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LESSON II

ENGLISH SOUNDS AND THEIR TRANSCRIPTION SYMBOLS

Human Speech Organs

As discussed in Lesson I, there are 44 different sounds (or phonemes) in English, including 12 vowels, 8 diphthongs, and 24 consonants (see Table 1: English Sounds). Those speech sounds are produced by our speech organs, including our mouth: lips, tongue, teeth, hard and soft palates, and alveolar ridge; nasal cavity; pharynx and larynx. (See the diagram below). Articulation happens when the air stream is interrupted, shaped, restricted, or diverted.

- | | |
|-------------------|-----------------|
| 1. Upper lip | 10. Larynx |
| 2. Nasal cavity | 11. Lower teeth |
| 3. Upper teeth | 12. Lower lip |
| 4. Alveolar ridge | 13. Tongue |
| 5. Hard palate | a. tip |
| 6. Soft palate | b. blade |
| 7. Uvula | c. front |
| 8. Pharynx | d. centre |
| 9. Glottis | e. back |

Figure: Human Speech Organs

The articulation of Vowels

Vowel Sounds are produced when the air stream is voiced through the vibration of the vocal cords in the larynx, and then shaped using the tongue and the lips to modify the overall shape of the mouth. The description of vowels refers to the height of the tongue, the part of the tongue which is raised, and the lip positions. Based on the height of the tongue, vowels are classified into close, mid, and open vowels. Close vowels are those produced with the tongue quite high in the mouth, while open vowels are those produced with the tongue low in the mouth. Mid vowels are those produced with the tongue neither high nor low in the mouth. In connection with the part of the tongue which is raised, vowels are classified into front, centre,

and back vowels. While in reference to the lip position, vowels are produced with the lips rounded, spread, or neutral.

The following diagram summarizes vowels of English.

Figure 2: English Vowels

Diphthongs

A crude definition of diphthong might be a combination of vowel sounds. A slightly closer analysis shows us that there is a glide (or a movement of the tongue, lips, and jaw) from one pure vowel sound to another. The first sound in each phoneme is longer and louder than the second. English is usually described as having 8 diphthongs, and are grouped into centring diphthong, and closing diphthongs. Centring diphthongs end with a glide towards /ə/. They are called centring because /ə/ is a central vowel (refer to the above diagram). This group includes /ɪə/, /ʊə/, and /eə/. Closing diphthongs end with a glide towards /i/ or towards /u/. The glide is towards a higher position in the mouth. This group includes /ei/, /ɔi/, /ai/, /əu/, and /au/.

The articulation of Consonants

Consonants can be described from three standpoints: the presence or absence of voicing (voiced or voiceless), the manner of articulation, and the place of articulation.

With regard to the manner of articulation the vocal tract may be completely closed so that the air is so temporarily unable to pass through. Alternatively there may be a closing movement of the lips, tongue, or throat, so that it is possible to hear the sound made by air passing through. Or, as in case of the nasal sounds, the air is diverted through the nasal passages. The various terms used are explained in the following table:

Manner of articulation	
Plosive	A complete closure is made somewhere in the vocal tract, and the soft palate is also raised. Air pressure increases behind the closure, and is then released 'explosively', e.g. /p/, /b/
Affricate	A complete closure is made somewhere in the mouth, and the soft palate is raised. Air pressure increases behind the closure, and is then released more slowly than in plosive, e.g. /tʃ/ and /dʒ/
Fricative	When two vocal organs come close enough together for the movement of air between them to be heard, e.g. /f/, and /v/
Nasal	A closure is made by the lips, or by the tongue against the palate, the soft palate is lowered, and air escapes through the nose, e.g. /m/, /n/, /ŋ/
Lateral	A partial closure is made by the blade of the tongue against the alveolar ridge. Air is able to flow around the side of the tongue, e.g. /l/
Approximant	Vocal organs come near to each other, but not so close so as to cause audible friction, e.g. /r/, and /w/

With regard to the place of articulation, the following table summarizes the main movements of the various articulators:

Place of Articulation	
Bilabial	Using closing movement of both lips, e.g. /p/, /m/
Labio-dental	Using the lower lip and the upper teeth, e.g. /f/, and /v/
Dental	The tongue tip is used either between the teeth or close to the upper teeth, e.g. /θ/, and /ð/
Alveolar	The blade of the tongue is used close to the alveolar ridge, e.g. /t/, and /s/
Palato-alveolar	The blade (or tip) of the tongue is used just behind the alveolar ridge, e.g. /tʃ/ and /dʒ/
Palatal	The front of the tongue is raised close to the palate, e.g. /j/
Velar	The back of the tongue is used against the soft palate, e.g. /k/, /ŋ/
Glottal	The gap between the vocal cords is used to make audible friction, e.g.

	/h/
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Voicing, manner, and place of articulation are together summarized in the following table:

		Place of articulation							
		Front				Back			
		bilabial	Labio-dental	dental	Alveolar	Palato-alveolar	palatal	velar	Glottal
Manner of articulation	plosive	p b			t d			k g	
	affricate					tʃ dʒ			
	fricative		f v	θ ð	s z	ʃ ʒ			h
	nasal	m			n			ŋ	
	Lateral				l				
	approximant	(w)				r	j	w	

Exercise 1

We saw in Lesson two that there are 12 pure vowels and 8 diphthongs in English.

English pure Vowels

Listen to the tape and repeat after it.

1. /i/ bead key
 cheese scene
 police people
 quay
2. /ɪ/ hit sausage
 biggest rhythm
 mountain busy
 women sieve
3. /ʊ/ book good

	woman	push
	pull	
4. /u:/	food	rude
	true	who
	fruit	soup
5. /e/	egg	left
	said	head
	read	instead
	any	leisure
	leopard	
6. /ə/	about	paper
	banana	nation
	the (before consonant)	
7. /ɜ:/	shirt	her
	word	further
	pearl	serve
	myrtle	
8. / /	fork	call
	snore	taught
	bought	board
	saw	pour
	broad	all
	law	horse
	hoarse	
9. /æ/	hat	attack
	antique	plait
10. /ʌ/	run	uncle
	front	nourish
	does	come
	flood	
11. /ɑ:/	far	part

	half	class
	command	clerk
	memoir	aunty
	hearth	
12. //	dog	often
	cough	want
	because	knowledge
	Australia	
Diphthongs		
1. /iə/	beer	beard
	fear	pierce
	Ian	here
	Idea	
2. /uə/	sure	moor
	tour	obscure
3. /eə/	where	wear
	chair	dare
	stare	there
4. /ei/	cake	way
	weigh	say
	pain	they
	vein	
5. / /	toy	avoid
	voice	enjoy
	boy	
6. /ai/	high	tie
	buy	kite
	might	cry
	eye	
7. /əu/	go	snow
	toast	home

	hello	although
8. / au/	house	loud
	down	bow
	bough	

Exercise 2: Pronounce the following pairs

/i:/ and /ɪ/

bead - bid	lead - lid	deed - did	heed - hid
reed - rid	greed - grid	greased - grist	scheme - skim
gene - gin	ease - is	leave - live	each - itch
beach - bitch	peach - pitch	reach - rich	leak - lick
peak - pick	teak - tick	check - chick	sleek - slick
seek - sick	week - wick	deal - dill	meal - mill
real - rill	seal - sill	teal - till	steal - still
eel - ill	feel - fill	heel - hill	kneel - nil
peel - pill	spiel - spill	team - Tim	deem - dim
bean - bin	dean - din	lean - Lynn	keen - kin
green - grin	seen - sin	teen - tin	heap - hip
cheap - chip	leap - lip	reap - rip	deep - dip
sheep - ship	sleep - slip	sneaker - snicker	eat - it
beat - bit	heat - hit	cheat - chit	feast - fist
wheat - whit	neat - knit	seat - sit	feet - fit

I and ei

bib - babe	limb - lame	hissed - haste	lid - laid
mid - maid	rid - raid	grid - grade	ridge - rage
give - gave	kick - cake	lick - lake	flick - flake
brick - brake	sick - sake	tick - take	stick - stake
quick - quake	wick - wake	nil - nail	bill - bale
bill - dale	fill - fail	gill - gale	hill - hale
skill - scale	mill - mail	pill - pail	rill - rail

trill – trail	till – tail	still – stale	quill –quail
dim – dame	bin – bane	fin - fain	gin – Jane
chin – chain	kin – cane	pin – pane	spin – Spain
grin – grain	sin – sane	win – wane	rip – rape
drip – drape	grip – grape	tip – tape	shiver – shaver
his – haze	kiss – case	it – ate	bit – bait
fit – fate	hit – hate	skit – skate	lit – late
slit – slate	spit – spate	wit – wait	script – scraped
fist - faced	list – laced	wrist – raced	mix – makes

e and æ

dead – dad	led – lad	blessed – blast	said – sad
end – and	bend – band	lend – land	blend – bland
mend – manned	spend – spanned	send – sand	tend – tanned
dense – dance	beg – bag	leg – lag	wrench – ranch
flesh – flash	mesh – mash	Beth – bath	neck – knack
peck – pack	wreck – rack	trek – track	shell – shall
gem – jam	hem – ham	Ben – ban	then – than
men – man	pen – pan	wren – ran	ten – tan
leather – lather	mess – mass	guess – gas	sect – sacked
bet – bat	met – mat	net – gnat	pet – pat
set – sat	vet – vat	left – laughed	pent – pant
adept – adapt	slept – slapped	lest – last	pest – past
guest – gassed	vest – vast	X – axe	sex – sacks

æ and ^

cab – cub	bad – bud	mad – mud	gassed – gust
sand – sunned	stand – stunned	dance – dunce	rabble – rubble
paddle – puddle	ankle – uncle	staff – stuff	bag – bug
hag – hug	drag – drug	hang – hung	rang – rung
sang – sung	tang – tongue	match – much	back – buck

lack – luck	track – truck	sack – suck	stack – stuck
bank – bunk	drank – drunk	mask – musk	task – tusk
cam – come	dam – dumb	ham – hum	tan – ton
sadden – sudden	cap – cup	clamp – clump	bass – bus

Exercise 3

Listen to the tape and repeat after it

(Plosive Consonants):

/p/	pin	cap	happen	
/b/	bin	cab	cabbage	
/t/	to	hat	hotter	
/d/	do	had	harder	
/k/	cot	pick	packet	queue
/g/	got	pig	forget	

Affricate Consonants:

/tʃ/	church	nature
/dʒ/	judge	larger

Fricative Consonant:

/f/	fan	hoof	café	phase
/v/	van	hooves	cover	above
/θ/	think	both	mathematics	
/ð/	the	bathe	father	
/s/	sue	this	icy	
/z/	zoo	these	lazy	
/ʃ/	she	beige	nation	
/ ʒ /		fish	measure	
/h/	hello	behind		

Nasal Consonant:

/m/	more	room	camera	
/n/	no	on	infant	know
/ŋ/	sing	sink	singing	sinking

Lateral Consonant:

/l/	live	pool	pulling
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Approximants:

/r/	red	hurry	party	car	
/j/	yes	young	usual	few	queue
	educate	suit			
/w/	wood	walk	wet	wheat	hallway

Exercises 4: Pronounce the following pairs

p and f

packed – fact	pail – fail	paint – faint	pair – fair
pan – fan	passion – fashion	past – fast	peel – feel
pig – fig	pile – file	pin – fin	pinch – finch
pit – fit	plea – flea	plight – flight	pool – fool
pour – four	praise – phrase	prose – froze	pry – fry
leaped – leafed	lapped – laughed	ripped – rift	sipped – sift
leaping – leafing	snipping – sniffing	cupping – cuffing	copper – cougher
supper – suffer	reaps – reefs	clips – cliffs	snips – sniffs
cops – coughs	cups – cuffs	copy – coffee	puppy – puffy
stripe – strife	wipe – wife	lope – loaf	cheap – chief
leap – leaf	reap – reef	chap – chaff	beep – beef
skip – skiff	clip – cliff	gulp – gulf	limp – lymph

f and v

fail – veil	fairy – very	fan – van	fast – vast
fat – vat	fault – vault	fear – veer	fee – V

feel – veal	feign – vain	fender – vendor	ferry – very
few – view	file – vile	final – vinyl	fine- vine
first – verse	focal – vocal	foist – voiced	fuse – views
shuffled – shoveled	infested – invested	rifle – rival	refuse – reviews
leafing – leaving	safer – saver	wafer – waiver	belief – believe

v and w

veil – wail	vain – wane	vary – wary	veered – weird
vend – wend	vent – went	veer – we're	vet – wet
vile – wile	vine – wine	viper – wiper	visor – wiser
verse – worse	roved – rowed	moving – mooing	roving – rowing
dove – dough	groove – grew	grove – grow	stove – stow

θ and t

thank – tank	theme – team	thick – tick	thicker – ticker
thicket – ticket	thigh – tie	thin – tin	thong – tong
thorn – torn	thought – taught	thrash – trash	three – tree
threw – true	thrill – trill	thrust – trust	thug – tug
rethread – retread	ether – eater	deaths – debts	oaths – oats
faiths – fates	tenths – tents	fourths – forts	sheath - sheet
myths – mitts	bath – bat	death – debt	heath – heat
math – mat	path – pat	wrath – rat	with – wit
both – boat	booth – boot	tooth – toot	broth – brought
froth – fraught	dearth – dirt	hearth – heart	growth – groat

ð and d

than – Dan	their – dare	then – den	thence – dense
they – day	those – doze	though – dough	thy – die
breathing – breeding	wreathing – reading	loathing – loading	seething – seeding
other – udder	breathes – breeds	loathes – loads	worthy – wordy
bathe – bayed	sheathe – she'd	soothe – sued	scythe – side

s and j

sack – shack	said – shed	sail – shale	sake – shake
sallow – shallow	same – shame	save – shave	sealed – shield
seat – sheet	see – she	seed – she'd	seep – sheep
seer – sheer	self – shelf	sell – shell	sewn – shone
sigh – shy	sign – shine	single – shingle	so – show
sore – shore	sort – short	sour – shower	subtle – shuttle
suck – shuck	sue – shoe	suit – shoot	sun – shun
gassed – gashed	classed – clashed	fasten – fashion	pussy – pushy
Paris – parish	bass – bash	mass – mash	mess – mesh

s and z

seal – zeal	sewn – zone	sing – zing	sink – zinc
sip – zip	sipper – zipper	sue – zoo	sounds – zounds
muscle – muzzle	gristle – grizzle	facing – fazing	racing – raising
bracing – braising	gracing – grazing	ceasing – seizing	racer – razor
maces – mazes	races – raises	prices – prizes	lacy – lazy
peace – peas	face – faze	lace – lays	place – plays
mace – maze	pace – pays	race – rays	brace – brays
grace – graze	trace – trays	fleece – fleas	niece – knees
ice – eyes	dice – dies	lice – lies	spice – spies
rice – rise	price – prize	pence – pens	since – sins
fierce – fears	pierce – peers	force – fours	sauce – saws
base – bays	dense – dens	loss – laws	floss - flaws

Exercise 5: Read the following dialogue

Listen to conversation between two friends.

Woman : Wasn't that a fascinating lecture on dolphins? I didn't know that dolphins traveled in such large groups, or were able to communicate with other members of their group with those whistle-like sounds.

Man : And they also use clicks as a sort of sonar.

Woman : I really couldn't understand that part of the lecture. You could?

Man : Yes, the dolphins use clicks to identify objects in the water; they can even identify tiny objects more than 100 meters away using these clicks. Scientists believe that a dolphin may even have a sonar-like image in its brain of a distant object so that it can identify the object long before the dolphin can actually see the object.

Woman : So the dolphins use these clicks mostly to identify objects in the water?

Man : I think so, and they have considerably more ability to do this than humans do.

Woman : It is hard to believe that, in addition to these sonar clicks, dolphins are actually learning some human language.

Man : Yes, I believe that the lecturer said that some dolphins had already learned around fifty human commands, and that those dolphins were able to understand not only individual words but words clustered together in sentences!

Woman : Dolphins must certainly be amazing animals to do all of that.

Man : I'm sure they are, and we're only just beginning to find out how intelligent they are.