP Phonemes: A monophthong, short, lax, rounded, back advanced, low / open Vowel phoneme of the wide variety

A. **[u:]** B. **[u]** C. **[ɔ:]** D. **[ɔ]**

30. Articulatory features of RP Phonemes: A monophthong, short, lax, unrounded, front retracted, high / close Vowel phoneme of the wide variety

A. **[ɪ]** B. **[ɪ:]** C. **[e]** D. **[ɛ]**

31. Articulatory features of RP Phonemes: A monophthong, short, lax, rounded, back, low and open Vowel phoneme of the wide variety

A. **[ɒ]** B. **[ɔ:]** C. **[ɑ:]** D. **[æ]**

32. Articulatory features of RP Phonemes: A monophthong, short, lax, unrounded, central / mixed, mid Vowel phoneme of the wide variety [ɜ]

A. **[e]** B. **[ɜ]** C. **[ɜ:]** D. **[i]**

33. Articulatory features of RP Phonemes: A post-alveolar, constrictive, fricative, medial sonant

A. **[j]** B. **[r]** C. **[l]** D. **[w]**

34. Articulatory features of RP Phonemes: A voiceless affricate

A. **[dʒ]** B. **[ʃ]** C. **[t]** D. **[tʃ]**

35. Articulatory features of RP Phonemes: An alveolar-apical, constrictive, fricative, lateral sonant

A. **[r]** B. **[l]** C. **[g]** D. **[j]**

36. As one of the major components of Phonetics it is concerned with individual sounds, i.e. 'segments' of speech

A. Normative phonetics B. Practical phonetics

C. Theoretical phonetics D. Segmental phonetics

37. Can you name a feature of connected speech in this example? '**Chained to**' → **`chainto** → [**`tʃeintə**]

A. Catenation B. Intrusion C. Emphasising D. Elision

38. Can you name this feature of **linking consonant sounds to vowel sounds** in connected speech? '*shout out*' → *shou`dout* → [**ʃaʊ`daʊt**]

A. Intrusion B. Liaison C. Smoothing D. Catenation

39. Can you name this feature of **linking consonant sounds to vowel sounds** in connected speech? '*shape of*' → *shapof* → [**`ʃeipəv**]

A. Compression B. Ellipsis C. Accommodation D. Catenation

40. Conversing is speaking in such a way as to invite the participation of others.

A. Styles of pronunciation B. Voicing C. Monologuing D. Dialoguing

41. Divide the word '*bridle*' into phonetic syllables. Give its syllabic structural patterns.

A. [**braidəl**] – CCVCCV B. [**'braid .əl**] – CSVC.S

C. [**brai`dəl**] – CCVVCVC D. [**`braidəl**] – CCVCVC

42. Due to connected speech, many words that start with the letter 'y' or simply with a [j] sound, can cause confusion for English learners. This is because the initial sound of the word often combines with the final consonant sound of the previous word, creating an entirely new consonant sound: '*don't you*' → '*don**ch**you*' – [`doʊnt**ʃ**u] – **t + y** = ch – [**tʃ**]. How do we call this type of **consonant combinations that change the sound of the word** in connected speech

A. Adaptation B. Assimilation C. Omission D. Epenthesis

43. For example, we can prove that the difference between '*pin*' and '*pan*' depends on the vowel, and that [i] and [æ] are different phonemes. Pairs of words that differ in just one phoneme are known as

A. Minimal Sounds B. Minimal Phonemes C. Minimal pairs. D. Pairs of words

44. Greater degree of prominence which is caused mainly by pronouncing the stressed syllable a) on a different pitch level or with a change of pitch direction in it; b) with greater force of exhalation and greater muscular tension. The greater force of articulation is accompanied by an increase in the length of the sound in the stressed syllable, especially vowels. Vowels in the stressed syllables are not reduced (Leontyeva S. F.)

A. Phonation B. Voicing C. Accent D. Peak

45. He calls Formal speech as Full Style. Formal speech suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed

A. A.C. Gimson B. G. Brown C. L. L. Bulanin D. V.A. Vassilyev

46. He claimed that Phonology should be separated from Phonetics as it studies the functional aspect of phonic components of language. Phonetics is a biological science which investigates the sound production aspect.

A. I.O. Baudouin de Courtenay B. Nickolai Trubetskoy

C. Vilem Matesius D. Roman Jakobson

47. He declared Phonology to be a linguistic science limiting Articulatory Phonetics and Acoustic Phonetics to *anatomy*, *physiology* and *acoustics* only. This conception is shared by many foreign linguists who investigate the material form and the function of oral speech units separately.

A. D. Jones B. I. A. Baudouin-de-Courtenay C. L. V. Shcherba D. N. S. Trubetskoy

48. He defines Formal speech as Careful Colloquial Style. Formal speech suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed

A. A.C. Gimson B. G. Brown C. L.L.Bulanin D. V.A. Vassilyev

49. He describes Formal speech as Formal Slow Colloquial Style of Speech. Formal speech suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed

A. A.C. Gimson B. G. Brown C. L. L. Bulanin D. V.A. Vassilyev

50. He distinguishes 5 Phonetic Styles: solemn; scientific business; official business; everyday; familiar

A. V.A. Vassilyev B. S.M. Gaiduchic C. V.V. Vinogradov D. I.O. Baudouin de Courtenay

51. He labels Formal speech as Normal-Speed Colloquial Style of Speech. Formal speech suggests dispassionate information on the part of the speaker. It is characterized by careful articulation and relatively slow speed

A. A.C. Gimson B. G. Brown C. L.L.Bulanin D. V.A. Vassilyev

52. He presents an approach based on the view '*that any explanation of Intonational meaning cannot be arrived at by seeing the issues solely in either Grammatical or Attitudinal terms*'. He ignores the significance of Pre-head and Head choices and deals only with Terminal tones.

A. D. Crystal B. D. Jones C. K. Pike D. P. Roach

53. He suggested the other way of classifying phonetic styles that discriminates the following 5 styles: informal ordinary; formal neutral; formal official; informal familiar; declamatory

A. V.A. Vassilyev B. S.M. Gaiduchic C. V.V. Vinogradov D. J.A. Dubovsky

54. He summarizes the following functions of Intonation most of which are: Attitudinal, Accentual, Grammatical, Discourse

A. Ch. Fries B. D. Jones C. K. Pike D. P. Roach

55. He supposes that English Intonation contrasts are grammatical. He argues first that there is a neutral or unmarked Tone choice and then explains all other choices as meaningful by contrast

A. M. Halliday B. D. Jones C. K. Pike D. P. Roach

56. He was a great pioneer of Phonetics based in Oxford University. He made extremely important contributions not only to the Theory of Phonetics, which he described as '*the indispensable foundation to the study of language*' but also to spelling reform, shorthand, Philology, Linguistics and Language teaching. His best known works include '*The Primer of Phonetics*', '*The Sounds of English*' and '*The Practical Study of Languages*'

A. Henry Sweet B. Henry Higgins C. Lev Vladimirovich Shcherba D. Peter Roach

57. He was the most influential figure in the development of present-day Phonetics in Britain. He was Professor of Phonetics at University College London. He worked on many of the world's languages and on the Theory of the Phoneme and of Phonetics, but is probably best remembered internationally for his works on the Phonetics of English '*Outline of English Phonetics*' and '*English Pronouncing Dictionary*'

A. Henry Sweet B. Daniel Jones C. Henry Higgins D. Lev Shcherba

58. His definition of Phoneme is '*The segmental Phoneme is the smallest, i.e. further indivisible into smaller consecutive segments, language unit – sound type, that exists in the speech of all the members of a given language community as such speech sounds which are capable of distinguishing one word of the same language or one grammatical form of a word from another grammatical form of the same word*'

A. V.A. Vassilyev B. S.M. Gaiduchic C. V.V. Vinogradov D. J.A. Dubovsky

59. His view is that a Tone unit has a falling nucleus unless there is some specific reason why it should not and he illustrates this statement by observing that non-final structures are marked as such by the choice of Low-rising or Mid-rising or Level Tones

A. D. Crystal B. D. Jones C. R. Quirk D. P. Roach

60. How do we call this type of **consonant combinations that change the sound of the word** in connected speech in this example: **d + y** = 'hard' **j** – [dʒ] – '*could you*' – [ˋkʊ**d j**u:] → '*coujou*' – [ˋkʊ**dʒ**u:]?

A. Adaptation B. Assimilation C. Epenthesis D. Smoothing

61. How do we call this type of **small words that are barely pronounced**? '***must have been*** *love*' – '***must have been***' – [**mʌst hæv ˋbi:n**] → '***mustəˋbeen***' – [**mʌstəˋbin**].

A. Weakening B. Ellipsis C. Elision D. The schwa

62. How many components does the Phonic Substance of language consist of?

A. 5 B. 4 C. 2 D. 3

63. If one word ends with a consonant sound and the next word begins with a vowel sound, the two words merge together with the consonant sound flowing directly into the vowel sound: '*woke up*' –' *wok'up*' – [**wouˋkʌp**]. Name this feature of **linking consonant sounds to vowel sounds** in connected speech

A. Omission B. Reduction C. Accommodation D. Catenation

64. If two consonant sounds are similar, fluent speakers of English usually do not pronounce the first consonant: '*less sugar'* –'*le*ˋ*sugar*' – [**lɛˋʃʊgər**] – Name this feature of **disappearing sounds** in connected speech

A. Compression B. Weakening C. Epenthesis D. Elision

65. If two words are pronounced nearly the same, but they have just one sound different. they are a Minimal pair, e.g., in the pair ship **[ʃip**]and sheep[ʃ**i:p**], only the second sound is different.

A. Minimal sounds B. Distribution C. Minimal pairs D. Minimal phonemes

66. If you are a … of a language, that language is your first language, the language which you learnt as a young child.

A. Native speaker B. First language speaker

C. Second language speaker D. Foreign speaker

67. In '*The Cambridge Encyclopedia of Language*' he offers the Functions of Intonation summarized as Emotional, Grammatical, Information structure, Textual, Psychological, Indexical

A. Ch. Fries B. D. Crystal C. K. Pike D. D. Bolinger

68. In accordance with the grouping of sounds, the sounds of English can be classified as follows: Nasal sounds

A. **[m], [n], [ŋ]** B. **[w], [l], [r], [j], [h]**

C. **[tʃ], [dʒ]** D. **[b], [d], [g], [p], [t], [k]**

69. In accordance with the grouping of sounds, the sounds of English can be classified as: Oral Stop sounds

A. **[b], [d], [g], [p], [t], [k]** B. **[w], [l], [r], [j], [h];**

C. **[tʃ], [dʒ]** D. **[m], [n], [ŋ]**

70. In accordance with the grouping of sounds, the sounds of English can be classified as: Oral Continuant Fricative sounds

A. **[f], [θ], [s], [ʃ], [v], [ð], [z], [ʒ]** B. **[w], [l], [r], [j], [h]**

C. **[tʃ], [dʒ]** D. **[m], [n], [ŋ]**

71. In accordance with the grouping of sounds, the sounds of English can be classified as: Oral Continuant Affricate sounds

A. **[tʃ], [dʒ]** B. **[w], [l], [r], [j], [h];**

C. **[b], [d], [g], [p], [t], [k]** D**. [m], [n], [ŋ]**

72. In accordance with the grouping of sounds, the sounds of English can be classified as: Oral Continuant Approximant sounds

A. **[w], [l], [r], [j], [h]** B. **[b], [d], [g], [p], [t], [k]**

C**. [tʃ], [dʒ]** D. **[m], [n], [ŋ]**

73. In accordance with the grouping of sounds, the sounds of English can be classified as: Oral Continuant Vowel sounds

A. **[i:], [i], [u:], [u], [e], [ə:], [ə], [ʌ], [ɑ:], [æ], [o:], [o]** B. **[w], [l], [r], [j], [h]**

C. **[tʃ], [dʒ]** D. **[m], [n], [ŋ]**

74. In connected speech, the schwa becomes the unique vowel sound of many smaller words. These words might be prepositions – '*from*' – [**frəm**], '*to*'– [**tə**], '*of*'– [**əv**]; auxiliary verbs – '*have*' – [**əv**], '*are*' – [**ə**], or pronouns – '*it*'– [**ət**], '*us*'– [**əs**], or '*going to*' – [**ˋgənə**]. These smaller words don't contain a lot of information and so in connected speech, they are difficult to hear. How do we call this type of small words that are barely pronounced?

A. Intrusion B. Assimilation C. Elision D. The schwa

75. In English we can identify a group of **Plosive phonemes**

A. **[f], [θ], [s], [ʃ], [h]** B**. [p], [t], [k], [b], [d], [g]**

C. **[v], [ð], [z], [ʒ], [g]** D. **[f], [s], [ʃ], [v], [z], [ʒ]**

76. In English we can identify a group of **Voiced fricatives**

A. **[f], [θ], [s], [ʃ], [h]** B. **[f], [s], [ʃ], [v], [z], [ʒ]**

C. **[v], [ð], [z], [ʒ]** D. **[p], [t], [k], [b], [d], [g]**

77. In English we can identify a group of **Voiceless fricatives**

A. **[f], [θ], [s], [ʃ], [h]** B**.[p], [t], [k], [b], [d], [g]**

C. **[v], [ð], [z], [ʒ], [g]** D. **[f], [s], [ʃ], [v], [z], [ʒ]**

78. In Phonetics it means Consonant sound

A. Symbol [**v**] B. Symbol [**s**] C. Symbol **V** D. Symbol **C**

79. In Phonetics it means Vowel sound

A. Symbol [**v**] B. Symbol [**s**] C. Symbol **V** D. Symbol **C**

80 In speech it is like underlining in writing; we use it to make one word stand out as more important than the others. We can emphasise words by pronouncing them louder, longer and higher.

A. Underlining B. Pronouncing C. Emphasising D. Talking

81 In the analysis of intonation, all syllables that follow the tonic syllable, also called nuclear syllable, up to the tone-unit boundary constitute it. Thus in the utterance '*I want two of them*', it is '*of them*' (Peter Roach)

A. Tone B. Tail C. Nuclear D. Timbre

82 In the phonological study of the syllable it is conventional to give names to its different components. The centre of the syllable is its …; this is normally a vowel, but it is possible for a consonant to act as a … instead

A. Tone B. Phonation C. Peak D. Vocalization

83 Intonation and Word stress can be treated together under the heading … because these effects are superimposed on the segmental chain of sounds and carry the information which the sounds do not contain.

A. Prosodic component B. Segmental phonology C. Intonation D. Pronunciation

84 It analyses speech into discrete segments, such as phonemes

A. Phonology B. Segmental phonology C. Phonetics D. Auditory Phonetics

85 It analyses those features which extend over more than one segment, such as intonation contours.

A. Phonology B. Segmental phonology

C. Supra-segmental phonology D. Auditory Phonetics

86 It incorporates as much more phonetic information as the phonetician desires. It provides special symbols to denote not only the phoneme as a language unit but also its allophonic modifications.

A. Phonemic transcription B. Phonetic transcription

C. Broad transcription D. Allophonic transcription

87 It is a complex unity of pitch, force and temporal components (V.A. Vassilyev)

A. Supra-segmental phonology B. Segmental phonology C. Intonation D. Pronunciation

88 It is a dialectical unity of three aspects: 1) material, real and objective; 2) abstract and generalized; 3) functional (Leontyeva S.)

A. Morpheme B. Allophone C. Phoneme D. Sound

89 It is a dialectical unity of three aspects: 1) material, real and objective; 2) abstract and generalized; 3) functional (Leontyeva S.)

A. Aspects of a Phoneme B. Aspects of an Allophone

C. Aspects of a Morpheme D. Aspects of a Sound

90 It is a letter which represents a sound. e.g., the first sound in *shoe* is represented by [ʃ]

A. Phonemic symbol B. Phonetics symbol C. Phonologic symbol D. Phonology symbol

91 It is a set of symbols representing speech sounds. The symbolization of sounds naturally differs according to whether the aim is to indicate the phoneme, i.e. a functional unit as a whole, or to reflect the modifications of its allophones as well.

A. Symbolization B. Modification C. Transcription D. Representation

92 It is a sound we make by obstructing the flow of the air from the mouth

A. Consonant sound B. Vowel sound C. Consonant Phoneme D. Consonant letter

93 It is a sound we make when we don't obstruct the air flow from the mouth in speaking.

A. Consonant sound B. Vowel sound C. Sound D. Voicing

94 It is a sound which is voiced and does not cause enough obstruction to the airflow to prevent normal voicing from continuing. Thus vowels, nasals, laterals and other approximants

such as English [**j**], [**w**], [**r**] are …, while plosives, fricatives and affricates are non-sonorants (Roach)

A. Sonorants B. Approximants C. Non-sonorants D. Fricatives

95 It is a word or part of a word that has one vowel sound. It also may have one or more consonant sounds. For example, *ago* has two syllables. The first syllable is just one vowel sound [**e**]. The second syllable is a consonant sound followed by a vowel sound [**gəu**].

A. Phoneme B. Sound C. Syllable D. Segment

96 It is as a complex unity of phonetic styles realized in the process of communication in accordance with varying extra-linguistic and social factors

A. The Norm B. The Unit C. The Form D. The Style

97 It is concerned with the human noises by which the thought is actualized or given audible shape: the nature of these noises, their combinations, and their functions in relation to the meaning

A. Phonetics B. Phonology C. Normative phonetics D. Practical phonetics

98 It is concerned with the range and function of sounds in specific languages. It is typically referred to as phonology

A. Acoustic Phonetics B. Articulatory Phonetics

C. Functional Phonetics D. Auditory Phonetics

99 It is mainly concerned with the functioning of phonetic units in the language and it regards phonetic phenomena synchronically without any special attention paid to the historical development of English

A. Practical phonetics B. Theoretical phonetics

C. Segmental phonetics D. Normative phonetics

100 It is the minimum segment of the pronunciation of a word. For example, the word *this* has three of them [**ð**], [**i**], [**s**]

A. Phoneme B. Sound C. Letter D. Segment

101 It is the pattern of strong and weak syllables in a sentence. For example, the sentence *How do you do*? is normally said with the pattern: OooO (the first and last syllables strong, the second and third syllables weak)

A. Word stress B. Sentence stress C. Stress D. Accent

102 It is the pattern of strong and weak syllables in a word. For example, the word *decided* has three syllables and the second one is pronounced more strongly. So *decided* has this word stress pattern: o**O**o.

A. Word stress B. Stressed words C. Unstressed words D. Sentence stress

103 It is the primary medium through which we bring our use of language to the attention of other people (Stevick).

A. Phonology B. Segmental phonology C. Intonation D. Pronunciation

104 It is the smallest further indivisible unit of speech production

A. Allophone B. Phoneme C. Speech sound D. Syllable

105 It is the speaking by one individual in such a way as to exclude the possibility of interruption by others

A. Styles of pronunciation B. Voicing C. Monologuing D. Dialoguing

106 It is the study of how speech sounds are made, transmitted, and received, i.e. it is the study of all possible speech sounds. The human vocal apparatus can produce a wide range of sounds; but only a small number of them are used in a language to construct all of its words and utterances.

A. Phonology B. Articulatory Phonetics C. Phonetics D. Auditory Phonetics

107 It is the study of those segmental – speech sound types, and prosodic – intonation, features which have a differential value in the language. It studies the way in which speakers systematically use a selection of units – phonemes or intonemes – in order to express meaning. It investigates the phonetic phenomena from the point of view of their use.

A. Phonology B. Articulatory Phonetics C. Phonetics D. Auditory Phonetics

108 It is the way the people of a place pronounce their language. For example, people in London and Sydney both speak English, but they have different accents

A. Accent B. Stress C. Speech D. Pronunciation

109 It is the way your voice goes up or down when you say a sentence. This can change the meaning of a sentence.

A. Voice B. Tone C. Timbre D. Meaning

110 It studies the perceptual response to speech sounds, as mediated by ear, auditory nerve and brain, i.e. its interests lie more in the sensation of hearing, which is brain activity, than in the psychological working of the ear or the nervous activity between the ear and the brain. The means by which we discriminate sounds – quality, sensations of pitch, loudness, length, are relevant here.

A. Acoustic Phonetics B. Articulatory Phonetics

C. Functional Phonetics D. Auditory Phonetics

111 It studies the physical properties of speech sound, as transmitted between the speaker's mouth and the listener's ear

A. Acoustic Phonetics B. Articulatory Phonetics

C. Functional Phonetics D. Auditory Phonetics

112 It studies the substance, the material form of phonetic phenomena in relation to meaning.

A. Normative phonetics B. Theoretical phonetics

C. Segmental phonetics D. Practical phonetics

113 It studies the substance, the material form of phonetic phenomena in relation to meaning

A. Normative phonetics B. Practical phonetics

C. Theoretical phonetics D. Segmental phonetics

114 It studies the way in which sounds can alternate as *different realizations* of one and the same *morpheme*.

A. Phonetics B. Phonology C. Socio-phonetics D. Morphonology

115 It studies the ways in which pronunciation interacts with society. It is the study of the way in which phonetic structures change in response to different social functions and the deviations of what these functions are

A. Socio-phonetics B. Phonetics C. Sociolinguistics D. Phonology

116 It studies the ways in which pronunciation interacts with society. It is the study of the way in which phonetic structures change in response to different social functions and the deviations of what these functions are. Society here is used in its broadest sense, to cover a spectrum of phenomena to do with nationality, more restricted regional and social groups, and the specific interactions of individuals within them

A. Socio-phonetics B. Sociolinguistics C. Psycholinguistics D. Social sciences

117 It was introduced by D. Jones. He realized the difference in quality as well as in quantity between the Vowel sounds and the Neutral vowels in the words. According to D. Jones' Notation disguises the qualitative difference between the vowels though nowadays most phoneticians agree that Vowel Length is not a Distinctive Feature, but is rather dependent upon the phonetic context, that is it is definitely redundant. They opposed Vowels are approximately of the same length, the only difference between them lies in their Quality which is therefore relevant

A. Phonemic transcription B. The first type of Notation

C. The second type of Notation D. Allophonic transcription

118 Knowledge, a Code which is known and shared by speakers who use their knowledge for transmitting and interpreting verbal messages in these events is called …

A. Speech B. Segmental phonology C. Intonation D. Pronunciation

119 L. Hjelmslev, H.J. Uldall and K. Togby were representatives of …

A. Copenhagen Linguistic Circle B. Prague School of linguistic

C. Leningrad Phonological School D. Moscow Phonological School

120 L. V. Shcherba suggested two types of it: Full Style and Colloquial Style.

A. Phonation B. Styles of Pronunciation C. Vocalization D. Colloquial style

121 Language as a means of communication is known to have several functions. Well-known conception suggested by academician …, 3 functions are distinguished: the function of communication – colloquial style; the function of informing – business style, official style, scientific style; the emotive function – publicistic style; the belles-lettres style

A. Vassilyev V.A. B. Vinogradov V.V.

C. Shcherba L. V. D. Baudouin de Courtenay I.O.

122 Many pairs of consonant sounds are similar, but one of them is voiced and the other is not. For example, [**d**] is similar to [**t**], but [**d**] is voiced and [**t**] is not voiced. A consonant is voiced when there is vibration in the throat.

A. Vibration B. Obstruction C. Voice D. Voiced

123 Many words that start with the letter 'y' or simply with a [j] sound, can cause confusion for English learners. This is because the initial sound of the word often combines with the final consonant sound of the previous word, creating an entirely new consonant sound. '*did **y**ou*' → '*di**j**ou*' – [`di**dʒ**u] – **d + y** = '*hard*' **j** – [**dʒ**]. How do we call this type of **consonant combinations that change the sound of the word** in connected speech

A. Glottal stop B. Assimilation C. Elision D. Smoothing

124 Mark the stress in the word '*profile*':

A. [`**prɔʊfaıl**] B. [`**prɔʊ`faıl**] C. [**pr`ɔʊfaıl**] D. [**prɔʊ`faıl**]

125 Mark the type of suffix that the word *climate* [`**klaımıt**] – *climatic* [**klaı`mætık**] contains

A. A stress-neutral suffix – SN B. A stress-imposing suffix – SI

C. A stressed suffix – S D. An unstressed suffix – US

126 Nose, top of mouth – back of mouth, tooth ridge, top teeth – bottom teeth, top lip – bottom lip, end of tongue – front of tongue – back of tongue, jaw, throat

A. Organs of speech B. Organs of speaking

C. Organs of pronouncing D. Speaking organs

127 People engaged in the study of Phonetics are called …

A. Phoneticians B. Phonologists C. Speech makers D. Articulators

128 People engaged in the study of Phonology are called …

A. Phonologists B. Phoneticians C. Articulators D. Speech makers

129 People pronounce sentences differently when they speak carefully. For example, you may use careful speech when you are talking in public or reading aloud. But in normal conversation you would use ….

A. Careful speech B. Fast speech C. Spontaneous speech D. Slow speech

130 Peter Roach suggested under the term 'Sounds in the Mouth'

A. Allophones B. Phonemes C. Sounds D. Speech sounds

131 Phonic shaping of oral form of language is called ….

A. Phonology B. Segmental phonology C. Intonation D. Pronunciation

132 Realizations of a definite Phoneme in definite positions in words are called … or Variants

A. Phonemes B. Allophones C. Morphemes D. Sounds

133 RP Phonemes: A bilabial, constrictive, fricative, medial sonant

A. [**v**] B. [**t**] C. [**w**] D. [**b**]

134 RP Phonemes: A centering diphthong with the [ə]-glide and short, lax, unrounded, front retracted, high and close vowel phoneme

A. [**uə**] B. [**iə**] C. [**iɜ**] D. [**eə**]

135 RP Phonemes: A centering diphthong with the [ə]-glide and short, lax, unrounded, front, mid and half-open vowel phoneme

A. [**uə**] B. [**iə**] C. [**ɜu**] D. [**eə**]

136 RP Phonemes: A closing diphthong with the [u]-glide and short, lax, rounded, back, low and open vowel phoneme

A. [**ɔu**] B. [**əu**] C. [**uə**] D. [**au**]

137 RP Phonemes: A closing diphthong with the [ɪ]-glide and tense, unrounded, back, low and open vowel phoneme

A. [**aɪ**] B. [**ɔɪ**] C. [**iə**] D. [**eɪ**]

138 RP Phonemes: A fore-ligual, inter-dental, constrictive, fricative, voiced, fortis consonant phoneme

A. [**d**] B. [**l**] C. [**ŋ**] D. [**ð**]

139 RP Phonemes: A fore-ligual, palato-alveolar, constrictive, fricative, voiceless, fortis consonant phoneme

A. [ʃ] B. [**ŋ**] C. [**g**] D. [**p**]

140 RP Phonemes: A fore-lingual, alveolar, constrictive, fricative, voiceless, fortis consonant phoneme

A. [ʃ] B. [**j**] C. [**z**] D. [**s**]

141 RP Phonemes: A labial, bilabial, occlusive, plosive, voiceless, fortis consonant phoneme

A. [**g**] B. [**r**] C. [**w**] D. [**p**]

142 RP Phonemes: A labial, labio-dental, constrictive, fricative, voiced, lenis consonant phoneme

A. [**d**] B. [**b**] C. [**v**] D. [**p**]

143 RP Phonemes: A lingual, back-lingual, occlusive, plosive, voiceless, fortis consonant phoneme

A. [**k**] B. [**j**] C. [**g**] D. [**m**]

144 RP Phonemes: A lingual, fore-lingual, alveolar, occlusive, plosive, voiceless, fortis consonant phoneme

A. [**d**] B. [**r**] C. [**l**] D. [**t**]

145 RP Phonemes: A medio-lingual, palatal, constrictive, fricative sonant

A. [**j**] B. [**r**] C. [**l**] D. [**n**]

146 RP Phonemes: A monophthong, long, tense, rounded, back, high and close Vowel phoneme of the narrow variety

A. [**u:**] B. [**u**] C. [**ɔ:**] D. [**ɔ**]

147 RP Phonemes: A monophthong, long, tense, rounded, back, low and open Vowel phoneme of the narrow variety

A. [**ɔ:**] B.[**ɑ:**] C. [**ɒ**] D. [**ɜ:**]

148 RP Phonemes: A monophthong, long, tense, unrounded, back, low and open Vowel phoneme of the wide variety

A. [**ɒ**] B. [**æ**] C. [**Λ**] D. [**ɑ:**]

149 RP Phonemes: A monophthong, long, tense, unrounded, central and mixed, mid Vowel phoneme of the narrow variety

A. [**ɜ:**] B. [**u**] C. [**ɔ:**] D. [**ɔ**]

150 RP Phonemes: A monophthong, long, tense, unrounded, front, high and close Vowel phoneme of the narrow variety

A. [**i:**] B. [**ɛ**] C. [**e**] D. [**i**]

151 RP Phonemes: A monophthong, short, lax, unrounded, central and mixed, mid Vowel phoneme of the wide variety

A. [**æ**] B. [**ʌ**] C. [**ɑ:**] D. [**ɒ**]

152 RP Phonemes: A monophthong, short, lax, unrounded, front, mid and half-open Vowel phoneme of the narrow variety

A. [**i**] B. [**ɜ**] C. [**e**] D. [**æ**]

153 RP Phonemes: A voiced affricate

A. [**ʃ**] B. [**ð**] C. [**dʒ**] D. [**tʃ**]

154 RP Phonemes: An alveolar-apical, occlusive, plosive nasal sonant

A. [**ŋ**] B. [**l**] C. [**n**] D. [**t**]

155 Scholars like … grant the English Diphthongs monophonemic *status* on the basis of articulatory, morphonological and syllabic indivisibility as well as the criteria of duration and commutability

A. Shcherba L. V. and Zinder L.R. B. Trubetskoy N. and Vassilyev V.A.

C. Vasilyev V.A. and Zinder L.R. D. Vassilyev V.A. and Vinogradov V.V.

156 Shortest segment of speech continuum. They are material carriers of words. They constitute words and their forms, phrases and sentences (Leontyeva S.)

A. Unity of words B. Word forms C. Speech sounds D. Syllable

157 Some words that start with the letter '**y**' or simply with a [**j**] sound can cause confusion for English learners. This is because the initial sound of the word often combines with the final consonant sound of the previous word, creating an entirely new consonant sound. '*how's your*' → '*howjyour*' – [`haʊʒjʊər] – 'hard' **s** + **y** = 'soft' **j** – [ʒ]. How do we call this type of consonant combinations that change the sound of the word in connected speech

A. Intrusion B. Assimilation C. Elision D. Catenation

158 Syllable formation and Syllable division or Syllable separation both aspects are sometimes covered by the term

A. Formation. B. Morpheme C. Allophone D. Syllabification

159 Syllables, words, phrases and texts of connected speech are domains of …

A. Practical phonetics B. Theoretical phonetics

C. Supra segmental phonetics D. Segmental phonetics

160 The approach of … an outstanding British phonetician, extends the principle, underlying phonological relevance of *vowel quantity*. That means that words in such pairs as [**bid**] – [**bi:d**], [**sit**] – [**si:t**] are distinguished from one another by the opposition of different length, which he calls Chronemes.

A. L. Hjelmslev B. I.O. Baudouin de Courtenay C. D. Jones D. N. Trubetskoy

161 The consonant sound is a natural continuation of the preceding vowel sound. After a word ending with the sounds [**oʊ**] or [**u:**], we often insert a [**w**] sound. '*go ahead*' → '*go**w**a`head*' → [goʊwə`hɛd]. How do we call this type of **inserting sounds** in connected speech

A. Intrusion B. Hard attack C. Ellipsis D. Catenation

162 The distribution and grouping of Phonemes and Syllables in words are dealt with an area of phonology which is called ….

A. Phonology B. Segmental phonology C. Phonetics D. Phonotactics

163 The founder of the Phoneme Theory was the Russian linguist

A. I.A. Baudouin de Courtenay B. L. V. Shcherba C. V.A. Vassilyev D. L.R.Zinder

164 The most important work in Phonology is the Groundwork of Phonology (1939) by ….

A. I.A. Baudouin de Courtenay B. Nickolai Trubetskoy

C. Vilem Matesius D. Roman Jakobson

165 The most widespread type of educated American speech. This accent is usually held to be the 'standard' accent of American English. It is traditionally identified as the accent spoken throughout the USA except in the north-east, roughly the Boston and New England area, and the south-eastern states. Since it is widely used in broadcasting it is also known as 'Network English' (Peter Roach)

A. General American (GA) B. Received Pronunciation (RP)

C. Standard Accent D. Network English

166 The occurrence of the allophones of a phoneme in different position in a word is called their

A. Distribution B. Allophones C. Variants D. Sound distribution

167 The other functions of phonetic units, that is, their role in the formation of syllables, words, phrases and even texts. This Functional aspect or Social aspect of phonetic phenomena was first introduced by …

A. D. Jones B. I. A. Baudouin-de-Courtenay C. L. V. Shcherba D. N. Trubetskoy

168 The pattern of strong and weak syllables, in a word or sentence is its …. It may be represented by big and small circles. For example, the … of the word *pronunciation* is ooo**O**o.

A. Stress pattern B. Stress C. Syllable D. Pronunciation

169 The Phoneme is a minimal abstract linguistic unit realized in speech in the form of speech sounds opposable to other phonemes of the same language to distinguish the meaning of morphemes and words

A. V.A. Vassilyev B. M. A. Sokolova C. V.V. Vinogradov D. J.A. Dubovsky

170 The result of co-articulation, when one sound is made similar to its neighbour; in English it mainly affects the place of articulation. It can be progressive, regressive or reciprocal. Most commonly the sounds which undergo assimilation are immediately adjacent in the stream of speech (Leontyeva S. F.)

A. Co-articulation B. Assimilation C. Intonation D. Pronunciation

171 The resulting new sound depends on the combination: **t + y = ch** – [**t**ʃ] as in this example: '*ge**t** **y**ou*' [ge**t** **j**u:] → '*ge**ch**ou*' → [ˋgɛ**t**ʃu:]. How do we call this type of **consonant combinations that change the sound of** [**t**]

A. Weakening B. Assimilation C. Elision D. Omission

172 The science that studies the sound matter of the language, its semantic functions and the lines of development (Leontyeva)

A. Phonetics B. Linguistic Phonetics C. Linguistic Phonology D. Phonology

173 The shortest functional unit of a language. Each phoneme exists in speech in the form of mutually non-distinctive speech sounds, its allophones. Each speech sound is an allophone of some phoneme (Leontyeva)

A. Phoneme B. Allophone C. Variant D. Sound

174 The Stress patterns of some English words are liable to variations of different kinds. There is free variation of stress location due to some rhythmic and analogical pressures, both of which entail in addition considerable changes of sound pattern in words

A. A.C. Gimson B. G. Brown C. L.L.Bulanin D. J.C. Wells

175 The Syllable is one or more 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

A. A.C. Gimson B. G. Brown C. L.L.Bulanin D. J.C. Wells

176 The term has tended to be used predominantly by American writers, and much British work has preferred to use the term prosodic instead. Its features are to be found in speech, but pitch, loudness, tempo, rhythm and stress are the most commonly mentioned ones (Roach)

A. Phonation B. Prosodic C. Accent D. Supra-segmental

177 The theoretical background of Phonology is the Phoneme Theory whose foundations were first laid down by … in the last quarter of the 19th c. between the years of 1868-1881

A. I.O. Baudouin de Courtenay B. Nickolai Trubetskoy

C. Vilem Matesius D. Roman Jakobson

178 The type of syllable most common for language. English is characterized by (C)VC syllable pattern and Russian by CV pattern

A. Syllable B. Word forms C. Syllable pattern D. Unity of words

179 There are a variety of methods for recording Intonation patterns in writing This method reflects variations in pitch: The method introduced by … involves drawing a line around the sentence to show relative pitch heights

A. Ch. Fries B. G. Brown C. R. Kingdon D. J.C. Wells

180 There are a variety of methods for recording Intonation patterns in writing. According to this method the syllables are written at different heights across the page. The method is particularly favoured by …

A. Ch. Fries B. G. Brown C. R. Kingdon D. D. Bolinger

181 There are a variety of methods for recording Intonation patterns in writing. According to the 'Levels' method, a number of discrete levels of Pitch are recognized, and the utterance is marked accordingly. This method was favoured by some American linguists such as …, who recognized 4 levels of Pitch, Low, Normal, High and Extra-high, numbering them from 1-4

A. Ch. Fries B. G. Brown C. K. Pike D. D. Bolinger

182 There are a variety of methods for recording Intonation patterns in writing. So the simplest recognizes only two tones, a Fall and a Rise – easy to distinguish, but not sufficient for the phonological analysis

A. Ch. Fries B. D. Jones C. K. Pike D. D. Bolinger

183 They assert that a major function of Intonation is to express the speaker's attitude to the situation he is placed in, and they attach these meanings not to Pre-head, Head and Nucleus separately, but to each of 10 'tone-unit types' as they combine with each of 4 sentence types, statement, question, command and exclamation.

A. Ch. Fries and D. Jones B. J.D. O'Connor and G.F. Arnold

C. K. Pike and. P. Roach D. D. Crystal and R. Quirk

184 This is a technical term for the vibration of the vocal folds; it is more commonly known as voicing

A. Phonation B. Voicing C. Vocalization D. Peak

185 This is the study of the way speech sounds are made 'articulated' by the vocal organs, i.e. it studies the way in which the air is set in motion, the movements of the speech organs and the coordination of these movements in the production of single sounds and trains of sounds

A. Auditory Phonetics B. Articulatory Phonetics

C. Acoustic Phonetics D. Functional Phonetics

186 This kind syllable is one which not pronounced strongly.

A. Emphasising B. Pronouncing C. Stressed D. Unstressed

187 This type of transcription, first used by V.A. Vassilyev, causes no phonological misunderstanding providing special symbols for all vowel phonemes

A. Broad transcription B. The first type of notation

C. The second type of notation D. Allophonic transcription

188 This vowel sound plays a huge role in connected speech. It is a very short vowel sound, somewhere between an 'a' and an 'e'. In individual words, it is found in syllables that don't contain the stress. For example, in the word '*amazing*' the emphasis is on the second syllable. So, in the first syllable the letter 'a' becomes very small: '**a**mazing' – [**æ**`meiziŋ] → '**ə**`mazing' – [**ə**`meiziŋ]. How do we call this type of **small words that are barely pronounced**?

A. Compression B. Accommodation C. Glottal stop D. The schwa

189 Two words … if they have the same final vowel and consonant sounds. For example, *go* rhymes with *show* and *hat* rhymes with *cat*.

A. Rhythm B. Accent C. Rhyme D. Rhetoric

190 Unstressed or partially stressed syllables, or syllable that follows the nucleus of the intonation group (Leontyeva)

A. Head B. Timbre C. Nuclear D. Tail

191 Unstressed syllables often contain it. The most common Weak vowel is [**ə**]. This is the first vowel sound in *about* [**ə`baut** ]. The vowel [**i**] is also sometimes weak, in the second syllable of *orange* [`**ɔ:rindʒ**], for example

A. Weak vowels B. Stressed vowels C. Unstressed vowels D. Strong vowels

192 Usually it analyses those features which extend over more than one segment, such as intonation contours.

A. Phonology B. Segmental phonology C. Phonetics D. Non-segmental phonology

193 Usually people pronounce sentences differently when they speak carefully. For example, you may use it when you are talking in public or reading aloud. But in normal conversation you would use Fast speech

A. Careful speech B. Fast speech C. Spontaneous speech D. Slow speech

194 Variants or members of one and the same phoneme, which never occur in identical positions, but are said to be in complementary distribution, they are actual speech sounds (Leontyeva)

A. Phoneme B. Allophones C. Intonation D. Pronunciation

195 Vilem Matesius, Nickolai Trubetskoy, Roman Jakobson are representatives of …

A. Moscow Phonological School B. Leningrad Phonological School

C. Phonological Universals D. Prague School of linguistic

196 We should definitely give preference to a more complex system, such as J.D. O'Connor and G.F. Arnold's, which has no fewer than … different Nuclear Tones. All the relevant Pitch changes in the pre-nuclear part are indicated by arrows placed before the first stressed syllable instead of an ordinary stress-mark

A. 10 B. 8 C. 12 D. 9

197 What did Peter Roach suggest under the term 'Sounds in the Mind'

A. Phonemes B. Allophones C. Variants D. Sounds

198 What feature of connected speech you can find in this example? '**single ladies**'→ **singe` ladies** → [siŋgə`leidiz]

A. Hard attack B. Catenation C. Accommodation D. Elision

199 What types of suffixes the words may contain of?

A. A stress-neutral suffix – SN, A stress-imposing suffix – SI, A stressed suffix – S

B. A stress-neutral suffix – SN, An unstressed suffix – US, A stressed suffix – S

C. A stressed-neutral suffix –SN, A stress-imposing suffix –SI, A mixed stressed suffix –S

D. A neutral-stressed suffix –SN, A stress-imposing suffix –SI, A mixed stressed suffix –S

200 When one word ends with a consonant sound and the next word begins with a vowel sound, the two words merge together with the consonant sound flowing directly into the vowel sound: '*big opportunity*' –'*bigoppor'tunity*' –[bigɑpər`tunəti]. Name this feature of **linking consonant sounds to vowel sounds** in connected speech

A. Smoothing B. Omission C. Ellipsis D. Catenation

201 When one word ends with a vowel sound and the next word begins with a vowel sound, fluent speakers often insert a mild consonant sound to make the sentence flow more easily: '*take **me out***' – '***me out***' – [mi: `aut] → ***me`yout*** → [mi: `**j**aʊt]. Name this feature of **inserting sounds** in connected speech

A. Intrusion B. Epenthesis C. Liaison D. Catenation

202 When the end of one word has a similar consonant sound to the next word, fluent speakers of English usually do not pronounce the first consonant. The two consonants might be the same: '*walk**ed** **d**own'* – '*walk`down*' – [wɔk`daʊn]. Name this feature of **disappearing sounds** in connected speech

A. Compression B. Intrusion C. Weakening D. Elision

203 When the importance of the phoneme became widely accepted, in the 1930s and 1940s, many attempts were made to develop scientific ways of establishing the phonemes of a language and listing each phoneme's allophones; this was known as … (Peter Roach)

A. Phonetics B. Phonemics C. A minor branch of Phonology D. Phonology

204 When the properties of different sound systems are compared, and hypotheses developed about the rules underlying the use of sounds in particular groups of languages, and in all the languages that means….

A. Phonology B. Segmental phonology

C. Phonological Universals D. Non-segmental phonology

205 When we study the production of speech sounds we can observe what speakers do – …

A. Phonetical observation B. Articulatory observation

C. Kinaesthetic observation D. Phonological observation

206 When we study the production of speech sounds we can try to feel what is going on inside our vocal tract – …

A. Phonetical observation B. Articulatory observation

C. Kinaesthetic observation D. Phonological observation

207 Where Phonetics overlaps with Phonology: usually in Phonetics we are only interested in sounds that are used in meaningful speech, and phoneticians are interested in discovering the range and variety of sounds used in this way in all the known languages of the world. This is sometimes known as …

A. Phonetics B. Linguistic Phonetics C. Linguistic Phonology D. Phonology

208 Word stress and Intonation can be treated together under the heading … because these effects are superimposed on the segmental chain of sounds and carry the information which the sounds do not contain.

A. Supra-segmental component B. Segmental phonology C. Intonation D. Pronunciation

VARIANTS
ENGLISH PHONOLOGY SYSTEM

VARIANT 1

1. The phoneme
2. Conditioned variation in written language
3. Defective distribution: complementary distribution
4. Syllable-based processes
5. Give the definitions of the following terms: **abstractness, segment, redundancy rules**

VARIANT 2

1. D. Jones' explanation of a Phoneme
2. The basic phonological ideas of descriptive phonology
3. English consonants
4. SSBE monophthongs
5. Give the definitions of the following terms: **bilabial, acoustic distinctive feature, dactylic foot**

VARIANT 3

1. Phonology
2. Vowel features
3. Functions of the phonological units
4. Criteria for establishing phonemic contrast
5. Give the definitions of the following terms: **commutation test, English consonant phoneme, generalization**

VARIANT 4

1. Hyper phoneme
2. Recognitive function
3. Conditioned variation in written language
4. An orthoepic norm
5. Give the definitions of the following terms: **degenerate foot, homophony, labial-velar sound**

VARIANT 5

1. The Sonority Sequencing Generalization
2. Natural classes of sounds
3. Phonological units above the syllable
4. Three sets of diphthongs
5. Give the definitions of the following terms: **major class distinctive feature, respiration, glottis**

VARIANT 6

1. Phonology
2. Vowels versus consonants
3. Invariance of meaning
4. Allophones of a phoneme
5. Give the definitions of the following terms: **spelling, stop, Manner of articulation**

VARIANT 7

1. The categorization of phonological units
2. Vowel phonemes neutralization
3. Syntagmatic level of phonological units
4. Allophonic rules
5. Give the definitions of the following terms: **phrasal stress, orthography, language acquisition**

VARIANT 8

1. Syllables as Phonological units
2. N.S. Trubetzkoy's rules for the determination of individual phonemes
3. Two subclasses of Distributional differences
4. Distributions of vowel phonemes in GB
5. Give the definitions of the following terms: **nasalization of vowels, minimal pairs, post alveolar**

VARIANT 9

1. The phoneme system
2. Power of opposition
3. Functional load
4. Statistic data in establishing the functional load
5. Give the definitions of the following terms: **alliteration, Standard Lexical Sets, schwa**

VARIANT 10

1. Allophonic rules
2. Oppositions in relation to the entire system of oppositions
3. Syntagmatic relations
4. GA English
5. Give the definitions of the following terms: **syllable-timing, allophonic rules, sonorant**

VARIANT 11

1. Phonological trends in the USA
2. Segmental phonology of the phrase and word
3. The Principal Types of English Pronunciation
4. Dialectology
5. Give the definitions of the following terms: **implosive, phonetic similarity, stress rules**

VARIANT 12

1. The notion of the phoneme
2. Diphthongs /i/
3. Standard English language for teaching in many countries
4. An orthoepic norm
5. Give the definitions of the following terms: **archiphoneme, redundancy rules, segment**

VARIANT 13

1. The phoneme system
2. Optimality Theory
3. A national language
4. The syllable
5. Give the definitions of the following terms: **constraints, fundamental frequency, back tongue sounds**

VARIANT 14

1. Systemic differences
2. Aspiration
3. Eastern American pronunciation features
4. Nasal sounds
5. Give the definitions of the following terms: **distribution, variation, stress rules**

VARIANT 15

1. L.V. Shcherba's definition of the phoneme
2. The manner of articulation: Approximants
3. Alveolar sounds
4. Criteria for establishing phonemic contrast
5. Give the definitions of the following terms: **Australian English, distinctive feature, vowel**

VARIANT 16

1. Members of the phoneme suggested by D. Jones
2. Phonological rules
3. Onset Maximalism
4. Allophones
5. Give the definitions of the following terms: **Coda, Scottish Vowel Length Rule, phonological rules**

VARIANT 17

1. D. Jones' acoustic theory
2. Literary applications of syllable constituents
3. GA monophthongs

4. Standard English language for teaching in many countries
5. Give the definitions of the following terms: **borrowing, soft palate – velum, spelling**

VARIANT 18

1. N.S. Trubetzkoy's rules for the determination of phoneme combinations
2. Allophonic rules
3. Morphology
4. Statistic data in establishing the functional load and power of opposition
5. Give the definitions of the following terms: **compound, redundancy, phoneme**

VARIANT 19

1. The basic phonological ideas of descriptive phonology
2. The phoneme distinctive features
3. Syllables as Phonological units
4. Defective distribution: complementary distribution
5. Give the definitions of the following terms: **degenerate foot, spelling, main stress**

VARIANT 20

1. Phonological feature system
2. Stress
3. The foot as Phonological unit
4. Length of vowels: Long vowels
5. Give the definitions of the following terms: **super ordinate distinctive feature, idiolect, compound stress**

VARIANT 21

1. Morphology
2. The anatomy of a vowel
3. Allophones of a phoneme
4. Standard English language for teaching in many countries
5. Give the definitions of the following terms: **Southern Standard British English, heavy syllable, phrasal stress**

VARIANT 22

1. The definition of the phoneme by the Moscow Phonological School
2. The Sonority Sequencing Generalization
3. Vowel phonemes
4. Functional load
5. Give the definitions of the following terms: **primary stress, Morphophonemics, back tongue sounds**

VARIANT 23

1. The notation of phonetic symbols by American linguists
2. Phonotagmemics
3. Phonology of the segment
4. Distributions of vowel phonemes in GA
5. Give the definitions of the following terms: **closed syllable, labial-velar, Southern Standard British English**

VARIANT 24

1. Criteria for contrast: the phoneme system
2. Constitutive function
3. SSBE and GA monophthongs
4. Delimitative function
5. Give the definitions of the following terms: **velaric airstream mechanism, compound stress, weight of syllable**

VARIANT 25

1. The reality of the phoneme
2. Oppositions
3. Phonological neutralization

4. The Scottish Vowel Length Rule
5. Give the definitions of the following terms: **accent, closed syllable, blade tongue sounds**

VARIANT 26

1. The phonological units
2. Minimal pairs
3. Statistic data in establishing the functional load and power of opposition
4. Differences between the distributions of consonant phonemes in GB and GA
5. Give the definitions of the following terms: **Standard, compound stress, weight of syllable**

VARIANT 27

1. L.V. Shcherba's definition o f the phoneme
2. The anatomy of a consonant
3. The three important factors to signal stress
4. Length of vowels: Long vowels
5. Give the definitions of the following terms: **blade tongue sounds, syllable-timing, systematic gap**

VARIANT 28

1. The phoneme system
2. Descriptive phonology
3. Main differences in the notation of phonetic symbols by British and American linguists
4. The Stress
5. Give the definitions of the following terms: **continuant, whisper, rules versus constraints**

VARIANT 29

1. Marked differences exist between the theories of Leningrad and Moscow phonological schools
2. Phrase-level processes
3. Syllables as Phonological units
4. The manner of articulation: Stops
5. Give the definitions of the following terms: **approximant, complementary distribution, accent**

VARIANT 30

1. I. A. Baudouin de Courtenay's phonological theory
2. Distributional differences
3. Syntagmatic level of phonological units
4. Post-alveolar sounds
5. Give the definitions of the following terms: **babbling, distinctive feature, voicing**

VARIANT 31

1. Members of the Phoneme suggested by D. Jones
2. Type of accent difference
3. Defective distribution: phonotactic constraints
4. Main features of Canadian English pronunciation
5. Give the definitions of the following terms: **consonant cluster, Standard Scottish English, systematic gap**

VARIANT 32

1. Paradigmatic level of phonological units
2. Two subdivisions of syllable type
3. D. Jones' acoustic theory
4. Southern American pronunciation features
5. Give the definitions of the following terms: **loans, non–standard varieties, weight of syllable**

VARIANT 33

1. The reality of the phoneme
2. The basic phonological ideas of descriptive phonology
3. Minimal pairs
4. Length of vowels: Short vowels
5. Give the definitions of the following terms: **conditioning, phone, oral cavity**

VARIANT 34

1. Morphonology
2. Statistic data in establishing the functional load
3. Functional load
4. Diphthongs /ii/
5. Give the definitions of the following terms: **allophone, iambic foot, reduction**

VARIANT 35

1. Invariance of meaning
2. The phonetic characteristics of stress
3. Syntagmatic relations
4. Distinguishing consonants from vowels
5. Give the definitions of the following terms: **vowel space, ordinate distinctive feature, Iambic Reversal**

VARIANT 36

1. The phoneme system
2. Defective distribution: complementary distribution
3. Phonological trends in the USA
4. The front–back dimension: Front vowels
5. Give the definitions of the following terms: **sound system, weight of syllable, whisper**

VARIANT 37

1. Phonological school that develops L.V. Shcherba's theory
2. The Principal Types of English Pronunciation
3. A national language
4. Neutralization
5. Give the definitions of the following terms: **secondary stress, place of articulation, monophthong**

VARIANT 38

1. The definition of the phoneme by the Leningrad Phonological School
2. The basic phonological ideas of descriptive phonology
3. The syllable
4. Distributions of consonant phonemes in GB
5. Give the definitions of the following terms: **labio-dental sound, transcription, non–standard varieties**

VARIANT 39

1. N.S. Trubetzkoy's rules for the determination of individual phonemes and phoneme combinations
2. Phonological neutralization
3. The Northern English pronunciation
4. Voiced sounds
5. Give the definitions of the following terms: **pulmonic airstream mechanism, root tongue sounds, Metrical Phonology**

VARIANT 40

1. Segmental phonology of the phrase
2. Phonetic similarity and defective distribution
3. Types of phonological oppositions
4. Syllables as Phonological units
5. Give the definitions of the following terms: **heavy syllable, Scottish English**, **tree diagrams**

VARIANT 41

1. Phonology and morphology
2. The notation of phonetic symbols by American linguists
3. Phonetic similarity and defective distributions
4. Allophonic variation
5. Give the definitions of the following terms: **weight of syllable, front tongue sounds, trill stop**

VARIANT 42

1. N.S. Trubetzkoy's rules for the determination of individual phonemes
2. Syllable weight
3. Vowel features and allophonic rules
4. Main differences in the notation of phonetic symbols by British and American linguists
5. Give the definitions of the following terms: **vowel space, coronal, compound stress**

VARIANT 43

1. The notation of phonetic symbols by British linguists
2. The phoneme system
3. Minimal pairs
4. Allophones
5. Give the definitions of the following terms: **cluster, whisper, rounding – lip-rounding**

VARIANT 44

1. The Segmental Phonology
2. Members of the phoneme suggested by D. Jones
3. The Primary Cardinal Vowels
4. Syllables as Phonological units
5. Give the definitions of the following terms: **anterior, contrastive distribution, universals**

VARIANT 45

1. Morphonology
2. Measuring of a functional load
3. Oppositions according to the distinctive force and their occurrence in different positions
4. Velar sounds
5. Give the definitions of the following terms: **nasal assimilation, feature, Welsh**

VARIANT 46

1. Members of the phoneme suggested by D. Jones
2. Phonological feature system
3. Oppositions according to the distinctive force and their occurrence in different positions
4. Predicting stress placement
5. Give the definitions of the following terms: **vocal tract, language acquisition device, vowel quadrilateral**

VARIANT 47

1. Theoretically and practically importance of L.V. Shcherba's ideas
2. Phonetic symbol
3. The «Southern drawl»
4. The manner of articulation: Approximants
5. Give the definitions of the following terms: **branching, phonation – voicing, primary stress**

VARIANT 48

1. Minimal pairs
2. The Prague phonological school
3. Phonotagmemics
4. Monophthongs and diphthongs
5. Give the definitions of the following terms: **connected speech processes**, **Optimality Theory**, **closed syllable**

VARIANT 49

1. The basic phonological ideas of Descriptive Phonology
2. Optimality Theory
3. Constitutive function
4. Consonant classification
5. Give the definitions of the following terms: **vowel/consonant distinctive feature, Southern British English, secondary stress**

VARIANT 50

1. Phonological rules
2. Delimitative function
3. Syntagmatic relations
4. Defective distribution: phonotactic constraints
5. Give the definitions of the following terms: **accent variation, homophony, acquisition device**

VARIANT 51

1. Phonological units
2. The importance of accent
3. Describing English consonants
4. The front–back dimension: Back vowels, Metrical Phonology,
5. Give the definitions of the following terms: **trochaic foot, Sonority Sequencing Generalization, native speaker intuitions**

VARIANT 52

1. The notation of phonetic symbols by American linguists
2. Describing vowels
3. The Sonority Sequencing Generalization
4. Criteria for establishing phonemic contrast,
5. Give the definitions of the following terms: **stress, matrix feature, phonetic similarity**

VARIANT 53

1. Morphophonemics
2. An orthoepic norm
3. Establishing vowel contrasts
4. Distributions of consonant phonemes in GA
5. Give the definitions of the following terms: **vowel allophone, phonological knowledge, manner of articulation**

VARIANT 54

1. The definition of the phoneme by the Moscow Phonological School
2. Functions of the phonological units
3. Two subclasses of Distributional differences
4. Main features of Australian English pronunciation
5. Give the definitions of the following terms: **respiration, glottalic airstream mechanism, allophonic rules**

VARIANT 55

1. N.S. Trubetzkoy's rules for the determination of individual phonemes and phoneme combinations
2. Phonological neutralization
3. The three important factors to signal stress
4. Types of oppositions
5. Give the definitions of the following terms: **light syllable, Scots Gaelic, rhoticity**

VARIANT 56

1. The notation of phonetic symbols by American linguists
2. Phonetic similarity
3. The grammar of syllables: patterns of acceptability
4. Oppositions according to the distinctive force and their occurrence in different positions
5. Give the definitions of the following terms: **main stress, root tongue sounds, matrix feature**

VARIANT 57

1. Segmental Phonology of the phrase and word
2. Paradigmatic level of phonological units
3. The three important factors to signal stress
4. The Scottish type of pronunciation
5. Give the definitions of the following terms: **dark** [ɬ], **English spelling system, Manner of articulation**

VARIANT 58

1. Descriptive Phonology
2. A phonetic symbol
3. The types of oppositions
4. Justifying the constituents
5. Give the definitions of the following terms: **click; articulatory/acoustic distinctive feature; tap stop**

VARIANT 59

1. N.S. Trubetzkoy's rules for the determination of individual phonemes and phoneme combinations
2. Constituents of the syllable
3. Statistic data in establishing the functional load and power of opposition
4. Measuring of a functional load
5. Give the definitions of the following terms: **allophone, defective distribution, rounding**

VARIANT 60

1. Segmental Phonology of the phrase and word
2. The Primary Cardinal Vowels
3. Vowel features and allophonic rules
4. Palatal sounds
5. Give the definitions of the following terms: **aspiration, weight, Tyneside English**

VARIANT 61

1. Phonological school that develops L.V. Shcherba's theory
2. The semantic function of a phoneme
3. The stress placement
4. Phonological trends in the USA
5. Give the definitions of the following terms: **canonical form, vocal folds, manner of articulation**

VARIANT 62

1. I. A. Baudouin de Courtenay's definition of the Phoneme
2. Phonology of the segment
3. A literary variant of a language
4. Statistic data in establishing the functional load
5. Give the definitions of the following terms: **General AmE, articulation, phonation**

VARIANT 63

1. Phonemic contrast
2. Allophonic distributions rules
3. Monophthongs
4. English speaking countries
5. Give the definitions of the following terms: **consonant, Metrical Phonology, neutralization**

VARIANT 64

1. The definition of the phoneme by the Leningrad Phonological School
2. Criteria for contrast: the phoneme system
3. The basic phonological ideas of descriptive phonology
4. Literary pronunciation type in the USA
5. Give the definitions of the following terms: **main stress, Standard Lexical Sets, heavy syllable**

VARIANT 65

1. D. Jones' Acoustic Theory
2. Phonetic similarity
3. Variation between accents
4. Syntagmatic relations
5. Give the definitions of the following terms: **vowel distinctive feature, suspension of opposition – neutralization, phonetic similarity**

VARIANT 66

1. Theoretically and practically importance of L.V. Shcherba's ideas
2. Vowel features and allophonic rules
3. The manner of articulation: Stops

4. The front–back dimension: Central vowels
5. Give the definitions of the following terms: **allophone, formality, loans – borrowing,**

VARIANT 67

1. Phonological school that develops L.V. Shcherba's theory
2. The notation of phonetic symbols by British linguists
3. Vowels versus consonants
4. Velar sounds
5. Give the definitions of the following terms: **trill stop, Greek letter variables, consonant allophone**

VARIANT 68

1. N.S. Trubetzkoy's rules for the determination of individual phonemes and phoneme combinations
2. Allophones phonetic similarity and defective distribution
3. Diphthongs /ii/
4. Main differences in the notation of phonetic symbols by British and American linguists
5. Give the definitions of the following terms: **Isochrony, tip tongue sounds, universals**

VARIANT 69

1. N.S. Trubetzkoy's rules for the determination of individual phonemes
2. Variation between accents
3. The grammar of syllables: patterns of acceptability
4. Differences between the distributions of consonant phonemes in GB and GA
5. Give the definitions of the following terms: airstream mechanism, **manner of articulation, light syllable**

VARIANT 70

1. N.S. Trubetzkoy's rules for the determination of phoneme combinations
2. Defective distribution
3. Types of phonological oppositions
4. Main features of New Zealand English pronunciation
5. Give the definitions of the following terms: **open syllable, Scots, Metrical Phonology**

VARIANT 71

1. Phonological school that develops L.V. Shcherba's theory
2. The Principal Types of English Pronunciation
3. Phonological neutralization
4. The Stress rules
5. Give the definitions of the following terms: **tip tongue sounds, psychological reality, respiration**

VARIANT 72

1. The basic phonological ideas of descriptive phonology
2. Realizational differences
3. The marked features of the Scottish type of pronunciation in comparison with GB
4. Voiceless sounds
5. Give the definitions of the following terms: **alliteration, delayed release, soft palate,**

VARIANT 73

1. Descriptive Phonology
2. Phonotagmemics
3. The grammar of syllables
4. Oral sounds
5. Give the definitions of the following terms: **clear [l], light syllable, Tyneside English – Geordie**

VARIANT 74

1. Phonological units
2. The anatomy of a consonant
3. The distinctive function
4. Segmental phonology of the phrase
5. Give the definitions of the following terms: **consonant allophone, economy, lip-rounding**

VARIANT 75

1. The relationship between phonetics and phonology
2. Recognitive function
3. The types of oppositions
4. Phonological feature system
5. Give the definitions of the following terms: **passive articulator, articulatory distinctive feature, syllable**

VARIANT 76

1. Segmental Phonology of the phrase
2. The semantic function of a phoneme
3. A warning note on phonological rules
4. Dental sounds
5. Give the definitions of the following terms: **distribution, vocal cords, systematic gap**

VARIANT 77

1. Descriptive Phonology
2. Phonetic similarity and defective distributions
3. The Prague phonological school
4. Stress
5. Give the definitions of the following terms: **Cardinal Vowels, phonotactics, trill stop**

VARIANT 78

1. Phonological school that develops L.V. Shcherba's theory
2. Criteria for contrast: the phoneme system
3. Making generalizations
4. Diphthongs
5. Give the definitions of the following terms: **cluster, Received Pronunciation, nasal stop**

VARIANT 79

1. N.S. Trubetzkoy's definition of a phoneme
2. Segmental phonology of the phrase
3. The anatomy of a vowel
4. Functions of the phonological units
5. Give the definitions of the following terms: **American English, frontness, voicing**

VARIANT 80

1. Consonant classification
2. Standard lexical Sets
3. Marked differences between GB and GA consonants
4. The second type of Free variation
5. Give the definitions of the following terms: **consonant distinctive feature, suspension of opposition, Great Vowel Shift**

VARIANT 81

1. D. Jones' Acoustic Theory
2. Contrast defective distributions
3. The Sonority Sequencing Generalization
4. The high–low dimension: High vowels
5. Give the definitions of the following terms: **sonorant, Standard Pronunciation, loans**

VARIANT 82

1. The categorization of phonological units
2. The Primary Cardinal Vowels
3. Spelling-pronunciation
4. Measuring of a functional load
5. Give the definitions of the following terms: **alliteration, Irish English, matrix feature**

VARIANT 83

1. Paradigmatic level of phonological units
2. Allophones phonetic similarity
3. Power of opposition
4. The notation of phonetic symbols by British linguists
5. Give the definitions of the following terms: **vowel allophone, tap stop, velaric airstream mechanism**

VARIANT 84

1. The classification of phonological oppositions in relation to the entire system of oppositions
2. Optimality Theory
3. The importance of accent
4. The meaning of archiphoneme
5. Give the definitions of the following terms: **affricate, vowels, allophone**

VARIANT 85

1. Free variation, neutralization and Morphophonemics
2. The grammar of syllables: patterns of acceptability
3. Statistic data in establishing the functional load and power of opposition
4. Main features of South African English pronunciation
5. Give the definitions of the following terms: **airstream mechanism tongue, Gaelic,**

VARIANT 86

1. Word-internal morphophonological processes
2. The manner of articulation: Fricatives
3. Phonological trends in the USA
4. Allophonic variation
5. Give the definitions of the following terms: **dental, stress-timing, pulmonic airstream mechanism**

VARIANT 87

1. Phonology above the segment
2. Oppositions according to the distinctive force and their occurrence in different positions
3. Syllables as Phonological units
4. Pronunciation features of the Cockney dialect
5. Give the definitions of the following terms: **classification, General American English, approximant**

VARIANT 88

1. The notation of phonetic symbols by American linguists
2. The grammar of syllables: patterns of acceptability
3. Syntagmatic level of phonological units
4. Statistic data in establishing the power of opposition
5. Give the definitions of the following terms: **ambi-syllabicity, realizational accent variation, vowel allophone**

VARIANT 89

1. Descriptive phonology
2. The anatomy of a consonant
3. Vowel features and allophonic rules
4. The three important factors to signal stress
5. Give the definitions of the following terms: **glottalic airstream mechanism**, **ejective, Romance languages**

VARIANT 90

1. Phonological school that develops L.V. Shcherba's theory
2. Criteria for contrast: the phoneme system
3. Oral sounds
4. The three important factors to signal stress

5. Give the definitions of the following terms: **acoustic distinctive feature, weight of syllable, vocal folds**

VARIANT 91

1. Segmental Phonology of the word
2. J. Firth's phonological approach
3. Allophonic rules
4. Labio-dental sounds
5. Give the definitions of the following terms: **casual speech, Geordie, speaker intuitions**

VARIANT 92

1. Phonetic similarity and defective distributions
2. A literary variant of a language
3. The phonetic characteristics of stress
4. Describing vowels
5. Give the definitions of the following terms: **active articulator, weight of syllable, approximant**

VARIANT 93

1. The anatomy of a consonant
2. Generalizations
3. Spelling-pronunciation examples of GB and GA
4. Vowel classification
5. Give the definitions of the following terms: **syllabic cluster, pharynx, non–standard varieties**

VARIANT 94

1. Vowel classification
2. Oppositions according to the distinctive force and their occurrence in different positions
3. Dialectology
4. Establishing vowel contrasts
5. Give the definitions of the following terms: **ambi-syllabicity, realization, grapheme**

VARIANT 95

1. The definition of the phoneme by the Moscow Phonological School
2. Segmental phonology of the word
3. Archiphoneme
4. Marked differences between GB and GA vowels
5. Give the definitions of the following terms: **feature geometry**, **phonetic similarity**, **neutralization**

VARIANT 96

1. D. Jones' acoustic theory
2. Distributions
3. The high–low dimension: Low vowels
4. Segmental phonology of the phrase
5. Give the definitions of the following terms: **free-stress language, soft palate–velum, rhyme syllable**

VARIANT 97

1. The Prague phonological school
2. Allophones defective distribution
3. Aspiration
4. Spelling-pronunciation examples of GB and GA
5. Give the definitions of the following terms: **phonetic similarity, tense, borrowing**

VARIANT 98

1. Descriptive phonology
2. Accents systemic differences
3. Phonotagmemics
4. The notation of phonetic symbols by American linguists
5. Give the definitions of the following terms**: strident, nasal stop, realizational accent variation**

VARIANT 99

1. The Principal Types of English Pronunciation
2. Functions of the phonological units
3. The distinctive function
4. Defining distributions: consonant allophones
5. Give the definitions of the following terms: **universals, acoustics, native speaker intuitions,**

VARIANT 100

1. The classification of phonological oppositions
2. The syllable
3. The meaning of archiphoneme
4. Variation
5. Give the definitions of the following terms: **distributional accent variation, schwa, vowel allophone**

VARIANT 101

1. The basic phonological ideas of descriptive phonology
2. The foot as Phonological unit
3. A national language
4. Describing English consonants
5. Give the definitions of the following terms: **vowel allophone, Standard Lexical Sets, medial voicing**

VARIANT 102

1. The definition of the phoneme by the Leningrad Phonological School
2. Three principal types of English pronunciation
3. Determination of individual phonemes and phoneme combinations
4. Recognitive function
5. 7Give the definitions of the following terms: **dialect literature, spelling system, phonetic similarity**

VARIANT 103

1. The notation of phonetic symbols by British linguists
2. Free variation
3. Velar sounds
4. Justifying the constituents
5. Give the definitions of the following terms: **accent variation, canonical form**, **allophone**

VARIANT 104

1. The types of oppositions
2. Vowel features and allophonic rules
3. Pronunciation types in the USA
4. Criteria for establishing phonemic contrast
5. Give the definitions of the following terms: **articulatory feature, velum, systemic accent variation**

VARIANT 105

1. Functions of the phonological units
2. Vowel features and allophonic rules
3. Power of opposition
4. Bilabial sounds
5. Give the definitions of the following terms: **environment bar, vowel space, trill**

VARIANT 106

1. N.S. Trubetzkoy's definition of a phoneme
2. Optimality Theory
3. Phonological feature system
4. Phonology of the segment
5. Give the definitions of the following terms: **airstream mechanism, glide, accidental gap,**

VARIANT 107

1. The categorization of phonological units
2. The airstream mechanism
3. Paradigmatic level of phonological units
4. Phonetic similarity
5. Give the definitions of the following terms: **Acoustics, larynx, Standard accents**

VARIANT 108

1. The relationship between phonetics and phonology
2. Distinctive features
3. Spelling-pronunciation examples of GB
4. Centering diphthongs
5. Give the definitions of the following terms: **articulator, psychological reality, English vowel system**

VARIANT 109

1. The definition of the phoneme by the Leningrad Phonological School
2. The Primary Cardinal Vowels
3. The grammar of syllables: patterns of acceptability
4. Oral sounds
5. Give the definitions of the following terms: **free variation, suspension of opposition, universals**

VARIANT 110

1. The basic phonological ideas of descriptive phonology
2. Vowel phonemes
3. Oppositions according to the distinctive force
4. The anatomy of a consonant
5. Give the definitions of the following terms: **fixed-stress language**, **rhyme poetic**, **glottalization**

VARIANT 111

1. Members of the phoneme suggested by D. Jones
2. Free variation
3. Syntagmatic level of phonological units
4. Mid vowels
5. Give the definitions of the following terms: **stop, soft palate, phoneme system**

VARIANT 112

1. The notation of phonetic symbols by American linguists
2. Phonetic similarity and defective distribution
3. Allophones
4. Statistic data in establishing the power of opposition
5. Give the definitions of the following terms: **English vowel system, syllable, liquids**

VARIANT 113

1. Phonological rules
2. Paradigmatic relations
3. Marked differences in word accentuation between GB and GA
4. Pronunciation of GA **/r/**
5. Give the definitions of the following terms: **vowel system, tap, manner of articulation**

VARIANT 114

1. The Sonority Sequencing Generalization
2. Constituents of the syllable
3. Minimal pairs
4. Power of opposition
5. Give the definitions of the following terms: **place of articulation, inter-costal muscles**, **Acoustics**

VARIANT 115

1. D. Jones' explanation of a phoneme
2. Phonological oppositions in relation to the entire system of oppositions
3. Accents Realization differences

4. The foot as Phonological unit
5. Give the definitions of the following terms: **accidental gap, allophonic rules, nasal stop**

VARIANT 116

1. Morphophonology
2. J. Firth's phonological approach
3. The anatomy of a consonant
4. Spelling-pronunciation examples of GB and GA
5. Give the definitions of the following terms: **vowel space, casual speech processes, alphabet**

VARIANT 117

1. The formation of the phonological theory
2. Archiphoneme
3. The three important factors to signal stress
4. Differences between the distributions of consonant phonemes in GB and GA
5. Give the definitions of the following terms: **cluster versus vowel, velum, Metrical Phonology**

VARIANT 118

1. The basic phonological ideas of descriptive phonology
2. Segmental phonology
3. SSBE and GA monophthongs
4. The manner of articulation: Fricatives
5. Give the definitions of the following terms: **citation form, velar, psychological reality**

VARIANT 119

1. N.S. Trubetzkoy's definition of a phoneme
2. Neutralization
3. Phrase-level processes
4. Pronunciation features of the Cockney dialect
5. Give the definitions of the following terms: **alveolar ridge**, **vowel quadrilateral**, **tree diagrams**

VARIANT 120

1. Phonemes revisited
2. Criteria for contrast: the phoneme system
3. The air-flow central or lateral
4. The Southern English pronunciation
5. Give the definitions of the following terms: **diphthong, Estuary English, acoustic feature**

VARIANT 121

1. The International Phonetic Alphabet
2. Defining distributions: consonant allophones
3. Spelling-pronunciation examples of GA
4. Statistic data in establishing the functional load and power of opposition
5. Give the definitions of the following terms: **vowel versus consonant, opposition, standard accents**

VARIANT 122

1. Marked differences exist between the theories of Leningrad and Moscow phonological schools
2. Determination of individual phonemes
3. The three important factors to signal stress
4. Realizational differences
5. Give the definitions of the following terms: **affricate, Paralinguistics, systemic accent variation**

VARIANT 123

1. Phonotagmemics
2. Establishing vowel contrasts
3. The distinctive function
4. Pronunciation types in the USA
5. Give the definitions of the following terms: **realizational accent variation, diphthong, post alveolar**

VARIANT 124

1. The basic phonological ideas of descriptive phonology
2. Constitutive function
3. Defining distributions
4. SSBE and GA monophthongs
5. Give the definitions of the following terms: **foot, productivity, intuitions**

VARIANT 125

1. The notation of phonetic symbols by British linguists
2. The International Phonetic Alphabet
3. Oppositions according to the distinctive force and their occurrence in different positions
4. Oral sounds
5. Give the definitions of the following terms: **realizational accent variation, rhoticity, glottal stop**

VARIANT 126

1. Members of the phoneme suggested by D. Jones
2. The basic phonological ideas of descriptive phonology
3. Neutralization
4. Lip position
5. Give the definitions of the following terms: **alphabet, Standard Lexical Sets, velum**

VARIANT 127

1. Free variation
2. Recognitive function
3. Defective distributions
4. Word accentuation in GB
5. Give the definitions of the following terms: **compound stress, vowels, airstream mechanism**

VARIANT 128

1. The definition of the phoneme by the Moscow Phonological School
2. Phonological rules
3. Paradigmatic relations
4. Differences between the distributions of vowel phonemes in GB and GA
5. Give the definitions of the following terms: **distributional accent variation, systematic gap, weight of syllable**

VARIANT 129

1. Functions of the phonological units
2. The grammar of syllables: patterns of acceptability
3. Vowel features and allophonic rules
4. Eastern American pronunciation
5. Give the definitions of the following terms: **consonants, Onset Maximalism, innateness**

VARIANT 130

1. D. Jones' explanation of a phoneme
2. Phonological oppositions
3. Accents Distributional differences
4. Segmental phonology of the phrase
5. Give the definitions of the following terms: **consonant allophone, phonetic similarity, standard accents**

VARIANT 131

1. J. Firth's phonological approach
2. Optimality Theory
3. Word-internal morphophonological processes
4. The grammar of syllables: patterns of acceptability
5. Give the definitions of the following terms: **distribution**, **manner of articulation**, **Standard sets**

VARIANT 132

1. I. A. Baudouin de Courtenay's phonological theory
2. Rules and constraints
3. The categorization of phonological units

4. Syntagmatic level of phonological units
5. Give the definitions of the following terms: **consonant system, native speaker intuitions, connected speech processes**

VARIANT 133

1. Phonological units and the syllable
2. Dialectology
3. The anatomy of a consonant
4. A national language
5. Give the definitions of the following terms**: Chinese, Chengdu; varieties, Manner of articulation**

VARIANT 134

1. N.S. Trubetzkoy's definition of a phoneme
2. Variation
3. The foot types
4. Standard English language for teaching in many countries
5. Give the definitions of the following terms: **obstruent, Morphophonemics**, **non–standard varieties**

VARIANT 135

1. Morphophonemics
2. Place of articulation
3. Differences between GB and GA English
4. Statistic data in establishing the functional load and power of opposition
5. Give the definitions of the following terms: **centering diphthong, vowel *versus* consonant, transcription**

VARIANT 136

1. The basic phonological ideas of descriptive phonology
2. The term «phonemic line»
3. Criteria for establishing phonemic contrast
4. SSBE and GA monophthongs
5. Give the definitions of the following terms: **eurhythmy, phonological rules, orthography–spelling**

VARIANT 137

1. Phonetics and phonology
2. Vowel features and allophonic rules
3. The foot as Phonological unit
4. The manner of articulation: Approximants
5. Give the definitions of the following terms: **binary distinctive feature**, **English vowel phoneme**, **language acquisition device**

VARIANT 138

1. Phonological rules
2. A standard language
3. Nasal sounds
4. SSBE and GA monophthongs
5. Give the definitions of the following terms: **fricatives, weight of syllable, standard accents**

VARIANT 139

1. Determination of phoneme combinations
2. Neutralization
3. Length of vowels
4. A literary variant of a language
5. Give the definitions of the following terms: **sociolinguistics, accent, distribution**

VARIANT 140

1. The phoneme
2. Oppositions according to the distinctive force and their occurrence in different positions
3. Functional load
4. Defining distributions: consonant allophones
5. Give the definitions of the following terms: **dactylic foot, retroflex, glottal reinforcement**

VARIANT 141

1. Phonology and morphology
2. Statistic data in establishing the power of opposition
3. Members of the phoneme suggested by D. Jones
4. Rounded vowels
5. Give the definitions of the following terms: **English spelling system, stop–plosive, variation**

VARIANT 142

1. Phonetic similarity and defective distribution
2. Vowel phonemes free variation
3. Allophones of a phoneme
4. Word accentuation in GA
5. Give the definitions of the following terms: **Lexical Sets**, **accent variation, main stress**,

VARIANT 143

1. Syllables
2. Power of opposition
3. An orthoepic norm
4. Differences between the distributions of consonant phonemes in GB and GA
5. Give the definitions of the following terms: **abstractness, obstruent, manner of articulation**

VARIANT 144

1. Phonotactic constraints
2. Conditioned variation
3. Predicting stress placement
4. Allophones
5. Give the definitions of the following terms: **symmetry, Initial Maximalism, Standard language**

VARIANT 145

1. Vowel features
2. The classification of oppositions in relation to the entire system of oppositions
3. GB English
4. Paradigmatic relations
5. Give the definitions of the following terms: **accents, Lexical Sets, matrix feature**

VARIANT 146

1. Segmental phonology
2. J. Firth's phonological approach
3. Dialectology
4. Diphthongs /i/
5. Give the definitions of the following terms: **consonant cluster, Standard Scottish English, systematic gap**

VARIANT 147

1. I. A. Baudouin de Courtenay's definition of the phoneme
2. A national language
3. The Sonority Sequencing Generalization
4. Southern American pronunciation
5. Give the definitions of the following terms: **articulation, psychological reality, English consonant system**

VARIANT 148

1. Phonological units
2. The distinctive function
3. Phonotagmemics

4. Statistic data in establishing the functional load and power of opposition
5. Give the definitions of the following terms: **change in progress, trachea, manner of articulation**

VARIANT 149

1. N.S. Trubetzkoy's definition of a phoneme
2. The Principal Types of English Pronunciation
3. Consonant allophones
4. Constitutive function
5. Give the definitions of the following terms: **alternation, English vowel system, non–standard varieties**

VARIANT 150

1. Conditioned Variation in Written Language
2. Distribution of allophones
3. Glottal sounds
4. Predictability of occurrence
5. Give the definitions of the following terms: **systemic accent variation, falling diphthong, 'eye-rhymes'**

English Phonology System

5111400 - Шет тили ҳәм әдебияты (инглис тили)
бакалавр бағдары студентлери ушын

GLOSSARY

ENGLISH PHONETICS AND PHONOLOGY GLOSSARY

№	Terms and their definitions
1.	**accent –** This word is used, rather confusingly in 2 different senses: 1) **accent** may refer to **prominence** given to a **syllable**, usually by the use of **pitch**, e.g. in the word 'potato' the middle syllable is the most prominent; if you say the word on its own you will probably produce a fall in pitch on the middle syllable, making that syllable accented. In this sense, accent is distinguished from the more general term **stress**, which is more often used to refer to all sorts of prominence, including prominence resulting from increased **loudness**, **length** or sound quality, or to refer to the effort made by the speaker in producing a stressed syllable. 2) **Accent** also refers to a particular way of pronouncing: for example, you might find a number of English speakers who all share the same grammar and vocabulary, but pronounce what they say with different accents such as Scots or Cockney, or **BBC pronunciation**. The word accent in this sense is distinguished from dialect, which usually refers to a variety of a language that differs from other varieties in grammar and vocabulary **(Roach:2009)**
2.	**accent** or **stress** – a greater degree of prominence which is caused mainly by pronouncing the stressed syllable a) on a different pitch level or with a change of pitch direction in it; b) with greater force of exhalation and greater muscular tension. The greater force of articulation is accompanied by an increase in the length of the sound in the stressed syllable, especially vowels. Vowels in the stressed syllables are not reduced **(Leontyeva:2004)**
3.	**accent: public school accent** – Foreigners are often surprised to find that in Britain, so-called public schools are *private* schools, and are used almost exclusively to educate the children of the wealthy. They are one of the strongest forces for conservatism and the preservation of privilege in British society, and one of the ways in which they preserve traditional conventions is to encourage in their pupils the use of '**Received Pronunciation**' (RP), also known as **BBC pronunciation**. This accent is therefore sometimes referred to as the 'public-school accent' **(Roach:2009)**
4.	**accenteme ['æsksenti:m] Акцентема**. Сузларни ургунинг урни ва даражасига кура фарклашга хизмат килувчи бирлик. *Мас.*: '**pre**sent - pre`**sent**; акцентема хисобланади. Гапда фразоакцентемалар белгиланади: *Is there any '**mis**take here*? *Is there any '**Miss** '**Take** here*? Дистинктивная функция словесного ударения, позволяющая дифференцировать слова по месту и степени ударения. *Напр.*, '**pre**sent – pre'**sent** считаются слово-акцентемами, **word-accenteme**. В предложении выделяются фразо-акцентемы, **phrase-accenteme**. *Is there any '**mis**take here*? *Is there any '**Miss** 'Take here*? **(Abduazizov:1986)**
5.	**accentual pattern ['æksentjuəl 'pɑ:tən]** type, structure. Суз ёки иборада ургунинг урни ва даражасининг жойланиш схемаси. Акцентная модель: тип, структура. Схема расположения степени и места ударения в слове или фразе. **(Abduazizov:1986)**
6.	**accomodation ['ækəmədei‿n] Adaptation Аккомодация**. Турли товушлар артикуляциясининг нуткда узаро мослашуви. Взаимное приспособление артикуляции разнотипных звуков в речи **(Abduazizov:1986)**
7.	**Adam's Apple –** This is an informal term used to refer to the pointed part of the **larynx** that can be seen at the front of the throat. It is most clearly visible in adult males. Moving the larynx up and down, as in swallowing causes visible movement of this point, which is in fact the highest point of the thyroid cartilage **(Roach:2009)**
8.	**affricate ['ærikeit] Аффриката** - биринчи элементи портловчи ва иккинчи элементи сиргалувчи товушлардан иборат булган мураккаб товушлар. *Мас.*: **ч**(тш), **ж**(дж), **ц**(тс). Звук, образуемый двумя элементами и имеющий смычное начало и щелевой конец: *англ.* **t‿ʃ**, **dʒ**, *рус.* ч, ц **(Abduazizov:1986)**
9.	**affricate** is a type of **consonant** consisting of a **plosive** followed by a **fricative** with the same **place of articulation**: e.g. are the **t‿ʃ** and **dʒ** sounds at the beginning and end of the English words '*church*'[**t‿ʃɜ:t‿ʃ**], '*judge*' [**dʒʌdʒ**], the first of these is voiceless, the second voiced. It is often difficult to decide whether any particular combination of a plosive plus a fricative should be classed as a single affricate sound or as 2 separate sounds, and the question depends on whether these are to be regarded as separate **phonemes** or not. It is usual to regard **t‿ʃ**. **dʒ** as affricate phonemes in English, usually symbolized **č**, **ǰ** by American writers; **ts**, **dz**, **tr**, **dr** also occur in English but are not usually regarded as affricates. The 2 phrases '*why choose*' [**wai tʃu:z**] and '*white shoes*' [**wait ʃu:z**] are said to show the difference between the[**tʃ**] affricate, in the 1st e.g. and separate **t** and **ʃ,** in the 2nd **(Roach:2009)**
10.	**airstream –** All speech sounds are made by making air move. Usually the air is moved outwards from the body, creating an egressive airstream; more rarely, speech sounds are made by drawing air into the body – an ingressive airstream. The most common way of moving air is by compression of the **lungs** so that the air is expelled through the **vocal tract**. This is called a pulmonic airstream, usually an egressive pulmonic one, but occasionally speech is produced while breathing in. Others are the **glottalic** produced by the **larynx** with closed **vocal folds**; it is moved up and down like the plunger of a bicycle pump, and the **velaric**, where the back of the tongue is pressed against the soft palate, or velum, making an air-tight seal, and then drawn backwards or forwards to produce an airstream. Ingressive glottalic consonants, often called **implosives** and

	egressive ones, ejectives, are found in many non-European languages; **click** sounds, ingressive velaric, are much rarer, but occur in a number of southern African languages such as Nàmá, Xhosa and Zulu. Speakers of other languages, including English, use click sounds for non-linguistic communication, as in the case of the 'tut-tut', American 'tsk-tsk' sound of disapproval **(Roach:2009)**
11.	**alloaccenteme [ælə'æksentim] Аллоакцентема**. Ургунинг даражаси буйича фаркланадиган вариант; учинчи даражали ургуни иккинчи даражали ургу билан алмаштириш. Вариант ударения, различающегося по степени; замена третьестепенного ударения второстепенным. **(Abduazizov:1986)**
12.	**allochrone** ['ælәkrəun] **Аллохрон**. фонеманинг факат чузик-кискалиги билан аникланадиган вариантлари. Вариант фонемы, определяемый только по долготе-краткости **(Abduazizov:1986)**
13.	**allophone –** Central to the concept of the **phoneme** is the idea that it may be pronounced in many different ways. In English **BBC pronunciation** we take it for granted that the **r** sounds in 'ray' and 'tray' are 'the same sound', i.e. the same phoneme, but in reality the 2 sounds are very different – the **r** in '**r**ay' is voiced and non-fricative, while the **r** sound in 't**r**ay' is voiceless and fricative. In phonemic transcription we use the same symbol **r** for both, but we know that the allophones of r include the voiced non-fricative sound **ɹ** and the voiceless fricative one **ɾ** . In theory a phoneme can have an infinite number of allophones, but in practice for descriptive purposes we tend to concentrate on a small number that occur most regularly **(Roach:2009)**
14.	**allophone** ['ælәfəun] **Аллофон** ёки фонеманинг асосий варианти. Нуткнинг турли товушларида намоён булувчи фонемаларининг бир куриниши. *Мас.*: ундошлар билан бирикиб келган – **p**, **t**, **k** аспирациялашмаган ва унлилардан олдин келган $\mathbf{p^h}$, $\mathbf{t^h}$, $\mathbf{k^h}$ аспирацияли товушлар **p**, **t**, **k** фонемаларининг аллофонларидир. Тулдирувчи дистрибуцияга кура, уларнинг бири кулланилган холатда, иккинчиси ишлатилмайди. **Аллофон** или основной вариант фонемы. Один из основных представителей фонемы, реализуемый в различных звуках речи. *Напр.*, в *англ.* придыхательные $\mathbf{p^h}$, $\mathbf{t^h}$, $\mathbf{k^h}$ и непридыхательные **p**, **t**, **k** звуки являются аллофонами фонем **p**, **t**, **k**; по дополнительной дистрибуции они ветречаются в различных позициях **(Abduazizov:1986)**
15.	**allophone: diaphone** ['daiəfəun] **Диафон**, турли кишилар томонидан бир хил талаффуз килинмайдиган маълум фонема аллофони. Аллофон определенной фонемы, произносимый неодинаково различными людьми, говорящими на данном языке **(Abduazizov:1986)**
16.	**allophone: Principal allophone**: that variant of a phoneme which is considered to be free from the influence of the neighbouring sounds **(Leontyeva:2004)**
17.	**allophone: Subsidiary allophones:** variants of phonemes that appear under the influence of neighbouring speech sounds, variants of some other phonemes, with which they are in complementary distribution. They are subdivided into combinatory and positional ones. **(Leontyeva:2004)**
18.	**allophones** – variants or members of 1 and the same phoneme, which never occur in identical positions, but are said to be in complementary distribution, they are actual speech sounds **(Leontyeva:2004)**
19.	**alternophoneme [ˌɔ:ltə:nə'fɔnim] Альтернофонема**. Жарангли ва жарангсиз фонемалар оралигидаги фонема, бирок, у тула жарангсиз була олмайди. *Мас.*, инглиз тилида суз ожиридаги жарангли ундошлар ана шундай хусусиятга эга. Фонемы, чередуемые между глухими и звонкими согласными, но полностью не переходящие, ни в одну из них. *Напр.*, звонкие согласные в англ. языке в конце слов оглушаются, но не становятся полностью глухими **(Abduazizov:1986)**
20.	**alveolar –** Behind the upper front teeth there is a hard, bony ridge called the **alveolar ridge**; the skin covering it is corrugated with transverse wrinkles. The tongue comes into contact with this in some of the consonants of English and many other languages; sounds such as **t**, **d**, **s**, **z**, **n**, **l** are consonants with alveolar **place of articulation**. **(Roach:2009)**
21.	**alveolo-palatal –** When we look at the places of articulation used by different languages, we find many differences in the region between the upper teeth and the front part of the **palate**. It has been proposed that there is difference between alveolo-palatal and palato-alveolar that can be reliably distinguished, though others argue that factors other than place of articulation are usually involved, and there is no longer an alveolo-palatal column on the IPA chart. The former place is further forward in the mouth than the latter: the usual example given for a contrast between alveolo-palatal and palato-alveolar consonants is that of Polish **ç** ɕ and **ʃ** as in '*Kasia*' [**kaça**] and '*kasza*' [**kaʃa**] **(Roach:2009)**
22.	**ambisyllabic –** We face various problems in attempting to decide on the division of English **syllables**: in a word like '*better*' [**betə**] the division could be, using the /**.** / symbol to mark syllable divisions, either [**be .tə**] or [**bet .ə**], and we need a principle to base our decision on. Some phonologists have suggested that in such a case we should say that the **t** consonant belongs to both syllables, and is therefore ambisyllabic; the analysis of '*better*' [**betə**] is then that it consists of the syllables [**bet**] and [**tə**] **(Roach:2009)**
23.	**anterior –** In Phonology it is sometimes necessary to distinguish the class of sounds that are articulated in the front part of the mouth, anterior sounds, from those articulated towards the back of the mouth. All sounds forward of palato-alveolar are classed as anterior **(Roach:2009)**
24.	**apical – Consonantal** articulations made with the tip of the **tongue** are called apical; this term is usually

	contrasted with **laminal**, the adjective used to refer to tongue-blade articulations. It is said that English **s** is usually articulated with the tongue blade, but Spanish **s,** when it occurs before a vowel, and Greek **s** are said to be apical, giving a different sound quality **(Roach:2009)**
25.	**approximant –** This is a phonetic term of comparatively recent origin. It is used to denote a **consonant** which makes very little obstruction to the **airflow**. Traditionally these have been divided into two groups: '**semivowels**' such as the **w** in English '*wet*' and **j** in English 'yet', which are very similar to close vowels such as [**u**] and [**i**] but are produced as a rapid **glide**; and "**liquids**", sounds which have an identifiable constriction of the airflow but not one that is sufficiently obstructive to produce **fricative** noise, compression or the diversion of airflow through another part of the **vocal tract** as in **nasals**. This category includes **laterals** such as English **l** in '*lead*' and non-fricative **r,** phonetically **ɹ**, in '*read*'. Approximants therefore are never fricative and never contain interruptions to the flow of air **(Roach:2009)**
26.	**archiphoneme [ˌɑ:ki'fəunim] Архифонема**. 2 фонеманинг ухшашлиги ёки нейтрализациялашуви холатида оппозицияниинг йуколиши натижасида хосил булган фонологик бирлик. *Мас.*, кито**б** - кито**п** сузида **б – п = п** архифонема хисобланади. Фонологическая единица, определяемая сходством двух фонем, снятием противопоставления фонем в позиции нейтрализации. *Напр.*, лу**г** – лу**к г – к = к**; пру**д** – пру**т д – т = т** выступают как архифонемы **(Abduazizov:1986)**
27.	**articulation – slit –** In a **fricative** made by forming a constriction between the tongue and the palate, the hole through which the air escapes may be narrow and deep, groove or wide and shallow slit *See* **groove** (**Roach**:**2009**)
28.	**articulation: groove** – The **tongue** may make contact with the upper surface of the mouth in a number of different places, and we also know that it may adopt a number of different shapes as viewed from the side. However, we tend to neglect another aspect of tongue control: its shape as viewed from the front. Variation of this sort is most clearly observed in **fricatives**: it is claimed that in the production of the English **s** sound, the tongue has a deep but narrow groove running from front to back, while **ʃ** has a wide, shallow slit. Experimental support for this claim is, however, not very strong **(Roach:2009)**
29.	**articulation: guttural** – This adjective is little used in Phonetics these days, though it was included among the 'places of articulation' on the **IPA** chart until 1912, after which it was replaced by the modern term **uvular**. The word 'guttural' tends to be used by English-speaking non-specialists to characterize languages which have noticeable 'back-of-the-mouth' consonants, e.g. German, Arabic; used in this way the word has a rather pejorative feel about it **(Roach:2009)**
30.	**articulation: interdental** – For most purposes in General Phonetics it is felt sufficient to describe articulations involving contact between the tongue and the front teeth as '**dental**'; however, in some cases it is necessary to be more precise in one's labeling and indicate that the tip of the tongue is protruded between the teeth: inter-dental articulation. It is common to teach this articulation for **θ** and **ð** to learners of English who do not have a dental fricative in their native language, but it is comparatively rare to find inter-dental fricatives in native speakers of English, it is said to be typical of the Californian accent of American English, though I have never observed this myself; most English speakers produce **θ** and **ð** by placing the tip of the tongue against the back of the front teeth **(Roach:2009)**
31.	**articulation: labial(-ized)** This is a general label for **articulations** in which one or both of the **lips** are involved. It is usually necessary to be more specific: if a consonant is made with both lips, it is called **bilabial**: **plosives** and **fricatives** of this type are regularly encountered; if another articulator is brought into contact or near-contact with the lips, we use terms such as **labiodental**, lips and teeth or **linguo-labial**, tongue and teeth. Another use of the lips is to produce the effect of **lip-rounding**, and this is often called labialization; the term is more often used in relation to **consonants**, since the term '*rounded*' tends to be used for **vowels** with rounded lips **(Roach:2009)**
32.	**articulation: laminal** – is used to refer to **articulations** in which the **tongue** blade, the part of the tongue just further back than the tongue tip, is used. English **alveolar** consonants **t**, **d**, **n**, **s**, **z**, **l** are usually laminal **(Roach:2009)**
33.	**articulation: Manner of articulation** – One of the most important things that we need to know about a speech sound is what sort of obstruction it makes to the flow of air: a **vowel** makes very little obstruction, while a **plosive** consonant makes a total obstruction. The type of obstruction is known as the Manner of articulation. Apart from vowels, we can identify a number of different manners of articulation, and the consonant chart of the **International Phonetic Association** classifies **consonants** according to their manner and their Place of articulation **(Roach:2009)**
34.	**articulation**: **Off set** ['**o:fset**] Final phase of articulation **Рекурсия нутқ** органларининг талаффузидан кейинги бевосита холатга қайтиши. **Рекурсия**, конечная фаза артикуляции звука **(Abduazizov:1986)**
35.	**articulation**: **On set** [**'onset**] Initial Phase of articulation **Экскурсия**, товушларнинг талаффузида нутқ органларининг бошлангич холати **Экскурсия**, начальная фаза артикуляции звука **(Abduazizov:1986)**
36.	**articulation: retroflex** – A retroflex articulation is one in which the tip of the **tongue** is curled upward and backward. The **r** sound of **BBC English** and **General American** is sometimes described as being retroflex, though in normal speech the degree of retro-flexion is relatively small. Other languages have retroflex

	consonants with a more noticeable auditory quality, the best known examples being the great majority the languages of the Indian sub-continent. The sound of retroflex consonants is fairly familiar to English listeners, since first-generation immigrants from India and Pakistan tend to carry the retroflex quality into their pronunciation of English and this is often mimicked. In American English and some accents of south-west England it is common for vowels preceding **r**, e.g. **ɑ:** in '*car*', or **ə:** in '*bird*' to be affected by the consonant so that they have a retroflex quality for most of their duration. This '**r**-colouring' is most common in back or central vowels where the forward part of the tongue is relatively free to change shape **(Roach:2009)**
37.	**articulation: rounding** – Practically any **vowel** or **consonant** may be produced with different amounts of lip-rounding. The **lips** are rounded by muscles that act rather like a drawstring round the neck of a bag, bringing the edges of the lips towards each other. Except in unusual cases, this results not only in the mouth opening adopting a round shape, but also in a protrusion or '*pushing forward*' of the lips; Swedish is described as having a rounded vowel without lip protrusion, however. In theory any vowel position, defined in terms of height and frontness or backness may be produced rounded or unrounded, though we do not necessarily find all possible vowels with and without rounding in natural languages. Consonants, too, may have rounded lips in **w**, the basic consonantal articulation itself consists of lip-rounding: this lip-rounding in consonants is regarded as a **secondary articulation**, and it is usual to refer to it as labialization. In **BBC pronunciation**, it is common to find **ʃ**, **ʒ**, **tʃ**, **dʒ** and **r** with slight lip-rounding **(Roach:2009)**
38.	**articulation: spreading (lip)** – The quality of many sounds can be modified by changing the shape of the **lips**; the best known example is lip-**rounding** – labialization, but another is lip-spreading, produced by pulling the corners of the mouth away from each other as in a smile. Phonetics books tend to be rather inconsistent about this, sometimes implying that any sound that is not rounded has spread lips, but elsewhere treating lip-spreading as being something different from neutral lip shape, in which there is no special configuration of the lips **(Roach:2009)**
39.	**articulation: supra-glottal** – This adjective is used of places in the vocal tract above the **glottis**, which is inside the **larynx**. Thus any articulation which involves the **pharynx** or any other part of the **vocal tract** above this is supra-glottal **(Roach:2009)**
40.	**articulation**; **articulator/ory/ation**; **active articulator**; **articulator –** The concept of the articulator is a very important one in phonetics. We can only produce speech sound by moving parts of our body, and this is done by the contraction of muscles. Most of the movements relevant to speech take place in the mouth and throat area, though we should not forget the activity in the chest for breath control, and the parts of the mouth and throat area that we move when speaking are called **articulators**. The principal articulators are the **tongue**, the **lips**, the lower jaw and the teeth, the **velum** or **soft palate**, the **uvula** and the **larynx**. It has been suggested that we should distinguish between active articulators; those which can be moved into contact with other articulators, such as the tongue, and passive articulators which are fixed in place: such as the teeth, the **hard palate** and the **alveolar ridge**. The branch of phonetics that studies articulators and their actions is called articulatory phonetics **(Roach:2009)**
41.	**articulatory setting –** This is an idea that has an immediate appeal to pronunciation teachers, but has never been fully investigated. The idea is that when we pronounce a foreign language, we need to set our whole speech-producing apparatus into an appropriate 'posture' or 'setting' for speaking that language. English speakers with a good French accent e.g., are said to adjust their **lips** to a more protruded and rounded shape than they use for speaking English, and people who can speak several languages are claimed to have different 'gears' to shift into when they start saying something in one of their languages. *See also* **voice quality (Roach:2009)**
42.	**arytenoids –** Inside the **larynx** there is a tiny pair of **cartilages** shaped rather like dogs' ears. They can be moved in many different directions. The rear ends of the **vocal folds** are attached to them so that if the arytenoids are moved towards each other the folds are brought together, making a **glottal closure** or constriction, and when they are moved apart the folds are parted to produce an open **glottis**. The arytenoids contribute to the regulations of **pitch**: if they are tilted backwards the vocal folds are stretched lengthwise, which raises the pitch if voicing is going on, while tilting them forwards lowers the pitch as the folds become thicker **(Roach:2009)**
43.	**aspiration –** This is noise made when a **consonantal** constriction is released and air is allowed to escape relatively freely. English **p t k** at the beginning of a **syllable** are aspirated in most accents so that in words like '*pea*', '*tea*', '*key*' the silent period while the compressed air is prevented from escaping by the articulatory closure is followed by a sound similar to **h** before the voicing of the vowel begins. This is the result of the **vocal folds** being widely parted at the time of the **articulatory** release. It is noticeable that when **p t k** are preceded by **s** at the beginning of a syllable they are not aspirated. Pronunciation teachers used to make learners of English practice aspirated plosives by seeing if they could blow out a candle flame with the rush of air after **p t k** – this can, of course, lead to a rather exaggerated pronunciation and superficial burns. A rather different articulation is used for so-called voiced aspirated plosives found in many Indian languages, often spelt '**bh**', '**dh**', '**gh**' in the Roman alphabet, where after the release of the constriction the vocal folds vibrate to produce voicing, but are not firmly pressed together; the result is that a large amount of air escapes at the same time, producing a '**breathy**' quality. It is not necessarily only plosives that are aspirated: both

	unaspirated and aspirated **affricates** are found in Hindi, for example, and unaspirated and aspirated voiceless fricatives are found in Burmese. See also **voice onset time** (**VOT**) **(Roach:2009)**
44.	**assimilation –** If speech is thought of as a string of sounds linked together, assimilation is what happens to a sound when it is influenced by one of its neighbours. For example, the word '*this*' has the sound **s** at the end if it is pronounced on its own, but when followed by **ʃ** in a word such as '*shop*' it often changes in rapid speech, through assimilation, to **ʃ**, giving the pronunciation [**ðiʃʃɔp**]. Assimilation is said to be ***progressive*** when a sound influences a following sound, or ***regressive*** when a sound influences one which precedes it; the most familiar case of regressive assimilation in English is that of **alveolar** consonants, such as **t, d, s, z, n,** which are followed by non-alveolar consonants: assimilation results in a change of **place of articulation** from alveolar to a different place. The example of 'this shop' is of this type; others are '*football*', where '*foot*' [**fʊt**] and '*ball*' [**bɔ:l**] combine to produce [**fʊpbɔ:l**], and '*fruit-cake*' – [**frut**] + [**keik**] → [**frʊkkeik**]. Progressive assimilation is exemplified by the behaviour of the '**s**' plural ending in English, which is pronounced with a voiced **z** after a voiced consonant, e.g. '*dogs*' [**dɒz**], but with a voiceless **s** after a voiceless consonant, e.g. '*cats*' [**ktæs**]. The notion of assimilation is full of problems: it is often unhelpful to think of it in terms of one sound being the cause of the assimilation and the other the victim of it, when in many cases sounds appear to influence each other mutually; it is often not clear whether the result of assimilation is supposed to be a different **allophone** or a different phoneme; and we find many cases where instances of assimilation seem to spread over many sounds instead of being restricted to two adjacent sounds as the conventional examples suggest. Research on such phenomena in **Experimental Phonetics** does not usually use the notion of assimilation, preferring the more neutral concept of **co-articulation (Roach:2009)**
45.	**assimilation** – the result of coarticulation, when 1 sound is made similar to its neighbour; in English it mainly affects the place of articulation. It can be progressive, regressive or reciprocal. Most commonly the sounds which undergo assimilation are immediately adjacent in the stream of speech **(Leontyeva:2004)**
46.	**assimilation** [**ə,simi'lei͡n**] **Ассимиляция**. **Ёндош** (**ундош**) товушларнинг артнкуляцион фазаларининг узаро таъсири натижасида улардан бирининг сифат жихатдан иккинчисига якинлашуви. **Уподобление**. Качественное сближение смежных звуков (согласных), вызываемое взаимовлиянием фаз артикуляции соседних звуков **(Abduazizov:1986)**
47.	**assimilation**, **Regressive assimilation** [**ˋrigresiv ˌæsimilei͡ən**] **Регрессив ассимиляция** Кейинги товушнинг олдинги товуш ёки буғин талаффузига таъсири. **Регрессивная ассимиляция** Уподобляющие влияния артикуляции какого-либо звука, распространяющегося назад на предшествующий звук или слог (**Abduazizov:1986**)
48.	**assimilation: complete assimilation** [**kəm'pli:t æsimi'lei͡n**] **Тулик ассимиляция**, яъни товушларпинг узаро таъсири натижасида тула холда унинг типга утиши. **Полная ассимиляция** полное уподобление одного звука под влиянием другого **(Abduazizov:1986)**
49.	**assimilation: Incomplete Assimilation** [**inkəm'pli:t æsimi'lei͡ən**] Тулик, булмаган ассимиляция; товушларнинг узаро таъсири натижасида улариинг баъзи белгиларининг мослашуви **Неполная ассимиляция**, когда звуки уподобляются не полностью **(Abduazizov:1986)**
50.	**assimilation**: **Progressive assimilation** [**prə'gresiv æsimi'lei͡ən**] **Прогрессив ассимиляция** - олдинги товуш талаффузининг кейинги товушга таъсири *кетди* [**кетти**]**Прогрессивная ассимиляция** - влияние предшествующего звука на последующий звук: *beds* [**bedz**] (**Abduazizov:1986**)
51.	**attitude/inal –** Intonation is often said to have an attitudinal function. What this means is that intonation is used to indicate to the hearer a particular attitude on the part of the speaker, e.g. friendly, doubtful, enthusiastic. Considerable importance has been given by some language teaching experts to learning to express the right attitudes through intonation, but it has proved extremely difficult to state usable rules for foreigners to learn and results have often been disappointing. It has also proved very difficult to design and carry out scientific studies of the way intonation conveys attitudes and emotions in normal speech **(Roach:2009)**
52.	**attitudinal function**: this function is performed by intonation, when the speaker expresses his attitude to what he is saying, by intonation alone **(Leontyeva:2004)**
53.	**auditory –** When the analysis of speech is carried out by the listener's ear, the analysis is said to be an auditory one, and when the listener's brain receives information from the ears it is said to be receiving auditory information. In practical phonetics, great importance has been given to auditory training: this is sometimes known as ear-training, but in fact it is the brain and not the ear that is trained. With expert teaching and regular practice, it is possible to learn to make much more precise and reliable discriminations among speech sounds than untrained people are capable of. Although the analysis of speech sounds by the trained expert can be carried out entirely auditorily, in most cases the analyst also tries to make the sound (particularly when working face to face with a native speaker of the language or dialect, and the proper name for this analysis is then ***auditory-kinaesthetic*** **(Roach:2009)**
54.	**BBC pronunciation –** The British Broadcasting Corporation is looked up to by many people in Britain and abroad as a custodian of good English; this attitude is normally only in respect of certain broadcasters who

	represent the formal style of the Corporation, such as newsreaders and announcers, and does not apply to the more informal voices of people such as disc-jockeys and chat-show presenters, who may speak as they please. The high status given to the BBC's voices relates both to pronunciation and to grammar, and there are listeners who write angry letters to the BBC or the newspapers to complain about '**incorrect**' pronunciations such as '*loranorder*' for '*law and order*'. Although the attitude that the BBC has a responsibility to preserve some imaginary pure form of English for posterity is extreme, there is much to be said for using the '**formal**' BBC accent as a model for foreign learners wishing to acquire an English accent. The old standard '**Received Pronunciation** (**RP**)' is based on a very old-fashioned view of the language; the present-day BBC accent is easily accessible and easy to record and examine. It is relatively free from class-based associations and it is available throughout the world where BBC broadcasts can be received; however, in recent years, the Overseas Service of the BBC has taken to using a number of newsreaders and announcers who are not native speakers of English and have what is, by British standards, a foreign accent. The BBC nowadays uses quite a large number of speakers from Celtic countries, particularly Ireland, Scotland and Wales, and the description of '**BBC Pronunciation**' should not be treated as including such speakers. The Corporation has its own Pronunciation Research Unit, but contrary to some people's belief its function is to advise on the pronunciation of foreign words and of obscure British names and not to monitor pronunciation standards. Broadcasters are not under any obligation to consult the Unit **(Roach:2009)**
55.	**bilabial –** A sound made with both lips. *See* **labial**, **place of articulation (Roach:2009)**
56.	**bilingualism** ['**bailiŋuəlizm**] **Билингвизм** 1) 2 тилда сузлашув; 2) 2 тилнинг бир-бирига узаро таъсири 1) двуязычие; 2) влияние двух языков (**Abduazizov**:**1986)**
57.	**binary –** phonologists like to make clear-cut divisions between groups of sounds, and usually this involves 'either-or' choices: a sound is either voiced or voiceless, consonantal or non-consonantal, rounded or unrounded. Such choices are binary choices. In the study of phonetics, however, it is acknowledged that sounds differ from each other in 'more or less' fashion rather than 'either-or': features like voicing, nasality or rounding are scalar or multi-valued, and a sound can be, e.g. fully voiced, partly voiced, just a little bit voiced or not voiced at all. When distinctive features of sounds are given binary values, they are usually marked with the plus and minus signs + and – , so a voiced consonant is classed as **+voice** and a voiceless one as **–voice (Roach:2009)**
58.	**boundary –** The notion of the boundary is very important in phonetics and phonology. At the segmental level, we need to know where one **segment** ends and another begins, and this can be a difficult matter: in a word like '*hairier*' [**heəriə**], which contains no **plosives** or **fricatives**, each sound seems to merge gradually into the next. In dividing words into **syllables** we have many difficulties, resulting in ideas like **juncture** and **ambisyllabicity** to help us solve them. In **intonation** we have many different units at different levels, and dividing continuous speech into **tone-units** separated by boundaries is one of the most difficult problems **(Roach:2009)**
59.	**brackets –** When we write in phonetic or phonemic **transcription** it is conventional to use brackets at the beginning and end of the item or passage to indicate the nature of the **symbols**. Generally, slant brackets, also known as 'obliques' are used to indicate phonemic transcription and square brackets for phonetic transcription; e.g. for the word '**phonetics**' we would write /**fənetiks**/ – **phonemic transcription** and [**fəneth iʔks**] – **phonetic transcription**. However, in writing *English Phonetics and Phonology* I decided not to use brackets in this way, apart from using square brackets when representing cardinal vowels, because I thought that this would make the transcriptions easier to read, and that it would almost always be obvious which type of transcription was being used in a given place **(Roach:2009)**
60.	**breath-group –** In order to carry out detailed analysis, linguists need to divide continuous speech into small, identifiable units. In the present-day written forms of European languages, the sentence is an easy unit to work with, and the full stop 'period' in American English clearly marks its **boundaries**. It would be helpful if we could identify something similar in spoken language and one possible candidate is a unit whose boundaries are marked by the places where we **pause** to breathe: the breath-group. Unfortunately, although in the production of isolated sentences and in very careful speech the places where a speaker will breathe may be quite predictable; in natural speech such regularity disappears, so that the breath-group can vary very greatly in terms of its length and its relationship to linguistic structure. It is, consequently, little used in modern phonetics and linguistics **(Roach:2009)**
61.	**breathing –** This is the movement of air into and out of the **lungs**. Speech is something which is imposed on normal breathing, resulting in a reduced rate of air-flow out of the body. Mostly the air pressure that pushes air out and allows us to produce speech sounds is caused by the chest walls pressing down on the lungs, but we can give the air an extra push with the diaphragm, a large sheet of muscle lying between the lungs and the stomach **(Roach:2009)**
62.	**breathy –** This is one of the adjectives used to describe **voice quality** or **phonation** type. In breathy voice, the **vocal folds** vibrate but allow a considerable amount of air to escape at the same time; this adds 'noise', similar to loud breathing, to the sound produced by the vocal folds. It is conventionally thought that breathy voice makes women's voices sound attractive, and it is used by speakers in television advertisements for 'soft'

	products like toilet paper and baby powder **(Roach:2009)**
63.	**burst –** When a **plosive,** such as English **p**, **t**, **k**, **b**, **d**, **g** is released while air is still compressed within the vocal tract, the air rushes out with some force. The resulting sound is usually referred to as **plosion** in general phonetic terminology, but in acoustic phonetics it is more common to refer to this as a burst. It is usually very brief – somewhere around a hundredth of a second **(Roach:2009)**
64.	**cartilage –** Many parts of the body used in speech are made of cartilage, which is less hard than bone. In particular, the structure of the larynx is largely made of cartilage, though as we get older some of this turns to bone. **(Roach:2009)**
65.	**central phrase of articulation** [**'sentrəl 'feiz əv'ɑ:tikju:lei‖n**] **Урта фаза** нутқ органларининг талаффуздаги асосий холати. Выдержка; Основная фаза артикуляции звука речи **(Abduazizov:1986)**
66.	**chart –** It is usual to display sets of phonetic **symbols** on a diagram made of a rectangle divided into squares, usually called a **chart**, but sometimes called a **matrix** or a **grid**. The best-known phonetic chart is that of the alphabet of the **International Phonetic Association** – the **IPA** chart. On this chart the vertical axis represents the **manner of articulation** of a sound, e.g. **plosive**, **nasal** and the horizontal axis represents the **place of articulation**, e.g. **bilabial**, **velar**. Within each box on the chart it is possible to have 2 symbols, of which the left hand one will be voiceless and the right hand voiced. A number of charts are given in *English Phonetics and Phonology*; the IPA chart is printed on page xii **(Roach:2009)**
67.	**clear l –** This is a type of **lateral** sound, such as the English **l** in '*lily*', in which the air escapes past the sides of the **tongue**. In the case of an **alveolar** lateral, e.g. English **l** the blade of the tongue is in contact with the **alveolar ridge**, but the rest of the tongue is free to take up different shapes. One possibility is for the front of the tongue, the part behind the blade, to be raised in the same shape as that for a close front vowel [**i**]. This gives the **l** an [**i**]-like sound, and the result is a 'clear **l**'. It is found in BBC English only before vowels, but in some other accents, notably Irish and Welsh ones, it is found in all positions. *See* also **dark ɫ** **(Roach:2009)**
68.	**click –** Clicks are sounds that are made within the mouth and are found as consonantal speech sounds in some languages of Southern Africa, such as Xhosa, the name of which itself begins with a click, and Zulu. Clicks are more familiar to English speakers as non-speech sounds such as the 'tut-tut'or 'tsk-tsk' sound of disapproval. A different type of click sound, a **lateral** click is or was used to make a horse move on, and also for some social purposes such as expressing satisfaction. The way in which these sounds are made is for the back of the tongue to make an air-tight closure against the back of the **palate** *see* **velaric airstream**; an articulatory closure is then made further forward in the mouth and this results in a completely sealed air chamber within the mouth. The back of the tongue is then drawn backwards, which has the effect of lowering the air pressure within the chamber so that if the forward articulatory closure is released quickly a **plosive** sound is heard. There are many variations on this mechanism, including **voicing**, affricated release, and simultaneous nasal consonant. **(Roach:2009)**
69.	**clipped –** The term '*clipped speech*' has 2 meanings in the context of speech: in non-technical usage it refers to a style of speaking often associated with military men and 'horsey' people, characterized by unusually short vowels; the term is also used in the study of Speech Acoustics to refer to a speech signal that has been distorted in a particular way, usually through overloading **(Roach:2009)**
70.	**closure –** This word is one of the unfortunate cases where different meanings are given by different phoneticians: it is generally used in relation to the production of **plosive** consonants, which require a total obstruction to the flow of air. To produce this obstruction, the **articulators** must first move towards each other, and must then be held together to prevent the escape of air. Some writers use the term **closure** to refer to the coming together of the articulators, while others use it to refer to the period when the compressed air is held in **(Roach:2009)**
71.	**cluster –** In some languages, including English, we can find several consonant phonemes in a sequence, with no vowel sound between them: e.g. the word '*stray*' **strei** begins with 3 consonants, and '*sixths*' **siksθs** ends with 4. Sequences of 2 or more consonants within the same syllable are often called consonant clusters. It is not usual to refer to sequences of **vowels** as vowel clusters. **(Roach:2009)**
72.	**coalescence –** Speech sounds rarely have clear-cut **boundaries** that mark them off from their neighbours. It sometimes happens that adjacent **phonemes** slide together *coalesce* so that they seem to happen simultaneously; e.g. is what is sometimes called *yod-coalescence*, where a sound preceding a **j** '*yod*' becomes **palatalized**: thus the **s** at the end of '*this*' can merge with the **j** of '*year*' to give a pronunciation **ðiʃʃjə** or **ðiʃjə**. **(Roach:2009)**
73.	**co-articulation – Experimental Phonetics** studies co-articulation as a way of finding out how the brain controls the production of speech. When we speak, many muscles are active at the same time and sometimes the brain tries to make them do things that they are not capable of; e.g. in the word '*Mum*' **mΛm** the **vowel** phoneme is one that is normally pronounced with the **soft palate** raised to prevent the escape of air through the nose, while the 2 **m** phonemes must have the soft palate lowered. The soft palate cannot be raised very quickly, so the vowel is likely to be pronounced with the soft palate still lowered, giving a **nasalized** quality to the vowel. The nasalization is a co-articulation effect caused by the nasal consonant environment. Another e.g. is the **lip-rounding** of a consonant in the environment of rounded vowels: in the phrase '*you too*', the **t** occurs

	between 2 rounded vowels, and there is not enough time in normal speech for the lips to move from rounded to unrounded and back again in a few hundredths of a second; consequently the **t** is pronounced with lip-rounding. Co-articulation is a phenomenon closely related to **assimilation**; the major difference is that assimilation is used as a name for the process whereby one sound becomes like another neighbouring sound, while co-articulation, though it refers to a similar process, is concerned with articulatory explanations for why the assimilation occurs, and considers cases where the changes may occur over a number of segments **(Roach:2009)**
74.	**cocktail party phenomenon –** If you are at a noisy party with a lot of people talking close to you, it is a striking fact that you are able to choose to listen to one person's voice and to 'shut out' what others are saying equally loudly. The importance of this effect was first highlighted by the communications engineer **Colin Cherry**, and has led to many interesting experiments by psychologists and psycholinguists. Cocktail parties are hard to find nowadays, but you can simulate the effect by making someone wear headphones and playing simultaneous voices to them, 1 in each ear, and asking them to concentrate on just 1 voice. The voices may be presented separately to each ear, **dichotic listening** or mixed together and played to both ears, **binaural listening (Roach:2009)**
75.	**combinatory changes** ['kəmbinətəri 'tʃeindʒ] **Комбингтор узгаришлар**: аккомодация, ассимиляция, диссимиляция, диэреза, эпентеза. **Комбинаторные изменения**: аккомодации, ассимиляции, диссимиляция, диэреза, эпентеза **(Abduazizov:1986)**
76.	**communicative centre**, a word or a group of words which conveys the most important point of communication in the sense **(Leontyeva:2004)**
77.	**commutation –** When we want to demonstrate that two sounds are in **phonemic opposition**, we normally do this with the commutation test; this means substituting one sound for another in a particular phonological context: e.g. to prove that the sounds **p**, **b**, **t**, **d** are different contrasting **phonemes** we can try them one at a time in a suitable context which is kept constant; using the context /**-n**/ we get 'pin', 'bin', 'tin' and 'din', all of which are different words. There are serious theoretical problems with this test. One of them is the widespread assumption that if you substitute one **allophone** of a phoneme for another allophone of the same phoneme, the meaning will not change; this is sometimes true, substituting a '**dark** ɬ' where a '**clear** l' is appropriate in BBC pronunciation, e.g. is unlikely to change a perceived meaning, but in other cases it is at least dubious: e.g. the **unaspirated** allophones of **p**, **t**, **k** found after **s** at the beginning of syllables such as **sp**, **st**, **sk** are phonetically very similar to **b**, **d**, **g** , and pronouncing one of these unaspirated allophones followed by /**-il**/, e.g. would be likely to result in the listener hearing '*bill*', '*dill*', '*gill*' rather than '*pill*', '*till*', '*kill*' **(Roach:2009)**
78.	**compararative-typological method** ['kɔmpærətiv taipɔlɔdʒikəl meθəd] contrastive, confrontrative **Киёсий -типологик метод** баъзан контрастив ёки конфронтатив метод дейилади, тилларнинг кариндошлигидан қатъи назар улардаги ухшаш ва фарқли аломатларни аниклаш методи. Одатда, киёсий метод номи билан 2 ёки ундан ортик, тилларнинг фонетик, грамматик, лексик ва стилистик хусусиятларини чогиштириб урганиш тушунилади. Мас.: рус ва узбек тилларининг киёсий грамматикаси. **Сравнительно-типологический**, контрастивный, конфрантативный, **метод**, изучающий языки независимо от их генетического происхождения и устанавливающий путем сравнения их различительные и родственные черты. Обычно под этим методом понимают сравнение двух языков в фонетическом, грамматическом и стилистическом аспектах. *Нанр*., сопоставительная фонетика русского и узбекского языков **(Abduazizov:1986)**
79.	**complementary distribution –** 2 sounds are in complementary distribution if they never occur in the same context. A good e.g. is provided by the allophones of the **l** phoneme in **BBC pronunciation**: there is a voiceless allophone ɬ when **l** occurs after **p**, **t**, **k** at the beginning of a syllable, '**clear** l' which occurs before vowels and '**dark** ɬ' which occurs elsewhere, i.e. before consonants or a pause. Leaving aside less noticeable allophonic variation, these 3 allophones together account for practically all the different ways in which the **l** phoneme is realized; since each of them has its own specific context in which it occurs, and does not occur in the contexts in which the others occur, we can say that each is in complementary distribution with the others. In conventional phoneme theory, sounds which are in complementary distribution are likely to belong to the same phoneme; thus '**voiceless** l', '**clear** l' and '**dark** ɬ' in the example given above will be classed as members of the same phoneme. There are problems in the argument, however: we can find quite a lot of sounds in English, e.g. which are in complementary distribution with each other but are still not considered members of the same phoneme, a frequently quoted case being that of **h**, which cannot occur at the end of a syllable and **ŋ**, which cannot occur at the beginning of a syllable – this forces us to say that sounds which are in complementary distribution and are to be considered as allophones of the same phoneme must be phonetically similar to each other, which **h** and **ŋ** clearly are not. But measuring phonetic similarity is itself a very problematical area **(Roach:2009)**
80.	**consonant –** There are many types of consonant, but what all have in common is that they obstruct the flow of air through the vocal tract. Some do this a lot, some not very much: those which make the maximum obstruction, i.e. **plosives**, which form a complete stoppage of the airstream, are the most consonantal. **Nasal** consonants result in complete stoppage of the oral cavity but are less obstructive than plosives since air is

	allowed to escape through the nose. **Fricatives** make a considerable obstruction to the flow of air, but not a total closure. **Laterals** obstruct the flow of air only in the centre of the mouth, not at the sides, so obstruction is slight. Other sounds classed as **approximants** make so little obstruction to the flow of air that they could almost be thought to be vowels if they were in a different context, e.g. English **w** or **r**. The above explanation is based on phonetic criteria. An alternative approach is to look at the phonological characteristics of consonants: e.g. consonants are typically found at the beginning and end of **syllables** while vowels are typically found in the middle. *See also* **contoid (Roach:2009)**
81.	**consonant: coronal –** A coronal sound is 1 in which the blade of the **tongue** is raised from its rest position, that is, the position for normal breathing; e.g. are **t**, **d**. This term is used in Phonology to refer to a **distinctive feature**. **(Roach:2009)**
82.	**consonant: dental** – A dental sound is one in which there is approximation or contact between the teeth and some other **articulator**. The articulation may be of several different sorts. The tip of the tongue may be pressed against the inner surface of the top teeth as is usual in the **t** and **d** of Spanish and most other Romance languages; the tongue tip may be protruded between the upper and lower teeth as in a careful pronunciation of English **θ** and **ð**; the tongue tip may be pressed against the inside of the lower teeth, with the tongue blade touching the inside of the upper front teeth, as is said to be usual for French **s** and **z** If there is contact between lip and teeth the articulation is labeled labiodental **(Roach:2009)**
83.	**consonant: dental** [**dentəl**] consonants **Тиш** дентал **ундошлари** - тил учи пастки тишларга тегизилиши натижасида ҳосил булувчи ундошлар *Мас.*: **т**, **д**, **с**, **з** каби. **Зубные** дентальные **согласные**, артикулируемые путем образования переднеязычно-зубных преград *Напр.*, *рус.* **т**, **д**, **с**, **з** **(Abduazizov:1986)**
84.	**consonant: devoicing** – A devoiced sound is one which would normally be expected to be **voiced** but which is pronounced without voice in a particular context: e.g. the **l** in '*blade*' **bleid** is usually voiced, but in '*played*' **pleid** the **l** is usually voiceless because of the preceding voiceless plosive. The notion of devoicing leads to a rather confusing use of phonetic symbols in cases where there are separate symbols for voiced and voiceless pairs of sounds: a devoiced **d** can be symbolized by adding a **diacritic** that indicates lack of voice **d** but one is then left in doubt as to what the difference is between this sound and **t**. The usual reason for doing this is to leave the symbol looking like the **phoneme** it represents **(Roach:2009)**
85.	**consonant: flap** – This is a type of **consonant** sound that is closely similar to the **tap**; it is usually voiced, and is produced by slightly curling back the tip of the **tongue**, then throwing it forward and allowing it to strike the **alveolar ridge** as it descends. The phonetic symbol for this sound is **ɾ**; it is most commonly heard in languages which have **retroflex** consonants, such as languages of the Indian sub-continent; it is also heard in the English of native speakers of such languages, often as a realization of **r**. In American English a flap is sometimes heard in words like '*party*', '*birdie*', where the **r** consonant causes retroflexion of the tongue and the **stress** pattern favours a flap-type **articulation (Roach:2009)**
86.	**consonant: fricative** – This type of **consonant** is made by forcing air though a narrow gap so that a hissing noise is generated. This may be accompanied by **voicing** in which case the sound is a voiced fricative, such as **z** or it may be voiceless, e.g. **s**. The quality and **intensity** of fricative sounds varies greatly, but all are **acoustically** composed of energy at relatively high frequency – an indication of this is that much of the fricative sound is too high to be transmitted over a phone, which usually cuts out the highest and lowest frequencies in order to reduce the cost, giving rise to the confusions that often arise over sets of words like English '*fin*', '*thin*', '*sin*' and '*shin*'. In order for the sound quality to be produced accurately the size and direction of the jet of air has to be very precisely controlled; while this is normally something we do without thinking about it, it is noticeable that fricatives are what cause most difficulty to speakers who are getting used to wearing false teeth. A distinction is sometimes made between **sibilant** or strident fricatives such as **s**, **ʃ**, which are strong and clearly audible and others which are weak and less audible such as **θ**, **f**. **BBC pronunciation** has 9 fricative phonemes: **f**, **θ**, **s**, **ʃ**, **h**, voiceless and **v**,**ð**, **z**,**ʒ**, voiced **(Roach**:**2009)**
87.	**consonant: geminate** – When 2 identical sounds are pronounced next to each other, e.g. the sequence of 2 **n** sounds in English '*unknown*' **Ʌnnəʊn**, they are referred to as geminate. Many languages have geminates occurring regularly. The problem with the notion of gemination is that there is often no way of discerning a physical **boundary** between the 2 paired sounds – more often, one simple hears a sound with greater **length** than the usual single consonant. In the case of long **affricates**, e.g. as found in Hindi, the gemination involves only the silent interval of the **plosive** part, and the **fricative** part is the same as the single consonant. Long vowels are not always treated as geminates: in the case of English **BBC accent** it is more common to describe the Phonemic System as having phonemically long and phonemically short single vowels **(Roach:2009)**
88.	**consonant**: **labial** [**læbiəl**] consonants **Лаб ундошлари**, лабиал талаффузида лаблар иштирок этувчи лаб-лаб ва лаб-тиш ундошлар. *Мас.*: **б**, **ф**, в, **м** каби. **Лабиальные**, губные согласные, включающие губно-губные и губно-зубные согласные **(Abduazizov:1986)**
89.	**consonant: labiodental** – A consonant articulated with contact between one or both of the lips and the teeth is labiodental. By far the most common type of labiodental articulation is one where the lower lip touches the upper front teeth, as in the fricatives **f**, **v**. Labiodental plosives, nasals and approximants are also found

	(Roach:2009)
90.	**consonant: lateral** – A **consonant** is lateral if there is obstruction to the passage of air in the centre, mid-line, of the air-passage and the air flows to the side of the obstruction. In English the l phoneme is lateral both in its '**clear**' and its '**dark**' allophones: the blade of the **tongue** is in contact with the **alveolar ridge** as for a **t**, **d**, **n** but the sides of the tongue are lowered to allow the passage of air. When an alveolar **plosive** precedes a lateral consonant in English it is usual for it to be laterally released: this means that to go from **t** or **d** to **l** we simply lower the sides of the tongue to release the compressed air, rather than lowering and then raising the tongue blade. Most laterals are produced with the air passage to both sides of the obstruction, they are bilateral, but sometimes we find air passing to 1 side only, unilateral. Other lateral consonants are found in other languages: the Welsh '**ll**' sound is a voiceless lateral fricative **ɬ**, and Xhosa and Zulu have a voiced lateral fricative **ɮ**; several Southern African languages have lateral clicks, where the plosive occlusion is released laterally and at least 1 language of Papua New Guinea has a contrast between alveolar and velar lateral. A bilabial lateral is an articulatory possibility but it seems not to be used in speech **(Roach:2009)**
91.	**consonant**: **Pharyngal** [**fæ'ringəl**] consonant **Бугиз сирралувчи** ундошлар, хаво окимининг бугизда хосил булиши билан талаффуз этилувчи ундошлар *Мас.*: *узб.* **ҳ** *англ.* **h Фарингальный** щелевой согласный, образуемый в фарингальной полости: *англ.* **h (Abduazizov:1986)**
92.	**consonant: rolled** ['**rəuld**] **consonant Титроқ сонор** товушлар, талаффузида нутқ органларининг давомий титраши руй берувчи ундошлар. *Мас.*: **r Раскатистые согласные**; вибранты, в артикуляции которых наблюдается быстрая смена смыканий-размыканий. *Напр.*, **r** (**Abduazizov:1986**)
93.	**consonant: sonorant** – Many technical terms have been invented in Phonology to refer to particular groups or families of sounds. A sonorant is a sound which is voiced and does not cause enough obstruction to the **airflow** to prevent normal voicing from continuing. Thus vowels, **nasals**, **laterals** and other **approximants** such as English **j**, **w**, **r** are sonorants, while **plosives**, **fricatives** and **affricates** are non-sonorants **(Roach:2009)**
94.	**consonant: stricture** – In classifying speech sounds it is necessary to have a clear idea of the degree to which the **flow of air** is obstructed in the production of the sound. In the case of most vowels there is very little obstruction, but most **consonants** have a noticeable one; it is usual to refer to this obstruction as a stricture, and the classification of consonants is usually based on the specification of the **place** of the stricture, e.g. the lips for a **bilabial** consonant and the **manner** of the stricture, e.g. **plosive**, **nasal**, **fricative (Roach:2009)**
95.	**consonant: syllabic consonant** – The great majority of **syllables** in all languages have a **vowel** at their centre, and may have 1 or more consonants preceding and following the vowel, though languages differ greatly in the possible occurrences of consonants in syllables. However, in a few cases we find syllables which contain nothing that could conventionally be classed as a vowel. Sometimes this is a normal state of affairs in a particular language; consider the 1st syllables of the Czech names 'Brno' and 'Vltava'; in some other languages syllabic consonants appear to arise as a consequence of a weak vowel becoming lost; e.g. in German the word '*abend*' may be pronounced in slow, careful speech as **abənt** but in more rapid speech as **abn̩t** or **abmt**. In English some syllabic consonants appear to have become practically obligatory in present-day speech: words such as '*bottle*' and '*button*' would not sound acceptable in BBC pronunciation if pronounced **bɒtəl**, **bʌtən**, though these are normal in some other English accents, and are instead pronounced **bɒtl̩**, **bʌtn̩**. In many other cases in English it appears to be possible either to pronounce **m**, **n**, **ŋ**, **l**, **r** as syllabic consonants or to pronounce them with a preceding vowel, as in '*open*' **əupn̩** or **əupən**, '*orderly*' **ɔ:dl̩i** or **ɔ:dəli**, 'history' **histr̩i** or **histəri**. The matter is more confusing because of the fact that speakers do not agree in their intuitions about whether a consonant, particularly **l**, is syllabic or not: while most would agree that, e.g. '*cuddle*' and '*cycle*' are disyllabic, i.e. contain 2 syllables, '*cuddly*' and '*cycling*' are disyllabic for some people and therefore do not contain a syllabic consonant, while for others they are trisyllabic. More research is needed in this area for English. In Japanese we find that some consonants appear to be able to stand as syllables by themselves, according to the intuitions of native speakers who are asked to divide speech up into rhythmical beats *See* **mora (Roach:2009)**
96.	**consonants: alveolar** ['**ælviələ**] consonants Танглай **альвеоляр** ундошлари тилни қаттиқ танглайга босиш орқали ҳосил булувчи ундошлар *Мас. англ.* **t**, **d**, **n**, **l** каби товушлар. **Альвеолярные** согласные, образуемые путем прижимания кончика языка к альвеолярной дуге *Напр.*, *англ* **t**, **d**, **l**, **n** (**Abduazizov**:**1986**)
97.	**consonants: bilabial** [**bi'læbiəl**] consonants **Лаблаб** ундошлар, **билабиал** юкори ва пастки лабларнинг жипелашуви натижасида хосил булувчи ундошлар *Мас.*: **б**, **п**, *инглиз* **p**, **b**, **w**, **m** Губно-губные согласные: **p**, **b**, **w**, **m (Abduazizov:1986)**
98.	**consonants: constrictive** [**kən'striktiv**] consonants **Тула тусикда** учрамай хосил булувчи сирралувчи ундошлар *Мас*: **с**, **з**, **ш**, **ж**, **ҳ**, **ғ** Щелевые согласные, звуки **с неполной преградой** *Напр*. **f**, **v**, **s**, **z**, ʃ, ʒ, **h (Abduazizov:1986)**
99.	**consonants: dorsal** – For the purposes of phonetic classification, the different regions of the surface of the **tongue** are given different names. Each of these names has a noun form and a corresponding adjective. The back of the tongue is involved in the production of **consonants** such as **velar** and **uvular**, and the adjective for

	the type of tongue contact used is dorsal **(Roach:2009)**
100.	**consonants: ejective** –This is 1 of the types of speech sound that are made without the use of air pressure from the **lungs** – they are non-pulmonic consonants. Such sounds are much easier to demonstrate than to describe: in an ejective the **vocal folds** are closed, and a closure or obstruction is made somewhere in the vocal tract; then the **larynx** is brought upwards, raising the air pressure in the **vocal tract**. This air pressure is used in the same way as **pulmonic** pressure to produce consonants; the mechanism is surprisingly powerful, and the intensity of the noise produced by ejectives tends to be stronger than one finds in pulmonic consonants. The **IPA** phonetic symbols for ejectives are made by adding an apostrophe to the corresponding pulmonic symbol, so an ejective **bilabial plosive** is symbolized as **p`**, ejective **velar** plosive is **k`** and so on. Ejective plosives are found contrasting with plutonic plosives in many languages in different parts of the world. Much less frequently we find ejective **fricatives** e.g. Amharic s'. In English we find ejective **allophones** of **p**, **t**, **k** in some accents of the Midlands and North of England, usually at the end of a word preceding a **pause**: in utterances like '*On the top*', '*That's right*' or '*On your bike*', it is often possible to hear a **glottal closure** just before the final consonant begins, followed by a sharp **plosive release (Roach:2009)**
101.	**consonants: fortis** – It is claimed that in some languages, including English, there are pairs of **consonants** whose members can be distinguished from each other in terms of whether they are 'strong' fortis or 'weak' **lenis**. These terms refer to the amount of energy used in their production, and are similar to the terms **tense** and **lax** more usually used in relation to **vowels**. The fortis or lenis distinction does not, in English, at least, cut across any other distinction, but rather it duplicates the **voiceless** or **voiced** distinction. It is argued that English **b**, **d**, **g**, **v**, **ð**, **z**, **ʒ** often have little or no voicing in normal speech, and it is therefore a misnomer to call them voiced; since they seem to be more weakly **articulated** than **p**, **t**, **k**, **f**, **θ**, **s**, **ʃ** it would be appropriate to use the term lenis: meaning 'weak' instead. Counter-arguments to this include the following: the term voiced could be used with the understood meaning that sounds with this label have the *potential* to receive voicing in appropriate contexts even if they sometimes do not receive it; no-one has yet provided a satisfactory way of measuring strength of articulation that could be used to establish that there is actually such a physical distinction in English; and it is, in any case, confusing and unnecessary to use Latin adjectives when there are so many suitable English ones **(Roach:2009)**
102.	**consonants: interdental** ['**intə'dentl**] **consonants Тиш урта ундошлари**, интердентал, тил учи ва тишлар оралигидан ҳаво окими сиргалиб утувчи ундошлар *Мас.*: *инг.* **θ**, **ð Межзубные согласные**, артикулируемые путем выдвижения переднего края языка между резцами верхней и нижней челюсти. *Напр. англ.* **θ**, **ð (Abduazizov:1986)**
103.	**consonants**: **labio-dental** [**læbiə dentl**] consonants Лаб-тиш ундошлар, лабиодентал талаффузида юкори олд тишлар ва пастки лаб иштирок этувчи ундошлар *Мас.*: *узб.* **ф**, **в**, *инг.* **f**, **v Губно-зубные** согласные **(Abduazizov:1986)**
104.	**consonants**: **Nasal** ['**neizəl**] consonants **Бурун**, назал **ундошлар** талаффузида хаво окими бурундан утувчи товушлар *Мас.*: **m**, **n**, **ŋ Носовые согласные**, при образовании которых поток воздуха проходит через нос. *Напр.* **m**, **n**, **ŋ (Abduazizov:1986)**
105.	**consonants**: **Occlusive** [**ə'klu:ziv**] consonants **Портловчи ундошлар** Улар нутқ каналида хаво окими туда-тусивда учраши билан хосил булади. *Мас.*, **p**, **t**, **k**, **b**, **d**, **g**. **Смычные согласные**, образуемые полной преградой потока воздуха в речевом канале *Напр.* **p**, **t**, **k**, **b**, **d**, **g**. **(Abduazizov:1986)**
106.	**consonants**: **Palatal consonants** [**pælətl**] **Юмшоқ** палатал ундошлар, тил ушининг қаттиқ танглайга кутарилиши билан талаффуз қилинувчи товушлар *Мас.*: *узб.* [**й**] Узбек тилида [**л**]нинг юмшоқ талаффузи алохида фонемани хосил килмайди Согласные, произносимые с подъёмом средней спинки языка к твёрдому нёбу. *Напр.* **j**, **ль**. В русском языке **мягкие**, **палатальные** согласные считаются отдельными фонемами **(Abduazizov:1986)**
107.	**consonants: release** – Only consonants which involve a complete, air-tight **closure** are properly described as having a **release component**, which means that only **plosive** and **affricate** consonants are to be considered. When air is compressed behind a complete closure in the vocal tract, the release may be one of several different sorts. Firstly, the release may happen when the air pressure is near its maximum, resulting in a loud explosive sound, or it may happen, particularly in final position, that the speaker allows the air pressure to reduce before the release, so that the resulting noise is much less. Since an **airstream** is involved, the release may be egressive, the usual situation, or **ingressive** as in **clicks** and **implosives**. In addition, the release may be simple or complex. If it is simple, the released air escapes in a rush directly from the oral cavity into the atmosphere, assuming an egressive airstream; if a vowel follows and the start of voicing is delayed we say that the plosive is **aspirated**. The release is complex if the passage of the released air is modified by some other **articulation** that follows immediately. If the release is followed by **fricative** noise produced in the same place of articulation as the plosive closure, we describe the resulting plosive-plus-fricative sound as an affricate. Alternatively, there may be **nasal** release or **lateral** release **(Roach:2009)**
108.	**consonants: secondary articulation** – In classifying **consonants** it is usual to identify the **place of articulation** of the major constriction; however, in the case of most consonants it is possible to add an additional **stricture** at some other point in the **vocal tract**; e.g. is **lip-rounding**: e.g. English ʃ is often

	pronounced with rounded lips, and in this case the rounding is a secondary articulation, where the primary articulation is the post-alveolar fricative constriction. **Valorization** is another secondary articulation: in this case the back of the tongue is raised while a more extreme constriction is made elsewhere. This mechanism is used extensively in Arabic for the production of the 'emphatic' consonants, and in English is the means for giving a '**dark** l' its distinctive quality **(Roach:2009)**
109.	**consonants: semivowel** – It has long been recognized that most languages contain a class of sound that functions in a way similar to **consonants** but is phonetically similar to **vowels**: e.g. in English the sounds **w** and **j**, as found in '*wet*' and '*yet*', are of this type: they are used in the 1st part of syllables, preceding vowels, but if **w** and **j** are pronounced slowly, it can be clearly heard that in quality they resemble the vowels [**u**] and [**i**] respectively. *See also* **contoid** and **vocoid**. The term semivowel has been in use for a long time for such sounds, though it is not a very helpful or meaningful name; the term **approximant** is more often used today. Americans usually use the symbol **y** for the sound in '*yes*', but European phoneticians reserve this symbol for a close front rounded vowel. English has words which are pronounced differently according to whether they are followed by a vowel or a consonant: these are '*the*' **ði** or **ðə** and the indefinite article '*a*', '*an*', and it is the pre-consonantal form that we find before **j** and **w**. In addition, 'linking **r**', which is found in BBC and other non-rhotic accents, does not appear before semivowels. It is by looking at evidence such as this that we can conclude that as far as English is concerned; **j** and **w** are in the same phonological class as the other consonants despite their vowel-like phonetic nature. In French there are 3 sounds traditionally classed as semivowels: in addition to **j** and **w** there is a sound based on the front rounded vowel **y** as in '*tu*', '*lu*'; this semivowel is symbolized **ɥ** and is found in initial position in the word '*huit*' **ɥit** '*eight*' and in consonant clusters such as **frɥ** in **frɥi** '*fruit*'. The IPA chart also lists a semivowel 2 corresponding to the back close unrounded vowel **ɯ**. Like the others, this is classed as an **approximant (Roach:2009)**
110.	**consonants: sibilant** – It is sometimes necessary to make subdivisions within the very large set of possible **fricative** sounds. As explained under fricative, 1 possible division is between those fricatives which make a sharp or strong hissing noise, e.g. **s**, ʃ and those which produce only a soft noise, e.g. **f**, **θ**. In English we use the sibilant sound ʃ to command silence, e.g. in a classroom. Some other cultures use **s**, but it is hard to imagine anyone using **f** or **θ** for this purpose. **(Roach:2009)**
111.	**consonants: stop** – This term is often used as if synonymous with **plosive**. However, some writers on Phonetics use it to refer to the class of sounds in which there is complete **closure** specifically in the oral cavity. In this case, sounds such as **m**, **n** are also stops; more precisely, they are **nasal** stops **(Roach:2009)**
112.	**constitutive function** [**kənsti`tju:tiv 'fʌnk͡ʃən**] **Конститутив**, материал жихатини хосил қилиш, **функцияси**, яъни тилдаги қуйи бирликлар юқори бирликларнинг материал жихатини хосил қилади. *Мас*. морфемалар, сузлар ва иборалар фонемаларнинг бирикувидан ташкил топади. **Конститутивная**, материально-образующая **функция**, т. е. использование единиц низкого порядка для образования единиц высшего порядка. *Напр*. фонемы образуют материальную сторону морфем, слов и фраз **(Abduazizov:1986)**
113.	**constitutive function of speech sounds**, the function to constitute the material forms of morphemes, words and sentences **(Leontyeva:2004)**
114.	**constriction –** All speech sounds apart from fully-open **vowels** involve some narrowing, constriction, of the **vocal tract**, and one of the most important ways in which speech sounds differ from each other is the position of the constriction and the degree of narrowing of the constriction. In addition to the main constriction there is often also a secondary constriction: e.g. the **ʃ** sound in English has a primary constriction in the post-alveolar region, where the **fricative** noise is produced, but many English speakers produce the sound with lip-rounding and this creates a secondary constriction at the **lips**. **(Roach:2009)**
115.	**content** [**'kontent**] **Тилнинг мазмун плани**, тилдаги элементларнинг маъно-мазмун жихати. **План содержания**, внутренняя смысловая, понятийная, сторона языка **(Abduazizov:1986)**
116.	**continuant –** It is sometimes useful to have a word for speech sounds which can be produced as a continuous sound. A **vowel** is thus a continuant, while a **plosive** is not. A vowel, or other continuant sounds such as **nasals** and **fricatives**, can be continued for as long as the speaker has enough breath **(Roach:2009)**
117.	**contoid –** For most practical purposes a **contoid** is the same thing as a **consonant**; however, there are reasons for having a distinction between sounds which function phonologically as consonants and sounds, contoids, which have the phonetic characteristics that we look on as consonantal. As an e.g., let us look at English **w**, as in '*wet*' and **j**, as in '*yet*'. If you pronounce these 2 sounds very slowly you will hear that they are closely similar to the **vowels** [**i**] and [**u**] – yet English speakers treat them as consonants. How do we know this? Consider the pronunciation of the indefinite article: the rule is to use '*a*' before consonants and '*an*' before vowels, and it is the former version which we find before **w** and **j**; similarly, the definite article is pronounced **ði** before a vowel but **ðə** before a consonant, and we find the **ðə** form before **j** and **w**. Another interesting case is the normal pronunciation of the **r** phoneme in the **BBC accent** – in many ways this sound is more like a vowel than a consonant, and in some languages it actually is found as one of the vowels, yet we always treat it

	as a consonant. The conclusion that has been drawn is that since the word 'consonant' as used in describing the Phonology of a language can include sounds which could be classed phonetically as vowels, we ought also to have a different word which covers just those sounds which are phonetically of the type that produces a significant obstruction to the flow of air through the **vocal tract** *see* consonant *above*: the term proposed is contoid. **(Roach:2009)**
118.	**contraction –** English speech has a number of cases where pairs of words are closely combined into a contracted form that is almost like a single word; e.g. '*that*' and '*is*' are often contracted to '*that's*'. These forms are so well established in spoken English that they have their own representation in the spelling. There is a brief list of these in *English Phonetics and Phonology* p. 114 **(Roach:2009)**
119.	**contrast –** A notion of central importance in traditional **Phoneme theory** is that of contrast: while it is important to know what a phoneme is, in terms of its sound quality, **articulation** and so on, it is vital to know what it is not – i.e. what other sounds it is in contrast with; e.g. English **t** contrasts with **p** and **k** in **place of articulation**, with **d**, in the matter of **voicing** or force of articulation, **n**, by being **plosive** rather than **nasal**, and so on. Phonologists have claimed that the English **n** sound is different from the phonetically similar sound **n** in the Indian language Malayalam, since in English the only other voiceless plosive consonants that **n** contrasts with are **m** and **ŋ**, whereas in Malayalam **n** contrasts not only with **m** and **ŋ** but also with the nasal consonants and **n̪**. Some phonologists state that a theoretical distinction must be made between contrast and **opposition**. In their use of the terms, '*opposition*' is used for the '*substitutability*' relationship described above, while '*contrast*' is reserved to refer to the relationship between a sound and those adjacent to it **(Roach:2009)**
120.	**conversation –** The interest in conversation for the phonetics specialist lies in the differences between conversational speech and monologue. Much linguistic analysis in the past has concentrated on monologue or on pieces of conversational speech taken out of context. Specialized studies of verbal interaction between speakers look at factors such as **turn-taking**, the way in which interruptions are managed, the use of **intonation** to control the course of the conversation and variations in **rhythm**. **(Roach:2009)**
121.	**creak –** is a special type of **vocal fold** vibration that has proved very difficult to define though easy to recognize. In English it is most commonly found in adult male voices when the **pitch** of the voice is very low, and the resulting sound has been likened to the sound of a stick being run along railings. However, creak is also found in female voices, and it has been claimed that among female speakers creak is typical of upper-class English women. It appears to be possible to produce creak at any pitch, and a number of languages in different parts of the world make use of it contrastively; i.e. to change meanings. Some languages have creaky-voiced or '*laryngealized*' consonants, e.g. the Hausa language of West Africa, while some tone languages e.g. Vietnamese have creaky tones that contrast with normally-voiced ones. It is clear that some form of extreme **laryngeal** constriction is involved in the production of creak, but the large number of experimental studies of the phenomenon seems to indicate that different speakers have very different ways of producing it (**Roach:2009**)
122.	**culminative function** [**'kulmineitiv 'fʌnk͡ʃən**] **Кульминатив функция**, сузлар ва уларнинг бирикмаларини нуткдаги товуш жихатдан ифодаланишини ажратиб курсатиш. Мас., инглиз, рус ва узбек тилларида суз ургуси ана шундай функцияни бажаради деп **Кульминативная функция**, особенности звукового выражения, служащие для выделения слов и их соединения в речевой цепи. *Напр*., словесное ударение в английском, русском и узбекском языках **(Abduazizov:1986)**
123.	**dark** ł – In the description of '**clear l**' it is explained that while the blade and tip of the **tongue** are fixed in contact with the **alveolar ridge**, the rest of the tongue is free to adopt different positions. If the back of the tongue is raised as for an [**u**] vowel, the quality is [**u**]-like and '*dark*'; this effect is even more noticeable if the lips are **rounded** at the same time. This sound is typically found in English, BBC and similar accents, when **l** occurs before a consonant, e.g. '*help*' or before a pause, e.g. '*hill*'. In several accents of English, particularly in the London area, the **dark** ł has given way to a **w** sound, so that '*help*' and '*hill*' might be transcribed **hewp** and **hiw**; this process sometimes referred to as '**l-vocalization**' took place in Polish some time ago, and the sound represented in Polish writing with the letter ł is almost always pronounced as **w**, though foreigners usually try to pronounce it as an **l**. **(Roach:2009)**
124.	**declination** – It can be claimed that there is a universal tendency in all languages to start speaking at a higher **pitch** than is used at the end of the **utterance**. Of course, it cannot be denied that pitch sometimes rises through an utterance, but this would be regarded as a special '*marked*' case produced for a particular reason such as signaling a question. In **tone languages** the phenomenon is usually referred to as '*down drift*', but the term '*declination*' has been introduced in recent work on English intonation to predict the normal pitch pattern of utterances. However, there are in English and probably many other languages, accents where rising pitch in statements is by no means unusual or special – this is the case in accents of Northern Ireland, consequently the notion of declination cannot be taken as showing that in a literal, phonetic way, pitch always declines except in special marked cases **(Roach:2009)**
125.	**delimitative function** [**də'li:mitətiv fʌŋ͡ʃən**] **Делимитатив** чегаралаш **функцияси**, кетма-кет келган бирликларни чегаралаш. Мас.: *ётоқ олди – ёта колди* Разграничительная **функция**, функция обозначающая границы между последовательными единицами *Напр*.: *К Ире – Кире* **(Abduazizov:1986)**
126.	**descending scale –** gradual lowering of the voice pitch **(Leontyeva:2004)**

127.	**Descriptive linguistics** [**'diskriptiv 'linguistiks**] **Дескриптив тилшунослик окими** АКШдаги тилни урганиш окими. Унинг кузга куринган намоёндалари Ф. Боас, Л. Блумфильд, З. Харрис кабилардир **Дескриптивная лингвистика** Направление исследования языка в США. Его видные представители: Ф. Боас, Л. Блумфильд, З. Харрис и др. **(Abduazizov:1986)**
128.	**diacritic –** A problem in the use of phonetic **symbols** is to know how to limit their number: it is always tempting to invent a new symbol when there is no existing symbol for a sound that one encounters. However, since it is undesirable to allow the number of symbols to grow without limit, it is often better to add some modifying mark to an existing symbol, and these marks are called **diacritics**. The **International Phonetic Association** recognizes a wide range of diacritics: for vowels, these can indicate differences in **frontness**, backness, **closeness** or **openness**, as well as **lip-rounding** or unrounding, **nasalization** and **centralization**. In the case of **consonants**, diacritics exist for **voicing** or **voicelessness**, for advanced or retracted place of articulation, **aspiration** and many other aspects. *See* the **chart** of the *International Phonetic Alphabet* **(Roach:2009)**
129.	**dialect** – It is usual to distinguish between dialect and **accent**. Both terms are used to identify different varieties of a particular language, but the word '*accent*' is used for varieties which differ from each other only in matters of pronunciation while '*dialect*' also covers differences in such things as vocabulary and grammar. **(Roach:2009)**
130.	**diglossia** – This word is used to refer to the case where speakers of a language regularly use or at least understand, more than 1 variety of that language. In 1 sense this situation is found in all languages: it would always be strange to talk to one's boss in the same way as one spoke to one's children. But in some languages the differences between varieties are much more sharply defined, and many societies have evolved exclusive varieties which may only be used by 1 sex, or in conversation between people of a particular status or relationship relative to the speaker **(Roach:2009)**
131.	**digraph** – It has sometimes been found necessary to combine 2 **symbols** together to represent a single sound. This can happen with alphabetic writing – the term seems mainly to be used for letter pairs in words where in Roman inscriptions the letters were regularly written or carved joined together, e.g. spellings such as '**oe**' in '*foetid*' or '**ae**' in '*mediaeval*', though the writing of Anglo-Saxon also involves extra symbols. It seems unlikely that anyone would call the '**ae**' in '*sundae*' a digraph. In the development of printed symbols some digraphs have been created, notably the combination of '**a**' and '**e**' in **æ** and '**o**' and '**e**' in **oe**; the resulting symbol when used in Phonetics for vowels is supposed to signify an '*intermediate*' or '*combined*' quality. In the case of **t͡ʃ** the 2 symbols simply represent the phonetic sequence of events **(Roach:2009)**
132.	**diphthong** – The most important feature of a diphthong is that it contains a **glide** from one **vowel** quality to another one. BBC English contains a large number of diphthongs: there are 3 ending in **i** – **ei**, **ai**, **ɔi**, 2 ending in **ʊ** – **əʊ**, **aʊ** and 3 ending in **ə** – **iə**, **eʊ**, **ʊə**. Opinions differ as to whether these should be treated as **phonemes** in their own right, or as combinations of 2 phonemes **(Roach:2009)**
133.	**diphthong** [**'difθoŋ**] **Дифтонг**, бир бугин сифатида ягона артикуляция билан талаффуз қилинадиган 2 унли товуш бирикмаси. Сочетание 2 гласных, произносимых единой артикуляцией как 1 слог **(Abduazizov:1986)**
134.	**diphthongization –** slight shifting of the position of the organs of speech within the articulation of one and the same vowel. Diphthongization changes the quality of the sound during its articulation. **(Leontyeva:2004)**
135.	**diphthongoid** [**'difθəŋgoid**] **Дифтонгоид** Дифтонглашган унлиларнинг талаффузи муайян эмаслиги *Мас*., *инглизча* [**i:**], [**u:**] **Дифтонгоид** Гласные с признаками тембрального скольжения, в произношении которых имеется неустойчивая артикуляция *В англ. языке* [**i:**], [**u:**] **(Abduazizov:1986)**
136.	**discourse**, **discourse analysis** – Although the word *discourse* has a general meaning that refers usually to speaking, in linguistics the field of *discourse analysis* has been a source of much interest for the last 30 years or so. It concentrates on language and speech as related to real-life interaction between speakers and hearers, looking at the different roles they play and the ways in which they interact. Discourse analysis has become relevant to Phonetics and Phonology because of what it has to say about **intonation**; this is explained in *English Phonetics and Phonology* Chapter 19 Section 3 **(Roach:2009)**
137.	**dissimilation** [**'disimilei͡ən**] **Диссимиляция**, 1 типдаги 2 товушдан бирининг артикуляцияси узгариши натижасида иккинчисининг мослашуви **Расподобление**. Замена одного из 2 одинаковых по артикуляции звуков звуком иной артикуляции, но сходным по тембру **(Abduazizov:1986)**
138.	**distinctive** [**'distinktiv**] differential, phonological **features** of the phoneme **Фонеманинг дистинктив**, дифференциал, фонологик **белгиси**: бир фонемани иккинчисидан фарклашга хизмат қилувчи артикуляцион ва акустик хусусиятлар. Мас.: *мур* - *сур* сузларида **т** - **с** портловчи-сирралувчи белгилари фонологик булип ҳисобланади. Бошка белгилари фонологик эмас **Дистинктивный**, дифференциальный, фонологический **признак фонемы**, т.е. артикуляционные и акустические свойства, служащие для различения одной фонемы от другой *Напр*., **т - s** различаются дистинктивным признаком смычно-взрывной и щелевой, а другие признаки не являются дистинктивными (**Abduazizov:1986)**
139.	**distinctive feature** – In any language it seems that the sounds used will only differ from each other in a small number of ways; e.g. If a language had 40 **phonemes**, then in theory each of those 40 could be utterly different

	from the other 39. However, in practice there will usually be just a small set of important differences: some of the sounds will be **vowels** and some **consonants**; some of the consonants will be **plosives** and **affricates**, and the rest will be **continuants**; some of the continuants will be **nasal** and some not, and so on. These differences are identified by phonologists, and are known as distinctive features. There is disagreement about how to define the features, e.g. whether they should be labeled according to **articulatory** characteristics or **acoustic** ones, and about how many features are needed in order to be able to classify the sounds of all the languages in the world. *See* the entry for **feature (Roach:2009)**
140.	**distinctive function** ['**distinktiv 'fʌnkʃən**] **Дистинктив**, дифференциал, фаркланиш, семиологик, сигнификатив функция. Фонологик бирликларнинг: фонема, силлабема, акцентема, интонема турли семантик боскичдаги бирликларнинг эшитилишини фарклаш учун хизмат қилиш функцияси **Дистинктивная**, дифференциальная, различительная, семиологическая, сигнафикативная **функция**. Главная функция фонологических единиц: фонем, силлабем, акцентем, интонем, различать особенности звучания единиц разного семантического уровня **(Abduazizov:1986)**
141.	**distinctive function of speech sounds**: it is manifested most conspicuously in minimal pairs when the opposition of speech sounds is the only phonetic means of distinguishing 1member of that pair from the other **(Leontyeva:2004)**
142.	**distribution** – A very important aspect of the study of the **Phonology** of a language is examining the contexts and positions in which each particular **phoneme** can occur: this is its distribution. In looking at the distribution of the **r** phoneme, e.g. we can see that there is a major difference between **BBC pronunciation** and **General American**: in the former, **r** can only occur before a **vowel**, whereas in the latter it may occur in all positions like other **consonants**. It is possible to define the concepts of '*vowel*' and '*consonant*' purely in terms of the distributions of the 2 groups of sounds: as a simple e.g., one could list all the sounds that may begin a word in English – this would result in a list containing all the consonants except **ŋ** and all the vowels except **ʊ**. Next we would look at all the sounds that could come in second place in a word; noting which initial sound each could combine with. After the sound **æ**, e.g. only consonants can follow, whereas after **ʃ**, with the exception of a few words beginning **ʃr**, such as '*shrew*', only a vowel can follow. If we work carefully through all the combinatory possibilities we find that the phonemes of English separate out into 2 distinct groups, which we know to be vowels and consonants, without any reference to phonetic characteristics – the analysis is entirely distributional **(Roach:2009)**
143.	**distribution: complementary distribution [ˌkəmpli'mentəri 'distribjuʃn] Тулдирувчи дистрибуция** Бир тил бирлигига тегишли хилма-хил элементларнинг турлича ишлатилишини аникловчи дистрибуция тури *Мас*.аспирацияли **p**^{h}, **t**^{h}, **k**^{h} унлилардан олдин, аспирацияси **p**, **t**, **k** бошка уринларда ишлатилади ва шу сабабли **p**, **t**, **k** фонемаларининг аллофонларидир **Дополнительная дистрибуция**, состоящая во взаимном исключении разных воспроизведений одной и той же структурной единицы, каждая из которых встречается в своем окружении **(Abduazizov:1986)**
144.	**distributional method** [ˌdistr'bju:ʃənəl 'meθəd] **Дистрибутив метод**, тил элементларининг кулланиши, бирикиши ва ишлатилишини урганади **Дистрибутивный метод** изучает место, сочетаемость, порядок, свойства употребления элементов языка **(Abduazizov:1986)**
145.	**drawl** – This term is quite widely used in everyday language but does not have a scientific meaning in Phonetics. From the way it is used one can guess at its likely meaning: it seems to be different from speaking slowly, and probably involves the extreme lengthening of the vowels of **stressed syllables**. This is used to indicate a relaxed or '*laid-back*' attitude **(Roach:2009)**
146.	**duration** – The amount of time that a sound lasts for is a very important feature of that sound. In the study of speech it is usual to use the term **length** for the listener's impression of how long a sounds lasts for, and duration for the physical, objectively measurable time; e.g. I might listen to a recording of the following **syllables** and judge that the first 2 contained short vowels while the vowels in the second 2 were long: **bit**, **bet**, **bi:t**, **bɔ:t**; that is a judgment of length. But if I use a laboratory instrument to measure those recordings and find that the vowels last for 100, 110, 170 and 180 milliseconds respectively, I have made a measurement of duration **(Roach:2009)**
147.	**dysphonia** – This is a general term used for disorders of the **voice**; the word '*voice*' here should be taken to refer to the way in which the **vocal folds**_vibrate. Dysphonia may result from infection laryngitis, from a growth on the vocal fold e.g. a polyp, from over-use hoarseness or from surgery **(Roach:2009)**
148.	**ear-training** – An essential component of practical phonetic training, ear-training is used to develop the student's ability to hear very small differences between sounds **discrimination**, and to identify particular sounds **identification**. Although it is possible for a highly-motivated student to make considerable progress in ear-training by working from recorded material in isolation, in general it is necessary to receive training from a skilled phonetician. The 'British tradition' of ear-training has grown up through the pioneering teaching of **Daniel Jones**, his colleagues and his former pupils, working mainly in British universities, and is maintained today by teachers trained in the same tradition **(Roach:2009)**
149.	**elision** – Some of the sounds that are heard if words are pronounced slowly and clearly appear not to be pronounced when the same words are produced in a rapid, colloquial style, or when the words occur in a

	different context; these 'missing sounds' are said to have been **elided**. It is easy to find e.g. of elision, but very difficult to state rules that govern which sounds may be elided and which may not. Elision of **vowels** in English usually happens when a short, unstressed vowel occurs between voiceless consonants, e.g. in the 1st syllable of '*perhaps*', '*potato*', the 2nd syllable of '*bicycle*', or the 3rd syllable of '*philosophy*'. In some cases we find a weak voiceless sound in place of the normally voiced vowel that would have been expected. Elision also occurs when a vowel occurs between an **obstruent** consonant and a **sonorant** consonant such as a **nasal** or a **lateral**: this process leads to **syllabic consonants**, as in '*sudden*' **sʌdn̩**, '*awful*' **ɔ:fl**, where a vowel is only heard in the second syllable in slow, careful speech. Elision of **consonants** in English happens most commonly when a speaker 'simplifies' a complex consonant **cluster**: '*acts*' becomes **æks** rather than **ækts**, '*twelfth night*' becomes **twelθnait** or **twelfnait** rather than **twelfθnait**. It seems much less likely that any of the other consonants could be left out: the **l** and the **n** seem to be unelidable. It is very important to note that sounds do not simply 'disappear' like a light being switched off. A transcription such as **æks** for '*acts*' implies that the **t** phoneme has dropped out altogether, but detailed examination of speech shows that such effects are more gradual: in slow speech the **t** may be fully pronounced, with an audible transition from the preceding **k** and to the following **s**, while in a more rapid style it may be articulated but not given any audible **realization**, and in very rapid speech it may be observable, if at all, only as a rather early movement of the tongue blade towards the **s** position. Much more research in this area is needed, not only on English, for us to understand what processes are involved when speech is 'reduced' in rapid articulation **(Roach:2009)**
150.	**elision –** the loss of a vowel or a consonant in initial or terminal position **(Leontyeva:2004)**
151.	**elocution** – This is the traditional name for teaching 'correct speech' to native speakers. It is rather surprising that phoneticians generally have no hesitation in telling foreign learners how they should pronounce the language they are learning, but are reluctant to advise native speakers on how to acquire a different accent or speaking style, apart, perhaps, from the 'dialect coaching' given to actors. The training given by **Professor Higgins** to Eliza in *Pygmalion* and *My Fair Lady* is an e.g. of elocution. Though this is nowadays scorned as something that belongs only in expensive private schools for upper-class girls, it has a respectable ancestry that goes back to the Greek teachers of rhetoric over 2000 years ago. It does not seem sensible to assume that everyone knows how to speak their native language with full clarity and intelligibility.There has been considerable controversy in recent years over whether children should be taught in school how to speak with a 'better' **accent**; while most people would agree that this sounds like an unwelcome attempt to level out accent differences in the community and to make most children feel that their version of the language is inferior to some arbitrary standard, it is also true that some of the more extreme statements on the subject have claimed that children's speech should be left untouched even if as a result the child will have problems in communicating outside its local environment, and may experience difficulty in getting a job on leaving school **(Roach:2009)**
152.	**enclitic**, an unstressed word or syllable, which refers to the preceding stressed word or syllable. Together with the stressed word enclitics form 1 phonetic unit **(Leontyeva:2004)**
153.	**Enclitics** [**in'kli:tiks**] **Энклитика**, ургусиз суз ёки бугинни ургули суздан кейин қушиб айтиш. **Энклитика**, слитное фонетическое единство безударного слова или слога предыдущего ударного слова в произношении **(Abduazizov:1986)**
154.	**epenthesis** – When a speaker inserts a redundant sound in a sequence of **phonemes**, that process is known as epenthesis; redundant in this context means that the additional sound is unnecessary, in that it adds nothing to the information contained in the other sounds. It happens most often when a word of one language is adopted into another language whose rules of **Phonotactics** do not allow a particular sequence of sounds, or when a speaker is speaking a foreign language which is phonotactically different; e.g. of the 1st, we can look at e.g. where English words, which often have **clusters** of several consonants, are adopted by languages with a much simpler syllable structure: e.g. Japanese with a basic consonant-vowel syllable structure, tends to change the English word '*biscuit*' to something like **bisuketo**. Consonant epenthesis is also possible, and in **BBC Pronunciation** it quite frequently happens that in final nasal plus voiceless **fricative** clusters an epenthetic voiceless **plosive** is pronounced, so that the word '*French*', phonemically **frenʃ** is pronounced as **frentʃ** Such speakers lose the distinction between **minimal pairs** such as '*mince*' **mins** and '*mints*' **mints**, pronouncing both words as **mints (Roach:2009)**
155.	**equipollent opposition** [**'ikwipəlent ˌəpə'zi:ʃən**] **Эквиполент** тенг ҳук,қуқли **оппозиция**, аъзолари логик жихатдан тенг, яъни бирор белгининг 2 турли даражаси, белгининг бор ёки йуклиги бир хил булган оппозиция *Мас.*: **p - t**, **b - d Эквиполентная** равнозначная **оппозиция**, 2 члена которой логически равноправны, т. е. не являются ни 2 ступенями какого-либо признака, ни утверждением или отрицанием признака *Напр.* **p - t**, **b - d (Abduazizov:1986)**
156.	**Estuary English** – Many learners of English have been given the impression that Estuary English is a new **accent** of English. In reality, there is no such accent, and the term should be used with care. The idea originates from the sociolinguistic observation that some people in public life who would previously have been expected to speak with a **BBC** or **RP** accent now find it acceptable to speak with some characteristics of the accents of the London area; the Estuary referred to is the Thames estuary, such as **glottal stops**, which would in earlier

	times have caused comment or disapproval **(Roach:2009)**
157.	**expression** plane [**iks'preʃən**] **Ифодалилик**, фикрни суз билан ифодалашдаги ёркинлик ва ишончлиликнинг юкори даражаси. Бунга огзаки нуткни интонация воситалари билан кучайтириш орқали эришилади. **Выразительность**, высокая степень яркости и убедительности словесного выражения мысли, достигаемое средствами интонационного оформления устной речи **(Abduazizov:1986)**
158.	**Extralinguistics [ekstrʌ'linguistiks] Экстралингвистика** Тилнинг этник, ижтимоий-тарихин, географик, социал ва бошка факторлар хизмати ва ривожланиши билан боглиқ булган томонларини урганиш. Исследование функционирования и развития языка в отношении к этническим, общественно-историческим, географическим, социальным факторам**(Abduazizov:1986)**
159.	**Fall**, lowering of the voice pitch within a stressed syllable **(Leontyeva:2004)**
160.	**feature** – When the idea of the **Phoneme** was new it was felt that phonemes were the ultimate constituents of language, the smallest element that it could be broken down into. But at roughly the same time as the atom was being split, phonologists pointed out that phonemes could be broken down into smaller constituents called features. All **consonants**, e.g. share the feature Consonantal, which is not possessed by **vowels**. Some consonants have the feature **Voice**, while voiceless consonants do not. It is conventional to treat feature labels as being capable of having differing values – usually they are either '*plus*' (+) or '*minus*' (–), so we can say that a voiceless consonant is +Consonantal and –Voice while a vowel is –Consonantal and +Voice. The features are the things that distinguish each phoneme of a language from every other phoneme of that language; it follows that there will be a minimum number of features needed to distinguish them in this way, and that each phoneme must have a set of + and – values that is different from that of any other phoneme. For most languages, around 12 features are said to be sufficient; though in mathematical terms the theoretical minimum number can be calculated as follows: a set of **n** features will produce 2**n** distinctions, so 12 features potentially allow for 212 – i.e. 4096 – distinctions. Features are used more in **Phonology** than in **Phonetics**, and in this use are normally called **distinctive features**; features are also used in some phonetic descriptions of the sounds of languages, and for these purposes the features have to indicate much more precise phonetic detail. For phonological purposes it is generally felt that the phonetic aspect of the labels needs to be only roughly right. A full feature-based analysis of a sound system is a long and complex task, and many theoretical problems arise in carrying it out **(Roach:2009)**
161.	**feedback** – The process of speech production is controlled by the brain, and the brain seems to require information in the form of feedback about how the process is going. This can be in the form of tactile feedback, where the brain receives information about surfaces in the mouth being touched, e.g. contact between **tongue** and **palate**, or lip against lip: a pain-killing injection at the dentist's disables this feedback temporarily, often with adverse effects on speech production. There is also **kinaesthetic** feedback, where the brain receives information about movements in muscles and joints. Finally, there is **auditory** feedback, where information about the sounds produced is picked up either from sound waves outside the head, or from inside the head through 'bone conduction'; experiments have shown that if this feedback is interfered with in some way, serious problems can result. In a noisy environment speakers adjust the level of their speech to compensate for the diminished feedback; this is known as the Lombard effect, while if the auditory feedback is experimentally delayed by a small fraction of a second it can have a devastating effect on speech, reducing many speakers to acute stuttering; this is known as the Delayed Auditory Feedback, or DAF, effect. In a rather different sense, feedback also plays a vital role in dialogue: speakers do not usually like to speak without getting some idea of whether their audience is taking in what is being said, talking for an hour in a lecture without any response from those present is very daunting. In dialogue it is normal for the listener to respond helpfully **(Roach:2009)**
162.	**final lengthening** – Instrumental studies of **duration** in speech show that there is a strong tendency in speakers of all languages to lengthen the last **syllable** or 2 before a **pause** or break in the **rhythm**, to such an extent that final syllables have to be excluded from the calculation of average syllable durations in order to avoid distorting the figures. Presumably this lengthening is noticeable perceptually and plays a role in helping the listener to anticipate the end of an **utterance (Roach:2009)**
163.	**form** of expression. Тилнинг ифода жихати. Ички лингвистик форма. **Форма выражения языка**. Внутренняя лингвистическая форма **(Abduazizov:1986)**
164.	**formant** – When speech is analyzed **acoustically** we examine the **spectrum** of individual speech sounds by seeing how much energy is present at different frequencies. Most sounds particularly voiced ones like **vowels**, exhibit peaks of energy in their spectrum at particular frequencies which contribute to the perceived quality of the sound rather as the notes in a musical chord contribute to the quality of that chord. These peaks are called formants, and it is usual to number them from the lowest to the highest; their frequency is usually specified in Hertz, meaning cycles per second, and abbreviated Hz; e.g. typical values for the 1st two formants of the **ə:** vowel in English '*bird*' would be 650 Hz for Formant 1 and 1593 Hz for Formant 2. These are values for an adult female voice; typical adult male values are 513 Hz for F1 and 1377 Hz for F2 **(Roach:2009)**
165.	**fortis –** strong **(Leontyeva:2004)**
166.	**free variation** – If 2 sounds that are different from each other can occur in the same phonological context and

	1 of those sounds may be substituted for the other, they are said to be in free variation; e.g. in English is that of the various possible **realizations** of the **r phoneme**: in different **accents** and **styles** of speaking we find the post-alveolar **approximant ɹ** which is the most common pronunciation in contemporary **BBC pronunciation** and **General American**, the tap **ɾ** which was typical of carefully spoken BBC pronunciation of 50 years ago, the **labio-dental** approximant **ʋ** used by speakers who have difficulty in articulating tongue-tip versions of the **r** phoneme and by some older upper-class English speakers, the **trilled r** found in carefully-pronounced Scots accents and the **uvular ʁ** of the old traditional form of the Geordie accent on Tyneside. Although each of these is instantly recognizable as different from the others, the substitution of one of these for another would be most unlikely to cause an English listener to hear a sound other than the **r** phoneme. These different **allophones** of **r** are, then, in free variation. However, it is important to remember that the word 'free' does not mean 'random' in this context – it is very hard to find examples where a speaker will pronounce alternative allophones in an unpredictable way, since even if that speaker always uses the same accent, she or he will be monitoring the appropriateness of their style of speaking for the social context **(Roach:2009)**
167.	**free variation**, alternation ['**fri: 'væriei**ʃ**ən**] Эркин вариация, альтернация - фаркланиш характерига ва холатга боглиқ булмаган фонемалар алмашинуви. *Мас.*, Тошкент шевасида кабоб - кабо**п**, ко**во**п, чуз**и**қ - чуз**у**қ каби. **Свободная вариация**, **альтернация -** чередование, которое, не имея дифференциального характера, не является также и позициоино обусловленным. *Нанр.*; обусл**о**вливать - обусл**а**вливать; **к**алоша – **г**алоша; direct [d**i**rekt, d**aiə**rekt], *intonation* [in`tə**u**neiʃən, intə`neiʃən] **(Abduazizov:1986)**
168.	**fricative consonants** ['**frikətiv**] **Spirants** Сиргалувчи, фрикатив, спирант, ундошлар, ҳаво огиминдаги тусикни сиргалиб утиши натижасида хосил булувчи товушлар *Мас.*: **с**, **з**, **в**, **х**, **ш**, **г**, **х**, **ж** каби. **Щелевые согласные**, производимые торможением воздуха при его прохождении через образуемые органами артикуляции щели и сужения различной формы *Нанр англ* **s**, **z**, **θ**, **ð**, **j**, **h** *рус* **ш**, **ж**, **в**, **ф**, **х** **(Abduazizov:1986)**
169.	**front vowels** ['**frʌnt 'vauəlz**] Тил олди катор унлиси, талаффузида тил олдинга харакат этувчи товуш *Мас.*: **и**, **е**, **э Гласные переднего ряда**, образуемые движением языка вперед *Нанр.* **i:**, **е**, **æ** **(Abduazizov:1986)**
170.	**function word** – The notion of the function word belongs to Grammar, not to Phonetics, but it is a vital one in the description of English pronunciation. This class of words is distinguished from 'lexical words' such as verbs, nouns, adjectives and adverbs, though it is difficult to be precise about how the distinction is to be defined. Function words include such types as conjunctions: e.g. '*and*', '*but*', articles: '*a*/*an*', '*the*' and prepositions: e.g. '*to*', '*from*', '*for*', '*on*'. Many function words have the characteristic that they are pronounced sometimes in a **strong form** as when the word is pronounced in isolation and at other times in a **weak form**, when pronounced in context, without **stress**; e.g. the word '*and*' is pronounced **ænd** in isolation, strong form, but as **ən** or **n̩**! weak form in a context such as '*come and see*', '*fish and chips*' **(Roach:2009)**
171.	**functional phonological**, connected with the distinctive function **(Leontyeva:2004)**
172.	**fundamental frequency (F0)** – When **voicing** is produced, the **vocal folds** vibrate; since vibration is an activity in which a movement happens repeatedly, it is possible in principle to count how many times per second or other unit of time 1cycle of vibration occurs; if we do this, we can state the frequency of the vibration. In adult female voices the frequency of vibration tends to be around 200 or 250 cycles per second, and in adult males the frequency is about half of this. It is usual to express the number of cycles per second as Hertz, abbreviated Hz, so a frequency of 100 cycles per second is a frequency of 100 Hz. Why 'fundamental'? The answer is that all speech sounds are complex sounds made up of energy at many different component frequencies, unlike a 'pure tone' such as an electronic whistling sound; when a sound is voiced, the lowest frequency component is always that of the vocal fold vibration – all other components are higher. So the vocal fold vibration produces the fundamental frequency *See also* **pitch (Roach:2009)**
173.	**General American** – Often abbreviated as **GA**, this accent is usually held to be the 'standard' accent of American English; it is interesting to note that the standard that was for a long time used in the description of British English pronunciation **Received Pronunciation**, RP, is only spoken by a small minority of the British population, whereas GA is the accent of the majority of Americans. It is traditionally identified as the accent spoken throughout the USA except in the north-east roughly the Boston and New England area and the south-eastern states. Since it is widely used in broadcasting it is also known as '**Network English**' (**Roach**:**2009**)
174.	**General American (GA)** – the most widespread type of educated American speech **(Leontyeva:2004)**
175.	**glottal stop** ['**glotəl 'stop**] Даво окими ва товуш пайчаларининг кучли тусиқ билан харакати натижасида бугизда хосил булувчи товуш. *Мас.*: *Patrick* [**'pætrik**] **Гортанная** или глотальная **смычка**, образуемая энергичным размыканием взрывом мышечно-напряженных краев голосовых связок, *Нанр*. *Patrick* [**'pætrik**] **(Abduazizov:1986)**
176.	**glottal stop** a sound which reminds a slight cough and articulated by the vocal cords, before a vowel sound is heard in cases of emphatic speech **(Leontyeva:2004)**
177.	**glottal stop**, **glottalization** – One of the functions of a closure of the **vocal folds** is to produce a **consonant**. In a true glottal stop there is complete obstruction to the passage of air, and the result is a period of silence. The

	phonetic symbol for a glottal stop is **ʔ**. In casual speech it often happens that a speaker aims to produce a complete glottal stop but instead makes a low-pitched **creak**-like sound. Glottal stops are found as consonant phonemes in some languages, e.g. Arabic; elsewhere they are used to mark the beginning of a word if the 1st phoneme in that word is a vowel, this is found in German. Glottal stops are found in many accents of English: sometimes a glottal stop is pronounced in front of a **p**, **t**, **k** if there is not a vowel immediately following, e.g. '*captive*' **kæʔptiv**, '*catkin*' **kæʔtkin**, '*arctic*' **ɑ:ʔktik**; a similar case is that of **tʃ** when following a stressed vowel or when syllable-final, as in '*butcher*' **bʊtʃə**. This addition of a glottal stop is sometimes called glottalization or glottal reinforcement. In some accents, the glottal stop actually replaces the voiceless alveolar **plosive t** as the **realization** of the **t** phoneme when it follows a **stressed** vowel, so that '*getting better*' is pronounced **geʔiŋ beʔə** – this is found in many urban accents, notably London, Cockney, Leeds, Glasgow, Edinburgh and others, and is increasingly accepted among relatively highly-educated young people **(Roach:2009)**
178.	**glottalic** – This adjective could be used to refer to anything pertaining to the **glottis**, but it is generally used to name a type of **airstream**. A glottalic airstream is produced by making a tight closure of the **vocal folds** and then moving the **larynx** up or down: raising the larynx pushes air outwards causing an egressive glottalic airstream while lowering the larynx pulls air into the **vocal tract** and is called an **ingressive glottalic** airstream. Sounds of this type found in human language are called **ejective** or **implosive**_respectively **(Roach:2009)**
179.	**glottis** – The glottis is the opening between the **vocal folds**. Like the child who asked 'where does your lap go when you stand up?', one may imagine that the glottis disappears when the vocal folds are pressed together, but in fact it is usual to refer to the 'closed glottis' in this case. Apart from the fully closed state, the vocal folds may be put in the position appropriate for **voicing**, with narrowed glottis; the glottis may be narrowed but less so than for voicing – this is appropriate for **whisper** and for the production of the glottal fricative **h**, while it tends to be more open for voiceless consonants. For normal breathing the glottis is quite wide, usually being wider for breathing in than for breathing out. When producing **aspirated** voiceless plosive consonants, it is usual to find a momentary very wide opening of the glottis just before the release of the plosive. For more information and diagrams, ***see*** *English Phonetics and Phonology* Section 4.1**(Roach:2009)**
180.	**haplology** ['**hæploləʤi**] **Гаплология**, икки бир хил бугинлардан бирининг туширириб қолдирилиши. *Мас.*: морфо**фо**нология **-** морфонология. **Выпадение** одного из двух одинаковых слогов слова. *Напр.*, морфофонология - морфонология. **(Abduazizov:1986)**
181.	**hesitation** – We **pause** in speaking for many reasons, and pauses have been studied intensively by psycholinguists. Some pauses are intentional, either to create an effect or to signal a major syntactic or semantic **boundary**; but hesitation is generally understood to be involuntary, and often due to the need to plan what the speaker is going to say next. Hesitations are also often the result of difficulty in recalling a word or expression. Phonetically, hesitations and pauses may be silent or may be filled by voiced sound: different languages and cultures have very different hesitation sounds. **BBC pronunciation** tends to use **ə:** or **ə:m (Roach:2009)**
182.	**Higgins**, **Henry** – Henry Higgins is the best-known fictional phonetician, the central male character of Shaw's *Pygmalion* and of the musical *My Fair Lady*. Higgins is given more extreme views about the importance of correct pronunciation in the latter, and most phoneticians are rather embarrassed at the idea that the general public might think of their subject as being capable of being used in the way Higgins used it. Phoneticians like to guess at who the real-life original of Higgins was: it used to be widely thought that this was the great phonetician Henry Sweet, but there is evidence to suggest that Shaw probably had his own contemporary, **Daniel Jones**, in mind. There is, of course, no reason why Shaw should not have had *both* men in mind. You can read about the question of Jones being the model for Higgins in *The Real Professor Higgins*, by B. Collins and I. Mees; Mouton, 1999 **(Roach:2009)**
183.	**hoarse**; **hoarseness** – In informal usage, hoarseness is generally used to refer to phonation, **voicing** that is irregular because of illness or extreme emotion **(Roach:2009)**
184.	**homophone** – If 2 different words are pronounced identically, they are **homophones**. In many cases they will be spelt differently, e.g. '*saw*' – '*sore*' – '*soar*' in **BBC pronunciation**, but homophony is possible also in the case of pairs like '*bear*' (v) and '*bear*' (n) which are spelt the same **(Roach:2009)**
185.	**homophones** ['**homəfəunz**] **Омофонлар**. Айтилиши бир хил, лекин маънолари турлича булган сузлар **Омофоны**. Разные слова, совпадающие по звучанию **(Abduazizov:1986)**
186.	**homorganic** – When 2 sounds have the same **place of articulation** they are said to be homorganic. This notion is rather a relative one: it is clear that **p** and **b** are homorganic, and most people would agree that **t** and **s** are too. But **t** and ʃ in the **affricate tʃ** are usually also said to be homorganic despite the fact that the latter sound is usually described as post-alveolar; the **t** is often articulated nearer to the **palatal** region than its usual place, but it is not certain to be in the same place of articulation as the ʃ **(Roach:2009)**
187.	**hyperphoneme** ['**haipə'fəuni:m**] **Гиперфонема**. Нейтрализация холатида фонемалар группаси билан белгиланувчи фонологик бирлик. *Мас.*, *рус.* **а - о** ва **и** гиперфонемалардир. Фонологическая единица,

	определяемая в позиции нейтрализации группой фонем *Напр.*, *рус*. **а - о** и **и** выступают как **гиперфонемы (Abduazizov:1986)**
188.	**idiolect** [**idiəlekt**] **Идиолект**. Маълум тилда сузловчининг индивидуал нутқи. Индивидуальная речь носителя определенного языка **(Abduazizov:1986)**
189.	**idiophone** [**idiə'fəun**] **Идиофон**. Айнан бир нутқ товушининг турли сузловчилар томонидан турлича талаффуз этилиниши. Один и тот же звук речи, произносимый различно разными носителями **(Abduazizov:1986)**
190.	**implosive** – Several different types of speech sound can be made by drawing air into the body rather than by expelling it in the usual way. In an implosive this is done by bringing the **vocal folds** together and then drawing the **larynx** downwards to suck air in; this is usually done in combination with the **plosive manner of articulation**. Most of the implosives found functioning as speech sounds are voiced, which seems surprising since if the **glottis** is closed it should not be possible for the vocal folds to vibrate: it appears that while the vocal folds are mostly pressed together firmly, a part of their length is allowed to vibrate as a result of a small amount of air passing between the folds while the larynx is lowered. This produces a surprisingly strong voicing sound. Implosive consonant phonemes are found in a number of languages, in Africa, e.g. Igbo and also in India, e.g. Sindhi. The phonetic symbols for implosives are: **ɓ**, **ɗ**, **ɠ (Roach:2009)**
191.	**ingressive** – All speech sounds require some movement of air; almost always when we speak, the air is moving outwards – there is an **egressive** airflow. In rare cases, however, the airflow is inwards, ingressive. It is possible to speak while drawing air into the lungs: we may do this when out of breath, or coughing badly; children do it to be silly. It has been reported that some societies regularly use this style of speaking when it is customary to disguise the speaker's identity. We also find ingressive airflow created by the **larynx**; *see* **glottalic**, **implosive** or by the **tongue**; *see* **click**. **(Roach:2009)**
192.	**intensity** – is a physical property of sounds, and is dependent on the amount of energy present. Perceptually, there is a fairly close relationship between physical intensity and perceived loudness. The intensity of a sound depends both on the amplitude of the sound wave and on its frequency **(Roach:2009)**
193.	**Interference** Phonetic-Phonological Фонетик-фонологик **интерференция**. Бир тилдаги фонетик ходисаларнинг иккинчи тилга таъсири. Асосан, 1) фонемик ва 2) просодик ва уз навбатида а) фонемик, б) силлабик, в) акцентологик, г) интонологик, д) аралаш интерференция турларига булинади **Фонетико-фонологическая интерференция**. Влияние фонетических явлений, одного языка на другой. Различаются 1) фонемные и 2) просодические и соответственно а) фонемная, б) силлабическая, в) акцентологическая, г) интонологическая, д) смежная типы интерференции **(Abduazizov:1986)**
194.	**Interlinguistics** [**intə'linguistiks**] **Интерлингвистика**, факат тилнинг ички структурасига тегишли хусусиятларни урганиш Изучение явлений, относящихся только к внутренней структуре языка **(Abduazizov:1986)**
195.	**International Phonetic Association and Alphabet** – The International Phonetic Association was established in 1886 as a forum for teachers who were inspired by the idea of using Phonetics to improve the teaching of the spoken language to foreign learners. As well as laying the foundations for the modern science of Phonetics, the Association had a revolutionary impact on the language classroom in the early decades of its existence, where previously the concentration had been on proficiency in the written form of the language being learned. The Association is still a major international learned society, though the crusading spirit of the pronunciation teachers of the early part of the century is not so evident nowadays. The Association only rarely holds official meetings, but contact among the members is maintained by the Association's Journal, which has been in publication more or less continuously since the foundation of the Association, with occasional changes of name. Since its beginning, the Association has taken the responsibility for maintaining a standard set of phonetic **symbols** for use in Practical Phonetics, presented in the form of a **chart**; *see* the chart on p. xi of *English Phonetics and Phonology*, or find it on the IPA website referred to below. The set of symbols is usually known as the International Phonetic Alphabet and the initials **IPA** are therefore ambiguous. The alphabet is revised from time to time to take account of new discoveries and changes in Phonetic Theory. The website of the IPA is http://www2.arts.gla.ac.uk/IPA/ipa.html **(Roach:2009)**
196.	**intonation** [**ˌintə(u)'neiˌn**] **Интонация**, фразага тегишли булган овоз темпи, тембри, нутк, ритми, мелодика, урғу, пауза каби фонетик воситаларнинг мазмун ва эмоционалликни ифодалаш учун қулланувчи мураккаб бирлиги. Сложное единство, характерное для фразы, фонетических средств: мелодики, ударения, темпа, тембра, ритма, паузации, для выражения различных смысловых и эмоциональных значений **(Abduazizov:1986)**
197.	**intonation** a component of the phonetic structure which is viewed in the narrow meaning as pitch variations, or speech melody. It manifests itself in the delimitative function within a sentence and at its end **(Leontyeva:2004)**
198.	**intonation group** – an actualized sense-group **(Leontyeva:2004)**
199.	**intonation** There is confusion about intonation caused by the fact that the word is used with 2 different meanings: in its more restricted sense, 'intonation' refers simply to the variations in the **pitch** of a speaker's voice used to convey or alter meaning, but in its broader and more popular sense it is used to cover much the

	same field as '**prosody**', where variations in such things as **voice quality**, **tempo** and **loudness** are included. It is, regrettably, common to find in pronunciation teaching materials accounts of intonation that describe only pitch movements and levels, and then claim that a wide range of emotions and attitudes are signaled by means of these pitch phenomena. There is in fact very little evidence that pitch movements alone are effective in doing signaling of this type. It is certainly possible to analyze pitch movements or their **acoustic** counterpart, **fundamental frequency** and find regular patterns that can be described and tabulated. Many attempts have been made at establishing descriptive frameworks for stating these regularities. Some analysts look for an underlying basic pitch melody or for a small number of them, and then describe the factors that cause deviations from these basic melodies; others have tried to break down pitch patterns into small constituent units such as '*pitch phonemes*' and '*pitch morphemes*', while the approach most widely used in Britain takes the **tone unit** as its basic unit and looks at the different pitch possibilities of the various components of the tone unit, the pre-head, head, **tonic syllable** or nucleus and tail. As mentioned above, intonation is said to convey emotions and attitudes. Other linguistic functions have also been claimed: interesting relationships exist in English between intonation and grammar, e.g.: in a few extreme cases a perceived difference in grammatical meaning may depend on the pitch movement, as in the following e.g.: She `didnt `go be`cause of her \/**time**table – meaning '*She did go, but it was not because of her timetable*' and She `didnt **/go** ¦ be**,**cause of her **\time**table – meaning '*She didn't go, the reason being her timetable*' Other 'meanings' of intonation include things like the difference between statement and question; the contrast between 'open' and 'closed' lists, where `Would you like **/wine**, **/sherry** or **/beer** is 'open', implying that other things are also on offer, while `Would you like **/wine**, **/sherry** or **\beer** is 'closed', no further choices being available; and the indication of whether a relative clause is restrictive or non-restrictive, as in e.g. The `car which had `bad `brakes **\crash**ed – compared with – The **\/car** ¦ which had `bad **\/brakes** ¦ **\crashed** Another approach to intonation is to concentrate on its role in conversational **discourse**: this involves such aspects as indicating whether the particular thing being said constitutes new information or old, the regulation of **turn-taking** in conversation, the establishment of dominance and the elicitation of co-operative responses. As with the signaling of attitudes, it seems that though analysts concentrate on pitch movements there are many other prosodic factors being used to create these effects. Much less work has been done on the intonation of languages other than English. It seems that all languages have something that can be identified as intonation; there appear to be many differences between languages, but one suspects, on reading the literature, that this is due more to the different descriptive frameworks used by different analysts than to inter-language differences. It is claimed that **tone languages** also have intonation, which is superimposed upon the **tones** themselves, and this creates especially difficult problems of analysis. Chapters 15-19 of *English Phonetics and Phonology* deal with intonation **(Roach:2009)**
200.	**intonation: contour –** It is usual to describe a movement of the pitch of the voice in speech as a contour. In the **intonation** of a language like English many **syllables** are said with a fairly level **tone**, but the most prominent syllables are said with a tonal contour, which may be continued on following syllables. In the study of **tone languages** it is usual to make a distinction between **register** languages which generally use only phonologically level tones, e.g. many West African languages, and those which also use contour tones such as rises, falls, fall-rises and rise-falls, e.g. many East Asian languages, such as Chinese **(Roach:2009)**
201.	**intonation: head** – In the standard British treatment of **intonation**, the head is one of the components of the **tone-unit**; if one or more **stressed** syllables precedes the **tonic_syllable**, nucleus, the head comprises all **syllables** from the first stressed syllable up to, but not including, the tonic. Here are some e.g.: `here is the `six oclock **\news** ¦----------¦ **HEAD** `passengers are re`quested to `fasten their **\seat** belt ¦----------¦ **HEAD** If there are unstressed syllables preceding the **head**, or if there are no stressed syllables before the head but there are some unstressed ones, these unstressed syllables constitute a pre-head **(Roach:2009)**
202.	**intonation: supra-segmental** – The term supra-segmental was invented to refer to aspects of sound such as **intonation** that did not seem to be properties of individual **segments**, i.e. the vowels and consonants of which speech is composed. The term has tended to be used predominantly by American writers, and much British work has preferred to use the term **prosodic** instead. There has never been full agreement about how many supra-segmental features are to be found in speech, but **pitch**, **loudness**, **tempo**, **rhythm** and **stress** are the most commonly mentioned ones **(Roach:2009)**
203.	**intonation**: **Temporal component of intonation**: it consists of pauses, duration, rhythm **(Leontyeva:2004)**
204.	**intoneme** ['**intəunim**] **Интонема**. Интонациянинг компонентлари томонидан фарклаш функцияси, одатда мелодика ва урғу билан хосил булувчи фонологик, просодик бирлик. Фонологическая,

	просодическая единица, образуемая дистинктивной функцией компонентов, обычно мелодики и ударения, интонации. **(Abduazizov:1986)**
205.	**Jones**, **Daniel** – Jones was, with the possible exception of Henry Sweet, the most influential figure in the development of present-day Phonetics in Britain. He was born in 1881 and died in 1967; he was for many years Professor of Phonetics at University College London. He worked on many of the world's languages and on the Theory of the **Phoneme** and of Phonetics, but is probably best remembered internationally for his works on the Phonetics of English, particularly his *Outline of English Phonetics* and *English Pronouncing Dictionary*. It has been suggested that he was the model for Shaw's Professor **Henry Higgins (Roach:2009)**
206.	**junction** ['**dʒʌŋkʃən**] Товуш ёки сузларнинг қушиб айтилиши **Стык**. Соединение звуков или слов **(Abduazizov:1986)**
207.	**juncture** – the place where 2 sounds or words are joined together **(Leontyeva:2004)**
208.	**juncture** ['**dʒʌŋktʃə**] 2 товуш ёки сузнинг қушиб талаффуз этилиш урни. *Мас.*: *учта кам бир - учта кампир* **Стык**, место, где 2 звука или слова сочетаются *Напр*. *a name* [**ə'neim**] - *an aim* [**ən 'neim**], *that stuff* [**ðæt 'stʌf**] - *that's tuff* [**ðæts 'tʌf**] **(Abduazizov:1986)**
209.	**key** – Many analogies have been drawn between music and speech, and many concepts from musical theory have been adopted for the analysis of speech prosody; the use of the word 'key' is perhaps one of the less appropriate adoptions. In studying the use of **pitch** it is necessary to assume that each speaker has a **range** from the highest to the lowest pitch that they use in speaking: it is observable that these extremes are only rarely used and that in general we tend to speak well within the range defined by these extremes. It has, however, also been observed that we sometimes make more use of the higher or lower part of our pitch range than in normal speaking, usually as a result of the emotional content of what we are saying or because of a particular effect we wish to create for the listener; the terms '*high key*' and '*low key*' have been used to describe this. But whereas in music '*key*' refers to a specific configuration of notes based on 1 particular note within the octave, in the description of speech the word has generally been used simply to indicate a rough location within the pitch range, while in 1 recent approach to intonation it has been used to specify the starting and ending points of pitch patterns whose range extends outside the most commonly used part of the pitch range **(Roach:2009)**
210.	**kinaesthetic/esia** – Sometimes spelt **kinaesthetic**. When the brain instructs the body to produce some action or movement, it usually checks to see that the movement is carried out correctly. It is able to do this through receiving **feedback** through the nervous system. One form of feedback is **auditory**: we listen to the sounds we make, and if we are prevented from doing this; e.g. as a result of loud noise going on near us, our speech will not sound normal. But we also receive feedback about the movements themselves, from the muscles and the joints that are moved. This is kinaesthetic feedback, and normally we are not aware of it. However, a Phonetics specialist must become conscious of kinaesthetic information: if you are learning to produce the sounds of an unfamiliar language, you must be aware of what you are doing with your **articulators**, and practical phonetic training aims to raise the learner's sensitivity to this feedback **(Roach:2009)**
211.	**kinetic** [**kai'netik**] **Кинетика**, мимика, имоишора **Кинетика**, жесты, мимика **(Abduazizov:1986)**
212.	**larynx** – is a major component of our speech-producing equipment and has a number of different functions. It is located in the throat and its main biological function is to act as a valve that can stop air entering or escaping from the **lungs** and also, usually prevents food and other solids from entering the lungs. It consists of a rigid framework or box made of **cartilage** and, inside, the **vocal folds**, which are 2 small lumps of muscular tissue like a very small pair of lips with the division between them, the **glottis**, running from front to back of the throat. There is a complex set of muscles inside the larynx that can open and close the vocal folds as well as changing their length and tension *See English Phonetics and Phonology*, Section 4.1 Loss of laryngeal function, usually through surgical laryngectomy, has a devastating effect on speech, but patients can learn to use substitute sources of voicing either from **oesophageal** air pressure, 'belching' or from an electronic artificial voice source **(Roach:2009)**
213.	**lateral** [**lætərəl**] consonant or sonant Огиз бушлигининг марказий кисмида хаво тасирининг чекка томондан чиқиши билан хосил булувчи ёг ундош ёки сонант. *Мас.*: *инг.* **1**, *узб.* **л** ундошлари **Боковые согласные** или **сонанты**, при образовании которых в центральной части полости рта образуются серединные затворы, а по бокам широкие протоки, выводящие воздух наружу. *Напр.*, **1**, **л**. **(Abduazizov:1986)**
214.	**lax** [**læks**] **Lenes Кучсиз**. Талаффузида тил, лаб ва огиз бушларининг деворлари кучсиз ҳолатда булувчи товушлар. Инглиз тилидаги қиска унлилар кучсиз хисобланади **Слабый**, вялый, ненапряженный звук, при произношении которого наблюдается расслабленность мышц языка, губ и стенок полостей. Английские краткие гласные являются ненапряженными **(Abduazizov:1986)**
215.	**lax** sound is said to be one produced with relatively little **articulatory** energy. Since there is no established standard for measuring articulatory energy, this concept only has meaning if it is used in relation to some other sounds that are articulated with a comparatively greater amount of energy; the term **Tense** is used for this. It is mainly American phonologists who use the terms **lax** and **tense** in describing English **vowels**: the short vowels **i**, **e**, **æ**, **ʌ**, **ɒ**, **ʊ**, **ə** are classed as **lax**, while what are usually referred to as the long vowels and the **diphthongs**

	are **tense**. The terms can also be used of **consonants** as equivalent to **fortis**, tense and **lenis**, lax, though this is not commonly done in present-day description **(Roach:2009)**
216.	**length** – The scientific measure of the amount of time that an event takes is called **duration**; it is also important to study the time dimension from the point of view of what the listener hears – length is a term sometimes used in Phonetics to refer to a subjective impression that is distinct from physically measurable duration. Usually, however, the term is used as if synonymous with duration. Length is important in many ways in speech: in English and most other languages, **stressed** syllables tend to be longer than unstressed. Some languages have phonemic differences between long and short sounds, and English is claimed by some writers to be of this type, **contrasting** short vowels **i**, **e**, **æ**, **ʌ**, **ɒ**, **ʊ**, **ə** with long vowels **i:**,**ɑ:**, **ɔ:**, **ə:**, **u:** though other, equally valid analyses have been put forward. When languages have long or short consonant differences, e.g. as does Arabic it is usual to treat the long consonants as **geminate**; it is odd that this is not done equally regularly in the case of vowels. Perhaps the most interesting example of length differences comes from Estonian, which has traditionally been said to have a 3-way distinction between short, long and extra-long consonants and vowels **(Roach:2009)**
217.	**lenis** – pronounced with weak articulation (**Leontyeva:2004**)
218.	**lenis** –sound is a weekly **articulated** one, the word comes from Latin, where it means 'smooth, gentle'. The opposite term is **fortis**. In general, the term lenis is used of **voiced** consonants, which are supposed to be less strongly articulated than voiceless ones, and is resorted to particularly for languages such as German, Russian and English where 'voiced' phonemes like **b**, **d**, **g** are not always voiced **(Roach:2009)**
219.	**level (tone)** – Many **tone languages** possess level tones; these are produced with an unchanging **pitch** level, and some languages have a number, some as many as 4 or 5 of contrasting level tones. In the description of English **intonation** it is also necessary to recognize the existence of level tone: as a simple demonstration, consider various common one-syllable utterances such as '*well*', '*yes*', '*no*', '*some*' Most English speakers seem to be able to recognize a level-tone pronunciation as something different from the various moving-tone possibilities such as fall, rise, fall–rise etc., and to ascribe some sort of meaning to it, usually with some feeling of boredom, hesitation or lack of surprise. It is probable that from the perceptual point of view a level tone is more closely related to a rising tone than to a falling one. Level tone presents a problem in that the tones used in the intonation of a language like English are usually defined in terms of pitch movements, and there is no pitch movement on a level tone. It is therefore necessary to say, in identifying a syllable as carrying a level tone that it has the **prominence** characteristic of the moving tones and occurs in a context where a tone would be expected to begin **(Roach:2009)**
220.	**level tone** neutral in its communicative function, which is used mostly in poetry (**Leontyeva:2004**)
221.	**lexicon/al** – Traditionally, a lexicon is the same thing as a dictionary. In recent years, however, the word has been given a slightly different meaning for linguistic studies: it is used to refer to the total set of words that a speaker knows, i.e. has stored in her or his mind. The speaker's lexicon is, of course, much more than just a list of words: it is also a whole network of relationships between the words. There is much evidence to show that words are stored in the mind in a very complex way that enables us to recognize a word very quickly. One important but unanswered question is how alternative pronunciations are stored in the mind: do we keep a set of different ways of pronouncing a word like '*that*' or '*there*', or do we also have rules to specify how one form of the word may be changed into another? **(Roach:2009)**
222.	**liaison –** "Linking" or "joining together" of sounds is what this French word refers to. In general this is not something that speakers need to do anything active about – we produce the phonemes that belong to the words we are using in a more or less continuous stream, and the listener recognizes them or most of them, and receives the message. However, phoneticians have felt it necessary in some cases to draw attention to the way the end of 1word is joined on to the beginning of the following word. In English the best-known case of liaison is the 'linking **r**': there are many words in English, e.g. '*car*', '*here*', '*tyre*', which in a **rhotic** accent such as General American or Scots would be pronounced with a final **r** but which in **BBC pronunciation** end in a vowel when they are pronounced before a **pause** or before a consonant. When they are followed by a vowel, BBC speakers pronounce **r** at the end, e.g. '*the car is*' **ðə kɑ:r iz** – it is said that this is done to link the words without sliding the 2 vowels together, though it is difficult to see how such a statement could stand as an explanation of the phenomenon – lots of languages do run vowels together. Another aspect of liaison in English is the movement of a single consonant at the end of an unstressed word to the beginning of the next if that is strongly stressed: e.g. '*not at all*', where the **t** of '*at*' becomes initial and therefore strongly **aspirated** in the final syllable for many speakers **(Roach:2009)**
223.	**lingual** – This is the adjective used of any **articulation** in which the **tongue** is involved **(Roach:2009)**
224.	**linguistic functions**: in Phonetics they are connected with phonemic, significant properties of sound, syllable, stress and intonation **(Leontyeva:2004)**
225.	**lips** – are extremely mobile and active articulators in speech. In addition to being used to make complete **closure** for **p**, **b**, **m** they can be brought into contact with the **teeth** or the **tongue**. The ring of muscles around the lips makes it possible for them to be **rounded** and protruded. They are so flexible that they can be used to produce a **trill (Roach:2009)**

226.	**liquid** – This is an old-fashioned phonetic term that has managed to survive to the present day despite the lack of any scientific definition of it. Liquids are 1type of **approximant**, which is a sound closely similar to **vowels**: some approximants are **glides**, in that they involve a continuous movement from one sound quality to another, e.g. **j** in '*yet*' and **w** in '*wet*'. Liquids are different from glides in that they can be maintained as steady sounds – the English liquids are **r** and **l (Roach:2009)**
227.	**loudness** – We have instrumental techniques for making scientific measurements of the amount of energy present in sounds, but we also need a word for the impression received by the human listener, and we use loudness for this. We all use greater loudness to overcome difficult communication conditions, e.g. a bad telephone line, and to give strong emphasis to what we are saying, and it is clear that individuals differ from each other in the natural loudness level of their normal speaking voice. Loudness plays a relatively small role in the **stressing** of **syllables**, and it seems that in general we do not make very much linguistic use of loudness contrasts in speaking **(Roach:2009)**
228.	**low** – is used for 2 different purposes in Phonetics: it is used to refer to low **pitch**, related to low **fundamental frequency**. In addition, it is used by some phoneticians as an alternative to **open** as a technical term for describing vowels, so that **a** and **ɑ:** are low vowels **(Roach:2009)**
229.	**low pitch –** a low tone. It is usually used in the narrow range of tone-pitch. **(Leontyeva:2004)**
230.	**lungs** – The biological function of the lungs is to absorb oxygen from air breathed in and to excrete carbon dioxide into the air breathed out. From the speech point of view, their major function is to provide the driving force that compresses the air we use for generating speech sounds. They are similar to large sponges, and their size and shape are determined by the rib cage that surrounds them, so that when the ribs are pressed down the lungs are compressed and when the ribs are lifted the lungs expand and fill with air. Although they hold a considerable amount of air, normally several litres, though this differs greatly between individuals; we use only a small proportion of their capacity when speaking – we would find it very tiring if we had to fill and empty the lungs as we spoke, and in fact it is impossible for us to empty our lungs completely **(Roach:2009)**
231.	**median** – In the great majority of speech sounds the flow of air passes down the centre of the **vocal tract**, though in **plosives** there is a brief time when air does not flow at all. Some phoneticians feel we should have a technical term to characterize such sounds, and use median; however, since it is really only **laterals** like **l** that are *not* median, the term is only rarely needed **(Roach:2009)**
232.	**melody –** changes in the voice pitch in the process of speech. **(Leontyeva:2004)**
233.	**melody** ['**meləd**i] **Мелодика**, талаффузда овознинг пасайиши ва кутарилиши Изменение, понижение или повышение голоса. **(Abduazizov:1986)**
234.	**Minimal pair** – In establishing the set of **phonemes** of a language, it is usual to demonstrate the independent, contrastive nature of a phoneme by citing pairs of words which differ in 1 sound only and have different meanings. Thus in BBC English '*fairy*' **feəri** and '*fairly*' **feəli** make a minimal pair and prove that **r** and **l** are separate, contrasting phonemes; the same cannot be done in e.g. Japanese since that language does not have distinct **r** and **l** phonemes **(Roach:2009)**
235.	**Minimal pairs** ['**minimə**l '**peəz**] of words, word combinations, sentences **Минимал жуфтликдаги** сузлар, суз бирикмалари ва гаплар, фонологик бирликларни қарама-карши қуйиш учун ишлатилувчи мисоллар. *Мас.*: кел - сел, бер - тер, холл - ҳол каби **Минимальные пары** слов, словосочетаний и предложений, используемые для иллюстрации противопоставления фонологических единиц. **(Abduazizov:1986)**
236.	**modifications in context –** sound changes in context. Positional and combinatory modifications of allophones of certain phonemes in connected speech. **(Leontyeva:2004)**
237.	**monophthong** – This word, which refers to a single **vowel**, would be pretty meaningless on its own: it is used only in contrast with the word **diphthong**, which literally means a 'double sound' in Ancient Greek. If we find a vowel that is not a diphthong, we can call it a monophthong **(Roach:2009)**
238.	**monophthong** ['**monəfθəŋ**] **Монофтонг**. Артикуляцион-акустик жиҳатдан муайян талаффузи ва тембрига эга булган товуш, *инг*л. **i**, **e**, **æ**, **ʌ**, **i:**, **ɑ:**, **o**, **o:**, **ə:**, **ə**, **u**, **u:** Артикуляционно-акустический устойчивый звук, характеризуемый однородным тембром, *англ.*: **i**, **e**, **æ**, **ʌ**, **i:**, **ɑ:**, **o**, **o:**, **ə:**, **ə**, **u**, **u:** **(Abduazizov:1986)**
239.	**monotone –** a tone lacking the necessary variations in the voice pitch; a way of speaking in which the voice neither rises nor falls, but continues on the same note. **(Leontyeva:2004)**
240.	**mora** – This is a unit used in the study of quantity and **rhythm** in speech. In this study it is traditional to make use of the concept of the **syllable**. However, the syllable is made to play a lot of different roles in language description: in Phonology we often use the syllable as the basic framework for describing how **vowels** and **consonants** can combine in a particular language, and most of the time it does not seem to matter that we use the same unit to be the thing that we count when we are looking for beats in verse or rhythmical speech. Traditionally, the syllable has also been viewed as an **articulatory** unit consisting, in its ideal form, of a movement from a relatively closed **vocal tract** to a relatively open vocal tract and back to a relatively closed one. Not surprisingly, this multiple use of the syllable does not always work, and there are languages where we need to use different units for different purposes, e.g. in Japanese it is possible to construct syllables that are combinations of vowels and consonants: it is often pointed out that Japanese favours a CV, Consonant-Vowel,

	syllable structure. Certainly we can divide Japanese speech into such syllables, but if Japanese speakers are asked to count the number of beats they hear in an utterance the answer is likely to be rather different from what an English speaker would expect: it appears that Japanese speakers count something other than phonological syllables. E.g. to English speakers the word '*Nippon*' appears to have 2 beats, but for Japanese speakers it has 4: the word is divided into units of time as follows: **ni | p | po | n** Since the term syllable is needed for other purposes, the term mora has been adopted for a unit of timing, so we can say that there are 4 morae in the word '*Nippon*' **(Roach:2009)**
241.	**mora** ['**mo:rə**] **Мора** 1. Киска бугин ёки чузик, бугиннинг ярмига тенг келувчи бирлик 2.Просодик элемент, урғуга эга була олувчи нутқнинг минимал сегменти 1.Единица длительности, равная краткому слогу или половине долгого 2. Минимальный сегмент речи, могущий быть носителем просодического элемента **(Abduazizov:1986)**
242.	**Morphonology** [,**morfə'no:lədʒi**] **Морфонология**. Фонология ва морфология оралиридаги тил боскичи булиб, позицион жихатдан боглиқ булмаган морфемалардаги товуш алмашинувларини урганади *Мас.*, *тара - тарок*, *сура - суроқ* каби. Уровень языка между фонологическим и морфологическим уровнями, изучающий альтернации фонем в морфемах, не обусловленных позиционно. *Напр.*, *рука - ручка* **(Abduazizov:1986)**
243.	**Motor Theory of speech perception** – We still know little about how the brain recognizes speech. Some researchers believe that in speech perception the brain makes use of knowledge about how speech sounds are made: e.g. it is claimed that we hear very sharply defined differences between **b**, **d**, **ɡ** since each of these is produced by fundamentally different **articulatory** movements. In the case of **vowels**, the articulatory difference is more gradual, and the perception of vowel quality is therefore less categorical. The word *motor* is used in physiology and psychology to refer to the control of movement, so the motor theory states that the perception of speech sounds depends partly on the brain's awareness of the movements that must have been made to produce them. This theory was very influential in the 1950s and 1960s but passed out of fashion; in recent years, however, we have seen something of a revival of motor theory and theories similar to it (**Roach**:**2009**)
244.	**narrow range**: if the range of the voice pitch is represented by 2 horizontal parallel lines 10 mm wide, then the head syllable of the wide range utterance will be arbitrarily represented by a dash 2 mm from the top range line The head syllable of the narrow range will be represented by a dash 2 mm from the bottom range line The head syllable of medium range will be represented by a dash 6 mm from the bottom range line (**Leontyeva:2004**)
245.	**nasal, nasalization** – A nasal **consonant** is one in which the air escapes only through the nose. For this to happen, 2 **articulatory** actions are necessary: 1st the **soft palate** or velum must be lowered to allow air to escape past it, 2nd a closure must be made in the oral cavity to prevent air from escaping through it. The closure may be at any place of articulation from **bilabial** at the front of the oral cavity to **uvular** at the back, in the latter case there is contact between the tip of the lowered soft palate and the raised back of the **tongue**. A closure any further back than this would prevent air from getting into the nasal cavity, so a pharyngeal or glottal nasal is a physical impossibility. English has 3 commonly found nasal consonants: bilabial, **alveolar** and **velar**, for which the symbols **m**, **n**, **ŋ** are used. There is disagreement over the phonemic status of the velar nasal: some claim that it must be a phoneme since it can be placed in contrastive contexts like '*sum*'/'*sun*'/ '*sung*', while others state that the velar nasal is an **allophone** of **n** which occurs before **k** and **ɡ**. In English we find nasal release of plosive consonants: when a plosive is followed by a nasal consonant the usual articulation is to release the compressed air by lowering the soft palate; this is particularly noticeable when the plosive and the nasal are **homorganic**, share the same place of articulation, as e.g. in '*topmost*', '*Putney*'. The result is that no plosive release is heard from the speaker's mouth before the nasal consonant. *See about* English nasal consonants in *English Phonetics and Phonology*, Section 7.1 When we find a **vowel** in which air escapes through the nose, it is usual to refer to this as a nasalized vowel, not a nasal vowel. Some languages, e.g. French, have nasalized vowel phonemes. In most other languages we find allophonic nasalization when a vowel occurs close to a nasal consonant; e.g. in English the **ɑ:** vowel in '*can't*' **kɑ:nt** is nasalized so that the pronunciation is often phonetically **kãt (Roach:2009)**
246.	**Network English** – This is a name for the American equivalent of BBC English or BBC pronunciation, the word 'network' referring to broadcasting networks. The Introduction to the *Cambridge English Pronouncing Dictionary* describes it as following 'what is frequently heard from professional voices on national network news and information programmes. It is similar to what has been referred to as 'General American', which refers to a geographically, largely non-coastal and socially-based set of pronunciation features' (p. vi) **(Roach:2009)**
247.	**neutralization** – In its simple form, the theory of the **phoneme** implies that 2 sounds that are in **opposition** to each other, e.g. **t** and **d** in English, are in this relationship in all contexts throughout the language. Closer study of phonemes has, however, shown that there are some contexts where the opposition no longer functions: e.g. in a word like '*still*' **stil**, the **t** is in a position, following **s** and preceding a vowel, where voiced, **lenis plosives** do not occur. There is no possibility in English of the existence of a pair of words such as **stil** and **sdil**, so in this context the opposition between **t** and **d** is neutralized. One consequence of this is that one could equally well claim that the plosive in this word is a **d**, not a **t**. Common sense tells us that it is neither, but a different

	phonological unit combining the characteristics of both. Some phonologists have suggested the word '**archiphoneme**' for such a unit. The **i** vowel that we use to represent the vowel at the end of the word '*happy*' could thus be called an **archiphoneme (Roach:2009)**
248.	**neutralization**: **Phonological neutralization** ['fəunə'lodʒikəl 'nju:trəli'zeiʃən] **Фонологик нейтрализация**. Фонологик оппозициянинг маълум холатда нейтрализацияга учраши. Бу уринда маълум оппозициянинг фонологик воситаларидан бир кисми қулланади: архифонема, гиперфонема ва альтернофонеманинг намоён булиши учун шароит яратади. *Мас.*: *китоб* - *китон* **б - п** оппозиция нейтрализацияга учрайди. **Фонологическая нейтрализация**. Нейтрализация фонологической оппозиции в тех позициях, где реализуется только часть фонологических средств у данной оппозиции; условия для реализации архифонемы, гиперфонемы и альтерфонемы. *Напр*., *луг* - *лук* оппозиция **г - к** нейтрализуется. **(Abduazizov:1986)**
249.	**nuclear tone:** the tone associated with the nucleus of a sense-group is a nuclear tone. In RP they are the following: the high falling, the low falling, the high rising, the low rising, the rising-falling, the falling-rising, the rising-falling-rising, the level tone. **(Leontyev:2004)**
250.	**nucleus** – Usually used in the description of **intonation** to refer to the most prominent **syllable** of the **tone-unit**, but also used in Phonology to denote the centre or **peak**, i.e. vowel, of a syllable. It is one of the central principles of the 'standard British' treatment of intonation that continuous speech can be broken up into units called tone-units, and that each of these will have 1 syllable that can be identified as the most **prominent**. This syllable will normally be the starting point of the major pitch movement, nuclear tone, in the tone unit. Another name for the nucleus is the **tonic syllable (Roach:2009)**
251.	**nucleus of a sense-group –** the last stressed syllable of a sense-group. **(Leontyeva:2004)**
252.	**obstruent** – Many different labels are used for types of **consonant**. One very general one that is sometimes useful is obstruent: consonants of this type create a substantial obstruction to the flow of air through the vocal tract. **Plosives**, **fricatives** and **affricates** are **obstruents**; **nasals** and **approximants** are not **(Roach:2009)**
253.	**occlusion** – The term occlusion is used in some Phonetics works as a technical term referring to an **articulatory** posture that results in the vocal tract being completely closed; the fact that the term **closure** is ambiguous supports the use of 'occlusion' for some purposes **(Roach:2009)**
254.	**oesophagus** (*also spelt* **esophagus**) – Situated behind the **trachea** or 'windpipe' in the throat, the oesophagus is the tube down which food passes on its way to the stomach. It normally has little to do with speech, but it is possible for air pressure to build up, involuntarily or voluntarily, in the trachea so as to produce a 'belch'. When people have their **larynx** removed, usually because of cancer, they can learn to use this as an alternative **airstream mechanism** and speak quite effectively **(Roach:2009)**
255.	**onset** – This term is used in the analysis of **syllable** structure and occasionally in other areas; generally it refers to the 1st part of a syllable. In English this may be zero, when no consonant precedes the **vowel** in a syllable, 1 **consonant**, or 2, or 3. There are many restrictions on what **clusters** of consonants may occur in onsets: if an English syllable has a 3-consonant onset, the 1st consonant must be **s** and the last one must be one of **l**, **w**, **j**, **r** **(Roach:2009)**
256.	**open** – One of the labels used for classifying **vowels** is *open*. An open vowel is one in which the tongue is low in the mouth and the jaw lowered: e.g. are **cardinal vowel** № 4 [ɑ] similar to the **a** sound of French, and cardinal vowel № 5 [**ɑ:**] like an exaggerated and old-fashioned English **ɑ:**, as in '*car*'. The term '**low**' is sometimes used instead of '**open**', mainly by American phoneticians and phonologists **(Roach:2009)**
257.	**open syllable –** the type of syllable which ends in a vowel – CV-type. **(Leontyeva:2004)**
258.	**opposition: conjunct opposition** [**kən'dʒʌŋkt əpə'zi:ʃən**] **Бир турдаги**, гомоген **оппозиция** аъзолари; фақат 1 релевант белгига асосланган оппозиция. Оппозициялар приватив, градуаль, эквиполент булади *Мас*.: **p - f**, **t - θ**, **d - ð**, **k - h**, **p - t**, **b - v**, **b -** d, **f - θ**, **v - ð Однородная**, гомогенная **оппозиция**, различающаяся только 1 релевантным признаком. Оппозиции бывают: приватив ные, градуальные, эквиполентные. *Напр*. **p - f**, **t - θ**, **d - ð**, **k - h**, **p - t**, **b - v**, **b - d**, **f - θ**, **v - ð (Abduazizov:1986)**
259.	**opposition: disjunct opposition** ['disdʒʌŋt] **Хар хил турдаги**, гомоген булмаган, **оппозиция** аъзолари 2 ва ундан ортик, релевант белгиларга-асосланган оппозиция. *Мас*.: **p-v**, **b-f**, **p-d**, **b-t**, **m-b**, **b-k Неоднородные**, негомогенные **оппозиции**, т. е. различающиеся только двумя или более релевантными признаками *Напр*. **p-v**, **b-f**, **p-d**, **b-t**, **m-b**, **b-k (Abduazizov:1986)**
260.	**opposition: functional load of opposition** ['fʌnkʃənəl 'ləud əv əpə'zi:ʃən] Оппозициянинг функционал хизмати. У фаркланувчи минимал жуфтларнинг сони ва частотаси билан аниқланади. **Функциональная нагрузка оппозиции**, определяемая числом минимальных пар или частотностью фонем **(Abduazizov:1986)**
261.	**opposition: gradual opposition** [**grædjuəl əpə'zi: ʃən**] **Градуаль**, погонали **оппозиция** - аъзолари бир белгининг турли даражаси билан изохланувчи оппозиция. *Мас*. *узб*. **и - а**, **у - о** тилнинг кутарилиш даражаси билан шундай оппозицияни ташкил этади. **Градуальная**, ступенчатая **оппозиция**, члены которой характеризуются различной степенью или градацией одного и того же признака. *Напр.*, *англ*. **i: - æ**, **i - e**, u: - ə:, **p** - k, **w** – o **(Abduazizov:1986)**
262.	**opposition:** In the study of the **phoneme** it has been felt necessary to invent a number of terms to express the relationship between different phonemes. Sounds which are in opposition to each other are ones which can be

	substituted for each other in a given context, e.g. **t** and **k** in '*patting*' and '*packing*', producing different words. When we look at the whole set of phonemes in a language, we can often find very complex patterns of oppositions among the various groups of sounds **(Roach:2009)**
263.	**opposition: Phonological** phonemic **opposition** [**fəunə'lodʒik(ə)l 'opə'ziʃən**] **Фонологик оппозиция** ёки фонемалар оппозицияси фонемаларни фонологик белгилари асосида карама-карши куйиш оркали суз ва морфемаларни фарқлаш *Mac.*: **бир - сир** каби. **Фонологическая** фонематическая **оппозиция**, различение слов и морфем с помощью противопоставления фонем *Hanp*. **bet - set**, **ball - bought (Abduazizov:1986)**
264.	**opposition: Pluridimensional** multilateral **opposition** [,**plu:ri'daimenʃənəl**] **Куп улчовли оппозиция**, яъни оппозиция аъзоларига тегишли белгилар диси системадаги бошқа аъзоларга хам хос булган оппозиция *Mac*. **b - d - g**; **p - t - k**да портловчи, жарангли, жарангсиз, кучсиз, кучли, белгилари оппозияларнинг учинчи аъзосига хам хос. **Многомерная оппозиция**, совокупность общих признаков не ограничивается только членами данной оппозиции, а распространяется и на другие члены той же системы *Hanp*. в оппозициях **b - d - g**; **p - t - k** – смычность, звонкость, глухость, ленисность, фортисность, повторяется в третьем члене оппозиции **(Abduazizov:1986)**
265.	**opposition: privative opposition** ['**privətiv**] **Приватив оппозиция**, бир аъзоси маълум фаркланиш белгисининг борлигини, иккинчиси эса йуклигини билдирувчи оппозиция. *Mac.*, жарангли - жарангсиз, бурун - огиз, лабланган - лабланмаган, юмшоқ - қаттиқ. **Приватив оппозиция**, один член которой характеризуется наличием, а другой, отсутствием дифференциального признака, *Hanp.*, звонкий - глухой, носовой - ротовой, огубленный - неогубленный, твердость - мягкость (**Abduazizov:1986**)
266.	**oral** – Anything that is given the adjective oral is to do with the mouth. The oral cavity is the main cavity in the **vocal tract**. **Consonants** which are not **nasal**, and **vowels** which are not nasalized, may be called oral **(Roach:2009)**
267.	**oratorical style** – the type of speech with which orators address large audiences. It is characterized by slow rate, eloquent and moving traits **(Leontyeva:2004)**
268.	**orthoepy** – the correct pronunciation of the words of a language. The interpretation of the rules of reading cannot be done without a good command of Phonetics **(Leontyeva:2004)**
269.	**orthoepy** [**ɑ:'θəuipi**] **Орфоэпия** Туғри адабий талаффуз нормаларининг йигиндиси. Совокупность норм правильного литературного произношения **(Abduazizov:1986)**
270.	**Oxford accent** – Some writers on English accents have attempted to subdivide '**Received Pronunciation**' into different varieties. Although the 'Oxford accent' is usually taken to be the same thing as RP, it has been suggested that it may differ from that, particularly in **prosody**. There seems to be no scientific evidence for this, but the effect is supposed to be one of dramatic **tempo** variability, with alternation between extremely rapid speech on the one hand and excessive hesitation noises and drawled passages on the other. This is all rather fanciful, however, and should not be taken too seriously; if the notion has any validity, it is probably only in relation to an older generation **(Roach:2009)**
271.	**palatalization** – It is difficult to give a precise definition of this term, since it is used in a number of different ways; e.g. it may be used to refer to a process whereby the place of an **articulation** is shifted nearer to or actually on to, the centre of the hard **palate**: the **s** at the end of the word '*this*' may become palatalized to ʃ when followed by **j** at the beginning of '*year*', giving **ðiʃ jiə**. *See* **coalescence**. However, in addition to this sense of the word we also find palatalization being described as a **secondary articulation** in which the front of the **tongue** is raised close to the palate while an articulatory closure is made at another point in the **vocal tract**: in this sense, it is possible to find a palatalized **p** or **b**. Palatalization is widespread in most Slavonic languages, where there are pairs of palatalized and non-palatalized consonants. The release of a palatalized consonant typically has a **j**-like quality **(Roach:2009)**
272.	**palate**, **palatal** – The palate is sometimes known as the 'roof of the mouth' though the word 'ceiling' would seem to be more appropriate. It can be divided into the hard palate, which runs from the **alveolar ridge** at the front of the mouth to the beginning of the **soft palate** at the back, and the soft palate itself, which extends from the rear end of the hard palate almost to the back of the throat, terminating in the **uvula**, which can be seen in a mirror if you look at yourself with the mouth open. The hard palate is mainly composed of a thin layer of bone, which has a front-to-back split in it in the case of people with cleft palate, and is dome-shaped, as you can feel by exploring it with the tip of the tongue. The soft palate, for which there is an alternative name, **velum** can be raised and lowered; it is lowered for normal breathing and for **nasal** consonants, and raised for most other speech sounds. Consonants in which the tongue makes contact with the highest part of the hard palate are labelled palatal. These include the English **j** sound **(Roach:2009)**
273.	**Paradigmatics** [paeradlgmatlks] **Парадигматика**. Тилдаги бирликларни унинг системасида бирлашган синфлар, группалар ва тартибига қараб, уларни узаро қарама-қарши қуйиш *Mac.*: **x - y** Рассмотрение единиц языка как элементов системы, как структурных единиц, объединяемых в классы, группы и т.д., и их противопоставления *Hanp*. **x - y (Abduazizov:1986)**
274.	**Paralinguistic(s)** It is often difficult to decide, which of the features of speech that we can observe, are part of the language or linguistic system and which are outside it. We are usually confident in classing **vowel** and **consonant** sounds as linguistically relevant, and in excluding coughs and sneezes, since these are never used contrastively. But there are various features that are '**borderline**', and the general term

	paralinguistic is often used for such features: these can include such things as different **voice qualities**, gestures, facial expressions and unusual ways of speaking such as laughing at the same time as speaking. Linguists disagree about which of these form part of the sound system of the language **(Roach:2009)**
275.	**Paralinguistics** [ˌpærə'liŋguistiks] **Паралингвистика**. Турли имоишора ва мимика, кинесика, хамда овоз сифати, фонацияни, урганувчи тилшунослик булимии. Раздел языкознания, изучающий жесты, мимику, кинесика, и качество голоса, фонация, человека в совокупности **(Abduazizov:1986)**
276.	**passive articulator** – Articulators are the parts of the body that are used in the production of speech. Some of these e.g. the **tongue**, the **lips**, can be moved, while others, e.g. the hard **palate**, the teeth, are fixed. Fixed articulators are sometimes called passive articulators, and their most important function is to act as the place of an articulatory **stricture (Roach:2009)**
277.	**pause** – a short period of time when sound stops before starting again. Pauses are non-obligatory between sense-groups and obligatory between sentences **(Leontyeva:2004)**
278.	**pause** – The most obvious purpose of a pause is to allow the speaker to draw breath, but we pause for a number of other reasons as well. One type of pause that has been the subject of many studies by psycholinguists is the "planning pause", where the speaker is assumed to be constructing the next part of what (s)he is going to say, or is searching for a word that is difficult to retrieve. As every actor knows, pauses can also be used for dramatic effect at significant points in a speech. From the phonetic point of view, pauses differ from each other in 2 main ways: 1) the length of the pause; 2) whether the pause is silent or contains a 'hesitation noise'.*See also* **hesitation (Roach:2009)**
279.	**peak** – In the phonological study of the **syllable** it is conventional to give names to its different components. The centre of the syllable is its peak; this is normally a **vowel**, but it is possible for a **consonant** to act as a peak instead. *See* **syllabic consonant (Roach:2009)**
280.	**peaks of prominence** – the points of maximal acoustic activity of tone **(Leontyeva:2004)**
281.	**peculiarity** – a feature which characterizes some phonetic phenomenon **(Leontyeva:2004)**
282.	**perception** – Most of the mental processes involved in understanding speech are unknown to us, but it is clear that discovering more about them can be very important in the general study of pronunciation. It is clear from what we know already that perception is strongly influenced by the listener's expectations about the speaker's voice and what the speaker is saying; many of the assumptions that a listener makes about a speaker are invalid when the speaker is not a native speaker of the language, and it is hoped that future research in speech perception will help to identify which aspects of speech are most important for successful understanding and which type of learner error has the most profound effect on intelligibility **(Roach:2009)**
283.	**periodicity** – the quality or fact of recurring at constant intervals **(Leontyeva:2004)**
284.	**pharynx** – This is the tube which connects the **larynx** to the oral cavity. It is usually classed as an **articulator**; the best-known language that has consonants with pharyngeal or pharyngal place of articulation is Arabic, most dialects of which have voiced and voiceless pharyngeal **fricatives** made by constricting the muscles of the pharynx and usually also some of the **larynx** muscles, to create an obstruction to the airflow from the **lungs (Roach:2009)**
285.	**phatic communion** – This is a rather pompous name for an interesting phenomenon: often when people appear to be using language for social purposes it seems that the actual content of what they are saying has virtually no meaning; e.g. greetings containing an apparent enquiry about the listener's health or a comment on the weather are usually not expected to be treated as a normal enquiry or comment. What is interesting from the pronunciation point of view is that such interactions only work if they are said in a **prosodically** appropriate way: it has been claimed that when welcoming a guest to a lively party one could announce, without anyone noticing anything wrong, that one had just finished murdering one's grandmother, as long as one used the appropriate **intonation** and facial expression for a greeting **(Roach:2009)**
286.	**phonation** – This is a technical term for the vibration of the **vocal folds**; it is more commonly known as **voicing (Roach:2009)**
287.	**phone** – The term **phoneme** has become very widely used for a contrastive unit of sound in language: however, a term is also needed for a unit at the phonetic level, since there is not always a one-to-one correspondence between units at the 2 levels; e.g. the word '*can't*' is phonemically **kɑ:nt**, 4 phonemic units, but may be pronounced **kãt** with the **nasal** consonant phoneme absorbed into the preceding **vowel** as nasalization, 3 phonetic units. The term *phone* has been used for a unit at the phonetic level, but it has to be said that the term, though useful, has not become widely used; this must be at least partly due to the fact that the word is already used for a much more familiar object **(Roach:2009)**
288.	**phone**, phonic ['fəun] **Фон**, **фоник** товуши; товуш жиҳати **Фон**, **фонический** звук речи; звуковой **(Abduazizov:1986)**
289.	**phoneme** – the shortest functional unit of a language. Each phoneme exists in speech in the form of mutually non-distinctive speech sounds, its allophones. Each speech sound is an allophone of some phoneme **(Leontyeva:2004)**
290.	**phoneme** – This is the fundamental unit of **Phonology**, which has been defined and used in many different ways. Virtually all theories of Phonology hold that spoken language can be broken down into a string of sound units, phonemes, and that each language has a small, relatively fixed set of these phonemes. Most phonemes

	can be put into groups; e.g. in English we can identify a group of **plosive** phonemes **p**, **t**, **k**, **b**, **d**, **g**, a group of voiceless **fricatives f**, **θ**, **s**, **ʃ**, **h**, and so on. An important question in Phoneme Theory is how the analyst can establish what the phonemes of a language are. The most widely accepted view is that phonemes are **contrastive** and one must find cases where the difference between 2 words is dependent on the difference between 2 phonemes: e.g. we can prove that the difference between '*pin*' and '*pan*' depends on the vowel, and that **i** and **æ** are different phonemes. Pairs of words that differ in just 1 phoneme are known as **minimal pairs**. We can establish the same fact about **p** and **b** by citing '*pin*' and '*bin*'. Of course, you can only start doing **commutation** tests like this when you have a provisional list of possible phonemes to test, so some basic phonetic analysis must precede this stage. Other fundamental concepts used in phonemic analysis of this sort are **complementary distribution**, **free variation**, **distinctive feature** and **allophone**. Different analyses of a language are possible: in the case of English some phonologists claim that there are only 6 vowel phonemes, others that there are 12 or more, it depends on whether you count **diphthongs** and long vowels as single phonemes or as combinations of 2 phonemes. It used to be said that learning the pronunciation of a language depended on learning the individual phonemes of the language, but this 'building-block' view of pronunciation is looked on nowadays as an unhelpful oversimplification **(Roach:2009)**
291.	**phoneme** ['**fəuni:m**] **Фонема**. Фонологик бирлик; сузлар ва морфемаларни узаро фарклашга хизмат килувчи энг кичик тил бирлиги. *Мас.*: **к**он - **н**он, **б**ир - **к**ир каби. **Фонема**, фонологическая единица. Наименьшая единица системы языка, служащая для различения слов и морфем. *Напр.*, **t**all - **b**all, **s**it - **l**it **(Abduazizov:1986)**
292.	**phoneme**: **Aspects of a phoneme**: a phoneme is a dialectical unity of 3 aspects: 1) material, real and objective 2) abstract and generalized 3) functional **(Leontyeva:2004)**
293.	**phoneme: facultative Optional phoneme** ['**fækultətiv 'fəuni:m**] **Факультатив фонема**. Баъзи холатларда, чегараланган сузлар группасида, тилнинг алохида территориал ва социал турида сузлашувчилар томонидан, доимий равишда алмаштирилувчи фонеманинг варианти. Инглизча [**ʍ**], [**hw**], [**ɔə**] факультатив фонемалар булиб, [**hw**] ва [**ɔ:**] билан алмаштирилиши мумкин **Факультативная фонема**. Вариант фонемы, регулярно замещающий её в некоторых позициях или в ограниченной группе слов, в речи носителей отдельных территориальных или социальных разновидностей языка. В *англ.* [**ʍ**] или [**hw**] : [**ʍit**ʃ] *which* [**hwit**ʃ] [**ɔə**] заменяемая обычно с [**ɔ:**], считаются факультативными фонемами **(Abduazizov:1986)**
294.	**Phoneme: glide** – We think of speech in terms of individual speech sounds such as **phonemes**, and it is all too easy to assume that they have clear **boundaries** between them like letters on a printed page. Sometimes in speech we can find clear boundaries between sounds, and in others we can make intelligent guesses at the boundaries though these are difficult to identify; in other cases, however, it is clear that a more or less gradual glide from one quality to another is an essential part of a particular sound. An obvious case is that of **diphthongs**: in their case the glide is comparatively slow. Some sounds which are usually classed as **consonants** also involve glides: these include '**semivowels**'; some modern works on Phonetics and Phonology also class the glottal fricative **h** and the **glottal stop ʔ** as glides. This is a perplexing and almost contradictory use of the word '*glide*', especially in the latter case **(Roach:2009)**
295.	**phoneme**: **Non-distinctive feature of the phoneme** ['**nʌn 'distinktiv 'fi:tʃə əv ðə 'fəunim**] **Фонеманинг фонологик булмаган фаркланмовчи белгиси**; бир фонемани иккинчисидан фарклаш учун хизмат килмайдиган белгилар. *Мас.*: **т - к** оппозициясида фонемаларнинг жарангсиз, портловчи белгилари фонологик эмас **Недистинктивные**, неразличительные, недифференциальные, **признаки фонемы**, признаки, не служащие для различения фонем. *Напр.*, различия между придыхательными $\mathbf{p^h}$, $\mathbf{t^h}$, $\mathbf{k^h}$ и непридыхательными **p**, **t**, **k** звуками не служат для различения фонем, а считаются признаками их аллофонов, находящихся в дополнительной дистрибуции. **(Abduazizov:1986)**
296.	**phoneme: realization** – As a technical term, this word is used to refer to the act of pronouncing a **phoneme**. Since phonemes are said to be abstract units, they are not physically real. However, when we speak we produce sounds, and these are the physical realizations of the phonemes. Each realization is different from every other, since you can never do exactly the same thing twice, but also some realizations are noticeably different in quality from others, e.g. the English phoneme **l** is sometimes realized as a '**clear l**' and sometimes as a '**dark** ɫ'. In this case it is more appropriate to call the sounds **allophones (Roach:2009)**
297.	**phoneme**:**Functions of a Phoneme**: in speech a phoneme performs 3 functions: distinctive, constitutive and identificatory, recognitive; they are inseparable **(Leontyeva:2004)**
298.	**phonemic component**: this component of the phonetic structure manifests itself in the system of separate phonemes and their allophones **(Leontyeva:2004)**
299.	**Phonemics** – When the importance of the **phoneme** became widely accepted, in the 1930s and 1940s, many attempts were made to develop scientific ways of establishing the phonemes of a language and listing each phoneme's **allophones**; this was known as *phonemics*. Nowadays little importance is given to this type of analysis, and it is considered a minor branch of Phonology, except for the practical purpose of devising writing

	systems for previously unwritten languages **(Roach:2009)**
300.	**Phonetic System** – a systemic combination of 5 components of the language: 1) the system of segmental phonemes 2) the phonemic component 3) the syllabic component 4) the accentual component (relating to accent – stress and pitch combined) 5) intonation **(Leontyeva:2004)**
301.	**Phonetics** – is the scientific study of speech. It has a long history, going back certainly too well over 2000 years ago. The central concerns in Phonetics are the discovery of how speech sounds are produced, how they are used in spoken language, how we can record speech sounds with written **symbols** and how we hear and recognize different sounds. In the 1st of these areas, when we study the production of speech sounds we can observe what speakers do, **articulatory** observation, and we can try to feel what is going on inside our vocal tract, **kinaesthetic** observation. The 2nd area is where Phonetics overlaps with Phonology: usually in Phonetics we are only interested in sounds that are used in meaningful speech, and phoneticians are interested in discovering the range and variety of sounds used in this way in all the known languages of the world. This is sometimes known as Linguistic Phonetics. 3rd, there has always been a need for agreed conventions for using phonetic symbols that represent speech sounds; the **International Phonetic Association** has played a very important role in this. 4th, the **auditory** aspect of speech is very important: the ear is capable of making fine discrimination between different sounds, and sometimes it is not possible to define in articulatory terms precisely what the difference is. A good example of this is in **vowel** classification: while it is important to know the position and shape of the **tongue** and **lips**, it is often very important to have been trained in an agreed set of standard auditory qualities that vowels can be reliably related to. *See* **cardinal vowel**; other important branches of Phonetics are **experimental**, **instrumental** and **acoustic (Roach:2009)**
302.	**Phonetics** – the science that studies the sound matter of the language, its semantic functions and the lines of development **(Leontyeva:2004)**
303.	**Phonetics** [**fəu'netiks**] **Фонетика** тилнинг товуш жихатини урганувчи фан. Наука, изучающая звуковую сторону языка. **(Abduazizov:1986)**
304.	**Phonetics: Acoustic Phonetics –** An important part of phonetics is the study of the physics of the speech signal: when sound travels through the air from the speaker's mouth to the hearer's ear it does so in the form of vibrations in the air. It is possible to measure and analyze these vibrations by mathematical techniques, usually by using specially-developed computer software to produce spectrograms. Acoustic phonetics also studies the relationship between activity in the speaker's **vocal tract** and the resulting sounds. Analysis of speech by acoustic phonetics is claimed to be more objective and scientific than the traditional auditory method which depends on the reliability of the trained human ear **(Roach:2009)**
305.	**Phonetics: Acoustics [ə'ku:stiks] Acoustic Phonetics Акустика**. Физиканинг товуш тулкинини урганади ва шу сабабли фонетика билан боглик Акустик фонетика Раздел физики, исследующий звуковые волны и, имеющий отношение к фонетике. **Акустическая фонетика (Abduazizov:1986)**
306.	**Phonetics: comparative-typological** contrastive, confrontative **Phonetics Киёсий-типологик фонетика**. 2 ёки ундан ортик, тилларнинг фонетик системасини киёсий урганиш. **Сравнительно-типологическая фонетика**, тип фонетики, сравнивающий 2 или более разносистемных языка **(Abduazizov:1986)**
307.	**Phonetics: Experimental Phonetics** – quite a lot of the work done in phonetics is *descriptive*, providing an account of how different languages and accents are pronounced, and some is *prescriptive*, stating how they ought to be pronounced. But an increasing amount of phonetic research is *experimental*, aimed at the development and scientific testing of hypotheses. Experimental Phonetics is quantitative, based on numerical measurement. It makes use of controlled experiments, which means that the experimenter has to make sure that the results could only be caused by the factor being investigated and not by some other; e.g. in an experimental test of listeners' responses to **intonation** patterns produced by a speaker, if the listeners could see the speaker's face as the items were being produced it would be likely that their judgments of the intonation would be influenced by the facial expressions produced by the speaker rather than or as well as by the **pitch** variations. This would therefore not be a properly controlled experiment. Experimental research is carried out in all fields of Phonetics: in the **articulatory** field, we measure and study how speech is produced, in the **acoustic** field we examine the relationship between articulation and the resulting acoustic signal, and look at physical properties of speech sounds in general, while in the **auditory** field we do perceptual tests to discover how the listener's ear and brain interpret the information in the speech signal. The great majority of experimental research makes use of instrumental phonetic techniques and laboratory facilities, though in principle it is possible to carry out reasonably well controlled experiments with no instruments. A classic example is Labov's study of the pronunciation of **r** in the words '*fourth floor*' in New York department stores of different levels of prestige, a piece of low-cost research that required only a notebook and pencil. This should be compulsory reading for anyone applying for a large research grant **(Roach:2009)**
308.	**Phonetics: Functional Phonetics** – the branch of Phonetics which studies the purely linguistic aspect of speech sounds **(Leontyeva:2004)**
309.	**Phonetics: Instrumental** ['**instru'mentəl**] **Experimental Method of Phonetics** Экспериментал-фонетик метод. Товуш хусусиятларини алохида аппаратлар: кимограф, спектрограф, осциллограф, рентген ва х.ж. ёрдамида урганувчи метод Инструментальные, экспериментальные, методы фонетики; исследование звуковых явлений с помощью аппаратур: осциллографа, спектрографа, рентгена,

	кимографами т.д. **(Abduazizov:1986)**
310.	**Phonetics**: **Instrumental Phonetics** – The field of phonetics can be divided up into a number of sub-fields, and the term 'instrumental' is used to refer to the analysis of speech by means of instruments; this may be **acoustic**, the study of the vibration in the air caused by speech sounds or **articulatory**, the study of the movements of the articulators which produce speech sounds. Instrumental Phonetics is a quantitative approach – it attempts to characterize speech in terms of measurements and numbers, rather than by relying on listeners' impressions. Many different instruments have been devised for the study of speech sounds. The best known technique for acoustic analysis is **spectrography**, in which a computer produces a 'picture' of speech sounds. Such computer systems can usually also carry out the analysis of **fundamental frequency** for producing 'pitch displays'. For analysis of articulatory activity there are many instrumental techniques in use, including radiography **X-rays** for examining activity inside the **vocal tract**, laryngoscopy for inspecting the inside of the **larynx**, palatography for recording patterns of contact between tongue and **palate**, glottography for studying the vibration of the **vocal folds** and many others. Measurements of **airflow** from the vocal tract and of air pressure within it also give us a valuable indirect picture of other aspects of **articulation**. Instrumental techniques are usually used in Experimental Phonetics, but this does not mean that all instrumental studies are experimental: when a theory or hypothesis is being tested under controlled conditions the research is experimental, but if one simply makes a collection of measurements using instruments this is not the case **(Roach:2009)**
311.	**Phonetics: Physiological** Articulatory **Phonetics Физиологик** артикулятор **фонетика**, товуш ходисаларининг талаффуз жихатини урганади. **Физиологическая** артикуляторная **фонетика**, изучающая артикуляционную сторону звуковых явлений **(Abduazizov:1986)**
312.	**Phonetics: Social Phonetics** ['səu͡iəl fəu'netiks] **Социофонетика**. Социал диалектларга, кишиларнинг социал группаси, хос фонетик хусусиятларни урганувчи фонетиканинг булими. Раздел фонетики, изучающий фонетические особенности диалектов, социальных групп людей (**Abduazizov:1986**)
313.	**phonological mistakes** – connected with the alteration of the meaning of words,which prevent communication **(Leontyeva:2004)**
314.	**phonological opposition** – a pair of words in which any one phoneme is usually opposed to any other phoneme in at least 1 lexical or grammatical minimal or sub-minimal pair, e. g. [**t** – **d**], [**k** – **g**] in *ten* – *den*, *coat* – *goat* **(Leontyeva:2004)**
315.	**Phonology** – The most basic activity in Phonology is **phonemic analysis**, in which the objective is to establish what the phonemes are and arrive at the phonemic inventory of the language. Very few phonologists have ever believed that this would be an adequate analysis of the sound system of a language: it is necessary to go beyond this. One can look at **Supra-segmental Phonology** – the study of **stress**, **rhythm** and **intonation**, which has led in recent years to new approaches to Phonology such as **Metrical** and **Auto-segmental** Theory; one can go beyond the phoneme and look into the detailed characteristics of each unit in terms of **distinctive features**; the way in which sounds can combine in a language is studied in **Phonotactics** and in the analysis of **syllable** structure. For some phonologists the most important area is the relationships between the different phonemes – how they form groups, the nature of the **oppositions** between them and how those oppositions may be **neutralized**. Until the 2nd half of the 20th c. most Phonology had been treated as a separate 'level' that had little to do with other 'higher' areas of language such as Morphology and Grammar. Since the 1960s the subject has been greatly influenced by **Generative Phonology**, in which Phonology becomes inextricably bound up with these other areas; this has made contemporary Phonology much harder to understand, but it has the advantage that it no longer appears to be an isolated and self-contained field **(Roach:2009)**
316.	**Phonology** – the science that deals with phonemes and their sequences. It is Functional Phonetics since it investigates the functional side of phonemes, accent, syllable and intonation **(Leontyeva:2004)**
317.	**Phonology** ['**fəunoləʤi**] **Фонология** фонетиканинг тилдаги товуш жихатининг функционал томонларини урганувчи булими. Раздел фонетики, изучающий функциональную сторону звуковых явлений языка. **(Abduazizov:1986)**
318.	**Phonology: Auto Segmental Phonology –** One fairly recent development in **phonology** is one which attempts to separate out the phonological material of an utterance into components on different levels, e.g. if we give a fall–rise intonation pattern to the following two utterances: \/**some** and \/**some of them** – the **pitch** movement is phonologically the same object in both cases, but stretches over a longer sequences of **syllables** in the second case. We can make up similar examples in terms of **rhythm**, using the unit of the **foot**, and auto segmental phonology is closely linked to **Metrical Phonology**. Although this is an approach that was mainly developed in the 1990s in America, it is very similar to the Prosodic Phonology proposed by J. R. Firth and his associates at the School of Oriental and African Studies of London University in the 1940s and 50s. **(Roach:2009)**
319.	**Phonology**: **Generative Phonology** – A major change in the Theory of **Phonology** came about in the 1960s when many people became convinced that important facts about the sound systems of languages were being missed by phonologists who concentrated solely on the identification of **Phonemes** and the analysis of relationships between them. Work by Morris Halle, later joined by Noam Chomsky, showed that there were many sound processes which, while they are observable in the Phonology, are actually regulated by Grammar

	and Morphology; e.g. the following pairs of English **diphthongs** and **vowels** had previously been regarded as unrelated: **ai** and **i**; **i:** and **e**; **ei** and **æ**; however, in word-pairs such as '*divine*' **divain** and '*divinity*' **divinəti**, '*serene*' **səri:n** and '*serenity*' **sərenəti** and '*profane*' **prəfein** and '*profanity*' **prəfænəti** there are 'alternations' that form part of what native speakers know about their language. Similarly, traditional Phoneme Theory would see no relationship between **k** and **s**, yet there is a regular alternation between the 2 in pairs such as '*electric*' **ilektrik** – '*electricity*' **ilektrisəti** or '*toxic*' **tɒksik** – '*toxicity*' **tɒksisəti**. It was claimed that beneath the physically observable, 'surface', string of sounds that we hear there is a more abstract, unobservable 'underlying' phonological form. If such alternations are accepted as a proper part of Phonology, it becomes necessary to write rules that state how they work: these rules must regulate such changes as substitutions, deletions and insertions of sounds in specific contexts, and an elaborate method of writing these rules in an algebra-like style was evolved: this can be seen in the best known Generative phonological treatment of English, *The Sound Pattern of English*, Chomsky and Halle 1968. This type of Phonology became extremely complex; it has now been largely replaced by newer approaches to Phonology, many of which, despite rejecting the theory of the *Sound Pattern of English*, are still classed as generative since they are based on the principle of an abstract, underlying phonological representation of speech which needs rules to convert it into phonetic realizations **(Roach:2009)**
320.	**Phonology: Metrical Phonology** – This is a comparatively recent development in Phonological Theory, and is one of the approaches often described as 'non-linear'. It can be seen as a reaction against the overriding importance given to the phonemic **segment** in most earlier theories of Phonology. In Metrical Phonology great importance is given to larger units and their relative strength and weakness; e.g. there is considerable interest in the structure of the **syllable** itself and in the patterns of strong and weak that one finds among neighbouring syllables and among the words to which the syllables belong. Another area of major interest is the rhythmical nature of speech and the structure of the **foot**: Metrical Phonology attempts to explain why **shifts in word stress** occur as a result of context, giving alternations like thir**`teen** *but* **`thir**teenth **`place**; com**`pact** *but* **`com**pact **`disc**. The metrical structure of an utterance is usually diagrammed in the form of a tree diagram, metrical trees, though for the purposes of explaining the different levels of stress found in an utterance more compact 'metrical grids' can be constructed. This approach can be criticized for constructing very elaborate hypotheses with little empirical evidence, and for relying exclusively on a binary relationship between elements where all polysyllabic sequences can be reduced to pairs of items of which one is strong and the other is weak. *See more* in *English Phonetics and Phonology*, Section 14.1**(Roach:2009)**
321.	**Phonostylistics** [**fəunəu'stailistiks**] **Фоностилистика**. Стилистиканинг талаффуздаги эмоционал-экспрессив воситаларни урганувчи булими. Интонация билан боғлиқ қисмини баъзан «Интонацион стилистика» деб хам аталади. Раздел стилистики, изучающий эмоционально-экспрессивные средства произношения. Иногда ее часть, связанную с интонацией, называют интонационной стилистикой (**Abduazizov:1986**)
322.	**Phonotactics** – It has often been observed that languages do not allow **phonemes** to appear in any order; a native speaker of English can figure out fairly easily that the sequence of phonemes **streŋθs** makes an English word '*strengths*', that the sequence **bleidʒ** would be acceptable as an English word '*blage*' although that word does not happen to exist, and that the sequence **lvə:ʒm** could not possibly be an English word. Knowledge of such facts is important in Phonotactics, the study of sound sequences. Although it is not necessary to do so, most phonotactic analyses are based on the **syllable**. Phonotactic studies of English come up with some strange findings: certain sequences seem to be associated with particular feelings or human characteristics, for no obvious reason. Why should '*bump*', '*lump*', '*hump*', '*rump*', '*mump*(*s*)', '*clump*' and others all be associated with large blunt shapes? Why should there be a whole family of words ending with a plosive and a syllabic **l** all having meanings to do with clumsy, awkward or difficult action: '*muddle*', '*fumble*', '*straddle*', '*cuddle*', '*fiddle*', '*buckle*' (v), '*struggle*', '*wriggle*'? Why can't English syllables begin with **pw**, **bw**, **tl**, **dl** when **pl**, **bl**, **tw**, **dw** are acceptable? **(Roach:2009)**
323.	**pitch** – is an **auditory** sensation: when we hear a regularly vibrating sound such as a note played on a musical instrument, or a **vowel** produced by the human voice, we hear a high pitch if the rate of vibration is high and a low pitch if the rate of vibration is low. Many speech sounds are voiceless, e.g. **s**, and cannot give rise to a sensation of pitch in this way. The pitch sensation that we receive from a voiced sound corresponds quite closely to the frequency of vibration of the **vocal folds**; however, we usually refer to the vibration frequency as **fundamental frequency** in order to keep the 2 things distinct. Pitch is used in many languages as an essential component of the pronunciation of a word, so that a change of pitch may cause a change in meaning: these are called **tone languages**. In most languages, whether or not they are tone languages, pitch plays a central role in **intonation (Roach:2009)**
324.	**pitch** – the degree of highness or lowness varying with the number of the vibrations of the vocal cords and determining the tone of the voice, an acoustic basis of speech melody **(Leontyeva:2004)**
325.	**pitch range** – In studying **tone** and **intonation**, it is very important to remember that each person has her or his own pitch range, so that what is high pitch for a person with a low-pitched voice may be the same as low pitch for a person with a high-pitched voice. Consequently, whatever we say about a speaker's use of pitch

	must be relative to that person's personal pitch range. Each of us has a highest and a lowest pitch level for speaking, though we may occasionally go outside that range when we are very emotional **(Roach:2009)**
326.	**pitch**: **Abrupt change in pitch [a'brʌpt't͡ʃeindʒ əv'pit͡ʃ]** Тон баландлигининг тусатдан узгариши. Тон одатда кутарилади, охангнинг изчиллигини узгартириб, маъно группаси ичида яки синтагмада, маънонинг турлича узгаришига олиб келади. **Крутой сдвиг высоты тона**. Перерыв постепенности мелодии. Резкое изменение: обычно повышение голоса, прерывающее постепенность движения мелодии и вызывающее в пределах смысловой группы или в синтагме различные модификации ее смыслового содержания **(Abduazizov:1986)**
327.	**place of articulation** – **Consonants** are made by producing an obstruction to the **flow of air** at some point in the vocal tract, and when we classify consonants one of the most important things to establish is the place where this obstruction is made; this is known as the place of articulation, and in conventional phonetic classification each place of articulation has an adjective that can be applied to a consonant. To give a few e.g. of familiar sounds, the place of articulation for **p**, **b** is **bilabial**, for **f**, **v labiodental**, for **θ**, **ð dental**, for **t**, **d alveolar**, for ʃ, **ʒ post-alveolar**, for **k**, **ɡ velar**, and for **h glottal**. The full range of places of articulation can be seen on the **IPA chart**. Sometimes it is necessary to specify more than one place of articulation for a consonant, for one of 2 reasons: firstly, there may be a **secondary articulation** – a less extreme obstruction to the airflow, but one which is thought to have a significant effect; secondly, some languages have consonants that make 2 simultaneous constrictions, neither of which could fairly be regarded as taking precedence over the other. A number of West African languages, such as Igbo, have consonants which involve simultaneous plosive closures at the lips and at the velum, as in, e.g. the labial-velar stops **kp**, **ɡb** found in Igbo and Yoruba **(Roach:2009)**
328.	**plosion** – When a **plosive** is released and is followed by a **vowel** or a **pause**, there is usually a small explosive noise made as the compressed air escapes. This is easier to hear in the case of English voiceless or fortis plosives, though this effect is sometimes masked by **glottalization (Roach:2009)**
329.	**plosive** – In many ways it is possible to regard plosives as the most basic type of **consonant**. They are produced by forming a complete obstruction to the **flow of air** out of the mouth and nose, and normally **this results** in a build-up of compressed air inside the chamber formed by the closure. When the closure is released, there is a small explosion, *see* **plosion** that causes a sharp noise. Plosives are among the first sounds that are used by children when they start to speak, though **nasals** are likely to be the very 1st consonants. The basic plosive consonant type can be exploited in many different ways: plosives may have any **place of articulation**, may be voiced or voiceless and may have an egressive or ingressive airflow. The airflow may be from the lungs, **pulmonic**, from the **larynx**, **glottalic** or generated in the mouth **velaric**. We find great variation in the release of the plosive **(Roach:2009)**
330.	**plosive** ['**pləuziv**] consonants **Портловчи уидошлар**, хаво окимининг каттиқ тусиққа учраши билан хосил булувчи товушлар. *Мас.*: **п**, **б**, **т**, **д Взрывные согласные**, артикулируемые путем быстрого устранения полной преграды, освобождающей сжатый в замкнутых полостях воздух. *Напр.*, **p**, **t**, k, **b**, **d**, **g** (**Abduazizov:1986**)
331.	**polysyllabic** – A linguistic unit such as a word, morpheme or phrase is polysyllabic if it contains more than one **syllable (Roach:2009)**
332.	**power of opposition** ['**pauə əv əpə'zi͡ʃən**] **Оппозициянинг кучи**, яъни оппозицияга кирувчи фонемалар сони. Фонемалар сонига кура оппозициялар кучли ва кучсиз булади **Сила оппозиции**, включение числа фонем в оппозицию. В зависимости от числа фонем оппозиции различаются большей/меньшей силой оппозиции (**Abduazizov:1986**)
333.	**Pragmatics** – In analyzing different styles of speech, and studying the use of **prosody**, it is very important to be able to specify what the objective of the speaker of a particular **utterance** was: studying speech and language data out of context has been a serious weakness of many past studies. Pragmatics is a field of study that concerns itself with the social, communicative and practical use of language, and has become recognized as a vital part of linguistics. Work in this field looks at such things as the presuppositions and background knowledge that language users need to have in order to communicate, the strategies they adopt in order to make a point convincingly and the kinds of function that language is used for **(Roach:2009)**
334.	**Prague** ['**pra:g**] **Linguistic School Прага мактаби**, структурал-функционал оқим булиб, тилнинг ифода ва мазмун томонлари уртасидаги алоқани урганади. Бу мактаб намоёндалари В. Матезиус, В. Скаличка, Б. Трнка, Й. Вахек, Н.С. Трубецкой ва бошкалар **Пражская лингвистическая школа**, функционально-структурное направление, исследующее отношение плана выражения и плана содержания языка; представителями являются: В. Матезиус, Н.С. Трубецкой, В. Скаличка, Б. Трнка, И. Вахек и др. (**Abduazizov:1986**)
335.	**pre-fortis clipping** – **Fortis** consonants have the effect of shortening a preceding vowel or **sonorant** consonant, so that, e.g. 'bit' has a shorter vowel than 'bid'. This effect is sometimes called pre-fortis clipping **(Roach:2009)**
336.	**proclitic** – a monosyllabic word or particle with no accent of its own, which is pronounced with the following pre-tonic, having secondary stress or accented syllable as 1 phonetic unit **(Leontyeva:2004)**

337.	**proclitics** ['**prə(u)klitiks**] **Проклитика**. Ургусиз сузни ургулидан олдин ушаб талаффуз қилиш Безударное слово, примыкающее к последующему ударному слову и образующее с ним слитное фонетическое единство (**Abduazizov:1986**)
338.	**prominence** – 'Stress' or 'accentuation' depends crucially on the speaker's ability to make certain **syllables** more noticeable than others. A syllable which 'stands out' in this way is a prominent syllable. An important thing about prominence, at least in English, is the fact that there are many ways in which a syllable can be made prominent: experiments have shown that prominence is associated with greater **length**, greater **loudness**, **pitch** prominence, i.e. having a pitch level or movement that makes a syllable stand out from its context, and with 'full' vowels and diphthongs, whereas the vowels **ə** '**schwa**', **i**, **u** and **syllabic consonants** are only found in unstressed syllables. Despite the complexity of this set of interrelated factors, it seems that the listener simply hears syllables as more prominent or less prominent **(Roach:2009)**
339.	**prominence** – singling out acoustically, which produces the effect of greater loudness **(Leontyeva:2004)**
340.	**pronouncing dictionary**; **pronunciation dictionary** – It is probably only the English language, with its complex and unpredictable spelling system, that needs a special kind of dictionary to tell you how to pronounce words which you know how to write. With a pronouncing dictionary, the user looks up the required word in its spelling form and reads the pronunciation in the form of phonetic or phonemic transcription. Actually, one of the earliest pronunciation dictionaries, published in 1913, worked the other way round, giving the spelling for a word which the user already knew and looked up in phonemic form. It is not reported to have been a big success. Normally, several alternative pronunciations will be offered, with an indication of which is the most usual and possibly some information on other **accents**, e.g. a dictionary based on the **BBC accent**, or '**Received Pronunciation**', might also give one or more American pronunciation for a word. The importance of pronouncing dictionaries has declined to some extent in recent years as most modern English-language dictionaries now include pronunciation information in phonemic transcription for each entry, but they are still widely used **(Roach:2009)**
341.	**pronunciation** – It is not very helpful to be told that pronunciation is the act of producing the sounds of a language. The aspects of this subject that concern most people are: 1) standards of pronunciation and 2) the learning of pronunciation. In the case of 1) standards of pronunciation, the principal factor is the choice of model accent: once this decision is made, any deviation from the model tends to attract criticism from people who are concerned with standards; the best-known e.g. of this is the way people complain about 'bad' pronunciation in an 'official' speaker of the BBC, but similar complaints are made about the way children pronounce their native language in school, or the way immigrant children fail to achieve native-speaker competence in the pronunciation of the 'host' language. These are areas that are as much political as phonetic, and it is difficult to see how people will ever agree on them. In the area of 2) pronunciation teaching and learning, a great deal of research and development has been carried out since the early 20th c. by phoneticians. It should be remembered that, useful though Practical Phonetics is in the teaching and learning of pronunciation, it is not essential, and many people learn to pronounce a language that they are learning simply through imitation and correction by a teacher or a native speaker **(Roach:2009)**
342.	**pronunciation** – **Styles of pronunciation** – L. V. Shcherba suggested 2 types of style in pronunciation: full style and colloquial style. According to D. Jones, there are the following varieties of style: 1) rapid familiar style 2) slower colloquial style 3) slow conversational style 4) natural style 5) acquired style 6) formal style. Styles of pronunciation are determined by the stylistics
343.	**pronunciation: juncture –** It is often necessary in describing pronunciation to specify how closely attached 1sound is to its neighbours: e.g. **k** and **t** are more closely linked in the word '*a**ct**ing*' than in '*blac**k** **t**ie*', and **t** and **r** are more closely linked in '*ni**t**rate*' than in '*nigh**t** **r**ate*'. Sometimes there are clearly observable phonetic differences in such e.g.: in comparing '*car**t** **r**ack*' with '*ca**r** **t**rack*' we notice that the **vowel** in '*cart*' is short, being shortened by the **t** that follows it, while the same phoneme in '*car*' is longer, and the **r** in '*t**r**ack*' is **devoiced**, because it closely follows **t**, while **r** in '*r**r**ack*' is **voiced**. It seems natural to explain these relationships in terms of the placement of word **boundaries**, and in modern Phonetics and Phonology this is what is done; studies have also been made of the effects of sentence and clause boundaries. However, it used to be widely believed that phonological descriptions should not be based on a prior grammatical analysis, and the notion of juncture was established to overcome this restriction: where one found in continuous speech phonetic effects that would usually be found preceding or following a pause, the phonological element of juncture would be postulated. Using the symbol + to indicate this juncture, the transcription of '*car track*' and '*cart rack*' would be **kɑ: + træk** and **kɑ:t + ræk** There was at 1time discussion of whether spaces between words should be abolished in the phonetic transcription of connected speech except where there was an observable silence; juncture symbols could have replaced spaces where there was phonetic evidence for them. Since the position of juncture or word boundary, can cause a perceptual difference, and therefore potential misunderstanding, it is usually recommended that learners of English should practice making and recognizing such differences, using pairs like '*pea stalks*'; '*peace talks*' and '*great ape*'; '*grey tape*' **(Roach:2009)**
344.	**pronunciation: recognitive function** ['**rikognitiv** '**fʌnk͡ʃən**] **Рекогнитив**, таниб олиш, **функцияси**. Адабий норма сифатида таниб олинган маълум тилда сузлашувчиларнинг барчаси учун бир ҳил буладиган талаффуз **Рекогнитивная**, опознавательная, **функция**. Осознанное литературной нормой

	произношение: звука, слога, ударения и интонации, единое для всех представителей данного языка (**Abduazizov:1986**)
345.	**pronunciation: rhotic/ity** – This term is used to describe varieties of English pronunciation in which the **r** phoneme is found in all phonological contexts. In **BBC Pronunciation**, **r** is only found before vowels, as in '*red*' **red**, '*around*' **əraʊnd**, but never before **consonants** or before a pause. In rhotic accents, on the other hand, **r** may occur before consonants, as in '*cart*' **kɑ:rt** and before a pause, as in '*car*' **kɑ:r**. While BBC pronunciation is non-rhotic, many accents of the British Isles are rhotic, including most of the south and west of England, much of Wales, and all of Scotland and Ireland. Most speakers of American English speak with a rhotic accent, but there are non-rhotic areas including the Boston area, lower-class New York and the Deep South. Foreign learners encounter a lot of difficulty in learning not to pronounce **r** in the wrong places, and life would be easier for most learners of English if the model chosen were rhotic **(Roach:2009)**
346.	**prosodic** [**prə'sodik**] **elements Просодик элемент** - буғин, урғу ва интонациянинг компонентлари: мелодика, урғу, пауза, ритм, темп, тембр. «утасегмент, суперсегмент элементлар» терминлари ҳам қулланади **Просодические элементы**, относящиеся к слогу, ударению и компонентам интонации: мелодике, паузе, ритму, темпу, тембру. Используются также термины «сверхсегментные, суперсегментные» элементы. (**Abduazizov:1986**)
347.	**prosodic features of the sentence**: speech melody, pitch, accent, tempo, rhythm and pausation, timbre, tamber; they constitute intonation in a broad sense **(Leontyeva:2004)**
348.	**prosodies**, **prosody** [**prə'sodi**] **Просодика**, **Просодия** буғин, урғу ва интонацияни илмий тадқиқ, этувчи фонетиканинг булими. Суперсегмент воситаларни, яъни тоннинг баландлиги, чузиқлиқ ва нутқ баландлигини урганувчи булимга берилган умумий ном. Раздел фонетики, изучающий особенности слога, ударения и интонации. Общее название для сверхсегментных, суперсегментных свойств речи: высоты тона, длительности и громкости (**Abduazizov:1986**)
349.	**prosody** – non-segmental phenomena regarded as the modifications of fundamental frequency, the frequency of the vibrations of the vocal cords over their whole length, intensity and duration at the level of their acoustic properties. The notion of prosody is broader than the notion of intonation, whereas prosody of the utterance and intonation are equivalent notions. Prosody and intonation are characterized by such distinct qualities as stress and pitch prominence at the level of perception **(Leontyeva:2004)**
350.	**prosody/ic** – It is traditional in the study of language to regard speech as being basically composed of a sequence of sounds, vowels and **consonants**; the term prosody and its adjective prosodic is then used to refer to those features of speech, such as **pitch**, that can be added to those sounds, usually to a sequence of more than one sound. This approach can sometimes give the misleading impression that prosody is something optional, added like a coat of paint, when in reality at least some aspects of prosody are inextricably bound up with the rest of speech. The word **supra-segmental** has practically the same meaning. A number of aspects of speech can be identified as significant and regularly used prosodic features; the most thoroughly investigated is **intonation**, but others include **stress**, **rhythm**, **voice quality**, **loudness** and **tempo (**speed) **(Roach:2009)**
351.	**prosody: falsetto** – Many terms to do with speech **prosody** are taken from musical terminology, and falsetto is a singing term for a particular **voice quality**. It is almost always attributed to adult male voices, and is usually associated with very high **pitch** and a rather '*thin*' quality; it is sometimes encountered when a man tries to speak like a boy, or like a woman. Yodelling is a rapid alternation between falsetto and normal voice. Its linguistic role seems to be slight: an excursion into falsetto can be an indication of surprise or disbelief **(Roach:2009)**
352.	**pulmonic** – Almost all the sounds we make in speaking are created with the help of air compressed by the **lungs**. This lung-created airstream is 'pulmonic': the pulmonic airstream may be **ingressive**, as in breathing in, but for speaking is practically always egressive **(Roach:2009)**
353.	**rate** – The word *rate* is used in talking about the speed at which we speak; in laboratory studies of speech it is usual to express this in terms of syllables per second, or sometimes, less usefully, in words per minute. An alternative term is **tempo**. **(Roach:2009)**
354.	**Received Pronunciation (RP)** – has been for centuries the **accent** of British English usually chosen for the purposes of description and teaching, in spite of the fact that it is only spoken by a small minority of the population; it is also known as the '**public school**'**_accent**, and as '**BBC pronunciation**'. There are clear historical reasons for the adoption of RP as the model accent: in the first half of the 20th c. virtually any English person qualified to teach in a university and write textbooks would have been educated at private schools: RP was, and to a considerable extent still is, mainly the accent of the privately educated. It would therefore have been a bizarre decision at that time to choose to teach any other accent to foreign learners. It survived as the model accent for various reasons: 1) it was its widespread use in 'prestige' broadcasting, such as news-reading; 2) it was claimed to belong to no particular region, being found in all parts of Britain, though in reality it was very much more widespread in London and the south-east of England than anywhere else; and 3) it became accepted as a common currency – an accent that, it was claimed, everyone in Britain knows and understands. Some detailed descriptions of RP have suggested that it is possible to identify different varieties within RP, such as 'advanced', or 'conservative'. Another suggestion is that there is an exaggerated version that can be called 'hyper-RP'. But these sub-species do not appear to be easy to identify reliably. My own opinion is that

	RP was a convenient fiction, but one which had regrettable associations with high social class and privilege. I prefer to treat the BBC accent as the best model for the description of English, and to consign 'Received Pronunciation' to history **(Roach:2009)**
355.	**Received pronunciation** (**RP**) – the type of pronunciation which is the most widely understood one in England and in English-speaking countries. It is the teaching norm in England and in most countries where English is taught as a foreign language **(Leontyeva:2004)**
356.	**reduction** – When a **syllable** in English is unstressed, it frequently happens that it is pronounced differently from the 'same' syllable when stressed; the process is one of **weakening**, where vowels tend to become more schwa-like, i.e. they are centralized, and **plosives** tend to become **fricatives**. The reduced forms of vowels can be clearly seen in the set of words '*photograph*' **`fəʊtəgrɑ:f**, '*photography*' **fə`tɒ:rəfi** '*photographic*' **fəʊtə`græfik** – when one of the 3 syllables does not receive stress its vowel is reduced to **ə**. This is felt to be an important characteristic of English Phonetics, and something that is not found in all languages. It is possible that the difference between languages which exhibit vowel reduction and those which do not is closely parallel to the proposed difference between '**stress-timed**' and '**syllable-timed**' languages **(Roach:2009)**
357.	**reduction** [**riˈdʌk͡ʃən**] **Редукция**, урғусиз элементларнинг кучсизлашуви ва талаффузининг узгариши. Ослабление, сокращение и измеиие артикуляции безударных элементов речи (**Abduazizov:1986**)
358.	**reduction**. **Quality reduction** [**ˈkwəliti riˈdʌk͡ʃən**] **Сифат редукцияси** Урғусиз буғинларда унлилар сифати, тембрининг узгариши **Качественная редукция**, при которой в безударном слоге гласные изменяют свои качества, тембр (**Abduazizov:1986**)
359.	**reduction**. **Quantity reduction** [**ˈkwontiti riˈdʌk͡ʃən**] **Миқдор редукция** Урғусиз буғинларда унлилар чузиқлигининг кемайиши **Количественная редукция**, сокращение длительности звука, гласного в безударном слоге (**Abduazizov:1986**)
360.	**register** – Several uses are made of this word: in singing, it is used to refer to different styles of **voice** production that the singer may select, particularly **head** register and **chest** register. The term is also used by some phoneticians to refer to similar options in speaking, *see* **voice quality**. A further use of the term is in the typology of **tone languages**: it has been proposed that all tone languages could be categorized either as **contour** languages or as register languages. In the latter, the most important characteristic of a tone is its **pitch** level relative to the speaker's pitch range, rather than the shape of any pitch movement **(Roach:2009)**
361.	**resonance** – This term is widely used in non-scientific ways, and also with technical senses in Phonetics and Speech **Acoustics**. In its non-technical sense it is often found in music, especially singing, e.g. 'his bass voice had a rich resonance'; in **Auditory** Phonetics it is sometimes used to refer to particular sound qualities, e.g. 'her **l** sound has a **dark** resonance'. But in acoustic terminology the word is used in a different way. Many people 1st discover resonance while singing in the bath: singing a particular note creates a powerful 'booming' effect, while other notes do not have the same effect. Like bathrooms, **vocal tracts** have natural resonant frequencies. In Speech Acoustics, the vocal tract is thought of as a continuous tube with different dimensions at different places along its length. As with all tubes and chambers, it is possible to identify particular frequencies at which there are resonances – these are observable as peaks of energy, or **formants**. In the case of voiced speech sounds, the acoustic energy generated in the **larynx** passes through the vocal tract and at most frequencies much of the energy is lost; however, at the few frequencies where the sound wave resonates most of the energy passes through, creating peaks of energy at those frequencies. In the case of voiceless sounds, resonance is more difficult to explain **(Roach:2009)**
362.	**rhyme** – Rhyming verse has pairs of lines that end with the same sequence of sounds. If we examine the sound sequences that must match each other, we find that these consist of the **vowel** and any final **consonants** of the last **syllable**: thus '*moon*' and '*June*' rhyme, and the initial consonants of these 2 words are not important, of course, we do find longer-running rhymes than this in verse, particularly the comic variety, e.g. '*ability*' rhyming with '*senility*', '*Harvard*' with '*discovered*'. The concept of rhyme has become useful in the phonological analysis of the syllable as a way of referring to the vowel **peak** of the syllable plus any sounds following the peak within the syllable, the **coda**. Thus in the word '*spoon*' the rhyme is **u:n**, in '*tea*' it is **i:** and in '*strengths*' it is **eŋθs** or **eŋkθs (Roach:2009)**
363.	**rhythm** – Speech is perceived as a sequence of events in time, and the word rhythm is used to refer to the way events are distributed in time. Obvious examples of vocal rhythms are chanting as part of games: e.g. children calling words while skipping, or football crowds calling their team's name, or in connection with work: e.g. sailors' chants used to synchronize the pulling on an anchor rope. In conversational speech the rhythms are vastly more complicated, but it is clear that the timing of speech is not random. An extreme view, though a quite common one, is that English speech has a rhythm that allows us to divide it up into more or less equal intervals of time called **feet**, each of which begins with a stressed syllable: this is called the **stress-timed** rhythm hypothesis. Languages where the length of each syllable remains more or less the same as that of its neighbours whether or not it is stressed are called **syllable-timed**. Most evidence from the study of real speech suggests that such rhythms only exist in very careful, controlled speaking, but it appears from psychological research that listeners' brains tend to hear timing regularities even where there is little or no physical regularity **(Roach:2009)**

364.	**rhythm** ['**riθm**] **Ритм**. Нутқда урғули ва урғусиз, хамда чузиқ ва қисқа буғинларнинг алмашинуви Чередование ударных и безударных, а также долгих и кратких слогов в речи. (**Abduazizov:1986**)
365.	**rhythm** in speech is the periodic recurrence of stressed syllables. Rhythm exists both in prose and in verse. It can be regarded as one of the forms in which a language exists **(Leontyeva:2004)**
366.	**rhythm** is a flow, movement, procedure, etc., characterized by basically regular recurrence of elements or features, as beat, or accent, in alternation with opposite or different elements or features (**Webster's New World Dictionary**)
367.	**rhythm: foot** – The foot is a unit of **rhythm**. It has been used for a long time in the study of verse metre, where lines may be divided into sections based on patterns on strong and **weak syllables**. It is rather more controversial to suggest that normal speech is also structured in terms of regularly repeated patterns of syllables, but this is a claim that has been quite widely accepted for English. The suggested form of the English foot is that each foot consists of 1 stressed syllable plus any unstressed syllables that follow it; the next foot begins when another stressed syllable is produced. The sentence '*Here is the news at nine o'clock*' could be analyzed into feet in the following way; stressed syllables underlined, foot divisions marked with vertical lines: **|here** is the **|news** at **|nine** o **|clock** It is claimed that English feet tend to be of equal **length**, or **isochronous**, so that in feet consisting of several syllables there has to be compression of the syllables in order to maintain the **stress-timed** rhythm. There are many problems with this theory, as one discovers in trying to apply it to natural conversational speech, but the foot has been adopted as a central part of **Metrical Phonology (Roach:2009)**
368.	**rhythm: isochrony** – is the property of being equally spaced in time, and is usually used in connection with the description of the **rhythm** of languages. English rhythm is said to exhibit isochrony because it is believed that it tends to preserve equal intervals of time between **stressed syllables** irrespective of the number of syllables that come between them; e.g. if the following sentence were said with isochronous stresses, the 4 syllables '*both of them are*' would take the same amount of time as '*new*' and '*here*': **`both** of them are **`new `here** This kind of timing is also known as **stress-timed** rhythm and is based on the notion of the **foot**. Experimental research suggests that isochrony is rarely found in natural speech and that, at least in the case of English speakers, the brain judges sequences of stresses to be more nearly isochronous than they really are: the effect is to some extent an illusion. The notion of isochrony does not necessarily have to be restricted to the intervals between stressed syllables. It is possible to claim that some languages tend to preserve a constant quantity for all syllables in an utterance: this is said to result in a **syllable-timed** rhythm. French, Spanish and Japanese have been claimed to be of this type, though laboratory studies do not give this claim much support. It seems that in languages characterized as stress-timed there is a tendency for unstressed syllables to become **weak**, and to contain short, centralized vowels, whereas in languages described as syllable-timed unstressed vowels tend to retain the quality and quantity found in their stressed counterparts. *See* Section 14.1 *English Phonetics and Phonology* **(Roach:2009)**
369.	**rhythmic tendency** – the tendency to alternate stressed and unstressed syllables **(Leontyeva:2004)**
370.	**root (of tongue)** – The base of the **tongue**, where it is attached to the rear end of the lower jaw, is known as the root. This has usually been assumed to have no linguistic function. However, it has been discovered that some non-European languages have vowels that differ from each other in terms of quality, and the only **articulatory** difference between them appears to be that some are pronounced with the tongue root moved forward and some have the tongue root further back **(Roach:2009)**
371.	**sandhi** – The ways in which speech sounds influence each other when they are neighbours is of great interest to contemporary phoneticians and phonologists, *see* **assimilation** and **coalescence**, but the subject is also one which interested the Sanskrit grammarians of India, who introduced the term, over 2000 years ago. The notion of sandhi is used mainly in the area between Morphology and Phonology, and is not much used in the study of pronunciation. It is most commonly found in discussion of **tone languages** and the contextual influences on tones **(Roach:2009)**
372.	**scale** – the arrangement of stressed and unstressed syllables of a syntactic whole **(Leontyeva:2004)**
373.	**schwa** – One of the most noticeable features of English pronunciation is the phonetic difference between **stressed** and unstressed **syllables**. In most languages, any of the vowels of the language can occur in any syllable whether that syllable is stressed or not; in English, however, a syllable which bears no stress is more likely to have one of a small number of weak vowels, and the most common weak vowel is one which never occurs in a stressed syllable. That vowel is the schwa vowel symbolized **ə**, which is generally described as being unrounded, **central** i.e. between front and back and mid, i.e. between close and open. Statistically, this is reported to be the most frequently occurring vowel of English, over 10% of all vowels. It is ironic that the most frequent English vowel has no regular letter for its spelling. The name *schwa* comes from Hebrew, which does have a symbol for this sound. Many foreign learners of English have difficulty in learning to pronounce schwa **(Roach:2009)**
374.	**segment** – Phoneticians and phonologists disagree about segments: when we analyze an utterance, we can identify a number of phonological and grammatical elements, partly as a result of our knowledge of the language. Consequently, we are able to write down something we hear in words separated by spaces, and with

	proper training transcribe with phonemic symbols the sounds that we hear. However, when we examine speech sounds in connected speech closely, we find many cases where it is difficult to identify separate sound units, segments, that correspond to **phonemes**, since many of the **articulatory** movements that create the sounds tend to be continuous rather than sharply switched; e.g. pre-consonantal **n** sounds in English, e.g. '*kind*' **kaind** are often almost undetectable except in the form of **nasalization** of the vowel preceding them; sequences of **fricatives** often overlap, so that it is difficult or impossible to split the sequence **ʃs** in '*fish soup*', or **fθs** in '*fifths*'. As a result, some people believe that dividing speech up into segments, **segmentation**, is fundamentally misguided; the opposite view is that since segmentation appears to be possible in most cases, and speakers seem to be aware of segments in their speech, we should not reject segmentation because there are problematical cases **(Roach:2009)**
375.	**segment** ['**segmənt**] **Сегмент**. **Талаффуздаги нутқ булаги**. Катта нутқ булаги - макросегмент, кичик нутқ булаги - микросегмент дейилади. **Отрезок речи**. Большой отрезок - макросегмент, маленький отрезок - микросегмент (**Abduazizov:1986)**
376.	**segment**: in Phonetics it is the shortest part of speech continuum, a sound, a phoneme (**Leontyeva**:**2004**)
377.	**segmental phoneme**: the shortest part of speech continuum that is capable of differentiating words **(Leontyeva**: **2004)**
378.	**semantic function**: in Phonetics the term is used in connection with the distinctive function, semantic role, of phonetic means **(Leontyeva**:**2004)**
379.	**sense-group** – a word or a group of words that conveys some idea **(Leontyeva:2004)**
380.	**sentence accent** – a constituent part of the phonetic structure of the spoken sentence utterance and 1 of the components of intonation in the broad sense of the term **(Leontyeva:2004)**
381.	**sentence stress** – the greater degree of prominence given to certain words in a sentence. These words are usually nouns, adjectives, notional verbs and adverbs, interjections, numerals, demonstrative, possessive, emphasizing pronouns, interrogative words and 2-syllable prepositions. Articles, particles, auxiliary, modal, and connective verbs, personal, reflexive and reciprocal pronouns, 1-syllable prepositions, conjunctions and conjunctive words – are, as a rule, unstressed. The distribution of sentence stress is determined by the semantic factor **(Leontyeva:2004)**
382.	**sentence stress** – The main question that is asked in studying so-called sentence stress is which **syllable** or word of a particular sentence is most strongly **stressed** or **accented**. We should be clear that in any given sentence of more than 1 syllable there is no logical necessity for there to be just 1 syllable that stands out from all the others. Much writing on this subject has been done on the basis of short, invented sentences designed to have just 1obvious sentence stress, but in real life we often find exceptions to this. In a sentence of more than 5 or 6 words we tend to break the string of words into separate tone-units, each of which will be likely to have a strong stress; e.g.: If she hadn't been **rich** **|** she couldn't have **bought** it In addition we find cases where syllables in 2 neighbouring words seem to be equally strongly stressed; e.g.: I've **\burnt /most** of them. – with pitch fall on '*burnt*' and pitch rise on '*most*' Given that, in English, at least, sentence stress is a rather badly-defined notion, is it at least possible to make generalizations about stress placement in simple sentences? It is widely believed that the most likely place for sentence stress to fall is on the appropriate syllable of the last lexical word of the sentence: in this case, 'appropriate syllable' refers to the syllable indicated by the rules for word stress, while lexical word refers to words such as nouns, verbs, adjectives and adverbs. This rule accounts for the stress pattern of many sentences, but there is considerable controversy over how to account for the many exceptions: some linguists say that the sentence stress tends to be placed on the word which is most important to the meaning of the sentence, while others say that the placement of the stress is determined by the underlying syntactic structure. Many other languages seem to exhibit very similar use of stress, but it is not possible in the present state of our knowledge to say whether there are universal tendencies in all languages to position sentence stress in predictable ways **(Roach:2009)**
383.	**sentence stress** ['**sentəns 'stres**] **Фраза ургуси** баъзан гап ургуси дейилади, нуткда, гапда, фразаларга, суз бирикмаларига тушувчи ургу. Интонациянинг муҳим бир компоненти **Фразовое ударение**; выделение слов во фразе. Один из важных компонентов интонации (**Abduazizov:1986**)
384.	**slip of the tongue**; **speech error** – Much has been discovered about the control of speech production in the brain as a result of studying the errors we make in speaking. These are traditionally known as 'slips of the tongue', though as has often been pointed out, it is not usually the tongue that slips, but the brain which is attempting to control it. Some errors involve unintentionally saying the wrong word, a type of slip that the great psychoanalyst Freud was particularly interested in, or being unable to think of a word that one knows. Many slips involve **phonemes** occurring in the wrong place, either through perseveration, i.e. repeating a segment that has occurred before, as in '*cup of key*' for '*cup of tea*' or transposition, the slip known as a Spoonerism, as in '*tasted a worm*' instead of '*wasted a term*'. My favourite example of a Spoonerism is one I heard myself on the radio recently, where the speaker said '*hypodeemic nerdle*' **haipədi:mik nə:dl** – instead of '*hypodermic needle*' **haipədə:mik ni:dl** – stressed syllables of the 2 words were interchanged. Such slips apparently never result in an unacceptable sequence of phonemes: e.g. '*brake fluid*' could be mispronounced through a Spoonerism as '*frake bluid*', but '*brake switch*' could never be mispronounced in this way since it

	would result in '*srake bwitch*', and English syllables do not normally begin with **sr** or **bw**. Some researchers have made large collections of recorded speech errors, and there are many discoveries still to be made in this field **(Roach:2009)**
385.	**Sociolingustics** [**səuʃiə'linguistiks**] **Социолингвистика**. Тил социологияси 1. Тил ва социал ижтимойи ҳаёт уртасидаги боғланишни илмий урганувчи тилшунослик булими; 2. Тилларни социал фарклашни, яъни унинг турли социал диалектларини илмий урганувчи тилшунослик фанининг булими. **Социология языка** 1. Раздел языкознания, изучающий отношение между языком и социальной общественной жизнью. 2. Раздел языкознания, изучающий социальную дифференциацию языков, различные его социальные диалекты. (**Abduazizov:1986**)
386.	**soft palate** – Most of the roof of the mouth consists of **hard palate**, which has bone beneath the skin. Towards the back of the mouth, the layer of bone comes to an end but the layer of soft tissue continues for some distance, ending eventually in a loose appendage that can easily be seen by looking in a mirror: this dangling object is the **uvula**, but the layer of soft tissue to which it is attached is called the soft palate, it is also sometimes named the **velum**. In normal breathing it is allowed to hang down so that air may pass above it and escape through the nose, but for most speech sounds it is lifted up and pressed against the upper back wall of the throat so that no air can escape through the nose. This is necessary for a **plosive** so that air may be compressed within the **vocal tract**. However, for **nasal** consonants, e.g. **m**, **n** the soft palate must be lowered since air can escape only through the nose in these sounds. In nasalized vowels, e.g. such vowels are found in considerable numbers in French the soft palate is lowered and air escapes through the mouth and the nose together **(Roach:2009)**
387.	**sonorants**, **sonants** ['**sonərənts**, '**səunənts**] **Сонор товушлар** ёки **сонантлар** талаффузида ойтишидан тон кучли булган товушлар. *Мас.*: **л**, **р**, **м**, **н**. **Сонанты**, звуки, содержащие голосовой тон, созвучные, с минимальной примесью шума. *Напр.* **l**, **r**, **j**, **w**, **m**, **n**, **ŋ** (**Abduazizov:1986**)
388.	**sonority** – It is possible to describe sounds in terms of how powerful they sound to the listener; e.g. a **vowel** sound such as **a** is said to be more sonorant than the **fricative f**. It is said that if we hear a word such as '*banana*' as consisting of 3 **syllables**, it is because we can hear 3 peaks of sonority corresponding to the vowels. Some phonologists claim that there is a sonority hierarchy among classes of sound that governs the way they combine with other sounds: in descending order of sonority, we would find firstly open vowels like **a**, then closer vowels, e.g. **i**, **u**; '**liquids**' such as **l**, **r**, followed by **nasals**, fricatives and finally **plosives** the least sonorant **(Roach:2009)**
389.	**Southern drawl** in American proununcіation Жанубий Америка талаффузида дифтонгларнинг монофтонглашув ҳодисаси шундай деб аталади.Так называется **монофтонгизация** дифтонгов в южно-американском произношения (**Abduazizov:1986**)
390.	**spectrogram**, **spectrography** – In the development of the laboratory study of speech, the technique that has been the most fundamental tool in acoustic analysis is spectrography. In its earliest days, this was carried out on special machines that analyzed a few seconds of speech and burned patterns on heat-sensitive paper, but all spectrography is now done by computers. A spectrography program on a computer produces a sort of picture, in shades of grey or in a variety of colours, of the recorded sounds, and this spectrogram is shown on the computer screen and can be printed. With practice, an analyst can identify many fine details of speech sounds. The cover of *English Phonetics and Phonology* has a spectrogram on the cover, of a male voice saying 'English Phonetics and Phonology', and you can see an explanation of this in the section called 'About the Book'. It is important to get the terms right, though they are confusing. The picture is a *spectrogram*, while the analyzing device used to make it is a *spectrograph.* **(Roach:2009)**
391.	**speech melody** – the variations in the pitch of the voice in connected speech **(Leontyeva:2004)**
392.	**speech sounds**: **Distinctive function of speech sounds** is manifested most conspicuously in minimal pairs when the opposition of speech sounds is the only phonetic means of distinguishing 1 member of that pair from the other **(Leontyeva:2004)**
393.	**stress** – is a large topic and despite the fact that it has been extensively studied for a very long time there remain many areas of disagreement or lack of understanding. To begin with a basic point, it is almost certainly true that in all languages some **syllables** are in some sense stronger than other syllables; these are syllables that have the potential to be described as stressed. It is also probably true that the difference between strong and weak syllables is of some linguistic importance in every language – strong and weak syllables do not occur at random. However, languages differ in the linguistic function of such differences: e.g. in English the position of stress can change the meaning of a word, as in the case of '*import*' (n) and '*import*' (v), and so forms part of the phonological composition of the word. It is usually claimed that in the case of French there is no possibility of moving the stress to different syllables except in cases of special emphasis or **contrast**, since stress, if there is any that can be detected, always falls on the last syllable of a word. In **tone languages** it is often difficult or impossible for someone who is not a native speaker of the language to identify stress functioning separately from tone: syllables may sound stronger or weaker according to the tone they bear. It is necessary to consider what factors make a syllable count as stressed. It seems likely that stressed syllables are produced with greater effort than unstressed, and that this effort is manifested in the air pressure generated in the lungs for producing the syllable and also in the articulatory movements in the **vocal tract**. These effects of stress produce in turn

	various audible results: one is **pitch prominence** in which the stressed syllable stands out from its context, e.g. being higher if its unstressed neighbours are low in pitch, or lower if those neighbours are high; often a pitch **glide** such as a fall or rise is used to give greater pitch prominence; another effect of stress is that stressed syllables tend to be **longer** – this is very noticeable in English, less so in some other languages; also, stressed syllables tend to be louder than unstressed, though experiments have shown that differences in **loudness** alone are not very noticeable to most listeners. It has been suggested by many writers that the term **accent** should be used to refer to some of the manifestations of stress, particularly pitch prominence, but the word, though widely used, never seems to have acquired a distinct meaning of its own. One of the areas in which there is little agreement is that of levels of stress: some descriptions of languages manage with just 2 levels, stressed and unstressed, while others use more. In English, one can argue that if one takes the word '*indicator*' as an example, the 1st syllable is the most strongly stressed, the 3rd syllable is the next most strongly stressed and the 2nd and 4th syllables are weakly stressed, or unstressed. This gives us 3 levels: it is possible to argue for more, though this rarely seems to give any practical benefit. In terms of its linguistic function, stress is often treated under 2 different headings: **word stress** and **sentence stress**. These 2 areas are discussed under their separate headings **(Roach:2009)**
394.	**stress** or **accent** – a greater degree of prominence which is caused mainly by pronouncing the stressed syllable a) on a different pitch level or with a change of pitch direction in it; b) with greater force of exhalation and greater muscular tension. The greater force of articulation is accompanied by an increase in the length of the sound in the stressed syllable, especially vowels. Vowels in the stressed syllables are not reduced **(Leontyeva:2004)**
395.	**stress: dinamic stress** expiratory [**dai'næmik 'stres**] **Динамик**, куч, экспиратор, **урғу**, талаффуз кучи билан ургули буринни ажратиш: инглиз, рус ва узбек тилларига хос **Динамическое ударение**, т.е. выделение ударных слогов силовой акцентуацией: характерно для английского, русского, узбекского языков **(Abduazizov:1986)**
396.	**stress: logical stress** [**lodʒikəl 'stres**] **Логик урғу**, нутқда бирор сузни ажратиб курсатиш орқали гапнинг маъносини очиғроқ, килиш учун қулланувчи урғу **Логическое ударение**, выделение одного из слов в предложении, определяющего смысл всего высказывания. **(Abduazizov:1986)**
397.	**stress: Musical** tonic, melodic **stress** [**'mju:zikəl 'stres**] Музикал, тон, мелодик, урғу овоз тонининг баландлашуви ёрдамида буғин ажратиш. Музыкальное, тоновое, мелодическое ударение. Выделение слога высотой тона **(Abduazizov:1986)**
398.	**stress: Quantitative Stress** [**'kuəntiteitiv**] **Accent by length**. **Чузиқлиқ квантитатив** микдорий урғуси, яъний буғин, ёки буғинларни чузиб айтиш орқали буғинга ажратиш. **Количественное ударение**, выделение слога или слогов преимущественно долготой произношения (**Abduazizov:1986**)
399.	**stress: Recessive stress** [**ri'sesiv stres**] **Рецессив урғу** Биринчи буғинга ёки суз узагига тушувчи урғу **Рецессивное ударение**, которое падает на первый слог или на корневой слог слова (**Abduazizov:1986**)
400.	**stress: sub-glottal pressure** – Almost all speech sounds depend on having air pushed out of the lungs in order to generate the sound. For **voicing** to be possible, the pressure of air below the glottis must be higher than the pressure above the glottis, i.e. in the mouth – otherwise, voicing will not happen. Variation in sub-glottal pressure is closely related to variations in **pitch** and **stress (Roach:2009)**
401.	**stress-shift** – It quite often happens in English that the **stress** pattern of a word is different when the word occurs in particular contexts compared with its stress pattern when said in isolation: e.g. the word '*fifteenth*' in isolation is stressed on the 2nd syllable, but in '*fifteenth place*' the stress is on the 1st syllable. This also happens in place names: the name '*Wolverhampton*' is stressed on the 3rd syllable, but in the name of the football team '*Wolverhampton Wanderers*' the stress is usually found on the 1st syllable. This is known as **stress-shift**. Explanations by proponents of **Metrical Phonology** have suggested that the shift is made in order to avoid 2 strong stresses coming close together and to preserve the **rhythmical** regularity of their speech, but such explanations, though attractive, do not have any experimental or scientific justification. English speakers are quite capable of producing strong stresses next to each other when appropriate **(Roach:2009)**
402.	**stress-timing** – It is sometimes claimed that different languages and dialects have different types of rhythm. Stress-timed rhythm is one of these rhythmical types, and is said to be characterized by a tendency for stressed syllables to occur at equal intervals of time. *See* **rhythm**, **isochrony**, **foot**, **syllable-timing (Roach:2009)**
403.	**strong form** – English has a number of short words which have both strong and weak forms: e.g. the word '*that*' is sometimes pronounced **ðæt** strong and sometimes **ðət** weak. The linguistic context generally determines which one is to be used. The difference between strong and weak forms is explained under **weak form (Roach:2009)**
404.	**Structural Linguistics** or **trend**. **Structuralism**. **Структурализм**. **Структурал оким**, тилдаги ички алоқаларни ва тилдаги босқичлар уртасидаги боғланишларни ҳозирги давр тилшунослигида Илмий Урганувчи оқким: Совет, Америка, Дания, Прага каби **структурализм** мактаблари мавжуд. Структурная лингвистика, широко развлетвленное направление в современном языкознании, изучающее внутренние уровневые соотношения элементов языка. Существуют Советский, американский, датский, пражский структуральные направления (**Abduazizov:1986**)
405.	**style** – Something which every speaker is able to do is speak in different styles: there are variations in

	formality ranging from ceremonial and religious styles to intimate communication within a family or a couple; most people are able to adjust their speech to overcome difficult communicating conditions, such as a bad telephone line, and most people know how to tell jokes effectively. But at present we have very little idea what form this knowledge might have in the speaker's mind. **(Roach:2009)**
406.	**substance** ['**sʌbstəns**] of expression **Субстанция**. Тилнинг материал, товуш жиҳати. Материальная, звуковая сторона языка (**Abduazizov:1986**)
407.	**Sweet**, **Henry** – Henry Sweet (1845–1912) was a great pioneer of Phonetics based in Oxford University. He made extremely important contributions not only to the Theory of Phonetics, which he described as 'the indispensable foundation to the study of language' but also to spelling reform, shorthand, philology, linguistics and language teaching. His best known works include the *Primer of Phonetics*, *The Sounds of English* and *The Practical Study of Languages*. *See* **Higgins**, **Henry (Roach:2009)**
408.	**syllabeme** ['**si:ləbim**] **Силлабема**. Фоиологик просодик бирлик. Сулиб, бугин булиниши ёрдамида минимал жуфтларни фарқлайди *Мас.*, *гишт ингиштин* каби. Фонологическая просодическая единица, служащая для различения минимальных пар с помощью слогоделения. *Напр.*, *К Ире - Кире*, *a name - an aim* (**Abduazizov:1986**)
409.	**syllabic sounds** ['**silæbik 'saundz**] **Бугин ҳосил килувчи товушлар** Улар жуда жарангли булиб, буғин чуқ қисмини ҳосил килади. Одатда бундай товушларга унлилар ва сонор ундошлар киради. **Слоговые звуки**, образующие слог и произносимые с большой звучностью; они находятся в вершине слога. Как правило, такими звуками считаются гласные и сонорные согласные. (**Abduazizov:1986**)
410.	**syllable** [**'si:læbl**] **Бугин**, бир ёки бир неча товушларнинг бирикувидан ҳосил булган бир йула талаффуз этилувчи нутқ булаги. **Слог** Один звук или сочетание нескольких звуков, артикулируемое едино-голосовым элементом (**Abduazizov:1986**)
411.	**syllable boundary** [**'siləbl 'baundəri**] **Бугин чегараси**, чизиги - буғинларни иккига булиш чегараси **Граница слога** Слогораздел (**Abduazizov:1986**)
412.	**syllable division** of the word into 'arcs of articulatory effort', N. I. Zhinkin's theory. A strong-end consonant begins the arc of loudness and a weak-end consonant terminates it **(Leontyeva:2004)**
413.	**syllable** is a fundamentally important unit both in **Phonetics** and in **Phonology**. It is a good idea to keep phonetic notions of the syllable separate from phonological ones. Phonetically we can observe that the flow of speech typically consists of an alternation between **vowel**-like states, where the **vocal tract** is comparatively open and unobstructed and **consonant**-like states where some obstruction to the **airflow** is made. Silence and **pause** are to be regarded as being of consonantal type in this case. So from the speech production point of view a syllable consists of a movement from a constricted or silent state to a vowel-like state and then back to constricted or silent. From the acoustic point of view, this means that the speech signal shows a series of peaks of energy corresponding to vowel-like states separated by troughs of lower energy, *see* **sonority**. However, this view of the syllable appears often not to fit the facts when we look at the phonemic structure of syllables and at speakers' views about them. One of the most difficult areas is that of **syllabic consonants**. Phonologists are interested in the structure of the syllable, since there appear to be interesting observations to be made about which phonemes may occur at the beginning, in the middle and at the end of syllables. The study of sequences of phonemes is called **Phonotactics**, and it seems that the phonotactic possibilities of a language are determined by syllabic structure; this means that any sequence of sounds that a native speaker produces can be broken down into syllables without any segments being left over; e.g. in '*Their strengths triumphed frequently*', we find the rather daunting sequences of consonant phonemes **ŋθstr** and **mftfr**, but using what we know of English Phonotactics we can split these **clusters** into 1 part that belongs to the end of 1 syllable and another part that belongs to the beginning of another. Thus the 1st one can only be divided **ŋθ	str** or **ŋθs	tr** and the 2nd can only be **mft	fr**. Phonological treatments of syllable structure usually call the 1st part of a syllable the **onset**, the middle part the **peak** and the end part the **coda**; the combination of peak and coda is called the **rhyme**. Syllables are claimed to be the most basic unit in speech: every language has syllables, and babies learn to produce syllables before they can manage to say a word of their native language. When a person has a speech disorder, their speech will still display syllabic organization, and **slips of the tongue** also show that syllabic regularity tends to be preserved even in 'faulty' speech **(Roach:2009)**
414.	**syllable** is shortest segment of speech continuum. Syllables are material carriers of words. They constitute words and their forms, phrases and sentences. According to J. Kenyon the syllable is 1 or more speech sounds, forming a single uninterrupted unit of utterance, which may be a word, or a commonly recognized and separable subdivision of a word. It is a unity of segmental and supra-segmental qualities **(Leontyeva:2004)**
415.	**syllable pattern** – the type of syllable most common for language. English is characterized by (C)VC syllable pattern and Russian by CV pattern **(Leontyeva:2004)**
416.	**syllable: chest-pulse** – This is a notion used in the theory of **syllable** production. Early in the 20th c. it was believed by some phoneticians that there was a physiological basis to the production of syllables: experimental work was claimed to show that for each syllable produced, there was a distinct effort, or pulse, from the chest muscles which regulate breathing. It is now known that chest-pulses are not found for every syllable in normal speech, though there is some evidence that there may be chest-pulses for stressed syllables **(Roach:2009)**
417.	**syllable: closed syllable** [**'kləuzd 'si:ləbl**] **Ёпик бугин** ундош товушга тугаган бугин. Закрытый слог,

	заканчиваемый на согласный звук **(Abduazizov:1986)**
418.	**syllable: coda –** This term refers to the end of a **syllable**. The central part of a syllable is almost always a **vowel**, and if the syllable contains nothing after the vowel it is said to have no coda '*zero coda*'. Some languages have no codas in any syllables. English allows up to 4 consonants to occur in the coda, so the total number of possible codas in English is very large – several hundred, in fact **(Roach:2009)**
419.	**syllable: Half-close syllable** ['**hɑ:f 'kləuz 'si:ləbl**] **Ярим очиқ** бугин, сонор товушга тугаган бугин. **Полуоткрытый слог**, заканчивающийся на сонант. **(Abduazizov:1986)**
420.	**syllable**: **Open syllable** ['**əupən 'siləbl**] **Очиқ буғин** унли товушга тугаган буғин **Открытый слог**, слог оканчивающийся на гласную **(Abduazizov:1986)**
421.	**syllable-timing** – Languages in which all **syllables** tend to have an equal time value in the rhythm of the language are said to be syllable-timed; this tendency is contrasted with **stress-timing**, where the time between stressed syllables is said to tend to be equal irrespective of the number of unstressed syllables in between. Spanish and French are often claimed to be syllable-timed; many phoneticians, however, doubt whether any language is truly syllable-timed **(Roach:2009)**
422.	**symbol** One of the most basic activities in **Phonetics** is the use of written symbols to represent speech sounds or particular properties of speech sounds. The use of such symbols for studying and describing English is particularly important, since the spelling system is very far from representing the pronunciation of most words. Many different types of symbol have been tried, but they are almost all based on the idea of having 1 symbol per **phoneme**. For many languages it would be perfectly feasible to use a set of syllable symbols instead, though this would not do for English, which would need around 10,000 such symbols. There is an obvious parallel with alphabetic writing, and although phoneticians have in the past experimented with specially-devised symbols which represent phonetic properties in a systematic way, it is the letters of the Roman alphabet that form the basis of the majority of widely-used phonetic symbols, with letters from other writing systems; e.g. Old English **ð**, Greek **θ** being used to supplement these. Most of the principles for the design of the symbols we use today have been developed by the **International Phonetic Association**. **(Roach:2009)**
423.	**Syntagmatics** ['**sintəg'mætiks**] **Синтагматика** Тилдаги элементларни горизонтал бир йуналишда бирикишини урганиш *Mac.*: $A_1A_2A_3$ ... $A_п = A_X$ Рассмотрение единиц языка в плане их сочетаемости в горизонтальной плоскости *Hanp.*, $A_1A_2A_3$ ... $A_п = A_X$ (**Abduazizov:1986**)
424.	**synthetic speech** The speech synthesizer is a widely used tool in speech research: it produces artificial speech, and when the speech synthesis is carefully done the result is indistinguishable from a recording of a human being speaking. Its main use is to produce very finely controlled changes in speech sounds so that listeners' judgments can be experimentally tested; e.g. to test if it is true that the most important difference between a pair of words like '*cart*' **kɑ:t** and '*card*' **kɑ:d** is that the **vowel** is shorter before the voiceless final **consonant**, we can create a large number of **syllables** resembling **kɑ:t** or **kɑ:d** in which everything is kept constant except the **length** of the vowel, and then ask listeners to say whether they hear '*cart*' or '*card*'. In this way we can map the perceptual boundaries between phonemes. There are many other types of experiment that can be done with synthetic speech. Synthetic speech is produced by means of computer software. Many Phonetics experts have worked on a special application of speech synthesis known as *speech synthesis by rule*, in which a computer is given a written text and must convert it into intelligible speech with appropriate contextual **allophones**, correct timing and **stress** and, if possible, appropriate **intonation**. Synthesis-by-rule systems are useful for such applications as reading machines for blind people, and computerized telephone information systems like '*talking timetables*' This technology is also used for less serious applications such as talking toys and computer games **(Roach:2009)**
425.	**tagmeme** [**'tægmi:m**] **Тагмема** Нутқнинг боскичидаги энг кичик грамматик булинишдаги бирлиги; нутқнинг морфосинтактик ташкил булишидаги бирлик. Мельчайшая единица грамматического членения речи на уровне предложения; единица морфосинтаксической организации речи (**Abduazizov:1986**)
426.	**Tagmemics** [**'tægmemiks**] (**Phonotagmemics**) **Тагмемика**. АКШдаги тилшунослик оқими. Унинг бир булими 'Фонотагмемика' деб аталади. Бу оқим бошлиги К.Л. Пайк. Лингвистическое направление в США, имеющее свой раздел 'Фонотагмемику' Глава этой школы – К.Л. Пайк (**Abduazizov:1986**)
427.	**tail** In the analysis of **intonation**, all **syllables** that follow the **tonic syllable**, also called **nuclear** syllable up to the **tone-unit boundary** constitute the tail. Thus in the utterance '*I want **two** of them*', the tail is '*of them*' See *English Phonetics and Phonology* 16.2, p. 131**(Roach:2009)**
428.	**tail** unstressed or partially stressed syllables or syllable, that follows the nucleus of the intonation group **(Leontyeva:2004)**
429.	**tap** Many languages have a sound which resembles **t** or **d**, being made by a complete **closure** between the **tongue** and the **alveolar** region, but which is very brief and is produced by a sharp upward throw of the tongue blade. As soon as contact is made, the effects of gravity and air pressure cause the tongue to fall again. This tap sound, for which the phonetic **symbol** is **ɾ** is noticeable in Scottish accents as the **realization** of the **r** phoneme, and in American English it is often heard as a voiced realization of **t** when it occurs after a **stressed vowel** and before an unstressed one, e.g. the phrase '*getting better*' is pronounced **geɾiŋ beɾə** A widely-used alternative

	way of symbolizing this sound is **t4** In BBC English it used to be quite common to hear a tap for **r** at the end of a stressed syllable in careful or emphatic speech, e.g. '*very*' **veɾi**, though this is less often heard in modern speech. It is now increasingly common to hear the American-style tapped **t4** in England as an allophone of **t** following a stressed vowel and preceding an unstressed one. Several varieties of tap are possible: they may be voiced or voiceless – Scottish pre-pausal **r** is often realized as a voiceless tap, as in '*here*' **hiɾ** They may also be produced with the **soft palate** lowered, resulting in a **nasalized** tap which is sometimes heard in the American pronunciation of words like '*mental*' **meɾ̃əl**. A closely related sound is the **flap**, and the **trill** also has some similar characteristics **(Roach:2009)**
430.	**teeth** play some important roles in speech. In **dental** consonants the tip of the tongue is in contact with some of the front teeth. Sometimes this contact is with the inner surface of the upper front teeth, but some speakers place the tongue tip against the lower front teeth and have a secondary contact between the tongue blade and the upper teeth or the alveolar ridge: this happens for some English pronunciations of **θ**, **ð** and some French pronunciations of **t**, **d**, **s**, **z**. In dental, **alveolar** and **palatal** articulations it is necessary to keep a contact between the sides of the tongue and the inside of the upper molar teeth in order to prevent the escape of air **(Roach:2009)**
431.	**tempo** Every speaker knows how to speak at different **rates**, and much research has been done in recent years to study what differences in pronunciation are found between words said in slow speech and the same words produced in fast speech. While some aspects of speaking rate are not linguistically important, e.g. one individual speaker's speaking rate when compared with some other individual's, there is evidence to suggest that we do use such variation contrastively to help to convey something about our attitudes and emotions. This linguistic use of speaking rate is frequently called **tempo**. In research in this area it is felt necessary to use 2 different measures: the rate including **pauses** and **hesitations**, speaking rate, and the rate with these excluded, **articulation** rate. Although typing speed is often measured in words per minute, in the study of speech rate it is usual to measure either **syllables** per second or **phonemes** per second. Most speakers seem to produce speech at a rate of 5 or 6 syllables per second, or 10 to 12 phonemes per second **(Roach:2009)**
432.	**tempo of speech** – the rate of utterance **(Leontyeva:2004)**
433.	**tempo of speech** ['**tempəu əv 'spi:t**ʃ] **Нутқ темпи**: нуткнинг айтилиш вақти, секин, нормал, тез талаффуз килиш.**Темп речи**, время звучания; бывает слабый, нормальный и быстрый темпы. (**Abduazizov:1986**)
434.	**tense** [**tens**] (**Fortes**) **Кучли** Иглиз тилидаги чузиқ унлиларнинг талаффузида нутқ органлари кучли ҳолатда булади **Напряженность**. При артикуляции долгих гласных английского языка органы речи бывают напряженными (**Abduazizov:1986**)
435.	**terminal tone:** a change of pitch at the junction, the joining of 2 sounds or words, of 2 sense-groups **(Leontyeva:2004)**
436.	**tessitura** This is not a commonly used term in Phonetics, but it has been put forward as a technical term, borrowed from singing terminology, to refer to what is sometimes called **pitch range**. Speakers have their own natural tessitura, the range between the lowest and highest pitch they normally use, but also may extend or shift this for special purposes. The speech of sports commentators provides a lot of suitable research material for this **(Roach:2009)**
437.	**timbre** (**tamber**) ['**timbə**, '**tæmbə**] **Овознинг сифати**, **тембри**, у бевосита нейтрал ва эмоционал булади **Качество** (**тембр**) **голоса** бывает нейтральным и эмоциональным (**Abduazizov:1986**)
438.	**timbre (tamber)** It is sometimes useful to have a general word to refer to the **quality of a sound**, and timbre is sometimes used in that role. It is one of the many words that Phonetics has adopted from musical terminology. The word is sometimes spelt **tamber (Roach:2009)**
439.	**tip** It is useful to divide the tongue up into sections or zones for the purposes of describing its use in articulation. The end of the tongue nearest to the front teeth is called the tip. Sounds made with the tip of the tongue are called **apical (Roach:2009)**
440.	**ToBI** This is an alternative way of analyzing and transcribing **intonation** which was developed by American researchers in the 1990s. Its basic principle is that intonation can be represented by sequences of **high tone** (H) and **low tone** (L). Since most tones in intonation are in fact moving, ToBI links the H and L elements together, so that, e.g. a rise is a sequence of L followed by H. The ToBI system was developed and tested to ensure that users could be trained to use it and to be consistent with other users, and in research use it has always been a computer-based system in which the user transcribes the intonation on the computer screen, adding the symbols to the **acoustic signal**. Unfortunately, as so often happens with approaches to intonation, a system with a simple basic design gets loaded with more and more detail, often as a result of people publishing papers that point out weaknesses of the system as it stands. Versions of ToBI have been developed for other languages, for other dialects of English and for multi-dialectal comparative studies, and it has to be said that it is now forbiddingly complex for the new user. A highly simplified account of ToBI can be read in *English Phonetics and Phonology* Section 17.4, but to get a comprehensive introduction it is best to read tutorial material on the ToBI website at http://www.ling.ohio-state.edu/~tobi/ **(Roach:2009)**
441.	**tone** Although this word has a very wide range of meanings and uses in ordinary language, its meaning in Phonetics and Phonology is quite restricted: it refers to an identifiable movement or level of **pitch** that is used

	in a linguistically contrastive way. In some languages, known as **tone languages**, the linguistic function of tone is to change the meaning of a word: in Mandarin Chinese, e.g. ↑**ma** said with high pitch means '*mother*' while ↓**ma** said on a low rising tone means '*hemp*'. In other languages, tone forms the central part of intonation, and the difference between, a rising and a falling tone on a particular word may cause a different interpretation of the sentence in which it occurs. In the case of tone languages it is usual to identify tones as being a property of individual syllables, whereas an **intonational** tone may be spread over many syllables. In the analysis of English intonation, tone refers to1of the pitch possibilities for the **tonic** or nuclear syllable, a set usually including fall, rise, fall-rise and rise-fall, though others are suggested by various writers **(Roach:2009)**
442.	**tone language** As explained in the section on **tone**, some languages make use of tone for distinguishing word meanings, or, in some cases, for indicating different aspects of grammar. It is probably the case that the majority of the people in the world speak a tone language as their native language, and the peripheral role assigned to the subject of tone by European-language-speaking phoneticians and phonologists shows a regrettable bias that has only recently begun to be corrected. It is conventional, though not strictly accurate, to divide tone languages into **contour** languages, where the most important distinguishing characteristic of tones is the shape of their pitch contour, and **register** languages where the height of the pitch is the most important thing. Chinese, and other languages of south-east Asia, are said to be contour languages while most African tone languages, mainly in the South and West of Africa, are classed as register languages. The Amerindian tone languages of Central and South America seem to be difficult to fit into this classification. Pitch is not the only determining factor in tone: some languages use **voice quality** differences in a similar way. North Vietnamese, e.g. has '**creaky**' or '**glottalized**' tones **(Roach:2009)**
443.	**tone:** Sounds may be periodical and non-periodical. If the vibrations of a physical body are rhythmical, the auditory impression of periodic waves is a musical tone, or in speech – a speech tone. **(Leontyeva:2004)**
444.	**toneme** [**'təuni:m**] **Тонема** 1. Тон ургуси ёрдамида сузларнинг маъноларини фаркловчи фонологик бирлик. *Мас.*, хитой, тай ва бошқа тилларда. 2. Фразаларни тоннинг баландлиги ёрдамида фарклашга хизмат килувчи фонологик бирлик. 1. Фонологическая единица, служащая для дифференциации слов с помощью тонового ударения. *Напр.*, в китайском, тайском и др. языках. 2. Фонологическая единица во фразе, служащая для их различения с помощью высоты тона (**Abduazizov:1986**)
445.	**toneme** of a sentence or of a sense-group is a separate phonological unit because it performs the distinctive function **(Leontyeva:2004)**
446.	**tone-unit** In the study of **intonation** it is usual to divide speech into larger units than **syllables**. If one studies only short sentences said in isolation it may be sufficient to make no subdivision of the utterance, unless perhaps to mark out rhythmical units such as the **foot**, but in longer utterances there must be some points at which the analyst marks a break between the end of one pattern and the beginning of the next. These breaks divide speech into tone-units, and are called tone-unit boundaries. If the study of intonation is part of Phonology, these boundaries should be identifiable with reference to their effect on pronunciation rather than to grammatical information about word and clause boundaries; statistically, however, we find that in most cases tone-unit boundaries do fall at obvious syntactic boundaries, and it would be rather odd to divide 2 tone-units in the middle of a phrase. The most obvious factor to look for in trying to establish boundaries is the presence of a **pause**, and in slow careful speech, e.g. in lectures, sermons and political speeches, this may be done quite regularly. However, it seems that we detect tone-unit boundaries even when the speaker does not make a pause, if there is an identifiable break or discontinuity in the **rhythm** or in the intonation pattern. There is evidence that we use a larger number of shorter tone-units in informal conversational speech, and fewer, longer tone units in formal styles **(Roach:2009)**
447.	**tongue** is such an important organ for the production of speech that many languages base their word for 'language' on it. It is composed almost entirely of muscle tissue, and the muscles can achieve extraordinary control over the shape and movement of the tongue. The mechanism for protruding the tongue forward out of the mouth between the front teeth, e.g. is one which would be very difficult for any engineer to design with no rigid components and no fixed external point to use for pulling. The tongue is usually subdivided for the purposes of description: the furthest forward section is the **tip**, and behind this is the blade. The widest part of the tongue is called the **front**, behind which is the back, which extends past the back teeth and down the forward part of the **pharynx**. Finally, where the tongue ends and is joined to the rear end of the lower jaw is the **root**, which has little linguistic function, though it is suggested that this can moved forward and backward to change vowel quality, and that this adjustment is used in some African languages. The **manner of articulation** of many consonants depends on the versatility of the tongue. **Plosives** involving the tongue require an air-tight closure: in the case of those made with the tongue tip or blade, a closure between the forward part of the tongue and the **palate** or the front teeth is made, as well as one between the sides of the tongue and inner surfaces of the upper molar teeth. Velar and uvular plosives require an air-tight closure between the back of the tongue and the underside of the soft palate. Other articulations include **laterals**, where the tongue makes central contact but allows air to escape over its sides, and tongue-tip **trill**, **tap** and **flap**. **Retroflex** consonants are made by curling the tip of the tongue backwards. Finally, the tongue is also used to create an **airstream** for '**click**' consonants. It is sometimes necessary for the tongue to be removed surgically, usually as a result of cancer, in an operation called glossectomy; surprisingly, patients are able to speak

	intelligibly after this operation when they have had time to practice new ways of articulating **(Roach:2009)**
448.	**tonic** – This adjective is used in the description of **intonation**. A tonic syllable is one which carries a **tone**, i.e. has a noticeable degree of **prominence**. In theories of intonation where only one tone may occur in a **tone-unit**, the tonic syllable therefore is the point of strongest **stress (Roach:2009)**
449.	**trachea** – This is more popularly known as the '*windpipe*': it is the tube carrying air which descends from the **larynx** to the **lungs**. It runs close to the **oesophagus**, which carries food and drink down to the stomach. When something that should be going down the oesophagus starts going down the trachea instead, we get rid of it by coughing **(Roach:2009)**
450.	**transcription** – In present-day usage, transcription is the writing down of a spoken utterance using a suitable set of **symbols**. In its original meaning the word implied converting from one representation, e.g. written text into another, e.g. phonetic symbols. Transcription exercises are a long-established exercise for teaching Phonetics. There are many different types of transcription: the most fundamental division that can be made is between phonemic and phonetic transcription. In the case of the former, the only symbols that may be used are those which represent one of the **phonemes** of the language, and extra symbols are excluded. In a phonetic transcription the transcriber may use the full range of phonetic symbols if these are required; a narrow phonetic transcription is one which carries a lot of fine detail about the precise phonetic quality of sounds, while a broad phonetic transcription gives a more limited amount of phonetic information. Many different types of phonemic transcription have been discussed: many of the issues are too complex to go into here, but the fundamental question is whether a phonemic transcription should only represent what can be heard, or whether it should also include sounds that the native speaker feels belong to the words heard, even if those sounds are not physically present. Take the word '*football*', which every native speaker of English can see is made from '*foot*' and '*ball*': in ordinary speech it is likely that no **t** will be pronounced, though there will probably be a brief **p** sound in its place. Those who favour a more abstract phonemic transcription will say that the word is still phonemically **fʊtbɔ:l**, and the bilabial stop is just a bit of **allophonic** variation that is not worth recording at this level **(Roach:2009)**
451.	**transcription** ['**trænskrip͡jən**] **Транскрипция** оғзаки нуткни махсус белгилар орхали ёзиб олиш усули. Способ записи устной речи с помощью специальных знаков (**Abduazizov:1986**)
452.	**transcription: Phonetic** allophonic **transcription** [**fə'netik træns'krip͡jən**] **Фонетик**, аллофоник **трансрипация**, бир товуш бир белги билан курсатилувчи транскрипция. **Мас.**: *китоб* [**китоп**] каби **Фонетическая**, аллофоническая **транскрипция**, при которой один знак соответствует одному звуку. *Напр. pen* [**pen**], *sit* [**sit**] **(Abduazizov:1986)**
453.	**transcription**: **Phonological** phonematic **transcription** [**fəunə'lo:dʒik(ə)l 'trænskrip͡n**] **Фонологик** фонематик **транскрипция** бир фонема бир белги тартибида ёзиб олишга асосланган транскрипция. **Фонологическая** или фонематическая **транскрипция**, при которой один знак соответствует одной фонеме *Напр.* [**p**] - /**p**/ **(Abduazizov:1986**)
454.	**tridimensional** (**bilateral**) **opposition** [**,tri'daimen͡jənəl**] **Бир улчовли оппозиция** - аъзоларига тегишли белгилар йигиндиси факат шу фонемаларга тегишли булиб, системадаги бошқа аъзога тегишли эмас *Мас.*, *инглис* **p - b**, **t - d**, **k - g**, **b - m**, **d - n**, **g - n**, **f - v**, **s - z**, **s - f** **Одномерная оппозиция**, совокупность признаков, которыми обладают в равной мере оба члена оппозиции. Она присуща только этим 2 членам оппозиции и не присуща никакому другому члену той же системы. *Напр.*, *англ.* **p - b**, **t - d**, **k - g**, **b - m**, **d - n**, **g - n**, **f - v**, **s - z**, **s - f** (**Abduazizov:1986**)
455.	**trill** The parts of the body that are used in speaking, the vocal apparatus, include some '*wobbly bits*' that can be made to vibrate. When this type of vibration is made as a speech sound, it is called a **trill**. The possibilities include a **bilabial** trill, where the lips vibrate, used as a mild insult, this is sometimes called '*blowing a raspberry*', or, in the USA, a '*Bronx Cheer*'; a **tongue-tip** trill, often called a '*rolled* **r**', which is produced in many languages for a sound represented alphabetically as '**r**' or '**rr**', and a **uvular** trill, which is a rather dramatic way of pronouncing a '*uvular* **r**' as found in French, German and many other European languages, most commonly used in acting and singing – Edith Piaf's singing pronunciation is a good example. The vibration of the vocal folds that we normally call voicing is, strictly speaking, another trill, but it is not normally classed with the other trills. Nor is the sound produced by snoring, which is a trill of the soft palate caused by ingressive airflow during breathing in. When trills occur in languages, they are almost always voiced: it is difficult to explain why this is so **(Roach:2009)**
456.	**triphthong** is a vowel **glide** with 3 distinguishable vowel qualities; in other words, it is similar to a **diphthong** but comprising 3 rather than 2 **vowel** qualities. In English there are said to be 5 triphthongs, formed by adding **ə** to the diphthongs **ei**, **ai**, **ɔi**, **əʊ**, **aʊ**, these triphthongs are found in the words '*layer*' **leiə**, '*liar*' **laiə**, '*loyal*' **lɔiəl**, '*mower*' **məʊə**, '*power*' **paʊə**. Things are not this simple, however. There are many other e.g. of sequences of 3 vowel qualities, e.g. '*play- off*' **pleiɒf**, '*reopen*' **riəʊpən**, so the 5 listed above must have some special characteristic. One possibility is that speakers hear them as 1 **syllable**; this may be the case, but there does not seem to be any clear way of proving this. This is a matter which depends to some extent on the

	accent: many BBC speakers pronounce these sequences almost as pure vowels; prolongations of the 1st element of the triphthong, so that the word '*Ireland*', e.g. sounds like **ɑ:lənd**; in Lancashire and Yorkshire accents, on the other hand, the middle vowel **i** or **ʊ** is pronounced with such a close vowel quality that it would seem more appropriate to transcribe the triphthongs with **j** or **w** in the middle e.g. '*fire*' **fajə**, emphasizing the disyllabic aspect of their pronunciation **(Roach:2009)**
457.	**Tune One** – a falling tone. **(Leontyeva:2004)**
458.	**Tune Two** – a rising tone. **(Leontyeva:2004)**
459.	**turn-taking** – The analysis of conversation has become an important part of linguistic and phonetic research, and one of the major areas to be studied is how participants in a conversation manage to take turns to speak without interrupting each other too much. There are many subtle ways of giving the necessary signals, many of which make use of **prosodic features** in speech such as a change of **rhythm (Roach:2009)**
460.	**tymber**, the quality of a musical sound, depending on what overtones, the tones above the fundamental tone in a harmonic series are present, including their respective amplitudes *also* **timbre**, **tambre (Leontyeva:2004)**
461.	**unaccented** – unstressed **(Leontyeva:2004)**
462.	**undertone** – a low tone of the voice. **(Leontyeva:2004)**
463.	**unrounded** vowels ['ʌnraundid 'vauəlz] **Лабиаланмаган унлилар**, талаффузида лаблар иштирок этмовчи унлилар *Mac.*: **i**, **i:**, **e**, **ɛ**, **ə**, **æ**, **ɑ: ʌ Нелабиализованные** гласные, при образовании которых губы не участвуют *Hanp.* **i**, **i:**, **e**, **ɛ**, **ə**, **æ**, **ɑ: ʌ** (**Abduazizov:1986**)
464.	**upspeak** – This is a joking name for a popular style of **intonation** used mainly by young people, in which a rising **tone** is used where a fall would be expected. This has the effect of making statements sound like questions. It is often indicated by writers such as novelists and journalists by the use of question marks e.g.: '*I saw John last night*? *He was*, *like*, *completely out of his mind*?' **(Roach:2009)**
465.	**utterance** – vocal expression of some idea **(Leontyeva:2004)**
466.	**utterance** The sentence is a unit of Grammar, not of Phonology, and is often treated as an abstract entity. There is a need for a parallel term that refers to a piece of continuous speech without making implications about its grammatical status, and the term utterance is widely used for this purpose **(Roach:2009)**
467.	**uvula** – a little lump of soft tissue that you can observe in the back of the mouth dangling from the end of the **soft palate**, if you look in a mirror with the mouth open is something that the human race could probably manage perfectly well without, but one of the few useful things it does is to act as a place of articulation for a range of consonants articulated in the back of the mouth. There are uvular **plosives**: the voiceless one **q** is found as a **phoneme** in many dialects of Arabic, while the voiced one **g** is rather more elusive. Uvular fricatives are found quite commonly: German, Hebrew, Dutch and Spanish, e.g. have voiceless ones, and French, Arabic and Danish **have** voiced ones. The uvular nasal **n** is found in some Inuit languages. The uvula itself moves only when it vibrates in a uvular **trill (Roach:2009)**
468.	**uvular consonants** ['ju:vulə] **Увуляр ундошлар**, кичик тил ёрдамида хосил булувчи товушлар. *Mac.*: *узб.* **q**, **ɣ**, *француз тилида* [ɣ]. **ɣ = ғ Увулярные** или **язычковые согласные**, артикулируемые нёбным язычком или задней спинкой языка. *Hanp.*, *узб.* **q**, **ɣ**; *франц.* [ɣ] (**Abduazizov:1986**)
469.	**variations** ('in stylistic variations') – variations in the pronunciation of speech sounds, words and sentences peculiar to different styles of speech **(Leontyeva:2004)**
470.	**variations** of the phoneme [,veri'ei̯ənz əvðə 'fəunim] '**Фонеманинг вариацияси**' фонеманинг асосий вариантидан, аллофонидан, фарқланувчи иккинчи даражали товушлар. **Второстепенные звуки**, относящиеся к определенной фонеме и отличающиеся от ее вариантов, аллофонов. (**Abduazizov:1986**)
471.	**variphone** ['veərifəun] **Варифон – эркин фонема**. Маълум фонеманинг позицион узгаришлар билан боғлиқ булмаган ва турли диалектларда учрайдиган вакилларининг йигиндиси. **Варифои – свободная фонема**. Совокупность реализации определенной фонемы, необусловленной позиционными изменениями и непроизвольно возникающей в разных диалектах (**Abduazizov:1986**)
472.	**velar** ['velə] consonants **Веляр ундошлар**, танглай, тил оркали, ёки чуқур тил орқа ундошлар; тил орқа кисмининг танглайнинг орқа қисмига томом кутарилиши билан талаффуз этилувчи товушлар *Mac.*: **q**, **ɣ x Велярные**, задненёбные согласные, образуемые нёбной занавеской. *Hanp.*, **q**, **ɣ**, **x** (**Abduazizov:1986**)
473.	**velaric airstream** – Speech sounds are made by moving air, *see* **airstream**, and the human speech-production system has a number of ways of making air move. One of the most basic is the sucking mechanism that is used first by babies for feeding and by humans in later stages of life for such things as sucking liquid through a straw or drawing smoke from a cigarette. The basic mechanism for this is the air-tight closure between the back of the **tongue** and the **soft palate**: if the tongue is then retracted, pressure in the oral cavity is lowered and suction results. Consonants produced with this mechanism are called **clicks (Roach:2009)**
474.	**velarization** ['veləri'zei̯ən] **Веляризация**. Тил орқа қисмининг юмшоқ танглайга кутарилиши орқали қаттиқлашув ҳадисаси. *Mac.*: қаттиқ **k, q Отвердение**. Дополнительная артикуляция, подъем задней части спинки языка по направлению, к твёрдому или мягкому нёбу, что вызывает твердость согласных (**Abduazizov:1986**)
475.	**velarization** is one of the processes known as **secondary articulations** in which a constriction in the **vocal tract** is added to the primary constriction which gives a consonant its **place of articulation**. In the case of English '**dark** ł', the l phoneme is articulated with its usual primary constriction in the **alveolar** region, while

	the back of the tongue is raised as for an **u** vowel creating a secondary constriction. Arabic has a number of consonant phonemes that are valorized, and are known as 'emphatic' consonants. **(Roach:2009)**
476.	**velum, velar –** is another name for the soft palate, and *velar* is the adjective corresponding to it. The 2 terms *velum* and *soft palate* can be used interchangeably in most contexts, but only the word velum lends itself to adjective formation, giving words such as *velar* which is used for the **place of articulation** of, e.g. **k** and **g**, *velic*, used rarely for a closure between the upper surface of the velum and the top of the **pharynx**, and **velaric**, for the airstream produced in the mouth with a closure between the tongue and the soft palate. **(Roach:2009)**
477.	**vocal cord**, **vocal fold** The terms are effectively identical, but the latter term is more often used in present-day Phonetics. The vocal folds form an essential part of the **larynx**, and their various states have a number of important linguistic functions. They may be firmly closed to produce what is sometimes called a **glottal stop**, and while they are closed the larynx may be moved up or down to produce an egressive or ingressive **glottalic airstream** as used in **ejective** and **implosive** consonants. When brought into light contact with each other the vocal folds tend to vibrate if air is forced through them, producing **phonation** or voicing. This vibration can be made to vary in many ways, resulting in differences in such things as **pitch**, **loudness** and voice quality. If a narrow opening is made between the vocal folds, friction noise can result and this is found in whispering and in the glottal fricative **h**. A more widely open **glottis** is found in most voiceless consonants. You can read more on this in *English Phonetics and Phonology* Section 4.1. **(Roach:2009)**
478.	**vocal tract** It is convenient to think of the passage from the **lungs** to the lips as a tube or a pair of tubes if we think of the nasal passages as a separate passage; below the **larynx** is the trachea, the air passage leading to the lungs. The part above the larynx is called the vocal tract **(Roach:2009)**
479.	**vocalic** – This word is the adjective meaning '**vowel-like**', and is the opposite of 'consonantal' **(Roach:2009)**
480.	**vocoid** As is explained under **contoid**, phoneticians have felt the need to invent terms for sounds which have the phonetic characteristics usually attributed to **vowels** and **consonants**. Since sounds which are phonetically like consonants may function like phonological vowels, and sounds which are phonetically like vowels may function phonologically as consonants, the terms **vocoid** and **contoid** were invented to be used with purely phonetic reference, leaving the terms '**vowel**' and '**consonant**' to be used with phonological reference **(Roach:2009)**
481.	**voice onset time (VOT)** – All languages distinguish between voiced and voiceless **consonants**, and **plosives** are the most common consonants to be distinguished in this way. However, this is not a simple matter of a plosive being either completely voiced or completely voiceless: the timing of the voicing in relation to the consonant articulation is very important. In one particular case this is so noticeable that it has for a long time been given its own name: **aspiration**, in which the beginning of full voicing does not happen until some time after the release of the plosive, usually voiceless. This delay, or lag, has been the subject of much experimental investigation which has led to the development of a scientific measure of voice timing called voice onset time or VOT: the onset of voicing in a plosive may lag behind the plosive release, or it may precede 'lead' it, resulting in a fully or partially voiced plosive. Both can be represented on the VOT scale, one case having positive values and the other negative values; these are usually measured in thousandths of a second: milliseconds, or msec: e.g. a Spanish **b** in which voicing begins early, might have a VOT value of -138 msec, while an English **b** with only a little voicing just before plosive release might have -10; Spanish **p,** which is un-aspirated, might have +4 msec while English **p** aspirated might have +60 msec. **(Roach:2009)**
482.	**voice quality** – Speakers differ from each other in terms of voice quality, which is the main reason for our being able to recognize individuals' voices even over the telephone, but they also introduce quite a lot of variation into their voices for particular purposes, some of which could be classed as linguistically relevant. A considerable amount of research in this field has been carried out in recent years, and we have a better understanding of the meaning of such terms as **creak**, **breathy voice** and harshness, as well as longer-established terms such as **falsetto**. Many descriptions of voice quality have assumed that all the relevant variables are located in the **larynx**, while above the larynx is the area that is responsible for the quality of individual speech sounds; however, it is now clear that this is an oversimplification, and that the supra-laryngeal area is responsible for a number of overall voice quality characteristics, particularly those which can be categorized as **articulatory settings**. Good e.g. of the kinds of use to which voice quality variation may be put in speaking can be heard in television advertising, where 'soft' or 'breathy' quality tends to be used for advertising cosmetics, toilet paper and detergents; '*creaky voice*' tends to be associated with products that the advertisers wish to portray as associated with high social class and even snobbery, e.g. *expensive sherry* and *luxury cars*, accompanied by an exaggeratedly '*posh*' accent, while products aimed exclusively at men, e.g. *beer*, *men's deodorants* seem to aim for an exaggeratedly '*manly*' voice with some harshness **(Roach:2009)**
483.	**voice** This word, with its very widespread use in everyday language, does not really have an agreed technical sense in phonetics. When we wish to refer simply to the vibration of the **vocal folds** we most frequently use the term **voicing**, but when we are interested in the quality of the resulting sound we often speak of voice, e.g. in '**voice quality**'. In the training of singers, it is always 'the voice' that is said to be trained, though of course many of the sounds that we produce when speaking or singing are actually voiceless **(Roach:2009)**
484.	**voiced** ['**voist**] consonants **Жарангли ундошлар**; талаффузида товуш пайчалари титрайдиган ундошлар.

	Мас.: **b**, **d**, **ɡ**, **v**, **ð**, **z**, **ʒ**, **dʒ**, **m**, **n**, **ŋ**, **l**, **w**, **r**, **j** каби. **Звонкие согласные**, при образовании которых голосовые связки вибрируют: **b**, **d**, **ɡ**, **v**, **ð**, **z**, **ʒ**, **dʒ**, **m**, **n**, **ŋ**, **l**, **w**, **r**, **j** (**Abduazizov:1986**)
485.	**voiceless** [**'voisləs**] **consonants**. **Жарангсиз ундошлар**. Талаффузида товуш пайчалари титрамайдигап ундош товушлар. *Мас.*: [**p**, **t**, **k**, **f**, **θ**, **s**, **ʃ**, **tʃ**, **h**] каби. **Глухие согласные**, при артикуляции которых голосовые связки не вибрируют [**p**, **t**, **k**, **f**, **θ**, **s**, **ʃ**, **tʃ**, **h**] (**Abduazizov:1986**)
486.	**voicing** – This term refers to the vibration of the **vocal folds**, and is also known as **phonation**. **Vowels, nasals** and approximants, i.e. **sonorants** are usually voiced, though in particular contexts the voicing may be weak or absent. Sounds such as voiceless **fricatives** and voiceless **plosives** are the most frequently found sounds that do not have voicing **(Roach:2009)**
487.	**volume** – force or loudness of oral speech **(Leontyeva:2004)**
488.	**vowel: cardinal vowel –** Phoneticians have always needed some way of classifying **vowels** which is independent of the vowel system of a particular language. With most consonants it is quite easy to observe how their **articulation** is organized, and to specify the place and manner of the constriction formed; vowels, however, are much less easy to observe. Early in the 20th c., the English phonetician **Daniel Jones** worked out a set of '**cardinal vowels**' that students learning Phonetics could be taught to make and which would serve as reference points that other vowels could be related to, rather like the corners and sides of a map. Jones was strongly influenced by the French phonetician **Paul Passy**, and it has been claimed that the set of cardinal vowels is rather similar to the vowels of educated Parisian French of the time. From the beginning it was important to locate the vowels on a **chart** or four-sided figure, the exact shape of which has changed from time to time, as can be seen on the IPA chart. The cardinal vowel diagram is used both for **rounded** and unrounded vowels, and Jones proposed that there should be a primary set of cardinal vowels and a secondary set. The primary set includes the front unrounded vowels [**i**, **e**, **ɛ**, **a**], the back unrounded vowel [**ɑ**] and the rounded back vowels [**ɔ**, **o**, **u**], while the secondary set comprises the front rounded vowels [**ü**, **ö**, **œ**, **Œ**], the back rounded [**ɒ**] and the back unrounded [**ʌ**, **ɣ**, **ɯ**]. For the sake of consistency, I believe it would be better to abandon the 'primary' or 'secondary' division and simply give a 'rounded' or 'unrounded' label, as appropriate, to each vowel on the quadrilateral. Phonetic 'ear-training' makes much use of the cardinal vowel system, and students can learn to identify and discriminate a very large number of different vowels in relation to the cardinal vowels. **(Roach:2009)**
489.	**vowel: close vowel –** In a close vowel the **tongue** is raised as close to the **palate** as is possible without producing **fricative** noise. Close vowels may be front, when the front of the tongue is raised, either unrounded [**i**] or rounded [**u**], or they may be back, when the back of the tongue is raised, either **rounded** [**u**] or unrounded [**ɯ**]. There are also close central vowels: rounded [**u**] and unrounded [**i**]. English **i** and **u** are often described as close vowels, but are rarely fully close in English accents. *See also* **open (Roach:2009)**
490.	**vowel: close vowel** [**'kləuz 'vauəl**] **Епик унли** тилнинг анча ёкорига кутарилиши натижасида ҳосил булувчи унли товуш. **Закрытый гласный**, образуемый при высоком подъеме языка *англ.* **i:**, **i**, **u**, **u:**, *рус.* **и**, **ұ**, *узб.* **и**, **ұ (Abduazizov:1986)**
491.	**vowel: free unchecked vowel** [**fri: 'ʌnʧekt vauəl**] Талаффузи булинмовчи унлилар. Инглиз тилида очик ва ёпик бугинларда ҳам эркин ишлатиладиган чузик унлилар ва дифтонглар. **Неусеченный гласный**. В английском языке долгие гласные и дифтонги, встречающиеся в открытом, и в закрытом слогах **(Abduazizov:1986)**
492.	**vowel: front** – One of the most important **articulatory** features of a **vowel** is determined by which part of the **tongue** is raised nearest to the **palate**. If it is the front of the tongue the vowel is classed as a front vowel: front vowels include **i**, **e**, **ɛ**, **a**, unrounded and **ü**, **ö**, **œ**, **Œ**, **rounded (Roach:2009)**
493.	**vowel: Half-open vowel** [**'hɑ:f 'əupən 'vauəl**] **Полуоткрытый гласный**, образуемый при среднем подъеме языка. *Напр.* рус. **е**, *англ.* **ɑ:**, **ʌ**, *узб.* **е**, **ұ (Abduazizov:1986)**
494.	**vowel**: **Open vowel** [**'əupən 'vauəl**] **Очиқ унли** тилнинг кутарилиши паст булган унли. *Мас.*: *узб.* **а**, **о** **Открытый гласный**, образуемый при низком подъеме языка, *англ.* **æ**, **ɑ:**, **ə**, **ə:**; *рус.* **а**, *узб.* **а**, **о**. **(Abduazizov:1986)**
495.	**vowel: pure vowel** – This term is used to refer to a **vowel** in which there is no detectable change in quality from beginning to end; an alternative name is **monophthong**. These are contrasted with vowels containing a movement, such as the **glide** in a **diphthong (Roach:2009)**
496.	**vowels** are the class of sound which makes the least obstruction to the **flow of air**. They are almost always found at the centre of a **syllable**, and it is rare to find any sound other than a vowel which is able to stand alone as a whole syllable. In phonetic terms, each vowel has a number of properties that distinguish it from other vowels. These include the shape of the **lips**, which may be rounded, as for an **u:** vowel, neutral, as for **ə** or spread, as in a smile, or an **i:** vowel – photographers traditionally ask their subjects to say '*cheese*' **ʧi:z** so that they will seem to be smiling. Secondly, the front, the middle or the back of the tongue may be raised, giving different vowel qualities: the BBC **æ** vowel '*cat*' is a front vowel, while the **ɑ:** of '*cart*' is a back vowel. The tongue and the lower jaw may be raised close to the roof of the mouth, or the tongue may be left low in the

	mouth with the jaw comparatively open. In British Phonetics we talk about '*close*' and '*open*' vowels, whereas American phoneticians more often talk about '*high*' and '*low*' vowels. The meaning is clear in either case. Vowels also differ in other ways: they may be **nasalized** by being pronounced with the **soft palate** lowered as for **n** or **m** – this effect is phonemically contrastive in French, where we find **minimal pairs** such as '*tres*' **trɛ** '*very*' and '*train*' **trɛ̃** '*train*', where the ˜ diacritic indicates nasality. Nasalized vowels are found frequently in English, usually close to nasal consonants: a word like '*morning*' **mɔ:niŋ** is likely to have at least partially nasalized vowels throughout the whole word, since the soft palate must be lowered for each of the consonants. Vowels may be voiced, as the great majority are, or voiceless, as happens in some languages: in Portuguese, e.g. unstressed vowels in the last syllable of a word are often voiceless and in English the 1st vowel in '*perhaps*' or '*potato*' is often voiceless. Less usual is the case of stressed voiceless vowels, but these are found in French: close vowels, particularly **i** but also the close front rounded **ü** and the back rounded **u**, become voiceless for some speakers when they are word-final before a pause, e.g. '*oui*' **wi** , '*midi*' **midi**, and also '*entendu*' **ãtãdü** , '*tout*' **tu**. It is claimed that in some languages, probably including English, there is a distinction to be made between **tense** and **lax** vowels, the former being made with greater force than the latter **(Roach:2009)**
497.	**vowels: central vowels** ['sentrəl 'vauəlz] **Тил урта катар унлиси** талаффузида тил урта кисмида яки шаклда пастрок, холатда харакат қилувчи товуш. *Мас.*: *рус.* **ы**, **а**. **Гласные центрального ряда**, при произношении которых форма языка характеризуется так называемым плоским профилем средних и низких укладов; *рус.* **а**, **ы (Abduazizov:1986)**
498.	**vowels: centre/al –** A **vowel** is central if it is produced with the central part of the **tongue** raised, i.e. it is neither front like [**i**] nor back like [**u**]. All descriptions of vowel quality recognize a vowel that is both central, i.e. between front and back and mid, i.e. half-way between close and open, usually named **schwa**, for which the symbol is [**ə**]. Phonetic **symbols** exist also for central vowels which are close – either rounded [**u**] or unrounded [**i**] – and for open-mid to open unrounded [**ɐ**], as well as close-mid and open-mid. *see* the **IPA Chart**. Apart from the symbol used for the English vowel in '*fur*' [**fɜ**] these are little used **(Roach:2009)**
499.	**vowels: checked vowels** ['t͡ʃekt 'vauəlz] **Талаффузи ёпик**, буринли сузларда кейинги ундош билан узилиб колувчи унлилар: *pit*, *pet*, *cut*. **Усеченные гласные**, артикуляция которых внезапно прерывается последующим согласным в односложных закрытых слогах: *pit*, *pet*, *cut* **(Abduazizov:1986)**
500.	**vowels**: **Mixed vowels** ['mikst 'vauəlz] **Аралаш қатор унлиси** ёки **индифферент**, *англ.* **Mixed** тил ясси ҳолатда булиб, тилнинг олдинга ёки орқага харакати муайян булмаган унли *Мас.*: *англ.* [**ə:**], [**ə**] «**Смешанные» гласные**, образуемые при плоском положении языка, в котором как бы участвуют оба выгиба спинки одновременно *англ.* [**ə:**], [**ə**] **(Abduazizov:1986)**
501.	**vowels: rounded vowels** ['raundid 'vauəlz] **Лабланган унли**.Талаффузида лаблар ҳаракат қилувчи унли товушлар. *Мас.*: **у**, **о Лабиализованные** округленные **гласные**, при образовании которых участвуют губы. *Напр.* **ə:**, **о**, **о:**, **u**, **u:** (**Abduazizov:1986**)
502.	**weak form** – A very important aspect of the dynamics of English pronunciation is that many very common words have not only a strong or full pronunciation, which is used when the word is said in isolation, but also one or more weak forms which are used when the word occurs in certain contexts. Words which have weak forms are, for the most part, function words such as conjunctions, e.g. '*and*', '*but*', '*or*', articles, e.g. '*a*', '*an*', '*the*', pronouns, e.g. '*she*', '*he*', '*her*', '*him*', prepositions, e.g. '*for*', '*to*', '*at*' and some auxiliary and modal verbs, e.g. '*do*', '*must*', '*should*'. Generally the strong form of such words is used when the word is being quoted, e.g. the word '*and*' is given its strong form in the sentence 'We use the word '*and*' to join clauses', when it is being contrasted, e.g. '*for*' in 'There are arguments *for* and against' and when it is at the end of a sentence, e.g. '*from*' in 'Where did you get it *from*'. Often the pronunciation of a weak-form word is so different from its strong form that if it were heard in isolation it would be impossible to recognize it: e.g. '*and*' can become /**n-**/ in 'us *and* them', 'fish *and* chips', and '*of*' can become /**f-**/ or /**v-**/ in '*of course*'. The reason for this is that to someone who knows the language well these words are usually highly predictable in their normal context *See English Phonetics and Phonology*, Chapter 12. **(Roach:2009)**
503.	**weak syllable** – In English Phonology it is possible to identify a type of **syllable** that is called **weak**. Such syllables are never **stressed**, and in rapid speech are sometimes reduced so much that they no longer count as syllables. The majority of weak syllables contain the **schwa ə** vowel, but the vowels **i**, **u** also appear in such syllables. Instead of a vowel, weak syllables may contain **syllabic consonants** such as /**l-**/ as in '*bottle*' or /**n-**/ as in '*button*' You can read about **weak syllables** in *English Phonetics and Phonology* Chapter 9 **(Roach:2009)**
504.	**whisper** – Whispering seems to be used all over the world as a way of speaking in conditions where it is necessary to be quiet. Actually, it is not very good for this: for example, whispering does not make voiceless sounds like s and t any quieter. It seems to wake sleeping babies and adults much more often than does soft voiced speech, and it seems to carry further in places like churches and concert halls. Physiologically, what happens in whispering is that the **vocal folds** are brought fairly close together until there is a small space between them, and air from the **lungs** is then forced through the hole to create friction noise which acts as a substitute for the voicing that would normally be produced. A surprising discovery is that when a speaker

	whispers it is still possible to recognize their **intonation**, or the tones of **tone languages**: theoretically, intonation can only result from the vibration of the vocal folds, but it seems that speakers can modify their **vocal tracts** to produce the effect of intonation by other means **(Roach:2009)**
505.	**widening the range –** one of the emphatic means which consists in deliberate widening the pitch levels of sense-groups **(Leontyeva:2004)**
506.	**word stress** – Not all languages make use of the possibility of using **stress** on different syllables of a polysyllabic word: in English, however, the stress pattern is an essential component of the phonological form of a word, and learners of English either have to learn the stress pattern of each word, or to learn rules to guide them in how to assign stress correctly or, quite probably, both. **Sentence stress** is a different problem, and learners also need to be aware of the phenomenon of **stress-shift** in which stress moves from one syllable to another in particular contexts. It is usual to treat each word, when said on its own, as having just one primary i.e. strongest stress; if it is a monosyllabic word, and then of course there is no more to say. If the word contains more than one syllable, then other syllables will have other levels of stress, and secondary stress is often found in words like – ,*over`whelming* with primary word stress on the '*whelm*' syllable and secondary stress on the 1st syllable **(Roach:2009)**
507.	**word stress** [**'wə:d 'stres**] **Сўз урғуси**; сўздаги бўғин ёки бўғинларни ажратувчи ургу. **Словесное ударение**; выделение слога или слогов в слове. (**Abduazizov:1986**)
508.	**word stress** or **word accent**: every disyllabic and polysyllabic word pronounced in isolation has word stress. It is the singling out of one or more of its syllables by giving them a greater degree of prominence as compared to the other syllable or syllables in the same word **(Leontyeva:2004)**
509.	**X-ray –** In the development of experimental phonetics, radiography has played a very important role and much of what we know about the dimensions and movements of the vocal tract has resulted from the examination of **X-ray** photos and film. In the last twenty years there has been a sharp decline in the amount of radiographic research in speech since the risk from the radiation is now known to be higher than was suspected before. The technique known as the **X-ray** Microbeam, developed in Japan and the USA revived this research for some time: a computer controls the direction of a very narrow beam of low-intensity radiation and builds up a picture of articulatory movements through rapid scanning. The equipment was extremely expensive, but produced valuable results. In present-day research, other techniques such as measuring the movements of articulators by means of electromagnetic tracking or magnetic resonance imaging (**MRI**) are more widely used. **(Roach:2009)**

1. Abduazizov A. A. Theoretical phonetics of Modern English. Tashkent. 1986 pp. 178-190
2. Leontyeva S. F. A Theoretical Course of English Phonetics Moscow: Изд-во «Менеджер». 2004. pp. 298-334
3. Roach P. English Phonetics and Phonology. Glossary. Cambridge: CUP. 2009. 104 p

CONTENTS

PREFACE ……..…6
COURSE DESCRIPTION……..…6
THEORETICAL ASPECTS OF THE COURSE ……12
SEMINAR PRESENTATIONS…….129
PRACTICAL TASKS ……...137
GLOSSARY……...189

«Miraziz Nukus» ЖШЖ баспаханасында басылды.
Өзбекстан Республикасы баспа сөз ҳәм хабар агентлигиниң
2018-жыл 16-майдағы № 11–3059 лицензиясы.
Көлеми 15 баспа табақ. Қағаз көлеми 60x84 1/16
Буйыртпа №99-19. Тиражы 50 нусқа