## Contents

List of symbols used
Preface to the second edition
Thanks
How to use this book ..... 1
1 Introduction ..... 3
2 The production of speech sounds ..... 8
2.1 Articulators above the larynx
2.2 Vowel and consonant
2.3 English short vowels
3 Long vowels, diphthongs and triphthongs ..... 18
3.1 Long and short vowels
3.2 Diphthongs
3.3 Triphthongs
4 Voicing and consonants ..... 26
4.1 The larynx
4.2 Respiration and voicing
4.3 Plosives
4.4 English plosives
4.5 Fortis and lenis
5 The phoneme ..... 36
5.1 The phoneme
5.2 Symbols and transcription
5.3 Phonology
6 Fricatives and affricates ..... 47
6.1 Production of fricatives and affricates
6.2 The fricatives of English
6.3 The affricates
6.4 Fortis consonants
7 Nasals and other consonants ..... 567.1 Nasals
7.21
7.3 r
7.4 j and w
8 The syllable ..... 67
9 Strong and weak syllables ..... 75
9.1 Strong and weak
9.2 The $\boldsymbol{r}$ vowel ("schwa")
9.3 Close front and close back vowels
9.4 Syllabic consonants
10 Stress in simple words ..... 85
10.1 The nature of stress
10.2 Levels of stress
10.3 Placement of stress within the word
11 Complex word stress ..... 95
11.1 Complex words
11.2 Suffixes
11.3 Prefixes
11.4 Compound words
11.5 Variable stress
11.6 Word-class pairs
12 Weak forms ..... 102
13 Problems in phonemic analysis ..... 111
13.1 Problems of analysis
13.2 Problems of assignment
14 Aspects of connected speech ..... 120
14.1 Rhythm
14.2 Assimilation
14.3 Elision
14.4 Linking
15 Intonation 1 ..... 133
15.1 Form and function in intonation
15.2 Tone and tone languages
15.3 Complex tones and pitch height
15.4 Some functions of English tones
16 Intonation 2 ..... 144
16.1 The tone-unit
16.2 The structure of the tone-unit
16.3 Pitch possibilities in the simple tone-unit
17 Intonation 3 ..... 152
17.1 Fall-rise and rise-fall tones followed by a tail
17.2 High and low heads
17.3 Problems in analysing the form of intonation
18 Functions of intonation 1 ..... 163
18.1 The attitudinal function of intonation
19 Functions of intonation 2 ..... 172
19.1 The accentual function of intonation
19.2 The grammatical function of intonation
19.3 The discourse function of intonation
19.4 Conclusions
20 Further areas of study in phonetics and phonology ..... 182
20.1 Distinctive features
20.2 Experimental phonetics
20.3 The study of variety
Recorded exercises ..... 194
Tape Unit 2: English short vowels ..... 195
Tape Unit 3: Long vowels, diphthongs and triphthongs ..... 196
Tape Unit 4: Plosives ..... 199
Tape Unit 5: Revision ..... 201
Tape Unit 6: Fricatives and affricates ..... 203
Tape Unit 7: Further consonants ..... 205
Tape Unit 8: Consonant clusters ..... 207
Tape Unit 9: Weak syllables ..... 209
Tape Unit 10: Word stress ..... 211
Tape Unit 11: Complex word stress ..... 213
Tape Unit 12: Weak forms ..... 215
Tape Unit 13: Revision ..... 217
Tape Unit 14: Elisions ..... 219
Tape Unit 15: Tones ..... 220
Tape Unit 16: The tone-unit ..... 221
Tape Unit 17: Intonation ..... 223
Tape Unit 18: Intonation - extracts from conversation ..... 224
Tape Unit 19: Transcription of connected speech ..... 225
Tape Unit 20: Further practice on connected speech ..... 227
Answers to written exercises ..... 228
Answers to recorded exercises ..... 239
Recommendations for general reading ..... 248
Bibliography ..... 251
Index ..... 259

## List of symbols used

1. Symbols for phonemes

| 1 | as in 'pit' prt |  | as in 'key' ki: |
| :---: | :---: | :---: | :---: |
| e | as in 'pet' pet | a: | as in 'car' ka: |
| æ | as in 'pat' pæt | э: | as in 'core' ko: |
| $\wedge$ | as in 'putt' p $\wedge$ t | u: | as in 'coo' ku: |
| D | as in 'pot' pdt | $3:$ | as in 'cur' k3: |
| $\checkmark$ | as in 'put' put |  |  |
| ә | as in 'about, 'upper' əbaut, ^рә |  |  |
| eI | as in 'bay' bei |  | as in 'go' gev |
| ar | as in 'buy' bar | av | as in 'cow' kav |
| ว | as in 'boy' bor |  |  |
| Іə | as in 'peer' pıə |  |  |
| еә | as in 'pear' pee |  |  |
| ขə | as in 'poor' puə |  |  |
| p | as in 'pea' pi: | b | as in 'bee' bi: |
| t | as in 'toe' tou | d | as in 'doe' dəv |
| k | as in 'cap' kæp | g | as in 'gap' gæp |
| f | as in 'fat' fæt | $v$ | as in 'vat' væt |
| $\theta$ | as in 'thing' $\mathrm{Ir}^{\text {n }}$ | 0 | as in 'this' 才is |
| s | as in 'sip' sip | z | as in 'zip' zip |
| J | as in 'ship' Jip | 3 | as in 'measure' mezə |
| h | as in 'hat' hæt |  |  |
| m | as in 'map' mæp | I | as in 'led' led |
| n | as in 'nap' næp | $r$ | as in 'red' red |
| $\eta$ | as in 'hang' hæŋ | j | as in 'yet' jet |
|  |  | w | as in 'wet' wet |
| t $]$ | as in 'chin' tyin | d3 | as in 'gin' dzın |

## Index

accents 4, 188-90
American 81
Irish 5
model 6
Northern 5
rhotic 60-1
Royal Family 25
Scottish 5
Southern 5
acoustic phonetics 185
Adam's Apple 26
affix word 95
affricate 47, 52, 110-13
airstream, pulmonic 29
allophone 38
alphabet 36
alveolar ridge 9
American pronunciation 4
approximant 59-60
post-alveolar 59-61
articulators 8
articulatory setting 131-2
articulatory phonetics 8,185
aspiration 32, 38
assimilation 123-6
progressive 124
regressive 24
auditory phonetics 185
auxiliary verb 107
BBC 24
body language 167,178
brackets 42
breath-group 150
breathing 8
breathy voice 51
cartilage 26
arytenoid 27
centralisation 42
chart, consonant 61-2
Chinese 10, 136
cluster, consonant 68
coarticulation 130-1
communication 6
comparative 57
compound tone 160
compound word 95, 98-100
computer analysis of speech 185-7
consonants
affricate 47
alveolar 9,56
bilabial 10,56
dental 9
fricative 47
glotal 28
labiodental 10
lateral $58-9$
nasal 10,56-8
retroflex 60
velar 56
contoid 16
contracted form 102
cover term 35
declination 156
diacritics 42
dialect 4
dialectology 187
diphthong 20
centring 20, 21
closing 20,21
distinctive features $182-4,190-1$
distribution 11, 16, 61
complementary 38
elision $\quad 127-8$
experimental phonetics 184-7, 191
extra pitch height 137,142
facial expression 166
fall-rise tone $137,139,152-3$
falling tone 137,138
foot 121
force of articulation 34
fortis 33, 52-4
free variation 38
frequency 30,134
fundamental 141
fricative 47-52
glottal 28
groove 54
slit 54
function word $90,102,172$
generative phonology 92
gesture 166
glottal stop 28
glottalisation 53-4
glottis 27, 53
hard palate 9
head 146
high 154-7
low 154-7
homorganic 47
intensity 30
International Phonetic Association

$$
\text { xi, } 16,39,45
$$

Chart 40-1
intonation $\mathrm{x}, 4,44$
contrastive 173
question 175
subordination 177-8, 180
intonation functions
accentual 163, 172-3
attitudinal $\quad 63,164-6$
discourse 163, 176-8
grammatical 163, 174-6
syntagmatic $164,172-8$
intrusive r 131
jaws 10
juncture 128-30
key 166,178
Kono 136
larynx $8,10,26$
lateral 58-9
lateral release 79
length 86
length-mark 18, 19, 24
lenis 33,52-4
level tone $140,145,157$
lexical word 90
linking 128
linking $r 128$
lip-rounding 14
lip-spreading 14
lips 10
loan word 90
loudness 86
lungs 8, 29
metrical phonology 130
minimal pair 82
morpheme 57
morphology 57
muscles 8
nasal release 80
neutralisation 77, 115
paralinguistic $167,169-70$
pause $150,166,174$
pharynx 9
phonation 30
phonation type 170
phoneme $3,36,38,110-18$
phonemic analysis $110-15$
phonemic assignment $110,115-16$
phonemic system 38,43
phonetics 3
phonology 3,43
pitch 86, 133
pitch phoneme 141
pitch range 166
plosion 30
plosive
closure 30
hold 30
English 31
post-release phase 31
release $30,31,71$
pre-head 146-7
prefix 95, 98
preposition 105
pressure, subglottal 30
prominence 86
pronunciation teaching 6
question-tag 175-6
$r$-sound 59-61
realisation 38
Received Pronunciation (RP) 4
respiration 29
retroflex 60
rhotic 60-1
rhythm 120-3
syllable-timed 121
stress-timed 120-1
ribs 29
rise-fall tone $137,139-40,152-4$
rising tone 137,138
schwa 76
vowel 16,20
second language
acquisition/learning 190, 192
segment 36
semivowel 61
sentence stress 172
sociolinguistics 89
soft palate 9
speech chain 185
speech synthesis 87
by rule 120
spelling 3,76
stress $x, 4,44,75$
levels 87-8
perception 85-6
primary 87
production 85
simple words 85-93
tonic 145
word 88-9
stricture 29
stylistic variation 190
suffix 95, 96-8
superlative 57
suprasegmental phonology 133
suprasegmental variable
paralinguistic 167, 169-70
prosodic 166
sequential 166
syllabic consonant $72,75,78-82$, 114
syllable 44, 67-74
tonic 145,157
syllable coda 67
syllable onset 67
syllable rhyme 73
symbols ix, 3, 6, 19, 39, 42, 45
computer 45
tail 147
teeth 9,49
tonal rhyme 153
tone 135
tone language $135-6,141-2$
tone-unit 144-50
anomalous 159
compound 146
simple 146
tone-unit boundary 145, 158-9, 160, 166
tongue $9,11,49$
trachea 26
transcription ..... 39
broad ..... 42
narrow ..... 42
phonetic ..... 42
triphthong ..... 23
turn-taking 178
utterance 134
variable stress ..... 100
velar nasal $63-5,113$velum 9
vocal apparatus ..... 10
vocal cords ..... 27
vocal effects ..... 167
vocal folds ..... 26
vibration ..... 28
vocal tract ..... 8
vocoid 16
voice quality 30,170voicing 30,31
vowel glide 20
vowel length 34
vowel quadrilateral 13,17
vowel quality 86
vowels 10,11
back 12
Cardinal 13
close 11
lax 24
long 18
open 11
pure 20
short 14
tense 24
weak form 102-9
weak syllable $75-84$
whisper 28

X-ray 185

