

University of South Wales



2059478



Bound by

Abbey
Bookbinding Co.

116 Cathays Terrace, Cardiff CF24 4HY
South Wales, U.K. Tel: (029) 20395882

**A study of the
Segmental and Suprasegmental Phonology
of Rhondda Valleys English**

A submission in partial fulfilment of the requirements
of the University of Glamorgan / Prifysgol Morgannwg
for the degree of Doctor of Philosophy

1st September 1999

J. Roderick Walters
School of Humanities
University of Glamorgan
Pontypridd
S.Wales U.K.

Acknowledgements

My thanks are due to the University of Glamorgan Research Committee under the chairmanship of Prof. W.O. George for encouraging and funding this research in its early stages, and to my two supervisors, Alan James and Paul Tench, for their unfailing wise counsel over the years.

I must also especially thank

- ❑ Cennard Davies, Welsh Language Lecturer and resident of the Rhondda, for his help and support throughout the research
- ❑ Nik Coupland, John Edwards, David Parry and Robert Penhallurick for their considerable insights given me into Welsh English
- ❑ Martin Ball, Philip Brake, Glyn Jones, Robert Owen Jones and Alan Thomas for their advice on matters of Welsh Language phonology
- ❑ Gill Brown, Bob Ladd, J.C. Wells and the late David Brazil for their comments and guidance
- ❑ Sally Bates and Ineke Mennen for their help with instrumental analyses
- ❑ Beth Thomas of the Welsh Folk Museum at St Ffagan's for access to archive recordings of Rhondda speech.

I have received advice and assistance from so many other people, that I cannot name them all and can only record my gratitude to them all here. However big or small the help was, it was invaluable in helping to piece together whatever picture of Rhondda Valleys English I have been able to present.

My biggest thanks are due to my wife Janet, for putting up with my seclusion of the last five years and to my children Glyn and Anna in making regular trips back from London to help me with bewildering aspects of putting the research onto a computer.

Finally, I must express my deep gratitude to the officials and members, many of them unemployed miners, of the Tynewydd Workmen's Club & the Conservative Workmen's Club ('The Con') of Treherbert, the Maerdy Workmen's Club, the Cymmer Pioneer Workmen's Club & Cymmer Workmen's Hall. Their warmth and welcome made the job of interviewing easy.

ABSTRACT

The research is a study of male working class pronunciation in the Rhondda , part of the ‘Valleys’ area of South East Wales. It encompasses both segmental and suprasegmental (prosodic) phonology.

The segmental analysis is primarily auditory although it has some supporting acoustic detail. It examines the consonant and vowel systems of Rhondda Valleys English (RVE), with phonetic realizations and lexical incidence. Comparisons with British R.P. are made and similarities with neighbouring varieties of English (e.g. the West Country) and the Welsh Language are observed.

The suprasegmental (prosodic) analysis is of spontaneous conversational data, and is auditory and instrumental. The phonology of RVE intonation is described mainly via a system of intonation phrases (IPs), accents, and terminal tones. IP tunes (overall contours) are observed to contain accent profiles whose pitch obtrusions to the stressed syllable are, in the majority of cases, downwards and whose initial pitch movement from the stressed syllable is rising in over 80% of final accents and final accents. A large majority of IP terminal tones in the data are ultimately rising. Aspects of length and rhythm are examined. Evidence is found of rhythmic organization, e.g. of alternation between strong and weak beats. Strongly accented syllables can be accompanied either by lengthening of the vowel, or by shortening of the vowel with lengthening of the succeeding consonant. Which of these two strategies is adopted by the speaker depends partly on the vowel and partly on how the speaker syllabifies the word. The final ‘weak’ syllable of an IP may be phonetically stronger (with greater duration, envelope amplitude and pitch prominence) than the accented penult. Several of the prosodic features of RVE are found to bear strong influence from the Welsh Language.

**A study of the
Segmental and Suprasegmental Phonology of Rhondda Valleys English**

J.Roderick Walters, University of Glamorgan (1st September 1999)

ERRATA

Page	location	
5 (<u>and throughout</u>)	line 9	replace p-honetic symbol /ɛi/ with /ei/
27 (<u>and throughout</u>)	line 3	replace /ɛə/ with /eə/
28	para 7	replace "not to contrast" with "to contrast"
39	7 th bullet	replace [i : (j) e] with [i : (j) ə]
53	para 2, line 11	replace "what are thinking of there" with "what are you thinking of there"
72	last para	replace "nowhere" with "only rarely"
85	note 3	replace "M9" with "M17"; "P10" with "P19"
86	note 8	replace "2 consecutive syllables" with "2 consecutive weak syllables"
109	2 nd bullet	replace "bi : Δ" with "bi : (j) Δ"
116	para 1	replace "Long Mid Merger" with "pre Long Mid Merger"
118	para 5	replace "formants vowels" with "vowel formants"
135	1 st bullet	replace /kɪuΔ/ with /kɪu(w)Δ/ and /ʃu : Δ/ with /ʃu : (w) Δ/
136	last but one para	replace /ɪuwΔ/ with /kɪuwΔ/
149	last para	replace /bi : Δ/, /bi : Δd/ with /bi : (j) Δ/, /bi : (j) Δd/
182	sec. at page bottom	replace "4.4.2" with "4.4.3"
200 (<u>and throughout</u>)	para 1	replace "intonation phrase" with "intonational phrase".
216	last para	insert "rather" before "than"
248	para 4	replace "non final and non-final" with "final and non-final"
254	4.10.6.4 sec. 1	replace "Lines 1....." with "Lines 2....."
270	sec. 5	'the data' should read 'in the data'
276	last para	replace 'In may not' with 'It may not'
285	last but one para	'sec. 4.9.4.8' should read 'sec. 4.9.4.7'
317	caption fig 4.11.12.4	'Appendix 18' should read 'Appendix 17 & 18'
333	last para	replace 'accents' with 'accent'

CONTENTS

	PAGE
Abstract	2
Table of illustrations	9
Chapter One: Introduction	16
1.1 Aims	16
1.1.1 Aim of research	16
1.1.2 Discussion of aim	16
1.1.3 Objectives	16
1.2 The Rhondda Valleys	17
1.2.1 Geographical description	17
1.2.2 An urban area	18
1.2.3 Population decline	19
1.2.4 Welsh language speaking	20
1.2.5 Influence from the West Country	22
1.2.6 English: a taught language	23
1.3 South East Wales English : a conspectus	24
1.3.1 Port Talbot English	24
1.3.2 Abercrave English	27
1.3.3 Cardiff English	29
1.3.4 The Survey of Anglo Welsh Dialects	36
1.3.5 The Welsh National Folk Museum, St Ffagans	38
1.3.6 The Welsh language	39
1.4 Methodology	41
1.4.1 Locations of	
survey	41
1.4.3 Informants	41
1.4.4 Interview planning	43
1.4.5 The questionnaire	44
1.4.6 Spontaneous conversation	47
1.4.7 Speech style	48
1.4.8 Interview length	49

	PAGE
1.5 Fieldwork	49
1.5.1 Workmen's clubs	49
1.5.2 Staging of interview	50
1.5.3 Recording the interview	52
1.5.4 Account of the interviewing	53
1.5.5 Repeat series of interviews	55
1.6 Analyzing the Data	56
1.6.1 The audio recordings	56
1.6.2 Questionnaire responses : auditory analysis	56
1.6.3 Spontaneous conversation : auditory analysis	59
1.6.4 Acoustic analysis - segmental	60
Notes: Chapter One	63
 Chapter Two: Consonants	69
2.1 Consonant System	69
2.2 Plosives	70
2.3 Affricates	73
2.4 Fricatives	74
2.5 Nasals	76
2.6 /r/	77
2.7 /l/	80
2.8 Semi-vowels	81
2.9 Assimilation and Elision	83
Notes: Chapter Two	85
 Chapter Three: Vowels	87
3.1 Overview	87
3.1.1 Vowel system	87
3.1.2 Vowel realizations	89
3.1.3 Lexical incidence	90
3.1.4 Auditory and acoustic analysis	91

	PAGE
3.2 /ɪ/	92
3.3 /ɛ/	93
3.4 /a/	94
3.5 /a:/	99
3.6 /ɒ/	103
3.7 /ʊ/	104
3.8 /ʌ/ [ə]	105
3.9 /i:/	108
3.10 /e:/ /ɛi/	110
3.11 /ɛ:/	117
3.12 /ɔ:/	119
3.13 /o:/ /ou/	125
3.14 /u:/ /ɪu/	131
3.15 /ɜ:/ [æ:]	137
3.16 /ɒɪ/	140
3.17 /ʌɪ/ [aɪ]	142
3.18 /ʌu/	146
3.19 /i:ʌ/	149
3.20 Diphthongs + /ʌ/	152
Notes: Chapter Three	154
 Chapter Four: Prosodics	 160
4.1 Introductory	160
4.2 Prosodic Phenomena	162
4.2.1 Prosodics: A range of phenomena	162
4.2.2 Pitch movement	163
4.2.3 Pitch level	164
4.2.4 Pausing	165
4.2.5 Loudness	165

	PAGE
4.2.6 Length	166
4.2.7 Tempo	166
4.2.8 'Less linguistic' features	167
4.3 Stress and Rhythm	168
4.3.1 Stress	168
4.3.2 Rhythm	169
4.3.3 Degrees of stress	172
4.3.4 Stress in Welsh English	173
4.4 Tone-units and Nucleus	177
4.4.1 Tone-units	177
4.4.2 Tone-unit identification	178
4.4.3 Segmentation of meaning	182
4.4.4 Nucleus identification problems	183
4.4.5 Phonetic salience of nucleus	184
4.4.6 Focus of information	187
4.4.7 The problem of 'double nuclei'	188
4.4.8 Nuclear tones	190
4.4.9 Non-nuclear tones	192
4.4.10 The domain of a tone	193
4.5 Levels, Contours, Pitch accents	194
4.5.1 Levels and contours	194
4.5.2 Bolinger and pitch accents	196
4.5.3 I.P.O. and perceptual units	198
4.5.4 Autosegmental-metrical phonology	200
4.6 Prosodic Constituency	206
4.6.1 Intonation phrases and intermediate phrases	206
4.6.2 Phonological phrases	207
4.6.3 Rhythmic foot	208
4.6.4 Sequences of intonation phrases	209
4.6.5 Topics and speaking turns	210
4.7 Overall Contour 'Tunes'	211
4.7.1 Whole tunes	211
4.7.2 Tunes in tone-unit theory	212

	PAGE
4.7.3 Primacy of 'intonation events' theory	213
4.7.4 Primacy of 'overall contour' theory	214
4.7.5 Effect on tune of declination	216
4.8 Prosodic Function	216
4.8.1 Form and meaning	217
4.8.2 'Functions' of intonation	217
4.8.3 Discourse intonation	219
4.9 An Auditory Experiment	220
4.9.1 The experiment	220
4.9.2 Tone-unit and nucleus findings	222
4.9.3 Salience / prominence findings	235
4.9.4 Nuclear-tone findings	237
4.10 Prosodic Units of Analysis	244
4.10.1 Introductory	244
4.10.2 Intonation phrases ; major and minor demarcations	244
4.10.3 Accents and rhythmic stresses	248
4.10.4 Terminal tone	250
4.10.5 Illustration of the analysis at work	251
4.10.6 Treatment of pitch level	253
4.11 Prosodic Analysis of the RVE Data	256
4.11.1 The data	256
4.11.2 Prosodic transcriptions	257
4.11.3 Acoustic analysis : suprasegmental	260
4.11.4 Segmentation into IPs : issues arising	260
4.11.5 Correlation of IPs with grammatical constituents	268
4.11.6 Distinguishing between accents and rhythmic stresses	273
4.11.7 Accent-profile interpretation	277
4.11.8 Contours, profiles and tones	281
4.11.9 Accent profiles, grouped according to tones	288
4.11.10 Aspects of length	298
4.11.11 Loudness	314
4.11.12 Rhythm and stress	315
4.11.13 Tunes	325

	PAGE
4.11.14 Significance of pitch level	331
4.11.15 Prosodic function	334
Notes: Chapter Four	360
 Table of Appendices	366
Appendices 1 - 23	368
Bibliography	489

TABLE OF ILLUSTRATIONS

	PAGE
CHAPTER ONE	
Fig 1.2.1	A map of the Rhondda, showing the main settlements. 17
Fig 1.2.3	Population of the Rhondda and percentage of Welsh speakers. 19
Fig 1.2.4 (a)	Decline in proportion of the population able to speak Welsh. 21
Fig 1.2.4 (b)	Population and Welsh speakers in Rhondda Borough Wards, 1991. 22
Fig 1.3.3.1	A map of S.E.Wales . 29
Fig 1.3.3.3	Vowel system of Cardiff English compared with R.P. and Port Talbot English. 33
Fig 1.4.4.1	Standard Lexical Sets and vowels, R.P and General American. 45
Fig 1.4.4.2	RVE Questionnaire Keywords. 46
Fig 1.6.4.3	Keywords used for the vowel acoustic analysis. 61
CHAPTER TWO	
Fig 2.1	The distinctive consonants of Rhondda Valleys English. 69
Fig 2.2.1	VOT in initial voiceless plosives in milliseconds, American English and Welsh. 71
Fig 2.2.2	Aspiration of /t/ in 'typical'. 72
Fig 2.4.5	% of /h/'s in stressed position dropped by informants, in the Questionnaire vs the Conversational data. 75
Fig 2.5.1	% /n/realizations in Questionnaire items 'laughing' 'waiting'. 76
Fig 2.6.7.1	Informants producing at least one rhotic response in the Questionnaire. 79
CHAPTER THREE	
Fig 3.1(a)	RVE short monophthongs . 87
Fig 3.1(b)	RVE long monophthongs. 87
Fig 3.1(c)	RVE fronting diphthongs. 87
Fig 3.1(d)	RVE backing diphthongs. 87
Fig 3.2	Realizations of /ɪ/. 92
Fig 3.3	Realizations of /ɛ/. 93

	PAGE
Fig 3.4	Realizations of /a/ . 94
Fig 3.5	Realizations of /a:/ . 99
Fig 3.5.2.1(a)	Realizations of /a:/ in PALM vowel. 100
Fig 3.5.2.1(b)	Realizations of /a:/ in START vowel. 100
Fig 3.6	Realizations of /ɒ/ . 103
Fig 3.7	Realizations of /ʊ/ . 104
Fig 3.8	Realizations of /ʌ/[ə] . 105
Fig 3.9	Realizations of /i:/ . 108
Fig 3.10	Realizations of /e:/ and /ɛi/ . 110
Fig 3.10.3	Diphthong vs Monophthong areas. An amalgamation of the SAWD findings for 'gate' and LAE findings for 'spade'. 112
Fig 3.10.7.2	Lexical incidence of /e:/ vs /ɛi/ for FACE vowel, twelve informants. 115
Fig 3.11	Realizations of /ɛ:/ . 117
Fig 3.12	Realizations of /ɔ:/ . 119
Fig 3.12.4.1	Realization of the FORCE vowel as [o:] in the questionnaire item SWORD. 112
Fig 3.12.4.2	Lexical distribution of [o:] in FORCE words in the data. 122
Fig 3.13	Realizations of /o:/ and /ou/ . 125
Fig 3.13.2.3	SED findings for the vowel in the word 'nose' (LAE, 1978). 127
Fig 3.13.3.3	GOAT vowel : the lexical incidence of monophthong vs diphthong with twelve informants. 129
Fig 3.14	Realizations of /u:/ and /ɪu/ . 131
Fig 3.15	Realizations of the NURSE vowel. 137
Fig 3.15.2	Rounded vs unrounded realizations of the NURSE Vowel in the RVE Data. 138
Fig 3.16	Realizations of /ɒɪ/ . 140
Fig 3.17	Realizations of the PRICE vowel 142
Fig.3.17.2.1	Lexical Incidence of [ʌɪ] vs [aɪ] with 12 informants in the RVE data. 143
Fig 3.18	Realizations of /ʌu/ . 146

CHAPTER FOUR

Fig 4.2.1	Prosodic Phenomena . 163
-----------	--------------------------

	PAGE
Fig 4.3.2.1	Metric Tree (Liberman & Prince, 1977). 170
Fig 4.3.2.2	Metrical Grid : Four Metrical Levels (Selkirk , 1984). 170
Fig 4.3.4.3	The short and long vowels of RVE and South Wales Welsh. 174
Fig.4.3.4.4	'Rules' determining if a vowel is long or short in South Wales Welsh (Awberry,1984). 175
Fig 4.4.1.2	Structure of a tone-unit. 178
Fig 4.4.2.3	Differences in transcription between Halliday and Discourse Intonation analyses. 179
Fig 4.4.2.4	Problems of tone-unit allocation with tagged phrases such as 'you know', 'you see', 'in fact'. 182
Fig 4.4.3	Examples of the disambiguating role of tone-unit demarcation. 183
Fig 4.4.5.1	Listeners' judgements of nucleus placement compared with location of phonetic maxima . 185
Fig 4.4.5.2	Example of pitch declination, during the phrase ' <i>their mother's a lawyer</i> '. 186
Fig 4.4.6.3	Cleft-sentences in which underlined items have both contrastive focus and phonetic maxima. 188
Fig 4.4.7.2	Two examples of 'Compound Tone-Groups'. 189
Fig 4.4.7.3	Different possible analyses of the phrase ' <i>I'm sorry about the bookcase</i> '. 189
Fig 4.4.8.3	Three tones in Liverpool English. 191
Fig 4.4.10.2	Different fall-rise contours: same or different? 193
Fig 4.5.1.2	A phrase containing two 'primary contours' (Pike1945). 194
Fig 4.5.3.3	Close Copy and Standardized Stylization (IPO) 199
	(t'Hart, J. Collier, R. and Cohen, A. 1990).
Fig 4.5.4.3	Examples of Autosegmental-metrical transcriptions (Pierrehumbert, & Hirschberg 1990). 201
Fig 4.5.4.7	The structure of intonation units (Pierrehumbert 1980) comprising (1) one or more Pitch-accents and (2) Phrase accents and Boundary Tones (Edge Tones). 203
Fig 4.5.4.9	An AM contour converted into a 'nuclear tone' (Roach, 1994). 204
Fig 4.5.4.11	Tone-Unit theory and AM analyses compared. 205
Fig 4.6.1.1	Intermediate phrase (Beckman and Pierrehumbert 1986). 207
Fig 4.6.2.2	Phonological Phrase Constituency (Nespor & Vogel 1983). 208
Fig 4.6.3	Rhythmic feet (Halliday 1970). 208
Fig 4.6.4.2	Major and minor tone-units. 210
Fig 4.6.4.3	Pitch Sequence, extending over three tone-units (Brazil, 1997). 210
Fig 4.7.1.2	Acoustic Record of an 'upspeak' tune. 212
Fig 4.7.3.2	Example of a 'Final Peaked Contour' (Brown, et al 1980). 213

	PAGE
Fig 4.7.3.3	'Hat Patterns' in the IPO model of intonation. 214
Fig 4.7.4.3	The 'grid' in Garding's model of intonation (1983). 215
Fig 4.9.1.2	The six intonationalists taking part (incognito) in the auditory experiment. 220
Fig 4.9.2.2	Difference in tone-unit boundary placement between V1 and V2. 223
Fig 4.9.2.3(a)	Difference in marking of 'Compound Unit' between V4 and V5. 223
Fig 4.9.2.3(b)	Difference in treatment of hesitation pause between V4 & V5. 224
Fig 4.9.2.3(c)	Difference in number of nuclei and tone-units identified between V3 and V5. 224
Fig 4.9.2.4	Difficulties of Vs in analyzing rapid speech. 225
Fig 4.9.2.5(a)	Difference in treatment of tag ' <i>you know</i> ' between V5 and V6. 226
Fig 4.9.2.5(b)	Difference in treatment of tagged ' <i>you know</i> ' between Vs 2, 3 & 6. 227
Fig 4.9.2.6	Differences between Vs in the analysis of filled pauses. 228
Fig 4.9.2.8(a)	Difference in numbers of nuclei and tone-units between V2 & V3. 229
Fig 4.9.2.8(b)	Differences between Vs in identification of 'Compound Unit'. 230
Fig 4.9.2.10(a)	Maerdy 1 tone-units agreed on by at least 4 of the intonationalists: their selections of nucleus. 231
Fig 4.9.2.10(b)	Maerdy 9 tone-units agreed on by at least 4 of the intonationalists: their selections of nucleus. 232
Fig 4.9.2.10(c)	Porth 10 tone-units agreed on by at least 4 of the intonationalists: their selections of nucleus. 233
Fig 4.9.3.5(a)	Substantial agreement between Vs on salience identification. 236
Fig 4.9.3.5(b)	Differences in identification of saliences and tone-units between Vs. 237
Fig 4.9.3.5(c)	Differences in number of location of saliences between V1 & V3. 237
Fig 4.9.4.5	Differences in numbers and types of tone identification between Vs. 239
Fig 4.9.4.7(a)	Rising-falling tones identified by one or more of the Vs. 240
Fig 4.9.4.7(b-c)	Acoustic records of (1) 'Ferndale' and (2) of 'Community'. 240
Fig 4.9.4.7(d)	Acoustic record of 'a bath'. 241
Fig 4.9.4.8	Acoustic record of 'local councillors'. 242
Fig 4.9.4.9(a)	Problems of analyzing a spread falling-rising contour. 243
Fig 4.9.4.9(b)	Marked by V1 as a spread falling-rising contour 244
Fig 4.10.2.3	Possible minor demarcations within IPs. 246
Fig 4.10.2.4	Examples of possible division of IP into two intermediate phrases. 247
Fig 4.10.5	Transcriptions of an extract from interview M1. 251
Fig 4.11.4.1	Examples of minor demarcations. 260
Fig 4.11.4.2(a)	IP identification: interpretation of filled pauses. 261
Fig 4.11.4.2(b)	IP identification: interpretation of fillers and tags. 261
Fig 4.11.4.2(c)	IP identification: disfluencies. 262
Fig 4.11.4.2(d-e)	IP identification: interpretation of ' <i>and</i> '. 263

	PAGE
Fig 4.11.4.2(f) IP identification : minimal prosodic clues.	264
Fig 4.11.4.3(a) Demarcation of a vocative.	265
Fig 4.11.4.3(b) IP identification: interpretation of 'you know' tag.	265
Fig 4.11.4.3(c-d) IP identification: unexpected demarcations (not coinciding with the grammar).	266
Fig 4.11.5.1(a) Ellipsis leading to problems of clause identification.	268
Fig 4.11.5.1(b) Detached adverbial or elliptical clause ?	269
Fig 4.11.5.2 Correspondence between IPs and grammatical constituents.	269
Fig 4.11.5.3(a) Demarcation of Adverbials.	269
Fig 4.11.5.3(b) Demarcation between Adverbials.	270
Fig 4.11.5.3(c) Demarcation after Subject .	270
Fig 4.11.5.3(d) Demarcation after Fronted Objects, Complements etc.	270
Fig 4.11.5.3(e) Demarcation of Vocatives.	270
Fig 4.11.5.3(f) Demarcation before Noun-Phrases in Apposition.	271
Fig 4.11.5.3(g) Demarcation of Tags.	271
Fig 4.11.5.3(h) Demarcation of Conjuncts.	271
Fig 4.11.5.3(i) Demarcations not corresponding with grammatical constituent boundaries.	272
Fig 4.11.6.1 Stresses in an IP from M1.	274
Fig 4.11.6.2 Stresses in ' <i>they wanted a wireless over the Shot</i> ' (M9).	275
Fig 4.11.7.2 Accent profile interpretation : the domain of an accent.	278
Fig 4.11.7.2.2 Example of accentual phrase constituency.	279
Fig 4.11.7.3 Interpretation of accent profiles.	279
Fig 4.11.8.1 Totals and types of contours at accents found in the RVE data.	281
Fig 4.11.8.4(a) Examples of H*+H profiles (non-final and final).	282
Fig 4.11.8.4(b) Examples of 0*+H profiles (non-final and final).	283
Fig 4.11.8.4(c) Examples of L*+H profiles (non-final and final).	283
Fig 4.11.8.4(d) Examples of H*+H+L profiles (non-final and final).	283
Fig 4.11.8.4(e) Examples of 0*+H+L profiles (non-final and final).	283
Fig 4.11.8.4(f) Examples of L*+H+L profiles (non-final and final).	283
Fig 4.11.8.4(g) Examples of H*+L profiles (non-final and final).	284
Fig 4.11.8.4(h) Examples of 0*+L profile (non-final).	284
Fig 4.11.8.4(i) Examples of L*+L profiles (non-final and final).	284
Fig 4.11.8.4(j) Examples of falling-rising profiles (rare in the RVE data).	284
Fig 4.11.8.4(k) Examples of level-tone profiles.	284
Fig 4.11.8.4(l) Examples of single-level profiles.	285
Fig 4.11.8.7 Pitch movement classifications in the RVE data.	286
Fig 4.11.8.8(a) L H nuclear contours, (1a) terminal tone conflated with accent (1b) terminal tone separate.	287

	PAGE
Fig 4.11.8.8(b) H H L nuclear contours (2a) terminal tone conflated with accent (2b) terminal tone separate.	288
Fig 4.11.8.8(c) H H L H nuclear contours (3a) terminal tone conflated with accent (3b) terminal tone separate.	288
Fig 4.11.9.2(a-d) Late alignment of L* levels in L*+H accents ('sagging effect').	289
Fig 4.11.9.2(e-f) 'Sagging effect' in 0*+H accents.	290
Fig 4.11.9.2(g-h) 'Sagging effect' in H*+H accents.	291
Fig 4.11.9.3(a) Rising tone on 'I' (single syllable, long vowel).	292
Fig 4.11.9.3(b) Rising tone on 'club' (single syllable, short vowel).	292
Fig 4.11.9.3(c) Rising tone on 'Tom' (single syllable, peaks during nasal).	292
Fig 4.11.9.3(d) Rising tone on 'depended' (peaks in middle of 2nd syllable).	293
Fig 4.11.9.3(e) Rising tone on 'Colville' (peaks during /l/ closing 2nd syllable).	294
Fig 4.11.9.4(a) Rising-falling tone on 'clean': rising element 'sags'.	295
Fig 4.11.9.4(b) Rise element of rise-fall tone on 'secretary' peaks on 2nd syllable.	295
Fig 4.11.9.4(c) Rise element of rise-fall tone on 'modernized' peaks in 3rd syllable.	295
Fig 4.11.9.5 H-peak of falling tone on 'typical' is at start of syllable.	296
Fig 4.11.9.6 Rising-falling tone on 'man.'	297
Fig 4.11.9.8 Single level accent on 'but'.	298
Fig 4.11.10.1 Duration is the main clue to stressing on 'started'.	299
Fig 4.11.10.2 Shortened vowels and lengthened succeeding consonants on 'strict' and 'secretary'.	300
Fig 4.11.10.3 Post-stress syllable on 'children' is phonetically strong.	300
Fig 4.11.10.9(a) Shortening of stressed /ɪ/ in 'insisting'.	309
Fig 4.11.10.9(b) /ɛ/ on 'Evans' is lengthened, whereas on 'secretary' it is shortened.	310
Fig 4.11.10.9(c) Lengthened 'short vowel' /ɛ/ in 'celebrities' equals length of 'long vowel' in 'came'.	311
Fig 4.11.10.9(d-e) Lengthened 'short vowel' /a/ in 'back' and in 'man'.	311
Fig 4.11.10.10 Length of post stress consonant in 'official'.	313
Fig 4.11.10.11(a) Length of post stress syllables in 'modernized'.	313
Fig 4.11.10.11(b) Final syllable of 'children' has greater length, amplitude and pitch prominence than stressed syllable.	314
Fig 4.11.12.3 Frequency of occurrence of stresses in Extracts 1 - 3.	316
Fig 4.11.12.4 Different rhythmic foot-lengths.	317
Fig 4.11.12.6 'Stress shifting' to space out strong beats.	318
Fig 4.11.12.7(a) Examples of strong beat insertion.	318
Fig 4.11.12.7(b) Strong beat insertion on 'overheads' results in two stresses.	319

	PAGE
Fig 4.11.12.8 Metric grid representation of 'in the one two three area'.	319
Fig.4.11.12.9 Speaker imparting rhythmicality.	320
Fig 4.11.12.10 Measurements of isochrony.	321-324
Fig 4.11.13.2 An IP tune containing a series of L H local contours.	326
Fig 4.11.13.3(a) Tunes comprising a sequence of mainly rising local contours. ending in an <i>ultimately rising</i> nuclear contour.	326
Fig 4.11.13.3(b) Tunes comprising a sequence of mainly rising local contours ending in an <i>ultimately falling</i> nuclear contour .	326
Fig 4.11.13.4(a) Example of an initial peaked IP tune.	327
Fig 4.11.13.4(b) Example of a final peaked IP tune.	327
Fig 4.11.13.5(a) Example of an initial-peaked tune in which pitch does not fall throughout, but rises (slightly) to the end.	328
Fig 4.11.13.5(b) Example of a final-peaked tune in which pitch does not rise throughout, but falls (slightly) before the final pitch jump.	329
Fig 4.11.13.6(a) Gradually descending tune (marked by down-stepping diacritics).	329
Fig 4.11.13.6(b) Steeply falling IP tune.	330
Fig 4.11.13.7 Example of a tune that ascends throughout.	330
Fig 4.11.13.9(a) Sequence of IPs: rising-falling tone followed by rising tone.	331
Fig 4.11.13.9(b) Sequence of IPs: both have rising tones.	331
Fig 4.11.14.2 Scaling of accent on 'modernized'.	332
Fig 4.11.14.3 Low obtrusion as 'springboard' for subsequent rise.	333
Fig 4.11.15.1 Accent strength signaled by height of rise <u>after</u> stressed syllable.	334
Fig 4.11.15.10(a) Examples of rising tones with high termination that elicited responses from listeners.	351-2
Fig 4.11.15.10(b) Examples of (ultimately) falling tones with high termination that elicited responses from listeners.	352
Fig 4.11.15.11 Examples of statements with rising tones.	353-4
Fig 4.11.15.12 Examples of statements with (a) rising-falling tones and (b) falling tones.	354
Fig 4.11.15.15.1 Totals of different types of interrogative found in the data.	356
Fig 4.11.15.16 End of a topic.	357

1. INTRODUCTION

1.1. Aims

1.1.1. Aim of research

The research aims to give an account of the main segmental and suprasegmental features of Rhondda Valleys English (RVE) male working-class pronunciation.

1.1.2. Discussion of aim

It concerns itself with working-class speech because it is interested mainly in a description of the features comprising the broader end of the RVE dialect spectrum. The targeting of working class speech holds the additional significance that it is representative of a large proportion of the Rhondda population.¹

Dialect studies have traditionally concentrated on rural speech, felt to have more indigenous roots and greater stability than that of urban communities. To target the small rural community in the Rhondda would, however, be representative of only a tiny proportion of the total population - the Rhondda has been overwhelmingly urban since the mid 19th century. The present study focuses, instead, on the urban dialect of the Rhondda, despite its recent origin.

The research attempts to describe suprasegmental (prosodic) as well as segmental features. A powerful impression of a S.E. Wales Valleys accent is that it is 'tuneful' or 'sing-song', and to omit a description of its prosody would be to neglect possibly the most striking feature of RVE.

1.1.3. Objectives

Specific objectives of the research will be to

1. make an inventory of RVE vowel and consonant phonemes
2. make observations concerning their lexical distribution
3. describe their most typical phonetic realizations.
4. describe the main prosodic forms of RVE
5. account for the melody (overall intonational tunes) of RVE

Being surrounded by mountainous countryside, the Valleys have been comparatively isolated from surrounding areas. Other than the rail and road links along the valley bottoms to Pontypridd, communication with neighbouring valleys is by climbing mountain roads, once winding tracks, passing the highest points in the County of Glamorgan.

1.2.2. An urban area

The Rhondda was a sparsely populated rural area at the start of the 19th century. 'How Green Was my Valley' aptly describes the Rhondda of that time.² Malkin, B. (1803. Quoted in Lewis, E.D. 1958: 14) wrote of the Parish of Ystradyfodwg in which the bulk of Rhondda lay:

Hereabouts and for some miles to come there is a degree of luxuriance in the valley. The contrast of the meadows, rich and verdant, with mountains the most wild and romantic surrounding them on every side, is in the highest degree picturesque.

Then, from the mid 19th century the coal boom started. Coal-mines, tips and general urban sprawl spread to cover almost every available piece of building land along the valley bottoms and sides, with only local knowledge to tell when one passed from one township to another.

The isolation imposed by the mountainous topography, the continuous urbanization from end to end of each valley and the omnipresence of coal-mining with its unique comradeship led to an unusual closeness of community in the Rhondda Valleys. This could be encountered in the strong neighbourliness found in the terraced streets, in the communal activities centred around chapels, choirs, cooperative societies, Miners' Welfare Halls and Clubs, and in the wide followings attracted by sports like soccer, rugby and boxing. Such closeness of community helped to absorb the inwards torrent of migrants and to shape a common cultural and social identity. This closeness of community still survives in the Rhondda today, despite the economic blows suffered through the extinction of the coal industry.

Unlike such cities as Liverpool, Cardiff and Bristol, the Rhondda has no focal area for dialect study analogous to the central districts of such cities: the continuous strand of urban development has no principal town concentrating the main administrative, educational, recreational etc facilities.

1.2.3 Population decline

Up to 1851 and the beginning of the coal boom, the population of the Rhondda Valleys was tiny, perhaps not reaching one thousand.³ Sixty years later in 1911, with the Official List of Mines recording 53 large collieries at work and the mass inwards migration, it had grown prodigiously to 152,781. After the war, the population reached an estimated peak of 169,000 in 1924; before gradually declining to its present day level as the world-wide demand for Rhondda's high-grade smokeless steam coal fell. By January 1947, when there were only a dozen pits still in production in the Rhondda, the population had fallen below 120,000. By 1991, after the last of the coal-mines had been closed down in the aftermath of the miner's strike in 1987, it had sunk to 78,344 - well below half its peak level of 1924.

POPULATION OF THE RHONDDA & WELSH SPEAKERS 1881-1991

Year	Total population	Can speak Welsh	
		Number	Percentage
1881	54000	33000	61%
1891	88000	50000	57%
1901	112000	68000	61%
1911	152000	76000	50%
1921	165000	70000	42%
1931	142000	67000	47%
1941	126000	62000	50%
1951	112000	35000	31%
1961	100000	21000	21%
1971	88000	10000	11%
1981	81000	9000	11%
1991	78000	6100	8%

Fig 1.2.3 Population of the Rhondda Valleys and percentage of Welsh speakers (rounded-up figures based on Census Returns for Rhondda Borough Council)

At least until the turn of the century, the bulk of the influx of population came from elsewhere in Wales. This was mostly from S.E. Wales, including nearby valleys such as the older mining areas of Merthyr and Aberdare ; but from about 1881 - with the improvement of the railway system - South West Wales became a major source of migration to the Rhondda, with large numbers of immigrants from the Counties of Carmarthenshire, Pembroke and Cardiganshire. Migrants also came from more distant areas in Wales such as Montgomeryshire in the 1860's, and during the early years of the 20th Century from the depressed lead and slate mining areas of North Wales.

As well as from other part of Wales, there was migration from England and from further afield. The 1891 Census, for example, reveals that a considerable number of Rhondda inhabitants had been born in the West of England, coming especially from Somerset and Gloucestershire, including from the Forest of Dean with its own coal-mining industry just over the border. Migration also took place from the West Midlands, including neighbouring Herefordshire, and from many other parts of England. There were migrants, too, from Scotland, from Ireland and even from outside Britain as Italian restaurant /cafe-keepers and Chinese laundrymen joined the throng of newcomers.

1.2.4 Welsh language speaking

The population up to 1851 was Welsh-speaking. According to Wood, J. (1813. Quoted in Lewis, C. 1975: 180)

The Ronda Vawr and the Ronda Vechan ...take their origin in the wildest region of Glamorgan, where the English Language is scarcely heard

Little is known about the variety of Welsh spoken, known as 'tafodiath gwyr y Gloran', the 'Gloran Dialect' (Lewis, C. 1975: 180). It may be assumed that it was related to the varieties spoken in nearby south-eastern valleys and as such a branch of southern Welsh. The nearest dialect for which a detailed description exists is that of Nantgarw, 2 miles down the Taff Valley from Pontypridd (Thomas, C. 1961).

The large majority of the early influx of migrants themselves spoke Welsh, but the course of the 20th century has seen a fall in the Welsh speaking population of the Rhondda to levels far lower than in the 'Welsh heartlands' of the West and North of Wales.

Fig. 1.2.4(a) reveals this as a steady fall up to the time of the Second World War, at which time (in 1941) still 50% of the population of Rhondda could speak Welsh, and a sharp decline since then, so that by the 1991 census it had dropped to 8%.

Decline in Welsh-speaking Population (1881-1991)

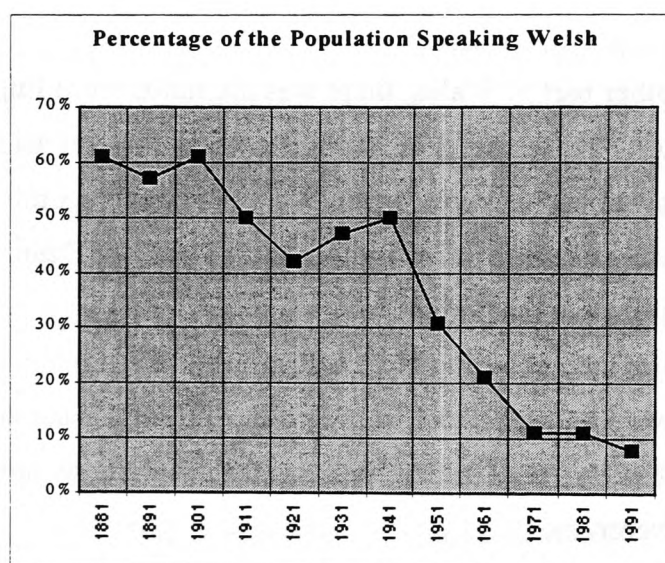


Fig 1.2.4 (a) The decline in the proportion of the Rhondda population able to speak Welsh.

In general, the percentage of Welsh speakers increases as one progresses upwards towards the heads of the two Valleys. At present, the highest number of Welsh speakers is in Treorchy, Rhondda Fawr (13.3%). In the locations selected for survey, Treherbert, Maerdy and Cymmer, Porth, the percentages were 11.2%, 8.4% and 5.6% respectively at the time of the 1991 Census (see fig. 1.2.4b).

The influence of the Welsh language on the English dialect of the Rhondda, given its wide-spread presence until about fifty years ago, is clearly of interest to the present study. There are a small number of Rhondda inhabitants for whom it is still the language spoken at home. For the great majority, the non-Welsh speakers, the Welsh language exists as a substratum, recognized as part of the national heritage,

encountered in the names of towns, streets, in bi-lingual signs and notices, and heard from time to time when spoken by elderly relatives, when visiting more Welsh-speaking parts of Wales, when public platform speeches are given bilingually or when watching the occasional programme - e.g. coverage of local rugby matches- on TV Channel 4 Cymru.

Rhondda Borough Wards 1991

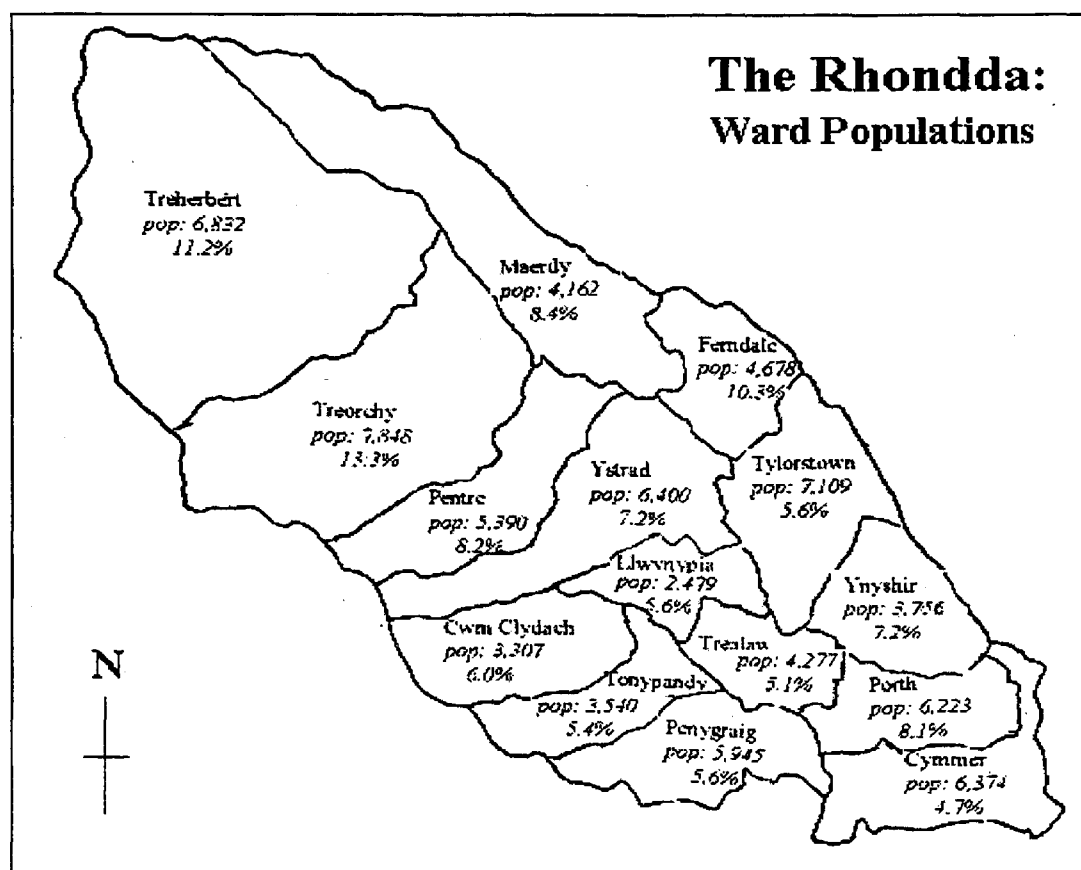


Fig 1.2.4.(b) The population and proportion of Welsh speakers in Rhondda Borough Wards, 1991

1.2.5 Influence from England

English in South East Wales has been open to influence from two different dialect areas : the southern Midlands and the West Country of England. Clear similarities are found between areas of Gwent and cross-border areas of Herefordshire and Gloucestershire (see 3.10.3 and 3.13.2), and between South Gower and cross-channel areas of Somerset and Devon (see 3.10.3). It has also been assumed that

the English of Cardiff and the easternmost coastal area of South Wales (see 1.3.3.1) has long been subject to influence from England .

It might be expected that such influence would extend into the SE Wales Valleys, since these areas of England were, in addition to being geographically close, the source of a large inwards flow of migrants. In the early days, the strength of local community (see 1.2.2) seems to have substantially absorbed newcomers linguistically as well as socially, and a report of the Welsh Land Commission (1896: 176), which was made at the height of the coal boom could assert as follows:

It might have been expected that in the Rhondda Valleys, which is practically given over to the coal industry, a cosmopolitan population might have been found. That is not the case; speaking broadly, the characteristics of Welsh life, its Nonconformist development, the habitual use of the Welsh Language and the prevalence of the Welsh type of character are as marked as in the rural districts of Wales.

As the 20th century progressed, however, and the use of English spread in the Valleys of South East Wales, it may not be discounted that a degree of influence from neighbouring varieties in England has taken place.

1.2.6 English : a taught language

Another potential source of influence on the phonology of RVE was that of teachers in the classroom. English was, for the first generation of speakers, a language that was learnt from the classrooms rather than the home and the streets. The speaking of English was rigidly enforced within the school perimeter as a matter of educational policy. Lewis, C. (1975, 209-15) describes a typical practice in the Rhondda during those days :

Some schoolmasters during this period made frequent use of the so-called 'Welsh Not', a small piece of wood or cardboard, which was placed around the neck of any child heard speaking Welsh in school. This was passed from one 'guilty' pupil to another during the course of the week, and the child who happened to be wearing it on Friday afternoon was severely punished.

The models of 'correct English' for these children, often the only models, were those of their school-teachers. Being, no doubt, conscientious members of their profession, their models approximated to the standard English forms of the day, including use of non-rhotic pronunciations (see 2.6.7). ⁴

As English replaced Welsh as the language of the home and street, other less exacting models of English were available for the young, but we may surmise that something of the teacher-taught English, with emphasis on correct forms of pronunciation, remained in the dialect.

1.3 South East Wales English : a conspectus

The principal studies of Welsh English referred to by the researcher are as follows:

1.3.1 Port Talbot English

In two articles, Connolly (1981, 1990) examines the pronunciation of working-class speech in Port Talbot. The variety of English found there is claimed by him to be similar to that in the neighbouring areas of Neath and Swansea, and thus to be broadly representative of West Glamorgan (see fig. 1.3.3.1). This area is geographically adjacent to the S.E. Wales Valleys and shares a similar history of rapid industrial and population growth.

1.3.1.1 Consonants

The consonant system for Port Talbot English (PTE) is similar to that of RP.

Features commented on by Connolly include :

- ❑ realizations of prevocalic /r/ are usually by a tap, although rolls and approximants are also heard
- ❑ non-prevocalic /r/ is generally absent, although /ər/ is sometimes used rather than /ɜː/ in some words, e.g. *work*
- ❑ aspiration of fortis plosives is strong relative to RP
- ❑ there may be a lengthening of consonants when following an accented vowel (see 4.11.10.2 & 4.11.10.10)
- ❑ consonants are subject to assimilation and elision as in RP

- ❑ glottal realizations of /t/ are not common
- ❑ the Welsh Language consonants /x/ (e.g. in *Taibach, Clydach*) and /ɬ/ (e.g. in *Llanelli, Llantrisant*) are correctly pronounced, i.e. not generally 'anglicized' as in Cardiff English (see 1.3.3.2)
- ❑ there is no /ʍ/ phoneme in words such as *which, wheel*
- ❑ /l/ is said to be clear in all environments
- ❑ /ɪn/ is widely used instead of /ɪŋ/ in present participle -ing inflexions
- ❑ /h/ is often omitted

1.3.1.2 Vowels

Connolly describes the vowel system of PTE as consisting of:

1. six checked monophthongs (one fewer than RP)

/ɪ/kit, /ɛ/dress, /a/trap,
/ɒ/lot, /ʊ/foot, /ə/strut

- ❑ The RP contrast between /ʌ/ and /ə/ is said not to exist in PTE, with the merged vowel phonemized as /ə/, half-open when stressed and perhaps slightly closer when unstressed.
- ❑ The short front vowels are more open than their RP equivalents and phonemized as /a/ (compared to RP /æ/), and /ɛ/ (compared to RP /e/).

2. eight free monophthongs (three more than RP)

/i:/fleece /e:/face /ɛ:/square /a:/palm
/ɒ:/thought /o:/goat /u:/goose /ø:/nurse

- ❑ Where RP has /əʊ/, Connolly states that PTE has two vowels: /ou/ occurs where the vowel is spelled with a digraph whose second element is u or w (thus in *shoulder, shows*), and generally before /l/. The monophthong /o:/ is found in all other cases (e.g. *sole, home*).

- RP /ɔː/ in *dawn, fall* etc is described as being more open in PTE and is phonemized as /ɒː/. /ɔː/ is sometimes used in words with or spellings: where the /r/ is followed by another vowel e.g. *chorus, glory* and in certain monosyllabic words e.g. *torn, pork, sport, force*.
- Where RP has /eɪ/, PTE again has two vowels: /eɪ/ occurs generally where the vowel is spelled with a digraph whose second element is i or y (e.g. in *mail, plays*), in word-final position (e.g. in *ballet*), before a vowel (e.g. in *chaos*), in -ation endings (e.g. *station, celebration*) and generally before nasals (e.g. *danger, chamber*). The monophthong /eː/ is found in all other cases (e.g. *make, donate, great*).
- In PTE /aː/ is realized as a front vowel compared to the backed RP /ɑː/, so that the difference from /a/ is primarily one of length only.
- For RP /ɜː/ (e.g. in *nurse, church*) PTE has /øː/, described as being rounded, front or central and half-close or slightly lower.
- PTE /iː/ and /uː/ are closer than in RP.

3. six diphthongs (two fewer than RP)

/eɪ/ *play*, /ɒɪ/ *choice*, /ʌɪ/ *price*,
 /ɪʊ/ *knew*, /ʌʊ/ *mouth*, /oʊ/ *know*

- PTE has /uː/ in *food, group* etc but /ɪʊ/, a falling diphthong, in all ew spellings, e.g. *new, blew* and in all u spellings, e.g. *amuse, imbue, juice*; except (generally) when preceded by r, e.g. *crude, cruise*, and in some cases where preceded by /l/, e.g. *blue, flute*.
- For RP /aɪ/, PTE has /ʌɪ/, except in a small set of words that includes *aye, Dai*. This yields a very small set of contrasts such as *eye / I* vs *aye*, and *die / dye* vs *Dai*.
- There are no centring diphthongs in PTE: in *near, fear, idea* etc words, instead of RP /ɪə/, PTE has disyllabic /iːə/; and in *serial, weary, really* etc it has monophthongal /iː/

- instead of RP /ʊə/ in *doer, sure* etc, PTE generally has disyllabic /u:ə/
- instead of RP /ɛə/ in *square, rarely* etc, PTE has monophthongal /ɛ: /.
- For the diphthongs in *price, fight* etc (RP /aɪ/) and in *mouth, town* etc (RP /aʊ/), PTE has half-open, central or central-to-back starting points. They are phonemized as /ʌɪ/ and /ʌu/ respectively.
- The diphthong in *choice, toys* etc has a more open starting point than in RP, and is given the symbol /ɒɪ/.

Concerning lexical distribution of /a/ vs /a: /:

- The short vowel is generally selected when followed by a consonant cluster introduced by a nasal e.g. in *dance, sample*
- The short vowel is more common when followed by a fortis fricative, but lexical incidence is said not to follow any simple pattern, for example:
 - whereas *past, gasp* have /a/ , *last, ghastly* have /a: /
 - whereas *graph, daft* have /a/ , *laugh(ter)* has /a: /
 - whereas *lath* has /a/ , *bath* has /a: /.
- The long vowel /a: / is found in *man, bag* ,and in *bad* where the meaning is 'ill'.

1.3.2 Abercrave English

In this study, Trench (1990) looks at the segmental and supra-segmental phonology of the small town of Abercrave in the upper Swansea Valley near the Brecon Beacons, and at the edge of the S.E. Wales region . The study is of interest because the area has a stronger Welsh language influence than the Swansea-Neath-Port Talbot areas. According to Trench (op cit: 130), Abercrave was entirely Welsh-speaking until the Second World War.

The points of difference from Port-Talbot English (PTE), in some cases apparently reflecting the greater influence of the Welsh language, are as follows :

1. The Welsh language consonants that are in every day use for proper nouns etc include (in addition to /ɬ, x/) /ɾ/ in *Rhys, Rhigos* etc ; Tench observes that this is even often found in the word *right* when used as a discourse marker.
2. There is a tendency for voiced fricatives to be voiceless in certain cases, e.g. :
 - /s/ is said to regularly replace /z/ in -es morphemes, e.g. *tomatoes*
 - /θ/ replaces /ð/ in *paths, mouths, baths*
3. Assimilation and elision of /t, d/ occurs to a lesser extent than in RP and PTE ⁵ e.g. Tench found that /t/ was released in *department, rat cage* and *soft wood* and /d/ was retained in *binds, headmaster* and *old boy* .
4. As in PTE , there is no phonemic distinction between /ʌ/ and /ə/, but the merged vowel is phonemized as /ʌ/ rather than /ə/ of PTE , Tench stating that 'the latter is confined to unaccented syllables and the former to accented' .
5. As in PTE (see 1.3.1.2), the vowels /e:/ and /ei/ are described as contrasting in pairs such as *waste ; waist* and *place ; plays* , but it is claimed that there are fewer exceptions than in PTE : for instance /e:/ not /ei/ is used before a nasal e.g. in *range, strange* , and in -ation endings e.g. *station, population*.
6. Unrounded /ɜ:/ is found in *nurse, church* etc , rather than the rounded /ø:/ of PTE .
7. The diphthong in *price, die* etc is transcribed as /ai/ rather than PTE /aɪ/, i.e. there is a more open starting point and closer finishing point ; with the result that pairs like *Dai / die ; aye / eye* are said by Tench not to contrast .
8. In words of the BATH lexical set, it is claimed that only the short vowel /a/ is found, both in the environment of a following voiceless fricative (e.g. *grass, passed, fast, master, bath, laugh, after*) and of a following cluster beginning with a nasal (e.g. *dance, demand, example*).

Tench makes no reference to presence of rhoticity, other than to observe that the distribution of /r/ is the same as in RP.

1.3.3 Cardiff English

1.3.3.1

Cardiff is about the same distance 'as the crow flies' as the Port-Talbot, Neath & Swansea urban area from the Rhondda, but is much more easily reached - down the Valleys to the junction of the Rhondda with the Taff at Pontypridd, and then less than 10 miles (16 km) down the Taff Valley to the outskirts of Cardiff.

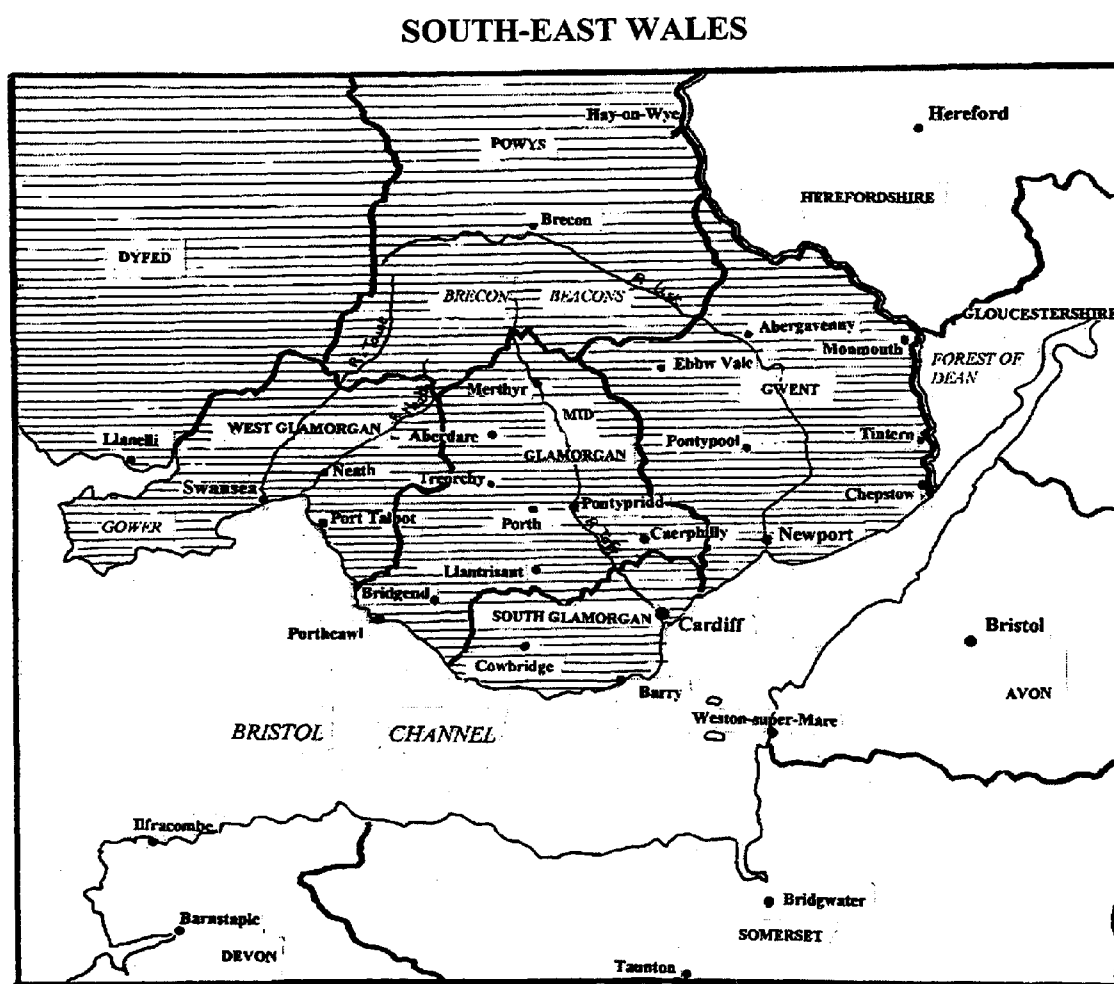


Fig 1.3.3.1 A map of S.E. Wales.

Cardiff English (CE) is relatively well researched, for example by Mees (1983), Lediard (1977) and Coupland (1988), Collins & Mees (1990). The term is generally

used to refer to the variety of English found in the coastal plain area of S.E. Wales in and around Cardiff and Newport ⁶ (fig. 1.3.3.1). These cities share a similar timetable of industrial and rapid population growth to the S.E. Wales valleys. The population of Cardiff was only 1,870 in 1801, and had grown to 182,000 in 1911 (Census figures). Unlike the S.E. Valleys, however, there was already a well-established, English speech-community in the area before the beginning of the industrial era. Collins, B. and Mees, I. (1990: 87) comment thus:

The low-lying coastal region of south-east Glamorgan and south-west Gwent has in all likelihood been largely English-speaking for more than 500 years. Probably, as a result of this, the speech of these areas differs considerably from the neighbouring accents of the south Wales valleys region.

They go on to quote 'lay judgement' that the indigenous English of this coastal area 'shares many phonetic/phonological features with the accents of the English Severnside area of Gloucestershire, Avon and Somerset.'

A further difference revealed by the 1911 census is that a clear majority of those not born in Cardiff had migrated from outside Wales - amounting to a considerably greater anglicization of population than occurred in the Valleys

1.3.3.2. Consonants

The main features of CE consonants, as described by Collins, B. and Mees, I. (1990: 89-92), are as follows :

- Rhoticism is said to be completely absent, although intrusive /r/ is commonly found (e.g. in *drawing* / 'drʌ: rɪn/).
- The most common realization of /r/ is a post-alveolar approximant. A tapped [ɾ] is also heard, particularly intervocalically, where it is described to be articulated with a larger portion of the tongue and to be of longer duration than RP, sounding like the voiced /t/ (see below).
- CE exhibits a clear-dark /l/ allophonic patterning.

- In *-ing* suffixes, /n/ generally replaces /ŋ/ e.g. *singing* [sɪŋɪn]. The morpheme *-thing* in *something*, *nothing* etc, however, is sometimes heard as [-θɪŋk], i.e. with velar plosive phonetically present.
- Initial /p, t, k/ are said to be strongly aspirated, with tendency to affrication, in stressed syllables.
- Frication in initial /s, z/ tends to be stronger than in RP.
- The sequences /tj/ and /dj/ as in *tune*, *due* etc may be rendered as /tʃu:n/ and /dʒu:/.
- Intervocalic voiced /t/ as in *better*, *hospital* is commonly realized as a long tapped [ɾ] (see /r/ above).
- Final lenis fricatives, particularly /z/ (e.g. in *plays*), may be 'strikingly devoiced'.
- Glottaling is found, e.g. *little* as [lɪʔl] and *kitten* as [kɪʔn], but is said not to be common in the most conservative forms of CE - the implication being that this is an innovation.
- /h/-dropping is common and socially sensitive; [ç] is sometimes heard as a hyper-correction e.g. in *human* ['çu:mən].
- CE is observed to exhibit extensive assimilation and elision : Elision is commonly found
 - of initial /ð/ (e.g. in *that*, *there*)
 - of final /t, d/, preconsonantly (e.g. *but we* [bə wi:], *about four* [ə 'bʌu 'fɔ:]); and sometimes prepausally e.g. *that's right* ['as 'raɪ]
 - sometimes of /t/ in final /-nt/ clusters e.g. *went up* ['wen 'əp]
 - occasionally of /r/ in intervocalic position e.g. *very* [vɛ:i:].

- Welsh Language /ɬ, x/ are included as marginal consonants in the system, but it is stated that they are only used by people with 'Welsh-speaking backgrounds or those with strong feelings of Welsh language loyalty'.⁷

1.3.3.3 Vowels

Cardiff English vowels, as described by Collins, B. and Mees, I. (1990: 92-8), show only the following significant systemic differences from RP :

- RP /ə/ and /ʌ/ are represented by a single merged vowel in CE, phonemized as /ə/. Realization of the stressed version in words of the STRUT lexical set (see Appendix 5, p 393) covers 'a wide area of vowel space' but is 'strikingly closer' than RP /ʌ/.
- There are no centring diphthongs:
 - RP /ɪə/ is usually represented in the stressed vowels of *beer, idea* etc as the disyllabic sequence /i:ə/. In a small set of words including *near, mere*, /jə:/ is sometimes heard; *here, hear, year* and *ear* are all homophonous as /jə:/.
 - RP /ɛə/ (e.g. in *square, aerial*) is /ɛ:/⁸.
 - RP /ʊə-ɔ:/ (e.g. in *tour, your, assure*) has either the disyllabic sequence /u:ə/, or has /ʌ:/.

Vowel realizations in CE are said to include the following features:

- The front short vowels /ɪ, ɛ, ʌ/ are generally more open than their counterparts in RP.
- The back short vowels are phonemized as /ɑ/ (e.g. in *lot, cloth*), /ɤ/ (e.g. in *foot, good*), and the long vowel /ʌ:/ (e.g. in *thought, north*). They are described as less rounded and more centralized than their equivalents in RP.
- The vowel /a:/ is fronted, may be raised as high as [æ:], and is often accompanied by a degree of nasalization - forming one of the most stereotypical and socially sensitive features of CE.

- The long vowels /i:/ and /u:/ are closer than in RP, and the former is more fronted and the latter more backed.
- The long central vowel /ø:/ (e.g. in *nurse*) is rounded, fronted and between half open and half close, but this may be a feature of recent origin since broader realizations are said to show little if any rounding.
- All the diphthongs have closer finishing points than in RP.
- /əʊ/ (e.g. in *goat*), /eɪ/ (e.g. in *price*), /ʌu/ (e.g. in *mouth*) and /ʌi/ (e.g. in *choice*) all have central starting points.
- The realization of the final weak vowel in words like *happy* is /i:/, as in Port Talbot English, Abercrave English and West Country English.

VOWEL SYSTEMS OF R.P., CARDIFF ENGLISH AND PORT TALBOT ENGLISH COMPARED

Keywords	R.P.	C.E.	P.T.E.	Keywords	R.P.	C.E.	P.T.E.
KIT	ɪ	ɪ	ɪ	FLEECE	i:	i:	i:
DRESS	e	ɛ	ɛ	PALM	ɑ:	a:~ æ:	a:
TRAP	æ	a~ æ	a	/START			
LOT	ɒ	ɑ	ɒ	THOUGHT	ɔ:	ʌ:	ɒ:
/CLOTH				/NORTH			
STRUT	ʌ	ə	ə	FORCE	ɔ:	ʌ:	o:
FOOT	ʊ	ʏ	ʊ	GOOSE	u:	u:	u:~ ɪu
				NURSE	ɜ:	ø:	ø:
				BATH	ɑ:	a~a:	a~a:
CommA	ə	ə	ə	FACE	eɪ	eɪ	e:~ eɪ
Happy	ɪ	i:	i:	PRICE	aɪ	eɪ	ʌɪ
				CHOICE	ɔɪ	ʌɪ	ɒɪ
				GOAT	əʊ	əʊ	o:~ ou
				MOUTH	aʊ	ʌʊ	ʌʊ
				SQUARE	ɛə	ɛ:	ɛ:
				NEAR	ɪə	ɪ:ə~jø:	ɪ:ə~jø:
				CURE	ʊə~ɔ:	u:ə~ʌ:	ɪue

Fig 1.3.3.3 The vowel system of Cardiff English (Collins, B and Mees, I. 1990: 93) compared with R.P. and Port Talbot English (Connolly, J. 1991)

Among distributional features it is stated that

- In a small number of words of the TRAP lexical set (see Appendix 5, p 392) e.g. *man, mad, bad, bag*, there is a lengthening of the short vowel /a/. Some commentators e.g. Lediard, J. (1977: 264) describe this in terms of transfer to the long vowel /a:/ (as in *palm, start*).
- In the BATH set of words (see Appendix 5, p 393), a short vowel is preferred in the environment of a following consonant cluster starting with a nasal (e.g. *dance*) and a long vowel before fricatives (e.g. *class, laugh*).

1.3.3.4

How 'Welsh' is Cardiff English ? Collins, B. and Mees, I. (1990: 87-8) report that a frequent reaction of people encountering the accent for the first time is that it does not seem to resemble a 'proper Welsh accent' at all, citing in particular the absence of the so-called "lilting" intonation tunes.

Nevertheless, Cardiff English seems to share the following segmental phonological features with other varieties of S.E. Wales English :

- Non-rhoticity: a feature shared with both Port Talbot / West Glamorgan English (PTE) and Abercrave English.
- Strong aspiration of /p, t, k/: a characteristic of both PTE and Abercrave English, and of Welsh (c.f. Jones, C. 1961: 45-56 ; Jones, G. 1984: 42).
- Strong initial frication, e.g. of /f, s/ : a feature found in Welsh.⁹
- Devoicing of final lenis fricatives especially of /z/: a feature that is reported for the 'Welsh' English variety of Abercrave, but also for London English.¹⁰
- Lack of centring diphthongs: a characteristic of the Welsh language itself as well as of both PTE and Abercrave English.
- Lengthened /a/ in certain words of the TRAP lexical set (see Appendix 5, p 392): a feature found in PTE and in West Country English.¹¹
- The strong tendency in words of the BATH lexical set (see Appendix 5, p 393) to select the short vowel in clusters beginning with a nasal : a feature, as seen, reported for PTE and Abercrave English, and also occurring in Welsh.¹²

- Lack of contrast between /ʌ, ə/: a feature reported for PTE and for Abercrave English, but also possibly existing in West Country English.¹³
- A central starting point for the PRICE and MOUTH vowels (see Appendix 5 p 397-8): a feature also found in PTE.¹⁴
- The rounded NURSE vowel /ɜː/: a feature shared with PTE and also widely recorded in SAWD, although it is not found in the 'more Welsh' Abercrave English, nor in the Welsh Language itself.

By contrast, the following features of CE appear not to have counterparts in other South East Wales accents of English :

- Clear-dark /l/ patterning: in accounts of other S. Wales English Accents (e.g. PTE and Abercrave English), /l/ is reported to be always clear, as is the case in the Welsh Language.¹⁵
- Initial /p, t, k/ being accompanied not only by strong aspiration, but by affrication: this has not been observed in other Welsh English accents, but is reported for London English.¹⁶
- Occurrences of glottaling of intervocalic /p, t, k/: this is not observed in PTE or in Abercrave English, but is (again) found in London English.
- A voiced realization of intervocalic /t/: this is not observed in PTE or Abercrave English, and is only rarely recorded in SAWD (see 1.3.4.2) , but is found in areas of the West country, including Bristol.¹⁸
- The morpheme *-thing* in *something* , *nothing* etc being sometimes heard as [-θɪŋk] : this is not observed in other studies of S.E. Wales English, although it is found in London, Liverpool and the West Midlands.¹⁷
- Amount of assimilation and elision: this appears to be more extensive than found in PTE, and runs strongly counter to the more 'Welsh' accent of Abercrave English (see 1.3.2).
- Unrounded back-vowels: this is not apparently found anywhere in S.E. Wales outside Cardiff English, although it is reported in parts of the West Country.¹⁹

- The fronted long /a : /tending to nazalization and with raised variants : in other varieties of Welsh English the vowel is reported to be fully open, although the picture for the Welsh language itself is less clear.²⁰

In summary, Cardiff English shares several features of segmental phonology with other varieties of S.E. Wales English, but exhibits other features - some shared with West Country English and some with London English - which have not, so far, been observed in other studies of Welsh English. The present study of Rhondda Valleys English is an opportunity to cast more light on this situation.

1.3.4 The Survey of Anglo-Welsh Dialects

1.3.4.1

The fourth main study of South Wales English consulted was the survey of Anglo-Welsh Dialects (SAWD) (ed. Parry: 1977). This was begun in 1968 as an extension of the Survey of English Dialects (SED) (1962-71), and was carried out under the direction of David Parry of the University of Wales, Swansea. Volume I covered forty-seven localities in the area of S.E Wales, extending from Gower and the Swansea Valley in the West to Gwent in the East, and from the coast in the South to Radnor in the North.

The Survey sets out to record conservative forms of pronunciation, lexis, syntax and morphology in the area. Informants were all in the over 60's age group, usually numbered 3 or 4 per location and were to be "ideally ... from rural locations"

(Parry, D. ob cit: 1-2). Cities / towns such as Cardiff, Newport, Bridgend, Swansea, Port Talbot and Neath were therefore not included. The type of phonological analysis aims at phonetic rather than phonemic description.

1.3.4.2

Among the findings are :

- Rhotic pronunciations are found along the border with Gloucestershire and Herefordshire and also in South Gower, all clearly attributable to influence from England.

- Voiced /t/ is not recorded anywhere in S.E. Wales, except possibly in Gower where intervocalic /t/ pronunciations with [d] e.g. for *daughter*, *forty* are recorded.
- A rounded NURSE vowel, e.g. in *hearse*, *birch*, *church*, is found in all the counties surveyed. It is more common than an unrounded one everywhere in S. E. Wales except western (more 'Welsh') regions of Powys and Gower.
- A short BATH vowel where followed by a cluster beginning with a nasal, e.g. *aunt*, *branch* (see Appendix 5, p 393), is more common than a long vowel everywhere in S.E. Wales except the easternmost areas of Gwent and Gower. Where followed by a fricative, a long vowel is more common in all areas for the words *draught* and *laughing*. For the word *grass*, however, the situation is more mixed: the long vowel is more common in most areas but it is the short vowel that predominates in western ('Welsh') areas of Powys.
- The quality of /a:/ is reported as generally a fronted [a:] , except in Western ('Welsh') areas of Powys and Gower where centralized realizations are recorded [ä : ~ ǣ :].
- Instances of lengthening of /a/ in the word *man* are recorded in all the counties.
- Instances of /ɪu/ in the word *tune* are reported from all the counties, and it is the predominant representation in Mid Glamorgan (in which the Rhondda Valleys are situated.)
- Starting points for the diphthongs in the PRICE and MOUTH lexical sets are reported to be mainly central, but more open realizations are also recorded throughout the counties.
- SAWD throughout S.E. Wales consistently transcribes stressed STRUT words with a raised [Ä̊] , as opposed to the more open STRUT realization of [ä̊ ~ Ä̊] in RP (Gimson, A. revised Cruttenden, A. 1994:105).

1.3.5 Welsh National Folk Museum, St Ffagans.

The researcher was given access to archive recordings of Rhondda Valleys speech made in the 1980's and stored in the Welsh Folk Museum at St Ffagans. These consisted of interviews carried out with elderly informants who had either been permanently resident in the Rhondda or had lived there for all but a very small number of years.

The researcher was able to listen to three recordings as a pilot study of Rhondda Valleys English (RVE). Each was of approximately twenty minutes duration, two of male informants and one of a female informant. Notes were made of vowel and consonant realizations, of lexical distribution of phonemes and of a range of prosodic phenomena.

Insights gained from this small sample of Rhondda Valleys English (RVE) included the following features:

- For words of the FACE lexical set (see Appendix 5, p 395), the monophthong /e:/ was heard in *great, taking, brigade, trade, estate, occasion* ; a diphthong was heard in *play, today, train*.
- For words of the GOAT lexical set (see Appendix 5, p 396), the monophthong /o:/ was heard in *programme, coal, soda, explosion, road, closed, home, boat, ago*; a diphthong was heard in *know, slow*.
- The monophthong /ɛ:/ was used for words of the SQUARE lexical set (see Appendix 5, p 398), e.g. in *by there, scared*.
- [ɪu] rather than [ju:] occurred in *few, suet, use* [ɪuz] .
- With words of the BATH lexical set, short /a/ was consistently used in the environment of a following cluster starting with a nasal e.g. *aunt, answer, dancing*, but both long and short vowels were heard in the environment of a following fricative: e.g. *passing, laughed, bath, Bath* (the town) were with the long vowel, while *castle, vast, after* were with the short vowel.
- A long [a:] was heard in *bad, faggots* from the TRAP lexical set (see Appendix 5, p 392).

- Rhoticity was, occasionally used by two of the three subjects, e.g. in *forty*, *Porth*, *port*.
- Lengthening of consonants was heard following stressed short vowels e.g. in *castle* [kas' l̩], *happy*, *records*, *doctors*, *saucepan* [sɒs' pʌn], *bully*, *roughs*, *busses*, *country*, *fusty* and in the words *grease*, *beautiful*, *player*, *spoilt*
- *work*, *thirty* were pronounced with an unrounded vowel [ɜ :]; the words *here* and *hear* were generally /jɜ : /.
- The PRICE vowel was generally pronounced with a more central starting point than in RP [ʌɪ], but a vowel with a more open start was also heard, e.g. in the pronunciation of the final syllable of the place name *Penygraig*.
- /r/ was commonly trilled in stressed syllable position.
- /h/ was present in the phonemic inventory of the informants, but frequently dropped.
- Words of the NEAR set like *beer*, *dear* were generally pronounced with disyllabic sequences [i : (j) e]; *reared* was heard as [rɛ : d].
- Unstressed final syllables consistently had a fuller vowel quality than in R.P., e.g. *soda* was pronounced [so : dɐ].
- /z/ was unvoiced in the word *closed*.
- [ɾ̥] was heard in the word *right*.

1.3.6 The Welsh Language.

In order to compare phonological features of S.E. Wales English - and of Rhondda Valleys English in particular - with the Welsh language, the following main sources of information on South Wales Welsh were consulted :

1. *The Welsh Dialect of Nantgarw - Thomas, C. (1961).*

Since Nantgarw lies only 3 miles from the mouth of the Rhondda at Pontypridd and since there is no comprehensive description of Welsh phonology in the Rhondda itself, the account is of particular interest.

2. *Welsh Phonology* - ed Ball, M. and Jones, G. (1984).

- *The Distinctive Vowels and Consonants of Welsh* (Jones, G.)

This gives an account of the auditory and articulatory features of the distinctive consonants and vowels of spoken Welsh. It is based on an analysis of the dialect in the Llanwrtyd area of South Powys and Mid Wales, but makes reference to southern (and northern) Welsh in general.

- *Phonotactic Constraints in Welsh* (Awberry, G.)

This offers a description of the segmental phonology of the Welsh Language in South Wales (as well as North Wales). It is of particular value in its discussion of the relations between 'vowel length' - by which is meant, in the first instance, short or long vowel phoneme selection - and succeeding consonants.

- *Phonetics for Phonology* (Ball, M.)

This reports on a range of instrumental analyses, including measurements of voice onset time (VOT) in initial plosives and of frication in initial fricatives.

- *Intonation and the Discourse* (Rhys, M.)

This gives an account of the intonational forms and functions of Welsh following a broadly Hallidayan approach. It is based primarily on an analysis of a dialect of Welsh spoken in south-east Dyfed.

3. *Stress in Modern Welsh* - Williams, B. (1983)

The thesis examines cues to stress of pitch, amplitude and duration. It argues that stress in the Welsh Language should be accounted for in terms of a rhythmic structure that sets up 'expectation' of stress, rather than intrinsic cues per se.

Among her conclusions are the findings that when stress (as frequently happens in Welsh) is on the penultimate syllable this syllable may have less pitch prominence and shorter duration than the supposedly unstressed final vowel.

1.4 Methodology

1.4.1 Locations of survey

Three locations in the Rhondda were chosen for sampling (see fig. 1.2.1):

- (1) Treherbert, at the top of the Rhondda Fawr.
- (2) Maerdy, at the top of the Rhondda Fach.
- (3) Cymmer adjoining Porth, in the Lower Rhondda

Treherbert and Maerdy, being at the top of their respective valleys, are furthest away from Cardiff. They are also physically remote from each-other due to the mountainous topography. They have 11.2% and 8.4% of Welsh speakers, respectively.

Cymmer, Porth lies further down the Valleys at the confluence of the Rhondda Fawr and Rhondda Fach . It is nearer 'outside influence', including the influence of Cardiff English, and has a lower proportion of Welsh speakers (5.6%).

1.4.2 Informants

Twenty informants were chosen from each location, 60 in all. Their essential bio-details (including age, schooling, occupations and knowledge if any of Welsh) and the place of birth of their parents can be seen in Appendix 1(a). Their selection was based on the following criteria:

1. They were free of serious hearing or speech impediment.
2. They were broadly 'working-class' in socio-economic status :
 - *occupational*: their occupations, and of their fathers before them, fell loosely into the category of 'working class'
 - *educational*: they had received no schooling or other full-time

college education beyond the age of 16

- *perceived status*: they were members of a Workmen's Club and therefore, presumably, not entirely unhappy with the social status this implied

3. They were males. In part, this was because of the desire to capture casual styles of speech and the fact that various studies have found that females show a greater tendency to vary their speech in the direction of formality than males during interviews.²¹ Mainly, however, the decision was one of convenience: the Working-Men's clubs in the Rhondda presented themselves as an ideal setting for gathering of data and the researcher, being male, was able to gain easy, informal access to these institutions.

4. They were divided in equal numbers into two age-groups, approximately a generation apart:

(1) Informants aged 60 years old and above, henceforward called '*the over 60s*'. Such informants had been raised in the Rhondda in the 1930's or earlier, at a time when a substantial number of the speech community (approximately 50%) spoke Welsh, when Rhondda people traveled out of the Valleys infrequently²², when T.V. had not yet invaded living rooms, and when there was a still thriving communal activity centred round clubs and chapels, reinforcing local culture and dialect (see 1.2.2).

(2) Informants in the 30's and early 40's, henceforward called '*the 30's*'. Such informants had been raised in the 1960's, when the number of Welsh-speakers was slumping, when people were traveling further afield for work and their holidays, when Workmen's Halls, clubs and chapels were increasingly going into decline, and when television was ever more present in Rhondda homes, bringing with it increased exposure to outside influence.

5. All informants were permanent residents of the Rhondda Valleys, which was interpreted to mean:

- born in the Rhondda (or moved there below the age of five)
- having spent no extensive period (longer than 2 years) away from the Rhondda during the first twenty years of their lives.

There was no requirement for their parents to have been permanently resident in the Rhondda, since with *the over 60's* it was quite likely that at least one of the parents would have migrated into the area.

6. No attempt was made to obtain a quota of Welsh speakers for each age-group corresponding to the overall percentage of Welsh speakers in the Rhondda ; but it was hoped that the sample size of 60 informants would reflect something of the influence of the Welsh sub-stratum there for the age-groups selected.

In the event, three of the informants (2 from the over 60's, and 1 from the 30's age-group) were Welsh speakers, representing 5% of the sample - compared with 8% of the population as a whole in the 1991 census.

A further twelve (20%) of the informants - ten from the over 60's and two from the 30's age group - were informants who spoke some Welsh and whose parents had both been fluent in Welsh. The difference between age-groups in this respect is striking (see Appendix 1B) and reflects the decline of Welsh in the Valleys.

1.4.3 Interview planning

The interview consisted of two parts:

- (1) a Questionnaire Stage to investigate all the segmental variables
- (2) a spontaneous conversation to provide material for study of suprasegmentals, and additional data on segmental variables

It was planned with the Questionnaire Stage to elicit the target-words indirectly, something in the manner of a quiz - a common type of entertainment in clubs and pubs. So, for example to elicit the item PETS the interviewer's prompt could be *dogs and cats are household* , with a flash-card displaying 'the answer' if further prompts were unsuccessful.

In the Conversation Stage, each informant was to be paired up with a friend. Given the setting of a bar or back-room of their own Club, this seemed to give reasonable

prospects of capturing samples of interactive, informal conversation.

It was intended that both interview stages should produce speech styles towards the informal end of the speech style spectrum, since it was desired to capture mainly the broader end of the RVE spectrum (see 1.1.2). If it were to be the case, however, that the questionnaire and conversation stages produced noticeably different styles of formality, the resulting contrast could yield some information on the social sensitivity of pronunciation variables such as:

- amount of /h/dropping
- quality of /a : /in PALM, START lexical set words, the more backed versions possibly being associated with 'correct' speech
- substitution of non-standard /n/for/ŋ/ in *-ing* endings

1.4.4 The questionnaire

1.4.4.1

The aim of the questionnaire was to elicit from informants citation-forms of words that would illustrate the essential vowel and consonant sounds of RVE. It makes use of the *standard lexical sets* of Wells (1982) seen in fig. 1.4.4.1.

These [lexical sets] enable one to refer concisely to large groups of words which tend to share the same vowel, and to the vowel which they share. They are based on the vowel - correspondences which apply between British Received Pronunciation and (a variety of) General American, and make use of keywords intended to be unmistakable no matter what accent one says them in. Thus 'the KIT words' refers to 'ship, bridge, milk ...'; 'the KIT vowel' refers to the vowel these words have (in most accents, /ɪ/); both may just be referred to as KIT.

The final of the three keywords, *happY*, *lettER*, and *commA*, are described by Wells (1982: 165) as not representing lexical sets, but as referring to weak (unstressed) vowels occurring word-finally, which 'have indexical and diagnostic value in distinguishing accents'.

Standard Lexical Sets (Wells, J.C. 1982)

KEYWORD	RP	GenAm	Examples
KIT	ɪ	ɪ	<i>ship, sick, bridge, milk, myth, busy ...</i>
DRESS	e	ɛ	<i>step, neck, edge, shelf, friend, ready ...</i>
TRAP	æ	æ	<i>tap, back, badge, scalp, hand, cancel ...</i>
LOT	ɒ	ɑ	<i>stop, sock, dodge, romp, possible, quality ...</i>
STRUT	ʌ	ʌ	<i>cup, suck, budge, pulse, trunk, blood ...</i>
FOOT	ʊ	ʊ	<i>put, bush, full, good, look, wolf ...</i>
BATH	ɑː	æ	<i>staff, brass, ask, dance, sample, calf ...</i>
CLOTH	ɒ	ɔ	<i>cough, broth, cross, long, Boston ...</i>
NURSE	ɜː	ɜr	<i>hurt, lurk, urge, burst, jerk, term ...</i>
FLEECE	iː	i	<i>creep, speak, leave, feel, key, people ...</i>
FACE	eɪ	eɪ	<i>tape, cake, raid, veil, steak, day ...</i>
PALM	ɑː	ɑ	<i>psalm, father, bra, spa, lager ...</i>
THOUGHT	ɔː	ɔ	<i>taught, sauce, hawk, jaw, broad ...</i>
GOAT	əʊ	o	<i>soap, joke, home, know, so, roll ...</i>
GOOSE	uː	u	<i>loop, shoot, tomb, mute, huge, view ...</i>
PRICE	aɪ	aɪ	<i>ripe, write, arrive, high, try, buy ...</i>
CHOICE	ɔɪ	ɔɪ	<i>adroit, noise, join, toy, royal ...</i>
MOUTH	aʊ	aʊ	<i>out, house, loud, count, crowd, cow ...</i>
NEAR	ɪə	ɪ(r	<i>beer, sincere, fear, beard, serum ...</i>
SQUARE	ɛə	ɛ(r	<i>care, fair, pear, where, scarce, vary ...</i>
START	ɑː	ɑ(r	<i>far, sharp, bark, carve, farm, heart ...</i>
NORTH	ɔː	ɔ(r	<i>for, war, short, scorch, born, warm ...</i>
FORCE	ɔː	o(r	<i>four, wore, sport, porch, borne, story ...</i>
CURE	ʊə	ʊ(r	<i>poor, tourist, pure, plural, jury ...</i>
<i>happy</i>	ɪ		<i>copy, city, inky, committee, hockey, Chelsea ...</i>
<i>letter</i>	ə		<i>paper, better, calendar, sugar, author, figure ...</i>
<i>comma</i>	ə		<i>quota, saga, sofa, drama, opera, Cinderella ...</i>

Fig 1.4.4.1 Standard Lexical Sets and vowels, British R.P. and General American.
(Wells, J.C. 1982 : xviii- xix). Fuller details of all the lexical sets are given in Appendix 5.

1.4.4.2

The RVE questionnaire can be seen in fig. 1.4.4.2 , and makes the following modifications to Wells's keywords:

1. Substitute words are used , for example PIT for KIT, PET for DRESS, ROD for LOT, with the following purposes:

- to offer items which might be more familiar to informants as 'answers', given the quiz-type format used in carrying out the questionnaire
- to explore additional phonological variables; for example ROD could

investigate realizations of prevocalic /r/ as well as the pronunciation of the LOT vowel.

KEY-WORDS USED FOR VOWEL INVESTIGATION IN RVE STUDY.

Keyword (Wells 1982)	RVE Questionnaire	
	Item	Key-Word(s)
KIT	1	PIT
DRESS	2 ; 59	PET ; FERRY
TRAP	3 ; 10 ; 16	BAT ; DANCE* ; EXAMPLE*
LOT / CLOTH*	4 ; 14 ; 30 ; 32	ROD ; BROTH* ; SALT* ; FALSE*
STRUT	6 ; 8 ;	BLOOD ; BUTTER
FOOT	9 ; 11 ; 12	SOOT* ; TOOTH* ; FOOTBALL
BATH	7 ; 10 ; 15 ; 16	GRASS ; DANCE ; LAUGHING ; EXAMPLE
NURSE	18 ; 56	NURSE ; EAR*
FLEECE	19 ; 21 ; 55	MEAT ; WHEEL ; PERIOD*
FACE	20 ; 22 ; 24 ; 26 ; 27 ; 29 ; 31	'A' & 'K' ; WASTE ; WAIST ; WAITING ; STALE ; TAIL ; BEHAVE
PALM / START*	23 ; 25 ; 60	CALM ; FATHER ; START*
THOUGHT	28	CAUGHT
NORTH	17	NORTH
FORCE	61	SWORD
GOAT	20 ; 33 ; 35 ; 37 ; 39 41 ; 43 ; 45 ; 47	'O' ; SOLE ; SOUL ; TOES ; TOWS ; NOSE ; KNOW ; CLOTHES ; SOFA
GOOSE	20 ; 34 ; 36 ; 38 40 ; 42 ; 44	'U' ; THROUGH ; THREW ; BLUE ; BLEW ; MOOD ; BEAUTY
PRICE	46 ; 48	WHITE ; FIRE
CHOICE	49	VOICE
MOUTH	50 ; 51 ; 52	SOUTH ; SHOWER* ; HOUSE
NEAR	53 ; 54 ; 55 ; 56	BEER ; BEARD ; PERIOD ; EAR
SQUARE	57 ; 58	PAIR ; FAIRY
CURE	62 ; 63 ; 64 ; 65 ; 66	POOR ; SURE ; TOUR ; CURES ; JURY
Happy	44 ; 58 ; 59 ; 66	BEAUTY ; FAIRY ; FERRY ; JURY
LetTER / comma	8 ; 13 ; 25 ; 47 ; 48 ; 51 ; 53 ; 54 ; 63 ; 64 ; 65 ; 66	BUTTER ; HEADMASTER ; FATHER ; SOFA ; FIRE* ; SHOWER* ; BEER* ; BEARD* ; POOR* ; SURE* ; TOUR* ; CURES*

Fig 1.4.4.2 RVE Questionnaire Keywords. (Pilot studies had indicated that words with an asterisk* would be pronounced in a certain way, e.g. 'tooth' with the FOOT vowel.) The full text of the Questionnaire used in the research can be seen in Appendix 2.

2. Supplementation of Wells's key-words was made in order to investigate further variables of potential interest to RVE for example :

- the possible existence of contrasting vowels for words of the FACE lexical set : a diphthong and a monophthong
- the existence, also, of a contrasting diphthong and monophthong for words of the GOAT set
- the realization of words of the SQUARE, NEAR and CURE lexical sets, since the centring diphthongs used in RP for these are reported to be absent in varieties of Welsh English (see 1.3.1.2 and 1.3.3.3).

The questionnaire also afforded the opportunity of investigation of lexical distribution of /a/ vs /a:~ɑ:/ in words of the BATH set.

As far as possible, substitute or additional words observed the guidelines for keyword choice adopted by Wells (1982, Vol. I: 123):

the keywords have been chosen so as to end in a voiceless alveolar or dental consonant: a voiceless consonant minimizes the likelihood of diphthongal glides obscuring a basic vowel quality, while coronality (alveolar or dental place) minimizes the possible allophonic effect of the place of a following consonant

Sixty six items were included in the questionnaire, the total being a compromise between the need to be comprehensive and the need to avoid undue prolongation of the interview. It was hoped that any deficiencies in comprehensiveness could be compensated for through the additional data supplied in the free conversation episode.

1.4.5 Spontaneous conversation

1.4.5.1

The main aim of the conversation stage of the interview was to capture a sample of spontaneous interactive conversation between the informants, which would provide suitable data for the prosodic analysis. Since the informants in each pair were well known to each-other, it was hoped they would chat more to each-other than to the interviewer and reproduce something approaching their normal 'at the Club' conversational genre - including inter-personal conversational strategies and turn-management.

A secondary aim was to provide supplementary data for the Questionnaire Stage, e.g. on lexical distribution of phonemes. Features of connected speech such as assimilation, elision and link-up could also be examined.

1.4.5.2

The Conversation Stage was loosely structured. The aim of the interviewer was to 'get the two informants going' by the means of letting them rummage through a pile of large blown-up photos of Rhondda Valleys landmarks and personalities (past and present) spread on the table in front of them. Since Rhondda people typically feel closely involved with their local community and because of the catastrophic economic changes that have affected it in recent years, there could be reasonable optimism that the photos would stimulate the interested participation of the informants.

A beginning might be made by asking - if the informants were not already volunteering identifications - where a particular picture was in the Valleys, what the name of a famous political or sporting personality was in another, etc. It was then hoped that the informants would move on from this identification stage to a lively discussion of any issues, controversies, reminiscences etc arising from the photos.

1.4.6 Speech style

The strategies seeking to achieve speech styles towards the informal end of the formal-informal spectrum are summarised as follows:

- The recordings were in Workmen's Clubs, where, in the Rhondda, people take visitors readily 'into their company'. It could reasonably be anticipated that such a setting and atmosphere - with moderate alcoholic lubrication - would be conducive to at least a fair degree of informality. To carry out the interviews in informants' houses might not work so well since they were more likely to be 'on best behaviour' there.²³
- Concentration was on male informants, whom different studies have shown to be less speech-conscious than females (see 1.4.2).
- The purpose of the interview would be presented briefly and positively, in terms of Valleys accent being 'musical' and part of 'local heritage'. No mention would be

made of targeting specific features of pronunciation.

- The interviewer could reduce the factor of being an 'outsider' by presenting himself (quite genuinely, being from Neath) as a "Valleys boy".
- Unobtrusive recording equipment would be used: a small, high-quality recording machine; and a free-standing, easily concealed microphone rather than a tie-pin microphone for each informant.
- The Questionnaire would proceed by means of an indirect, quiz-type approach (as seen in 1.4.3).
- Large, blown-up photographs of local places, personalities etc would be used to stimulate the real interest and unselfconscious involvement of informants (see 1.4.5.2).

It was anticipated that, despite such strategies to obtain informality throughout the whole of the interview, speech styles during the interviewer-controlled Questionnaire Stage might turn out as more formal than in the Free Conversation.

1.4.7 Interview length

The whole interview was planned to take half an hour per pair of informants, time for both of them to do the questionnaire and then engage in at least ten minutes' free conversation. Half an hour was thought to be about the right length of interview for sustaining most informants' interest, and convenient for the mechanism of recording since the interviewer could simply insert a C60 cassette into the recorder and leave it run its course.

1.5 Fieldwork

1.5.1 Workmen's Clubs

The field-work was carried out during the early months of 1995. In the wards selected, the following Workmen's Clubs were approached :

- Treherbert Ward : Tynewydd Workmen's Club
- Maerdy Ward: Maerdy Workmen's Club
- Cymmer (Porth) Ward: Cymmer Pioneer Workmen's Club

Meetings were arranged with officials of the three clubs in January 1995 to outline the nature of the survey and criteria for recruitment of informants (see 1.4.2). Each club readily agreed to the survey and to find the exact categories of informants in return for a modest donation of funds. To ensure that the criteria laid down were met, each informant had to fill in a personal details form with his place of birth, age, education, occupation and knowledge of Welsh, together with place of birth of his parents. (See Appendix 1(a) for an abridged version of informants' bio-details.)

In the event, the only Club which could provide all the informants needed was Maerdy Workmen's Club. The Tynewydd Workmen's Club and Pioneer Workmen's Club not being able to do so, the researcher made good the shortfall by approaching other clubs in the wards concerned. In Treherbert, the only viable alternative was the Treherbert Conservative Workmen's Club and Institute. This was in a different area of the town, but the name 'conservative' raised the prospect of population bias: its clientele might either be of more elevated social status than members of other Workmen's Clubs or perceive themselves to be so. The researcher was assured by Club officials that the name 'conservative' had long ceased to bear relation to political affiliations or perceived socio-economic status of Club members. All informants, in any case, had still to meet all the criteria laid down before they could be interviewed. It can be seen in Appendix 1(a) that the personal background of informants from the two clubs in Treherbert was substantially the same. In the case of Cymmer, Porth, there were two other clubs that could be approached. The one chosen was the Cymmer Workmen's Hall, within a short distance of the Pioneer Workmen's Club.

1.5.2 Staging of interviews

The interviews took place intermittently over the period from February to April 1995 and were, in general, successfully staged.

1.5.2.1

The setting of a Workmen's Club seemed to work well for the purpose of capturing informal, casual speech. Informants were welcoming, chatty and very willing participants. Most of them came equipped with a glass of beer in their hands, but none of them could be said to have had 'a glass too many'. In all cases, informants

pairing up for an interview were known to each-other ; many pairs described themselves as being close friends. These two factors, the club-setting and the pairing up of informants, seemed to work together to at least reduce any unease and formality felt at the beginning of interviews. Evidence of this was forthcoming in the increasingly relaxed seating poses, joking and laughter of informants as interviews progressed.

1.5.2.2

Interviews took place in a quiet room away from noises emanating from the street or bar area, in order to secure as good a sound quality as could be achieved in the venue of a Workmen's Club. This was least successfully accomplished in Maerdy Workmen's Club, where interviews all took place in the space of two days in February 1995. The Club was in such a desperate financial situation that it could keep only two areas in the three-storey building heated: the bar-area and a lounge / entertainments room. The interviews were carried out in the latter room, but most were subject to sound disturbance from the nearby bar, resulting in recordings which, although for the most part adequate for the purpose of auditory analysis, were often of too poor a quality for acoustic analysis.

1.5.2.3

The interviewer introduced himself as a 'Neath boy', and used his native accent without affecting a 'broad vernacular' in a way that might be counterproductive. e.g. in such socio-linguistically sensitive variables as quality of long /a : /and /h/-dropping. He used his local knowledge of the Rhondda Valleys to advantage ; grandparents from both his father's and mother's side had lived there.

The indications are that these factors succeeded in reducing the factor of the interviewer being 'an outsider'. At least, it seemed that the great majority of the informants clearly accepted and willingly participated in the interview.

1.5.2.4

Informants were already aware of the general purpose of the interview and that they would be recorded when they entered the interview room ; they had been recruited for

the interviews by officers of the Club who could hardly avoid telling them. The general explanation given both to officials and informants was to the effect that it was wanted to record 'real Valleys speech' as part of 'Valleys' heritage'. The idea was given that the researcher was interested not only in their 'musical accents' but also the content of what they would say about their lives and about the Rhondda .

In the event, slightly over a quarter of the informants asked for more information about the purpose and nature of the interview. Their questions sought further clarification and showed that these informants, at least, were aware of their pronunciation being a target of the interview. The researcher had no means of knowing how self-conscious this made them, but (as already stated) the behaviour and speech of only a small number of them seemed clearly affected. With three of the informants, the questions asked were quite extensive and amounted to a discussion on 'Valleys dialect' and the Welsh language.

1.5.3 Recording the interview

Recording equipment consisted of a small walkman-sized recorder (Sony WM D6C), with free-standing stereo-microphone. The recorder was placed out of sight on the floor and the microphone and lead concealed on one of the tables pushed together for the purpose of the interview. The pictures that had been prepared of local places and personalities were spread over another table in front of the informants.

Informants were told of the presence of a 'small microphone'. The fact that it was concealed out of their sight seemed to reduce their self-consciousness, particularly during the conversation stage. In some cases, remarks made afterwards by the informants indicated that its presence had been forgotten completely. In a few cases, on the other hand, informants were plainly conscious of 'being recorded' throughout the Questionnaire and most of the Conversation Stage. In the majority of cases there was no evidence, either way, of how aware informants were of the recording equipment, and how much they were inhibited by it.

1.5.4 Account of interviewing

1.5.4.1

The interview began with one of the informants doing the questionnaire part. The prompts/questions were given orally in the manner of a quiz, as planned. Where the informant could not think of an answer, one or more further leads were given and then, failing a right answer, a flash card with it was displayed. When the first informant had finished, the second one carried out the same questionnaire.

1.5.4.2

The procedure worked smoothly. Most right answers came first time and quickly. Sometimes an informant needed two or three attempts at finding the right answer. Only with a few words, e.g. *example* ; *waste* ; *fairy* was it necessary to resort to the flash card . Whenever this happened it was always treated by the informants with disappointment or even annoyance that they hadn't found the answer, and they read off the 'right answer' quickly from the flash-card without the same attention to pronunciation there might have been in reading aloud from a word-list. This provided some confirmation that their attention was more on 'finding the answer' than on their speech, i.e. how they were pronouncing the word concerned. Evidence that they were treating it in this way was supplied by such interjections as '*aven't got a clue*' , '*now what are thinking of there*' , '*Christ, that's an 'ard un!*' . That there was still an element of formality in the speech of some or all informants, however, could be seen in the differences that came to light in comparisons between informants' realization of socially-sensitive variables such as /h/-dropping between this Questionnaire Stage of the interview and the subsequent Conversation Stage (see 2.4.5).

1.5.4.3

One aspect of the questionnaire procedure did not go to plan - the making of field notes of lip positions, particularly rounding, while interviewing. The researcher quickly gave up attempts to do this during the first interview (at Tynewydd Workmen's Club, Treherbert), because it meant he had to break off eye-contact in the middle of interactions with informants in order to look at the informants' lips and then stop to note something down. This clearly risked destroying the very atmosphere he was trying to build up and so was immediately abandoned. Notes of lip-rounding,

instead, were taken during the repeat interviews (see 1.5.5).

1.5.4.4

The combined time taken for both informants to get through the Questionnaire part of the interview ranged from 15 minutes to 25 minutes, depending mainly on how fast the informants answered the questions.

Several of the informants made digressions from the Questionnaire or interspersed wise-cracks or other comments, and interruptions also occurred. Since the tape-recorder was running quietly and unseen throughout, these incidental additions form a valuable part of the total data.

1.5.4.5

Once the Questionnaire Stage was finished, the Conversation Stage started. In most interviews, the pictures were successful in triggering topics of conversation, particularly those of local personalities such as the boxer Tommy Farr²⁴, the rugby player Cliff Morgan²⁴ and the two actors Donald and Glyn Houston, but also those of local scenes and of local landmarks, many of which had now disappeared with the closure of the mines.

The informants, being in pairs, usually began by quizzing each other about which picture they should start with, where it was, who was in it etc. At least one of the pictures in every interview then served as a basis for a conversation to develop. Some pairs needed to sort through several pictures before they found something to 'start them off'. Some immediately launched into a conversation - a couple of pairs without looking at any pictures at all.

1.5.4.6.

The interviewer instructed the informants to 'talk together' during the conversation. In the event, the natural friendliness of Rhondda people in 'taking people into their company' meant that the interviewer was inevitably brought into the discussions. He kept, however, as much in the background as possible, and in the large majority of interviews there were episodes where the informants were busy chatting away to each other with little prompting from him. Even in the cases where a lot of intervention

was needed, the interview succeeded in capturing stretches of natural - often animated - speech.

All the conversations yielded stretches of dialogue. In some interviews there were lengthy stretches of monologue, and in one case practically the whole of the conversation was monopolized by one of the informants. Even these episodes were, however, essentially interactional in character, the speaker seeking constant confirmation or reaction from the listeners to what he was saying.

1.5.4.7

Each conversation lasted between ten and twenty minutes. They are of sociological as well as linguistic interest, since they range widely over Rhondda Valleys life at a time of drastic change in economic fortunes and community life, but when memories of the days when the Valleys were in their prime were still strong.

1.5.5 Repeat series of interviews

1.5.5.1

A 'repeat' series of interviews - questionnaire stage only - was arranged in December 1995, nine to ten months after the first. Twelve out of the original sixty informants, four in each ward, were interviewed ²⁵ :

1. to see to what extent findings of the first series of interviews would be replicated
2. to enable carrying out of observations of lip movements that had been abandoned in the original interviews.

The explanation of the need for a 're-take' after a lapse of time seemed to be accepted by the informants, who were given some 'beer-money' for again cooperating in the project.

1.5.5.2

A short Annexe was added to the original Questionnaire. The ten items, together with their phonological purpose, can be seen in Appendix 3.

1.5.5.3

A mature student of the University of Glamorgan ²⁶, himself a resident of the

Rhondda , carried out the interviews in the same way as in the first series. The informants faced the interviewer and the researcher sat at a slight angle from them. In this way, he felt able to make notes on lip movements without distracting the attention of the informants since this was focussed on the interviewer.

Answers were not noticeably any more inhibited or formal than in the first series; most informants were, indeed, keen to show how many of the 'answers' they remembered from the first time.

1.6 Analyzing the data

1.6.1 The audio recordings

The data, at this stage, consisted of thirty half-hour (C60) cassette recordings of variable quality with field notes, representing thirty interviews, ten at Treherbert (T1-T10), ten at Maerdy (M1-M10) and ten at Cymmer, Porth (P1-P10) (see Appendix 1a). Each recorded interview contains the questionnaire responses and free conversation of the two informants paired together for the occasion. The responses generally take up the first 15-20 minutes of cassette time, and the conversation the rest of the time.

1.6.2 Questionnaire responses: auditory analysis

1.6.2.1

A first auditory analysis of the questionnaire responses was made by the researcher (a) of the 60 informants taking part in the main series of interviews, and (b) of the 12 of these informants taking part in the 'repeat interviews' (see 1.5.5.1). Where a different response was given by an informant for any item, or when there was any discrepancy between responses given in the original and repeat interview, this was put alongside the original transcription as a variant used by the speaker.

A second auditory analysis of the responses was carried out a month later, without referring to the previous analysis in order to minimize bias. Findings were compared

and where discrepancies occurred between the first and second transcriptions the items were listened to for a third time to attempt to resolve the differences.

A third of the questionnaires (twenty) and a third of the annexes (four) were then taken to a second listener ²⁷, experienced particularly in the transcribing of Cardiff English. This second listener made his own transcriptions without at any time seeing those of the researcher. A small number of questionnaires (four) were also taken to a third listener, David Parry, author of *The Survey of Anglo-Welsh Dialects* (see 1.3.4), who produced his own independent transcription.

1.6.2.2

Most of the discrepancies between Listener One (the researcher) and Listener Two were minor realizational differences. The more significant divergences were :

- The first and second listener sometimes differed as to whether realizations of /r/ in pre-vocalic and intervocalic position were [r] or [ɹ].
- The second listener usually marked geminate consonants as reinforced glottally, i.e. [ʔt], where the first listener had merely marked them as lengthened, [tː].
- There was frequent divergence between the two listeners on whether to transcribe instances of the FACE vowel as monophthongs or diphthongs:
 - in 41% of the cases they made the same choice of transcription between monophthong and diphthong
 - in 54%, the first listener marked the vowel as a monophthong and the second as a diphthong
 - in 5%, it happened the other way round (i.e. it was the second listener who put down a monophthong, and the first a diphthong)
- There was similar divergence in the transcribing of instances of the GOAT vowel as monophthong or diphthong
 - in 66% of the cases the two listeners agreed in their choice of monophthong or diphthong
 - in 22%, the first listener put down a monophthong and second a diphthong
 - in 12%, the other way round occurred.

1.6.2.3

In discrepancies of every kind, the researcher listened again to the item to compare Listener Two's version with his own. Where the subsequent listening seemed clearly to find one of the two versions as 'correct', this was adopted. Where one version was supported by the transcriptions of Listener Three, this was adopted. In the few cases where no resolution was possible by these means, either a compromise version was adopted or the version of Listener One was used.

Nearly all the unresolved cases of discrepancy over FACE and GOAT vowel transcriptions involved Listener Two characterising glides with very small or late movement as diphthongal. A similar difficulty whether to record such narrow movements as diphthongs is reported for Cardiff English by Coupland, N. (1988: 27), commenting on the findings of Mees, I. (1983). In RVE unlike Cardiff English, however, the findings establish clearly that nearly all the informants possessed both a monophthong and a diphthong variant in their speech. It emerged that many of the unresolved discrepancies in transcription concerned narrow, late vowel glides occurring before /l/ (e.g. in the questionnaire items *stale*, *tail* and *sole*, *soul*). In such cases a final decision was made in favour of a monophthong.

Having resolved the differences between the listeners in the ways described above, the questionnaire data was listened to for a final time in order to make final checks and adjustments. This completed the transcription of segmental findings from the questionnaire stage of the interview.

1.6.2.4

The auditory analysis of segmental data having progressed so far, hypotheses could be formed concerning the phonemic inventory of informants and major findings of phoneme realization and distribution. It could also be seen whether there were any significant differences between the different age-groups of speaker and localities surveyed.

Final decisions were left, however, until the conversational data had been analysed.

1.6.3 Spontaneous conversations : auditory analysis

1.6.3.1

Next, all the 30 recorded conversations were listened to by the researcher and synopses made. Passages from each were selected for orthographic transcription. An example (Maerdy 8) can be seen in Appendix 4.

1.6.3.2

Further data on segmental variables that was obtained included :

- many more incidences of FACE, GOAT and GOOSE words , enabling the researcher to have a better idea whether monophthong and diphthong variants for each were distinguished on a systematic basis
- additional occurrences of NORTH & THOUGHT words and of FORCE words, casting further light on the possible phonemic differentiation between the NORTH / THOUGHT vowel on the one hand, and the FORCE vowel on the other
- additional examples, in stressed and unstressed syllables, helping to determine whether the STRUT vowel and Schwa should be considered as merged in RVE
- fresh instances of words of the NEAR, CURE and SQUARE lexical sets, enabling further investigation of the presence / absence of centring diphthongs in the RVE phonemic inventory
- examples of vowel realizations in TRAP and PALM / START words, enabling further examination of vowel length and quality
- occurrences of the FLEECE, KIT, FACE (where monophthongal), DRESS and SQUARE front vowels, providing more information on the open-ness / close-ness of realizations
- incidences of the LOT / CLOTH, THOUGHT / NORTH, FORCE, GOAT (where /o:/), FOOT and GOOSE (where /u:/) back vowels, offering a fuller picture of their open-ness / close-ness, and rounding / lack of rounding
- instances of the NURSE vowel, yielding further information on presence of rounded versions
- a lot more evidence on the realization, including starting and finishing points, of the FACE, PRICE, CHOICE, GOOSE, MOUTH and GOAT diphthongs
- the primary source of information on lexical distribution of /a/ vs /a:/ in BATH words and of /u:/ vs /ʊ/ in GOOSE words

- the main source of information on connected speech variables such as consonant & vowel elision
- further information on consonants, for example
 - the realization of /r/ and of /l/ in different environments
 - the possible voicing~devoicing of lenis consonants in intervocalic and absolute final positions
 - the different realizations of intervocalic /t/
 - any incidence of the marginal Welsh language consonants, /r̥/ and /m~hw/
 - the occurrence, if any, of rhoticity in the speech of informants
 - the incidence, compared with the questionnaire data, of /h/ dropping
 - the pronunciation of *-ing* word endings

The analysis of the conversational data and synthesis of its findings with those of the questionnaire data completed the auditory analysis of segmentals in the present study.

1.6.4 Acoustic analysis (segmental)

1.6.4.1

Spectrographic analysis of vowel qualities was then carried out.²⁸

1.6.4.2

The problems of measurement arising in spectrographic analysis are acknowledged by Wells, (1962) and Henton, C. (1983: 353-9), and have been found by them to include:

- physiological differences: for example a greater length of vocal tract has been found to lower all formants (cf Henton, C. 1983: 359 ; Lindau, M. and Ladefoged, P. 1990: 115-122)
- age: Hollien, H. & Ship, T. (1972, 155-9) report a lowering of mean fundamental frequency from pre-adolescence to the age of 40-50 - which may result in a 'pulling-down' of the spectral envelope in particular the first two formants - and then a progressive raising until old age
- articulatory differences: for example, amount of lip-rounding, larynx raising-lowering and jaw position modify the length of the vocal tract ; findings of Lindblom, B. and Sundberg, J. (1971: 1166-1179), in fact, suggest that the amount of jaw opening (mandibular movement) is more influential on formant

- frequency values than tongue position
- variability of informant posture: Fant, G. (1960: 111) found F1 and F2 values to differ according to the tilting of the head
- potential measuring inaccuracies arising from the varying position of the baseline in spectrographs

Articulatory context also affects formant readings for vowels because of the different coarticulatory effects of preceding or succeeding sounds. Wells (1962:), Henton (1983: 353-6) and Deterding (1990, reported in Gimson, A. revised Cruttenden, A. 1994: 95) all took their data for pure vowels in monosyllabic words using the frame /h-d/ e.g. *heed* ; *hid* ; *head* in order to minimize the effects on formants of such coarticulatory factors. Other effects of context on formant values include the length of vowel, stress and speed of articulation. Short vowels, especially, are liable to 'target undershoot', i.e. not to reach the values that would be likely for the vowels produced in isolation (cf Stevens, K. and House, A. 1963: 123-5).

Token-to-token random variability in the speech of individuals also gives rise to differences in absolute formant frequency values, necessitating the collection from them of multiple tokens of each vowel in the articulatory context / contexts chosen.

1.6.4.3

The acoustics analyser was asked to obtain F1 and F2 formants for the Questionnaire vowel items in fig. 1.6.4.3 , taking the responses of ten out of the sixty informants.

Acoustic Analysis : Vowels

Vowel	RVE Questionnaire	
	Items	KEYWORD
/i:/	19, 21	MEAT, WHEEL
/ɪ /	1	PIT
/e:/	22, 27	WASTE*, STALE*
/ɛ /	2, 59	PETS, FERRY
/ɛ:/	57, 58	PAIR*, FAIRY*
/a /	3, 10	BAT, DANCE*
/a:/	23, 60	CALM, START
/ɒ /	4, 14	ROD, BROTH

/ɔ:/	17, 28	NORTH, CAUGHT
/o:/	33, 37, 61	SOLE*, TOES*, SWORD*
/ʊ /	9, 11	SOOT, TOOTH
/u:/	38, 42	BLUE, MOOD
/ʌ /	6, 8	BLOOD, BUTTER
/ɜ:/	18, 56	NURSE, EAR*
/ɛi/	29	TAIL*
/ʌi/	46	WHITE
/ɪi/	49	VOICE
/ɪu/	36, 40	THREW*, BLEW*
/ʌu/	50, 52	SOUTH, HOUSE
/ou/	39, 43	TOWS*, KNOWS*

Fig 1.6.4.3 The keywords used for vowel acoustic analysis. (Auditory results had found that the words with an asterisk* were rendered with the vowel indicated.)

1.6.4.4

Monophthong values were averaged out across the central 'steady-state' portion of the vowel. Diphthong values, more difficult to capture because of the relative absence of steady-state spectra, were averaged out over the initial and final parts of the vowel.

1.6.4.5

It can be seen in fig. 1.6.4.3 that usually only two examples of the vowel in question (sometimes only one) were available for analysis and that these are in different co-articulatory contexts. Conscious of these deficiencies and of the other complexities of acoustic investigation such as those mentioned above, the RVE acoustic analysis must be treated as at best marginal to the study, providing signals of possible corroboration or otherwise of the auditory findings.

The acoustic results are referred to, where they may of possible significance, in the item by item report of auditory findings.

NOTES CHAPTER 1

1. This observation is based on such obvious evidence as housing types / prices and on political affiliations. Rhondda has always returned a Labour M.P. to Westminster, and with massive majorities. The 1991 Census figures show 78.64% of the sampled economically active population engaged in non-professional occupations (sub-groups 4a-9b of the Standard Occupational Classification).
2. Llewelyn, R, 1931 (London : M. Joseph). "How Green was my Valley" portrays life in a coal-mining valley, which could well be the Rhondda. Film versions have been made of the book.
3. Information concerning the population of the Rhondda comes from E.D. Lewis in Rhondda Past and Present (ed. Hopkins, K. 1975). The Rhondda Borough Council only came into being in 1879. Information on the population of the Rhondda Valleys before that has to be gleaned from the returns for the three parishes of Ystradyfodwg, Llantrisant and Llanwynno. The parish of Ystradyfodwg (statistics below) included most of the area of modern Rhondda and can be taken as a fair approximation of Rhondda Valleys population in the early 19th century.

POPULATION OF YSTRADYFODWG PARISH			
Year	Males	Females	Total
1801	265	277	542
1811	283	293	576
1821	309	338	647
1831	277	265	542

Population statistics from Ystradyfodwg Parish, to give some indication of the population of pre-industrial Rhondda

4. Such discouragement of Welsh was not confined to schoolteachers and 'the establishment'. Many parents cooperated with the policy, believing that one 'had to speak English in order to get on in life.' In the researcher's own middle-class family, all four grandparents had Welsh as their first language yet did not speak to their children in Welsh. The result was that neither of the researcher's parents(born in 1909) speak Welsh ; the Welsh language was lost from the family in that single generation.

5. Ball, M (1989 : 89) claims that in the Welsh language there is less vowel and consonant reduction in connected speech than in English. Wells, J. (1982 : 388) states that in typically Welsh English accents - he excludes Cardiff and Newport in this respect - there is characteristically release of the first of a pair of plosives in words such as '*actor*' [ak^h t^h ə], whereas in RP there is an 'overlapping' assimilation[æk^h t ə] .

6. Collins, B., and Mees, I. (1990 : 87-8) describe Cardiff English as being found in 'the low-lying coastal region of south-east Glamorgan and south-west Gwent' . According to Coupland, N. (1988, 5) 'informal observation suggests that the principal features of Cardiff English extend to the other urban centres around the capital along the south-east coastal belt - Barry and Penarth to the south-west of Cardiff and Newport to the east.'

7. Coupland, N (1988: 29) describes these as 'very rare borrowings from Welsh' and says that ' Cardiff speakers go to great lengths to avoid them in their pronunciation', for instance generally anglicising the lateral fricative /ɬ/ as [l] in the location of the city's Anglican cathedral *Llandaff* [landaf], or producing at best [çl~xlandaf] .

8. Gimson A. revised Cruttenden A (1994: 133) states that 'Nowadays a long monophthong [ɛ:] is a completely acceptable alternative in General RP.'

9. For the Welsh language, Ball, M (1984: 18) has measured the length of syllable initial frication with /f, θ/ and found an average of 156ms and 124 ms, respectively.
10. Tench, P (1990: 131) observes that RP final /z/ is regularly replaced in Abercrave English by /s/, and /ðz/ by /θs/. Wells, J.(1982: 330) notes a similar feature with London school children.
11. Wells, J. (1982: 345) states that a lack of contrast between /a/ and /a:/ is reported for areas of the West Country. Because the two vowels are the same in quality, any potentially phonemic distinction has to be based on quantity ; but this is complicated by the fact that many 'short vowels' e.g. in 'gas', 'bad' are commonly lengthened. Connolly, J. (1981: 54; 1990: 124), as seen, observes a similar situation for Port Talbot / West Glamorgan English: the difference between /a/ and /a:/ is one of length only, while TRAP words 'man', 'bag' and 'bad' (with the dialect meaning of 'ill') are commonly with /a:/.
12. Awberry, G (1984: 66,69) states that, in the Welsh language, only short vowels are possible before consonant clusters.
13. Wells, J. (1982: 380-1 ; 348) states for Welsh English that the vowel used for STRUT words [ə~ʌ̃] does not contrast with Schwa, and questions whether an opposition between them exists in much of West Country English. Jones, G (1984 : 56) states that the Welsh language has /ə/ as its (only) central vowel
14. The Welsh language contains both /əi/ and /ai/. Jones, G (1984: 58) states that /ai/ is 'mostly confined' to monosyllables and stressed ultima.
15. Thomas, A. (1958) reported by Jones, G. (1984: 49) describes /l/ in South Wales Welsh as 'unilateral and clear'. Thomas, C (1961: 72) describes it for Nantgarw Welsh as being clear when adjacent to front vowels and neutral when adjacent to back.

16. Wells, J. (1982: 322) observes that /p, t, k/ in Cockney are often associated with a greater than RP degree of aspiration, accompanied by affrication. Such affrication 'may be encountered in initial, intervocalic, and final position.'
17. Wells, J. (1982 : 365) describes /g/ as being phonetically present word-finally (e.g. in '*sing*') and before a suffix-initial vowel (e.g. '*singer*') in 'most of the western half of the midlands and middle-north' .
18. Wells, J. (1982: 344) observes that in the West Country *butter* with [d] is recorded by the LAE everywhere southwest of a line from Weston-super-Mare to Portsmouth, and that intervocalic voiced /t/ in *butter, beautiful, hospital* etc is common in urban areas such as Bristol.
19. Unrounded /ɑ/ in words of the LOT set is stated by Wells (1982: 347) to be present in West Country English.
20. Jones, G. (1984: 53, 55,56) says that in the Welsh language there is a pair of vowels /a, ɑ/, and that the latter is longer and 'slightly more retracted' than the former. This would seem to suggest some similarity between the TRAP and PALM vowels of RP. He goes on to state, however, that in the south-east of Glamorgan /a/ is subject to a regular centralization in stressed penultima, and that /ɑ/ has a raised, fronted, palatized version symbolized as [aɛ] as 'a conspicuous positional allophone' in stressed monosyllables and stressed ultima. This description points to some overlap in the quality of the two vowels, as well as the possible existence in Welsh of a fronted, raised version of the longer vowel similar to that observed in Cardiff English.
21. Several studies have found females to be more speech conscious than males, including Labov, (1972), Shuy, (1970) and Trudgill, P. (1974, 1975). Wells, J. (1982, 18-22) summarises the differences found in various studies

carried out on both sides of the Atlantic thus:

It has been repeatedly found that women achieved a score significantly closer to the prestige norm than menusually the tendency is... for women's average scores on phonological variables to differ from men's average scores in the same direction ... as the middle class average scores differ from those of the working class

22. At that time, a great number of Rhondda inhabitants would seldom (if ever) venture beyond the occasional Sunday School outing or summer holiday to Barry Island .
23. The standard layout of the downstairs of a terraced house in the Valleys, is for the kitchen and family living room to be located at the back and a 'best room' for receiving visitors other than close family to be at the front. This front-room is a place where family are 'on their best behaviour', and a greater degree of formality is apt to be displayed.
24. Tommy Farr, a Rhondda boxer, who fought Joe Louis for the heavy-weight championship of the world in the late 1930's.

Cliff Morgan, a famous Welsh International rugby fly-half of the 1950's and afterwards a BBC presenter, was from Trebanog, near Porth, in the Rhondda.

25. The informants interviewed a second time were as follows (see Appendix 1(a)):
 - Treherbert: T4; T7; T15; T19
 - Maerdy: M4; M5; M8; M11
 - Porth: P1; P8; P11; P12
26. Ceri Morgan, in his late-twenties at the time of interview, a permanent resident of the Rhondda (living in Porth), and a student of Combined Studies, including socio-linguistics, at the University of Glamorgan.
27. Martin Childs, a post-graduate student at Cardiff University at the time. English by origin, Martin had taught himself to speak Welsh and was living

at Abertridwr in a nearby valley.

28. Because the researcher's university did not possess the equipment, the samples selected for analysis were sent off for the spectrographic analysis to the speech phonetics / therapy department of the College of St Mark and St John, Plymouth, U.K. The analysis was performed using 'Dr Speech, Real Speech for Windows' (Huang, D., Minifie, F., Zhu, B., Lin, S., O'Brien, R.) 1995: Tiger Electronics Inc.

2 CONSONANTS

2.1 Consonant System

Apart from the presence of the Welsh language consonants / ɬ / and / χ / as marginals, findings indicate a consonant system in RVE essentially the same as RP.

The Consonant System in RVE

	Plosive	Affricate	Fricative	Nasal	Approx.
Bilabial	p, b			m	
Labiodental			f, v		
Dental			θ , δ		
Alveolar	t, d		s, z, (ɬ)	n	l
Post-Alveolar					r
Palato-Alveolar		tʃ, dʒ	ʃ, ʒ		
Palatal					j
Velar	k, g			ŋ	w
Uvular			(χ)		
Glottal			h		

Fig 2.1 The distinctive consonants of Rhondda Valleys English
(brackets denote marginal consonants)

/ ɬ / in South Wales Welsh is described by Jones, G. (1984: 46) as a voiceless lateral fricative, pronounced with tip and blade of the tongue making firm contact with the alveolar ridge and either of the rims making total contact with the upper side of the teeth, the air escaping with friction through the narrow stricture(s) effected.

/ χ / is described by Jones, G. (1984: 47) as a voiceless uvular fricative with the back of the tongue raised closely towards the soft palate and uvular, although he notes that the articulation can be fronted in the environment of a close front vowel, and that

other Welsh language analysts describe it as a velar fricative.

All the informants attempting to do so could use / ɣ / and / χ / to pronounce Welsh place names, e.g. / ɣ / in Llwynycelyn, Llanelli, and / χ / in Clydach Vale, Glyn Fach, although / ɣ / was realized by a few as [ɕ] and / χ / was often [x] as in Scottish *loch*. There was no evidence of the extensive anglicization of / ɣ / as / l / and / χ / as / k /, reported for Cardiff English by Coupland, N. (1984: 31-44).

On the other hand, use of the Welsh language voiceless alveolar trill / hr ~ r̥ / in words with *rh* orthography appears to be rare in RVE. It was pronounced by only two of the informants, one when saying the name of their own valley, *Rhondda*, and one the name of the Welsh king, *Rhys*. In the questionnaire-appendix items *rhinoceros* & *rhubarb*, none of the 12 informants produced [r̥].

The presence of / ɣ / and / χ /, but absence of / r̥ / as marginal consonants in RVE resembles the situation in Port Talbot English (see 1.3.1.1).

2.2 Plosives

2.2.1

The voiceless plosives / p, t, k / may receive strong aspiration in RVE. This is a feature which may be attributable to the Welsh language substratum (cf Jones, C. 1961: 45-56 ; Jones, G. 1984: 42) : fig. 2.2.1 compares findings for initial / p, t, k / voice-onset (VOT) times obtained by Peterson and Lehiste (1960) for American English with those of Ball, M. (1984: 15) obtained for Welsh, which are seen to be significantly longer.

/p, t, k/ aspiration		
	American English (Peterson- Lehiste : 1960)	Welsh Language (Ball, M.: 1984)
/p/	58	62
/t/	69	82
/k/	75	97

Fig 2.2.1 VOT in initial voiceless plosives in milliseconds, American English and Welsh

2.2.2

Auditory analysis of the RVE data found the presence of generally strong aspiration in the questionnaire responses for the pronunciation of initial /p/ in *pits*; *pets*; *poor*, of initial /t/ in *tooth*; *tour*, and of initial /k/ in *calm*; *cure*; *caught*.

Instrumental measurements were made of VOT in examples of prevocalic /p, t, k/ occurring in stressed syllables during the conversational data.¹ The average durations of VOT were as follows :

- for /p/ (over six tokens) 100ms
- for /t/ (over five tokens) 130ms
- for /k/ (over six tokens) 120ms

Although the tokens are few, and the data is taken from conversations in which speakers are speaking at varying speeds and with varying degrees of emphasis, the findings provide some confirmation of strong initial aspiration in RVE /p, t, k/.

The example below of initial /t/ (fig. 2.2.2) is from the utterance '*your typical real Welshman*' in P10, the tenth Porth interview (see Appendix 19 for full transcription). The passage is being spoken excitedly and quite quickly. The word '*typical*' is strongly accented. VOT of /t/ can be seen to be about 115ms.

Strong aspiration of /t/

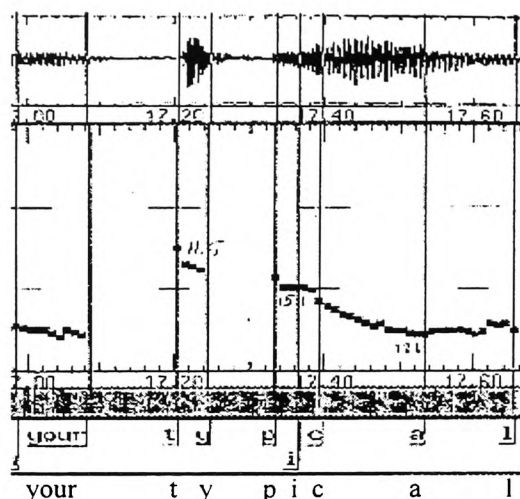


Fig 2.2.2 Aspiration of /t/ in 'typical'

2.2.3

Strong articulations of /p, t, k/ were also common in medial position and in final pre-pausal position when closing syllables that were strongly accented. An example can be seen in fig. 2.2.2 above with intervocalic /p/. Further examples are found in the questionnaire items 'butter; soot; meat', in the questionnaire-annex item 'happen', and in the conversation data (it's a) 'pity; (to pay a proper) 'fucking person; (it had to) 'stop; (born) 'mute and (we lost the) 'strike.

Such articulations appear to be part of an optional method of stress realization in RVE, in which there is a shortening of the stressed vowel and lengthening of succeeding consonant (see 4.11.10.2). 60% of the over 60's and 17% of the 30's age group produced clear examples of such items in the data. The differential between the two different age-groups may indicate that this feature of RVE is disappearing as the influence of the Welsh substratum declines. A possible contributing factor with the findings for the over 60's age group was that they were, on the whole, speaking more slowly and deliberately.

2.2.4

Nowhere in the data was /p, t, k/ replaced in such medial or final pre-pausal positions by a glottal stop, nor was there any apparent glottal reinforcement of them in this position.

2.2.5

With intervocalic /t/ following stressed syllables, instances were found in the speech of a number of informants (17%) either of a vocalized [t̥̤] or a form of flapped [ɾ]. The occurrences were found in a limited number of expressions, for example *gotit* ; *matter* ; *goto* ; *forgetit* . As noted in sec 1.3.3.2, this is a feature of Cardiff English but it has not, at the time of the current research, been particularly associated with other South Wales varieties of English. Since nearly all the examples occurred with *the 30's age-group* , it would seem that it is an innovation rather than a feature of conservative speech in 'Valleys English'.

2.2.6

The plosives / b, d, g / were often partially or fully devoiced in final pre-pausal position.

As with voiceless plosives in the data, consonant lengthening could occur when the syllable was forcefully stressed and preceding vowel shortened, both in medial position (e.g. *cupboard* ; *cladding* ; *begging*) and in final position (e.g. *job* ; *blood* ; *Peny`graig* .)

2.3 Affricates

2.3.1

All informants could use the palato-alveolar affricate / tʃ / in all environments (e.g. *chickens*; *watching the match*), despite the fact that it is felt to be outside the inventory of the local Welsh Language dialect (Thomas, C. 1961: 61).

2.3.2

Strongly articulated versions with lengthening of / tʃ , dʒ / were sometimes found in medial and final positions in the data where the previous vowel was stressed and shortened (e.g. '*butcher*'; '*Roger*'; *match* ; *badge* .)

2.4 Fricatives

2.4.1

Noticeably strong articulation of initial / s , f , θ / , involving long and forceful frication, was heard in the questionnaire responses (e.g. *soot* ; '*father* ; *salt* ; *false* ; *sole* ; *soul* ; *south* ; '*fairy* ; '*ferry and *sword*) and in the conversational data (e.g. *safe*; '*forty*). It is a feature which, as observed in sec. 1.3.3.4, may derive from the Welsh language substratum.²*

Measurements were made of the length of frication in prevocalic / f / occurring in the six excerpts that had been digitized for prosodic analysis (see 4.11.2.6 & 4.11.3).³

Four of the seven tokens come from the excerpt where M17 is talking quite excitedly about a boxing '*fight*' he heard when he was a child. He is therefore talking more quickly than normal. Nevertheless, the duration of frication averaged over the seven tokens was 102ms .

2.4.2

Strong articulations with lengthening were also found in medial and final positions where syllables were forcefully accented and preceding vowels shortened , e.g. '*passing* ; *grass* ; *bath* ; *tooth* .

2.4.3

Occasionally, pronunciations were heard among informants in the over 60's age group with a marked devoicing of lenis fricatives in final pre-pausal position, e.g. in *have*; *pays* ; *nose*, so much so that realization resembles the fortis equivalent. This is a feature of S.E. Wales English that has been observed in sec. 1.3.3.4 as possibly influenced by the Welsh language. ⁴

When there was a final cluster of lenis consonants, both were found frequently devoiced in the data. For example, both / ð / and / z / were devoiced by many informants in the questionnaire item *clothes*, and by a majority of the over 60's.

2.4.4

The phoneme / ʒ /, which is reported not to exist in the local Welsh language dialect except in / dʒ / by Thomas, C. (1961: 69), was present in the inventory of all speakers. Each of the 12 informants who completed the supplementary questionnaire items supplied it correctly, fully voiced, in the item *treasure* and there were several occurrences of the phoneme in the conversation data, e.g. in *measure*; and *television*.

2.4.5

/h/ was found to be present in the speech of all informants, but was frequently dropped .

/h/dropping			
	Over 60's	30's	All
Questionnaire	45%	50%	47%
Conversation	89%	93%	91%

Fig 2.4.5 % of /h/'s in stressed position dropped by informants, in the Questionnaire vs the Conversational data.

The researcher counted all the times /h/ was dropped in stressed positions in the questionnaire items (*behave*; *house*; and *happen*) and in the transcribed sections of the conversational data:

Fig 2.4.5 shows that 47% of / h /s in the questionnaire items were dropped by informants : 45% by the over 60s and 50% by the 30s age group. A greater proportion of / h /s was dropped in the transcribed conversational data, 91% by all informants, 89% by the over 60's and 93% by the 30's age group. The figures show a clear increase in amount of / h /-dropping as the interview moved from the speech styles used in the questionnaire stage to the more informal speech styles of the conversations (see 1.4.6).

Typically, in the conversational data, / h / was pronounced with less familiar lexical items such as *horizon*; *highlight*, but dropped with more familiar lexical items such as *home* ; *house*. In the latter cases, sandhi adjustments were common, with many

informants pronouncing *the house* as / ði 'Λus / and one informant (M16) referring to the performer in an evening's entertainment at Maerdy Workmen's Club as *an 'opeless singer*.

Informants almost invariably dropped /h/ in their pronunciation of the local place names *Trehafod*, *Treherbert* , but usually retained it in pronunciation of the personal names *Hywel*, *Huw*.

There was only one example in the data of / h / insertion. This was when a Porth informant in his 30's (P12) described his *ear* as / Λ 'h j ɜ : /.

2.5 Nasals

2.5.1

In the data, velar / ŋ / is often replaced by / n / in *-ing* suffixes.

The responses of informants to the questionnaire items *laughing* and *waiting* were analyzed. It was found that 63% of all informants realized *-ing* as / n / : 60% of the over 60's and 66% of the 30's age-group (fig. 2.5.1).

/n/realizations	
Age group	% /n/realizations
Over 60's	60%
30's	66%
All	63%

Fig 2.5.1 % /n/realizations in Questionnaire items '*laughing*' '*waiting*'.

/ n / realization was more common in the conversational data. For example T4 and T6, who produced solely / ŋ / realizations for the questionnaire items, used / n / at

least twice each in the conversational data. This, as with / h /-dropping , provides some evidence of the substitution of / n / for / ŋ / being socially sensitive.

There were no instances in the data of *-ing* endings being realized by / ŋg , ŋk / , as reported for Cardiff English (see 1.3.3.2).

2.5.2

In the data, / n / was found to be frequently syllabic in *-en* endings, e.g. in *happen* ; *suddenly*.

2.5.3

All nasals were found to be sometimes lengthened when closing strongly accented syllables, e.g. *(they got) 'hammered*; *(holding a) 'banner*; *'singing*. This was especially common in the data where the nasal formed the first element of a consonant cluster, e.g. in the questionnaire item *ex'ample* and in the conversational data *chance* ; *auntie*; *transfer*.

2.6 / r /

2.6.1

Prevocalic / r / realizations of the 60 informants were examined in the questionnaire items *rod* ; *grass* ; *broth* and in similar environments in the conversation data. Realizations were variable : trilled, tapped and approximant versions were all heard.

2.6.2

A trilled (lingual roll) [r] was the least common version, but was nevertheless used at some time or other by 63% of all the informants, 80 % of the over 60's, and 47 % of the 30's age-group.⁵ The clear differential between older and younger speakers would seem to confirm both the link with the Welsh language substratum and a decline in its influence.

2.6.3

Of the 63% who sometimes used trilled [r] in the data, a half (mainly older speakers) were found to use only tapped [ɾ] as their other version - i.e. never the approximant form [ɹ]. The other half used all three versions.

Of the 37% of informants not producing any instances of trilled / r /, a quarter used only the approximant [ɹ] (all in the 30's age-group), and three-quarters either this or a tapped [ɾ].

2.6.4

Approximant [ɹ] was realized as a post-alveolar continuant without any significant tendency towards retroflexion.

2.6.5

[hr~r̥] is seldom heard from RVE speakers (see 2.1).

2.6.6

In intervocalic positions before an unstressed syllable, e.g. in the questionnaire items *period; fairy; ferry; jury*, all three realizations were heard, but the dominant realization was a tapped [ɾ]. 98 % of the informants were found to use it in this environment at some stage in the data, and for most of them it was their main realization in such positions.

2.6.7

2.6.7.1

The speech of informants was examined closely for rhoticity in the 17 questionnaire items where it might occur, e.g. *start; north; nurse; father; beer; beard; sure; tour*.

It was found that pronunciations were characteristically non-rhotic, but that rhoticity occasionally occurred : 50 % of the informants produced rhotic pronunciations at least once in the questionnaire data (fig. 2.6.7.1). The tendency was stronger among the over 60's (63.3%) than in the 30's age-group (36.7%).

Rhoticity present		
Age group	Informants	
	No.	%
Over 60's	19(out of 30)	63.3%
30's	11(out of 30)	36.7%
All	30(out of 60)	50.0%

Fig 2.6.7.1 Informants producing at least one rhotic response in the Questionnaire.

A few of these (over 60's) informants produced such pronunciations quite regularly, e.g. informant T2, who pronounced six of the seventeen items in the questionnaire with rhoticity, and M18 with nine.

Twenty five of the over 60's informants, however (83% of them), produced no more than two rhotic versions out of the seventeen possible occurrences. For example, informants T1, T4, M6 and P10 produced only the example *tour*, which was pronounced as a monosyllable /tu : r/with trilled [r](see 3.14.6).

2.6.7.2

Realizations of rhotic pronunciations varied from trilled [r] to tapped [ɾ] to approximant [ɹ] sounding, or slight colouring at the end of the vowel sound.

2.6.7.3

With local place-names, all informants (the 30's age-group as well as the over 60's) pronounced the / r / of the second word in *Rhondda Fawr* with rhoticity, but only a tiny number did so with the postvocalic / r / in the place-names *Treorchy*, and *Porth*; both being preceded, if so, with a short vowel [ɒ]. There were no instances in the data of the place-names *Treherbert*; *Cwmparc*; *Ferndale*; *Merthyr* and *Maerdy* being pronounced with rhoticity.⁶

2.6.7.4

RVE rhoticity still, therefore, exists to a limited extent, although the findings that it was present mainly in the speech of the over 60's indicate that it is declining.

2.6.8

In the conversational data, it was found that nearly all of the informants produced /r/-linking where orthographic /r/ is present. Examples included *pair* of shoes /pɛ:ɾʌv'ʃu:z/, and where informant T5, in trying to recall well known Rhondda sportsmen, produced in his musings *there were* a number of chaps in Cwmparc.

Instances of intrusive /r/, on the other hand, were rare in the data, e.g. being absent between the first and second words of *Llwynypia* and *Trehafod*.

2.7 / l /

2.7.1

In Port Talbot / West Glamorgan English (see 1.3.1.1), Abercrave English (Tench, P. 1990 : 131), and SAWD (Parry, D. 1977: 129-134), /l/ is reported to be generally clear in all environments. Cardiff English, by contrast, is claimed to show a clear-dark /l/ allophonic patterning.

2.7.1.1

In the RVE data, postvocalic /l/ is generally clear after a front vowel but is variable after a back vowel, being sometimes clear but more often dark or neutral.

2.7.1.2

The questionnaire items *football* ; *wheel* ; *stale* ; *tail* ; *salt* ; *false* ; *sole* ; *soul* ; *example* were examined for clear vs dark /l/. Realizations varied according to articulatory environment.

In the items *wheel* ; *stale* ; *tail*, with front vowels, realizations were generally clear. Of the ten informants whose tokens were sent for acoustic analysis:

- with *wheel* , only one of the ten informants produced a dark realization, and F1/F2 formant values obtained averaged 418/1428
- with *stale & tail*, the realization (again) of only one of the ten informants was neutral-dark, and F1/F2 values averaged 426/1340

In the items *football ; salt ; false ; sole ; soul* , with back vowels, on the other hand, realizations generally had degrees of velarization, ranging from neutral to dark. For the ten informants :

- with *false & salt* , F1/F2 formant values averaged 455/999
- with *sole & soul*, F1/F2 formant values averaged 351/867.

2.7.1.3

RVE therefore follows a basically phonotactic patterning of post-vocalic /l/.⁷

2.7.2

Syllabic [ɫ ~ ɭ] for the questionnaire item *example* was produced by 55% of the total number of informants, and varied from clear to dark in resonance. Other realizations of *-le* were of the vowel + /l/ type [əɫ - ʊɫ - ʌɫ].

Both *-le* and *-el* orthographies were found with syllabic [ɫ ~ ɭ] pronunciations in the conversational data, e.g. *little; middle, satchel ; chapel*. It appears from slender evidence that syllabic pronunciations were more frequently found with the *-le* orthographies (e.g. *little*) than with the vowel + *l* orthographies (e.g. *satchel*.)

2.8 Semi-vowels

2.8.1

In RVE, the semi-vowels / w/ and / j / are articulated in the same way as in R.P - as rapid vocalic glides onto the central syllabic sound.

There was no evidence in the data of initial /w/ before back rounded vowels being represented by zero in words such as *woman* ; *wool* , as is quite widely reported in SAWD (Parry, D. 1977: 90-1).

2.8.2

The questionnaire items *wheel* and *white* , and words with *wh* orthography in the conversational data were investigated for possible occurrence of [hw~ɰ] in the speech of informants. [hw~ɰ] was found in the pronunciations of only 3 informants in the questionnaire items. Of these, only one (P12) pronounced both *wheel* and *white* items with [ɰ], but then in the conversational data didn't produce [hw~ɰ] at all, not even in a reoccurrence of the word *wheel*. According to the data, therefore, it would seem that [hw~ɰ] has no general phonemic status in RVE.

2.8.3

Both /w/ and /j / have some differences in their distribution from RP.

2.8.3.1

The use of /j / in the words *ear*, *here* from the NEAR lexical set was investigated. 97% of informants pronounced the questionnaire item *ear* as [jɜ : ~jæ :] . Since *year* and *here* were also pronounced [jɜ : ~jæ :] , this made the three words homophonous in RVE.

The words *hear*, *hearing* and *heard* were also frequently found with [jɜ : ~jæ :] in the conversational data, for example :

- *did you ever hear it* (T4) [jæ : rɪ t]
- *hard of hearing* (T2) [jæ : rɪ n]
- *I never heard of him* (T13) [jæ : d]

2.8.3.2

Words of the GOOSE set with / ju : / in RP are frequently rendered / ɪ u / in RVE, e.g. *tune* / tɪ u n / (see 3.14.1.1).

2.8.3.3

/w/ and /j / are optionally inserted to link up the elements of disyllabic sequences in such words as *power* / pʌu(w)ʌ / , *clear* / klɪ : (j)ʌ / from the NEAR set, and *sure* /ʃu : (w)ʌ / from the CURE set.

2.9 Assimilation and Elision

2.9.1

RVE exhibits assimilation / elision tendencies not unlike RP. It seems to hold a position similar to that of Port Talbot English (see 1.3.1.1), which is intermediate between, on the one hand, Cardiff English "characterised by remarkably extensive assimilation and elision" (Collins, B. and Mees, I. 1990: 98-9) and, on the other hand, Abercrave English where assimilation and elision are reported to be less, with the patterns clearly Welsh language in character (Tench, P. 1990: 131-2).

2.9.2

2.9.2.1

In the questionnaire data, a sizeable minority of the informants released the / t / of *football* (25%) and the / d / of *headmaster* (39%).

2.9.2.2

In the conversational data, it was found that / t , d /, when medial in consonant clusters, could be elided by some speakers during rapid speech, for example the / t / of *first bus ; last minute of the game* and the / d / of *my grandfather; bald patch*. In slower speech , however, / t , d / could be strikingly retained in such positions.

Examples included the clear retention and release of / t / in *next thing; just from* and of / d / in *mend them*. One Maerdy informant (M17) in the over 60's age-group even released the / t / of *first* in "*the first time Louis put his title up*".

2.9.3

2.9.3.1

Elision of initial / ð / was found with some informants in a number of different lexical items during rapid speech: examples from the data included *in 'them days;* *'didn't they;* *'other than 'that;* *from 'then on;* *go 'down there;* *than what they 'learn 'in school;* *there's 'nothing in this 'valley now.* As can be seen, elision could occur on stressed as well as unstressed syllables. In careful speech, however, / ð / was nearly always retained and clearly enunciated.

2.9.3.2

Contractions were found to be a common source of consonant elision in RVE during rapid speech. Examples in the data included (ranging from fairly rapid to very rapid enunciation): [ɪznɪt~ɪnɪ?] for *isn't it*, [wɒznɪt~ wɒnɪ?] for *wasn't it*, [dɪdnɪ~dɪnɪ] for *didn't he*, and [wɒznɛ:~wɒnɛ:] for *wasn't there*.

2.9.3.3

Syllable reduction through elision of weak vowels was quite common in the RVE data. It appeared at times to be induced by rapid speech, but there were also patterns of elisions that operated independently of speed of speech. One such elision pattern was found where the weak syllable is the penultimate. Elision of this syllable may then have the effect of bringing forward the stressed syllable to the penultimate - its most common position in the Welsh language. Examples are *'diff(e)rent;* *'ev(e)ry;* *'reg(u)lar;* *con'sid(e)ring* which were nearly always found with the bracketed vowel elided in the data. On the other hand, the occurrences in the data of *'privilege;* *ele'mentary;* *'ambulance;* *ri'diculous;* *'numerous;* *'marvellous* were all without elision.

Another quite common pattern of elision is the reduction of four-syllable words with front stress to three syllables ; thus, in the data, weak syllables were elided in *'temp(e)rature;* *'ordin(a)ry;* *'cemet(e)ry;* *'physically* . This is a feature found in many regional and social dialects (cf Gimson-Cruttenden, 1994 : 213-4)), and is paralleled by the Welsh language in which there is a marked tendency to avoid a succession of more than two weak syllables.⁸

NOTES CHAPTER TWO

1. Measurements were taken of /p, t, k/ in the following contexts :

Informant	Appendix	plosive	context
M1	18	/k/	in the <u>colliery</u> <u>down</u> in <u>Fern-dale</u>
M1	18	/k/	in the <u>colliery</u> in <u>Maerdy</u>
M1	18	/p/	in the <u>pit</u> you <u>see</u>
P19	19	/p/	<u>when</u> I . <u>lived</u> in <u>Pen-rhys</u>
P19	19	/p/	on a <u>part time</u> <u>basis</u> like
P19	19	/t/	your <u>typical</u> <u>r~real</u> <u>Welshman</u>
T1	17	/k/	a <u>good</u> <u>supporter</u> of <u>Cardiff</u>
T1	17	/p/	<u>and</u> . it <u>depended</u> <u>on</u> <u>now</u>
T1	17	/p/	<u>but</u> it <u>depended</u> <u>on</u> the <u>one</u> that <u>won</u>
T1	17	/p/	it <u>depended</u> <u>on</u> the <u>one</u> that <u>won</u>
T1	17	/t/	<u>would</u> be the <u>top</u> <u>dog</u> like
T10	17	/p/	<u>and</u> the <u>Parry</u> <u>brothers</u>
T9	17	/t/	from <u>Blaina</u> <u>Terrace</u>
T10	17	/t/	<u>but</u> I <u>just</u> <u>told</u> you
T4	17	/k/	I <u>don't</u> <u>recall</u> him
M16	18	/t/	<u>hundred</u> and <u>forty</u> before <u>tax</u>
M16	18	/k/	<u>got</u> to have a <u>car</u>

(underlinings denote stressed syllables)

2. Thomas, C. (1961: 63, 66) states of /s, f/ in the Welsh dialect of Nantgarw that they are generally uttered with considerable breath force. Ball, M. (1984: 18) has measured the length of frication of the initial fricatives /f, θ/ in the South Wales Welsh of Carmarthen as, on average, 140 ms.

3. The measurements were taken of the following fricatives in the RVE data :

Informant	Appendix	Fricative	Context	Frication length
M1	18	/f/	and my <u>father</u>	100ms
M1	18	/f/	and my <u>father</u>	90ms
M1	18	/s/	<u>showering</u> in the <u>pit</u>	120ms
M9	18	/f/	To hear the <u>fight</u>	100ms
M9	18	/s/	I was <u>insisting</u> now	155ms
M9	18	/f/	To hear the <u>fight</u>	120ms
M9	18	/f/	To hear the <u>fight</u>	115ms
M9	18	/f/	only the <u>fight</u> mind	90ms
M9	18	/f/	once the <u>fight</u> was over	70ms
P10	19	/f/	on official <u>functions</u>	100ms

Measurements of frication length, stressed syllables.

4. Thomas, C. (1961: 66) states that /z/ is of limited distribution in the local Welsh dialect in Nantgarw .
5. The following percentages of informants were found to occasionally use trilled [r] realizations :

trilled /r/ sometimes used	
All	63%
over 60's	80%
30's-40's	47%

% of informants producing trilled /r/

Thomas, C. (1961, 73) describes trilled [r] as being the most common variety in initial, medial and final positions in Nantgarw Welsh.

6. Cennard Davies, lecturer in the Welsh language at the University of Glamorgan and life-long resident of the Rhondda, informs the researcher that Welsh speakers in the Rhondda Valleys pronounce words in two distinct ways, depending on whether they are speaking Welsh or English. *Cwmparc*, for example, is /kum'park/ when they are speaking in Welsh, but /kum'pa : k/ when they are speaking in English. The word *storm* (a borrowing into Welsh from English) is /stɔrm/ when speaking Welsh and /stɔ : m/ when speaking English. In other words, this feature of Welsh is not generally transferred by Welsh speakers into their pronunciation of English.
7. This resembles the pattern for postvocalic /l/ claimed by Thomas, C. (1961: 72) for the local Welsh dialect in which 'a clear / l / is used adjacent to a front vowel and a neutral / l / adjacent to back vowels '.
8. Thomas, C. (1961: 130) states of Nantgarw Welsh ' there seems some reluctance on the part of dialect speakers to pronounce more than 2 consecutive syllables'.

3 VOWELS

3.1 Overview

In this section a brief overview of the vowel system of RVE is given. Compared with the English accents of S.E. Wales described in sec. 1.3, the system is most similar structurally to that in Port Talbot English (see 1.3.1).

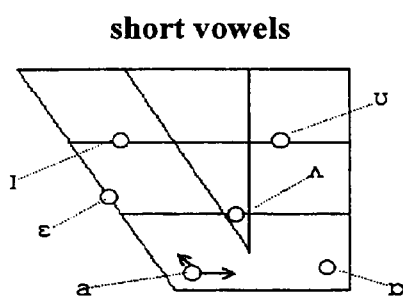


Fig 3.1(a) RVE short monophthongs.

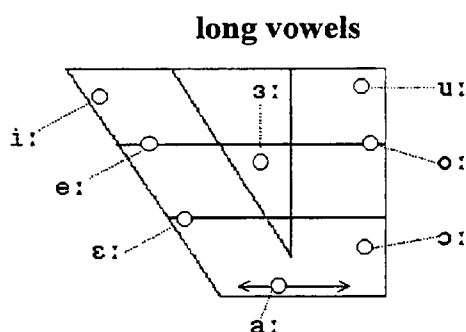


Fig 3.1(b) RVE long monophthongs.

Diphthongs

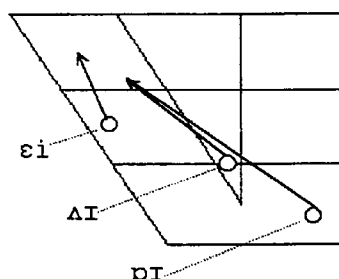


Fig 3.1(c) RVE fronting diphthongs.

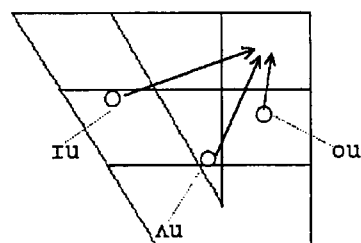


Fig 3.1(d) RVE backing diphthongs.

3.1.1 Vowel system

3.1.1.1

The typical vowel system of broader speakers of RVE can be seen in fig. 3.1.

It consists of :

- six short vowels: / ɪ , ε , a , ɒ , u , ʌ /

- eight long vowels : / i: , e: , ε: , a: , ɔ: , o: , u: , ɜ: ~æ: /
- six diphthongs : / εi , ʌɪ , ɒɪ , ɪu , ʌu , ou /.

3.1.1.2

The main differences in the RVE phonemic inventory from that of RP are:

- the presence of an additional three long monophthongs:
 - / e: , o: , / found in more or less systematic distribution with the diphthongs / εi / and / ou / for words of the FACE and GOAT lexical sets
 - / ε: / used in place of the RP centring diphthong / eə /
- the presence of an additional falling diphthong / ɪu /, used in place of RP / ju: / for a range of words in the GOOSE lexical set
- the absence of contrast between / ʌ / and schwa
- the absence of the RP centring diphthongs / ɪə , uə , eə / :
 - For RP / ɪə / in stressed monosyllables and final syllables, e.g. *beer*, *pier*, *sincere*, RVE uses a disyllabic sequence, typically / i: (j) ʌ / . For the stressed non-final syllables in *really*, *period* etc., RVE uses / i: /
 - For RP / uə / in stressed monosyllables and final syllables, e.g. *pure* ; *sure* ; , *allure*, in RVE there is a disyllabic sequence, typically / u: (w) ʌ / . In non-final syllables in *during* ; *jury* etc., RVE usually has / u: ~ɪu / .
 - For RP / eə / , RVE has / ε: / .

3.1.1.3

With some speakers of RVE, the pairs / a , a: / ; / ε , ε: / (and also / ɒ , ɔ: / where the latter has an open realization), may be identical, or nearly so, in vowel quality. In such cases, contrast may only be achieved via length.

With other speakers, however, clear qualitative differences are made. It has been seen that such qualitative differences may not only represent the influence of RP, but are also claimed for the Welsh language in S. Wales (see 3.5.2.4).

3.1.2 Vowel realizations

3.1.2.1

The three short front vowels /ɪ, ɛ, a/ are generally more open than their equivalents in RP.

The vowel in certain words of the TRAP lexical set (see Appendix 5, p 392) e.g. *man*; *bad*; *bag*; *back*, as in other S.E. Wales varieties of English (see 1.3.1.2 & 1.3.3.3), may be markedly lengthened - with the result that it may be indistinguishable in realization from the PALM, START vowel.

The two short back vowels /ɒ, ʊ/ are similar in realization to RP, and the unrounded versions reported for Cardiff English are rarely encountered in the data.

3.1.2.2

The long /a:/ vowel, used for words of the PALM, START lexical sets, is very variable, ranging from a fully fronted [a:] to a backed [ɑ:].

The vowel used for words of the THOUGHT and NORTH lexical sets is typically [ɔ:~ɒ:], therefore noticeably more open than in RP.

The long vowel /u:/ is generally more backed (less centralized) than in RP.

The vowel used for the NURSE lexical set, although given the same phonemization /ɜ:/ as RP, is very commonly rounded [œ:].

3.1.2.3

The diphthongs /ɛɪ/ (*play, day* etc), /ou/ (*know, grow* etc) and /ʌu/ (*cow, house* etc) tend to have closer finishing points than their RP equivalents.

The diphthong /ɒɪ/ (*choice, noise* etc) has a more open starting point, and the diphthongs /ʌɪ/ (*price, kind* etc) and /ʌu/ (*cow, house* etc) more central starting points than their RP equivalents.

3.1.3 Lexical incidence

3.1.3.1

The lexical distribution of /i : / extends to the unstressed final syllables of words of the HAPPY type. It is also, as just seen (sec 3.1.1.2), used for words of the NEAR lexical set

- (a) as the first element in disyllabic sequences, e.g. /i : ʌ/, for words like *beer*, *near*, *idea*, and
- (b) as a long monophthong /i : /, for the stressed syllables in words such as *period*, *serious*, *really*.

3.1.3.2

In words of the GOOSE set, /u : / is used for words of o, oo or ou orthography e.g. *lose*, *mood*, *through*, but is extensively replaced by /ʊ/ in other orthographies.

In words of the CURE set, /u : / usually forms the first vowel of disyllabic sequences (e.g. /u : ʌ~ʊʌ/) that replace RP /ʊə/ in words like *cure* ; *poor* ; *tour* .

3.1.3.3

The front, half-close monophthong /e : / is contrasted fairly systematically in RVE with the diphthong /ɛ i / in words of the FACE lexical set, the diphthong being typically used for those words containing i or y orthography and the monophthong for the rest.

3.1.3.4

The diphthong /ou/ tends to be used for words of the GOAT lexical set containing u or w orthography and the back, half-close monophthong /o : / for the rest.

The monophthong /o : / is also usually used for words of the FORCE lexical set, e.g. *sword*, *Tory*. This indicates that, for most speakers at the broader end of the dialect spectrum, FORCE vowel pronunciations have not merged with the THOUGHT and NORTH vowels as they have in RP.

3.1.3.5

In choice of /a/ vs /a:/ for the BATH lexical set, the short vowel is selected by nearly all broad speakers of RVE where it is followed by a cluster beginning with a nasal e.g. *aunt*, *command*. There is great variability among speakers in selection of vowel when it is followed by fricatives, such as in *laugh*, *path*, *pass*.

The feature seems to be sociolinguistically sensitive, with some speakers tending to use the long vowel, often backed, as more 'correct' in more formal styles of speech.

3.1.4 Auditory and acoustic analysis

The descriptions that follow are based on the auditory analysis of (1) the questionnaire responses of the sixty informants and (2) the supplementary data gained from the conversations.

Acoustic readings are given, but due to the small number of tokens examined, the different phonetic environments in which the vowels appeared, and factors such as those listed in sec 1.6.4, they are taken merely as tentative corroboration of auditory findings. Formant readings, where stated, are the values for a given vowel averaged out over the ten informants whose responses were analyzed instrumentally (see 1.6.4.3). The RP formant values with which RVE values are compared are those, mostly for the frame /h--d/, given in Gimson's *Pronunciation of English*, revised by Cruttenden, A. (1994: 96).

A letter followed by a numeral, for example T1 (Treherbert 1), M2 (Maerdy 2), P3 (Porth 3), refers to particular informants. The basic bio-details of each informant can be seen in Appendix 1(a).

3.2

/ɪ/

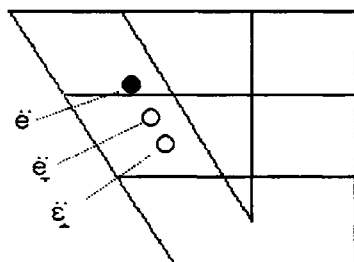


Fig 3.2 Realizations of /ɪ/.

3.2.1

RVE uses a vowel /ɪ/ for words of the KIT lexical set (see Appendix 5 p 392).

Realizations of /ɪ/ are similar to RP, with most informants producing a centralized, around half-close front vowel [ē̄]. More open variants, e.g. [ē̇ ~ ē̇̄] were also common in the data (see fig. 3.2).

F1 / F2 frequencies taken of the single questionnaire item *pit* averaged 483 / 1759, compared with RP 382 / 1958 .

3.2.2.

The main differences in distribution of /ɪ/ from R.P. concern its reduced incidence in unstressed vowels:

- The unstressed final vowels in words of the happY type are usually with a vowel quality nearer [i] than [ɪ].¹

F1 / F2 formant readings of the final vowel in the questionnaire items *beauty*, *fairy*, *ferry* and *jury* averaged out as 345 / 2157, closer to RVE /i:/ than /ɪ/ values.

- Final unstressed closed syllables that are realized by /ɪ/ in RP, for example *Heritage*, *language*, *private*, were most commonly pronounced by speakers in the data as [ē̇ ~ ε], particularly in lengthened final syllables, and the underlying phoneme in such words is assumed to be /ε/.

3.3

/ɛ/

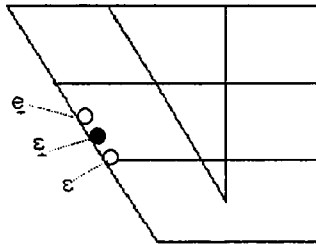


Fig 3.3 Realizations of /ɛ/.

3.3.1

RVE has a vowel /ɛ/, used for words of the DRESS lexical set (see Appendix 5 p 392).

3.3.2

Realizations of RVE /ɛ/, like RVE /ɪ/ are typically more open than in RP (see fig. 3.3), being generally nearer half-open [ɛ~ɛ̃] than half-closed [ɛ̃]; hence it is phonemized in RVE as /ɛ/ rather than /e/. This accords with the more open pronunciations noted for other S.E. Wales accents (see 1.3.1.2 & 1.3.3.3).

F1 / F2 formants for responses to the questionnaire items *pets* and *ferry* averaged out as 578 / 1732, not significantly different from RP 560 / 1797.

The vowel was commonly found to be markedly lengthened in stressed syllables [ɛ̃ ~ ɛ̃:], e.g. *a 'record of him* (T4), *'private 'levels* (T13), *the 'Heritage 'Park* (T17), *'hell of a kick* (P7), to a degree that its realization was similar to that of the long vowel /ɛ:/ (see 4.11.10.5).

3.3.3

Its distribution is similar to that in RP. The only departures found were the occasions in which it replaced RP /ɪ/ in the unstressed endings of words like *Heritage*, *language*, *private* (see 3.2.2).

3.4

/a/

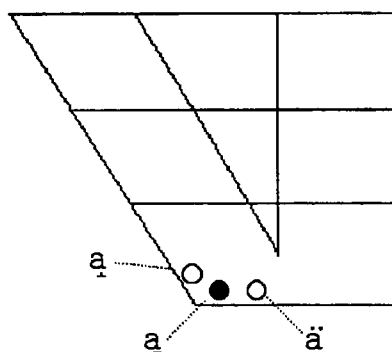


Fig 3.4 Realizations of /a/.

3.4.1

RVE /a/ is used for words of the TRAP lexical set (Appendix 5 p 392), and is more common in the data than the long vowel /a:/ for words of the BATH lexical set.

3.4.2

Realizations in the data are typically more open than RP /æ/ (see fig 3.4), similar to the position in Port Talbot English (see 1.3.1.2).

They vary from fully fronted to slightly backed, and from fully open to slightly raised, therefore [a~ä or ā~ǟ]. F1 / F2 formant values for realizations of the questionnaire items *bat* and *dance* averaged out as 685/1300, compared with RP 732/1527.

3.4.3

The most noticeable variation in realization of /a/ is the incidence of lengthening of certain TRAP words, especially in monosyllabic words like *man*; *sad*. This, as seen (1.3.1.2 & 1.3.3.3), is a characteristic of other varieties of S.E. Wales English and also of West country English.²

3.4.3.1

In RVE, lengthening of /a/ appears to be very common - instances of marked lengthening were found in the conversational data with 73% of informants (83% of the over 60's and 63% of the 30's age group).

- Occurrences were most striking in stressed monosyllables e.g.

man [e.g. *the old 'man* (T2 referring to his father)]

back [e.g. *a full 'back* (T10)]

sad [e.g. *it's 'sad to 'see* (T7)]

Mam [e.g. *'Mam was 'there* (T4)]

Dad [e.g. *'wasn't it 'Dad* (M1)]

bad [e.g. *my 'legs are 'bad* (M11)]

that [e.g. *after 'that* (P2)]

match [e.g. *be'fore every 'match* (P19)]

mat [e.g. *'leave the 'key under the 'mat* (M19)

bag [e.g. *'old 'satchel 'bags* (P5)]

badge [e.g. *with 'badges* (P12)]

- Clear lengthening also occurred in stressed polysyllabic words, for instance:

they had 'talent (T9);

from the 'valleys (T13);

just about 'managing (M15);

in 'Dagenham (M17);

too many 'waggons (P8);

to a 'chapel (P10)

be'fore I got 'married

The examples above show there is no restriction on the phonetic environment of /a/ lengthening, although in the data it was more common - and the effect was more marked - when the vowel was followed by a voiced consonant.

3.4.3.2

Realization of the lengthened /a/ vowel varied. Some informants simply produced

longer versions of the vowel they used elsewhere in the data.

Others produced a more backed vowel, similar or identical in quality to that they used for the PALM, START lexical sets. For example, a backed [ɫ̥] was used by informant (T3) for the vowel in *sad* in *the 'only 'sad thing I 'see* which was identical in quality with his vowel in PALM, START words such as *calm, father, start* etc [ä : ~ɫ̥ :], whereas he invariably used a fronted [a] in non-lengthened words of the TRAP lexical set.

For speakers producing lengthened versions of /a/ similar to their PALM/START vowels, the question arises in RVE whether the variation, for them, is allophonic or lexical. Whereas /a/ lengthening appears to be a general optional strategy to realize stress, it appears that the lengthening of particular words, e.g. *man, back, bag, sad* and *bad* = ill, is more routine than others and could therefore be interpreted (for the speakers concerned) as lexically conditioned.

3.4.3.3

The questionnaire-annex probed the 12 informants' pronunciation of *bad* = not good, compared with *bad* = ill. Eight of them noticeably lengthened the former, producing [aː ~äː]. In *bad* = ill, however, the lengthening was more striking, and the vowel quality was markedly backed [ä : ~ɫ̥] with 9 out of the 12 informants. This finding gives some support to the lexical hypothesis.

3.4.3.4

As will be seen in discussion of the prosodics of RVE (sec 4.11.10.2), the opposite phenomenon to lengthening could be found in stressed syllables, i.e. the shortening of /a/ and lengthening of the succeeding consonant.

3.4.4

Next, we may look at the incidence in RVE of /a/ vs /aː/ in words of the BATH lexical set, divided by Wells, J. (1982: 133-5) into four sub-sets (see Appendix 5 p 393):³

- 1 sub-set (a), where the BATH vowel is followed by fortis fricatives (e.g. *staff*, *path*, *brass*, *raft*, *laughter*)
- 2 sub-set (b), where it is followed by a cluster consisting of a nasal and an obstruent (e.g. *dance*, *grant*, *demand*, *answer*)
- 3 sub-set (c), containing words from categories (a) [e.g. *calf*] , (b) [e.g. *can't*] and others, which are generally pronounced with long /a : / in the north of England
- 4 an 'appendix' sub-set, containing words which are variable between /a /and long /a : /in RP (e.g. *graph*, *plastic*, *lather*, *contralto*)

3.4.4.1

The questionnaire responses of each informant for the items *grass*; *dance*; *laughing*; *example* were examined, together with all occurrences of stressed BATH items in the conversational data.

Deciding whether a given version was phonemically /a : / or /a / was not easy in cases where informants had a similar vowel quality for both: an informant's response of [aː] might be analyzable either as /a : /, or as /a / that was lengthened through stress .

3.4.4.2

The findings in the combined sets of data, questionnaire responses and conversation data, can be summarised as follows (see Appendix 6 for details of findings):

- Where the BATH vowel is in the environment of ____nasalC obstruentC , for example *dance*; *example*; *plant*, 97% of occurrences were with the TRAP vowel /a /.
- By contrast, when the vowel is in the environment of ____fortis fricativeC, although /a /still predominated, considerable variability was found in the data :
 - (a) 66% of occurrences in the environment of ____/s/ (e.g. *pass*, *class*, *glasses*) were with /a /

(b) 88% of occurrences in the environment of ____/s/C (e.g. *past, master, ask*) were with /a/. The latter figures, however, do not include the word '*last*' which, contrary to all the other items in set (b), was usually with /a:/ in the data (12 out of 16 occurrences).

- Only 12% of occurrences in the environment of ____/f/, e.g. *laughing, half* were pronounced with /a/, indicating a clear preference for /a:/.
- By contrast, 91% of occurrences in the environment of ____/f/C, e.g. *after, graft, draught*, were with /a/.
- In the environment of ____/θ/, only three items occurred in the data : *bath, bathing* (meaning taking a bath) and *path*. There was no significant tendency towards /a/ or /a:/ (52% and 48% of occurrences, respectively.)

3.4.4.3

The incidence of /a/ vs /a:/ in broader forms of RVE can, very roughly, be summarised as follows:

1. The short vowel is overwhelmingly used in the environment of ____nasalC obstruentC, e.g. *dance, example*.
2. The short vowel is also much the more common in word stems where it is in the environment of ____fricativeC obstruent C, e.g. *past, shaft*.
3. A short vowel is also generally the more common in the environment of ____fortis fricativeC, but in this latter environment there is much more variability.

The situation is similar to that described in other Welsh accents of English, particularly to that in Port Talbot English (see 1.3.1.2).

3.4.4.4

The rough summary above conceals a good deal of variability, such as the departure of the word *last* from 'pattern' (2), the large number of words (e.g. *France*) being found with two different pronunciations (see Appendix 6), and related meanings of a lexical item being pronounced in different ways, such as *glass (of beer)* being found with /a/, but *glasses* (= spectacles) having /a:/.

No explanation will be attempted for the variability found, since, in addition to such sociolinguistic factors as the pressure exerted by prestige forms, complex processes of lexical diffusion are involved, the history of which (at least) in Welsh English is obscure.

3.5

/a: /

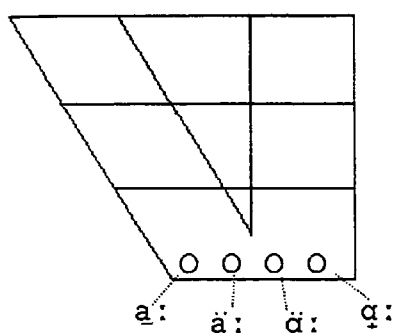


Fig 3.5 Realizations of /a: /

3.5.1

RVE /a: / is used for words of the PALM and START lexical sets (see Appendix 5, p 395, 398), and also, as seen above, for some words of the BATH lexical set.

3.5.2

The questionnaire responses for *calm*, *father*, and *start* together with occurrences of words of the PALM and START lexical sets in the conversational data were examined for /a: / realizations.

Realizations were found to be typically fully open ; raised versions [ä:] were rare compared with the number reported for Cardiff English (see 1.3.3.3) .

Six of the informants (10% of the total) were found to pronounce START words with

occasional rhoticity (see 2.6.7.1).

3.5.2.1

The frontness-backness of realizations was analyzed by scoring each informant's PALM and START vowels (in the questionnaire and conversational data) as follows:

1. realizations consistently fronted *scored 1*
2. realizations consistently backed *scored 0*
3. realizations that were centralized or that varied between fronted and backed *scored 0.5*

The results can be seen in fig. 3.5.2.1(a-b) (the scores for PALM and START realizations, separately) .

Backness-Frontness of PALM vowel realizations

PALM Realizations Index Scores					
Age Group	Treherbert	Maerdy	Porth	TOTAL	[maximum]
Over 60's	4	6.5	8	18.5	30
30's	5.5	6	5	16.5	30
TOTAL	9.5	12.5	13	35	60
[maximum]	20	20	20	60	

Fig 3.5.2.1(a) Realizations of /a : / in PALM vowel (1=fronted, 0.5=neutral, 0=backeds).

Backness-Frontness of START vowel realizations

START Realizations Index Scores					
Age Group	Treherbert	Maerdy	Porth	TOTAL	[maximum]
Over 60's	5	7	7.5	19.5	30
30's	5	5.5	6.5	17	30
TOTAL	10	12.5	14	36.5	60
[maximum]	20	20	20	60	

Fig 3.5.2.1(b) Realizations of /a : / in START vowel (1=fronted, 0.5=neutral, 0=backeds)

3.5.2.2

The overall results only narrowly, if at all, justify a phonemization as /a : / rather than /ɑ : / for RVE : a score of 35.0 out of a possible 60 for PALM vowels and 36.5 for START vowels.

Comparing the two age-groups, the scores of the over 60's on average show marginally more fronting of the vowel than the 30's, with a ratio of 18.5 : 16.5 for the PALM vowel and 19.5 : 17.0 for the START vowel.

Comparing the three locations, the scores at Porth are the most fronted and those at Treherbert the most backed for both PALM and START vowels. The scores for Treherbert can be seen to show, overall, an almost exact neutrality between fronted and backed.

3.5.2.3

In summary, the long vowel /a : / is extremely variable in quality in RVE, ranging from fronted versions [a : ~a̟ : ~ä :] to RP-like backed versions [ɑ̟ : ~ɑ̠ :].

Over half of the informants (52.5%) produced versions that were neither fronted nor backed : i.e. that were centralized, or which varied between the two.

The remaining informants (47.5%) who produced more or less consistently a single version split into 33.3%, using fronted, and 14.2%, using backed versions.

For the 33% of informants who consistently produced a fronted version, the phonemic contrast between the TRAP vowel /a/ and the PALM/START vowel /a : / is carried by length alone. It is, with them, often difficult to say which is being used, since (as seen in 3.4.3.1) the 'short' TRAP vowel is frequently lengthened in RVE.

F1 / F2 formant values averaged 791/1417 for fronted versions. For backed versions, values averaged 682 / 1117, comparable with RP 687 / 1077.

3.5.2.4

Little can be gleaned from the data about the reasons for variation, and since the scope of the project did not extend as far as investigation of sociolinguistic variables, few clues from this direction present themselves in the present research.

Hypothesizing that the backed [ɑ:] represented the socially more prestigious version, realizations in the questionnaire were compared with realizations in the possibly more casual speech style of the free conversation data. Perhaps surprisingly, little evidence was found of style shifting. This might indicate the difference between speech styles found in the questionnaire and conversational stages of the interview was not marked, and / or that vowel quality in /ɑ:/realizations is not as sociolinguistically sensitive as /h/-dropping (see 2.4.5).

It is by no means certain, however, that the backed /ɑ:/ emanates from RP influence. Jones, G. (1984: 53), in a description of southern Welsh, phonemizes the long vowel as /ɑ/ and short vowel as /a/ , maintaining that there is 'a marked *qualitative* and *quantitative* difference' between them [my italics] .

This raises the hypothesis that backed versions may also be influenced by the Welsh language substratum ; it may be a factor, for example, in the finding that the highest number of backed versions were among the over 60's in the location of Treherbert - where neighbouring Treorchy has the highest proportion of Welsh speakers in the Rhondda.

3.6

/ɒ/

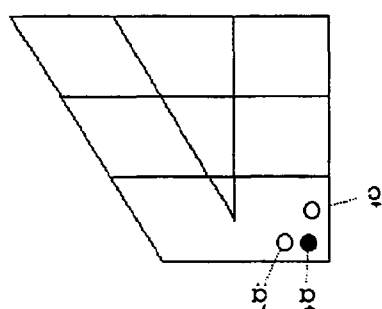


Fig 3.6 Realizations of /ɒ/.

3.6.1

In RVE, there is no difference in pronunciation between words of the LOT and CLOTH lexical sets (see Appendix 5, p 392, 394).

3.6.2

The questionnaire items *rod*, *broth*, *salt* and *false* were analyzed. It was found that for each of these words the same backed, slightly rounded short vowel in the region of C5 was used, phonemized as /ɒ/.

Only three informants (5%) produced realizations with reduced lip-rounding [ɒ̟].

The evidence of the data is that this is not anything like as common a feature as observed in Cardiff English (see 1.3.3.3).

F1/F2 formant values for *rod*, *broth* averaged out as 582 / 983, compared with RP 593 / 866. The higher F2 values might possibly indicate slightly more centralized values than in R.P.

3.6.3

The vowel could be markedly lengthened when strongly stressed, e.g. *bother* [bɒ̟ː ðə]. Alternatively, it could be shortened and the succeeding consonant lengthened, e.g. *sospan* [sɒ̟sː pʌn]. Such length variations of vowels in RVE will be discussed in sec. 4.11.10.

3.6.4

Concerning lexical distribution :

- Words of the CLOTH lexical set, e.g. *broth*, *across*, *often* were always pronounced with /ɒ/.
- Both *salt* and *false* - from the THOUGHT lexical set - were also always with /ɒ/.

In the conversational data, it was found that such a pronunciation extended to other words of the THOUGHT set where the vowel is in the environment of _____/l/fortisC , e.g. *fault*, *alter* and *also*.

3.6.5

The findings for RVE with respect to /ɒ/ are substantially the same as reported for Port Talbot English (Connolly, J. 1990: 124-5).

3.7

/ʊ/

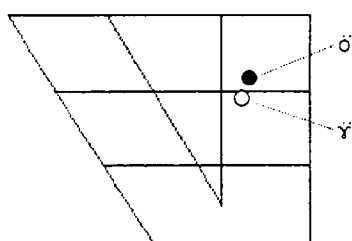


Fig 3.7 Realizations of /ʊ/ .

3.7.1

RVE /ʊ/ is broadly the same in realization and lexical distribution as in RP.

3.7.2

Analysis was carried out of informants' pronunciation of the questionnaire items *football*, *soot*, and *tooth*. It was found that 98.3% (⁵⁹/60) of the informants pronounced *soot* and *tooth* (from the GOOSE lexical set) with the FOOT vowel /ʊ/ , rather than /u:/ as in RP.

3.7.3

/ʊ/ was typically realized as a nearer centre than back, half-close vowel with medium lip-rounding. Like its mirror-image /ɪ/, it may be more open than in RP [ɪ̞ - ɵ̞].

F1 / 2 formant values for the items *tooth*, *soot* averaged out as 494 / 1142 compared to RP 414 / 1051. The higher F1 and F2 values give some support to the auditory finding of greater open-ness than in RP.

A small number of informants (4 out of the sixty) produced less rounded versions approaching the un-rounded, centralized realization [ʏ] reported for Cardiff English in Collins, B. and Mees, I. (1990: 94).

3.7.4

Lexical distribution of /ʊ/ extended to the first element of disyllabic realizations of words in the CURE lexical set, such as *poor* pronounced /pʊ[w]ʌ/ (see 3.14.6-8), although this first element could also be closer (/u:/).

3.8

/ʌ/ [ɵ]

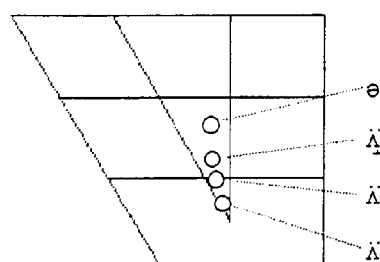


Fig 3.8 Realizations of /ʌ/ [ɵ].

3.8.1

Realizations of stressed /ʌ/ were analyzed in the questionnaire items *blood* and *butter*. They were found to be central and in the region of half-open, typically [ɪ̞]

(see fig. 3.8). F1 / F2 formant values averaged out over the two items as 566 / 1370, compared with that of RP (695 / 1224), providing some confirmation of a more raised and central vowel quality.

3.8.2

Realizations of the open, final unstressed syllables in the questionnaire items *butter*, *father*, *sofa*, *fire*, *shower*, *beer*, *poor*, *sure* and *cure* were examined.

The realizations were variable. They were often with shortened vowels that could be transcribed [ə], as in RP. In strongly accented words, however, realizations were characteristically with lengthened vowels of a fuller and more open quality [ɛ̃ ~ ɛ̃ ~ ɐ̃]. 82% of informants produced at least one such lengthened, open version in the word series listed above.

Such realizations are linked to the phonetic strength of the final syllable seen to be a feature of the Welsh language (sec. 4.3.4.5), and the presumed transfer of this feature to RVE will be discussed in sec. 4.11.10.3.

Acoustic analysis provided some confirmation of a more open (than RP) unstressed final vowel, with average F1 / F2 values as follows :

- *fire & beer* - 569 / 1593
- *butter & father* - 591 / 1429
- *sofa* - 592 / 1272
- *shower, poor, sure & cure* - 551 / 1273

3.8.3

The unstressed vowels in the closed final syllables of the questionnaire items *period* and *beard* were also examined.

- The vowel in the final syllable -iod of the word *period* was realized by most informants with a rising diphthong [ɪ̃ ɛ̃ ~ ɪ̃ ə] or [j̃ ɛ̃ ~ j̃ ə]. Lengthened vowels with a more open vowel quality were also heard, e.g. [ɪ̃ ɛ̃ ~ j̃ ɛ̃].

- The word *beard* was pronounced by 47% of informants with realizations of the type /ʌ/ in its final syllable, and by 53% with a more close vowel quality assignable to /ɜ/.

F1 / F2 formant values for the questionnaire items *beard* ; *period* averaged out as 514 / 1651. This reflects the larger number of closer vowel qualities found (with F1 values of 515 or lower) than was the case with open unstressed final syllables.

3.8.4

In summary, stressed /ʌ/ in words of the STRUT lexical set (e.g. '*supper*'; *blood*) is central and usually more raised than in RP, being typically around half open [ʌ̊ ~ ʌ̋ ~ ʌ̌]. Because of the lack of any obvious contrasts between /ʌ/ and schwa , these are held to be the same vowel. The findings are thus similar to those for other varieties of S.E. Wales English (see 1.3.1.2, 1.3.2 & 1.3.3.3.). ⁴

For the merged phoneme, the symbol /ʌ/ is chosen since it best represents the sound of the stressed vowel in its citation form.

The symbol [ə] may be used to represent allophones of closer quality used in short, unstressed syllables, but it should be kept in mind that an allophonic stressed-unstressed relationship between /ʌ/ and [ə] by no means always applies in RVE, since the vowel in final unstressed syllables of words such as '*butter* , '*sofa* frequently has an open quality.

3.9

/i: /

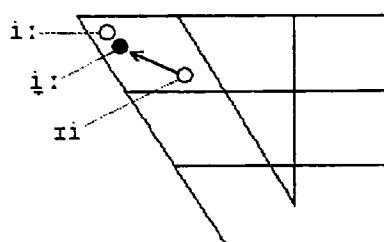


Fig 3.9 Realizations of /i: /

3.9.1

Realizations of /i: / were examined in the questionnaire items *meat*, *wheel*, *beer*, *beard* and *period*.

Vowel quality was found to be generally similar to RP /i: / (see fig 3.9), whereas in Abercrave English it is said to be very close (Tench, P.1990: 135) and in Cardiff English, also, it is reported to be 'noticeably closer and more front' than RP (Collins, B. and Mees, I. 1990 : 94-95).

Average F1 / F2 formant values for *meat*, *wheel* were 324 / 2251 and 321 / 2202 respectively, for the first vowel of *beer*, *beard* (combined) 358 / 2089, and for the first vowel of *period* 341 / 2081. These figures show more open F1 values relative to RP 275 / 2221, but these may be due to context, the RP tokens being produced in a /h-d/ frame.

3.9.2

In closed syllables, the vowel quality was generally free from diphthongization. This tended to be so even in syllables closed by /l/. The pronunciation of *wheel* was found to be a relatively pure monophthong with 80% of the informants. Only 20% of them showing marked breaking towards /l/ in the form of [i:°l].

In open syllables, too, vowel quality could be pure. Of the twelve informants pronouncing the word *tree* in the questionnaire annexe, half of them had relatively pure realizations, while the remaining half showed mild [ɪi] diphthongization.

3.9.3

The following were the main differences in lexical incidence from RP :

- As seen in sec 3.2.2 , the unstressed final vowel in happy-type words (e.g. *beauty, jury* in the questionnaire data) tends towards /i:/ rather than the /ɪ/ of RP.¹
- RVE distribution of /i:/ also extends to the NEAR lexical set (see 3.19) :
 - Words pronounced in RP as monosyllables with the diphthong /ɪə/ like *beer, fear, pier etc* typically have disyllabic pronunciations, in which /i:/ is used for the first element : *beer* is, thus, in RVE usually /bi:ʌ/. Such pronunciations are also the norm in words like *idea, career, appear, interfere*.
 - In words of the NEAR lexical set like *serious, period, hero*, RVE generally uses a pure monophthong /i:/ in place of the RP /ɪə/. This pattern leads to a situation where in RVE the word *real* can be /ri:ʌl/ and *really* /ri:li:/.

These RVE findings for lexical distribution of /i:/ are substantially the same as in other S.E. Wales studies (see 1.3.1.2 & 1.3.3.3).

3.10

/e:/ /ɛi/

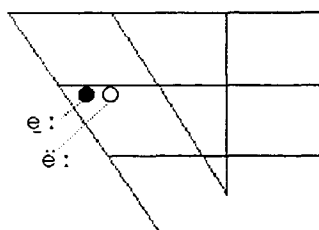


Fig 3.10(a) Realizations of /e:/

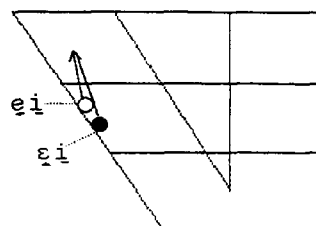


Fig 3.10(b) Realizations of /ɛi/

3.10.1

The pilot study (see 1.3.5) had indicated the strong presence in RVE of both a monophthong /e:/ and diphthong /ɛi/ for words of the FACE lexical set (see Appendix 5, p 395). The current research gave the opportunity of investigating the lexical distribution of these in RVE.

3.10.2

The origins of diphthong and monophthong in RVE are a matter for speculation, because English has grown comparatively recently in the S.E. Wales Valleys (see 1.2.4) and there is, thus, little historical evidence by which their evolution might be traceable.

- It may be assumed that one source of the diphthong was RP, taught in the early days of RVE by schoolteachers (see 1.2.6), and (it may be assumed) still continuing to exert influence as the 'correct' and prestigious form.
- The influence of the Welsh Language, on the other hand, has been towards a monophthong, since Welsh contains /e:/ [as in /hɛ:n/ 'old'] but not a comparable diphthong. Jones, G. (1984: 54-55) describes this monophthong as a long vowel articulated 'slightly below the front half-close position'.
- Influence, if any, from neighbouring counties of England may be deduced from LAE (Linguistic Atlas of England) findings seen in Appendix 7(a). For the words *grave*, *spade*, *bacon*, *April*, *make*, *break* :
 - Realizations were mainly diphthongal in the South Midlands, extending into Herefordshire and northern Gloucestershire. Since diphthongs were also used

for *drain, faint, tail, lay, weigh* etc, these areas were ‘diphthong only’ at the time of the SED surveys on which LAE was based.

- They were mainly monophthongal in the South West, including southern Gloucestershire and North Devon. Such areas exhibited a patterning of monophthong and diphthong:
 - a monophthong was used for *grave, spade, bacon, April, make, break* etc
 - a diphthong was used for *drain, daisy, faint, tail, lay, weigh* etc

Such a patterning seems to reflect a situation in which the merging of the Middle English vowels /a:/, /ɛ:/ and /ɛi~æi/, first as [ɛ:], then moving qualitatively to [e:] - a process known as the Long Mid Mergers (cf Wells, J. 1982: 192-3) - largely hadn't taken place.⁵

3.10.3

SAWD (Parry, D. 1977: 45-6, 50-1, 72-4) recorded the incidence of monophthong vs diphthong across S.E. Wales, including for the words :

- (a) *gate ; grave ; make ; take* (from Middle English /a:/), and for *break, great* (from Middle English /ɛ:/)
- (b) *chain ; clay ; eight ; hay ; neighbours ; tail ; weigh ; whey* (with diphthongs /ɛi~æi/ in Middle English).

Findings for selected areas of Gwent, Mid Glamorgan, South Glamorgan and West Glamorgan are shown in Appendix 8 (a & b). They can be summarized as follows :

1. In locations of Gwent near the Gloucestershire / Herefordshire border [Pandy, Rockfield, Tintern and Undy] , *only diphthongs* were found.
2. In South Gower [Middleton and Horton] , known to have been settled from across the Bristol Channel, a patterning was found similar to that reported in LAE for North Devon (see 3.10.2 and Appendix 7a) : *monophthongs* for set (a), and mainly *diphthongs*, typically with a wide movement [ɛi~æi], for set (b).
3. In West Glamorgan (other than Gower), findings were extremely variable. For example, *only monophthongs* were found at Resolven in the upper Neath

Valley, whereas an exact *patterning of monophthongs and diphthongs* was found at Glais in the neighbouring Swansea Valley .

4. Along the coastal plain of South Glamorgan to the west of Cardiff, *only monophthongs* were found in Cowbridge. A mixture of *monophthongs and diphthongs*, with a tendency towards patterning, was found elsewhere.
5. In the Gwent and Mid Glamorgan Valleys, a very variable mixture of monophthongs and diphthongs were found.
 - In Pontlottyn, Miskin and Cwmfelin, predominantly monophthongs were found, i.e. they occurred not only for set (a) but also for some words in set (b) .
 - In Hengoed and Tonteg, by contrast, only diphthongs were found, as in Cardiff English.⁶
 - In other locations, there was some tendency towards patterning : monophthongs for set (a) and diphthongs for set (b), but this was by no means clear.

FACE vowel : Diphthong vs Monophthong areas

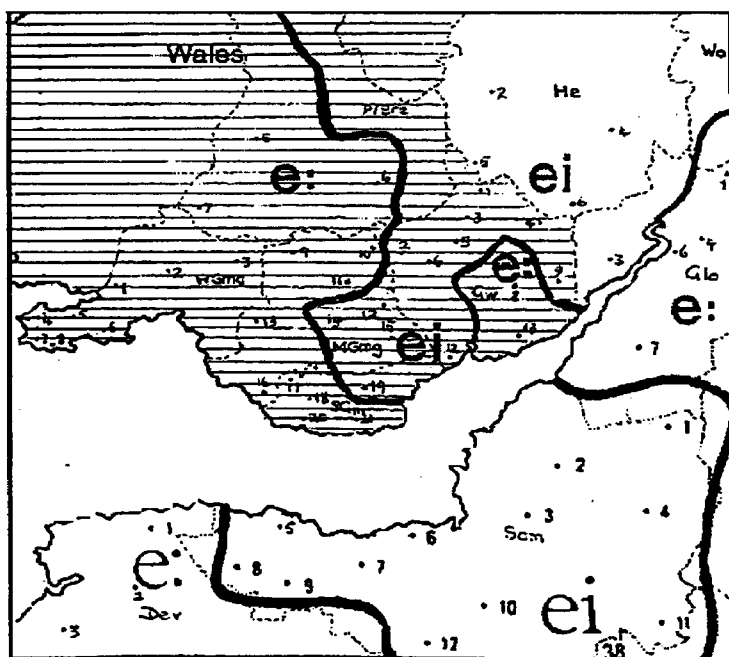


Fig 3.10.3 An amalgamation of the SAWD findings for 'gate' and LAE findings for 'spade'.

3.10.4

To explore the situation in RVE, an auditory analysis was carried out of the questionnaire items 'A' & 'K'; *waste & waist; stale & tail; behave; waiting* and of occurrences of words of the FACE lexical set found in the conversational data. Full details of the findings, with a listing of most lexical items heard, can be seen in Appendix 9.

3.10.5

3.10.5.1

Realizations of the monophthong were characteristically a front (or slightly backed), approximately half-close, long vowel [e :]. It was usually pure, although some of the informants had slight glides in the environment of a following /l/ (e.g. in *stale*), or following /n/ (e.g. in *arrange*).

F1 / F2 formant values for monophthongal versions of the alphabet letter 'A' averaged out as 420 / 2105, and for monophthongal versions of the items *waste, stale, behave* as 419 / 1986.

3.10.5.2

The diphthong was realized as a glide usually starting between half-open and half-close, and typically finishing closer than RP, therefore generally [ɛ i ~ e i].

F1 / F2 formant values for the start and finish elements of diphthongal versions, averaged for the questionnaire items *K* (letter of the alphabet) and *tail*, were as follows :

	START POINT		FINISHING POINT	
	F1	F2	F1	F2
RVE	452	1968	363	2158
RP	587	1945	413	2130

Although only rough comparison can be made because of the different environments in which these were produced, such acoustic evidence appears to confirm a closer finish than in RP.

3.10.6

All the sixty RVE informants exhibited both a monophthong /e:/ and a diphthong /ɛɪ/ at some stage during their interviews. No informant produced exclusively monophthongal or diphthongal realizations in the data.

3.10.7

3.10.7.1

The findings for lexical distribution of the monophthong and diphthong were generally the same as in Port Talbot English (see 1.3.1.2), and as in the SAWD findings for much of S.E. Wales (see 3.10.3): To a large extent there was a patterning in which

- a diphthong was found for words containing orthographic *i* or *y*, e.g. *tail*; *plays*
- a monophthong was found otherwise e.g. in *make*, *great*

92% of the informants distinguished between, in at least 80% of the tokens recorded for them, words with *_i* or *_y* orthographies and words with other orthographies.⁷ The patterning was sufficiently marked, with informants contrasting words like *eight* / *ate* ; *tail* / *stale* with sufficient regularity, for it to be maintained that the diphthong and monophthong constitute separate phonemes:

No difference at all was found between the age groups: the 'right' pronunciation between monophthong and diphthong averaged out at 90% for both groups. Nor was there any significant difference between localities, 'right pronunciations' being produced 92% of the time by Treherbert, 87 % by Maerdy and 90% by Porth informants.

3.10.7.2

Fig 3.10.7.2 illustrates the lexical incidence of /e:/ vs /ɛɪ/ pronunciations for twelve informants - four being selected from each location (Treherbert, Maerdy, Porth) at regular numerical intervals.

FACE VOWEL: LEXICAL INCIDENCE WITH 12 INFORMANTS

informant	/e: /	/ɛi /
T5	<i>waste; waist; stale; behave; name; became; age; face; rapier</i>	<i>tail; waiting; Hayden; played; training</i>
T10	<i>waste; waist; stale; behave; game; Dunraven; parades</i>	<i>tail; waiting; against</i>
T15	<i>waste; waist; stale*; behave; basically; same; Wales; conservation; places</i>	<i>stale*; tail; waiting; days</i>
T20	<i>waste; stale; behave; rapier; ale; Davies</i>	<i>waist; tail; waiting</i>
M5	<i>waste; waist; stale; behave; breaking; made; Labour; Ferndale; rapier</i>	<i>tail; waiting; maiden; eight;</i>
M10	<i>waste; waist; stale; behave</i>	<i>tail; waiting</i>
M15	<i>waste; waist; stale; behave; (Stanley) Baker; Ferndale; Wales; place; great</i>	<i>tail; waiting; entertainers; takes; train; maintain</i>
M20	<i>waste; waist; stale; behave; make; desecrated; plaice;</i>	<i>tail; waiting; neighbours; rain; conveyors</i>
P5	<i>waste; stale; cooper'ative; education; blazer; great; Davies; date; Wales</i>	<i>waist; tail; behave; waiting; gained; days; race</i>
P10	<i>waste; waist; stale; behave; great; base; famous; age; came; mates; taken; related; Wales</i>	<i>tail; waiting; main</i>
P15	<i>waste; waist; stale; behave; same; name; mates; (Stanley) Baker</i>	<i>tail; waiting; explain, stayed; maintenance</i>
P20	<i>waste; waist; stale; behave; lemonade; taking; slates</i>	<i>tail; waiting; eight</i>
* indicates that informant pronounced it with both monophthong and diphthong		

Fig 3.10.7.2 Lexical incidence of /e: /vs /ɛi /for FACE vowel, twelve informants.

3.10.7.3

Of the words encountered in the data with i and y orthography, (see fig. 3.10.7.2 and Appendix 9), the questionnaire word *waist* seemed to form a significant departure from the 'rule'; 80% of informants pronouncing it with monophthongal /e:/ . Despite its orthography, however, the word derives from Middle English /a:/ , so this apparent exception in fact only serves to provide additional evidence of the existence of Long Mid Merger patterning of monophthong vs diphthong in RVE (see 3.10.2).

3.10.7.4

There were more 'exceptions' in the other direction, with instances of many words e.g. *places, came, same, takes, race, chaos, dangerous, ancient, changes* being found with the diphthong.

3.10.7.5

For the last three of this list, where the FACE vowel is spelled with a in the environment of a following cluster beginning with a nasal, 75% (six out of eight) of occurrences noted in the data were with /ɛɪ/. This resembles the findings reported for Port Talbot English (Connolly, J. 1981: 52).

3.10.7.6

Monophthongal and diphthongal realizations of words with *-ation* endings (e.g. *education, cooperation, nationalization, accommodation*) were encountered in the data in more or less equal proportions. This uncertainty of incidence was illustrated by a single informant (T9) producing both monophthongal and diphthongal realizations of the word *station*.

3.10.7.7

Despite such departures and uncertainties of incidence, the differentiation between the two phonemes may be judged sufficiently systematic in the data to justify the assigning of two separate phonemes. For example :

- 95 % of informants (⁵⁷/₆₀) contrasted *stale / tail* in the questionnaire data.

- Several other contrasts emerged in the speech of individual informants e.g. *great* / *eight* (M17); '*claim to fame*' (P13); and *made* / *maiden* (M5).
- The first vowel of the word *their* was always pronounced with the diphthong /eɪ/ in the data, the word being usually rendered disyllabically [eɪ(j)ə].⁸
- Nearly all informants differentiated between the phonemes in the pronunciation of place-names: *Wales*, *Ferndale*, *Beddau* and (*Clydach*) *Vale* were with a monophthong and (*Cardiff*) *Bay* and *Maindee* and *Spain* with a diphthong.
- All informants differentiated systematically between the phonemes in personal names e.g. using the monophthong for *James*, *Davies*, *David*, (*Aunty*) *Kate* and (*Stanley*) *Baker*, while using the diphthong for *Wayne*, *Bill* (*Paynter*), *Hayden* and *Taylor*.

3.11

/ɛ:/

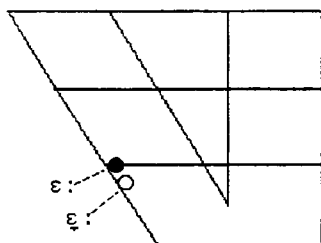


Fig 3.11 Realizations of /ɛ:/

3.11.1

RVE has a monophthongal /ɛ:/ for the SQUARE lexical set (Appendix 5 p 398), whereas RP has a diphthong /ɛə/.⁹ Realization and distribution of this vowel is similar to that in Port Talbot English and Abercrave English (see 1.3.1.2 & 1.3.2).

3.11.2

Informants' pronunciations of *pair* and *fairy* in the questionnaire data and of other words of the SQUARE lexical set in the conversational data [*care, dare, hair, chair, mayor, there, where, area* etc] were analyzed.

It was found that nearly all items were pronounced with a monophthong, which was of approximately half open quality and is phonemized as /ε : /.

10% of the informants (6 out of 60) at some time or other exhibited rhotic pronunciations of *pair* usually in the form of approximant [ε : '] colouring at the end of the vowel. Two informants had glides towards schwa at the end of the vowel although the pronunciations were still, on the whole, monophthongal in character.⁷

No trace in RVE was found of the near C2 version reported in Cardiff English (Collins, B. & Mees, I. 1990: 95).⁸

F1/F2 formants vowels for the questionnaire items *pair* and *fairy* averaged out as 520/1802.

3.11.3

3.11.3.1

The vowel was typically similar in quality to the /ε /used in words of the DRESS lexical set. Because the phonemic distinction between the two vowels, in that case, is based on contrasts of length alone, and because /ε : / is sometimes pronounced with reduced length and /ε / is sometimes lengthened with stress (see 4.11.10.5) the difference between the two phonemes can be completely neutralized.

3.11.3.2

Reduced vowel length of /ε : / was common in the environment of a following prevocalic /r /, so that words like *fairy & ferry ; vary & very* (and, one could hypothesize, *Mary & merry*) sound similar.

This feature of RVE pronunciation may be due to influence from the Welsh substratum: There is no long /ɛ:/ in the Welsh language, only the short vowel /ɛ/. Thomas, C. (1961: 102) states that, in the local Welsh dialect, that lengthening of [ɛ] 'occurs only in stressed mono-syllables or in stressed final syllables'.

Vowel length was compared between the questionnaire words *pair* and *fairy*. In the former it was always long. In the latter, a two-syllable word, it was often short with the effect that with 45% of all speakers - 57% of the over 60's and 33% of the 30's age group - the length as well as quality of *fairy* and *ferry* were substantially the same. With one speaker, lengthening it through stress, the vowel in *ferry* was actually longer than in *fairy*.

The difference between the two age groups would seem to indicate that reduced vowel length in such environments is a feature that is declining among younger generations.

3.12

/ɔ:/

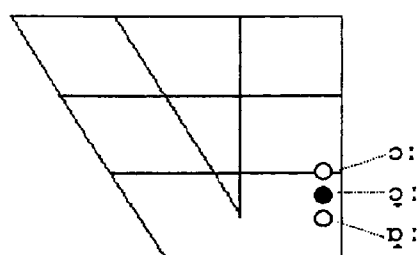


Fig 3.12 Realizations of /ɔ:/

3.12.1

RVE uses a vowel in the vicinity of C6 for words of the THOUGHT and NORTH lexical sets (see Appendix 5 p 396, 399). It is phonemized as /ɔ:/ although its realization is generally more open than RP.

3.12.2

Auditory analysis was carried out of informants' pronunciations of the questionnaire items *caught* (THOUGHT lexical set), *north* (NORTH lexical set) and of all clearly heard incidences of THOUGHT, NORTH words in the conversational data.

3.12.2.1

THOUGHT & NORTH words were both realized as a back, around half-open long vowel, typically more open than RP, with slight to medium lip-rounding

[ɔ : ~ ɔ̹ : ~ ɔ̥ :] (see fig. 3.12).

F1 / F2 formant values for the questionnaire items *north* ; *caught* averaged out as 539 / 878 and 542 / 873 respectively, providing tentative confirmation of the generally more open realization of these vowels than in RP (F1 / F2 values : 453 / 642).

3.12.2.2

The findings resemble those in Port Talbot English (Connolly, J. 1981: 56-7). They are also similar to those in the 'more Welsh' Abercrave English (Tench, P.1990: 136-7), where the THOUGHT and NORTH vowels are phonemized as /ɒ : /.

There was no occurrence in the data of the un-rounded, half-open centralized vowel /ʌ : / , reported for Cardiff English (Collins, B. and Mees, I. 1990: 93-5).

3.12.2.3

Five of the sixty informants (8.3%) pronounced one or more NORTH words in the data with rhoticity (see 2.6.7.1). None of these informants, however, produced consistently rhotic pronunciations for NORTH words. No rolled /r/realization with an open, short vowel (nɒrθ) was found in the data, even from the Welsh speakers.¹²

3.12.2.4

A large minority of informants, twenty six out of sixty (43%), pronounced NORTH words consistently at or near the open end of the spectrum [ɔ̥ : ~ ɔ̥ :], and a still significant but smaller minority, eighteen out of sixty (30%), did so for THOUGHT

words. For these, /ɒ:/ would be a more accurate phonemization. Since, in the local Welsh dialect, the phoneme /ɔ:/ does not exist, such speakers may be substituting a lengthened version of the Welsh short vowel /ɒ/, described by Thomas, C. (1961: 19) as 'a nearly open, backed vowel with open lip rounding.'

3.12.2.5

With other informants, the open-ness of their realizations was noticeably variable: One informant (T7), for example, pronounced *northern* with an RP-like [ɔ:] and then *George* with a more open [ɒ:]. Another (P8), gave two different versions of the single word *north*, one with a rhotic /ɒʔ/ and the other with /ɔ:/.

3.12.3

RVE /ɔ:/ has the following main differences of lexical distribution from RP :

- It does not extend to items of the THOUGHT lexical sub-set (b) (Appendix 5, p 396) e.g. *false*, *salt*, *also*, *fault*, *alter*. All such words in the data were regularly pronounced by informants with /ɒ/, and can be regarded as belonging to the LOT lexical set in RVE.
- It is infrequently used for words of the CURE lexical set (see Appendix 5, p 400).
 - None of the sixty informants used /ɔ:/ for the questionnaire item *poor* (which was typically /pu:ʌ/).
 - Only two of the sixty informants (3.3%) used it for the questionnaire item *tour* (both with rhoticity).
- It is not, as will be seen in the next section (3.12.4), generally used for words of the FORCE lexical set (see Appendix 5 p 399).

3.12.4

In order to investigate pronunciations of words of the FORCE lexical set, realizations were examined of the word *sword* in the main questionnaire, of the item *Tories* in the questionnaire annexe (see Appendix 3), and of occurrences of FORCE words in the conversational data.

3.12.4.1

Fig. 3.12.4.1 shows that 80% of all informants (forty eight out of sixty), 93% of the over 60's and 67% of the 30's age-group, pronounced the questionnaire item *sword* with a long vowel in the vicinity of C7, similar to the /o : / used for monophthongal realizations of GOAT words (see 3.13).

Realization of Vowel in Sword as [o :]

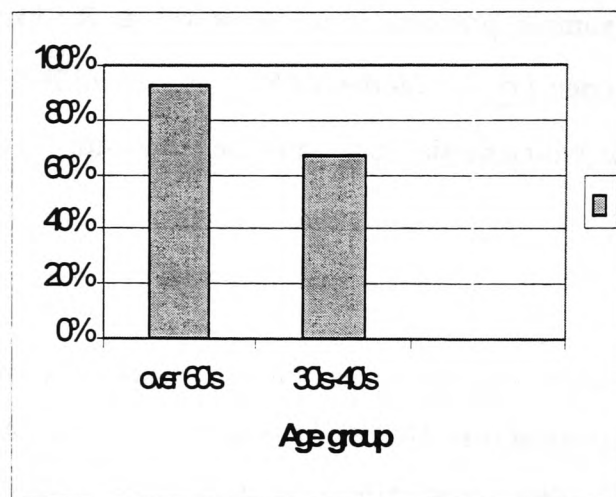


Fig 3.12.4.1 Realization of the FORCE vowel as [o :] in the questionnaire item SWORD

Such a vowel [o :] was the predominant version found for FORCE words throughout the conversational data and was used by all 12 informants for *Tories* in the questionnaire annexe.

3.12.4.2

Fig 3.12.4.2 shows the lexical incidence of [o :] for FORCE words in the data.

Words of the FORCE lexical set occurring with [o :] in the data
<i>door; store; more; floor; four; fourteen; fore; bore; ignore; Singapore; before; oar; score / scoring; sport; torn; course; damp-course; sword; Board; afford; important; support[er]; force[d]; [armed] forces ; story; storey(s); Tories; historian; memorial.</i>

Fig 3.12.4.2 Lexical distribution of [o :] in FORCE words in the data.

3.12.4.3

The following contrasts or near contrasts, between THOUGHT/NORTH vowels on the one hand and FORCE words on the other, were among those observed in the data, the first word of each pair being found with /ɔ : / and the second with [o :]:

for / four;

or / oar;

saw / store;

morning / more

The conclusion is that in RVE, particularly among the older speakers, these comprise different phonemes.

3.12.5

Such different pronunciations for THOUGH/NORTH words, on the one hand, and FORCE words on the other, reflect a situation in which a merging of pronunciation of these lexical sets has not taken place (cf Wells, J. 1982: 234-7).

How this arose in the S.E. Wales valleys is a matter of speculation, since RVE is of recent origin there. There may have been some influence from the varieties brought into the Valleys by immigrant working class populations during the late 19th and early 20th centuries, although in the West Country - the major source of immigration - pronunciations of both vowels would have been rhotic.

The Welsh language, also, may have exerted influence, to the extent that it contains /ɒ/ and /o : /, therefore potentially reinforcing the vowel difference between the THOUGHT / NORTH - FORCE words.

3.12.6

Since the incidence of /ɔ : / for the questionnaire item *sword* was less in the speech of the 30's age-group than in the speech of the over 60's (fig 3.12.4.1), it is possible that erosion of this feature of RVE is under way. However, most of the informants in

the 30's age-group were found to produce /o: / at some stage or other in the data for FORCE words. Only three out of sixty informants (T16, M3, P15) did not do so, consistently producing more or less the same vowel /o: / for all three lexical sets (THOUGHT; NORTH; FORCE).

3.12.7.

FORCE words in RVE were realized with a back half-close, or just below half-close vowel, with medium rounding [o : ~ ɔ̞ : ~ ɔ̞ :], similar to monophthongal realizations of the GOAT vowel (see 3.13).

F1 / F2 values for the questionnaire item *sword* averaged out as 421 / 842, similar to the values for monophthongal realizations of the GOAT vowel (see 3.13.5), and with markedly lower F1 values than the RVE NORTH / THOUGHT vowel /o: / (F1 values 539 and 542 respectively).

The vowel was generally pure, although glides to schwa were heard from some informants [o : °].

3.12.8

RVE findings for the FORCE vowel are similar to those in other S.E. Wales accents. In Port Talbot English, Connolly, J. (1990, 123) assigns /o: / to FORCE words, as does Tench, P. (1990, 136-8) for Abercrave English. In Cardiff English, on the other hand, the distinction between THOUGHT/NORTH and FORCE words is said to 'have disappeared' except with some older speakers (Collins, B. and Mees, I. 1990: 95) .

3.13

/o:/ /ou/

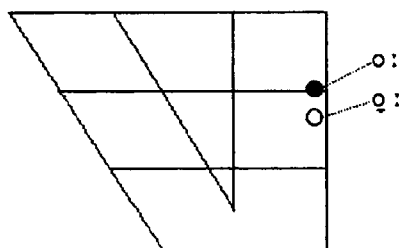


Fig 3.13(a) Realizations of /o: /.

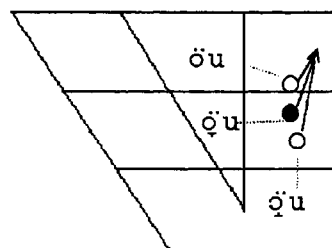


Fig 3.13(b) Realizations of /ou/.

3.13.1

The pilot study had indicated the presence of both a monophthong and a diphthong for words of the GOAT lexical set (see Appendix 5 p 396) in RVE. The current research aimed to investigate the lexical distribution and realization of these.

3.13.2

As with FACE words, SAWD (1977, ed. Parry, D.) shows up a very varied incidence of monophthongs and diphthongs for GOAT words across S.E. Wales.

3.13.2.1

In Appendix 8(a) & (c), the SAWD findings for twenty three selected locations are reproduced with respect to the lexical incidence of monophthongs vs diphthongs in :

1. *coal, foal, home, loaf, nose, oak, road* (from Middle English /o~o/)
2. *gold, old, cold* (from ME /o~o/before/ld/)
3. *shoulder* (from ME /u/)
4. *mow, snow, dough, grow* (from ME /ou~ ou/)

3.13.2.2

The findings may be summarised as follows :

- There were three 'Diphthong only' areas (or substantially so) :
 - Rockfield and Tintern , which are just across the Welsh border from North Gloucestershire / South Herefordshire
 - Gorseinon, near Swansea, which appears to be an isolated occurrence

- There were four 'Monophthong only' areas (or substantially so):
 - Manmoel, Llanhilleth and Miskin, in the Valleys area
 - Cowbridge, in the coastal area west of Cardiff
- In nine of the 23 areas (39.1%), there was a clear tendency towards patterning of monophthong and diphthong - with a monophthong being found for set (1) and a diphthong for sets (3) & (4) (and generally for set (2)):
 - Blaenavon & Cwmfelin, in the Valleys area
 - Peterston-super-Ely, Llancarfan, Llantwit Major and Llangan & Treoes, in the coastal area west of Cardiff
 - Glais, in the Swansea Valley
 - Middleton and Horton, in South Gower
- In the remaining seven areas (30%), there were both monophthongs and diphthongs, but without the obvious patterning just described.

3.13.2.3

SAWD finds, therefore, a very mixed situation, but with a significant number of locations that show a tendency towards patterning of monophthong and diphthong. As with FACE words, different factors may have been at work in bringing about the varied situation thus described :

1. A diphthong for all GOAT words can be assumed to have been the 'proper English version' taught by the schoolteachers (see 1.2.6) in the early years of RVE, and to have continued to exert its pressure via R.P. as the 'correct' and prestigious form.¹³
2. It is the form used for all GOAT words in Cardiff English¹⁴.
3. It is also recorded by SED as being used for all or most GOAT words in the southern Midlands, extending to most of Herefordshire and northern areas of Gloucestershire (see fig 3.13.2.3 and Appendix 7b).
4. A monophthong, by contrast, can be assumed to be the most likely source of influence from the Welsh language.¹⁵
5. It is also recorded by SED as being used for all or most GOAT words in areas of the South West, including North Devon, and parts of Somerset (see fig. 3.13.2.3 and Appendix 7b).
6. A patterning of monophthong and diphthong exists in some areas of the South West and some areas of Herefordshire (see Appendix 7b), reflecting a situation

where , historically, a merging of ME /o~o/ with /ou~ou/, first as a monophthong and then changing later to a diphthong - had not taken place (cf Wells, J.C., 1982: 192-4, 210-11)

7. Spelling could have exerted a 'sight-sound' influence towards patterning, with speakers using a diphthong /ou/ where the vowel is spelled with u or w (e.g. in *shoulder, shows*), and the monophthong /o:/ elsewhere (e.g. in *soke, home*)

LAE map : vowel in the word 'nose'

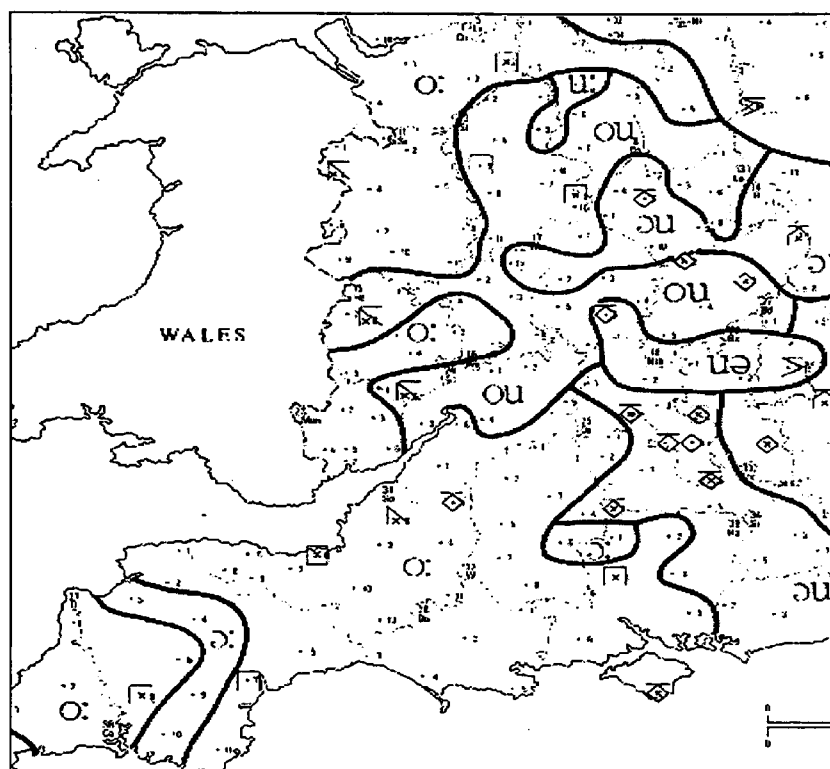


Fig 3.13.2.3 SED findings for the vowel in the word 'nose' (Linguistic Atlas of England, 1978).

3.13.2.4

It may be assumed that factor (3) above, is responsible for the SAWD findings in Rockfield and Tintern, since LAE records 'diphthong only' forms just across the border. It may, also, be speculated that factor (6) accounts for the patterned differentiation between monophthong and diphthong found in the coastal areas of South Glamorgan and in South Gower, both areas where the English language has been long established. In the Valleys, however, where almost every permutation of monophthongs and diphthongs is recorded, it may be impossible to generalize as to which factors have been mainly at work.

3.13.3

The RVE data was examined to see what pattern of lexical incidence, if any, would emerge. Analysis was carried out of the pairs *sole - soul*; *toes - tows*; *nose - knows* together with the items *clothes* and *sofa* in the questionnaire data, and, in addition, of clearly heard words of the GOAT lexical set in the conversational data. The number of items thus analyzed per individual speaker ranged from nine to twenty.

3.13.3.1

All the sixty RVE informants exhibited both a monophthong /o:/ and a diphthong /ou/ at some stage during their interviews. The monophthong was strongly entrenched. When asked to read the letters of the alphabet *A - K - O - U*, 85% of informants pronounced *O* as a monophthong. The monophthong was also typically used by informants for the words *so*, *no* and the exclamation *oh*.

3.13.3.2

It was found that in the large majority (80% or more) of incidences of GOAT words, 90% of all informants, 93% of the over 60's and 87% of the 30's age-group, produced the 'right pronunciation' - i.e. a diphthong for words containing *u* or *w* in their spellings, and a monophthong for all others.¹⁶

3.13.3.3

This differentiation, as a general statistic, was sufficiently systematic to justify the assigning of two separate phonemes, a decision supported by the occurrence in the data of contrasts additional to those in the questionnaire, like *thrown - throne*; *sew-so*. 'Against the rule pronunciations', however, were common in both directions. For example, *soul* and *own* were occasionally pronounced with a monophthong, and *photo* and *road* occasionally with the diphthong. There was also a great deal of individual variation, with some informants producing markedly more monophthongs than others, or producing at one moment a monophthong and, at another, a diphthong for the same word (for example T15 in fig. 3.13.3.3). This impression of instability was reinforced when the questionnaire items were re-tested with the twelve informants (see 1.5.5): half of them gave versions different from when they had been first interviewed for at least one of the items.

Fig. 3.13.3.3 illustrates the lexical incidence of /o:/vs /ou/ pronunciations for twelve informants - four selected from each location (Treherbert, Maerdy, Porth) at regular numerical intervals (T5, T10, T15 etc).

GOAT vowel : Lexical incidence of /o:/vs /ou/

informant	/o: /	/ou /
T5	<i>sole; toes; clothes; oh; old; coal; whole</i>	<i>soul; tows; nose, knows; sofa</i>
T10	<i>sole; toes; nose; told; coal; throat</i>	<i>soul; toes; knows; clothes; sofa</i>
T15	<i>sole*; toes*; nose; clothes* home; close; no; old; stone</i>	<i>sole*; soul; toes*; tows; knows; clothes*; sofa; colder</i>
T20	<i>sole; toes; nose; clothes; sofa; photo; no</i>	<i>soul; tows; knows</i>
M5	<i>sole; soul*; toes; nose; clothes; home; Coldstream (Guards); broke; coal; nobody;</i>	<i>soul*; tows; knows; sofa; gold</i>
M10	<i>sole; toes; nose; clothes; sofa no; open</i>	<i>soul; tows; knows</i>
M15	<i>toes; clothes; no; oh; over; opened; both; coal; alone</i>	<i>sole; soul; tows, nose; knows sofa</i>
M20	<i>sole; toes; nose; open, holy</i>	<i>soul; tows; knows, clothes; sofa</i>
P5	<i>sole; toes; clothes; sofa; road; promotion; those; explosion; coal</i>	<i>soul; tows; nose; knows; Joe</i>
P10	<i>toes; nose, spoke; open; don't suppose; road; told; over</i>	<i>sole; soul; tows; knows; sofa; owned; flow;</i>
P15	<i>sole; toes; nose; clothes; most; no; photo; road; old</i>	<i>soul; tows; knows; sofa</i>
P20	<i>sole; toes; nose; road; local; over</i>	<i>soul; tows; knows; clothes; sofa</i>

Fig 3.13.3.3 GOAT vowel : the lexical incidence of monophthong vs diphthong with twelve informants. (* Indicates word pronounced by the informant with both monophthong and diphthong.)

3.13.4

The findings in RVE for the GOAT vowel are therefore of a tendency towards patterning, but with many exceptions and a marked degree of instability, e.g. informants pronouncing the same word in different ways. This is broadly similar to the situation reported for Port Talbot English (Connolly, J. 1981: 53).

3.13.5

Monophthongal realizations were in the vicinity of C7 - half-close or slightly below, therefore [o : - ɔ :] (see fig 3.13a) and pronounced with medium lip-rounding. F1 / F2 values for the monophthongal realizations of the letter of the alphabet O (in the questionnaire item *A-K-O-U*) averaged out as 436 / 726, supporting the auditory findings of a vowel in the vicinity of C7. F1 / F2 values averaged out over monophthongal versions of *toes* ; *nose* were 432 / 820.

The monophthongs of *sole*, *toes*, *nose* were commonly with a slight end-glide towards schwa [ɔ : ^ə] or as [ɔ : ^ʊ]. Such realizations could be ambiguous to the ear between a monophthong and a narrow diphthong.

3.13.6

The diphthong is represented as /ou/. Realizations had a starting point at half-close or (more often) below, which was frequently centralized. Its finishing point was generally more backed than RP, justifying the notation [u] : therefore typically [ö u ~ ɔ̥ u ~ ɔ̥ u] (see fig. 3.13b).

Averaged out F1/ F2 formant values for the start and finishing elements of diphthongal versions of the questionnaire items *soul* ; *tows* ; *knows* were:

	START POINT		FINISHING POINT	
	F1	F2	F1	F2
RVE /ou/	467	974	378	787
RP /əu/	537	1266	379	1024

These readings tentatively support the auditory findings of a diphthong start point in

the region of centralized RVE /o: / and of the symbolizing of the closing point as /u: /, since although the final F1 values are identical to RP the more backed final F2 values seem to support a target of /u: /.

3.13.7

Lexical distribution of the monophthong /o: / generally extends, as seen in sec 3.12.4-8, to words of the FORCE lexical set vowel.

This produced, in the data, such homophones and near homophones as *coat / court* ; *(bull) dozer / doors*.

3.14

/u: / /ɪu/

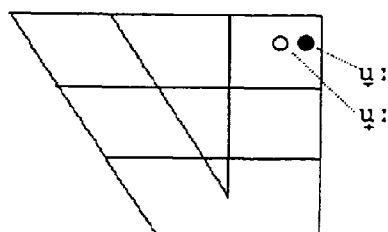


Fig 3.14(a) Realizations of /u: /.

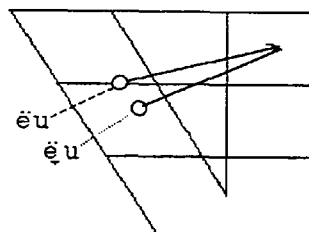


Fig 3.14(b) Realizations of /ɪu/.

3.14.1

The pilot study had indicated that two vowels existed in RVE, [u:] and [ɪu], with the latter being heard in place of RP /ju: / in words such as *music, tune*.

3.14.1.1

To investigate the incidence of [u:] vs [ju:] vs [ɪu], auditory analysis was carried out of the questionnaire items *through / threw*; *blue / blew*; *mood & beauty* (GOOSE lexical set), and *cure, sure & jury* (CURE lexical set). The conversational data was also analyzed for clearly heard instances of GOOSE words, and of CURE words, particularly with -ur orthographies.

Appendix 11 shows the lexical incidence discovered, although it should be emphasized that the items in the conversational data might only have been heard on a single occasion.

- Where the vowel is spelt with *oo*, *o* or *ou* (e.g. *mood*; *fool*; *who*; *move*; *group*; *through*) it was always pronounced with a long monophthong [u:] , with the exception of *you*, which was sometimes with [ɪu] .
- Where the spelling is *ew*, *iew*, *ieu*, *eu*, *eau* , as in *few*, *view*, *Dieu*, *feudal*, *beauty*, the vowel was always pronounced with [ɪu~ju:] .
- Where the spelling is with *u*, e.g. *music*; *future*, pronunciations of [ɪu~ju:] were more common than pronunciations of [ju:] in RP:
 - They were always used after labials (*murals*, *abuse*, *pure* etc); labio-dentals (*funeral*, *future* etc); /t, d, s, n/ (*tube*, *duke*, *supermarket*, *nutritious* etc); velars (*cure*, *argue* etc); and /h/ (*humour*, *huge* etc) (even where dropped).
 - After the palato-alveolars /ʃ, ʒ, tʃ, dʒ/, either /u:/ or /ɪu~ju:/ could be heard in the data. For example, *assurance* was found with [ɪu] and *insurance* with /u:/. Similarly, after /l/ & /r/, either /u:/ or /ɪu~ju:/ could be heard, e.g. *blue* was /blu:/, *clue* was /klu:/ or /kɪu/; *crude* was /kru:d/ and *cruel* was /krɪuwl/.

3.14.1.2

Words of the GOOSE set beginning with RP /ju:/ occurring in the data, whatever their orthography, were heard with [jɪu] more often than with /ju:/. So, *union* was usually ['jɪʊnɪən], and (as seen) *you* was frequently [jɪʊ].

3.14.1.3

The diphthong and the monophthong may occur in both stressed syllables and unstressed ones, e.g. *rescue* / 'reskiu/ and *absolute* /'absʌliut~'absʌlu:t/.

3.14.2

Since all sixty informants contrasted the questionnaire pairs (1) *through*[u:] / *threw*[ɪu] and (2) *blue*[u:] / *blew*[ɪu], and since other contrasts were found in the conversational data e.g. *moot* / *mute* ; *whose* / *Hughes* ; *do* / *Dieu* , it can be maintained that RVE has two distinct phonemes : /u: /and /ɪu/.

3.14.3

The presence of the diphthong /ɪu/ across most of S. E. Wales is recorded by SAWD (ed. Parry, D. 1977: 69, 71, 78, 79) in pronunciations of the words *nephew*; *Tuesday*; *dew*; *cucumber*; *tune* etc, and is observed in both Port Talbot English¹⁷ and Abercrave English.¹⁸

Cardiff English (Collins, B. and Mees, I. 1990: 95), by contrast, is said to realize the GOOSE vowel always with /u:~ju: / and therefore appears to be different from the rest of S.E. Wales.

3.14.4

3.14.4.1

The monophthong (see fig. 3.14a) typically is realized with about the same closeness as RP but not with the same tendencies towards centralization or towards diphthonging of the /uu/ type.

F1 / F2 formant values for the questionnaire items *mood* ; *through* averaged out as 336 / 801 compared with RP 302 / 1131, tentatively supporting auditory findings of greater backing of the vowel in RVE. Individual tokens, however, showed considerable variation ranging from very close and backed variants of 236 / 708 and 279 / 644 to more lax variants of 408 / 966 and 408 / 880.

3.14.4.2

The vowel in *threw* and *blew* clearly tended towards [ɪʊ] rather than [ju:] with all informants except one.

The vowel in *beauty* was also [ɪʊ~ju:] with all sixty informants, but here the falling diphthong [ɪʊ] was less dominant - most of the informants pronounced it thus, but the others had pronunciations resembling RP /ju:/, or intermediate between [ɪu] and [ju:].

Words with -u orthographies, e.g. *cure*, *jury* in the questionnaire responses were similarly variable. Pronunciation could be a clear falling diphthong with a starting point in the vicinity of the KIT vowel and a finishing point near C8 [ɪʊ], similar to the diphthong used in the Welsh language for words with *iw* orthographies e.g. *rhiw* (hill /slope). The vowel, alternatively, could be like RP [ju:], or intermediate between /ɪʊ/ and [ju:], e.g. a rising diphthong [ɪ̯u:].

F1 / F2 formant values for the starting and finishing points of /ɪu/, averaged over the questionnaire items, were as follows:

	START		FINISH	
	F1	F2	F1	F2
RVE/ɪu/	418	1630	353	1095

These formant values seem to provide some support for the start and end target vowels of the diphthong being /ɪ/ and /u/, while indicating some centralizing influence on both vowel qualities of the diphthongal glide across the half-close vowel space.

3.14.5

Concerning lexical distribution of /u:~/ɪu/, it has already been noted, in sec.

3.7.2, that the GOOSE words *tooth* and *soot* (with /u:/ in R.P.) were pronounced

by almost all the informants with /ʊ/, the FOOT vowel.

5% (3/60) of informants (M17, P1 & P2) pronounced the GOAT word *whole* with /u:/, the GOOSE vowel.

3.14.6

Discussion may now move to pronunciations in the data of words of the CURE lexical set.

1. Words pronounced as single syllables in R.P. (e.g. *poor*, *cure*) were found in the RVE data as follows:
 - Words with -ur orthographies, e.g. the questionnaire items *cure* & *sure*, were almost invariably pronounced with disyllabic sequences - of which /u:/ or /ɪu/ formed the first element : *cure* was typically /kɪuΔ/ and *sure* /ʃu:Δ/.
 - Those with other orthographies were also generally disyllabic, having /u:/ as the first element, e.g. the questionnaire items *poor* /pu: (w) Δ/ , and *tour* /tu: (w) Δ/.

The exceptions to such disyllabic pronunciations were as follows:

- 22% of the informants (13 out of 60) pronounced *tour* as a long monophthong with rhoticity (see 2.6.2) :
 - nine as /tu:r/ (T1, T6, T7, T14, M2, M18, M19, P5, P6)
 - four as /tɔ:r~tɔ:r/ (M6, P1, P3, P10).
- 5% of the informants (3 out of 60) pronounced *poor* as a diphthong [pœ~pœ].

There was no incidence in the data of *poor* being pronounced as monophthongal /pɔ: (r) /.

2. Words with -ur orthographies that are pronounced with two or more syllables in R.P. e.g. *jury*, were found with /ɪu/ or /u:/ in the stressed vowel (see Appendix 11).

3.14.7

The pattern described above resembles that in most other parts of S.E. Wales:

- SAWD (ed. Parry, D. 1977: 71) finds disyllabic versions of *sure* to be by far the most common realization in the various studies made across S.E. Wales.
- Connolly, J. (1990: 122) reports *cure* to be disyllabic in Port Talbot English.
- Tench, P. (1990: 134) transcribes *cure* as /kɪu:ʌ/ in Abercrave English.

In Cardiff English, on the other hand, Collins and Mees (1990: 98) report that *sure*; *cure*; *tour* are often realized by an unrounded, around C6 monophthong /ʌ: /.

3.14.8

3.14.8.1

The vowel quality of the first element of disyllabic /u:ʌ/ pronunciations of *cure*; *sure*; *jury*; *poor*; *tour* generally justified the notation of /u/ rather than /ʊ/. F1 / F2 formant values for this first vowel in disyllabic realizations of the questionnaire items *poor* ; *tour* averaged out as 370 / 779.

3.14.8.2

The closing element is transcribed as /ʌ/. (See 3.8.2 and 4.11.10.3 for discussion of vowel quality in RVE unstressed final syllables.) F1 / F2 formant values for the second vowel of the questionnaire item *poor* averaged out as 558 / 1273, similar to the values found for the RVE STRUT vowel (see 3.8.1-2).

3.14.8.3

It was found that the disyllabic realizations sometimes had an intrusive [w] in the transition between the two elements. While this seemed an optional element in *sure* ; *tour* ; *poor* /u: (w) ʌ/, it was almost universal in the word *cure* /ɪuwʌ/, perhaps because the articulatory movements involve a rapid reversing of direction between the backing diphthongal element and the return movement towards a more open, central second element.

A similar intrusive [w] was found in the conversational data items *fewer*; *brewer* .

3.15

/ɜ: / [œ:]

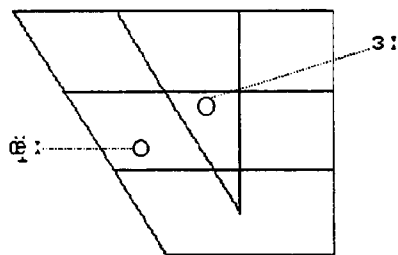


Fig 3.15 Realizations of the NURSE vowel.

3.15.1

3.15.1.2

The NURSE vowel (see Appendix 5 p 394) in other varieties of S.E. Wales English is reported to generally lack rhoticity, the main exceptions being locations adjacent to rhotic areas of England.¹⁹

3.15.1.3

The most notable feature of the NURSE vowel across much of S.E. Wales²⁰ is its rounded quality, earning the notation of /ø:/ in Port Talbot and Cardiff English (see 1.3.1.2 & 1.3.3.3).

On the other hand, an unrounded vowel /ɜ:/ is observed for the 'more Welsh' variety of Abercrave English (Tench, P. 1990: 133,136),²¹. SAWD (1977) records rounded versions across S.E. Wales, but unrounded versions are the more common in westerly areas where there is stronger Welsh Language influence.

The same picture emerges in North Wales, where Penhallurick, R. (1991: 45-56) finds that rounded versions dominate in easterly areas, while unrounded versions are the more common in the Welsh language heartland of Gwynedd.

3.15.1.4

How may one account for the presence and easterly geographical distribution in Wales of the rounded version?

There seems to be no trace of such a vowel in SED findings for nearby areas of Herefordshire, Gloucestershire and Somerset. A rounded version is, however, reported to occur in the urban areas of Birmingham / West Midlands (Wells, J.1982: 363), Liverpool (Knowles, G. 1978: 84) and in London (Wells, J. 1982: 305). Thus, its presence in easterly Wales might be an importation from any of these areas.

3.15.2

Auditory analysis was carried out of the realizations of the questionnaire items *nurse*; *ear* and of words of the NURSE lexical set in the conversational data (fig. 3.15.2).

It was found that :

- 63% of informants used both rounded and unrounded versions.
- Fig. 3.15.2 shows that rounded versions exceeded unrounded versions by a ratio of approximately 2 : 1 (68.8% tokens rounded and 31.2% unrounded)²²
 - Of the three locations, a significantly higher proportion of unrounded versions was found in Treherbert - situated in the Upper Rhondda Fawr, which has the largest proportion of Welsh-speakers (see fig. 1.2.4b).
 - There was no significant difference in incidence of rounded versions between the over 60's age group and the 30's age-group.
- In the pronunciation of local place names, *Ferndale* and *Treherbert*, were nearly always with an unrounded vowel, whereas *Merthyr* was generally with a rounded vowel.

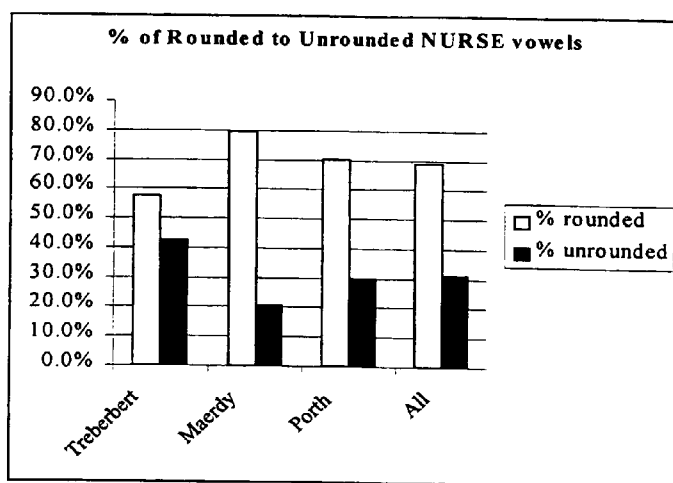


Fig 3.15.2 Rounded vs unrounded realizations of the NURSE vowel in the RVE Data

3.15.3

The choice of notation for the NURSE vowel in RVE involves an unsatisfactory generalization. For some informants it is clearly /ɜ:/ and for others /æ:/. Others produced both versions without appearing to distinguish between them in any patterned way.

The researcher uses /ɜ:/ because in rounded versions the degree of rounding was often slight: [ɜ:] rather than [œ:]. In addition, it is the unrounded version that is encountered in the unstressed syllables of words like *brothers*, *forward* (see 3.15.5).

3.15.4

3.15.4.1

In the questionnaire words *nurse* & *ear*, 10% of renderings contained rhoticity (see 2.6.7), either as trilled [r] or as an approximant colouring at the end of the vowel.

3.15.4.2

Realization of [ɜ:] was similar to that in RP: central, and from half-open to half-close.

Realization of the rounded vowel ranged from slightly rounded [ɜ:] to raised, centralized [œ:], to lowered, centralized [ø:].

F1 / F2 formant values for the questionnaire items *nurse* & *ear* averaged out as 455 / 1446; these averages subsumed the more fronted rounded versions in which three out of the ten informants produced [œ:] versions, with F2 values exceeding 1500.

3.15.5

Lexical distribution of /ɜ:/, in the data, extended to the following members of the NEAR lexical set (see Appendix 5 p 398): *ear*, *year*, *here* & *hear*. All these were generally [jɜ:~jæ:], and therefore homophonous. The word *heard* was, with /h/-

dropping, either [ɜ:d~æ:d] or [jɜ:d~jæ:d].

/ɜ:/ was also widely used in certain unstressed, mostly closed final syllables, when the vowel has a fuller length and quality than can be ascribed to schwa - e.g. in the words *brothers*, *forward*, *ruptured*, *Vickers*, *features*, *councillors*, *treasure*.

3.16

/ɒɪ/

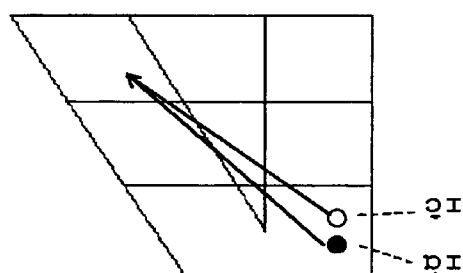


Fig 3.16 Realizations of /ɒɪ/.

3.16.1

Responses to the questionnaire item *voice* and of other words of the CHOICE lexical set (Appendix 5 p 397) in the conversational data were analyzed.

3.16.1.1

It was found that realizations were with a diphthong which generally had a more open start point than in RP: typically [ɒɪ~ɔɪ].

Finishing points were similar to RP : in the vicinity of centralized C2, with closer finishing points sometimes being heard in slower articulations.

3.16.1.2

F1 / F2 formant values for the vowel in the questionnaire item *voice* were as follows:

	START		FINISH	
	F1	F2	F1	F2
RVE /ɒɪ/	532	1002	481	1646
RP /ɔɪ/	477	824	443	1924

The F1 / F2 start values provide support for the auditory analysis findings of a more open starting point than RP, with possibly a tendency towards greater centralization.

3.16.2

Since start points typically lie between half open [ɔ] and fully open [ɒ], the RVE vowel for CHOICE words could be justifiably phonemized either as /ɔɪ/ or /ɒɪ/. The latter is chosen, if only to reflect the generally more open starting point than in RP.

Similar notations of /ɒɪ/ for the CHOICE vowel are given in Port Talbot English (Connolly, J. 1990 :122) , and in Abercrave English (Tench, P. 1990: 133-5).

The vowel of the underlying Welsh sub-stratum is given by Thomas, C. (1966: 36) as /ɔi/. It is, however, described as having a starting point lower than cardinal 6 and therefore may be similar to the RVE diphthong.

3.17

/Äɪ/ [aɪ]

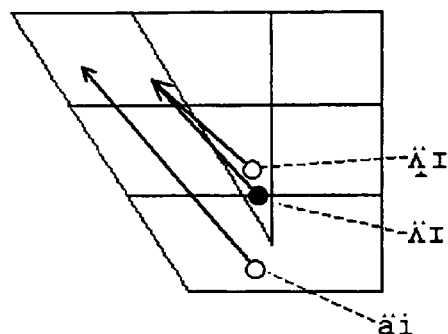


Fig 3.17 Realizations of the PRICE vowel.

3.17.1

For the vowel of the PRICE lexical set (see Appendix 5 p 397), the pilot study (see 1.3.5) had found two types of realization:

- (1) with open start points [äɪ~äɪ]
- (2) with raised, central start points [Äɪ~Əɪ]

Of these, the second was the more common.

3.17.2

To investigate the distribution and realization of these, auditory analysis was carried out of the questionnaire items *white & fire* and of clearly heard realizations of PRICE words in the conversational data. The number of items thus examined per individual ranged from 2 to 10.

3.17.2.1

It was found that both [Äɪ] and [aɪ] types of realization were used by most informants, but that the former was by far the more common. This can be seen in Fig. 3.17.2.1 showing the lexical incidence of [Äɪ] vs [aɪ] versions of the PRICE vowel for twelve informants - four selected from each location (Treherbert, Maerdy, Porth) taken at regular numerical intervals. [Äɪ] outnumber [aɪ] realizations in the sample by a ratio of almost 2 : 1.

LEXICAL INCIDENCE OF [Äɪ] vs [ai] IN THE RVE DATA

informant	[Äɪ]	[ai]
T2	<i>white ; time ; lies</i>	<i>fire ; aye ; Peny'graig</i>
T7	<i>de'spite ; line* ; mind ; night</i>	<i>white ; fire ; I ; line*</i>
T12	<i>white ; like ; time ; nine</i>	<i>fire</i>
T17	<i>white ; be'hind</i>	<i>fire</i>
M3	<i>white ; fire ; like ; re'tired</i>	
M8	<i>white ; fire ; re'tired ; tyre</i>	<i>Dai</i>
M13	<i>white ; lighting ; tyre</i>	<i>fire</i>
M18	<i>right ; choir</i>	<i>white ; fire ; aye</i>
P4	<i>white ; fire ; wife ; choirs ;</i>	
P9	<i>white ; I ; bright lights ; higher</i>	<i>fire ; tire</i>
P14	<i>twice ; sur'prised ;</i>	<i>white ; fire ; right ; pint ; I Ponty'Gwaith</i>
P19	<i>white ; fire ; mine ; side ; twice ; high</i>	<i>right ; aye</i>

Fig.3.17.2.1 Lexical Incidence of [Äɪ] vs [ai] with 12 informants in the RVE data.
(An asterisk * indicates that the informant pronounced the word both ways.
The words *fire*, *tyre*, *choir* were pronounced disyllabically by all informants.)

3.17.2.2

From the whole data, the following observations may be made:

- [ai] types of realization were consistently used for the pronunciation of the word *aye*, for the stressed monosyllable in the Welsh name *Dai*, and for the stressed final syllable in Welsh place names such as *Peny'graig*, *Ponty'gwaith*. By contrast, in the unstressed syllables of *Blaen'llechau* (first and third syllables), *Blaen'cwm*, *Maesy'coed* [Äɪ] was the more usual pronunciation.

Such a patterning of [aɪ] with [ʌɪ] corresponds with the situation in the Welsh Language, where distribution of [aɪ] is said to be mostly limited to monosyllables and stressed final syllables (Jones, G. 1984 : 58).²³

2. Other than the small set mentioned in (1), realizations of the PRICE vowel were predominantly of the [ʌɪ] type, with multiple examples occurring in phrases such as *miner's strike* (T4); *bright lights* (P9); *my mind like* (T3).
3. Such [ʌɪ] realizations were sometimes, however, in apparently random variation with [aɪ] realizations, as can be seen with the word *fire* in fig. 3.17.2.1.

3.17.3

Since the [ʌɪ] type version is the main form encountered for the PRICE vowel in RVE, the notation of /ʌɪ/ may be assigned.

The question arises whether [aɪ] has any phonemic status in RVE. A small number of contrasts or near contrasts between /ʌɪ/ and [aɪ] occurred in the data:

- *eye* /ʌɪ/ - *aye* [aɪ]
- *die* /ʌɪ/ - *Dai* [aɪ]
- *wine* /ʌɪ/ - *Gwaun* [aɪ]
- *mine* /ʌɪ/ - *(Pen)maen* [aɪ]

Since, however, all but the first of these contrasts /near contrasts involve Welsh personal or place names, [aɪ] can only be assigned marginal phonemic status.

3.17.4

The findings for RVE correspond with those in other S.E. Wales varieties :

- In Port Talbot English - the variety generally closest to RVE - Connolly, J (1981: 54) states that the vowel used for PRICE words is generally with a raised,

central start-point and gives it the notation of /ʌɪ/.

- In Cardiff English (Collins, B. and Mees, I. 1990: 97), the start point is reported to be also raised and central, but more close - and it is transcribed as /əɪ/.
- SAWD (ed D.Parry,1977: 53-5) found that the vowel was pronounced mainly with [əɪ ~ ʌɪ] throughout the area of S.E. Wales.²⁴
- Abercrave English seems to be different. Tench, P. (1990: 137) observes that the start point of the diphthong there is 'open enough to justify the symbol /aɪ/'.

3.17.5

Realization of RVE /ʌɪ/ typically started with an around half-open central STRUT vowel, and finished in the vicinity of a centralized C2 [ɘ], thus [ʌɪ ~ ɘɪ].

Realization of the variant [aɪ] involved a start-point that was fully open while typically backed or centralized from C4 position, and a closer finishing point, thus [äɪ ~ əɪ].

F1 / F2 formant values for the two questionnaire items *white*; *fire* (first element) averaged out as follows:

	START		FINISH	
	F1	F2	F1	F2
RV /ʌɪ/	559	1307	456	1845
RP /aɪ/	734	1117	439	2058

The values provide some confirmation of a more raised, central start-point in RVE than in RP.

3.17.6

The distribution of the PRICE vowel in RVE seems to be substantially as in RP. It includes words like *fire*, *choir* & *higher* where /ʌɪ/ forms the first element of disyllabic realizations (see 3.17.2.1).

In the data, *Maerdy* itself was never pronounced with the PRICE diphthong, but always with a long and usually fronted C4 vowel [a:].

3.18

/ʌu/

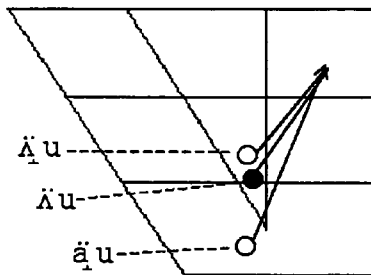


Fig 3.18 Realizations of /ʌu/.

3.18.1

As with the PRICE vowel, the vowel used for words of the MOUTH lexical set (see Appendix 5 p 398) in South East Wales has two main variants :

- (1) [au] type versions, with an open start
- (2) [Äu] type versions, with a central, more close start

3.18.1.1

SAWD (ed. Parry, D. 1977: 66-9) surveyed pronunciation of the words *a'bout*, *clouds*, *cow*, *drought*, *found*, *ground*, *house*, *louse*, *mouse*, *owl*, *plough*, *south* and *sow* (n). Their results showed that:

- [Äu~ Ä̃u] type realizations were by far the most common throughout Gwent and Mid Glamorgan, and were universally found in South Glamorgan.
- [au] type realizations were the most common, on the other hand, in West Glamorgan, and are reported to be the norm realization in the Welsh-speaking areas of North Carmarthenshire (Parry, D. 1990: 147).

The geographical distribution of [Äu] vs [au] realizations thereby revealed, is strikingly similar to that of [Äɪ] vs [aɪ] with the PRICE vowel : the central start-point versions dominating in easterly areas, and the more open start-point version in the westerly and in the Welsh speaking areas.

3.18.1.2

This tendency is confirmed by the findings for other varieties of South East Wales English to which this research has been referring:

- Both in Port Talbot English (Connolly, J. 1990: 122-5) and in Cardiff English (Collins, B. and Mees, I. 1990: 97), the MOUTH vowel is phonemized as /ΛU/.
- On the other hand, in the more westerly and 'more Welsh' Abercrave English (Tench, P. 1990: 136-7), it is described as having a more open start-point and closer finishing-point, and is given the notation /au/.

3.18.2

To establish which of these versions was the more common in RVE, auditory analysis was carried out of the questionnaire items *south*, *house*, *shower* and of clearly heard examples of MOUTH words in the conversational data.

3.18.2.1

- It was found that 95% of the informants used mainly [Äu] type realizations, including personal and place names, and that 73% of the informants used them exclusively .

- The more open start [au] was the main realization of only 5% of the informants.

3.18.2.2

For the informants using both variants, no obvious patterning was discernible :

- Both were used, in about equal proportions, for the pronunciation of local place names involving monosyllables or stressed final syllables e.g. *(Ty) Mawr* (*colliery*); *(Rhondda) Fawr*; *(Ty)-Draw*.
 - Only [ʌu] was found, however, when the vowel occurred in penultimate position, e.g. in the Welsh personal name *'Hywel* [2 occurrences], *(the) 'Tower* (*colliery*) [9 occurrences].
 - Unlike in the case of [ai] with the PRICE vowel, there were no words in which [au] type realizations of the MOUTH vowel were exclusively or predominantly found.

3.18.3

The most common realizations of [ʌu] type variants of the MOUTH vowel found in the data have an around central, half open start-point and then move towards the vicinity of RP /u/; the vowel may, therefore, be phonemized as /ʌu/.

Realizations of the [au] variant usually had a backed to centralized, open starting-point and a quite close finishing point [a_u~ä_u].

F1 / F2 formant values averaged out over the questionnaire items *south* ; *house* were:

	START		FINISH	
	F1	F2	F1	F2
RV /ʌu/	525	1292	429	1108
RP /au/	780	1368	372	1074

The acoustic findings provide support for the auditory findings of a significantly more central and raised starting point for the RVE MOUTH vowel than in RP.

3.18.4

The lexical distribution of the MOUTH vowel in RVE is substantially the same as in RP.

It is used as the first element in disyllabic realizations of words like *shower*; *Tower (Colliery)*; *hour*; *our*; *power*; *shower*.

3.19

/i : ʌ/

3.19.1

Whereas RP generally has the diphthong /ɪə/ for words of the NEAR lexical set (see Appendix 5 p 398) e.g. *beer*, *mere*, *pier*, *dear*, *fierce*, *beard*, *idea*, all the South Wales accents to which we have been referring - Port Talbot English (Connolly, J. 1981: 52), Cardiff English (Collins, B. and Mees, I. 1990: 92) and Abercrave English (Tench, P. 1990: 134) are said to have disyllabic sequences of (typically) /i : ə/ for words like *dear*, *pier*, but /i : / for the stressed syllables of words like *in'ferior*, 'serial.

3.19.2

3.19.2.1

Auditory analysis was carried out of vowel realizations in the questionnaire items *beer*, *beard*, *period*, *ear* and also of clearly heard instances of NEAR words in the conversational data. It was found that

- The questionnaire items *beer*; *beard* were pronounced by all informants as disyllabic sequences, e.g. /bi : ʌ/ , /bi : ʌd/. Similar pronunciations were found in the conversational data for *appear*, *clear*, *dear*, *near*, *career*, *tear*(n), *atmosphere*, *idea*, *Fiat*, *museum*, *real*.

- The stressed syllable of *'period* was always with the monophthong /i:/, thus typically /'pi:rɪəd/. Similar pronunciations of the NEAR vowel were found in the conversational data for the stressed syllables of *ex'perience* ; *'hero* ; *mys'terious*; *'nearly* ; *'really* ; *'serious*..

3.19.2.2

Thus, a similar pattern of NEAR vowel pronunciation is revealed to those observed for other varieties of S.E. Wales English :

1. a disyllabic sequence (usually /i:ʌ/) is found when the NEAR vowel is stressed and word final (e.g. *beer*, *idea*)
2. a monophthong /i:/ is found when the NEAR vowel occurs in a stressed pre-final position (e.g. *period*, *serious*)

3.19.2.3

The result is that, in RVE

- *clear* /kli:ʌ/ is generally different from *'clearly* /kli:li/,
- *near* /ni:ʌ/ from *'nearly* /ni:li/
- *real* /ri:ʌl/ from *'really* /ri:li/
- *i'deal* /ʌɪ'di:ʌl/ from *i'deally* /ʌɪ'di:li/

The same differences were heard between *(ap)'pear* and *'period*, and *tear* [n] (from the eye) and *mys'terious*. Such patterning would predict similar differences occurring with *weir* /'weary ; *seer* /'serial ; *fear* / (in)'ferior.

There was nothing in the data to say whether such patterning was maintained in the case of word-stem + grammatical inflections such as *beard* / *bearded* ; *clear* / *clearing*.

3.19.3

3.19.3.1

The first syllable of the disyllabic sequence in *beer* was always /i:/ and the second ranged from [ə~Ä~Ä~Ä]. With strong stress, the final syllable was usually lengthened, in which case the final vowel quality tended to be towards the open end of the range, thus [Ä~Ä] or even [e].

In strongly stressed articulations, the vowel could be lengthened to [i'~i:] and a closure of the vowel could be effected to insert a [j] transition between the first and second syllable, e.g. [bi'jÄ]. Alternatively, the vowel could be shortened and succeeding [j] lengthened [bĩj'Ä].

Discussion of all these lengthening effects will take place in sec. 4.11.10.

3.19.3.2

In *beard*, with the second syllable closed by a consonant, the final vowel element was generally realized as with *beer* [ə~Ä~Ä~Ä], but vowel qualities to the close end of this scale were more common, e.g. [bi'(j)Äd].

3.19.3.3

Where the NEAR vowel was realized as /i:/ as in '*period*, '*serious*, there could be a slight breaking of the vowel towards schwa [i:°], particularly when it was followed by /l/, e.g. *really* /ri:°li] and *ideally* [Λɪ'di:°li]. While a substantially monophthongal character was usually maintained, in a few cases it was difficult to decide whether the vowel should be transcribed as a monophthong or diphthong.

3.19.4

Only two out of the sixty informants rendered the questionnaire item *ear* as /iə/, one disyllabically and one as a diphthong. The remainder used RVE /ɜ:/ . Typical

pronunciations were [jɜ : ~ jœ :], with rounded versions more common (see 3.15.2). Because *year*, and (with /h/- dropping) *here*, *hear* also were generally pronounced with [jɜ : ~ jœ :], the four words *ear*, *year*, *here*, and *hear* were usually homophones. Since they almost invariably occur with the NURSE vowel, these four words may be regarded as belonging to the NURSE lexical set in RVE.

Derivatives of *year* (e.g. *yearly*) and of *hear* (e.g. *hearing*) in the data retained the NURSE vowel. *Heard* was either [(h) ɜ : d ~ (h) œ : d] or [jɜ : d ~ jœ : d].

In the data, no pronunciations of the words *near*; *mere* occurred with the NURSE vowel / jø : /, as reported in Cardiff English (Collins, B. and Mees, I. 1990: 92, 93).

3.20 Diphthongs + /ʌ/

3.20.1

In R.P., schwa may be added to the diphthongs in words like *fire*, *player*, *coyer*, *shower*, *Noah* to form a combination of 3 vocalic elements, but in fact any of the following pronunciations of the word *fire*, for example, may be encountered (Gimson, A. , revised Cruttenden, A. 1994: 128, 9):

1. It can be pronounced as a triphthong : / f a ɪ ə /
2. The second element of the diphthong may be omitted : / f a : ə /
(a process sometimes described as smoothing)
3. There can be a further reduction to a long monophthong : / f ɑ : /.

3.20.2

SWAD (ed Parry, D. 1977: 56, 69) found *fire*; *iron*; *hour*; *flour*; *flower* to be nearly always disyllabic (e.g. /'f a ɪ ə /), and frequently with an intrusive [j] or

[w], across the whole area of S.E. Wales surveyed. No instances of smoothing were recorded, nor are any reported in Port Talbot English and Abercrave English.²⁵

3.20.3

Auditory analysis was carried out of informants' pronunciations of the questionnaire items *fire*; *shower*, and of the several examples occurring in the conversational data, e.g. *choir*, *tyre*, *higher*, *player*, *layer*, *their*, *lawyer*, *Tower (Colliery)*, *power*, *hour*.

It was found that pronunciations were almost invariably rendered as disyllabic sequences : *fire* was typically /fʌi(j)ʌ/ and *shower* typically /ʃʌu(w)ʌ/.

With emphatic and slow articulations, there could be a marked linking by /j, w/, making the disyllabic sequence even more striking.

At the other end of the scale, quick articulations might be compressed to a triphthongal pronunciation. No examples of smoothing, however, were found in the data.

3.20.4

Pronunciations of the final element varied between different realizations of the STRUT vowel [ə~ʌ̣~ʌ̣~ʌ̣] as for *beer*, *idea* etc (see 3.19) . a more open vowel quality was most often heard in slow, deliberate articulations or where the first element is strongly stressed (see 3.19.3.1).

NOTES CHAPTER 3

1. Such /ɪ/realizations are reported to be an increasing tendency in RP too. Gimson, A. (1980: 105) observes a trend in RP for /ɪ/ to be replaced by a short variety of /i:/, while Wells, J. (1982, Vol. I: 165-6) writes that 'consistent final [ɪ] is found in much of the south of England ' as well as with some RP speakers.
2. In RP, also, it is stated that /a/ can be longer than other short vowels, with lengthening particularly marked before voiced consonants e.g. *cab, bad, bag, badge, man* - in durational terms this being 'almost equivalent' to the long vowel (Gimson , revised Cruttenden,1994: 103).
3. Wells, J (1982: 203-5, 232-4) describes the 'BATH set' in RP as having come about since approximately the end of the seventeenth century through a split in pronunciations of /æ/, involving lengthening of the following categories:
 - (1) pre-fricative lengthening of the vowel in words like *pass, staff, bath*, and
 - (2) lengthening of the vowel in the environment of a nasal plus obstruent
e.g. *aunt, answer, demand*.

This 'TRAP-BATH split' was completed in the case of RP by the lengthened vowel becoming backed in quality. These changes took place by a process of lexical diffusion and did not spread in RP to all words meeting the structural description : for instance *pass, glass, staff, laugh, path, bath* and *dance, chance, demand, example* are pronounced with /ɑ:/, whereas *gas, amass, gaff, maths* and *romance, expand, trample* are pronounced with /a/.

4. Wells, J. (1982: 381) gives the following example of lack of contrast in 'typical accents of S.E. Wales' :

[The STRUT vowel] does not contrast with the /ə/of unstressed syllables so that '*a large untidy room*' and '*a large and tidy room*' tend to be homophonous.

5. Wells, J. (1982: 192-4) mentions the far north of England and East Anglia as examples of places where traces of the pre-merger position can be found.
- 6 Collins, B. and Mees, I. (1990 : 96-7) report that in Cardiff English , 'unlike most other Welsh accents of English ... FACE is nowadays clearly a full diphthong'.
7. The following table shows the number of informants distinguishing in Questionnaire responses between STALE, using /e : / , and TAIL, using /ɛi/ .

% Distinguish STALE / TAIL			
Location	Over 60's	30's	All
Treherbert	90% 9/10	100% 10/10	95% 19/20
Maerdy	100% 10/10	80% 8/10	90% 18/20
Porth	90% 9/10	100% 10/10	95% 19/20
All	93.3% 28/30	93.3% 28/30	93.3% 56/60

Number of informants distinguishing between *stale* and *tail*

8. Wells, J.(1990) gives the SQUARE vowel [eə] as its RP pronunciation and cites the disyllabic sequence [eɪə] as a British English non-RP variant.
9. Gimson, A. revised Cruttenden, A. (1994: 133) states that in RP 'nowadays a long monophthong is a completely acceptable alternative'.
10. SAWD (ed. Parry, D. 1977) finds that [ɛ :] is the normal realization of *daren't*, *hare* and *mare* throughout S.E. Wales, but that rhotic versions and glides towards schwa occasionally occur.
11. In Cardiff English (Collins, B. & Mees, I. 1990: 95), a raised variant nearer Cardinal 2 is reported - presumably pushed upwards to maintain contrast with the frequently raised long [æ :] of PALM, START words in that dialect.

12. A previous footnote (see Chapter 1, footnote 6) has discussed the apparent practice of Welsh speakers in the Rhondda of not transferring certain of their Welsh language pronunciations into English. This includes rhoticity as it applies to the NORTH lexical set, so that they will usually pronounce Porth (a Rhondda town) /pɒrθ/ in Welsh, and switch to /pɔ : θ/ in English.
13. Realizations of this diphthong would probably have approximated to the polite norm of the time, but this may not have involved the 'advanced RP' early 20th century innovation of centralizing the start point from [ou] to [əu] (cf Wells, J. 1982: 105).
14. Collins and Mees (1990 : 97) state that the GOAT vowel for Cardiff English is nowadays a back / central glide [ʊ̯].
15. From the Welsh language, the most influential sound is likely to have been /o : /, which occurs in both free and checked syllables, as in /glo : / (coal) and /bo : d/ (to be). A diphthong /əu/ with a [ɔ̯u] variant also exists, but is rarer and 'mostly confined to the penultima and pre-penultima, being rare in monosyllables and stressed ultima' (Jones, G. 1984: 58).
16. The following table shows the number of informants distinguishing in Questionnaire responses between TOES, using /o : /, and TOWS, using /ou/ .

% Distinguish TOES / TOWS			
Location	Over 60's	30's	All
Treherbert	100% 10/10	80% 8/10	90% 18/20
Maerdy	90% 9/10	90% 9/10	90% 18/20
Porth	80% 8/10	80% 8/10	80% 16/20
All	90% 27/30	83.30% 25/30	86.70% 52/60

Number of informants distinguishing between *toes* and *tows*

17. Connolly, J. (1990 : 122) describes an almost identical situation to that found in RVE : he observes that other than in the GOOSE words spelt with *o* , e.g. *through*; *pool*, " the spoken vowel is generally /ɪu/" , with the main exceptions being after /l/ , where either phoneme can occur, and after /r/ , where typically /u : / occurs.
18. Tench, P. (1990: 134) states that in accented syllables 'post-consonantal RP / ju : / seems to be consistently rendered as /ɪu/' in words such as *suit*, *beauty*, *duty*, *tune*. He goes on to say that the picture, unlike in RVE, is somewhat different in unaccented syllables, e.g. with *popular*; *particular* being pronounced with /u : /.
19. SAWD (ed Parry, D. 1977: 37-39) investigated the pronunciation of the words *heard* ; *hearse* ; *curds* ; *work* ; *birch* ; *church* ; *first* ; *third* across the S.E. of Wales. Rhotic versions, typically with retroflex r-colouring of the vowel [æ̣ː] were found to be the norm in the locations of Pandy, Rockfield, Tintern and Undy near the Herefordshire / Gloucestershire borders. They were also found intermittently in West Glamorgan, with rhoticity variously realized as trilled, post-alveolar approximant and retroflex /r/ .
20. Rounded versions, usually transcribed as [œː] , were recorded by SAWD at each location covered in Gwent, South Glamorgan and Mid Glamorgan - and were exclusively the form used by informants in all but two of the twenty six locations surveyed in those counties.

In West Glamorgan, the situation was somewhat different, with recordings of rounded and unrounded versions about equally split. In the westerly parts of this county, in North Gower and at Gorseinon, there were almost entirely unrounded versions. This was also the case in Ystradgynlais in the upper Swansea Valley just over the border into Powys, thus corroborating the findings of Tench at nearby Abercrave (1990: 136).

21. /ɜː/ is similar in quality to the Welsh Language /ə/ which, according to Thomas, C. (1961: 23), is 'between half-open and half-close central' and 'frequently pronounced with degrees of length'.
22. The table below shows the number of informants producing rounded vs unrounded versions of the NURSE vowel in the RVE data.

Realisation of NURSE vowel		
	Rounded	Unrounded
Treberbert	57.5%	42.5%
Maerdy	79.4%	20.6%
Porth	70.3%	29.7%
Over 60's	67.2%	32.8%
30's age-group	71.1%	28.9%
All	68.8%	31.2%

Number of informants producing rounded
Vs unrounded versions of the NURSE vowel

23. Although [aɪ] is said to be of limited distribution in the Welsh language, it has been found to be the main realization of the PRICE vowel in areas where the Welsh language is (or was until very recently) solidly spoken :
- in Abercrave English (Tench, P.1990: 137)
 - in northern Carmarthenshire, with its large proportion of Welsh speakers , Parry, D. (1990: 146)
 - in the Welsh-speaking heartlands of North Wales, Penhallurick, R. (1991: 67-8)

The supposition that [aɪ] derives from Welsh substratum influence remains only one hypothesis, however. The [aɪ] in Welsh speaking areas might equally have arisen from English being a taught language and therefore from 'schoolmaster influence' (see 1.2.6). In North Wales, predominance of [aɪ] may well represent influence from north of England varieties, since Penhallurick, R. (1991: 67-8) records it not only for westerly Gwynedd but also for Clwyd, which borders counties of northern England.

24. SAWD (ed Parry, D. 1977: 53-5) investigated pronunciations of the PRICE vowel in the words *blind* ; *eye* ; *fight* ; *find* ; *Friday* ; *ice* ; *lice* ; *light* ; *mice* ; *night* ; *sky* ; *stile* across the whole of S.E. Wales. [ʌɪ~əɪ] versions were found as exclusively the realizations of the PRICE vowel

- in the locations of Pandy and Tintern bordering Gloucestershire / Herefordshire
- along the S.E coastal plain in Undy and Marshfield
- in all locations surveyed in South Glamorgan
- in the Valleys locations of Blaenavon and Llanhilleth in Gwent, and Pontlloftyn, Miskin and Hengoed in Mid Glamorgan.

The open-start type realizations, e.g. [aɪ] , are only recorded as more common in West Glamorgan, where in some locations, for example Gorseinon , [əɪ ~ ʌɪ] and [aɪ] type realizations seem to be in random variation.

25. Only in Cardiff English is the very occasional occurrence of smoothing reported, e.g. with pronunciations of the word *our* as /a:/ (Collins, B. and Mees, I. (1990: 98).

4. PROSODICS

4.1 Introductory

4.1.1

This chapter of the research sets out to describe those suprasegmental features which contribute most towards the perception of Rhondda Valleys English (RVE) prosody - characteristics which, to the researcher's ear, are shared with accents heard across the whole of the South East Wales Valleys region. Intuitively, and as captured by any mimic of the 'Welsh Accent', the main contributory features lie in the areas of intonation, duration and rhythm.

4.1.2

4.1.2.1

It is clear that prosody contributes powerfully towards meaning, however directly or indirectly. The concern of many intonationalists has been to establish a finite set of 'linguistic' forms (*tone-units*, *nuclear-tones*, *primary contours* etc) which are based on functional contrastivity - that is to say choice of form 'X' rather than 'Y' within a given formal domain is to make a difference to meaning.

A different approach has been one which sets out to find direct links between meanings and prosodic phenomena. Crystal, D. (1969 : 296-308) for example, attempts to link bundles of prosodic features with affective meanings like 'surprise', 'delight' & 'disgust'. Ladd, D. and Cutler, A. (1983 : 2-3) describe this approach as also extending to instrumental analyses seeking a 'direct mapping between concrete meanings or functions and specific acoustic shapes or variables'.

4.1.2.2

Unfortunately, the links between meaning and prosody are seldom straightforward:

- Firstly, discerning the meaning of an utterance is a matter of pragmatic interpretation, in which propositional content (of the lexis-grammar), co-text, the

full context of the situation, pre-suppositions and body language of the speakers etc also need to be taken into account.

- Secondly, several prosodic features, e.g. voice quality, loudness and intonation, may be operative at the same time and therefore difficult to disentangle.
- Thirdly, the same prosodic feature may be involved in 'doing' more than one thing at the same time - for example a given pitch movement may be simultaneously involved in accentuation and demarcation.
- Fourthly, nearly all prosodic features - including pitch level - can be used to carry signals that most analysts would consider paralinguistic rather than linguistic (cf discussion in Ladd, D. 1996: 33-41).
- Another difficulty is that nearly all prosodic features are subject to gradient variation, complicating and even invalidating attempts to establish discrete categories.

4.1.2.3

The researcher will set out to describe units of *prosodic form*, primarily in order to model the *melody* (overall tunes) of RVE utterances. Suggestions will be made as to general meanings contributed towards by such 'prosodic forms', but these will often be tentative and not central to the current thesis.

4.1.2.4

The researcher is aware that 'form before function' is an uncomfortable position, despite its being shared by much of Institute for Perception Research in Eindhoven (IPO), and Autosegmental-Metrical (AM) theory. t'Hart, J. Collier, R. and Cohen, A. of IPO (1990: 2-6) make plain the dilemma. They claim that attempts to apply a functional 'distinctivity criterion' seldom proceed beyond distinguishing between 'statement' and 'question'. They propose that the alternative is to start 'from the phonetic level of observation', and aim to establish thereby *perceptual units* which form the speech melody. They claim that listeners can sort out the significant from the non-significant because they are 'sensitive to a highly restrictive class of Fo changes only : viz. those that have been intentionally produced by the speaker' (t'Hart, J. Collier, R. & Cohen, A. 1990: 69). Such perceptual units, corresponding as they do to voluntary actions of the speaker, are said to 'fulfil a communicative function,' but identification of these 'functions' is not a central concern of their research.

4.1.2.5

Whereas in descriptive segmental phonology there is broad agreement on what are the formal units of analysis, in suprasegmental phonology this is far from being the case. There are quite substantial divergences, for example, between

1. the *tone-unit theory* of such intonationalists as O'Connor and Arnold (1973), Halliday (1967, 1970 etc), Crystal (1969) and Gussenhoven (1984), and
2. the *pitch-accent theory* of Bolinger (1958, 1986 etc), t'Hart & IPO colleagues (1990 etc) and Autosegmentalists (starting with Pierrehumbert, 1980)

as well as being significant differences of interpretation within these two theories.

Because of such differences of approach, it is incumbent on the researcher to make it clear at the outset what his units of analysis are to be. In order to do this, a brief review of the main issues follows.

4.2 Prosodic Phenomena

4.2.1 Prosodics: a range of phenomena

The term *prosodics* is taken to refer to phonetic phenomena which are primarily suprasegmental in their domain. Among the fullest listings of prosodic phenomena are those given by Crystal, D. (1969) and by Pike, K. (1945). Fig 4.2.1 reproduces, with minor amendments, the list made by Crystal (1969: 131) and arranged by him on an approximate gradient from 'most linguistic' to 'least linguistic'.

Prosodic Phenomena

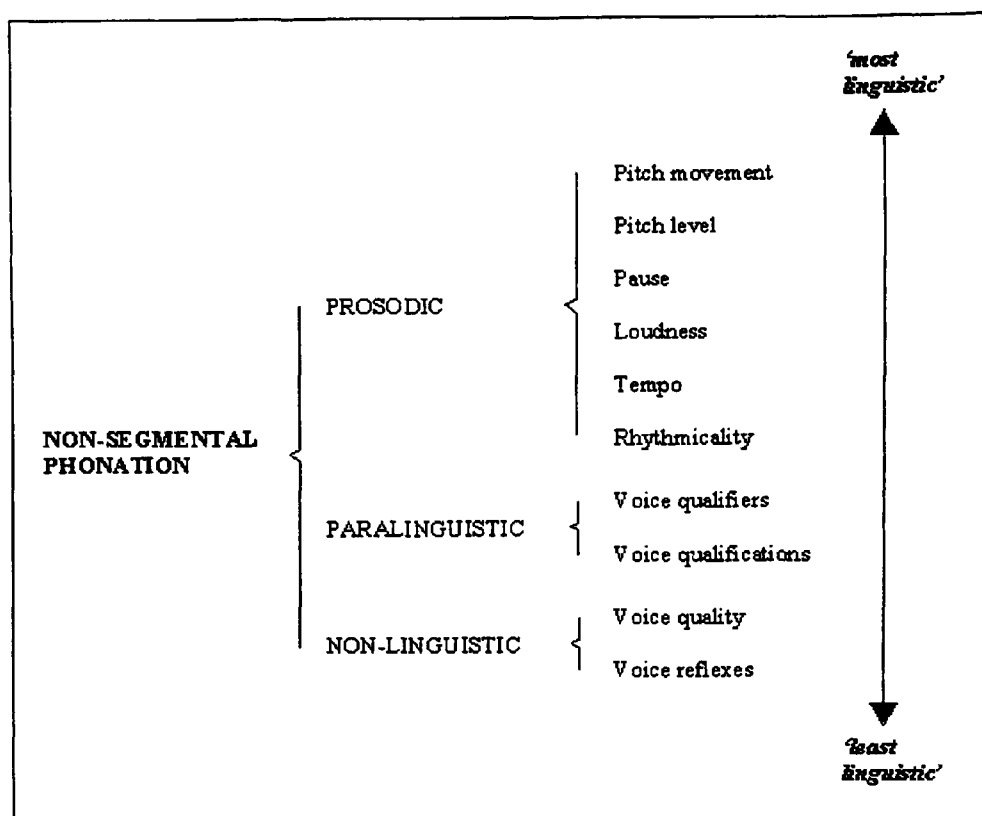


Fig 4.2.1 Prosodic Phenomena (adapted from Crystal, D. 1969 : 131).

Of particular interest will be the features of *pitch movement*, *pitch level*, *pause*, *loudness*, *length* and *tempo*. Short definitions of these terms follow :

4.2.2 Pitch movement

4.2.2.1

Pitch movement corresponds broadly with the 'pitch direction' of Crystal (1969: 141-3). Over stretches of speech, pitch - unless uttered as monotone - is seldom static. Amongst the various ups and downs taking place, there appear to be some that are of particular significance:

- the localized movements associated with *accents* (strong stresses) and with *boundaries* of intonational phrases
- the gradual tilts of pitch movement that extend over the whole of a stretch of utterance as overarching *tunes*.

4.2.2.2

The localized contours at accents, we will generally refer to as *profiles*. They constitute characteristically salient and abrupt 'bumps' in the global tune, taking place entirely or substantially over a single syllable and involving *jumps* or *glides* of pitch. They may be simple rises or falls, or involve complex movement e.g. falling-rising, rising-falling.

The term *profile* will generally be preferred to the term '*tone*' of British tone-unit theory, since it encompasses the pitch movement to an accented syllable as well as from it, whereas *tone* refers only to the latter. [It may be noted, here, that the term *tone* will be used to refer to pitch movements rather than pitch levels or pitch targets as in Autosegmental Phonology (AM).]

4.2.3 Pitch level

4.2.3.1

Pitch is the perceptual correlate of the fundamental frequency of the sound wave generated at the glottis, calculated in Hz - the number of complete cycles taking place per second. Perception of pitch level has been demonstrated not to be linearly related with absolute increments in fundamental frequency (cf discussion in Lehiste, I. 1970: 65). Since, however, the differences only become significant at frequencies much higher than the male speakers' typical range of 60 - 240 Hz, a given pitch-level in this research can, to all intents and purposes, be equated with the fundamental frequency.¹

4.2.3.2

Pitch level (similar to the 'pitch range' of Crystal, D.1969: 141-152) refers to the pitch height at any point in a contour, and as such also enables measurement of the *span* (width) of a pitch movement. Both pitch height and span are factors which the researcher takes, following Crystal, to be independently meaningful from the direction of pitch movement.

Following t'Hart, J., Collier, R. & Cohen, A. (1990: 23-24), the researcher will, at times, refer to *pitch-spans* by logarithmic units of *semitones*.²

4.2.4 Pausing

The research refers to two types of pause: (1) *silent (unfilled)* and (2) *voiced (filled)*.

4.2.4.1

The duration of silent pauses ranges from occurrences of indefinite length down to the smallest interval of silence detectable by the human ear - described in experiments by Goldman-Eisler to be 0.25 sec (1961b: 220-9) and by Boomer D, and Dittman, A. to be 0.20 sec (1962: 215-220).

4.2.4.2

Filled pauses may occur on their own, or in combination with unfilled pauses. Goldman-Eisler, F. (1961a: 22) describes the duration of a filled pause as being between 0.2 to 0.8 seconds. They are typically realized in R.P. and many other dialects of English as a central vowel of the type / ɜ : /; however Cruttenden, A. (1986: 37) observes that there may be dialectal variation in this respect and that in Scottish English 'a sound in the region of the vowel in *gate* and *play* is typical'.

4.2.4.3

The two functions of pausing³ that the research will most frequently refer to, will be *demarcative* (see 4.4.3, 4.10.2.5) and *hesitational*.

4.2.5 Loudness

4.2.5.1

Loudness is an auditory perception correlated with the *intensity* of the sound-wave, resulting from the physiological factors of pulmonary effort, subglottal pressure and tension of the vocal chords. A related acoustic measure is *amplitude*, which is displayed in the wave-form record of an utterance as the vertical distance traveled during a vibration of the sound wave. The domains over which differences in loudness may be described are the phonetic segment, the syllable and polysyllabic stretches (Crystal, D. 1969: 156-161).

4.2.5.2

In order to transcribe perceived variations of loudness,⁴ the researcher reduces the range of terms used by Crystal to four, as follows:

1. *forte*: markedly louder than normal
2. *piano*: markedly quieter
3. *cresc[endo]*: noticeably getting louder
4. *dim[inuendo]*: noticeably getting quieter.

4.2.6 Length

4.2.6.1

The term *length* refers to the listener's perception of the duration of segments or syllables⁵ [subsumed under the feature 'tempo' by Crystal, D. (1969: 152-6)].

The physical / acoustic manifestation of duration is the time dimension of the acoustic signal. While this is in theory easy to measure, in practice instrumental analysis is complicated by such problems as establishing precisely the start and finishing points of particular segments or syllables. The difficulties may lie in segmental transition phenomena, in syllable boundary-placement uncertainties (cf Cruttenden, A. 1986: 2), or in disentangling the effects of phonetic conditioning factors,⁶ degrees of stress and tempo changes on the measurements.

4.2.6.2

Marked perceptible increases or decreases in length over a single segment or syllable are referred to, simply, as *lengthened* or *shortened*. Variations over multi-syllabic stretches of speech will be dealt with under *tempo* in the next section (2.2.6).

4.2.7 Tempo

Tempo is the 'rate of utterance' of Pike, K. (1945: 77). It may be measured in words, or, more accurately, as syllables per minute. To describe tempo, the researcher will use the terms *presto* and *lento* for noticeably quick and slow speech respectively, *accel* (= *accelerando*) for speeding up, and *rall* (= *rallentando*) for slowing down.

4.2.8 'Less linguistic' features.

Brief mention may be made of the features which will not generally be considered further in this research. References throughout are to Crystal (1969).

4.2.8.1

The feature of *rhythmicality*, (ob cit: 163-5), will refer simply to the speaker's exaggerating of the rhythmical structure of an utterance by such devices as imparting extra loudness, duration or pitch movement to the salient syllables forming its basic beats (see 4.3.2).

4.2.8.2

Voice qualifiers (ob cit: 132-40) refer to voluntary manipulations of voice quality such as *whisper, breathy, husky, creak, falsetto* and *resonant*.

Voice qualifications involve pulsating breath out of phase with the syllable' and include *laugh, giggle, tremulousness, sob* and *cry*.

By *voice quality* is meant:

the relatively permanent, non-institutionalized, idiosyncratic, background voice-quality (voice-set) which accompanies a person when he speaks and is the main source of our ability to recognise personal identity vocally.
(ob cit:100)

At the bottom of the 'linguistic - non-linguistic' scale (fig. 4.2.1), are *vocal reflexes* such as sneezes and coughs, normally uncontrolled by the speaker (ob cit: 99).

4.2.8.3

The virtual exclusion from this research of the features in sec. 4.2.8.2 is merely in order to concentrate on 'the more linguistic end' of the prosodic spectrum. It does not deny any of them the potential to contribute towards the communication act - even a cough (for example in polite warning), may be used communicatively.

4.3 Stress & Rhythm

4.3.1 Stress

4.3.1.1

The term **stress** is used in this research in two ways.

1. Firstly, it is used for the abstract quality of phonetic salience; for example reference may be made to 'degrees of stress'.
2. Secondly, the term 'stressing' is used synonymously with 'accenting' to refer to the action of the speaker in imparting voluntary emphasis to a particular syllable.

The term **accent** refers to a voluntary stress of this latter kind; such 'accents' comprise the strongest degrees of stress in an utterance.

4.3.1.2

Stress has long been attributed by linguists mainly to force of articulation and therefore with intensity. For example, Jones D. (1956: 245) describes stress as 'the degree of force with which a sound or syllable is uttered'.

Various experiments have analyzed the differing roles of pitch, intensity, duration and quality in the imparting of stress.

- Lieberman P. (1957 ; 451-4) found that, in the samples of American English examined by him, the speaker's production of a stressed syllable was accompanied by higher pitch in 90% of the cases, by greater intensity in 87% of the cases, and by increased duration in 66% of the cases.
- In experiments investigating the listener's perception of stress, Fry D. (1955, 1958) found that higher pitch was the strongest indicator, while intensity was less of a cue than duration.
- Bolinger, D. (1958: 116-127) reports experiments which dispute the view of Trager and Smith (1951) that pitch rises at strong stresses are the product of greater intensity. He maintains that intensity is largely irrelevant in the production and perception of stress, and that 'pitch alone will serve so long as an utterance is kept close to the normal range of intensity and duration'. He uses the term *pitch accent* to refer to the main stresses in an utterance.

Linguists of the IPO, e.g. Cohen and t'Hart (1967) ; Willems, Collier and de Pijper, (1988), take a similar view, arguing that 'accents' are realized primarily by 'prominence-lending pitch movements'.

That the notion of 'pitch accent' was overstating the role of pitch can be seen in the later writings of Bolinger himself (1986: 16-17), who states that accents may be accomplished mainly, or even exclusively, by increased duration or intensity acting alone, or may be strongly cued by rhythm.

4.3.1.3

The feature of duration has come under renewed focus. Campbell, W. (1993: 343-354), for example, finds it to be a reliable indicator of stress. In a series of experiments with British R.P. speakers, he 'normalizes out' other influences on duration, such as segmental-intrinsic, tempo-variation factors (see 4.2.7), in order to examine the segmental durations that can be attributed to the effecting of (a) stress and (b) boundaries. His findings for stress show segmental lengthening with all levels of stressed syllables, and 'clear and increasing differences' between primary level of stress (i.e. accent) and lower degrees of stress.

4.3.1.4

AM theorists (see 4.5.4), finding that F_0 peaks at accents do not necessarily align with the centre of stress as indicated by other phonetic maxima, argue that such pitch movements do not, therefore, directly realize such accents but are 'associated' with them by an *intonational tier* interacting with an independent *rhythmical tier*. Ladd, D.(1996: 54-5) puts it

The AM theory does not treat F_0 as a 'transducer of stress' but as the manifestation of an overarching structure in which elements of a tune are associated with elements of a text in ways that reflect the prominence relations of the text....Given this shift in point of view, it makes sense to investigate the phonetic details of the association between the F_0 peak and the syllable, and one of the most obvious properties of that association is the alignment in time of the peak relative to the syllable.

4.3.2 Rhythm

4.3.2.1

A strong link between stress and rhythm is asserted in the metrical structure theory of

Lieberman and Prince (1977). In this theory, *metric trees* determine the relative stress of syllables by the branching in the tree of 'strong' and 'weak' nodes.

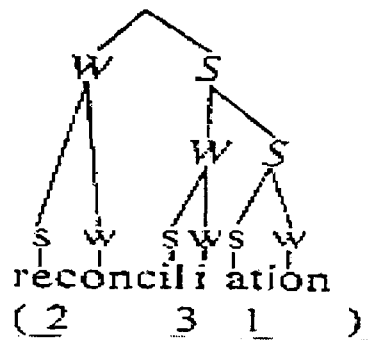


Fig 4.3.2.1 Metric Tree (Lieberman & Prince, 1977: 268).
Underscribed numbers indicate relative prominence.

The syllable with the greatest degree of stress is that following the 'strong' node all the way down the metrical tree, *-at(ion)* in fig 4.3.2.1, and this syllable is labeled the *Designated Terminal Element (DTE)*.

The metric tree theory of Lieberman and Prince (1977) had been preceded in its attempt to formulate generative stress rules by Chomsky N. and Halle M. (1968: 91), whose strongest element is labeled *Nuclear Stress*.

Both theories assume that there is a 'normal stress pattern' of an utterance, predictable from its syntactic and lexical structure.

4.3.2.2

Selkirk, E. (1984:15-26) argues that it is the concept of *metrical grid* rather than 'metrical tree' which best accounts for stress relations and the rhythmical structure of utterances.

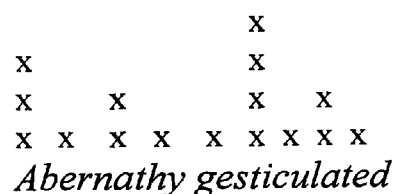


Fig 4.3.2.2 Metrical Grid : Four Metrical Levels (Selkirk , E. 1984 : 44).

Different strengths of *beat* constitute different levels of stress; four are involved in the phrase '*Abernathy gesticulated*' (fig. 4.3.2.2). She proposes (ob cit : 55-56) that textual and *euphony* rules align syllables with the grid. The *grid euphony* rules move, add and delete beats in order to achieve a 'Principle of Rhythmic Alternation' (spacing out of beats), whereby strong beats at any one level of the grid must be followed by at least one weak beat at the same level.

4.3.2.3

The work of Chomsky and Halle, Liberman and Prince and Selkirk aims at finding 'rules' by which the pattern of stress, including the placement of primary stress, can be mapped onto the text of an utterance. Other theories of stress, by contrast, have connected accents with the voluntary 'highlighting' of information by the speaker. Bolinger (1972) for example, takes issue with the 'normal stress' approach in an article entitled "Accent is predictable (if you're a mind-reader)"!

Both approaches may offer an insight into the stress pattern of utterances: syntactic / lexical and rhythmical structures may organize stress relations, but the voluntary accenting of certain words by the speaker may overlay this 'normal stress' pattern, causing possible adjustments to it.

4.3.2.4

The *metrical grid* bears a resemblance to the concept of the rhythmic *foot* outlined by Halliday, M. (1967: 12) following Abercrombie, D. (1967: 131) . A foot consists of two structural elements : *ictus* and *remiss*. Ictus is the strong beat of the foot, realized by a *salient* syllable or silence (*silent ictus*). It may occur either alone, or be followed by a remiss comprising one or more *non-salient* syllables. The rhythmic structure of an utterance consists of a succession of such feet, the ictuses of which (it is maintained) tend to occur at isochronous intervals of time.

4.3.2.5

The concept of *isochrony* had been discussed earlier by Pike, K. 1945: 34-5. He describes English as a 'stress-timed' language in which *isochrony* is manifested by the occurrence of saliences at more or less regularly-timed intervals in the utterance, however many the number of weak syllables (including zero) between them.

The notion of isochrony has been extensively investigated. Lehiste, I. (1977: 253-263) usefully summarises the discussion. She reports that findings from Classe (1939) to Lea (1974) had found little objective evidence of actual isochrony, but does not dismiss the notion herself, observing that in her own findings (1973, 1975) 'the same foot types ..had remarkably similar durations' and that some of the other differences in foot-length were below the perceptual threshold.

Measurements of isochrony are, in themselves, problematic. Over a succession of *intonation-phrases* / *tone-units* they are complicated by varying strengths of juncture (segmental lengthening, pausing etc). For this reason, it would seem that more reliable results would be obtained by restricting measurements to single intonation-phrases / tone-units and to the stretch between the first and final accent within them.

Secondly, Buxton, H. (1983: 111-121) has found that results are slightly more in favour of actual isochrony if measurements are taken from the onset of the stressed vowel, which she calls the 'P Centre' (centre of production / perception of stress), rather than from the beginning of the stressed syllable.

4.3.2.6

Whatever the results of measurements of isochrony, Lehiste, I. (1977: 253-263) points to indications of rhythm being a 'psychological reality' for the speaker. Lea (1974: 255) makes the same claim, for example observing that when a speaker inserts more and more unstressed syllables between two stresses there is a tendency for one of the intervening syllables to be made more like a stressed syllable, in order to maintain the rhythm.

Crystal, D. (1969: 161-5) also assumes an awareness of rhythm, since he posits a feature of *rhythmicality*, whereby the speaker consciously uses ways of heightening the effect of rhythm, e.g. by means of *spiky* (sharp and rapid pitch jumps between the stressed syllables) or *staccato* (utilising variation of loudness and length) delivery.

4.3.3 Degrees of stress

The question arises as to whether different degrees of stress should be recognised in

representing the prosodic form of an utterance, and if so how many. Halliday, M. (1967, 70), O'Connor & Arnold (1973) and Brazil (1997) operate a binary distinction of stressed vs unstressed - which comprises three degrees of stress if *nuclear* stress is separated from *non-nuclear*. Trager and Smith (1951) and Cruttenden (1986) posit four degrees of stress while Chomsky & Halle (1968) and Selkirk (1984) (see 4.3.2.2) assume at least five. Crystal, D. (1969: 158-9) proposes six - three degrees of accent, two of rhythmical stress and unstressed.

4.3.4 Stress in Welsh English

4.3.4.1

There is no reason, a priori, why a variety of Welsh English should have the same rhythmic organization or means of marking stress as standard British and American varieties. Crystal, D. (1994 : 176-178) observes that the English of the sub-continent of India is characterised by its syllable-timing, and then states - in a footnote without offering further detail - that 'there is a noticeable tendency towards syllable-timing' in certain varieties of Welsh English - to which Indian English is sometimes impressionistically compared (cf Cruttenden, A. 1986: 143-4).

4.3.4.2

The prosodics of Welsh English seem to be strongly influenced by the prosodics of the Welsh Language, at least to the ear of the researcher.⁷ Little analysis, however, of the rhythmic structure of the Welsh language itself seems to have been carried out.

Williams, B. (1983, 1985, 1986) claims there is a stress-timed rhythm for Welsh, with 'a slight tendency for stressed syllables to occur at approximately equal intervals' (1983: 39). As seen (sec. 4.3.2.5), such a stress-timed rhythm would involve segmental adjustments to accomplish the lengthening, shortening and crushing together of syllables needed to accommodate the rhythm. Ball, M. (1989: 89-96), however, finds there to be more evidence of syllable-timing:

In Welsh, as in most languages manifesting *syllabic* stress a difference may exist between citation forms and words in connected speech. The stress patterns, particularly of function words, are subject to possible reduction in connected speech. However, unlike English, this reduction does not usually include vowel and consonant reduction. This means that the dichotomy between weak and strong forms found in English is lacking in Welsh. (The researcher's italics)

4.3.4.3

Word-stress in modern Welsh regularly falls on the penultimate syllable, and much less commonly on the final syllable. Stressed vowels may be shortened and that of the succeeding consonant lengthened (or made *geminate*). This phenomenon is noted by different commentators, for example by Jones, R. (1967), and by Williams, B. (1985, 1986). The feature has been claimed by at least one analyst to transfer to Welsh English (Connolly, J. Port Talbot English : 1990, 126).

the monophthongs of Rhondda Valleys English & South Wales Welsh			
short vowels		long vowels	
RVE	Welsh	RVE	Welsh
ɪ	ɪ	i:	i:
ɛ	ɛ	e:	e:
		ɛ:	
a	a	a:	a:
ʊ	ʊ	u:	u:
ɒ	ɔ	o:	o:
		ɔ:	
ʌ-ə	ə	ɜ:	

Fig 4.3.4.3 The short and long vowels of South Wales Welsh (Awberry, G. 1984: 65) and of RVE.

4.3.4.4

The phonologically short and long vowels of South Wales Welsh are set out in fig. 4.3.4.3. Awberry, G. (1984: 69) sets out phonotactic restrictions on their occurrence with succeeding consonants, i.e. whether, when followed by a particular consonant, a vowel is long or short. The restrictions are summarised in fig. 4.3.4.4. It can be seen that in polysyllabic words where stress is on the penult, vowels are short before voiceless plosives, clusters and the voiceless fricatives /s, ʃ/, and may be so before nasals and liquids.

In the case of clusters, it is the first element of the cluster that is lengthened . This situation extends to the realization of the affricates /tʃ, dʒ/: the /t, d /elements being lengthened (Jones, G. 1984 : 44).

Vowel length in monosyllables and stressed penultimates in South Wales Welsh		
<i>vowel followed by:</i>	<i>Monosyllables</i>	<i>Penultimates</i>
voiceless plosive	----- SHORT	----- SHORT
cluster	----- SHORT	----- SHORT
nasal	LONG,SHORT	LONG,SHORT
liquid	LONG,SHORT	LONG,SHORT
/s, ʃ/	LONG, -----	----- SHORT
/f, θ, χ/	LONG, -----	LONG, -----
voiced fricative	LONG, -----	LONG, -----
voiced plosive	LONG, -----	LONG, -----
zero	LONG, -----	LONG, -----

Fig.4.3.4.4 'Rules' determining if a vowel is long or short in South Wales Welsh (Awberry, G. 1984: 69)

4.3.4.5

A further feature of Welsh Language prosody is that the final unstressed vowel is often phonetically stronger than the stressed penultimate one - longer, with greater envelope amplitude ⁸, and on a higher pitch (cf Watkins, T. 1953: 9 and Williams, B.1983: 32). This results in the final vowel in Welsh having a fuller quality than is found in standard British English ; for example, it is stated never to be reduced to schwa (cf Jones, G. 1984: 54, Awberry, G. 1984: 77).

Williams, B. (1983: 220) describes how, historically, this may have came about:

At some point in the early stages of its development, Welsh underwent the Old Welsh Accent Shift. This involved the shifting of word-stress from the ultima to the penult in polysyllables The Welsh ultima had been the (stressed) penult in the parent language, British, but with the loss of word-endings and inflection that characterised the change from British to Primitive Welshthis syllable became the new ultima and retained its stress.

Opinions as to when these changes took place vary from the 5th to the 11th century. It seems, however, to have left behind relations between stressed penult and final syllables which influence the prosody of the Welsh Language up to this day.

The higher pitch of the final syllable, together with its longer duration, result in many of the 'rising tones' characteristic of the Welsh Language (cf Rhys, M. 1984 : 145). Similar 'rising tones' are found, as shall be seen in sec. 4.11.8.7, in Rhondda Valleys English and in other varieties of English on which a Celtic influence is presumed.⁹

4.3.4.6

Williams, B. (1983) has carried out detailed perceptual and instrumental analyses of stress in the Welsh Language. Her studies reveal a complex of clues between penult and final syllable. They may be briefly summarised here:

1. The penult often exhibits durational phenomena in which the stressed vowel is shortened and the succeeding consonant lengthened. The vowel of the final syllable is often longer than that in the stressed syllable and is never reduced to schwa.
2. Greater amplitude is associated with both penult and final syllable. Where the final vowel is longer, the final syllable will usually have greater overall amplitude than the penult.
3. It is the final syllable and not the penult that has pitch prominence: it is higher than the penult and carries the main pitch glide. Non-Welsh speakers tended to hear it as the stressed syllable.

Because of (3), she asserts that 'pitch prominence is no cue at all to stress in Welsh' (Williams, B. 1983: 75). She argues that clues to stress are basically relational rather than intrinsic, and her main thesis is that such relational clues form part of a rhythmic structure which is 'the foundation of stress in Welsh' (Williams, B. 1983: 77).

4.3.4.7

The little work that has been done on the prosodics of Welsh English has found features that bear resemblance to the findings for Welsh. Parry, D. for the South East of Wales (1977), and Connolly, J. for West Glamorgan (1981:59-60) describe the incidence of consonant lengthening. Cruttenden, A. (1986:139) and Tench, P. (1990:138-140) are among those referring to the rising and rising-falling pitch movements of Welsh English.

Wells, J. (1982: 392) states that the use of rise-fall where standard accents would have a simple fall 'gives the impression of throwing into inexplicable prominence the syllable after the one bearing the intonation nucleus'. The explanation for this, as we have seen, may lie in the phonetic relations between penult and final syllable.

4.4 Tone-units and Nucleus

4.4.1 Tone-units

British prosodic descriptions from the time of Palmer (1922) centre around the identification and description of segmented units of spoken discourse called by some 'tone-units' and by others 'tone-groups'.

4.4.1.1

One of the best known of these descriptions is that of Halliday, M. (1967:18-30). He describes the form and function of a tone-unit / tone-group through the systems of

1. 'Tonality' : the dividing up of the speaker's discourse into tone-units / groups , such chunks representing 'information units' that usually - but not necessarily - correspond to grammatical constituents, typically the clause.
2. 'Tonicity': the selection of a 'tonic' in the tone-group (or 'nucleus' as others would call it) which is phonetically the most prominent part of the tone-group / unit and which reflects the distribution of 'new' vs 'given' information by the speaker . Since 'new information' generally occurs in rhematic, rather than thematic position, the tonic / nucleus is generally located at the end of the tone unit.
3. 'Tone': the assignment of a meaningful pitch movement - rising, falling, or rising-falling etc - to the tonic.

4.4.1.2

The perhaps more familiar terms *tone-unit*, *nucleus* and *nuclear tone* will be used from now on for these three systems, and reference will be to the broad tradition of British tone-unit theory, as represented not only by Halliday (1967, 1970) but also by O'Connor and Arnold (1973), Crystal (1969), Cruttenden (1986) and Tench (1990).

The tone-unit consists of the compulsory structural element of nucleus and the optional elements of prehead, head and tail. The *tail* consists of unstressed and stressed (but not accented) syllables, over which the nuclear tone may extend until the end of the tone-unit. The *head* consists of the stretch from the onset of the first accent of the tone-unit up to (but not including) the nucleus. The head itself may be preceded by a *pre-head* consisting of unstressed syllables. The internal structure of a tone-unit / tone-group is thus expressed in fig. 4.4.1.2.

[PREHEAD]	[HEAD]	NUCLEUS	[TAIL]
-----------	--------	---------	--------

Fig 4.4.1.2 Structure of a tone-unit.

4.4.2 Tone-unit identification

4.4.2.1

In theory, recognition of tone-units in connected speech should be a straightforward affair since there is a large measure of agreement between intonationalists on the prosodic clues concerned. These may include any or all of the following, for example:

1. the presence at the end of the tone-unit of a nuclear tone
2. a lengthening of the final syllables of a unit
3. a strong juncture (e.g. pause) between units
4. *anacrusis* (speeding up) of any unstressed syllables at the start of the next unit (cf Cruttenden, A. 1986: 24, 36-45)
5. a base-line reset (de Pijper, J. & Sanderman, A. 1994: 2043) between units, consisting of a 'rapid upward jump of the base-line'

4.4.2.2

In practice, divergences in details of approach between intonationalists can lead to significant differences of analysis, not only of dis-fluent speech - where disparities in transcription would be expected - but even of careful, well-organized speech.

4.4.2.3

Cauldwell (1993a) reports a study in which he has compared differing tone-unit transcriptions of the same passages by :

- (1) the Discourse Intonation approach of Brazil (1980, 1997)
- (2) the tone-unit theory of Halliday (1967, 1970)

The analysis involves data from Study Units in Halliday (1970) consisting of 'spontaneous monologue', constructed dialogue and the reading of poems. All were scripted, with the actor-reader having been coached in producing the desired intonational features. Cauldwell carried out Discourse Intonation transcriptions of some of this data and compared them with Halliday's own transcriptions.

He found significant differences. A Discourse Intonation (DI) transcription contained 30% more tone units than Halliday (1970) - despite the scripted, rehearsed nature of the data.

A few examples are given, comparing the two different transcriptions. A double slash [//] indicates a tone-unit boundary, and a single slash [/], in the case of the Hallidayan transcription, a foot boundary. (A full Key can be seen below).

Halliday and DI tone-unit transcriptions compared

Example One (Halliday 1970, study unit 35 tone-group 18)

HALL and //-1 all the / trains / had / been with / drawn //

DI // r+ and ALL the TRAINS // p had been with DRAWN //

Example Two (Halliday 1970, study unit 36 tone-group 17)

HALL //...1 ^ with / ice / ^ a /slice of / lemon / ^ and a tiny / splash of / soda / please //

DI // r+ with ICE // r+ a SLICE of LEMon // p and a TIny splash of SOda please //

Example Three (Halliday 1970, study unit 38 tone-group 19)

HALL // 1 3 ^ but / trailing / clouds of / glory / ^ do we / come / ^ from / God //

DI //o but TRAILing // p CLOUDS of GLORy // p do we COME // r+ from GOD //

Example Four (Halliday 1970, study unit 35 tone-groups 55-58)

HALL //3 ^ you'd have your /own / train and you'd // 1 hire it for a // 1 week or a // 1 fortnight //

DI // r+ you'd have your OWN TRAIN // p and you'd HIRE it // p for a WEEK // p or a FORTnight //

KEY		
	Halliday (HALL)	Discourse Intonation (DI)
//	tone-group boundary	// tone-unit boundary
/	rhythmic foot-boundary ; the next syllable is 'salient'	ALL (capitals) prominent syllable
^	'silent ictus' ; a rhythmic pause, i.e. keeping rhythm of foot	
<u>drawn</u>	underlining shows location of tonic (nuclear) syllable	<u>TRAINS</u> (capitals, underlined) tonic syllable
1	'tone 1' ; the tone on the tonic syllable is falling	p 'proclaiming' ; the tone on the tonic syllable is falling
3	'tone 3' ; the tone on the tonic syllable is a low rise	r+ 'referring (marked)' ; tone on tonic syllable is rising
1 3	two tonics in the tone-group : tone 1 + tone 3	o the tone is level (neither rising nor falling)
- 1	pre-tonic saliences have 'bouncing' secondary tones	
+... 1	pre-tonic saliences have 'suspended / listing' secondary tones	
(n.b. both Halliday and Discourse Intonation use the term 'tonic' in place of 'nucleus')		

Fig 4.4.2.3 Differences in transcription between Halliday and Discourse Intonation analyses.(Cauldwell, R : 1993a)

Superficial examination of the transcriptions reveal quite substantial differences in tone-unit identification. For instance, boundaries are not in the same place, and in Examples One, Two and Three, whereas the Halliday transcriptions have only a single tone-unit in each, the DI (Discourse Intonation) transcriptions have 2, 3 and 4 respectively. The reasons for such disparities include:

1. DI claims to find more 'tonics' (nuclei) and since these are automatically associated with tone-unit boundaries, there are more tone-units too.

Whereas in Examples One and Two, DI's boundaries after '*trains*', '*ice*', '*lemon*' seem intuitively reasonable, in Example Three those after '*trailing*' and '*come*' seem less so, raising such questions for tone-unit theory as

- In what way (if any) are the pitch movements on a nucleus and on a non-nuclear prominence phonetically different from each-other?
- Does a nuclear tone always have a demarcative function (i.e. marking the end of 'information units') ?

2. Hallidayan theory (Halliday, M. 1967: 32) assumes correspondence between tone-units and grammatical constituents, particularly the clause.

In Examples One and Three his tone-units are coextensive with clauses, and in Example Two with a long adverbial group (to which the word '*please*' is appended). In all three transcripts, however, there is circumstantial evidence that he may be ignoring other potential nuclear tones and tone-unit demarcations. This is clearest in Example Two, where Halliday ignores '*ice*' and '*lemon*' as potential nuclei despite marking junctural pauses and '*listing*', rising pitch movements under his '*secondary*' labeling system.

3. Hallidayan theory has the construct of 'compound tone-unit' - a single tone-unit containing a 'double nucleus' (two nuclei) .

So in Example Three Halliday associates a '*tonic*' but not a tone-unit boundary with '*glory*', whereas DI, which does not recognise 'compound tone-units', puts in a boundary after '*glory*'.

4. Halliday posits a prosodic hierarchy within which a tone-unit is composed of one or more rhythmic feet, and the boundary of a tone-unit must also be the boundary of a rhythmic foot.

This puts Halliday at variance, not only with DI, but with most other tone-unit theorists, and it leads to tone-unit boundaries which read oddly as ends of 'information units'. This is illustrated in Example Four, where the Halliday transcript has three consecutive boundaries cutting across sense-groups, for instance '*and you'd // hire it for a // week*' in the first, second and third tone-units.

5. DI draws a tone-unit boundary with every occurrence of pause, whereas Halliday allows pauses within tone-units.

This can be seen by the DI boundary in Example Three after *come*.

4.4.2.4

If planned, well-organized speech can yield such discrepancies of analysis, the more disordered genre of spontaneous speech would clearly multiply tone-unit identification problems.

To take a single example of complications added by spontaneous speech, Brown, G. et al (1980: 42) have demonstrated the problems for analysis posed by the appending in such speech of short phrases such as '*you know*', '*you see*', '*in fact*' in such a way that the listener is in doubt whether they belong to the beginnings or ends of a tone-unit.

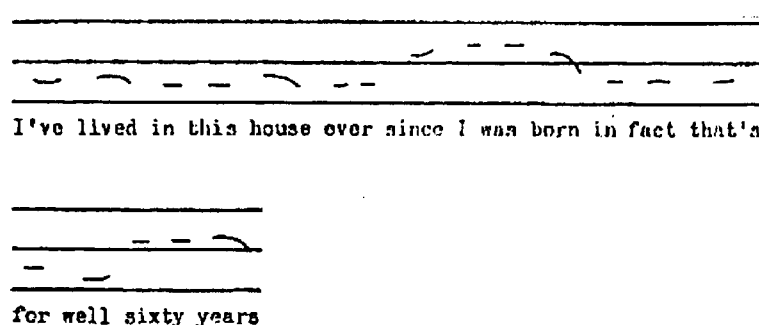


Fig 4.4.2.4 Problems of tone-unit allocation with tagged phrases such as '*you know*' '*you see*' '*in fact*' (Brown, G. et al, 1980 : 42)

4.4.2.5

Despite such difficulties in tone-unit identification, the researcher accepts the generally accepted notion (c.f. Fox, A.1995: 189), that the dividing up of spoken discourse into sense-units is a linguistic universal. This being so, discrepancies in identification may be interpreted as resulting from the sort of theoretical 'grey-areas' exemplified above, or from speaker / listener competence-performance factors.

4.4.2 Segmentation of meaning

The researcher assumes that, in spoken discourse, prosody characteristically cooperates with the lexis-grammar to accomplish segmentation of meaning, but that it is an independent resource, which may or may not go to work at a given grammatical juncture. For a start, grammatical junctures come at different ranks within the sentence; utterances would sound extremely odd and confusing if every single

potential juncture was accompanied by a prosodic demarcation.

Even where lexis-grammar indicates a major sense-division, prosody may partly or completely step aside. This happens frequently in rapid speech, and is a favourite device of politicians who, wishing to head off challenge on a contentious point, 'speak over' potential prosodic junctures at the ends of sense-units.

Stretches without prosodic demarcation will not be too long, however, otherwise ambiguity will soon arise and the thread of meaning be lost.¹⁰ Junctures where prosody is highly likely to be used, are those where the lexis-grammar alone is ambiguous as to where the sense-units are to be demarcated, as in the pairs (a) & (b) in fig. 4.4.3:

Disambiguating Role of Demarcation

<i>(1a) // we want red // white // and blue flags please //</i>
<i>(1b) // we want red white and blue flags please //</i>

<i>(2a) // my brother // who lives in Nairobi//</i>
<i>(2b) // my brother who lives in Nairobi //</i>

<i>(3a) // they called Susan // a waitress //</i>
<i>(3b) // they called Susan a waitress //</i>

<i>(4a) // he left me // to get on with the job //</i>
<i>(4b) // he left me to get on with the job //</i>

(Tone-unit boundaries are shown with // .)

Fig 4.4.3 Examples of the disambiguating role of tone-unit demarcation (Tench, P 1996: 36-45.)

4.4.4 Nucleus identification problems

According to tone-unit theory, each tone-unit contains a 'nucleus' which is phonetically the most salient prominence in the unit and which operates as a focus of 'new information' in it.

Disparities in tone-unit identification in connected speech, therefore, not only result in differences of opinion as to how information is demarcated, but, more seriously, in differing interpretations as to nucleus placement and the distribution of 'old' and 'new' information .

4.4.5 Phonetic salience of nucleus

4.4.5.1

Brown, G. et al (1980: 141-154) report the result of experiments in which twenty nine volunteers including 8 'professional phoneticians', all confident of their ability to recognize nuclei, tried to identify nuclei from phonetic cues alone.

This involved their listening to sentences of (1) Edinburgh Scottish English (ESE) and of (2) RP British English, spoken in isolation. Each sentence was heard three times with an 8-second pause between. The same sentences were examined instrumentally to identify the syllables having maximum pitch height, maximum pitch movement and maximum intensity. The listeners' judgements were then compared with each-other and with the acoustic measurements.

The listeners, even the eight 'professional phoneticians', reported that they found the task of identifying nuclei difficult in both the ESE and RP samples. There was so much discrepancy in identification that not in a single case, even in two-word sentences, was there unanimity. Any item perceived as stressed was likely to be selected, although there was a tendency for judges to choose the last lexical item unless there was strong phonetic competition - for example from contrastive stress placement - elsewhere.

Fig. 4.4.5.1 shows sentences no. 4 and no. 7 from the ESE data (Brown, G. et al, 1980: 143-4).

(Excerpt from) Brown, G. et al (1980) Nucleus Identification Experiments

ABC				
4.	there	is	my	house
	12		14	
	(3)		(3)	
<hr/>				
	A	C		B
7.	the old	man	asked if she had posted	the letter
		2	7	15
	(3)	(2)	(5)	(4)
<hr/>				
Unbracketed figures = listener chose it as single nucleus. Bracketed = listener chose more than one. (29 listeners in all)				
'A' = maximum pitch height, 'B' = maximum pitch movement 'C' = maximum intensity				

Fig 4.4.5.1 Listeners' judgements of nucleus placement compared with location of phonetic maxima (Brown, G et al, 1980: 143-4).

The two sentences in fig 4.4.5.1 are illustrations of the significant extent of disagreement among the listeners found in Brown et al's data. It can be seen, furthermore, in these two examples that most of the listeners' judgements fall on the final lexical item despite the location of all the phonetic maxima elsewhere.

As a result of these and other experiments, Brown, G. et al (1980: 14) concluded that 'it is impossible to identify tonics [i.e. nuclei] in our data in a consistent and principled way' from phonetic clues alone. They propose (ibid: 156 - 158) the abandonment of the notions of 'tone unit' and 'nucleus' altogether, in favour of a system of pause-defined units bounded by 'terminal tones'.

4.4.5.2

The assertion that the nucleus is phonetically the most salient accent in the tone-unit is widely found among tone-unit theorists. Halliday, M. (1967: 14) states that 'salient tonic' (nuclear) has a more prominent pitch movement than 'salient non-tonic' (non-nuclear). Crystal, D. (1969: 205) calls it 'a peak of prominence', and Cruttenden, A. (1986: 49, 80) 'the most prominent'. The experiment of Brown et al (1980), however, seems to contradict these assertions, as least as far as listeners' judgements matching the phonetic maxima are concerned.

G. Brown et al (1980) found that there was a significant tendency for listeners to

select the last prominence / accent in a tone-unit. Instrumental evidence, however, shows that the last prominence / accent of a tone unit - unless it is contrastive - is rarely 'the most salient' in terms of pitch height and degree of intensity. Instead, these phonetic maxima are characteristically located at the start of the tone-unit and there is a *declination* of pitch level and decrease in intensity towards the end (see fig. 4.4.5.2).

Pitch Declination

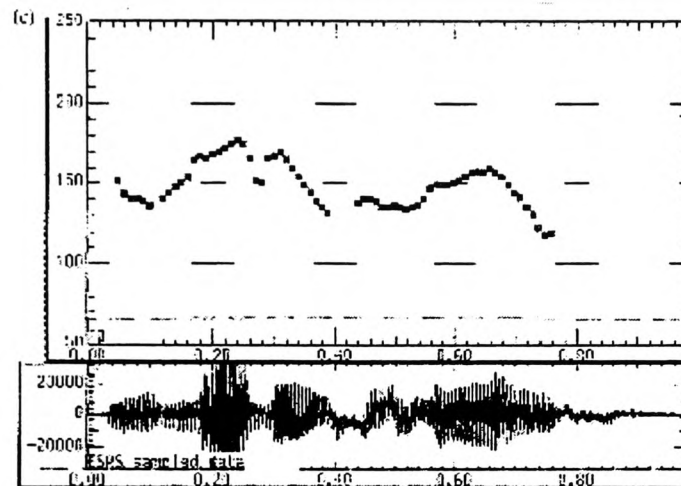


Fig 4.4.5.2 Example of pitch declination, during the phrase 'their mother's a lawyer' (Ladd, D. 1996: 107).

Ladd, D.R. (1996: 73) observes that during declination there is a lowering of the top and bottom lines and thus a reduction of the 'tonal space' within which accents are realized. Brown, G. et al (1980: 71), in fact, find no examples in their data of the pitch height of the final accent being higher than the first. Such findings run counter to the claim that the nucleus is phonetically the most salient accent in the tone-unit.

Yet the final prominence / accent of a unit still seems to possess a marked degree of salience for the listener. This could be due to either or both of the following factors:

- Being positioned at the end of the tone-unit and before a point of potentially strong juncture, it may impact more strongly on auditory memory than earlier accents : thus Bolinger, D. (1986: 74-84) describes an accent furthest to the right as being an 'Accent of Power'.
- A further factor may be, not so much the size, but the duration of pitch movement, characteristically filling all the 'tail' of the tone-unit and drawn out potentially even further by segmental lengthening.

4.4.6 Focus of information

4.4.6.1

The other main characteristic of the nucleus of tone-unit theory is that it is held to signal the 'focus of information'. Halliday, M. (1967: 22-24), for example, maintains that tone-units contain a 'given - new' informational structure, the nucleus focusing the 'new'. Gussenhoven, C. (1986: 78) claims, indeed, this is the *only* means of identification of the nucleus, and downplays the notion of 'phonetic salience.'

...there is no suggestion that the nucleus is necessarily the most prominent syllable in the tone-group (where 'prominent' is used in some loose sense of 'subjectively most striking'), or that it is necessarily the syllable with which the largest pitch movement is associated.

4.4.6.2

A theory of 'focus' has developed, ranging from 'narrow focus' where the nucleus / final accent signals contrastive meaning, to 'broad focus' in which the whole of the information in the tone-unit is 'out of the blue', or might be regarded as 'new'.

Examples of what the theory would call 'narrow focus' are not hard to find or manufacture.¹¹ By contrast, 'broad focus' seems a more elusive concept, since for most utterances some context drawn from the previous dialogue or wider situation may be understood. Brown, G. et al (1980: 159) characterise the units in their data as only rarely reflecting a clear arrangement of information into 'given' and 'new'; more of the time it seems that the speakers are expressing their attitudes towards a whole lot of information kept 'in the air'.

4.4.6.3

It may be supposed that when tone-units contain 'narrow focus', the extra contrastive stress imparted would result in there being no problem in locating the nucleus / final accent. However, an experiment reported in Brown, G. et al (1980: 147-152) suggests that even this may not be so. The experiment involved eliciting cleft-construction sentences from speakers (see fig 4.4.6.3) spontaneously during the course of a game-playing situation. The elicited sentences produced a clear concentration of contrastive focus and phonetic maxima (greatest pitch height, movement and amplitude) on the same items. They were then listened to by 25 judges. The purpose of the experiment was to see whether, with both narrow focus and phonetic maxima on the same item,

the judges would have any difficulty in nucleus identification.

Excerpt from Brown, G. et al (1980) Nucleus Identification Experiments

ABC		
1.	<i>'Was it the miller's <u>daughter</u> who returns home on the back of the pony?'</i>	
	9	9
	(7)	(3) (7)
<hr/>		
	BC	A
2.	<i>'Was it the rich <u>farmer</u> who had three sons?'</i>	
	10	8
	(7)	(7)

Unbracketed figures = listener chose it as single nucleus. Bracketed = listener chose more than one.
(25 listeners in all)
'A' = maximum pitch height, 'B' = maximum pitch movement 'C' = maximum intensity

Fig 4.4.6.3 Cleft-sentences in which underlined items have both contrastive focus and phonetic maxima (Brown, G. et al, 1980: 147-152).

Despite the co-occurrence of contrastive focus and phonetic maxima on '*miller's daughter*' and '*rich farmer*' in the examples in fig. 4.4.6.3, significant numbers of the judges were found to place the nucleus on the final lexical item. In the first case above, as many judges selected '*pony*' as '*daughter*', and in the second almost as many chose '*sons*' as '*farmer*'. As with their earlier experiments, this points strongly to the attraction of the final lexical item and supports the notion that, whatever accentuation of information occurs inside a 'tone-unit', there is, additionally at work, a system of terminal marking at the end of it.

4.4.7 The problem of 'double nuclei'

4.4.7.1

British tone-unit theorists have long had problems analyzing stretches of speech in which, within the same unit, there appear to be two nuclei, the first typically being the more salient phonetically and carrying a falling tone, and the second having a rising tone. O'Connor, J. and Arnold, G. (1973 : 28) call such a sequence a 'compound tune'.

4.4.7.2

Halliday, M. (1967: 13-18, 1970: 12) describes the sequence as a 'compound tone-

group' or 'double-tonic tone-group', i.e. a single tone unit with two nuclei, and gives as examples:

Halliday 'Compound Tone-Group'

1.	// 53 <u>I</u> <i>didn't</i> / <u>think</u> <i>so</i> //
2.	// 13 ^ <i>oh</i> <i>it</i> / <u>does</u> <i>level</i> / <i>out in the</i> / <u>long</u> <i>run</i> //
[<i>boundaries</i> : / = foot , // = tone-group ; <i>tones</i> : 1 = falling , 3 = low-rising , 5 = rising-falling]	

Fig 4.4.7.2 Two examples of 'Compound Tone-Groups' (Halliday, M. 1967: 15).

In the first example, there are nuclei on 'I' (with rising-falling tone) and on 'think' (low-rising tone). In the second, there are nuclei on 'does' (falling tone) and on 'long' (low-rising tone).

Crystal, D. (1969: 218-220) describes similar sequences as a 'compound tone', in which there is an absence of junctural phenomena between the two elements - the unstressed syllables connecting smoothly (often in a concave or convex pitch movement) between them . He gives the example:

// I'm SOrry about the BOOKcase //
(*sorry* has a falling tone and *bookcase* has a rising one)

4.4.7.3

Discourse Intonation (DI) (Brazil, D. et al, 1980: 8) on the other hand, rejects the concept of compound tone-units or tones on the grounds that, although external boundary criteria may be absent, the signaling of internal structure by presence of nucleus is sufficient for tone-unit identification. DI and other different possible tone-unit analyses of the phrase *I'm SOrry about the BOOKcase* could be :

"Compound Tones / Tone-Units"

1. two tone-units, each with nucleus (DI)	// I'm SOrry // about the BOOKcase //
2. nucleus (fall-rise tone) on first prominence	// I'm SOrry about the bookcase //
3. nucleus (rising tone) on final prominence	// I'm sorry about the BOOKcase //

[// = tone-unit boundary ; SO = nucleus]

Fig 4.4.7.3 DI and other possible analyses of the phrase 'I'm sorry about the bookcase'.

4.4.8 Nuclear tones

4.4.8.1

Because tone-unit theory has concentrated to such a large extent on the element of nucleus, nuclear *tones* have been an object of particular focus. These tones are conceived of as starting from the nuclear syllable and may be simple (e.g. *rising* or *falling*) or complex (e.g. *falling-rising* or *rising-falling*).

4.4.8.2

Tone-unit theorists do not agree absolutely on their inventory of tones for R.P. :

Halliday, (1967: 16) and Brazil (1997: 67) have five in number, but not the same five; Cruttenden, (1986: 58-62) has seven ; and Crystal (1969: 210-220) has nine.

The differences in inventory are due mainly to four factors:

1. Halliday (1967, 1970) and Cruttenden (1986) include 'high' and 'low' varieties (e.g. 'high-rise' and 'low-rise') whereas neither Brazil nor Crystal does. To account for pitch height, Brazil (1980, 1997) has an independent system of 'termination'. Crystal (1969: 211-15) assigns the height of rise, or depth of fall, to his independently meaningful feature of 'pitch-range' (see 4.2.3).
2. There are different treatments of the 'double-nucleus' concept (see 4.4.7), with Crystal (1969: 218-220) including two 'compound tones' in his inventory.
3. All except Halliday (1967) include *level* tone - a sustained, not noticeably rising or falling, pitch movement - in their inventories.
4. Crystal includes *rising-falling-rising* and *falling-rising-falling* in his inventory, which others would label as complex versions of falling-rising and rising-falling. .

Some tone-unit theorists say that the lack of agreement on inventory of tones is not a problem, since significant differences can be reduced to two: *ultimately falling* and *ultimately rising* - the general meanings of these being represented variously as 'affirmative/conclusive vs interrogative/expectant' (Sweet, H. 1890) , 'proclaiming vs referring' (Brazil, D.1980, 1997) or 'closed vs open' (Cruttenden, A. 1986: 125).

Although seemingly not accounting for 'level tones',¹² this division appears to be intuitively reasonable, since it captures what one feels is the major difference between tones - and allows the question of types and numbers of variants to remain open.

Such a reductionist view, on the other hand, would seem to undermine the claim by tone-unit theorists that all nuclear tones are contrastive in meaning.

4.4.8.3

The discussion so far has been about the inventory of nuclear tones that exist in RP. Studies of other dialects of English have claimed to find various differences from RP.

1. The first kind of difference is tone frequency. For instance, it has been found that, compared to RP, there is a high frequency of 'rising nuclear tones' and 'rising-falling nuclear tones' in Liverpool English (Knowles: 1974, 1978), Glasgow English & Western Scottish English (Anderson et al: 1991 ; McClure: 1990), and Belfast English & Derry English (Jarman & Cruttenden: 1976 ; McElholm: 1986).
2. The second difference is in tone inventory. For example, Knowles (1974, 1978) identifies three special tones found in Liverpool English (illustrated in fig. 4.4.8.3), labeling them as 'rise-plateau', 'rise-plateau-slump' and 'rise-fall'.

Liverpool English nuclear tones

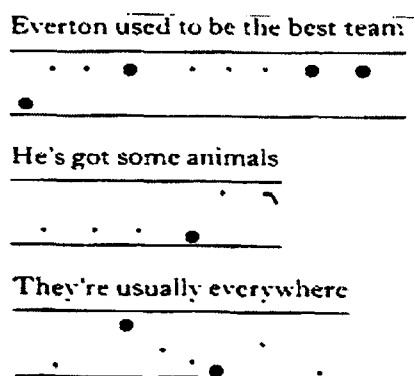


Fig 4.4.8.3 Three tones in Liverpool English (Knowles 1974,1977)
[from Cruttenden, A. 1986: 140].

There is an issue, however, of whether such 'tones' represent differences of tone inventory or merely of tone realization. Knowles himself (1974) maintains that the three Liverpool tones in fig. 4.4.8.3 are to be regarded ultimately as falling tones.

3. The third kind of difference is in the 'meanings of tones'. For example McElholm, D. (1986: 45-8) claims that in Derry English a low rising tone is used frequently

for statements and that the rising-falling tone is always used for contrast or reservation. The question of 'differences in meaning' is of course complicated not only by the issues of tone-inventory touched on above, but also by the whole relationship between prosodic form and meaning referred to in sec. 4.1.2.2.

Notwithstanding such problems, the potentiality for difference between dialects is one of considerable interest.

4.4.9 Non-nuclear tones

The 'tones' in tone-unit theory are held to be 'nuclear tones', i.e. associated only with the nucleus. This raises questions such as how the pitch movements labeled as nuclear-tones differ in kind from the pitch movements on non-nuclear prominences in the tone-unit, and how - if they are to be regarded as distinct from nuclear - the latter pitch movements are to be described in terms of form and function.

The concentration by British intonationalists on 'nuclear tones' has not only contained the implicit assumption that non-nuclear tones are different in kind, but has resulted in a relative neglect of the latter. Halliday, M. (1967: 14-18) gives little elaboration of his assertion that 'the difference between salient tonic [nuclear] and 'salient non-tonic' [non-nuclear] is primarily one of pitch movement, and merely lists the latter as 'secondary systems at pre-tonic'. Crystal, D. (1969: 221) allows the existence of 'non-nuclear tones' but states that their 'kinetic tone will always be narrower'. Brazil, D. (1980: 43-4) states that pitch movements of non-nuclear prominences 'are less steep' and lack 'sustention'. Cruttenden, A. (1986: 48-58) describes the pitch-movement of pre-nuclear accents in more detail than the others, but reserves the term 'tone' for nuclear pitch-movement.

It has been seen (sec. 4.4.5.2) that when the 'nucleus' is on the last lexical item, segmental lengthening at the end of the tone-unit may draw out the pitch-movement. If, however, the nucleus is well forward from the end of the tone-unit, there may be little to mark out the pitch-movement on it as different in kind from 'non-nuclear' prominences: any of the simple or complex tonal movements can occur on both nuclear and pre-nuclear prominences; the pitch-span can be large or small; the rate of

pitch movement can be rapid or more gradual ; and it can be accomplished either by a skip or glide.

4.4.10 The domain of a tone

4.4.10.1

The domain of a 'tone' in tone-unit theory is held to include only the pitch movement from the onset of the nuclear syllable ; any 'step up' or 'step down' to the nuclear syllable is excluded from the tone-domain and regarded as an independent variable. Crystal, D. (1969: 147-9) deals with the latter variable by categorising five different pitch heights of the nuclear syllable under his 'pitch-range' feature: the nuclear syllable may be 'on the same pitch-level', 'slightly lower', 'substantially lower', 'slightly higher' or 'substantially higher' than the previous syllable. Cruttenden, A. (1986: 52-55) describes different movements to as well as from the accented syllable but reserves the term 'tone' only for the latter.

4.4.10.2

A second problem of domain arises with the notion that the tone configuration initiated on the nucleus continues throughout the tail . The problem arises particularly with the falling-rising tone and centres round whether to classify cases in fig. 4.4.10.2 where the 'nucleus' is on the final lexical item as in example (a), and cases where it is further forward in the tone-unit as in (b) and (c), as variations of the same tone.

Fall-rise contours

		fall - rise
(a)	They <u>spoke</u> to <u>MANdy</u> .	
	fall	rise
(b)	<u>PETer</u> 's been <u>told</u> .	
	fall	rise
(c)	<u>FIFTy</u> pence a <u>kilo</u> .	
	fall	rise

Fig 4.4.10.2 Different fall-rise contours: same or different?

It is difficult to see how (a) and (c) are necessarily 'the same' formally or in meaning function. Examples like (c) are so problematic for tone-unit theory that a variety of different analyses may be offered, e.g. single nucleus on '*fifty*' with tone spread over the tail (the stress on '*kilo*' judged to be merely rhythmical) ; non-nuclear prominence on '*fifty*' followed by single nucleus on '*kilo*' ; or double-nucleus on '*fifty*' and '*kilo*' .

4.5 Levels, Contours and Pitch Accents

4.5.1 Levels and contours

4.5.1.1

Whereas tone-unit theory concentrates, to a large extent, on the concept of nucleus and the nuclear 'tones' (pitch movements / contours) that occur there, the main interest of successive American intonationalists, with the notable exception of Bolinger, has been in pitch *levels*.

4.5.1.2

Pike (1945), Wells (1945) and Trager & Smith (1951) have maintained that there are phonemic pitch *levels* which determine the starting, finishing and turning points of intonation contours. There are four such pitch phonemes, which Pike, K. (1945, 25) labels as 4 = 'low', 3 = 'mid', 2 = 'high' and 1 = 'extra high',¹³ claiming that

(the) number is not an arbitrary one. A description in terms of three levels could not distinguish many of the contours - - for example, the three contours beginning on low pitch and each rising to different height. A description in terms of five or six levels would leave many theoretically possible contrastive combinations of pitches unused.
(Pike, K. 1945: 26)

Contours are a particular combination of levels. There are, for example :

- 4-3; 3-1 (simple rises)
- 1-4; 3-2 (simple falls)
- 2-4-3; 1-3-2 (fall-rises)
- 4-2-4; 3-1-4 (rise-falls)

In fig. 4.5.1.2 below, the utterance contains two 'primary contours' : '*wanted to buy it*' and '*couldn't*' (each begins with the notation °).

Example of a 'Levels' Transcription (Pike, K. 1945 : 29)

He "wanted to buy it (but 'couldn't').

°2- -4- -3 4- °2- -4

Fig 4.5.1.2 A phrase containing two 'primary contours'.

4.5.1.3

Such contours can clearly be related to British 'tones', but in fact aim to give more information about the contour itself and its relation with other contours in the utterance. According to Pike (1945: 25):

In order to describe a contour it does not suffice to say that it is rising or falling, or falling-rising. Even the simplest rise has a complex series of relationships to other contours, and complex internal structure. The size of the interval between beginning and end points, the height of the beginning point relative to the general pitch level of the sentence, paragraph, conversation, or speaker's norm, the relation to timing, phrasing, stress, and pause,these and other characteristics need to be described for the complete understanding of any contour.

Pike's system (and those of Wells, R. and Trager-Smith) therefore sets out to account for pitch level as well as pitch movements /contours. If one supposes that pitch level may have, in addition to its 'paralinguistic' signals, certain 'linguistic' uses - for example to indicate relative prominence of accents, or relative height of terminations - a description of intonation which encompasses pitch level is potentially of value.

4.5.1.4

The problem, however, with positing four 'phonemic' levels is discussed by Bolinger (1958, 1961, 1972, 1986 etc), who asks such questions as 'why four levels?' and 'how are they to be defined?' Pitch-level is a gradient phenomenon and there seems to be no principled reason why four rather than, say, five or more levels should be chosen: Crystal, D. (1969: 144-5), for example, has seven levels defined relative to the pitch of the preceding syllable ('low drop, drop, slightly lower (the norm), continuance at same level, slightly higher, much higher and very much higher').

4.5.1.5

Pike, K. (1945:27) maintains that the number of 'primary contours' that can occur in a stretch equivalent to a tone-unit is not restricted to one, as it is with the 'nucleus' in tone-unit theory: a primary contour can occur on any accented syllable. Therefore, in theory, the same types of contour can occur on any accent in the utterance, whereas tone-unit theory assumes that contours on the nuclear and pre-nuclear accents must be different in kind.

4.5.1.6

To Pike's structural elements of levels and contours, Trager, G. and Smith, H. (1951: 46) add 'terminal juncture' pitch movements (rising, falling and sustained), associated with the edge of the utterance. Their role is not accentuative but terminative (they are 'manners of transition' from one phrase to the next).

4.5.2 Bolinger and pitch-accents

4.5.2.1

Bolinger (1958, 1961, 1972, 1986, 1989 etc) consistently argues against the 'levels approach' of both the four-level approach of Pike (1945), Wells (1945) and Trager-Smith (1951) and the later two-level approach of AM phonology (e.g. Pierrehumbert, 1980). He maintains that significant pitch changes are heard as 'melody' rather than as 'notes', i.e. as contours rather than the phonemic 'levels' of Pike, Wells and Trager & Smith or the isolate pitch-level 'tones' of AM phonology. Taking issue with the latter approach, he attributes the appeal of analyzing contours in terms of 'levels, target pitches and the like' to the linguist's desire to digitize the elements of speech and implies a warning that descriptive systems must be served and 'not dictated to' by such instrumental constraints (Bolinger, D. 1986 : 28).

4.5.2.2

Experiments carried out by him and reported in 1958 highlight the role of pitch-movement in 'the realization of stress' and lead him to propose a theory of *pitch accents*. Such pitch accents are, characteristically, rapid and relatively wide departures from the overall contour, and are described in terms of 'configurations' (pitch movements) not levels.

Each accent signals informational prominence - they are 'accents of interest' (Bolinger, D. 1986: 90-6).

4.5.2.3

He posits (Bolinger, D. 1986: 142-164) a set of such pitch accents each with a particular *profile* (pitch configuration):

'Type A' (accent at relatively high pitch followed by a jump down)

It's J^ó (Profile A)
 hⁿ.

'Type B' (the accent is jumped up to, and subsequent pitch movement is usually upwards or level)

It's J^óhⁿ. (Profile B)

'Type C' (the mirror-image of Profile A: the obtrusion is down instead of up)

It's J^óhⁿ. (Profile C)

The combination of profiles as 'AC', 'CB' etc to form complex profiles (similar to the rise-fall, fall-rise etc of tone-unit theory)

It's J^ó (Profile AC)
 hⁿ.

It's h (Profile CA)
 J^ó n.

4.5.2.4

He maintains that such profiles may be universals of intonation across all languages, derived from basic human emotions of 'up' signaling feelings of 'arousal', 'importance' etc and 'down' being related to feelings of 'minimizing' 'completion' etc (Bolinger, D. 1986: 221-3).

4.5.2.5

For Bolinger (1985,1986), as for Trager and Smith (1951), a 'complete intonation' over an utterance comprises one or more pitch accent and a *terminal*, which is defined as 'the pitch direction at the end of an utterance or major break'.

For the grammar of the sentence, the most important part of the intonational melody comes at terminals - the end points of phrases, clauses and sentences.

(Bolinger, D. 1986: 25)

4.5.3 I.P.O. and perceptual units

4.5.3.1

The concept of 'pitch accent' is also a central feature of the intonational model developed at the Institute of Perception Research (IPO) in Eindhoven, Holland (e.g. Cohen and 't Hart, 1967 ; 't Hart, Collier and Cohen, 1990).

4.5.3.2

IPO theorists maintain that a set of pitch accents can be isolated for any language or dialect by auditory experimentation involving listeners' judgements as to which pitch movements are perceptually 'the same' or 'different'. The perceptual units established by this means are claimed to equate to the programmed, voluntary F_0 changes of the speaker.

We believe that . . . pitch movements that are interpreted as relevant by the listener are related to corresponding activities on the part of the speaker. These are assumed to be characterised by discrete commands to the vocal chords and should be recoverable as so many discrete events in the resulting pitch contour
(Cohen, A. and 't Hart, J. 1967 : 177-8)

4.5.3.3

The one or more single pitch movements making up these pitch accents are then analyzed instrumentally in considerable detail in terms of their direction ('rises' or 'falls'), rate of change (subsuming size & duration), and their timing (their location in relation to syllable boundaries).

Involuntary pitch fluctuations (such as intrinsic pitch of vowels) and co-articulatory features (such as F_0 falls in the vicinity of obstruents) are factored out in order to produce 'close copies'. Then 'stylized versions (see fig. 4.5.3.3) are made, which are tested in further experiments with native-speaker listeners to see if they are perceptually equivalent to the originals ('tHart, J. Collier, R. and Cohen, A. 1990: 42-59).

IPO stylized modelling of an intonational contour

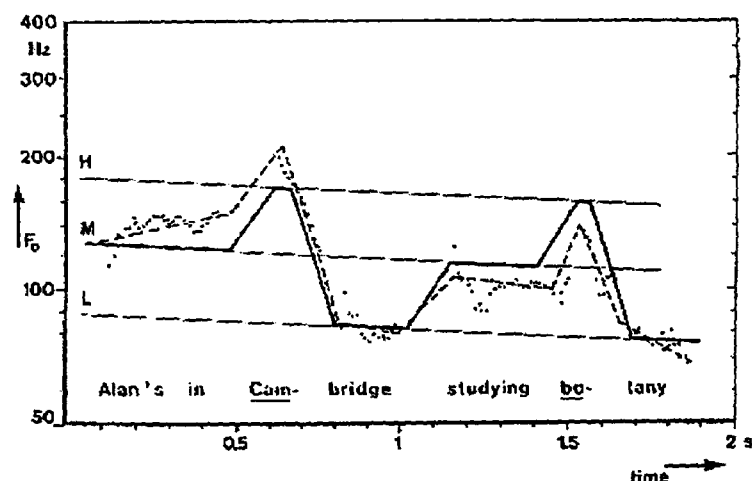


Fig 4.5.3.3 Close Copy (broken line) and Standardized Stylization (unbroken line) t'Hart, J., Collier, R. and Cohen, A. 1990: 49.

4.5.3.4

Recent I.P.O. work (de Pijper, J. and Sanderman, A.: 1994) has extended such an approach to the description of boundaries of intonation phrases : listeners' judgements of perceptual boundary strength being matched with phonetic features such as melodic discontinuity, pause, declination reset and pre-final lengthening.

4.5.3.5

IPO theory holds that an intonational contour over a whole utterance consists primarily of a sequence of two kinds of distinct phonological event :

1. 'prominence lending' pitch movements at pitch-accents
2. 'non-prominence lending' pitch movements at the boundaries

As with the 'terminals' of the Trager-Smith analysis (1951) (see 4.5.1.6), the end boundary pitch-movement need not coincide with final pitch accent, so that a 'nuclear-tone' of tone-unit theory may at times be decomposed into two separate elements of accent + boundary-tone, particularly where spread over a long 'tail'.

4.5.3.6

IPO analysis is motivated mainly by the need for the description and instrumental modeling of intonational forms. Meaning or function is of secondary interest. This is

stated, for example, by t'Hart, J. and Collier, R. (1975: 254):

[We] have deliberately restricted ourselves to the *melodic* aspects only. So far we have not said anything about the *functional* aspect of intonation, for example we cannot offer any explanation for the motives of the speaker that lead to choice of a particular intonation pattern . .

Many intonationalists, for instance those working within the tone-unit tradition, would object to the proposal that formal units may be established in the absence of any criteria of functional contrastivity (see sec. 4.1.2). Nevertheless, the IPO approach - in at least the modeling of Dutch (Collier, R. & t'Hart, J. 1971) and British intonation (Willems, N. Collier, N. & t'Hart, J. 1988) - has enabled the synthesizing of speech utterances into melodic representations which have been found, in experiments with native listeners, to be indistinguishable from real utterances.

4.5.4 Autosegmental-metrical phonology

Autosegmental-metrical phonology (AM) grew up in the 1980's and 1990's, incorporating a new phonological approach to intonation involving a radical revision of the 'levels' approach of earlier American intonationalists such as Pike, K. (1945) and Trager, G.L. and Smith, H.L. (1945), and of pitch-accent theory .

4.5.4.1

Like IPO, Autosegmental-metrical phonology (Pierrehumbert, 1980, Beckman, & Pierrehumbert 1986, Ladd, D. 1996 etc) posits a linear intonational structure consisting of 'pitch accents' and 'edge tones' with 'transitions' between them. These comprise an *intonational tier*, which is 'associated' with a separate *rhythmical tier*. There is a difference, here, between IPO and AM theory in that the former, as seen in sec. 4.5.3.5, conceives of a direct, 'prominence lending' relationship between pitch movement and accent, whereas for AM the two tiers are independent - so that a pitch movement at an accent may not be directly aligned with it (as in the case of 'delayed peak').

4.5.4.2

The main domain of the intonation and rhythmical tiers in AM is the *intonation phrase (IP)*, which is equivalent in extent to the 'tone-unit.'

4.5.4.3

Pitch accents and edge tones are analyzed into two levels, in contrast to the four levels of earlier American theory. These are called High (H) or Low (L) 'tones' - the term 'tone' therefore being used in a different sense from in tone-unit theory.

AM Transcription

-
- a. The train leaves at seven
H* H* H* L H%
- b. It'll be on track four
H* H* L L%
-

Fig 4.5.4.3 Examples of AM transcriptions
(Pierrehumbert, J. & Hirschberg, J. 1990 : 287).

The two 'tones' enable reference to the essential binarity of 'up' vs 'down' in intonation. They leave phonetic details such as heights and positioning of the 'H-tones' and 'L-tones' to independent investigation by instrumental analysis.

4.5.4.4

As with the four-level theory, the 'tones' can describe the building blocks (starts, finishes and turning points) of pitch configurations. They are able to describe such configurations more fully than 'nuclear tones' in that they account for the pitch movement to the accented syllable as well as that from it.

4.5.4.5

In modeling the intonation of an IP, the isolation of 'H-tones' and 'L-tones' in the Fo contour is not without its problems. In a H*+L configuration, for example, the 'tone' of the H* can straightforwardly be determined by the local Fo peak. This is so with the 'L-tone' in cases where this forms a turning point in the Fo trace. But if the pitch level continues to drift downwards, phonetic definition of the 'L-tone' is problematic.

The same problem of identifying the start and end points of a configuration also faces analysts of British nuclear tones and IPO pitch accents, but these schools of intonation do not start from the theoretical assumption of 'tone' = definable primitive pitch level.

4.5.4.6

As with 'nuclear-tones', there is some disagreement among the followers of the theory as to the precise inventory of pitch-accent configurations. The Beckman and Pierrehumbert (1986) version of AM theory classifies pitch-accents into six types: (starred tones (*) indicate approximate point of alignment with stressed syllables.)

1. H*
2. L*
3. H*+L
4. H+L*
5. L*+H
6. L+H*

An H* accent signifies an upwards pitch-obtrusion and non-rapid return to a base-line and an L* accent the reverse. H*+L and L*+H differ from the simple H* and L* accents by a marked, usually rapid, local pitch movement following the starred tone. In L+H* or H+L* accents, a salient local pitch movement ('leading tone') precedes the starred tone.

The distinctions drawn between H*+L and H*, and between L*+H and L* do not seem straightforward in practice, since both the former pair return to a Low and both the latter to a High. The distinction between L+H* and H* also seems problematic, as the notation of 'H' in both cases subsumes a rise from the preceding syllable.

4.5.4.7

'Edge Tones' are of two kinds: *phrase accent* and *boundary tone*.

- A phrase accent is a 'tone' (pitch level) following the final IP pitch accent and preceding the boundary tone.
- A boundary tone is the final 'tone' (pitch level) of the IP. It is marked as H% or L%,

Just as the notation of H*+L for a pitch-accent can be viewed as a configuration (pitch-movement) as well as sequence of tones (pitch-levels), so the sequence of edge tones can be viewed as the pitch movement at the end of an IP, four combinations being possible: L L%, H L%, L H% and H H%.

The Structure of an Intonation Unit (Pierrehumbert 1980)

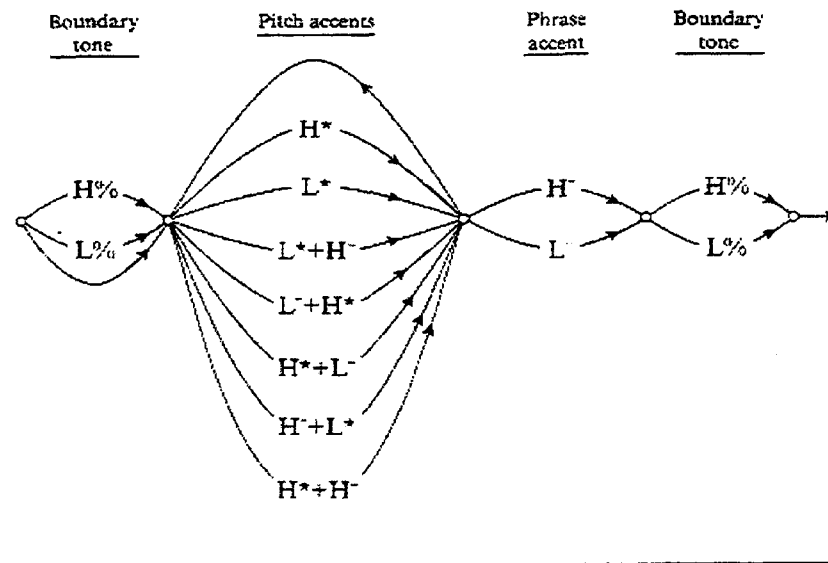


Fig 4.5.4.7 The structure of intonation units (Pierrehumbert 1980, reproduced in Ladd, D. 1996 : 81) comprising (1) one or more Pitch-accents and (2) Phrase accents and Boundary Tones (Edge Tones).

4.5.4.8

'Phrase accent' seems a somewhat unsatisfactory concept, both phonologically and phonetically.

- Firstly, it is not an 'accent' in the sense of occurring with a stressed syllable or with semantically highlighted information - the term *phrase-tone* is, in fact, preferred by some AM theorists.
- Secondly, even if the term 'phrase-tone' is preferred, it refers to a pitch-level isolate that, as with many 'L-tones' (see 4.5.4.5), may be identifiable neither by the ear nor by instrumental analysis.

The concept of 'phrase-tone', nevertheless, serves as a device which allows the autosegmentalist to model the intonation contour at the edges of IPs more comprehensively. This being so, there would seem to be a case for using the device of 'phrase-tone' elsewhere in the IP in places where the specification of additional 'tones' might provide greater explicitness in the modeling of the contour.

4.5.4.9

It is possible to translate AM sequences of pitch-accent tones and edge tones into the 'nuclear tones' of tone-unit theory, as has been demonstrated by Roach, (1994). For example a 'falling-rising nuclear tone' can be represented in AM as :

$$\begin{array}{c} \text{H}^* + \text{L} \text{ L} \text{ H}\% \\ \text{Fall} - \text{Rise} \end{array}$$

Fig 4.5.4.9 An AM contour converted into a 'nuclear tone' (Roach, 1994).

4.5.4.10

The difference between tone-unit theory and AM, however, represents more than a superficial re-labeling of formal components. Whereas in tone-unit theory the nucleus is held to provide the main focus of information and uniquely carry 'tone' (in the sense of significant pitch movement), in AM - and pitch accent theories in general - any accent can highlight information, and all accents can carry the same pitch movements.

The nucleus in tone-unit theory can be interpreted in AM as being composed of two structural and functional elements, which though very often conflated, may at times be separated:

1. The final 'pitch accent' which carries an accentuation function no different from that of earlier pitch-accents in the IP.
2. The final 'edge tones', which carry a terminal marking system for the IP as a whole.

The concept of a terminal marking system has been posited in one form or another by a succession of intonationalists, including the 'finality contours' of Pike (1945), the 'terminal junctures' of Trager and Smith (1951), the 'non prominence-lending' boundary pitch movements of IPO (1967), the 'delimitative system' of Trubetzkoy (1969), the 'terminal tones' of Brown (1980) and the 'terminals' of Bolinger (1986) .

4.5.4.11

AM's rejection of the concept of 'nucleus' facilitates the analysis of tonal sequences that are notoriously problematic in tone-unit theory.

The example in fig 4.5.4.11 is taken from a RVE auditory experiment carried out by the researcher and to be reported later in sec. 4.9. 'V1', 'V2' etc refer to the code-names of six 'volunteer' intonationalists participating in the experiment.

The word '*only*' is phonetically much the most salient word in the IP (see acoustic record in Appendix 21 p 480), and, in addition, represents the 'contrastive' information. This co-occurrence of phonetic and informational prominence thus resembles that in an experiment of Brown, et al (1980) discussed in 4.4.6.3. With '*fight*' also marked as salient / prominent by all six intonationalists, the familiar dilemma for tone-unit theorists presented itself as to where to place the nucleus. The analyses of four of them, together with an AM analysis, are shown in fig. 4.5.4.11.

AM and tone-unit theory analyses compared

<i>falling- rising</i>		
V1	/ <u>ON</u> ly the <u>fi</u> ght mind/	Nucleus on ' <i>only</i> '
	<i>rising</i>	
V2&3	/ <u>on</u> ly the <u>FIGHT</u> mind/	Nucleus on ' <i>fight</i> '
	<i>rising- falling</i>	<i>rising</i>
V4	/ <u>ON</u> ly the <u>FIGHT</u> mind/	Two nuclei
AM	<u>only</u> the <u>fi</u> ght <u>mind</u> /	Accents on ' <i>only</i> ' & ' <i>fight</i> '
	H*+·H L ·L*+H H H%	Terminal tone on ' <i>mind</i> '

Fig 4.5.4.11 Tone-Unit theory and AM analyses compared, in a sample from the RVE data.

Whereas decisions in the tone-unit analysis are clearly problematic, the A.M. analysis is simple. It does not force one to choose between '*only*' and '*fight*' as 'nucleus'. Both carry accents, and the H H% edge tones on '*mind*' carry the 'terminal marking'.

4.5.4.12

In AM description of the phonetic detail of the tonal events of the intonational contour, *scaling* and *alignment* are particularly significant.

Scaling refers to the actual pitch levels of H-tones and L-tones and to the size of the span of pitch movements. Much of the effect of scaling is regarded as being primarily 'paralinguistic', rather than 'linguistic' in nature (cf Ladd, D 1996: 73). It may be regarded as being of some 'linguistic' significance, however, when the scaling of one accent higher than another has the effect of signaling relatively greater information prominence.

Questions remain as to how, and to what extent, the scaling of pitch-level should be described. Bruce, G. (1977: 131-43) suggests scaling in terms of 4 relative pitch-levels, with Fo Level 1 'the base level' and Level 4 the highest. This, it may be noted, comes close to recalling the four-level pitch theory of Pike (1945), Wells (1945) and Trager and Smith (1951). Crystal, D. (1969: 144-5) has proposed seven pitch levels.

4.5.4.13

AM's concept of an intonational tier that is 'associated' with the rhythmical tier and segmental string, allows AM to have the feature of *alignment* to account for dis-associations of intonational peaks from the stress centre of the accent (c.f. Ladd, D 1983 : 39-52). Thus 'early rises', 'late peaks' etc that are found to be characteristic of different dialects can be described as different alignments of the H & L tones with the segmental string. This (see 4.5.2.2 & 4.5.3.5) differs from the view of Bolinger and IPO, who describe accents as being (largely) 'realized' by pitch movement.

4.6 Prosodic Constituency

4.6.1 Intonation phrases and intermediate phrases

4.6.1.1

The 'intonation phrase' (IP) of AM theory is a unit of prosodic constituency that can be equated in size with the 'tone-unit' of tone-unit theory. Beckman, M. and Pierrehumbert, J. (1986: 286-98) identify a smaller unit of segmentation within the IP called an *intermediate phrase*. It has lesser boundary strength, being terminated by a

phrase-accent alone, whereas a full IP is terminated by a phrase-accent + boundary tone, the meaning of which 'becomes the property of the entire construct'.

Intermediate Phrase (Beckman and Pierrehumbert, 1986)

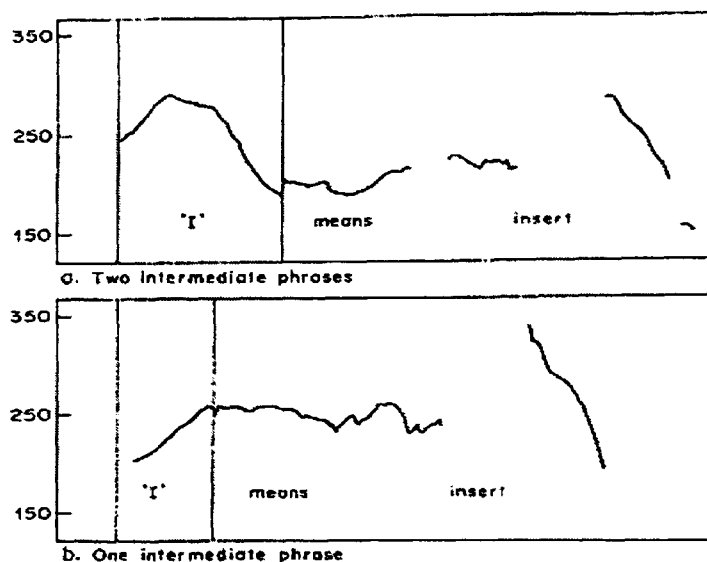


Fig 4.6.1.1 The phrase 'I means insert' said with (a) an intermediate phrase break after 'I' and (b) no phrase break (Beckman, M. and Pierrehumbert, J. 1986 : 289)

4.6.1.2

Their 'intermediate phrase' is clearly a minor sense-unit demarcation within the larger intonation phrase (IP). This is evident from further examples they give, for example:

Use 'hint' | if you need help
A round-windowed | sun-illuminated room
 (Beckman & Pierrehumbert, 1986 : 290-1)

4.6.2 Phonological phrase

4.6.2.1

A full prosodic hierarchy is proposed by Nespor and Vogel (1983), following Liberman, M. and Prince, A. (1977). It consists, in ascending order, of *rhyme*, *syllable*, *foot*, *phonological word*, *phonological phrase*, *intonational phrase* (IP) and *utterance*.

4.6.2.2

Perhaps the most significant of these ranks is the 'phonological phrase' since, like the

'intermediate phrase' of Beckman and Pierrehumbert (1986) , it is a proposal for a prosodic level immediately below that of IP. Unlike the 'intermediate phrase', however, the 'phonological phrase' seems to be essentially a unit of rhythmic segmentation. It is a right-branching structure (cf Liberman and Prince 1977) and its rules for construction are:

Join into a [phonological phrase] any lexical head X with all items on its non-recursive side within the maximal projection and with any other non-lexical items on the same side (e.g. prepositions, complementizers, conjunctions, copulas)
(Nespor, M. and Vogel, I. , 1983: 124)

The phonological phrase is characterised, internally, by close link-up of its phonological words through internal sandhi rules. There is a small degree of disjuncture between one phonological phrase and the next. An example of how an IP can be split into different phonological phrases can be seen in fig. 4.6.2.2.

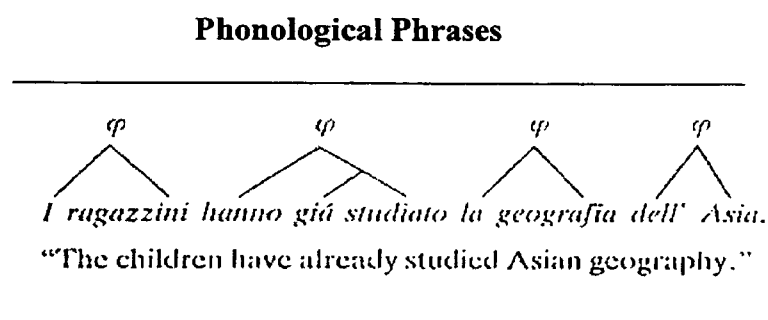


Fig 4.6.2.2 Example of Phonological Phrase Constituency.
Nespor, M. & Vogel, I. 1983 : 125

4.6.3 Rhythmic foot

Halliday, M. (1967:12 -15) posits a hierarchical prosodic structure consisting, in ascending order, of 'phoneme', 'syllable', 'foot' and 'tone-group'. Each is said to be made up of one or more of the units below it and 'each boundary subsumes boundaries of all units lower in rank: a tone-group boundary, for example, must be also a foot, syllable and phoneme boundary' .

Example of Rhythmic Foot Constituency (Halliday, 1970)

// „you'd have your / own / train and you'd // hire it for a // week

(// denotes tone-unit boundary ; / denotes foot boundary)

Fig 4.6.3 Rhythmic feet (Halliday, M. 1970, Study Unit 35, tone-units 55-8).

The concept of Halliday's 'foot' is a strict rhythmic unit with the stresses tending to occur at isochronous intervals, and with a 'silent ictus' to mark pauses whose length fits the rhythm. That of the 'tone-unit', on the other hand, is a unit of meaning demarcation and intonation. The nature of the association between a rhythmical and intonation tier is one for debate, and in the Halliday example above it can be seen that forcing a tone-unit boundary to coincide with a foot-boundary can result in odd-looking tone-units.

4.6.4 Sequences of Intonation Phrases

4.6.4.1

The upper length to which a single IP might be extended is governed by the speaker's need to achieve comprehensible sense-units - longer might bring semantic tangle & ambiguity - rather than physiological or memory factors.

4.6.4.2

Beyond the single IP, intonationalists have investigated whether there may be linking of IPs in different sequences.

- Fox, A. (1995: 189) finds clear evidence of hierarchical ordering of IPs in different languages, with individual units 'forming part of larger structures'.
- In English tone-unit theory, Palmer (1922) noted 'subordinating' and 'coordinating' sequences.
- Trim, J.L.M. (1959: 27-29) identifies sequences of 'major' and 'minor' IPs
- Crystal, D. (1969: 244-52) posits 'superordinate' and 'subordinate' IPs. These mainly point to meaning relationships between adjacent tone-units, but a 'big unit' vs 'small unit' relationship of size is often involved, also.
- Tench, P. (1990: 294-8) identifies an 'intonation group' composed of a 'nuclear' 'intonation unit' (tone-unit) and one or more subordinate units.

In such analyses, adjacent pairs of tone-units have been observed to have an intonational relationship: in a superordinate - subordinate pairing the major unit often carries a falling tone and the minor unit a rising one (see example in fig. 4.6.4.2).

It's become very \cold | all of a /sudden (major + minor)

Fig 4.6.4.2 The Major Unit has a Falling Tone on '*cold*'. The Minor Unit has a Rising Tone on '*sudden*'. (From Tench, P., 1996: 86).

4.6.4.3

Brazil, D (1997: 120) posits 'pitch sequences' of two or more tone-units which have a different kind of intonational relationship : a sequence of units that characteristically begins with 'high-key' and ends in 'low termination' (see 4.8.3). In fig. 4.6.4.3 there is an utterance containing 3 completed tone-units. The word '*what*' in the first tone-unit is in High Key. The rest of the utterance is in mid-key until the descent to low key (= 'low termination') on '*happened*'.

Pitch Sequence (Brazil 1997)

<p>// p so ^{WHAT} <u>WERE</u> // p the REST of you <u>DO</u>ing // . . . // p when the ACcident <u>HAP</u>pened //</p>

Fig 4.6.4.3 Example of a Pitch Sequence extending over three (completed) tone-units : Brazil, D. 1997 : 121.

4.6.5 Topics and speaking turns

Further hypotheses for units of spoken discourse beyond the level of the single IP have related to 'topic' and, in spontaneous conversation, to 'speaking turn'.

4.6.5.1

Brown, G. et al (1980: 25-7) associate end of topic with lexical tail-away on prefabricated phrases: '*and so on, and things like that, that's how I see it*' etc, 'dropping low in ...pitch range', 'fading away in amplitude', 'leaving a long pause at the end of the turn', while the beginning of a new topic is associated with the speaker speaking 'high in his pitch range' and 'speaking loudly'.

They posit a link between speaker organization of topic / sub-topic and an

intonational unit called a 'paratone' - 'a short sequence of units beginning with a stressed peak high in the speaker's voice range'.

4.6.5.2

Duncan, S. (1972: 283-87) lists the clues of end of speaking-turn as including 'intonation' (the use of any terminal pitch level other than 'intermediate', and a 'drop in paralinguistic pitch'), a 'drop in loudness', 'drawl' (i.e. lengthening) of final syllables, 'body motion', 'socio-centric sequences' ("but uh", "or something" , "you know" etc) and 'syntax' ('completion of a grammatical clause, involving a subject-predicate combination')

4.7 Overall Contour 'Tunes'

4.7.1 Whole-tunes

4.7.1.1

Some intonationalists (e.g. Jones, D. 1909; Armstrong and Ward 1926; Liberman and Sag 1974) have favoured a 'whole tune' approach to tone-unit / IP description. Such an approach attempts to classify the different overall contours (*tunes*) of a whole IP and relate these directly to meanings of the speaker such as 'statement', 'polar question', 'surprise/ redundancy' etc.

4.7.1.2

The approach has recently received some support from the 'discovery' of what appears to be a new tune called 'upspeak', identified in Australian, New Zealand, Canadian and British English (Guy et al,1986; Britain,1992; Watt, 1994; Bradford, 1997). 'Upspeak' is described as being a high-rising 'nuclear tone', yet it may be claimed as a 'whole tune' since typically, as can be seen in the example below (fig 4.7.1.2), the stretch of IP before the 'nucleus' rises gradually, or at least does not fall.

An IP with 'upspeak' is characteristically used with declaratives and is said to have the function (e.g. during narratives) of informing while simultaneously checking that the

listener is following and understanding; a second function is said to be that of 'invoking common ground and shared experience' (Bradford, B. 1997 : 35)

Example of 'Upspeak' (Watt, 1994)

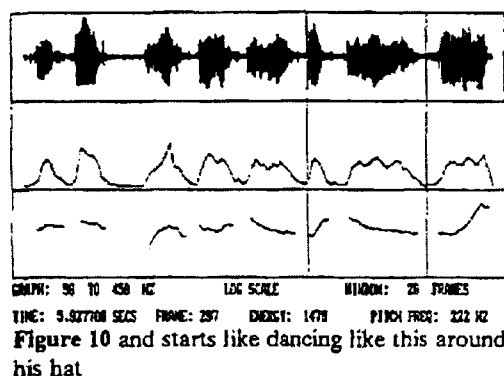


Fig 4.7.1.2 Acoustic Record of an 'upspeak' tune from a Canadian narrative, (Watt, D. 1994: 100).

4.7.2 Tunes in tone-unit theory

4.7.2.1

The strong emphasis on the 'nucleus' as an element of structure in tone-unit theory, has tended to result in a 'tune' being viewed as a composite of two elements:

1. that which takes place over the pre-head + head
2. that which takes place over the nucleus and tail

4.7.2.2

Rather more attention has been paid within the theory to the second than the first, and reference to the tune of a tone-unit is commonly restricted to whether its nuclear tone is 'rising', 'falling', falling-rising' etc.

4.7.2.3

In the description and classification of contours occurring over the head of a tone-unit, O'Connor, & Arnold (1973) recognise three types: 'stepping', 'sliding' and 'low'. Crystal, D. (1969: 225-235) indicates eight types : four of 'falling heads', two of 'rising heads', a 'falling-rising(-falling) head' and a 'rising-falling(-rising) head', and he states that further sub-classification is needed.

4.7.2.4

Since the overall contour is viewed as a sum of its two constituents, the nearest most tone-unit theorists come to describing the overall contour of a tone-unit is to discuss the question of whether 'certain types of head tend to co-occur with specific nuclear tones' (e.g. Crystal, D. 1969: 233).

4.7.3 'Primacy of intonational events' theory

4.7.3.1

AM theory (e.g. Pierrehumbert, 1980) views the overall tune of an IP as largely a product of its main intonational events. Thus it is the profiles and scaling etc of its pitch-accents and edge tones that not only determine the meaning of the IP but determine its shape.

4.7.3.2

Brown, G. et al (1980: 60) similarly view the overall 'tune' in Edinburgh Scottish English as being the product mainly of the top-line formed by its accent peaks. Units are characteristically 'double-peaked', formed by the twin peaks of its first and last accents. Variations in tune are largely the product of variations in the relative heights and shapes of these twin peaks. Three types of double-peaked contours are described : initial-peaked (where the first accent peak is higher than the last); final-peaked (where the last is higher) ; and equal-peaked (where perceptually they are equal).

A 'Final Peaked Contour' (Brown et al 1980)

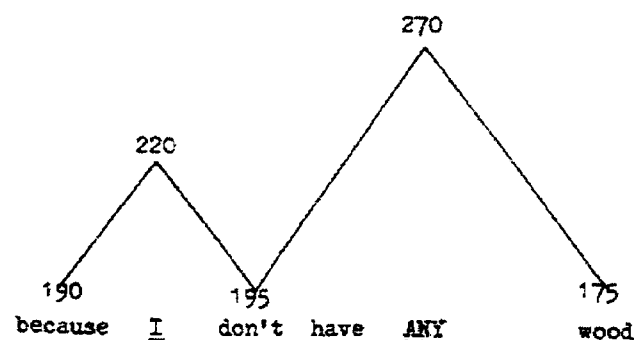


Fig 4.7.3.2 Example of a 'Final Peaked Contour' with F0 levels (Brown, G. et al 1980 : 61).

4.7.3.3

Early IPO theory (e.g. Cohen and t'Hart, 1967) similarly views the total contour as being made up of a linear sequence of pitch-accents and boundary tones. In addition, however, it proceeds to describe overall shapes made by these sequences, such as 'pointed hat' and 'flat hat' contours seen in fig. 4.7.3.3 (Cohen, A. & t'Hart, J. 1967 : 184).

'Hat' tunes (Cohen and t'Hart, 1967)

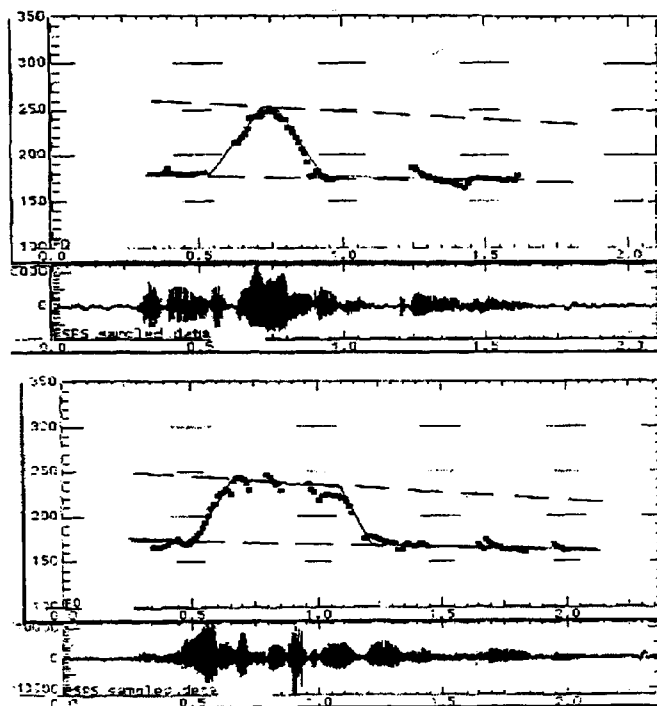


Fig 4.7.3.3 'Hat Patterns' in the IPO model of intonation. Panel (a) shows the 'Pointed Hat' where the 'type 1 rise' and 'type A fall' take place over a single accent contour and panel (b) the 'Flat Hat', where they are spread over two accents. (Cohen, A. & t'Hart, J. 1967 : 184).

4.7.4 'Primacy of overall contour' theories

4.7.4.1

Later versions of the IPO theory assert the primacy of overall tune. t'Hart, J., Collier R. and Cohen, A. (1990: 95) maintain that 'intonation takes precedence over accentuation in determining the shape of a pitch contour'; only those pitch movements occur which are allowed by the overall 'intonational pattern'. They hypothesize (ob cit: 59-66) that 'the various melodic shapes in a language can be subdivided into a limited number of *melodic families*', verifiable by perceptual experimentation.

4.7.4.2

Attempting to identify such an inventory of tunes brings the problem familiar to intonationalists when trying to establish any set of discrete members, only probably even more complex : at what point does one 'intonational pattern' become 'different' from another?

Such a hypothesis also involves making a psycho-linguistic assumption of 'look ahead' on the part of the speaker when embarking on an utterance, since peaks and scaling of accents etc will have to be fitted into an already pre-determined intonational contour.

4.7.4.3

The same problems may be associated with 'overlay models' such as those of Garding (1983) and Fujisaki (1983), where two components are posited : an accent component and an overall phrase component. The latter forms a global shape onto which the accents are overlaid - in Garding the global shapes are represented as grids onto which most of the local pitch maxima and minima fit themselves (fig 4.7.4.3).

Modeling of tunes by Grids (Garding, 1983)

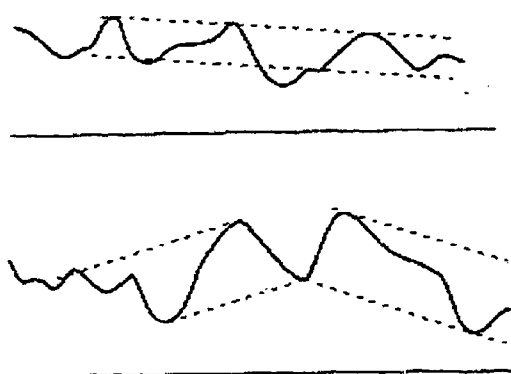


Fig 4.7.4.3 The 'grid' in Garding's model of intonation (1983), applied to different renditions of the Swedish sentence *Hon gick inte och la sej* ('She didn't go to bed') Ladd, D (1996: 28).

4.7.5 Effect on tune of declination

4.7.5.1

Another overlay hypothesis limits itself to consideration of overall contour shape in relation to the feature of *declination*. Where operating, declination in an utterance may be described as a tendency towards the gradual lowering of the 'top-line', formed by the pitch peaks, and 'bottom-line' formed by the 'valleys'.

Declination has been found to occur across different languages, for example in Danish, Dutch, German, Italian, Japanese, Mandarin Chinese, Spanish (cf Vaissiere 1983, Fox, 1994).

Explanations for its cause include decline in transglottal pressure from the lungs as an utterance proceeds, and a 'laziness principle' - that upwards pitch movements need extra physiological effort, and that in the absence of such effort to produce high pitch (for example in producing accentuation or questions) pitch drifts down.

4.7.5.2

Measurements of the effects of declination can be used to model overall slopes into which the tune of an IP can be fitted, for example by the drawing of regressions lines through accent peaks and / or unaccented syllables (cf discussion in Ladd, 1983: 45-52). These can provide the framework for overall tunes such as down-stepping, from which other tunes - a reversal of downwards drift in polar-questions, for example - are meaningful by contrast.

4.8 Prosodic Function

Because description of RVE prosody will be primarily concerned with prosodic form than function (see 4.1.2), the following section will give the briefest of reviews.

4.8.1 Forms and meaning

Both tone-unit and pitch accent / AM theories maintain that spoken discourse is segmented into sense-units, which the two theories generally refer to as 'tone-unit' and 'intonation phrase', respectively.

- Within the 'tone-unit' of tone-unit theory the most meaningful functional element is held to be the nucleus: nuclear placement signals focus of 'new' information in the unit, and nuclear-tone the speaker's attitude towards it.
- In the 'intonation phrase', the main elements are held to be pitch-accents and terminals. Each pitch accent indicates informational prominence and the terminal the speaker's attitude towards the information in the IP as a whole.

4.8.2 'Functions' of intonation

4.8.2.1

Working within tone-unit theory, O'Connor, J. and Arnold, G. (1973) maintain that intonation has (1) 'attitudinal' (2) 'accentual' and (3) 'grammatical' functions.

Halliday (1967, 1970) accepts that intonation has an 'attitudinal' role, but argues that linguists can only be concerned with what is systematic and that this, in practice, is limited to a 'grammatical' role. Crystal, D. (1969, 290) subsumes 'accentual' under 'attitudinal'. He accepts that there are links between intonation and grammar, but states that these are tendencies to co-occur rather than direct links of exponency.

4.8.2.2

The term 'attitudinal' needs clarification. Some intonationalists use it to refer, comprehensively, to any 'meaning' superimposed on the lexical-grammatical content, whether

- a *general meaning* such as 'open / closed' (cf Hultzen, 1957; Cruttenden, 1986) and 'proclaimed / referred' (cf Brazil, 1997) , or
- a *local meaning* such as 'angry, pleased, matter-of-fact, haughty, grim, bored, puzzled, conspiratorial' (cf O'Connor & Arnold, 1961, 1973; Crystal, 1969).

Others attempt to draw a distinction between categories of 'attitudinal meaning', positing, on the one hand, 'discoursal' meanings e.g. the speaker's attitude towards the finality / non-finality, or relative importance of something just said and the expectations (s)he has about the listener's reply, and, on the other hand, the affective /

emotional overlays of attitude as exemplified in the 'local' meanings.

4.8.2.3

The problems with use of the term 'grammatical' are somewhat different.

Halliday, M. (1967: 31-47) assumes that grammatical systems are directly 'expounded by intonation'. As examples he lists such 'systems' as

- ❑ information distribution: the 'unmarked case' is that a clause is realized by a tone-unit
- ❑ dependence: the 'unmarked case' is that a dependent clause carries a falling-rising tone
- ❑ status of relative clause: 'non-defining' types are in a separate tone-unit
- ❑ compound sentence, appositional: this is realized by two tone-units with nuclear-tone concord
- ❑ information focus: the 'unmarked' case is that nucleus placement is on the last lexical item
- ❑ sentence function: a 'statement' is realized by falling tone; a 'question' by a high-rising tone

Bolinger, D. (1958: 37), on the other hand, states that the link between intonation and grammar is 'casual rather than causal'. Intonation can come to the assistance of grammar 'to divide discourse into segments and to establish an informal hierarchy of beginnings and endings whereby major constituents can be distinguished from minor' (Bolinger, 1989: 81). Even such prosodic demarcations, however, operate independently from grammatical constituency: they can 'create new constituent relationships or wipe out old ones' (Bolinger, D. 1989: 96).

4.8.2.4

Many intonationalists have attempted to compile comprehensive lists of the 'meanings' or 'functions' of intonation. Perhaps a typical one is that of Brown, G. at al (1980: 21-31), which lists five systems that 'exploit intonation'. They are:

1. affective meaning or attitude (e.g. 'friendly', 'delighted', 'complaining')
2. interactional structure (e.g. in spontaneous conversation: signaling end of a speaking turn, or eliciting a response from the second speaker)

3. topic structure (e.g. ending a topic or beginning a new one)
4. information structure (e.g. chunking up the discourse into information units, emphasising what is important)
5. speech function or illocutionary force (e.g. whether it functions as a statement, question or a command)

The distinction made between (1) attitude and (5) speech function in this listing is perhaps questionable. It may be argued that communicative function derives from the (actual or perceived) intent of the speaker, and that this intent is a complex of attitudes towards what is being said. 'Statement', for example, could be linked to an attitude of assertion, and 'question' to one of expectancy or curiosity (cf Sweet, H. 1890: 30, Bolinger, D. 1989: 2). The list does not include 'identification of speech styles' (Tench, P. 1996: 26-28) whereby different genres such as news bulletins, prayer in unison, narration of anecdotes and sports commentaries of different kinds are marked by different prosodic features (cf Crystal and Davy: 1969).

4.8.3 Discourse intonation

Brazil, (1980, 1997) is the founder of the 'Discourse Intonation' theory (DI) and views intonation as having important discoursal roles, realized by the following main systems:

1. The system of '*prominence*' is conveyed via prominent syllables - including the tonic (nuclear) syllable. It signals informational focus (Brazil, D. 1997 : 21-39).
2. '*Tones*', with a basic distinction between *proclaiming* and *referring*, have communicative functions like introducing information as 'new' into the discourse or presenting it as already 'common ground' (Brazil, D. 1997 : 67-81).
3. *Key* is the relative pitch-level (*high key*, *mid key* or *low key*) selected for each fresh tone-unit. It signals that the information contained in a new tone-unit has a contrastive, (high-key) additive (mid-key) or equative (low-key) relation with that in the previous tone-unit (Brazil, D. 1997 : 40-53).
4. *Termination* (*high*, *mid* or *low*) is the relative pitch-level at which a tone-unit finishes. In interactional structure, it may signal the expectations the speaker has of the listener's response, and in topic structure it may signal whether the speaker has finished or not (Brazil, D. 1997 : 53-66).

4.9 An Auditory Experiment

4.9.1 The experiment

4.9.1.1

The researcher carried out a small auditory experiment in which six intonationalists listened to extracts from the RVE conversational data. As in the Brown et al (1980) and Cauldwell (1993) experiments described above (sec. 4.4.5 & 4.4.2.3), the aim was to investigate what measure of agreement there was in identification of 'tone-units' and 'nuclei', and to see what might be learned from the problems the intonationalists faced and the strategies they followed

4.9.1.2

The six volunteers were all highly experienced intonationalists, five of them with published work in the field . All were particularly familiar with tone-unit theory. They worked entirely independently from one another, took part in the experiment 'incognito' and will remain so in this paper. For the purposes of the research they will be labeled as follows:

The Six Intonationalists

<i>V1 (volunteer 1) :</i>	following, quite closely, Halliday's tone-unit model (see 4.4.1.1)					
<i>V2 (volunteer 2) :</i>	following an eclectic tone-unit approach					
<i>V3 (volunteer 3) :</i>	"	"	"	"	"	"
<i>V4 (volunteer 4) :</i>	"	"	"	"	"	" (Welsh speaker)
<i>V5 (volunteer 5):</i>	following Brazil's Discourse Intonation model (see 4.4.2.3)					
<i>V6 (volunteer 6):</i>	"	"	"	"	"	"

Fig 4.9.1.2 The six intonationalists taking part (incognito) in the auditory experiment.

One of the intonationalists (V4) was Welsh-speaking. Two of the other volunteers (V1 & V2) had spent a long time in the South Wales area.

4.9.1.3

Three short extracts were selected from the RVE conversational data. They were

graded in terms of apparent speaker organization, that is to say Extract 1 appears to be the most coherent, well-planned speech sample and Extract 3 the least well organized and coherent, with Extract 2 intermediate between them. The three Extracts can be seen in Appendix 13.

Each extract consists of 72 to 88 words and lasts from 20 to 30 seconds. It is interactive, in that although one informant is the predominant speaker in each case, the other informant and the interviewer were co-participants, signaling their responses by at least facial expressions, nods and back-channels ('yeah' , 'right' etc). All three extracts constitute speech which seems to be towards the informal end of the formality-informality spectrum, and to range from fairly calm (Extract One) to quite excited (parts of Extracts Two and Three).

4.9.1.4

The extracts were sent to the six intonationalists in their different locations within the U.K. in a pack containing an audio-cassette recording, orthographic transcriptions of the extracts (with a previous few minutes of conversation in order to give some idea of the context), bio-details of the speakers and a task sheet.

The tasks of the intonationalists (see Appendix 12) were to

1. *divide the utterances of the main speaker in each passage "into intonation units (e.g. 'tone-groups / units') "*
2. *underline all syllables they considered to be "prominent" or "salient" in each intonation unit*
3. *circle which of the 'prominences /saliences' they considered to be a "nucleus" or "tonic syllable"*
4. *label the "tone(s)" found in each 'intonation unit'*

They were, in addition, asked to comment on 'factors that influenced their judgement in cases that were not straightforward' and to comment on 'difficult / interesting cases'.

The researcher telephoned each volunteer, after receipt of their pack, to answer any questions they had about the tasks before they proceeded to their analyses.

4.9.1.5.

The analyses were returned by the six intonationalists with their markings of tone-unit boundaries, saliences / prominences, nuclei and tones, and their comments. The analyses are displayed in Appendix 13, arranged one above the other so that visual comparison between the transcriptions of each volunteer can easily be made.

4.9.2 Tone-unit and nucleus findings

The first and second tasks had been the splitting up of the extracts into tone-units and the location of nuclei.

4.9.2.1

The main findings for tone-unit identification can be summarised as follows:

- In Extract One (displaying the most coherent organization of speech) the number of tone-units identified by Vs 1-6 exhibited a wide range : from nine to seventeen. In other words, the volunteer with the highest number recognised almost twice as many tone-units as the lowest. If the findings of Vs 5 & 6 are excluded - since they consistently identified more tone-units for reasons that will be seen - the numbers still ranged from nine to thirteen. Of these tone units, six were agreed by at least five of the volunteers.
- In Extract Two, the number identified ranged more widely, from eight to twenty four with Vs 1-6 and from eight to fourteen with Vs 1-4. So, even excluding Vs 5 & 6, the highest identified 75% more tone-units than the lowest. Not a single unit in the extract was agreed by five or more of the volunteers.
- In Extract Three (displaying the least coherent speech) the number identified by Vs 1-6 ranged from eight to twenty one, and by Vs 1-4 from eight to seventeen. The highest, thus, identified more than twice as many tone-units as the lowest. Two of the units were agreed by five volunteers. All the intonationalists admitted to finding difficulty with the identification of tone-units at the end of this extract, particularly from '*George would*' onwards.

4.9.2.2

Minor discrepancies in tone-unit boundary placement have been ignored in the figures

reported above. These almost entirely relate to the analysis of V1, working within a Hallidayan framework, who made each tone-unit boundary coincide with a rhythmic foot-boundary (see 4.6.3). An example can be seen in fig. 4.9.2.2 where V1 places the boundary before the rhythmically strong '*started*', with the result that the subject '*I*' of clause-2 is joined into the previous tone-unit. There are no prosodic or semantic cues for such a boundary placement, and V2, with all the other Vs, placed the boundary after '*work*'.

[In the examples of transcriptions that follow throughout this section, single bar-lines denote tone-unit boundaries, underlined syllables prominences, and capitals nuclei.]

[M1]

V1	/when I started to <u>WORK</u> I / <u>started</u> at <u>fifteen</u> and a <u>HALF</u> / . . . and
V2	/when I <u>started</u> to <u>WORK</u> / I <u>started</u> at <u>fifteen</u> and a <u>HALF</u> / . . . and

Fig 4.9.2.2 Difference in tone-unit boundary placement in middle of the utterance between V1 & V2. (See Appendix 13 for full transcriptions of Vs.)

4.9.2.3

The figures reveal that Vs 5 & 6, following the Discourse Intonation (DI) approach, identify 60% more tone-units on average than Vs 1-4. Reasons for this have already been discussed and are seen to be largely theory-bound (see 4.4.2.3).

1. DI theory does not allow 'compound tone-units' containing a double nucleus. The clause '*because they'd modernized that pit*' serves as an example (see 4.9.2.3a). It has a very strong rising-falling pitch movement on '*modernized*' and a rising movement on '*that pit*' (see acoustic record, Appendix 21 p 475). Taking just two of the analyses, V4 marks it as a compound tone-unit, whereas V5 (DI) divides it into two separate units, with a boundary after '*modernized.*'

[M1]

V4	/ . because they'd <u>MODernized</u> <u>THAT</u> <u>pit</u> /
V5	/ . because they'd <u>MODernized</u> / <u>THAT</u> <u>pit</u> /

Fig 4.9.2.3(a) Difference in marking of 'Compound Unit' between V4 and V5 (see Appendix 13 for full transcriptions of Vs).

2. DI puts a tone-unit boundary at every pause, whereas other tone-unit analysts allow slight hesitation pauses within a tone-unit. So, Vs give different analyses of the phrase '*when I lived in . Penrhys*', which contains a slight hesitation pause (4.9.2.3b). For example, V4 analyses it as a single tone-unit, whereas V5 (DI) divides it into two.

[P10]

V4 . . when I . <u>LIVED</u> in Pen <u>RHYS</u> /

V5 . . when <u>I</u> / . <u>lived</u> in Pen <u>RHYS</u> /
--

Fig 4.9.2.3(b) Difference in treatment of hesitation pause between V4 & V5
(see Appendix 13 for full transcriptions of Vs).

3. DI analysts identify more nuclei than other tone-unit approaches, because they look more at phonetic than grammatical clues. As they draw a tone-unit boundary after the occurrence of each nucleus, this results in more tone-units. This factor, in fact, accounts for most of the 'extra tone-units' identified by V5 & V6. An example is seen in the clause '*and . my father was coming home clean*' (fig. 4.9.2.3c), which V5 analyses as three tone-units but V3 as one.

[M1]

V3	/ . and . my <u>father</u> was <u>coming</u> home <u>CLEAN</u> / . . cause
----	--

V5	/ . <u>AND</u> / . my <u>FAT</u> her/was <u>coming</u> home <u>CLEAN</u> / . . cause
----	--

Fig 4.9.2.3(c) Difference in number of nuclei and tone-units identified between V3 and V5
(see Appendix 13 for full transcriptions of Vs).

4.9.2.4

It is clear that all the intonationalists faced problems in tone-unit identification in situations where a likely grammatical constituent boundary had been reached but

(1) junctural clues were weak

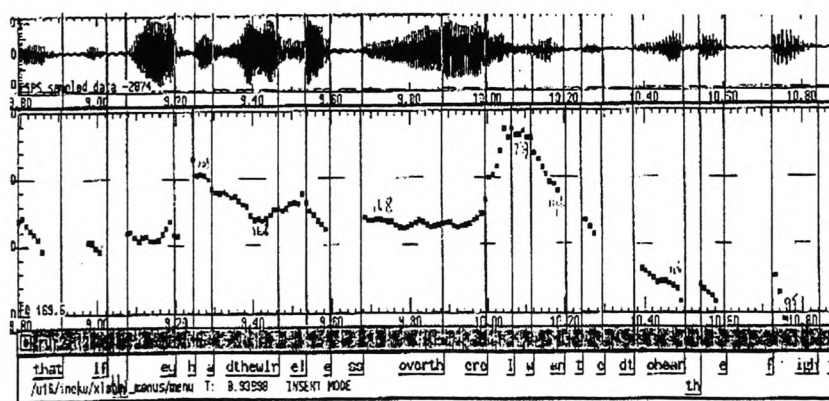
(2) there was not a phonetically prominent candidate for nucleus.

An example is seen in fig. 4.9.2.4 with acoustics record. In the stretch '*that if they had the wireless over there I wanted to hear the fight*', a likely grammatical constituent boundary occurs between '*there*' and '*I*'. But the speaker speaks rapidly through it, so that there are no apparent junctural features of pre-boundary lengthening or pause and there is phonetically no obvious candidate for 'nucleus' preceding it.

Despite this, four of the intonationalists drew a tone-unit boundary after '*there*' even though, as can be seen, there is no agreement between them on location of nucleus. Two of them admitted to facing difficulty at this point and that they had resorted to grammatical / sense-unit criteria in reaching their decision.

[M9]

V3	[. . . so I w~was insisting now]/ that if they <u>had</u> the <u>wireless</u> <u>Over</u> there/
V4	[. . . so I w~was insisting now]/that if they <u>had</u> the <u>WIRE</u> less over there/
V5	[. . . so I w~was insisting now]/ that if they <u>had</u> the wireless over there
V6	[. . .so I w~was insisting now]/that if they <u>had</u> the wireless over <u>THERE</u> /
V3	<u>I</u> wanted to <u>hear</u> the <u>fight</u> /
V4	<u>I</u> <u>wanted</u> to <u>hear</u> the <u>fight</u> /
V5	<u>I</u> wanted to hear the fight/
V6	<u>I</u> wanted to hear the fight/



that if they had the wire-less over there I want-ed to hear the fight

Fig 4.9.2.4 Difficulties of Vs in analyzing rapid speech
(see Appendix 13 for full transcriptions of Vs).

4.9.2.5

Tagged items such as '*you see*', '*you know*', '*mind*' and '*like*' also caused difficulty.

The problems lay in deciding whether they belonged as end-tags to the tone-unit just finishing, as tag elements starting the next, or whether they formed separate tone-units

of their own. Examples are given below in fig. 4.9.2.5.

1. In the first example (fig. 4.9.2.5a), the phrase '*up there you know*' is spoken with little hint of internal juncture, and there is a tailing off of intensity together with a declining of pitch throughout, low into the speaker's register. There are then junctural features before the phrase '*on a part-time basis like*' and a raising of pitch at the beginning of the phrase, consistent with a modest reset of baseline. These features would seem to indicate the start of a new unit with '*on a ..*', and place '*you know*' semantically as a tag element to the previous '*up there*'.

All the intonationalists except V6 placed a boundary after '*you know*', therefore separating it from '*on a part-time basis like*'. Five of the them, however, also drew a tone-unit boundary between '*up there*' and '*you know*' despite the lack of perceptual clues to juncture between them. None of the intonationalists, by contrast, marked '*like*' off as a separate tone-unit from '*on a part-time basis*', even though junctural cues are quite strong, including a sharp pitch jump between '*basis*' and '*like*'.

What may we make of the fact that five out of the six intonationalists separated off '*you know*' as a tone-unit, but that none of them did so for '*like*', despite the stronger junctural clues before the latter? Both are semantic fillers / appeals to the listener's understanding. The most likely reason is that volunteers were (consciously or unconsciously) being influenced by grammatical criteria: '*you know*' is longer and more clause-like than '*like*', and thus was felt to be more a candidate for a tone-unit.

1 [P10]

V5	[I worked on the] <u>door</u> of the Com <u>MUN</u> ity Centre up there/ you <u>KNOW</u> / on
V6	[I worked on the] <u>door</u> of the Com <u>MUN</u> ity Centre up there/ you know on
V5	a <u>part-time</u> <u>BA</u> sis like/
V6	a <u>part-time</u> <u>BA</u> sis like/

Fig 4.9.2.5(a) Difference in treatment of tag '*you know*' between V5 and V6 (see Appendix 13 for full transcriptions of Vs).

2. In the second example (fig. 4.9.2.5b), the whole excerpt is spoken with no pausing and only the slightest of clues to possible internal junctures. Within it, the double tag '*isn't he you know*' is spoken with such rapidity that it is the tempo change itself - as much as the lengthening and pitch movement on '*know*' - that separates off the whole phrase as a tone-unit. Although spoken extremely quickly, however, there are pitch clues to a possible segmentation between '*isn't he*' and '*you know*'; and two of the intonationalists mark such a separation.

The whole phrase illustrates how prosodic cues to segmentation during rapid speech can be disguised or obliterated, and cautions against approaches which seek to directly link measurable phonetic criteria to 'strengths of boundary'.

2 [P10]

V2 / your <u>typical</u> r~ <u>real</u> <u>WELSH</u> man/ <u>isn't</u> he you <u>KNOW</u> / <u>real</u> <u>Welsh</u> <u>spoken</u> erm
V3 /your <u>TYPical</u> /r~ <u>REal</u> <u>Welsh</u> man/ <u>ISn't</u> he/you <u>KNOW</u> / <u>real</u> <u>WELSH</u> <u>spoken</u> /erm
V6 your <u>TYPical</u> / r~ <u>REal</u> <u>Welsh</u> man/ <u>isn't</u> he you <u>KNOW</u> / <u>real</u> <u>Welsh</u> <u>SPOken</u> erm/

Fig 4.9.2.5(b) Difference in treatment of tagged '*you know*' between Vs 2,3 & 6
(see Appendix 13 for full transcriptions, and Appendix 23 p 487 for acoustic record).

4.9.2.6.

Another area of uncertainty for the intonationalists was how to treat filled pauses.

1. In fig. 4.9.2.6 both instances of '*and erm*' are accompanied by falling pitch patterns. The first '*and erm*' is clipped short in the manner of a false start and is immediately succeeded by the second one. By contrast, the second '*and erm*' contains lengthening so that the tone sounds 'complete', is followed by a slight pause and there is a big pitch-hike to the next word '*only*', sounding like a base-line reset. Perceptually, therefore, the second '*and erm*' sounds like the end of a tone-unit, and '*only the fight mind*' the beginning of the next one.

Despite this appearance of a strong boundary, Vs 1-4 transcribe the whole of '*and erm~and erm . only the fight mind*' as a single tone-unit. It seems that, for them, the two '*and erm*'s are regarded as interruptions within the sense unit / clause.

However, there seems no reason in principle why 'and', 'erm' - or in this case 'and erm' - should not form sense-units of their own. In spoken discourse, both can fulfil various functions other than mere hesitation. The vocalization 'erm' for example, tagged to an end of speaking-turn, may signal to a listener 'finished for the moment but could say more' ! Such is the case with 'and erm' in the example below (fig. 4.9.2.6).

Both V5 & V6, in fact, make 'and erm~and erm' a separate tone-unit, and in the researcher's opinion, V5's transcription comes nearest to the phonetic evidence as to what the speaker is saying by locating a nucleus on the second 'and'.

[M9]

V3	[in the club to hear the fight] /and erm~and erm . <u>only</u> the <u>FIGHT</u> mind/
V4	[in the club to hear the fight] /and erm~and erm . <u>ONLY</u> the <u>FIGHT</u> mind/
V5	[in the club to hear the fight] /and erm~ <u>AND</u> erm/. <u>only</u> the <u>FIGHT</u> mind/
V6	[in the club to hear the fight] /and erm~and erm/ . <u>ONLY</u> the fight mind/

Fig 4.9.2.6 Differences between Vs in the analysis of filled pauses
(see Appendix 13 for full transcriptions).

2. As with the fillers 'you know', 'mind' etc, it is sometimes uncertain whether the various 'erms' in the data are attached to the end of one unit, to the beginning of the next one, or have independent status between them.

An example, 'real Welsh spoken erm', has already been seen in fig 4.9.2.5b above. The phonetic cues this time - dropping in pitch & amplitude and the tagging of 'erm' onto 'real Welsh spoken'- resemble those of 'end of speaking turn' (see 4.6.5). The 'erm' could have been replaced by fillers such as 'you know', 'like'. It sounds essentially completive rather than interruptive. Unbeknown to the six intonationalists [since they were not given the transcription of the lines which follow], the listener indeed interprets the cues as completion of speaking-turn and takes up his speaking turn immediately afterwards.

Without the aid of being able to see what followed, only V5 & V6 marked a tone-

unit boundary after 'erm'. V3 marked one before 'erm', and V1, V2 & V4 marked no boundary at all - V2 remarking that the phrase is 'incomplete'.

4.9.2.7

The number of nuclei identified by the six intonationalists in the three extracts (see Appendix 14) ranged from 29 (V1) to 57 (V5), that is to say the highest identified almost twice as many nuclei as the lowest.

In Extract One the range was from 11 to 17 nuclei, in Extract Two from 9 to 22, and in Extract Three from 9 to 20.

4.9.2.8

We have seen that the reasons for disparity in numbers of nuclei and numbers of tone-units identified are closely connected. For example, in the phrase '*and . my father was coming home clean*' above (fig. 4.9.2.3c), V3 identified only one tone-unit and one nucleus on '*clean*', whereas V5 had three tone-units with three nuclei on '*and*' , '*father*' and '*clean*'. As another example, in the phrase '*in the club to hear the fight*' (fig. 4.9.2.8a), Vs 1, 3 & 4 identify only one tone-unit with its nucleus on '*fight*' , whereas Vs 2, 5 & 6 identify two tone-units with the additional nucleus on the word '*club*' .

[M9]

V2 / . . in the <u>CLUB</u> / to <u>hear</u> the <u>FIGHT</u> /
V3 . . <u>in</u> the <u>club</u> to <u>hear</u> the <u>FIGHT</u> /

Fig 4.9.2.8(a) Difference in numbers of nuclei and tone-units between V2 & V3
(see Appendix 13 for full transcriptions of Vs .)

The strategy of intonationalists V1-V4 in location of nuclei seemed on the whole to be 'tone-unit first', i.e. first identify the tone-units (acknowledging that this sometimes needed recourse to the grammar) and then find the nucleus. Fig. 4.9.2.8a above may afford an example of this.

The approach of V5-V6, by contrast, seemed to be more 'nucleus first': if a 'nuclear tone' was identified, then a tone-unit boundary was drawn, whether or not the resulting phrase comprised a grammatical constituent or obvious sense-unit.

Another reason for disparities between volunteers was that Vs 1, 3 & 4 sometimes used the concept of 'compound tone-unit' with its 'double nucleus', but Vs 5 & 6 never did so (see 4.4.7.3). However, even Vs 1 - 4 frequently differed on whether or not to mark one. Examples of compound tone-unit marking can be seen in fig. 4.9.2.8b .

- In the phrase '*so I was insisting now*'. V4 marks a double nucleus and V3 - in this particular instance - does not.
- In the phrase '*was a strict secretary of the club*' it is V3 who marks a double nucleus and V2 a single one.

1 [M9]

V3 / ... so I w~was in <u>SISTing now</u> /

V4 / ... so I w~was in <u>SISTing NOW</u> /

2 [M9]

V2 .. <u>really Tom Evans</u> / was .. was a <u>strict secretary</u> of the <u>CLUB</u> / ..
--

V3 .. <u>really Tom Evans</u> was/ .. was a <u>strict SECre</u> tary of the <u>CLUB</u> / ..
--

Fig 4.9.2.8(b) Differences between Vs in identification of 'Compound Unit'
(see Appendix 13 for complete transcriptions of Vs and Appendix 21 p 479-480 for acoustic record).

4.9.2.9

We may now move to cases where the intonationalists substantially concurred on tone-unit identification to find out where they placed their nuclei, and to see how their selections match descriptions in tone-unit theory of the nucleus being 'phonetically most prominent' in the phrase and a 'focus of new information'

4.9.2.10

Twenty of the twenty three tone-units that were agreed by at least four of the six intonationalists in the three Extracts are given below in fig. 4.9.2.10. The full text and transcriptions by Vs of each Extract can be seen in Appendix 13.

Single bar-lines - tone-unit boundaries; underlined syllables - prominences ;
 (5) : no. of Vs agreeing tone-unit; 4 : no. choosing as nucleus; [2] : no. choosing as double nucleus
 'a' : greatest amplitude ; 'p' : greatest pitch prominence ; = : equal amplitude / pitch prominence

[M1]

1. / when $\frac{I}{3}$ $\frac{\text{started to work}}{3}$ / (6)
2. / $\frac{I}{[1]}$ $\frac{\text{started at fifteen and a half}}{3[1]}$ / (4)
3. / and my $\frac{\text{father}}{[1]}$ was $\frac{\text{working}}{[1]}$ in the $\frac{\text{colliery}}{[1]}$ in $\frac{\text{Maerdy}}{4[1]}$ / (5)
4. / and $\frac{\text{he}}{[1]}$ was $\frac{\text{having a bath}}{6}$ / (6)
5. / $\frac{\text{because}}{[3]}$ they'd $\frac{\text{modernized that pit}}{1[3]}$ / (4)
6. / and $\frac{I}{[1]}$ was $\frac{\text{coming home}}{[1]}$ and still $\frac{\text{bathing in front of the fire}}{5}$ / (5)
7. / $\frac{\text{cause}}{[1]}$ he'd been $\frac{\text{showering}}{[1]}$ in the $\frac{\text{pit}}{5}$ / (5)

231

[M9]

8. / for the old people to hear the fight /
 $\begin{array}{c} pa \\ 4 \end{array}$ (4)

9. / so I wa~was insisting now /
 $\begin{array}{c} pa \\ 1[1] \quad 2[1] \end{array}$ (4)

10. / that if they had the wireless over there /
 $\begin{array}{c} a= \quad p= \quad p=a= \\ 1 \quad 1 \quad 2 \end{array}$ (4)

11. / I wanted to hear the fight /
 $\begin{array}{c} pa \\ 4 \end{array}$ (4)

12. / and there was no children /
 $\begin{array}{c} a= \quad p \quad a= \\ 4 \end{array}$ (4)

13. / and the only way they could have that wireless /
 $\begin{array}{c} p \quad a= \quad a= \quad a= \\ 4 \end{array}$ (4)

14. / once the fight was over /
 $\begin{array}{c} p \quad a \\ 4 \end{array}$ (4)

15. / I had to come out /
 $\begin{array}{c} a \quad p \\ 4 \end{array}$ (4)

Fig 4 9 2 10(b) Maerdy 9 tone-units agreed on by at least 4 of the intonationalists, + their selections of nucleus.

[P10]

- | | | | |
|-----|---|--|-----|
| 16. | / | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <i>p</i>
 <u>when</u>
 <i>[1]</i> </div> <div style="text-align: center;"> <i>a</i>
 <u>I . lived</u>
 <i>3[1]</i> </div> <div style="text-align: center;"> in Penrhys / </div> </div> | (4) |
| 17. | / | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <i>a</i>
 on a <u>part-time</u> </div> <div style="text-align: center;"> <i>p</i>
 <u>basis like</u>
 <i>4</i> </div> </div> | (4) |
| 18. | / | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <i>p=</i>
 <u>celebrities</u>
 <i>[1]</i> </div> <div style="text-align: center;"> <i>p=</i>
 <u>came</u>
 <i>4[1]</i> </div> <div style="text-align: center;"> <i>a</i>
 there <u>like</u> / </div> </div> | (5) |
| 19. | / | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <i>a</i>
 and he was <u>always</u> </div> <div style="text-align: center;"> <i>p</i>
 <u>there</u> on <u>official</u> <u>functions</u> /
 <i>4</i> </div> </div> | (4) |
| 20. | / | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <i>pa</i>
 r~<u>real</u> <u>Welshman</u> /
 <i>4</i> </div> </div> | (4) |

Fig 4.9.2.10(c) Porth 10 tone-units agreed on by at least 4 of the intonationalists, + their selections of nucleus.

4.9.2.11

In these twenty tone-units agreed by at least 4 Vs, the results show that Vs agreed on nucleus placement 60% of the time :

- i. In twelve of the twenty cases there was complete agreement between the Vs concerned on nucleus location (nos 4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 20).
- ii. In the remaining eight cases, the strongest disagreement on nucleus placement was in nos 1, 9, 10. In most of the eight cases, disagreement stemmed from one or more of the Vs concerned selecting more than one nucleus (e.g. nos 2, 3, 5).

4.9.2.12

The results show a strong association between Vs' judgements and the final lexical item:

- i. In the nine of the twenty units where, of the phonetic maxima, at least greatest pitch prominence came on the final lexical item (nos 3, 4, 6, 7, 8, 15, 17, 18,

19), all the Vs concerned placed a nucleus there.

- ii. In the eleven units where both phonetic maxima (amplitude and pitch prominence) came before the end, judgements of the Vs were less united, but there was a clear tendency to prefer the final lexical item:
 - In only two of these eleven units did all Vs unite on a non-final item : no.11, where 'I' is very salient and clearly contrastive, and no. 20 where 'r~real' is very salient.
 - In three of the eleven units (nos 1, 9, 10) , Vs were divided in their judgements, some following the pitch maxima and the others locating on the final lexical item.
 - In no fewer than six of the eleven units (nos 2, 5, 12, 13, 14, 16), Vs were united - or nearly so in the case of (5) - in placing a nucleus on a final item despite the phonetic maxima being elsewhere, although in three cases an additional nucleus was placed earlier by one or more of the Vs.

4.9.2.13

Eleven of the tone-units seemed to contain items which were being presented as new or contrastive information. In each case, they attracted the phonetic maxima or at least the greatest pitch prominence.

- i. In seven of these units, the contrastive items came on the last lexical item. In each case, all the Vs concerned chose this item for their nucleus (nos 2, 3, 4, 6, 7, 8 & 15).
- ii. In four of them, the contrastive items came earlier.
 - In one of these (no.13), all Vs chose the final item 'wireless' even though it represented very 'old' information .
 - In two of them (nos. 1, 9), Vs were divided between the contrastive item and the final lexical item .
 - In only one of them (no.11), did all Vs concerned mark a nucleus on the contrastive item .

In the remaining nine tone-units there seemed to be no particularly new or contrastive information. In six of these, Vs placed their nucleus on the last lexical item (nos 12, 14, 16, 17, 18, 19).

4.9.3 Salience / prominence findings

4.9.3.1

The six intonationalists had been asked to underline in each tone-unit all syllables they considered to be 'prominent / salient' (including nuclei). No definition of these terms was offered by the researcher and differences of approach between intonationalists were anticipated.

The two terms 'prominent' & 'salient' were chosen rather than 'accent', because of their greater familiarity to the intonationalists concerned, all of whom were primarily used to operating within a tone-unit theory.

4.9.3.2

In the three extracts combined, the total number of saliences / prominences marked by each intonationalist ranged from 71 (V6) to 110 (V3); V3, therefore, marked a total of 55% more saliences / prominences than V6. The full data can be seen in Appendix 13 & 14.

The difference is mainly accounted for by the fact that whereas Vs 1 - 4 were seeking to mark 'lower degrees of stress' or 'rhythmical stresses', both Vs 5 - 6 specifically excluded all saliences other than those assumed to have been deliberately highlighted by the speaker.¹⁴

4.9.3.3

Words per salience per intonationalist were counted (Appendix 14). In Extract One they ranged from 2.12 (V4) to 3.27 (V6) words per salience, and in Extract Two from 1.96 (V2) to 3.14 (V6). In Extract Three (the least coherent), V1 - finding it difficult to fit the considerable number of disfluencies into a Hallidayan rhythmic framework - abandoned the task in places. The range among the remaining intonationalists was from 2.00 (Vs 2 & 3) to 2.57 (V6) words per salience.

4.9.3.4

Vs offered very few comments on this task, in contrast to their several comments made on the tasks of identifying tone-units, nuclei and nuclear-tones.

- V1 (following a Hallidayan approach) used the term 'salience', and drew single bar-lines to indicate rhythmic feet. V4 (the Welsh-speaking intonationalist) referred several times to rhythmic structure, stating in places that the judgement of 'salience' was influenced by the impression of their synchronic timing within tone-units.
- The only comment from V5 and V6 (following a Discourse Intonation approach), was that of V5, who stated specifically that DI does not mark rhythmic stresses, only 'prominences'.

4.9.3.5

Examples of agreement and disagreement between the intonationalists on salience / prominence distribution can be seen in fig. 4.9.3.5 (a)-(c).

1. In the first example, all six intonationalists marked the saliences as in the AM transcription below, other than the one on 'cause', which only V2 identified.

1 [M1]

<i>V1</i>	. . cause he'd been <u>showering</u> in the <u>PIT</u> you <u>SEE</u> /	1	3
<i>V2</i>	. . <u>cause</u> he'd been <u>showering</u> in the <u>PIT</u> /you <u>SEE</u> /	0	3
<i>AM</i>	<u>cause</u> he'd been <u>showering</u> in the <u>pit</u> you <u>see</u> /		
	H* + H H 0* + H H*+H% 'L H*+H%		
	2 2.5 3 4 6.5 8 (1) 2.5 5.5		

Fig 4.9.3.5(a) Substantial agreement between Vs on salience identification
(see Appendix 13 for full transcriptions of Vs, and Appendix 20 p 476 for acoustic record).

2. In the second example, Vs 1 - 4 identified the saliences as in the AM transcription below, whereas Vs 5 & 6 divided the passage into two tone-units and recognised only two saliences, both nuclear.

2 [M9]

V4	/ . for the <u>old</u> <u>people</u> to <u>hear</u> the <u>FIGHT</u> /
V5	/ . for the <u>old</u> <u>PEOple</u> / to <u>hear</u> the <u>FIGHT</u> /
	/ . for the <u>old</u> <u>people</u> to <u>hear</u> the <u>fight</u> /
	$ \begin{array}{ccccccc} L & H & L^{*}+H & L^{*}+H & L^{*}+0 & H^{*}+H^{*}+L\% \\ 2.5 & 3 & 2.5 & 3 & 2 & 3 & 9.5 & 4 \end{array} $

Fig 4.9.3.5(b) Differences in identification of saliences and tone-units between Vs
(see Appendix 13 for full transcriptions of Vs, and Appendix 21 p 477 for acoustic record).

- Since Vs 5 & 6 consistently excluded the category of 'rhythmic saliences', an example will be taken of disagreement between Vs 1 - 4. In fig. 4.9.3.5c, there are differences between V1 and V3. They consist firstly of a difference in stress placement on the words '*coming home*'. To the researcher, they both sound rhythmically strong - an analysis which receives some support from the amplitude readings. Secondly, V3 allocates more saliences in the stretch '*and still bathing in front of the fire*'. There is support from amplitude readings and the stress on '*front*' is compelling on rhythmical grounds - in fact Vs 2 & 4, as well as V3, mark it .

3 [M9]

V1	/ . . and I was <u>coming</u> <u>home</u> and still <u>bathing</u> in front of the <u>FIre</u> /
V3	/ . . and I was <u>coming</u> home and <u>still</u> <u>bathing</u> in <u>front</u> of the <u>FIre</u> /

Fig 4.9.3.5(c) Differences in number of location of saliences between V1 & V3
(see Appendix 13 for full transcriptions of Vs)

4.9.4 Nuclear-tone findings

4.9.4.1

The final task of the six intonationalists was to label 'the tones' they found in each tone-unit. Appendices 13 & 14 show the full results.

The researcher did not use the term 'nuclear-tone' in their task-sheet, leaving it open for them to mark tones on non-nuclear prominences if they wished. In the event, all the tones labeled were on items that the Vs had chosen as nuclear.

4.9.4.2

Since only nuclear-tones were recognised, the total number of tones identified by each intonationalist was equal to the number of nuclei recognised: the lowest total being 29 (V1) and the highest 57 (V5) - almost twice as many.

4.9.4.3

Five different types of tone were identified by intonationalists in the three short extracts:

falling tone; rising-falling tone; rising tone; falling-rising tone and level tone.

The labels are those offered by the intonationalists themselves, and correspond to those commonly used in tone-unit descriptions (see 4.4.8.1-2).

4.9.4.4

None of them divided the tones they identified (e.g. the rising-tone or the falling-tone) into 'high' and 'low' categories. They sometimes, however, made reference to pitch level, mentioning for example that a particular tone finished high or low in the speaker's register. V2 indicated four pitch levels throughout : 'low', 'mid low', 'mid high' and 'high'. V5 indicated the three levels of 'termination' posited by Discourse Intonation (Brazil, D. 1997 : 53-61) 'low', 'mid' and 'high'.

4.9.4.5

Fig 4.9.4.5 shows the numbers of each tone identified by the six intonationalists .

4.9.4.5.1

All six intonationalists agreed that there was a large number of *rising tones*, and that *falling tones* were the second most common :

- *rising tones* accounted for 52% (139 / 267) of their tones identified

- *falling tones* accounted for 27.7% (74 / 267)

‘Nuclear Tones’ Identified by the Intonationlists

	TONES					TOTAL
	Level	Falling	Rising-falling	Rising	Falling rising	
V1	1	10	1	12	5	29
V2	2	9	1	24	0	36
V3	0	10	8	23	0	41
V4	1	14	12	26	0	53
V5	7	13	4	32	1	57
V6	10	18	1	22	0	51
TOTAL	21	74	27	139	6	267

Fig 4.9.4.5 Differences in numbers and types of tone identification between Vs.

4.9.4.5.2

Some differences of analysis between the intonationalists include:

- The proportions of rising to falling tones were very different between Vs, ranging from almost equal numbers (V1 & V6) to over twice as many (V2, V3 & V5).
- Only two intonationalists (V1 & V5) identified any falling-rising tones.
- The number of level tones varied significantly ; one intonationalist (V3) did not identify any such tones.
- The number of rising-falling tones identified also varied significantly.

Appendix 13 shows the full transcriptions made by the intonationalists, vertically arranged over one another so that the tones they marked can easily be compared.

4.9.4.6

There were eighteen occasions in the three extracts where all six intonationalists marked a nuclear tone.

- i. In nine (half) of these, there was complete agreement of tone identification. For example, in Extract One (see Appendix 13) :
 - all marked a rising tone on '*half*' in '*I started at fifteen and a HALF*'
 - all put a falling tone on '*clean*' in '*and my father was coming home CLEAN*'
- ii. In the nine remaining cases, disagreement ranged from one dissenting voice to

complete disarray of identification.

4.9.4.7

In two-thirds (six) of the nine cases of disagreement, one or more of the intonationalists identified a *rising-falling* tone (see fig. 4.9.4.7a below).

Rising-Falling Tones Identified by One or More Intonationalist

1. (Extract One)	on ' <u>Ferndale</u> '	in ' <u>in the colliery down in FernDALE</u> '
2. (")	on ' <u>bath</u> '	in ' <u>and he was having a BATH</u> '
3. (")	on ' <u>fire</u> '	in ' <u>bathing in front of the FIRE</u> '
4. (Extract Two)	on ' <u>I</u> '	in ' <u>I wanted to hear the FIGHT</u> '
5. (")	on ' <u>out</u> '	in ' <u>I had to come OUT</u> '
6. (Extract Three)	on ' <u>Community</u> '	in ' <u>the Community Centre up there</u> '

Fig 4.9.4.7(a) [underlinings denote saliences, and capitals nuclei as marked by most Vs]

In all of these cases there is a pitch movement consisting of a rise starting from the stressed syllable followed immediately by a fall.

- in four of them the pitch-movement occurs on a single syllable : (1) '-dale' (see acoustic record in fig. 4.9.4.7b) (2) 'bath', (4) 'I', (5) 'out'.
- in (3) 'fire' [which is disyllabic] it spreads over two syllables
- in (6) 'Community' it spreads over three syllables (fig. 4.9.4.7c)

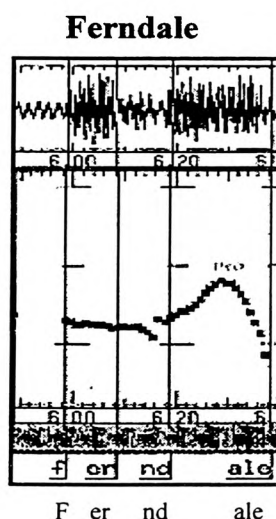


Fig 4.9.4.7(b) Acoustic record of 'Ferndale'.

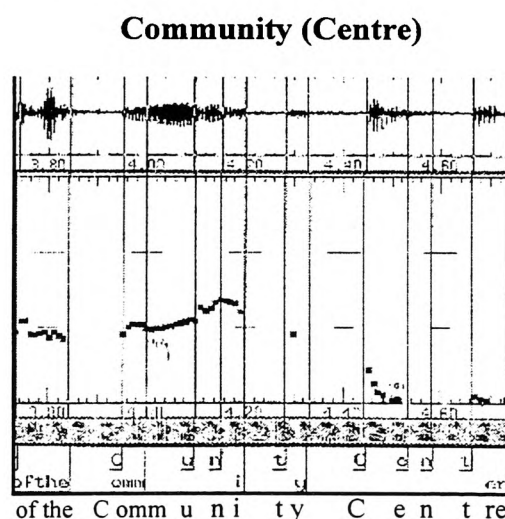


Fig 4.9.4.7(c) Acoustic record of 'Community'.

In Examples (1) & (4), only one V chose rising-falling, all other Vs had a falling tone, and in (6), two Vs chose rising-falling and three had a falling tone. [V1 had a

falling-rising tone, comment on which will be made shortly]. In other words, for these three cases the majority of Vs selected a **falling tone**, rather than rising-falling.

It seemed that perception was influenced by the number of syllables over which the rise-fall spread :

- ❑ Where the pitch-movement was confined to a single movement in (1) & (4), only one intonationalist perceived a rise-fall.
- ❑ Where the rise peaks on the second syllable (6), two of them perceived a rise-fall.

In (2), (3) & (5) the disparities of listener perception become even more apparent :

- ❑ in (2) on '*bath*', one marked a rising-falling tone, two falling tones, two rising tones and one a level tone
- ❑ in (3) on '*fire*', three marked rising-falling tones, two falling tones and one a rising tone
- ❑ in (5) on '*out*', one marked a rising-falling tone, two falling tones and three rising tones.

Both **falling** tone and **rising** tone were therefore chosen in these examples as significant alternatives to rising-falling.

In each of these three cases, the rise seems perceptually stronger than the fall. It could be presumed that Vs who marked *rising tone* perceived no significant fall following the rise. Vs who marked *falling tone*, on the other hand, must have perceived the rising element, although strong, still to be a 'delayed peak' .

A Bath

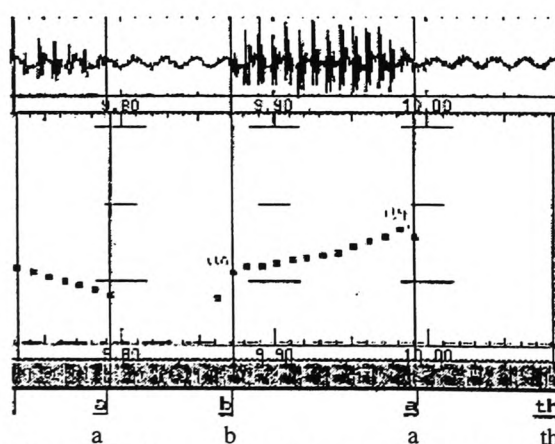


Fig 4.9.4.7(d) Acoustic record of 'a bath'.

The only intonationalist to comment on these specific cases was V6, who, (significantly for the discussion that will follow in sec. 4.11.7) marked (2) and (3) as falling tones, but stated that their phonetic realization was as a rising-falling contour.

4.9.4.8

Another significant point of difference between the intonationalists was in the marking of *level tones*.

An example is the tone marked on '*councillors*', in '*a lot of the . local COUNcillors*' from Extract Three (see Appendix 13): Three intonationalists marked *rising tones* and three *level tones*.

The acoustic record (see 4.9.4.8) shows a jump of F_0 from the first (stressed) syllable of '*councillors*' to the second, but only a very slight one - which Vs marking a level tone might have missed or thought not significant. The post stress syllable '*-lors*' is then longer and stronger phonetically than the stressed syllable - a common feature of RVE prosody as will be seen in sec. 4.11.10.3 - and is held on a level pitch, which could have been a factor in influencing the three Vs who marked 'level tone'.

Local Councillors

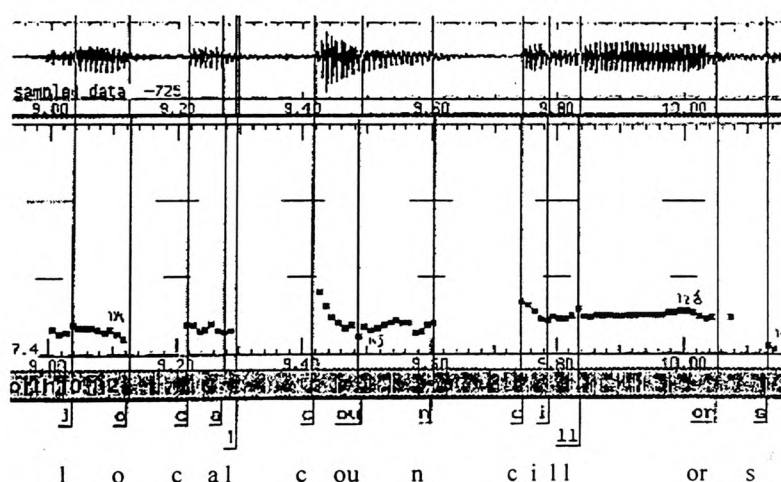


Fig 4.9.4.8 Acoustic record of 'local councillors'.

The example raises the issue of theoretical status of 'level tone'. A tone is seldom absolutely level - and the example selected shows a slight rise while other examples

might have a slight fall - yet perceptually a tone may be heard as being 'level'. The theoretical issue is whether 'level' constitutes a separate category of tone, or whether it represents a sub-category of 'rising' or 'falling'.

The researcher would support the hypothesis that 'level' is separate tone, but ultimately a sub-category of 'rising' ¹², since the speaker plainly intends 'not to go down' and exerts laryngeal tension similar to that in a rising tone to accomplish this.

4.9.4.9

Lastly, a look may be taken at the falling-rising contour. Although it is a common nuclear tone in RP, only two of the intonationalists, in fact, identified any falling-rising tone in the three short extracts of RVE they listened to.

1. In '*only the fight mind*' (fig. 4.9.4.9a), once the peak on '*only*' has been reached, the contour over the whole phrase is falling + rising. V1 accordingly locates a falling-rising nuclear tone on '*only*' with its pitch movement extending over the rest of the unit. Such an analysis of spreading fall + rise, however, poses a problem for tone-unit theory, and it has already been seen in sec. 4.5.4.11 that this example was no exception with
 - V1 marking a falling-rising tone
 - V2 & V3 marking a non-nuclear salience / prominence on '*only*', and then a rising nuclear tone on '*fight*'
 - V4 marking two nuclei with a rising-falling tone on '*only*' and rising tone on '*fight*'

1 [M9]

<u>only the <i>fight</i> mind/</u>				
H*+H	L	↑L*+H	H	H%

Fig 4.9.4.9(a) Problems of analyzing a spread falling-rising contour
(see Appendix 13 for full transcriptions of Vs, and Appendix 21 p 480 for acoustic record).

2. A second example is the phrase '*on a part-time basis like*' (fig. 4.9.4.9b). Again, only V1 puts a falling-rising nuclear-tone on '*part-time*', with the assumption that the tone continues to the end of the phrase. The other Vs all

mark a salience / prominence on '*part-time*' and a rising nuclear tone on '*basis*'.

2 [P14]

on a <u>part-time</u> <i>basis</i> <i>like</i>						
L	L*+H	L	L*+H	'H	H%	
4	3.5	4.5		5	7.5	

Fig 4.9.4.9(b) Marked by V1 as a spread falling-rising contour
(see Appendix 13 for transcriptions of Vs).

4.10 Prosodic Units of Analysis

4.10.1 Introductory

In this chapter, the formal units that will be used to analyze RVE prosody are made explicit. The main units are :

1. *intonation phrases (IP)*
2. *accents*
3. *terminal tones*

4.10.2 Intonation phrases ; major and minor demarcations

4.10.2.1

In the same way that segmentation of meaning in written discourse is helped by devices of punctuation, segmentation of spoken discourse employs devices of prosody.

A basic unit for such segmentation has been called 'tone-group' by Halliday (1967, 1970); 'tone-units' by Palmer (1922), Quirk, et al (1964), Crystal (1969) and Brazil (1997); 'phonemic clauses' by Trager & Smith (1951); 'intonation units' by Cruttenden (1986); and 'intonation(al) phrases' by Pierrehumbert (1980), Nespor and Vogel (1983), and Selkirk (1984).

The researcher will call such a basic unit of segmentation *intonation phrase (IP)*. He chooses the term 'intonation' rather than 'tone' , because he believes that the character of such a unit / phrase derives from a series of intonational events, rather than 'nuclear-tone' as might be implied by the label 'tone-unit' or 'tone-group'.

A completed IP contains at least one *accent* and a *terminal tone* .

4.10.2.2

It is assumed that IPs will frequently be concurrent with grammatical constituents, e.g. ' phrase', 'clause' or 'sentence' (cf Crystal, D. 1969: 257-263), but that some IPs will not fit the grammar so neatly, splitting up a constituent here or running two together there - since speakers can create sense-units as they like .

When prosodic devices of segmentation are present, it is expected that they will be in the form of any or all of the devices listed in sec. 4.4.2.1 (pause, pre-juncture lengthening, terminal pitch movement, re-setting of the baseline between the units etc).

4.10.2.3

In the auditory experiment reported in section 4.9, it has been seen that a given stretch of speech might be analyzed as a single IP by one intonationalist, and as two or three IPs by another.

In such a case, one of the intonationalists might be right and the other wrong. There exists another possibility, however: that of the presence within (some) IPs of minor demarcations which, if detected, the traditional tone-unit analyst must either count as a full tone-unit boundary or ignore.

Examples, including ones already cited in sec. 4.9.2, are given in fig. 4.10.2.3. Inside each IP - except the last two - one or more intonationalist marked at least one extra segmentation boundary. [The figure above each boundary marker shows the number of intonationalists identifying it.]

Possible Minor Demarcations within IPs

M1 (EXTRACT ONE)	
1.	/ my ² F <u>A</u> ther/ was <u>com</u> ing home ⁶ <u>CLEAN</u> /
2.	/and I was ¹ <u>COM</u> ing home/and still <u>bat</u> hing in front of the ⁶ <u>F</u> Ire/
3.	/ . cause he'd been <u>shower</u> ing in the ⁵ <u>PIT</u> /you ⁶ <u>SEE</u> /
M9 (EXTRACT TWO)	
4.	/ . <u>they</u> <u>wanted</u> a ³ <u>WIRE</u> less/ over the . ⁶ <u>SHOT</u> /
5.	/ . for the ² <u>old</u> <u>PEO</u> ple/ to <u>hear</u> the ⁶ <u>FIGHT</u> /
6.	/ . so ¹ <u>I</u> / w~was in ² <u>SIS</u> t ⁵ ing/ <u>NOW</u> /
7.	/and the ¹ <u>only</u> <u>WAY</u> / they could <u>have</u> that ⁵ <u>WIRE</u> less/
8.	/ . ⁰ <u>only</u> the ⁶ <u>FIGHT</u> / <u>mind</u> /
P10 (EXTRACT THREE)	
9.	/on a ⁰ <u>part</u> -time ⁶ <u>BA</u> sis/ <u>like</u> /

KEY			
Underlinings	-	stresses	
Accents	-	capitals	
Large slashes	-	major demarcations	
Small slashes	-	minor demarcations	
0, 2, 4 etc	-	number of Vs marking a boundary at this location	

Fig 4.10.2.3 Extra boundaries marked by Vs represent possible minor demarcations within IPs.

4.10.2.4

Beckman, M. and Pierrehumbert, J. (1986 : 286-298) hypothesize that a full IP may be split into two or more *intermediate phrases* . They formulate the differences by proposing that

- An intermediate phrase (ip) is followed by a 'phrase-accent / tone'.
- A whole IP is followed by a 'phrase-accent / tone' and 'boundary tone' . (See 4.5.4.7-8 for discussion of these terms).

Applied to two of the examples above, their analysis might work as follows:

Example (1) '*my FAther was coming home CLEAN*' may have the structure :

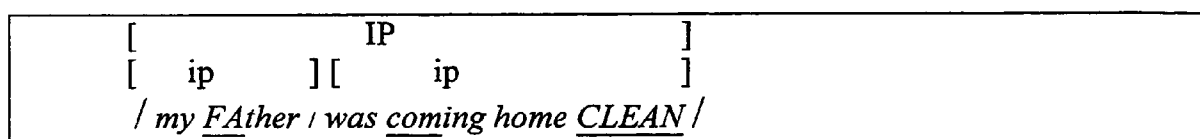


Fig 4.10.2.4(a) Example of a possible division of an IP into two intermediate phrases.

Example (9) *on a part-time Basis like* , may have a similar structure, in which the smaller of the two parts into which the IP is divided this time comes last :

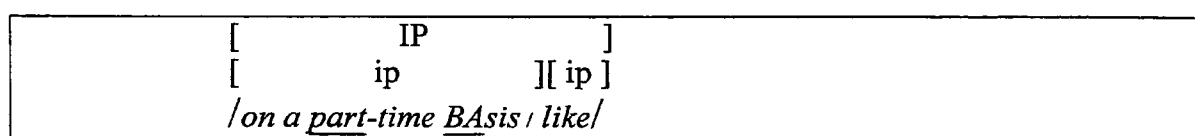


Fig 4.10.2.4(b) Further example of a possible division of an IP into two intermediate phrases.

4.10.2.5

The researcher accepts the notion that some IPs may be split into smaller units.

Because, however, he has taken issue with the notion of '*phrase-accent / phrase tone*' as held by Beckman and Pierrehumbert (1986) (see 4.5.4.8), he will instead refer to greater and lesser boundaries occurring in the discourse as '*major*' and '*minor*' **demarcations**.

- a 'major demarcation' is associated with the end of an IP, and carries a terminal tone (see 4.10.4)
- a 'minor demarcation' can only occur within an IP - and does not carry terminal tone

Both signify voluntary segmentations of the speaker. A difference from Beckman and Pierrehumbert (1986) will be that the terms refer to the boundaries themselves rather than the units contained.

In the analysis of spontaneous speech, it is anticipated that only where there is a strong boundary, e.g. with perceptible pause and marked pre-pausal lengthening giving time for pitch-movement to sound IP 'terminal' , might the listener be sure of the presence of a major demarcation. There will be many cases where the listener is in

doubt whether the speaker intends a major or minor demarcation, and others where the listener is not sure whether any demarcation is intended at all.

Such a flexible view of segmentation of discourse is made possible by rejecting the tone-unit concept of nucleus - at least as far as its role of focus of information is concerned. (See discussions in 4.4.5-6 & 4.9.2.11-13.)

4.10.3 Accents and rhythmic stresses

4.10.3.1

It is assumed that, within an IP, the speaker strongly stresses certain words in order to highlight parts of his discourse and the term *accent* will be used to refer to such occurrences .

An IP contains at least one accent. If it has more than one accent, a distinction is made between *non final* and *non-final* . Both have identical accentual functions, but attached to or following the latter is, in addition, an IP-final *terminal tone* (see 4.10.4).

4.10.3.2

Accents are assumed to be fitted, with adjustments, onto the underlying rhythmical structure of the IP, and occupy strong-beat slots in this rhythm (see 4.3.2.1-3).¹⁵

The strong-beat slots not filled by accents are occupied by non-accentual stresses or *rhythmic stresses* .

Accents are distinguished from rhythmic stresses by comprising a voluntary action on the part of the speaker. They will usually be phonetically more salient in some way, e.g. via pitch prominence (see 4.3.1.3), but it is expected that there will be cases when it is difficult to differentiate accent from rhythmical stress. If the distinction is psychologically valid, however, ambiguity of phonetic cues may be tolerated and assigned to speaker / listener 'performance' factors.

4.10.3.3

A salient pitch movement taking place at an accent is typically achieved by pitch movement to the accented syllable (*obtrusion*) and pitch movement from the accented syllable (*tone*)¹⁶, which together will be referred to as the *profile* of an accent.

It will be assumed, in contrast to the 'tones' of tone-unit theory, that any profile may occur on any accent, whether final or non-final.

4.10.3.4

In order to describe the ups and downs of pitch throughout the contour of an IP, including at accent profiles, the researcher uses the AM symbols of

' H ' (High) and ' L ' (Low)

These denote whether a given *contour point* is higher or lower than the last contour point marked.

These symbols have the dual advantage of

1. providing a fuller description of the profile than the nuclear tones of tone-unit theory, since a profile of H*+L, for example, refers to the upwards obtrusion to the stressed syllable as well as the downwards tone from it
2. facilitating reference to actual contour points in an IP

To provide for the full range of profiles at accents in RVE, the researcher proposes to add the symbol ' 0 ' (Level), signifying no pitch movement. Thus, a sequence of 0*+H would signify absence of pitch obtrusion to the stressed syllable and a rising-tone from it, and a sequence of H*+0 would signify an upwards obtrusion to the stressed syllable and a level-tone from it.

4.10.3.5

A star ' * ' (e.g. H*+L), indicates which symbol is aligned with the stressed syllable of the accent, and ' + ' is used to indicate the two or more contour points forming part of the profile. A sequence of L*+H+L would, therefore, signify an obtrusion down to the stressed syllable and a rising-falling tone from it.¹⁷

Because the ' L* ' in the above example explicitly refers to pitch movement from a higher level down to the stressed syllable, the researcher sees no need to indicate this previous higher level by a ' -H ' symbol : a 'leading-tone' in AM-theory.

4.10.4 Terminal tone

4.10.4.1

The researcher will not use the concepts 'nucleus' or 'nuclear accent' in his description of RVE. The results of his auditory experiment have been set out in sec. 4.9.2.11-13.

The six intonationalists taking part showed a marked preference in 'nucleus' identification for the final lexical item even when the location of the phonetic maxima was elsewhere, and even on occasions where there was a clearly contrastive focus of information elsewhere. The results, which are similar to those of Brown, G. et al (1980: 145-6, 152, 154), appeared to be more in keeping with a notion of terminative marking rather than the 'information focus' of tone-unit theory.

As in Brown, G. et al (1980: 157) and AM theory (e.g. Ladd, D. 1996: 87), the view is taken that the 'nucleus' of tone-unit theory is a conflation of two functional elements :

1. the final accent of the IP which signals emphasis within the information-highlighting system, and
2. a terminal-tone which signals major demarcation and the status of information of the whole IP.

4.10.4.2

Terminal tone will be held to refer to pitch-movement, not pitch-level as in AM theory, and comprises the final pitch direction of an IP, which may be

rising, falling

'Level' will be assumed to be a variant of rising (see 4.9.4.8).

4.10.4.3

Although the notion of 'nucleus' is abandoned, the term *nuclear contour* will nevertheless be used to refer to the final contour of the IP encompassing the final accent profile and terminal tone.¹⁸ It will be marked in italics, and tone-unit theorists will see that, on the surface, it corresponds with 'nucleus and tail', although not (in the view of the researcher) in its deep structure.

4.10.4.4

The two elements of final accent and terminal tone are usually conflated, but are separable. If, for example, there is a *tail* of syllables following the final accent, the

longer the tail the greater the likelihood that the terminal tone should be analyzed as separate from the final accent profile.

4.10.4.5

The meaning of the terminal tone will be taken, very generally, to be 'finality / non-finality'. This may be

1. informational (text-orientated) finality, signifying completion of a proposition or topic / sub-topic
2. interactional (listener-orientated) finality, signaling end or continuation of speaking-turn, or 'proclaimed' vs 'referred' to the listener (cf Brazil, 1980, 1997).

4.10.4.6

Termination height at the end of IPs, particularly *high termination* or *low termination* will also be used in the analysis. This notion will be defined in sec. 4.10.6.4.

4.10.5 Illustration of the analysis at work

The following transcriptions of the opening lines of Extract One [M1] illustrate how the analysis works. Two tiers are shown, the orthographic tier above, and the intonational tier below.

1 [M1]

when	I	started to	work/	I	started at	fifteen	and a	half/
H	H*+H	L*+L	L L%	H*+H	L*+L	L*+L	L	H*+H%

Fig 4.10.5(a) Transcription of extract from interview M1.

In Line 1, the orthographic tier shows that there are two IPs.

- The first has three stresses: 'I', 'star-' and 'work'. The intonational tier shows that only the first two of these are accents, with accent profiles associated with them. These profiles are, respectively:

H*+H : upwards protrusion to the stressed syllable and a rising tone from it

L*+L : downwards protrusion to the stressed syllable and a falling tone from it

At the end of the IP there is a fall to L%, the '%' symbol indicating end of terminal tone, which is here falling. For those maintaining the concept of 'nucleus', italic script has been placed on '*started to work*', identifying the *nuclear contour* stretching from the onset of the final accent to the end of the IP.

- In the second IP, there are four accents, in which the final accent carries simultaneously the terminal tone.

2 [M1]

/... and I was <u>working</u> in the . <u>colliery</u> <u>down</u> in Fernd <u>dale</u> /									
L	H*+H	L	L*+H	L	L*+	H	L*+H	0	H*+H+L%

Fig 4.10.5(b) Transcription of extract from interview M1(cont).

In Line 2, there is a single IP, with accents on '*I*', '*wor-*', '*col-*', '*down*' and '*-dale*', and with terminal tone combining with the final accent on '*-dale*'. There is a minor demarcation after '*colliery*'.

3 [M1]

/.. and my <u>father</u> was <u>working</u> in the <u>colliery</u> in <u>Maerdy</u> /									
L	H*+H	L	0*+H	L	L*+	H	L	L*+	H%

Fig 4.10.5(c) Transcription of extract from interview M1 (cont).

In Line 3, there is a single IP with a minor demarcation after '*father*'. The IP has four accents. The last one on '*Maerdy*' simultaneously carries the terminal tone.

4 [M1]

/and he was <u>having</u> a <u>bath</u> /because they'd <u>modernised</u> <u>that</u> <u>pit</u> /										
L	0*+H	L	H	L	H*+H%	L	L	H	H*+H+L	L*H*+H%

Fig 4.10.5(d) Transcription of extract from interview M1 (cont).

In Line 4, there are two IPs.

1. In the first, final accent and terminal tones are combined on '*bath*'.
2. In the second, '*modernized*' and '*that*' are both strongly accented ; '*modernized*' is so strong, in fact, that it attracts a rhythmic stress on the final syllable of the word. The IP finishes with a rising terminal on '*pit*'.

5 [M1]

/ . . and I was <u>coming home</u> / and <u>still</u> <u>bathing</u> in <u>front</u> of the <u>fire</u> /													
'L	H*+H	H	0*+H	H	H%	L	0	L*+H	L*+H	H*+H%			
2.5	3	4	4	4.5	5	5.5	5	4	5	4.5	5	5.5	7.5

Fig 4.10.5(e) Transcription of extract from interview M1 (cont).

In Line 5 there are two IPs.

1. The first has two accents, the final one on '*coming*'. The terminal tone is a rising one on '*home*'.
2. In the second IP, there are three accents. The profile of the final accent and terminal tone combine on '*fire*'.
3. Below the contour points, the figures mark pitch height on a scale of 0 (bottom) to 10 (top), the scale representing a calculation, based on the acoustic record, of the speaker's normal speaking-range (see 4.10.6.4).

4.10.6 Treatment of pitch level

4.10.6.1

The symbols 'H', 'L' and 'O' at contour points are taken to refer to pitch-level relative to the previous symbol marked. So, in Line 5 (fig 4.10.5e) above, a H on the word '*I*' tells us that its pitch starts higher than the previous syllable, that '*was*' is higher than '*I*' etc.

Such a system is fully transparent, in contrast to some of the uses of H and L symbols in AM theory (cf discussion in Ladd, D. 1996: 89-92).

4.10.6.2

As well as being used to mark pitch levels at accents, the 'H', 'L' and 'O' symbols are used to mark contour-points during transitions between accents, at terminal tones, and between the final accent and terminal tone if these are separated. This is a fuller marking of contour points than is usual in AM transcription, which generally indicates only accent and edge 'tones'. It is done because the researcher sees no reason in principle why more contour-points should not be marked (see discussion on phrase tones / accents sec. 4.5.4.8), and for the pragmatic reason that the additional levels are

useful to account sufficiently for the richness of melody of Welsh English intonation.

4.10.6.3

The use of symbols 'H' & 'L' tells us nothing about absolute pitch levels.

A 'H' in one IP might be lower than another 'H' or even than a 'L' in the same IP.

The *scaling* of pitch-levels is, however, held by the researcher to be important, particularly to signal:

- relative degrees of prominence, whether of a single accent or a whole stretch of utterance
- termination height at the end of IPs, significant, for example during conversational 'turns'

4.10.6.4

The researcher, therefore, uses the following devices to specify pitch level in more detail:

1. Firstly, in his broad transcriptions (which can be seen in Appendix 16-19) he makes use of diacritics to indicate the presence of abnormally large pitch spans, so in the following accents :
 - 'H*+L indicates a pitch obtrusion up to the stressed syllable of *three to six semi-tones* in extent, and
 - H*+'H indicates a rise from the stressed syllable spanning *seven semitones or more*.

Examples can be seen in Lines 1 and 4 above .

2. Secondly, since an IP in RVE frequently contain a succession of L*+H accents, diacritics are used to describe when they are *downstepping* or *upstepping* :
 - L*+H....., L*+H indicates that the second L H sequence is downstepped from the first
 - L*+H....., L*+H indicates that it is up-stepped.

Examples can be seen in Lines 2 and 5 above.

3. Thirdly, he has marked pitch levels in the transcriptions of the six extracts for which acoustic records are available, on a scale of 1 (bottom of normal pitch-range of speaker concerned) to 10 (top). An example can be seen in Line 5.
4. Fourthly, the researcher seeks to transcribe how a whole IP or succession of IPs may be raised or lowered in pitch, by raising the register and increasing spans, or lowering the register and decreasing spans.

A three-term system of *high key*, *mid key* and *low key* is used for this. Unlike Brazil (1980, 1997) however, the terms refer (however approximately) to absolute rather than relative pitch, so that to mark a stretch as 'high key' indicates the use of pitch levels noticeably high in the speaker's register, 'low key' levels that are noticeably low, and 'mid key' what appears to be the norm for the speaker.

In practice, the researcher only finds the need to mark 'high key' and 'low key' in his transcriptions.

5. Lastly, the researcher accounts for pitch heights at the ends of IPs that are felt to be communicatively significant by using a three term-system of
high termination, *mid termination* and *low termination*.

The features that make an ending sound 'high' or 'low' are not straightforward to describe.

- Firstly, relative as well as absolute pitch is involved : if, in a given IP, a speaker is speaking quite low in his range, a marked final raising of pitch may sound like high termination, whereas in another IP similar final pitch-values might sound like mid termination.
- Secondly, features that seem to apply to perception of termination-height in rising terminals do not seem to be the same as those in falling terminals:
 - In the case of falling terminals, the critical determiner of termination-height appears to be the height of the onset of the final accented syllable relative to the previous general trend of the top-line in the IP : perceptually higher is 'high termination' and perceptually lower is 'low termination'. (In the case of a rising-falling profile on the final accent, this height is taken as

the peak of the rise.) The precise point to which pitch falls thereafter does not seem so important.

- In the case of rising tones, on the other hand, termination-height appears to be determined by the height of the finishing point of the rise element relative to the previous general trend of the top-line.

In practice, the researcher will only refer to *high* and *low terminations*. The somewhat complex specifications for these are perceived somewhat more simply by the ear as 'high pitch at the end' and 'low pitch at the end', respectively.

4.11 Prosodic Analysis of the RVE Data

4.11.1 The data

4.11.1.1

The prosodic data comprises recordings and transcriptions of spontaneous conversations recorded in bars and back-rooms of Working-Men's Halls in Treherbert, Maerdy and Cymmer, Porth in the Rhondda Valleys (see 1.5.1-2).

4.11.1.2

Generally, the great bulk of the speech recorded can be characterised, similarly to the Edinburgh data of Brown, G. et al (1980 : 16-17), as '*cooperative adult speech*' in which no great heights of emotion are scaled, and in which the speakers behave 'in a pleasant, cheerful and cooperative manner'.

However this is a generalization, and within the data speech ranges from guardedly formal to clearly casual, and from calm and highly controlled to quite emotional or

excited, e.g. in which a disagreement / argument develops between two informants over some issue.

It is interactive, constituting dialogue taking place largely between the two informants with the interviewer taking part to a lesser degree (see 1.5.4.6). Even when one of the informants has a lengthy stretch of monologue, this is filled with appeals to the listeners' agreement, understanding etc.

4.11.1.3

There are thirty conversations involving ten pairs of informants from each of the three locations of Treherbert, Maerdy and Cymmer, Porth and they last, typically, between 10 and 15 minutes each (see 1.5.4.4-5). The total conversational data, therefore, comprises some 375 minutes' recordings.

The recordings are mixed in quality, but all can be clearly heard for most purposes of auditory transcription.

4.11.2 Prosodic transcriptions

4.11.2.1

The interviewer began by listening to all the thirty conversations, making synopses of them, timing the different episodes and topics, noting down the balance of participation between 'Speaker A' and 'Speaker B' in each episode (e.g. 'mainly Speaker A', 'equal participation by both speakers'), and noting variations in quality of the recording (e.g. when affected by background noise from elsewhere in the Club).

4.11.2.2

One or more episodes from each of the thirty conversations were then transcribed orthographically. This data is referred to as the *orthographic transcriptions*.

The orthographic transcription made of Maerdy 8 can be seen in Appendix 4, illustrating the type of conversation and range of topics captured.

4.11.2.3

From the thirty orthographic transcriptions, one or more passages from the following six were selected for *prosodic transcription*, using the units of analysis outlined in sec. 4.10 :

-	Treherbert	1
-	Treherbert	5
-	Maerdy	1
-	Maerdy	8
-	Maerdy	9
-	Porth	10

(The numbers refer to the serial number of interview at the particular location.)

Passages were selected on the basis of being among the best for recording quality and it being felt by the researcher that the accents of the speakers were representative of the mainstream of working-class 'Valleys accent'.¹⁹

The bio-details of informants participating in the six interviews selected for prosodic transcription can be seen in Appendix 1. For example, 'Treherbert 5' were two brothers and retired miners. 'Porth 10' were two friends, one a printer and the other a skip driver.

4.11.2.4

The prosodic transcription uses three tiers:

1. *orthographic tier*

transcribing the text of what was said, indicating IP boundaries and minor demarcations, if any, within them, and underlining all saliences (including both accents and rhythmical stresses).

2. *intonational tier*

showing the accent profiles and other main contour-points throughout each IP by means of H, L & 0 pitch symbols ; indicating when the span of these pitch movements was larger than normal; and marking any down-stepping or up-stepping of sequences of accents

3. *miscellaneous tier*

marking other useful prosodic, segmental and incidental information, for

example :

- shortening of stressed vowels and lengthening of following consonants
- significant *tempo* changes
- uses of high or low *key* by speakers (see 4.10.6.4)
- 'off-stage' noises or events

The full prosodic transcriptions with Key can be seen in Appendices 16-19.

4.11.2.5

Such an approach may bear some resemblance to the tiers transcriptions of 'ToBI' (Silverman et al : 1992 ; Beckman and Ayers: 1994 etc), intended as a set of conventions for labeling the prosodic features of digitized corpora of English speech.

The following are the main points of difference from ToBI :

1) *tones* (the 'To' element of 'ToBI'):

- the term '*tone*' is used in the sense of significant pitch movements and not pitch-level primitives
- the symbol '0' is added to 'H' and 'L' (see 4.10.3.4)
- what AM theory would call 'tri-tonal' accent profiles are employed (see 4.10.3.5)¹⁷
- a greater number of contour points are marked than is normal in ToBI

2) *break-indices* (the 'BI' element of 'ToBI'):

Only two boundary strengths are indicated - major demarcations at the end of IPs, and minor demarcations within IPs (see 4.10.2.5)

4.11.2.6

Short episodes (1 - 2 minutes each) from each of the six prosodic transcriptions were then chosen for the purpose of detailed examination, and most of the examples employed in the discussion that follows will be taken from these. They will be referred to as the six *Extracts* .

Three of these, *Extract One* (Maerdy 1), *Extract Two* (Maerdy 9) and *Extract Three* (Porth 10), were sent to the six intonationalists for the experiment described in sec. 4.9. These three Extracts, together with the transcriptions of each intonationalist in vertical arrangement one above another, can be seen in Appendix 13.

4.11.3 Acoustic analysis (suprasegmental)

The six extracts, including the three extracts sent to the intonationalists, were analyzed instrumentally²⁰.

Instrumental readings were sometimes absent or defective as speakers spoke quietly, sank into creaky voice, or extraneous noise interfered with the recording.

Some of the more complete acoustic records of the six extracts can be seen in (Appendices 20-23), consisting of the waveforms and intonation contours, with vertical axis showing Herz-values (Fo) and horizontal axis indicating time in ms.

By lining up the segmental string with the waveform and intonational contour, eye measurements of Fo, duration and amplitude could be obtained.²¹

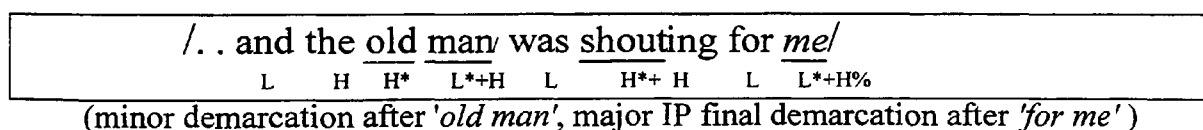
4.11.4 Segmentation into IPs : issues arising

In making the prosodic transcriptions, the main problems and issues arising may now be discussed, starting with those encountered during segmentation of conversations into IPs.

4.11.4.1

There were many occasions when presence and types of demarcation, major or minor, were clear. Two examples are as follows (full transcriptions are seen in Appendix 17):

[T1]



[T1]

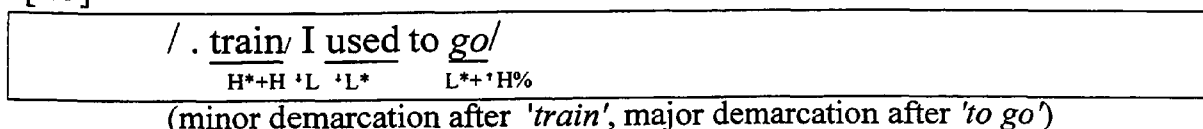


Fig 4.11.4.1 Examples of minor demarcations.

Predictably, however, there were other occasions when it was difficult to decide whether the speaker had intended a prosodic demarcation, and if so whether it was

a major or minor one.

4.11.4.2

The sorts of problems and issues that arose are illustrated by the following examples :
[See Appendices 16-19 for full transcriptions + Key, and Appendices 20-23 for acoustic records, where existing.]

1. [T1]

/. . I remember them <i>playing</i> <i>erm</i> / . . . <i>Birmingham</i> /											
L	H	'H*+	H+	L	L*+H	L	0%	'L*+	H+	L%	

Fig 4.11.4.2(a) IP identification : interpretation of filled pauses

Problems and issues related to the interpretation of filled pauses have already been encountered in the extracts analyzed by the six intonationalists (see 4.9.2.6). In Example One, the boundary strength between '*playing*' and '*erm*' is weak : the decision is between a minor demarcation and none at all.

There is then a problem of how to treat '*erm*'. Most of the phonetic clues - extra length, pause, sustained level pitch, and extra amplitude - are not conclusive. It is the marked base-line reset on '*Birmingham*' that strengthens the listener's perception that two separate IPs may be intended. Semantically, '*erm*' appears to be a hesitational phenomenon within the proposition '*I remember them playing Birmingham*', yet it in addition seems to be a turn-holding device, signaling the intention to continue the speaking turn : " I haven't finished yet ; hang on while I'm thinking which team it was that Cardiff was playing". If this interpretation of phonetic and semantic clues is correct, then there is a major demarcation (IP boundary) at this point, and '*erm*' carries a level (non-finality) terminal tone .

2. [T1]

/ <i>there's a bit of a cymysgiad</i> / <i>now</i> / <i>isn't it</i> /											
L*	+	H	L		L	L*+	H%	H*	H*+	L%	

Fig 4.11.4.2(b) IP identification: interpretation of fillers and tags.

Problems and issues related to the treatment of fillers and tags have also already been encountered with the extracts analyzed by the intonationalists (see 4.9.2.5).

In Example Two, it has to be decided whether the whole utterance forms one, two, or even three IPs. There are potential IP boundaries within the utterance after

'*cymysgiad*',²² and after '*now*'.

Although the whole utterance is spoken quite quickly and there is no pause after '*cymysgiad*', there is enough clear lengthening on '*-ysgiad*' (comparative to the tempo of what precedes and what comes after) for the strong rising-tone on it to sound IP terminal. A further phonetic clue is that on the succeeding '*now*' there sounds to be a base-line reset, even though this is accomplished without the aid of a pause. A final phonetic clue is the extreme rapidity with which '*now isn't it*' is spoken - the change of tempo reinforces the effect of segmentation.

There is then the question whether, even within the very fast tempo of '*now isn't it*', the speaker intends a minor demarcation between '*now*' and '*isn't it*'. The rapid tempo rules out occurrence of lengthening and pause, yet there are clues to possible demarcation in the jump of pitch between '*now*' and '*isn't it*' and the reversal of pitch direction between them.

The whole utterance presents problems of analysis which are typical of rapid speech, in which a speaker might intend to put demarcations, but clues are so minimal as to be hard to interpret by the listener.

3. [T5]

B:	..	Nick	Col	.	Nick	Colville	/	was	a	..	full	full	back	there/
		L	L		H	L*+H		L	L		H	0	0*+H	L%

Fig 4.11.4.2(c) IP identification : disfluencies.

The utterance in Example Three illustrates uncertainties that can exist in dealing with what appear to be disfluencies.

There are three : after '*Nick Col*', '*was a*' and the first '*full*'. Reconstruction of the speaker's possible meaning would seem to point to a single sense-unit as being most probable. But there are other possibilities : '*Nick Colville*' might be demarcated by the speaker as a sense-unit, or conceivably '*Nick Col*' could be, if it was the nick-name by which that player was known in the Rhondda. Demarcations after '*was a*' and the first '*full*', however, seem unlikely on semantic grounds. There are phonetic clues at '*Nick Col*', '*was a*' and the first '*full*', that are often associated with demarcation:

- i. all are followed by strong disjuncture - 'was a' by a sizeable pause
- ii. both 'Nick Col' and 'was a' are followed by base-line resets ; only after 'full' does the pitch resume at the same level - such resumption at the same pitch level being a common occurrence after hesitation.²³

The phonetic evidence against demarcation boundary in all three cases and in favour of disfluency / hesitation lies in the absence of certain clues.

- On 'Col' there is little amplitude considering its position near the start of an IP, and length and pitch movement seem cut short : both impressions are strengthened retrospectively by the greater amplitude and full rising tone on 'Colville' when speech is resumed.
- On 'was a' there is, again, an absence of final lengthening and any pitch movement resembling a tone.
- In the final case on the first 'full' , lengthening and amplitude clues to stress exist, but this time it is the resumption of pitch at exactly the same level that points to hesitation.

Using a combination of semantic and phonetic clues, all three, therefore, are analyzed as disfluencies.

4. [T5]

A:											<u>Tom</u>					
											L*+H %					
<hr/>																
B:	the	<u>Parry</u>	<u>brothers</u>	/	<u>remember</u>	<u>them</u>	/	<u>Tom</u>	<u>and</u>	/	.	.	<u>Glyn</u>	<u>Parry</u>	/	.
	H	L*+H	0*+ H %		L	0*+ H		L %	L*+H	L %			L*+H	L*+ H %		

Fig 4.11.4.2(d) IP identification : interpretation of 'and'.

A problem in Example Four exists in the interpretation of 'and'.

'Tom and' reads like an incomplete sense-group, but there is evidence otherwise, partly phonetic and partly contextual (see full transcription in Appendix 17 p 444). Speaker A & B are engaged in the listing of eminent sportsmen they can remember in the past from the Treherbert area. The immediately preceding words (Speaker B) are 'and the Parry brothers . remember them' . The strong rising tone on accented 'Tom', seems to be a listing of one of the brothers, and is taken up by Speaker B who echoes

'Tom' with the same rising tone. What, then, of the word 'and'? The semantic impression is of emptiness - the listing of 'Tom' being the main business.

5. [M1]

B: / ... and/. my father was coming home clean/.
¹L*+0% H L*+ H L 0*+ H L H H*+ 'H+ '1L%

Fig 4.11.4.2(e) IP identification : interpretation of 'and'.

The problem in Example Five again relates to analysis of the word 'and'.

Does the whole utterance form a single IP with a hesitational pause after 'and', or does 'and' form an IP and therefore a sense-unit (for the speaker) of its own?

The phonetic clues are in favour of the latter analysis : the word is clearly stressed, and is accompanied by lengthening, increased amplitude, and pause, all of which contribute to make the tone on it sound terminal. Finally, there appears to be a slight base-line reset on the succeeding 'my father ...'. All these clues indicate that 'and' is being accented, and demarcated as a separate sense-unit with the meaning of 'moreover', 'what is more'.

6 [P10]

A: . . when I w~. lived in Pen-rhys/. . I worked
 0 H L*+0 L L H*+H% 0 H*+H

Fig 4.11.4.2(f) IP identification : minimal prosodic clues.

Example Six illustrates how, when a grammatical constituent forms a clear sense-group, the demarcative devices of prosody may be kept to a minimum.

The only clear prosodic clue to a major demarcation after 'Penrhys' is, in fact, the occurrence of a pause. There is little or no lengthening, amplitude or pitch movement on '-rhys' and there is little perceptible base-line re-set beginning the next phrase. Yet the completion of a strong sense-unit (the clause 'when I lived in Penrhys') aided by the single clue of pause seems to point to a final IP accent and terminal tone on '-rhys'. This interpretation is supported by the fact that all the six intonationalists listening to it marked a tone-unit boundary here (see Appendix 13).

4.11.4.3

The examples that follow are taken from the main body of prosodic transcriptions (see Appendices 16-19) for which acoustic records have not been obtained.

7. [T1]

<u>and</u> he <u>said/</u> <u>Keith/</u>
L* H*+H% **H*+H%

Fig 4.11.4.3(a) Demarcation of a vocative.

Example Seven illustrates demarcation of a vocative, the utterance above being therefore analyzed as two IPs.

The phonetic clues to a major demarcation after '*and he said*', lie partly in the lengthening on '*said*' and the slight disjuncture following it, but the main clue is the large pitch jump to '*Keith*'. The example, therefore, is an illustration of how key-change (see 4.10.6.4) can play an important role in demarcation.

8. [T1]

. . <u>service</u> <u>train/</u> you <u>know/</u> the <u>regular/</u> . the <u>regular</u>
L*+ H +L% L H*+H% L H*+H+L% 0 H*+ 0

Fig 4.11.4.3(b) IP identification: interpretation of '*you know*' tag.

The difficulty in deciding how to analyze '*you know*' is similar to that of analyzing '*in fact*' in an example quoted earlier from the Edinburgh English corpus of Brown et al (1980) (see 4.4.2.4).

The following reconstructions of the speaker's sense-units are possible :

1. '*you know*' is joined to '*service train*', in which case there would be at the most a minor demarcation after '*train*' and a major demarcation after '*you know*'
2. '*you know*' is joined to '*the regular*', in which case there would be a major demarcation after '*train*' and at most a minor one after '*you know*'
3. '*you know*' forms a separate sense-group of its own, in which case there would be a major demarcation before it and after it.

The phonetic evidence is of a fairly strong juncture, although no pause, before and after '*you know*'.

/. they <u>had</u> { <u>Derlay</u> } / of <u>Cardiff</u> was <u>playing a~against</u> /. T~ <u>Treherbert</u> /									
⁺ L	0	H*+H	0*+H	L	0*+H	L	H*+L%	L	L*+L%

Fig 4.11.4.3(c) IP identification: unexpected demarcation (not coinciding with the grammar).

Example Nine illustrates an unexpected demarcation, warning the analyst not to expect a speaker's sense-units to always coincide with grammatical constituents.

The semantic clues might interpret '*Derlay of Cardiff was playing against Treherbert*' as forming a single sense-unit for the speaker. There are strong phonetic clues to the contrary, however, which point to a major demarcation after '*against*'. These include pause, pre-pausal lengthening, increase in amplitude, but above all a clear and terminal-sounding falling-tone on the word '*against*'.

The phonetic clues are so strong that they lead the analyst to reconstruct what the speaker could possibly have meant by a major demarcation after '*against*'. The context, in fact, indicates '*against*' as strongly contrastive, since all the sporting personalities so far mentioned by the speakers have played for Treherbert. The speaker therefore seems to have strongly accented '*against*' and made a demarcation after it.

[rhythmical]					
A: . . . there were <u>two thousand men</u> / <u>employed in Maerdy</u> /					
⁺ L	H*+0	L*+0	H*+L% L	L*	L*+L%

Fig 4.11.4.3(d) IP identification : (another) unexpected demarcation.

As in Example Nine, there is another unexpected demarcation. The words '*two*', '*thousand*' and '*men*' are all strongly accented, and '*men*' has a strong demarcative falling-tone accompanied by lengthening, and is followed by a strong juncture before '*employed in Maerdy*'.

Looking at the context of the utterance (see Appendix 18 p 451) leads us to a reconstruction of the speaker's meaning in which he wants to strongly highlight the number of people employed at Maerdy Pit in its prime, in contrast to now when it is closed down. Since '*two thousand men*' is the information he wants to emphasize, he strongly accents each word and inserts a major demarcation, before completing the sentence.

4.11.4.4

Such problems encountered during segmentation into IPs of the RVE spontaneous conversational data, had brought up and clarified a number of issues.

1. Segmentation of spoken discourse into IPs may bring about speaker-created meanings that are unexpected, or that do not coincide with the surface grammar, e.g. (9) & (10).
2. In rushed speech, the speaker may pass over sense-group boundaries, letting the grammar-lexis do the work, or may put in the slightest of prosodic demarcations that are difficult to detect.
3. The filled pause '*erm*' is not always to be treated as merely interruptive. It often carries an interactional function, and when it does so it may itself be accented and carry a terminal tone, e.g. (1) .
4. '*Mind*' and '*like*' are to be included with the overtly more grammatical '*you know*', '*you see*' as filler tags (see 4.9.2.5).
5. The word '*and*' is frequently used as a conjunct with the meaning of '*in addition*', '*moreover*'. As such, it can form an IP on its own, e.g. (5).
6. The concept of 'minor' alongside 'major' demarcation is useful, since there are clearly occasions when the speaker demarcates within an IP without making a full boundary (see 4.11.4.1).
7. Prosodic clues of demarcation additional to those listed in sec. 4.4.2.1, were found to include change of tempo and change of key, e.g. (2) , (7), (8). Sometimes both are used together when, for example, something parenthetical is demarcated off, with the speaker saying it quicker and in a lower register. Base-line reset is also a frequent clue, e.g. (1) & (2). A macro-change (as opposed to the local changes at accents) in the direction of the overall contour of any kind, may also effect a demarcation, e.g. (2).

More important than the span of pitch movement for a tone to be deemed IP terminal is the element of duration. It is the presence of strong juncture and pre-juncture segmental lengthening, drawing out the tone and adding to its auditory impact (see 4.4.5.2), which provides the ideal phonetic clues for it to be heard as terminal.

4.11.5 Correlation of IPs with grammatical constituents

The prosodic transcriptions were examined with the aim of seeing what correspondence there was between IPs and grammatical constituents.

4.11.5.1

The researcher at first tried to match IPs in the data with different ranks of grammatical constituent : clause, noun-phrase, verb-phrase, adverbial and so on.²⁴

This quickly presented a number of problems, particularly at the grammatical rank of clause, where constant decisions had to be made as to how liberal one's definition of clause should be.

- Could one, for example, count such one-word utterances as 'aye', 'yeah'? Or the tagged item 'mind' in 'only the fight mind'?
- Occurrence of *ellipsis* frequently complicated the identification of clauses, as is illustrated in fig. 4.11.5.1(a).

[M8]

B:	[it] was <u>full</u> with <u>bingo</u> up~ . a									
		L		H*	H		L*+	H	H	L
<hr/>										
A:	[yeah]					[yes]				
		L	L					L	H	
<hr/>										
B:	crowd/	upstairs/	. cause	there were	so many/	. balcony	and	all /	bingo/	
	H*+ H	L	L*+ H%	L*	H	L	L*+ H%	L*+ H	H*+ H+ 'L%	H*+ H
<hr/>										
B:	Monday	and	Thursday/	dance/	on a	Friday/	. .		
	L*+ H	L	L*+ H%		L*+ H	L	L*+ H%			

Fig 4.11.5.1(a) Ellipsis leading to problems of clause identification
(full transcription in Appendix 18 p 460-1)

- Frequent problems were caused when something was added on to the speaker's utterance after a pause. For example in fig. 4.11.5.1(b), is 'in the station by there' to be counted as an adverbial detached from the main stem of the clause, or is it an (elliptical) clause, standing on its own?

[T1]

I used to catch the Ninian Park Train/ . . in the station/ by there/
 ,L H ,L* H 0*+ H L*+H ,L*+H% L H*+H L H*+H+L%

Fig 4.11.5.1(b) The phrase '*in the station by there*' : detached adverbial or elliptical clause ?
 (Full transcription in Appendix 17 p 439-440).

4.11.5.2

The attempt to match IPs to specific ranks of grammatical constituency in the spontaneous conversation data was abandoned. However, taking the data contained in the six extracts, the correspondence between IP and grammatical constituents of some kind was found to be high: over 90% with each extract (see fig. 4.11.5.2).

Correspondence between IPs and Grammatical Constituency

Transcription	T1	T5	M1	M8	M9	P10	Range	Mean
	93%	94%	96%	92%	93%	91%	91-96%	93.20%

Fig 4.11.5.2 Correspondence between IPs and grammatical constituents of some kind in the Six Extracts.

4.11.5.3

The following were among the findings on correspondence between grammatical constituency and IP demarcation (full transcriptions in Appendices 17-19) :

1. *Adverbials* at the end of clauses were very commonly split off by major or minor demarcation, as in the two following examples :

[T1]

B: I caught the bus one morning/ . .
 H 'H* H 'L*+H L 0*+ H%

[T5]

. . erm I spent my birthday/ in Fernhill Colliery/
 H 0 L 0* 0*+ H L 0*+ H 0*+ H+ L%

Fig 4.11.5.3(a) Demarcation of Adverbials.

2. If there was *more than one adverbial*, it was extremely common to find a demarcation (major or minor) between them.

[T1]

in the station by there/
L H*+H L H*+H+L%

[P10]

I live right by the railway line in Porth/
0 H L* + H H*+ H 'L L L*+H%

Fig 4.11.5.3(b) Demarcation between Adverbials.

3. Demarcation (usually a minor one) after the *subject* of a clause was very common.

[T1]

/ . . and the old man was shouting for me/
L H H* L*+H L H*+ H L L*+H%

[T5]

when I was four-teen/ . . . my father/ . . . went up to school/ . . . to see
0 'L*+ 'H 0 H*+H% 'L H*+H% 'L 0 L*+H% 'L 0

Fig 4.11.5.3(c) Demarcation after Subject.

4. *Fronted* adverbials, objects or complements ('*wonderful game it was*') were usually demarcated. The demarcation could be major or minor.

[T1]

. . . aye/ . train I used to go/
'H*+H% H*+H 'L 'L* L*+'H%

[T5]

oh/ wonderful game it was/
H*+L% 'H*+ 'H+ 'L L*+H L L%

Fig 4.11.5.3(d) Demarcation after Fronted Objects, Complements etc.

5. *Vocatives* occurring the data were all demarcated off, by major or minor demarcation.

[T5]

no/ . that little full back mun/
'L*+H% H H*+H L H*+H L L%

[P10]

how are you/ George/ . all right/ . . and he went/ . how's things/ boy-o/
'H* + H% 'L*+ H% H H*+H% 'L L*+H% 'H*+H H*+L% H*+HH%

Fig 4.11.5.3(e) Demarcation of Vocatives.

(By 'went' the informant means 'said' / 'replied')

6. The few *noun-phrases in apposition* occurring in the data, were all demarcated off, by major or minor demarcation.

[T5]

went up to <u>school</u>	. . to see old <u>Prosser</u>	the <u>head-master</u>	. . .
¹ L 0 L*+ ¹ H%	¹ L 0 L*+ H%	L 0 L*+ H%	

[T5]

. . <u>and</u>	the <u>teacher</u>	Tom <u>Price</u>	. . . he comes
¹ L*+H%	L H*+ H%	L L*+L%	H L*+H

Fig 4.11.5.3(f) Demarcation before Noun-Phrases in Apposition

7. Tags of any kind were usually split off, by minor or major demarcation.

[M1]

. . a <u>good</u>	<u>work-force</u>	you <u>know</u>
L H*+H L*+H+ L %	L L*+H%	

[T5]

/ <u>cause</u> I was <u>pretty good</u>	<u>like</u>	<u>isn't it</u>	<u>see</u>
¹ L* + H H L*+H H*+H L% H* + L% L*+H%			

Fig 4.11.5.3(g) Demarcation of Tags

8. Conjuncts, including '*and*', were usually followed by a major or minor demarcation.

[M1]

. . . . <u>then</u>	this <u>pit</u>	was re-opened
L*+H%	L* 0 L H*+H L*+L %	

[M1]

. . . <u>and</u>	my <u>father</u>	was <u>coming home</u>	<u>clean</u>
¹ L*+0% H L*+ H L 0*+ H L H H*+ ¹ H+ ¹ ¹ L%			

Fig 4.11.5.3(h) Demarcation of Conjuncts

9. Demarcations (major or minor) could occur at almost any point, whether this coincided with grammatical constituent boundary or not. All the cases given in fig. 4.11.5.3(i) below were almost certainly deliberate demarcations on the part of the speaker, not hesitations. (Full transcriptions are in Appendices 17-19).

Examples of demarcations not corresponding to grammatical constituents

	example	analysis
T1	/ I'd <u>only</u> <u>just</u> <u>gone</u> to . <u>bed</u> /.	splitting inside V
T5	was <u>playing</u> a~ <u>against</u> / . T~ <u>Treherbert</u> /	splitting inside A
M1	you'd <u>never</u> be <u>able</u> to <u>open</u> / <u>that</u> <u>pit</u> <u>again</u> /	splitting of O from V
M9	<u>the first time</u> / <u>Louis</u> put his <u>title up</u> /	splitting inside S
M1	<u>they give</u> us/ the <u>assurance</u> /	splitting of O ^D from O ^I
M8	<u>your overheads are</u> / . . . <u>so high</u> /	splitting of C from SV
M1	there were <u>two thousand men</u> / employed in <u>Maerdy</u> /	splitting inside C
P10	and <u>he happened</u> / to be <u>looking out</u>	split between two Vs
M1	my <u>father</u> was <u>coming home</u> / <u>clean</u> /	splitting of C from SVA

Key:	S	=	subject	V	=	verb
	O	=	object			
		D	=	direct		
		I	=	indirect		
	C	=	complement	A	=	adverbial

Fig 4.11.5.3(i) Demarcations not corresponding with grammatical constituent boundaries.

4.11.5.4

The overwhelming impression from the RVE data is that demarcation into sense-units, which we have been calling IPs, is one of the primary functions of prosody. The findings are that these sense-units correspond with grammatical constituents of some kind over 90% of the time, but that they are potentially independent from the grammar :

- speakers are free to choose which grammatical units to demarcate
 - they may run over a succession of potential boundaries if they wish
 - at the other extreme, they may decide to demarcate every one of a series of single words

- speakers' sense-units, as seen in fig 4.11.5.3(i), may not correspond to grammatical constituents at all

The impression is that IPs are, in the words of Brazil, D. et al, (1980: 46) 'context-specific speaker-created meanings', imposed as moment by moment choices on the speaker's improvised discourse.

4.11.5.5

The analysis strengthens the hypothesis that, in addition to major demarcations into IPs, the speaker can make minor demarcations signifying a minor staging of the information within the IP (see 4.10.2.3-5) .

Deciding whether it is a major or minor demarcation that has occurred or indeed any demarcation at all, is essentially a matter of decoding the intention of the speaker. It is not, it may be noted, a measurement of relative strengths of juncture since the actual prosodic strength of IP boundaries is very variable, speed of speech particularly being a complicating factor. Typically, however, a major demarcation will differ from a minor one by virtue of manifesting sufficient strength of juncture and final segmental lengthening for the final tone to sound IP 'terminal'.

4.11.6 Distinguishing between accents and rhythmic stress

Next, we may take a look at the issues that arose during prosodic transcription in distinguishing between *accents* and *rhythmic stresses*.

4.11.6.1

[M1]

/. . . and I was <u>working</u> in the . <u>colliery</u> <u>down</u> in Ferndale/										
L	H*+H	L	L*+H	L	L*+H	H	L*+H	0	H*+H+L%	
2	3		2	3.5	3	2	3.5	2.5	3.5	4 6 2.5

Fig 4.11.6.1 Stresses in an IP from M1
(Acoustic Record in Appendix 20 p 474)

Fig. 4.11.6.1 shows quite a long IP, with a hesitation after '*in the*', and a minor demarcation after '*colliery*'. Both auditory and acoustic analysis mark out the profile on '*-dale*' as much the most salient. Tone-unit theorists would mark it as their 'nucleus'; the researcher analyses it as the *final accent* (see 4.10.3.1), which happens to be especially salient because '*Ferndale*' is contrastive as well as carrying the terminal-tone for the whole IP.

Four other saliences were marked by the intonationalists (see Appendix 13) :

1. '*I*' was marked by three of them
2. '*work-*' by six
3. '*coll-*' by six
4. '*down*' by two

All have increased amplitude and duration. What is more surprising, is that all seem to be pitch-prominent, being accompanied by rising pitch profiles. If pitch prominence is the phonetic clue that distinguishes *accents* from *rhythmic stresses*, then all should be analyzed as accents. It would seem unlikely, however, that the speaker has voluntarily focused on all these, or at least has done so to the same degree. But if, for example, '*down*' is a rhythmic stress but not an accent, what is to account for the rising profile on it ? A possible explanation is that rising profiles at stresses may constitute a reflex of the rhythmical pattern of Welsh English, perhaps deriving from the relative pitches of stressed and post-stressed syllables in the Welsh language (see 4.3.4.5).

Such an explanation would make distinguishing between accents and rhythmic stresses even more difficult than anticipated.

4.11.6.2

The IP below can be judged to contain five saliences, of which - as commonly occurs in the data - the initial and final accents sound the strongest.

M9

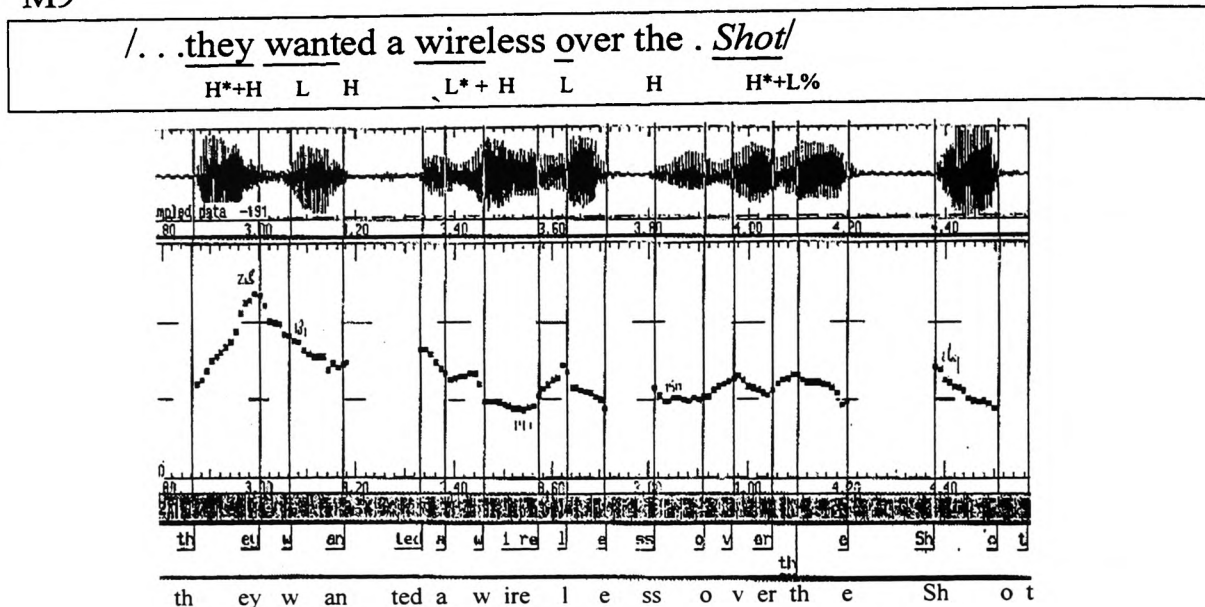


Fig 4.11.6.2 Stresses in '*they wanted a wireless over the Shot*'
(full transcription in Appendix 18 p 466).

- The initial stress, judged to be an accent, is on '*they*'. Its most salient feature is the rising tone on it, with large pitch span. Increased amplitude and duration are both present, but it is the pitch rise that is perceptually the dominant feature.
- The final prominence on '*Shot*' is also heard as a strong accent. Again pitch is the most salient feature in the form of an obtrusion up to the stressed syllable and falling tone from it. It can be seen from the acoustic record that the pitch span of the fall is not large. The strong auditory impression made by it is partly due to the impact of its final position in the IP (see 4.4.5.2) .
- Of the medial saliences, that on '*wireless*' (the third of the IP) is the strongest. There is an obtrusion down to the stressed syllable and a perceptible pitch rise, though not a big one, from it. There is also increased loudness and length on the stressed and post-stress syllable.

- The second prominence of the IP on '*wanted*' is less strong than that on '*wireless*' and is one of those cases where one is in doubt whether to mark an accent or rhythmic stress. It has a perceptible rise from the stressed syllable, once the 'sag' on it (see 4.11.9.2) has bottomed out. It also has extra loudness and length, the latter being disguised in the acoustic record by a relative shortening of the stressed vowel and lengthening of the succeeding consonant cluster.
- What are the intrinsic clues to stress on '*over*'? Perceptually, there is a rise from the stressed syllable. The acoustic record shows little indication of stress other than a slight increase in duration, although clues are disguised by the fact that the whole phrase following the minor demarcation shows a crescendo as the speaker comes to his main information - the name of the club ('*the Shot*').

In this IP, therefore, it is a whole bundle of clues that contribute to salience: the impression is that stresses are part of a larger rhythmical organization, consisting of alternating strong and weak elements (see 4.3.2.2): The first stress, '*they*' , occupies a whole rhythmical foot ; '*want-*' is the next strong beat ; this is followed by two weak beats, then there is a strong on '*wire-*'. This is followed (after a minor demarcation) by three syllables prefacing the strong accent on '*Shot*'. Rhythmical expectation looks for one of these syllables to be occupied by a strong beat. The researcher - together with two of the intonationalists (see Appendix 13) - hears such a rhythmical stress on '*o(ver)*' .

4.11.6.3

The two examples, as well as showing the rhythmic dimension of stress, illustrate the difficulty at times in distinguishing between 'accent' and 'rhythmic stress'.

A part of the answer might be to review the linguist's paradigm which seeks to draw a rigid line between 'accent' and 'rhythmical stress'. The latter may also be said to focus attention to a degree, in that they are generally sited on 'content' words. It may not, therefore, be so much a matter of '+ / - focus', but rather 'how much '? The difference may be scalar rather than categorical .

Nevertheless, since there are occasions when an accent is clearly voluntary, and at the other extreme when a stress seems purely involuntary, filling the needs of the rhythm, the researcher will retain the two terms of 'accent' and 'rhythmical stress'. But because it is sometimes impossible to decide which is which, it has to be accepted that there will be many cases of ambiguity (see 4.10.3.2).

4.11.6.4

Many of the doubtful cases in the data are IP-medial. Typically, the phonetic clues are of increase in duration and amplitude on a syllable, accompanied by level or rising pitch from it. In such doubtful cases, the researcher sees no real problem in accepting the ambiguity. The contour-forming pitch movements can be marked in both cases : for example L*+H where the decision is for an accent, and L H where it is for a non-accentual ('rhythmic') stress.

4.11.7 Accent-profile interpretation

A discussion follows of issues that arose during the analysis of accent profiles.

4.11.7.1

The most problematic profiles were those comprising a rise from the accented syllable, followed by a fall.

AM theory holds that pitch levels (e.g. 'peaks' and 'valleys') at accents form part of an independent intonational tier that may not be aligned directly with the segmental string (see 4.5.4.13). If a peak occurs after a stress, therefore, this could be analyzed as a matter of late alignment or 'delayed peak'. The dilemma in this theory is the psycholinguistic one as to what the listener hears - and indeed what the speaker intends. If a peak occurs noticeably after the stress, does the speaker motivate *a rise*, or a *fall* that happens to have a *delayed peak*? And what does the listener perceive?

4.11.7.2

In Examples (1) and (2), the problem largely relates to the domain of the accent (full transcriptions are in Appendix 18, and acoustic record in Appendix 20).

1 [M1]

B:	when	I	started	to	work
	H	H*+H	L*+L	L	L%
	4	4.5	7	4	3
				2	1.5

2 [M1]

/..	and	my	father	was	working	in	the	colliery	in	Maerdy
L		H*+H	L	0*+H	L	L*+	H	L	L*+	H%
		2	3.5	3	3.5	2	2.5		1	5

Fig 4.11.7.2 Accent profile interpretation : establishing the domain of the accent.

4.11.7.2.1

In Example (1) on the first accent 'I', the researcher perceives a rising H*+H profile: an upwards obtrusion to the stressed syllable and upwards movement from it. The three intonationalists identifying 'I' as nuclear, however, assigned a falling tone. This was, presumably because there was a jump down in pitch from 'I' to 'started', so that the rise on the stressed syllable could be interpreted by them as a 'delayed peak'.

However, the researcher's interpretation of a rise is supported by the presence of

- i. amplitude maxima occurring early, not late, in the syllable 'I', and
- ii. a perceptible prosodic juncture between 'I' and 'started'.

With such a prosodic juncture, the domain of the accent on 'I' does not include 'started', and the 'tone' cannot therefore be construed as *falling*.

4.11.7.2.2

To interpret the prosodic domain of an accent, the researcher tentatively endorses the right-branching (weak / strong) 'phonological phrase' of Nespor and Vogel (1983) (see 4.6.2.1-2). This consists of the accented lexical item of the phrase and a joining onto it of items to its left. For such a unit, the researcher will prefer to use the term ***accentual phrase***.

An illustration as to how accentual phrases might be determined can be seen in Example Two (fig. 4.11.7.2) above. This can be analyzed into four accentual phrases :

Accental phrases

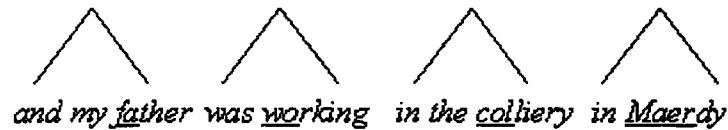


Fig 4.11.7.2.2 Example of accental phrase constituency.

Such an analysis joins 'was' prosodically to 'working' and not to 'father'; 'in' is similarly joined to 'the colliery' and the second 'in' to 'Maerdy'. This decides the domains of the profiles on 'father', 'working' and 'colliery', which profiles are all, accordingly, rising and not rising-falling.

4.11.7.3

In Examples (3), (4) and (5), the problem lies more straightforwardly in *profile* identification (see Appendix 18 for full transcription, and Appendices 20 & 21 for acoustic records).

3 [M1]

/ <u>down</u> in Ferndale/									
L*+H		0	H*+H+ 'L%						
2.5	3.5		4	6	2				

4 [M1]

/because they'd <u>modernised</u> <u>that</u> <u>pit</u> /									
L	L		H	H* + 'H+		'L	L*	H*+H%	
3.5	1.5		2	2.5	6	2	1	3	5

5 [M9]

... was a <u>strict</u> <u>secretary</u> / of the <u>Club</u> /									
L	'H*+L		L*+'H+ 'L		L	L	H*+H%		
1.5	7.5	7	4.5	9	4.5	2	(0)	0.5	3

Fig 4.11.7.3 Interpretation of accent profiles.

4.11.7.3.1

On *-dale* in Example (3), there is a concentration of the rise-fall pitch movement on a single syllable. The researcher's perception is for a rise-fall, but his judgement was shared by only one of the six intonationalists, five of whom marked it as a fall (see Appendix 13).

Such rise + fall sequences occurring over single syllables turned out to be consistently difficult to interpret in the data. The main clues appear to be the location of the :

1. amplitude maxima (how early /late in the syllable ?)
2. pitch peak (how early / how late ?)

Amplitude maxima at the start of the syllable and a pitch peak late in the syllable could be heard as a rise, whereas both features towards the end of the syllable could constitute a delayed peak fall.

4.11.7.3.2

Where, as in Examples (4) & (5), a rise + fall sequence spans two or more syllables, the peak is characteristically timed with the second syllable or later. In such cases, the perception of the researcher is clearly for a rise-fall tone rather than delayed peak fall. Nevertheless, the six intonationalists were still divided in their perceptions (see Appendix 13):

- on '*modernized*' (4), three marked a falling-tone, two a rising-falling tone and one a non-nuclear prominence
- on '*secretary*'(5), two marked a falling-tone, three a rising-falling tone and one a non-nuclear prominence

4.11.7.4

With such 'dissension in the ranks' in tone identification, the claim that listeners perceive pitch contours rather than levels may appear somewhat damaged (see sec. 4.5.2.1). For the researcher at least, however, the Examples (3), (4) and (5) are clearly rise-falls. He supposes that lack of consensus among the intonationalists may be due in part to their unfamiliarity with the occurrence of rise-fall when they occur on non-final accents.

The one exception was V4, the Welsh Language intonationalist, whose analysis of rise-fall coincided in nearly every case with the researcher's in the three extracts (see Appendices 13, 16-19).

4.11.8 Contours, profiles and tones

4.11.8.1

In the six prosodic transcriptions (see 4.11.2.3), contours found at all the accents were analyzed. Fig. 4.11.8.1 shows the types and totals found.

Contours at accents in the RVE data

Contours / Profiles	Tone	Non-final		Final (nuclear)				TOTAL	%
		Total	%	Terminal Tone		Total	%		
				Conflated	Separated				
H*(+)H		197		94	5	99		296	
O*(+)H		35		10	1	11		46	
L*(+)H		220		178	18	196		416	
	Rising	452	71.2%			306	55%	758	63.6%
H*(+)H(+)L		10		44	26	70		80	
O*(+)H(+)L		1		3	4	7		8	
L*(+)H(+)L		5		13	15	28		33	
	Rising-falling	16	2.5%			105	18.9%	121	10.2%
H*(+)L		12		39	7	46		58	
O*(+)L		1		0	0	0		1	
L*(+)L		15		60	8	68		83	
	Falling	28	4.4%			114	20.5%	142	11.9%
H*(+)L(+)H		0		1	3	4		4	
O*(+)L(+)H		0		0	0	0		0	
L*(+)L(+)H		0		0	1	1		1	
H*(+)H(+)L(+)H		0		2	1	3		3	
O*(+)H(+)L(+)H		0		0	1	1		1	
L*(+)H(+)L(+)H		0		1	1	2		2	
	Falling-rising	0	0%			11	2%	11	0.9%
H*(+)0		6		2	0	2		8	
O*(+)0		5		1	0	1		6	
L*(+)0		26		11	1	12		38	
	Level	37	5.8%			15	2.7%	52	4.4%
H*		43		2	0	2		45	
O*		5		0	0	0		5	
L*		54		3	0	3		57	
	Other	102	16%			5	0.9%	107	9%
TOTAL		635	100%	464	92	556	100%	1191	100%

Fig 4.11.8.1 Totals and types of contours at accents found in the RVE data.

4.11.8.2

The contours are divided into 'non-final' and 'final'.

- 'non-final' refers straightforwardly to the *profiles* found at non-final accents
- 'Final' refers to the contour covered by the *final accent profile* and *terminal tone*, whether these two elements are

- a) conflated e.g. L*+H% H*+H+L%
- b) separated e.g. L* H H% H*+H L L%

The term *nuclear contour* will be used to subsume both kinds of final contour.²⁵

4.11.8.3

The total of twenty one RVE contours / profiles listed above lays no claim to be definitive : with the analysis of more data further ones might emerge.

4.11.8.4

Twenty one may seem a high total, but is predictable because the contours / profiles include movement (1) to as well as (2) from the stressed syllable (see 4.10.3.3).

- For the tone-unit theorists whose inventories of tones dispense with the first, the totals may immediately be reduced threefold since, for example :
 - (1) H*+H, (2) 0*+H and (3) L*+H are all *rising* tones.
 - (1) H*+H+L, (2) 0*+H+L and (3) L*+H+L are all *rising - falling* tones
- For AM theorists, the total of twenty one will also be high, because the researcher
 - has not restricted himself to 'single-tone' or 'bitonal' accents (see 4.10.3.5)
 - has added the variable of the '0-tone' to their "L" and "H-tones" (see 4.10.3.4).

Illustrations of different contours / profiles taken from the transcribed data can be seen immediately below in fig. 4.11.8.4 . The full transcriptions can be seen in Appendices 16-19, and acoustic records, where present, in Appendix 20-23.

H*+H

non-final [P10]	and <u>he</u> was <u>always</u> <u>there</u> on official <u>functions</u> /									
	L	H	H*+H	L*+L	0	H*+H	L*+	H%		
	4.5	5	6	7	5 4.5	5 5.5	3.5	6		
final [T5]	<u>he</u> was the <u>same</u> /									
	H*+H	L	H*+H%							

Fig 4.11.8.4(a) Examples of H*+H profiles (non-final and final).

0^*+H

non-final	T5	they had <u>talent</u> <u>around</u> here/ <u>then</u> /
		H 0^*+^1H $^1L^*$ L $H^*+^1H\%$
final	T5	. . and the <u>Parry</u> <u>brothers</u> /
		L H L^*+H $0^*+H\%$
		(3.5) 2.5 4.5 4.5 7

Fig 4.11.8.4(b) Examples of 0^*+H profiles (non-final and final).

L^*+H

non-final	M1	. . it~it <u>started</u> in <u>nineteen</u> <u>eighty</u> /
		L $^1L^*+H$ H L^*+H $H^*+H+L\%$
final	T1	I was a sup~a <u>good</u> supporter of <u>Cardiff</u> /
		H H L H^*+H H L^*+H L $L^*+H\%$
		(2) 3 2 3 3.5 4 2 2.5 1.5 2

Fig 4.11.8.4(c) Examples of L^*+H profiles (non-final and final).

H^*+H+L

non-final	M1	<u>because</u> they'd <u>modernised</u> <u>that</u> <u>pit</u> /
		L L H H^*+^1H+ 1L L^* $H^*+H\%$
		3.5 1.5 2 2.5 6 2 1 3 5
final	M9	<u>because</u> <u>they</u> were <u>afraid</u> you'd <u>have</u> a <u>summons</u> /
		L L H^*+H H $H^*+H+L\%$

Fig 4.11.8.4(d) Examples of H^*+H+L profiles (non-final and final).

0^*+H+L

non-final	P10	/ of the <u>Community</u> <u>Centre</u> / <u>up</u> there/ you <u>know</u> /
		L H 0^*+H+L 1L L 0^* 0 L $H^*+H\%$
		6.5 7 7 9 (7) 3.5 2
final	T5	I <u>spent</u> my <u>birthday</u> / in <u>Fernhill</u> <u>Colliery</u> /
		L 0^* 0^*+ H L 0^*+ H $0^*+H+L\%$

Fig 4.11.8.4(e) Examples of 0^*+H+L profiles (non-final and final).

L^*+H+L

non-final	M8	/ to <u>get</u> a <u>good</u> <u>atmosphere</u> <u>going</u> /
		L L^*+H L L^*+H+ L $L^*+H\%$
final	P10	a <u>steam</u> <u>train</u> / <u>up</u> the <u>Rhondda</u> /
		H H^*+H $L\%$ H^*+H $L^*+H+L\%$

Fig 4.11.8.4(f) Examples of L^*+H+L profiles (non-final and final).

H*+L

non-final	M9	was a <u>strict</u> <u>secretary</u> / of the <u>Club</u> /
		L 'H*+L L*+'H+ 'L L L H*+H%
		1.5 7.5 7 4.5 9 4.5 2 (0) 0.5 3
final	M8	. . <u>more</u> <u>than</u> <u>once</u> a <u>week</u> /
		H* + 0 H* H H*+'L%

Fig 4.11.8.4(g) Examples of H*+L profiles (non-final and final).

O*+L

non-final	M1	<u>for</u> the . <u>erm</u> . . the <u>deputies</u> /
		L* 0 0*+L 0 H*+H+'L %

Fig 4.11.8.4(h) Examples of O*+L profile (non-final).

L*+L

non-final	T1	the <u>both</u> of the <u>teams</u> was <u>going up</u> /.
		L H*+ 'H L L* L L*+L H*+H%
		2 (3.5) 7.5 (5.5) 3 2 1.5 2
final	M9	/ . . <u>in</u> the <u>club</u> / to <u>hear</u> the <u>fight</u> /
		L* H L* H* H L*+L%
		4 7 5 5.5 4.5 3.5

Fig 4.11.8.4(i) Examples of L*+L profiles (non-final and final).

H*+L+H

final	M9	<u>shouldn't</u> have a <u>child</u> / in the <u>club</u> /
		L*+ 'H 'L L*+H L H*+L+H%

H*+H+L+H

final	M1	/ . . . <u>they</u> <u>give</u> us/ the <u>assurance</u> /
		L H*+ H L H*+H+L+H%

L*+H+L+H

final	M1	/ . <u>in</u> <u>erm</u> ~ <u>in</u> <u>erm</u> / . <u>in</u> <u>Maerdy</u> /
		L 0 H* L L% 0 L*+H+L+H%

Fig 4.11.8.4(j) Examples of falling-rising profiles (rare in the RVE data).

H*+0

non-final	T5	/ . . . I was I~I was <u>young</u> / . <u>very</u> <u>very</u> <u>young</u> /
		L*+H L H H*+H+L% H*+0 L L*+ L%
L*+0		
final	M1	. <u>and</u> / . my <u>father</u> was <u>coming</u> <u>home</u> /
		'L*+0 % H L*+ H L 0*+ H L H
		2.5 3 2 3.5 3 3.5 3 4

Fig 4.11.8.4(k) Examples of level-tone profiles (not common in the RVE data).

2(a)	H*+H*+L%	M8	<u>they</u> were <u>afraid</u> you'd <u>have</u> a <u>summons</u> /
			L H* + H H H* + H+L%
2(b)	H*+H L L%	T5	. . <u>well</u> the <u>regular</u> <u>train</u> /
			H H*+H+ L L L%

Fig 4.11.8.8(b) H H L nuclear contours (2a) terminal tone conflated with accent
(2b) terminal tone separate

3(a)	H*+H+L+H%	M1	<u>they</u> <u>give</u> <u>us</u> the <u>assurance</u> /
			L H* + H L H*+H+L+H%
3(b)	H*+H L H%	M1	<u>no</u> <u>factories</u> / or <u>anything</u> <u>like</u> <u>that</u> <u>here</u> /
			H*+H + L* + H% L H* + H 0 H*+H L H%

Fig 4.11.8.8(c) H H L H nuclear contours (3a) terminal tone conflated with accent
(3b) terminal tone separate.

4.11.9 accent profiles grouped according to tones

A more detailed description may now be given of the main contours / profiles at accents in RVE, grouped according to their *tones*.

4.11.9.1

Rising tones are, as seen in sec. 4.11.8.1 & 6, by far the most common in the data. There are three types of contour / profile incorporating rising tones, depending on whether obtrusion (pitch movement to them) is up, level or down:

- i. H*+H a pitch obtrusion up to the stressed syllable, a rising tone from it
 - ii. 0*+H level pitch to the stressed syllable, a rising tone from it
 - iii. L*+H a pitch obtrusion down to the stressed syllable, a rising tone from it
- (The starred pitch-levels are those perceptually aligned with the stress maxima .)

4.11.9.2

A peculiar feature of the three profiles above is that, whatever the type of obtrusion to them, they are often heard to flatten or 'sag' during the course of the stressed syllable before the subsequent rise. Examples can be seen below in fig. 4.11.9.2. (Full transcriptions are in Appendices 16-19, and acoustic records, where not provided below, in Appendices 20-23.)

- In the four L*+H examples, the 'sagging' effect is seen in the late alignment of the L* pitch level in the syllable.

1. on 'Tom', it is 44 ms (29%) into the stressed vowel (fig. 4.11.9.2a)
2. on 'Cardiff', it is 65 ms (43%) into the stressed vowel (fig. 4.11.9.2b)
3. it is 133 ms into the stressed vowel in 'Maerdy' (fig. 4.11.9.2c)
4. on 'children', the bottom of the 'sag', which is 111 ms after stressed vowel onset, is actually reached during the following consonant /l/. (fig. 4.11.9.2d)

1 [T5] L*+H accent on "Tom"
/Tom and/

L*+H	L%
4	6.5 5

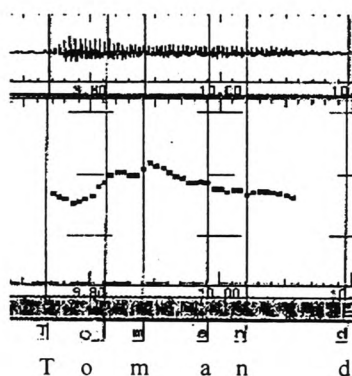


Fig 4.11.9.2(a).

2 [T1] L*+H accent on "Cardiff"
from Cardiff/

H	L*+H%
4	2 4.5

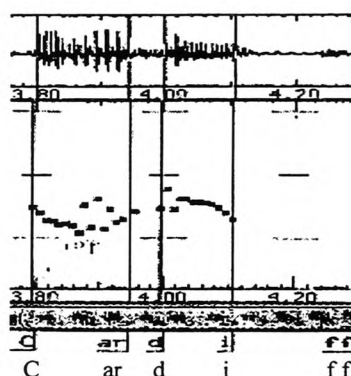


Fig 4.11.9.2(b).

3. [M1] L*+H accent on "Maerdy"
in Maerdy/

L	L*+H%
1	5

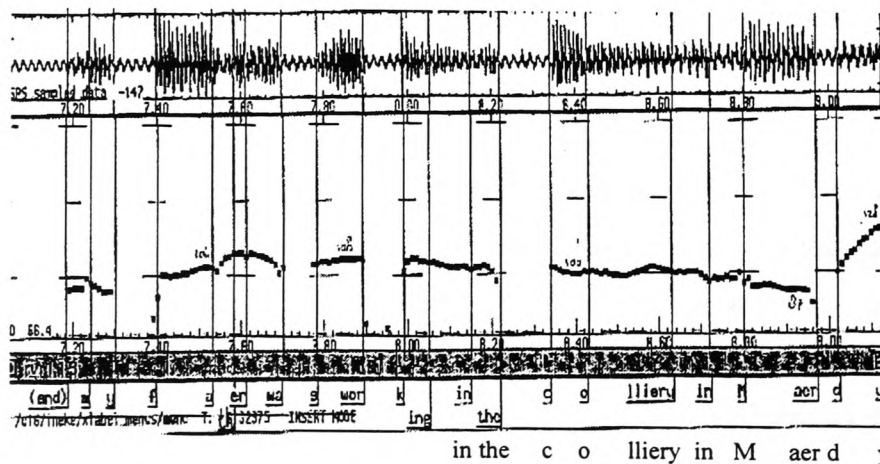


Fig 4.11.9.2(c) Late alignment of L in L*+H accent on Maerdy, producing 'sagging effect'.

4. [M9] L*+H accent on “*children*”

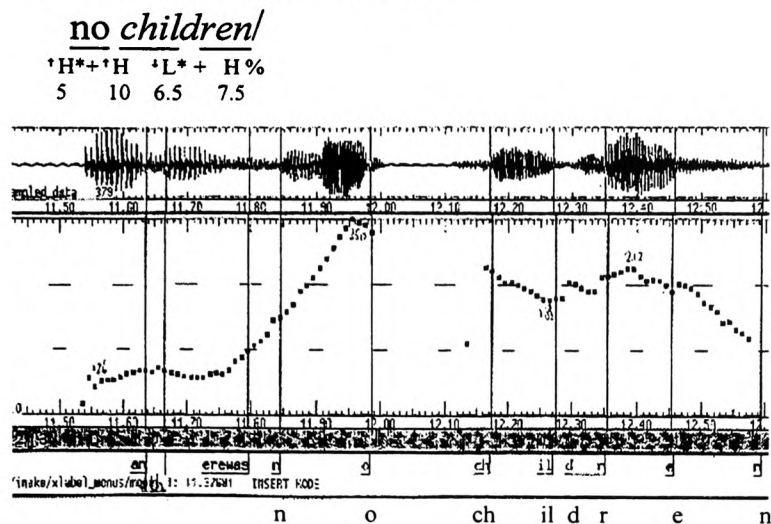


Fig 4.11.9.2(d) Late alignment of L in L*+H accent on *children* , producing ‘sagging’ effect.

- In the two 0*+H example, the ‘sagging’ effect is seen as a dip during the course of the stressed syllable, which in several places in the data left the researcher uncertain whether to transcribe 0*+H or L*+H.

5. on ‘*councillors*’, the dip bottoms out 50ms (71%) into the stressed vowel
(see fig. 4.11.9.2e)

6. on ‘*back*’, the dip in pitch reaches its bottom 40 ms (30.8%) into the stressed vowel (see fig 4.11.9.2f)

5. [P10] 0*+H accent on “*councillors*” 6. [T6] 0*+H accent on “*back*”

local councillors/

L*+H	0*+	H	0%
3.5	4	5	

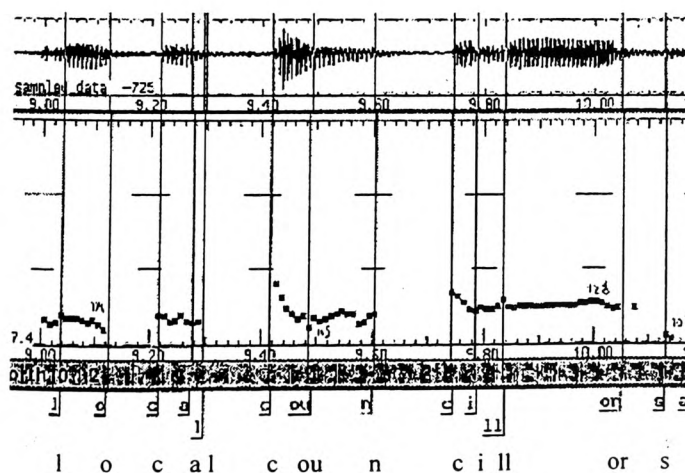


Fig 4.11.9.2(e)

[a:]
full back there/

0	0*+H	L%
4.5	5	

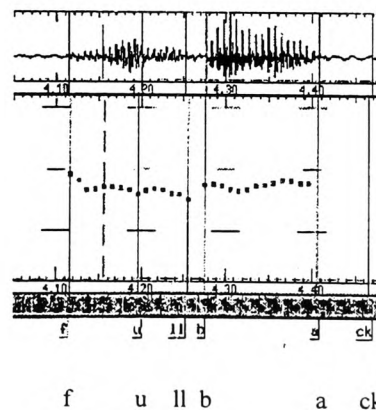


Fig 4.11.9.2(f)

- In the two H*+H examples, the 'sagging' effect is mainly seen as a holding of the pitch level against the prevailing rise of the tune.

7. on '*depended*' (Example Seven), there is actually a dip in pitch, reaching its bottom 56 ms (57%) into the stressed vowel.
8. on '*Nash*' (Example Eight), the pitch is simply held 20 ms into the stressed vowel before being allowed to rise sharply.

7. [T1] H*+H accent on '*on*'

it *depended* *on* / *now* /

0	H	H*+	H	*L*+H	L	H%
3	3.5	6.5	2.5	2	2.5	



Fig 4.11.9.2(g)

8. [T5] H*+H accent on '*Nash*'

Jack *Nash* /

L	H*+H%
5	7 8.5

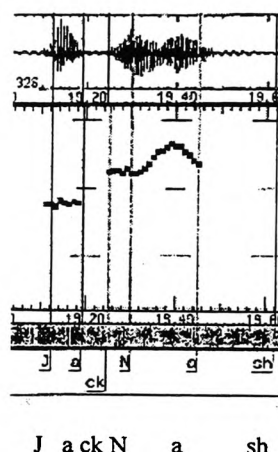


Fig 4.11.9.2(h)

4.11.9.3

Measurements were taken of alignment of H-peak, relative to onset of stressed vowel, in L*+H, 0*+H and H*+H accent profiles. They can be seen in full in Appendix 15.

- In profiles where the rising-tone is compressed into a single syllable, the averaged out alignment of H-peak was found to be
 - i. 79% into stressed long vowels (over four examples)
 - ii. 92% into stressed short vowels (over three examples)
 - iii. When the syllable containing a stressed short vowel was closed by a nasal consonant, the peak was reached during this consonant (over four examples).

Examples can be seen in fig. 4.11.9.3(a).

1. [M1] H*+H accent on " I "

when I started to work/

H	<u>H*+H</u>	<u>L*+L</u>	<u>L</u>	<u>L</u>	<u>%</u>
4	4.5	7	4	3	2 1.5

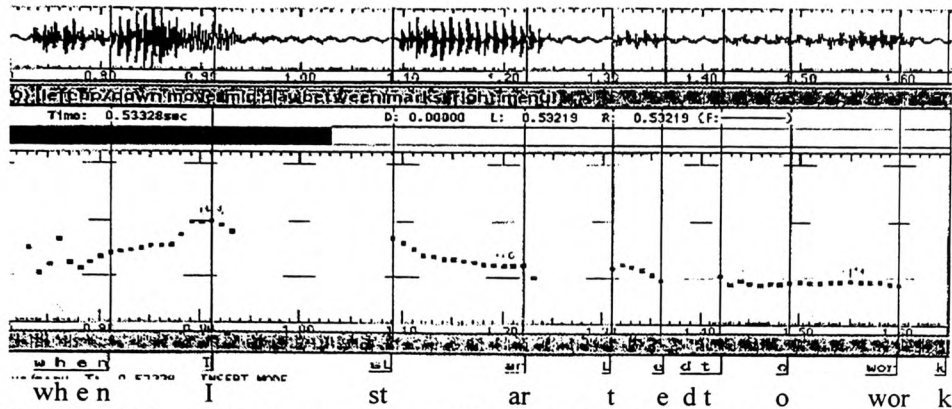


Fig 4.11.9.3(a) Rising tone compressed into a single syllable on 'I' (long vowel).

2. [M9] H*+H accent on “ *club* ”

[ĩk:]

was a strict secretary/ of the *Club*/

L	L	$^1H^*+L$	$L^*+^1H+^1L$	L	L	$H^*+H\%$
1.5		7.5 7	4.5 9 4.5	2	(0)	0.5 3

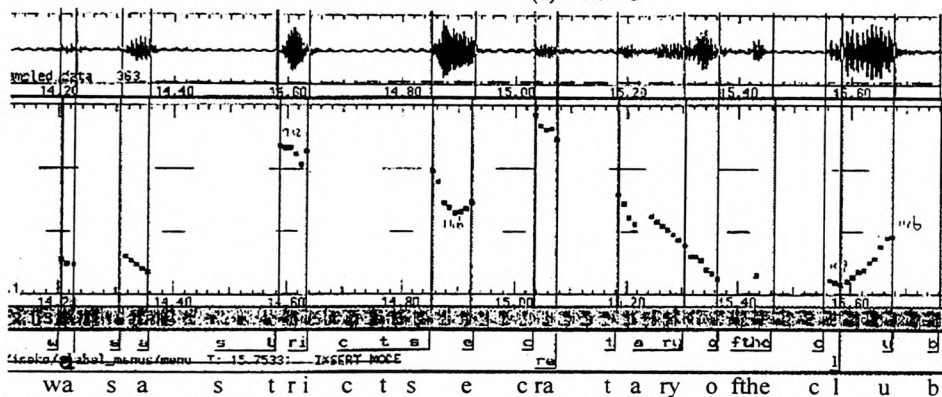


Fig 4.11.9.3(b) Rising tone compressed into a single syllable on 'club' (short vowel).

3. [T5] L*+H accent on '*Tom*'

Tom and/

<u>L*+H</u>	L %
4 6.5	5

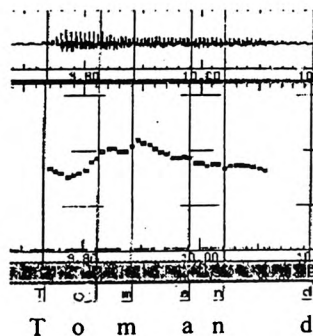


Fig 4.11.9.3(c) Rising tone on 'Tom' peaks during the nasal consonant.

□ In polysyllabic rising-tone profiles, the rate of the rise is more variable. Of the 32 H-peak alignments measured in Appendix 15 :

- 16% ($^5/_{32}$) peaked on the consonant closing the stressed syllable - four on nasal consonants , and one on the consonant /l/ .
- 84% ($^{27}/_{32}$) peaked in the second (i.e. succeeding) syllable
 - 34% ($^{11}/_{32}$) at or within 20 ms of the onset of the second vowel
 - 50% ($^{16}/_{32}$) late in the second vowel, or during its closing consonant.

Measurements in the samples in Appendix 15, therefore, show on average a general alignment of the H-peak with the second syllable, with actual incidences ranging from the end of the stressed syllable to the end of the second.

Examples of H-peak alignment can be seen below. (Full transcriptions can be seen in Appendices 16-19 .)

4. [T1] H*+H accent on '*depended*'
(peaks 55 ms into second syllable vowel)

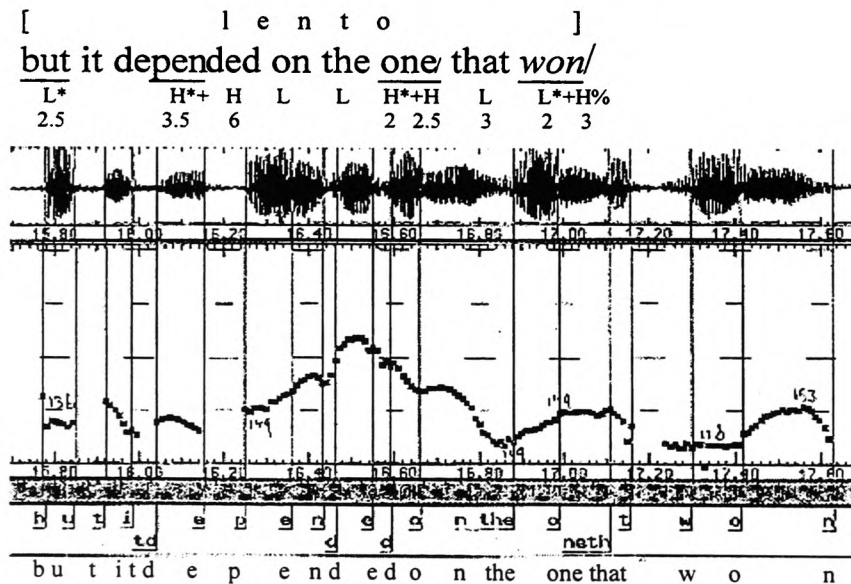


Fig 4.11.9.3(d) Rising tone on '*depended*' peaks in the middle of second syllable.

5. [T5] L*+H accent on 'Colville'
(peaks 35 ms into consonant closing the second syllable)

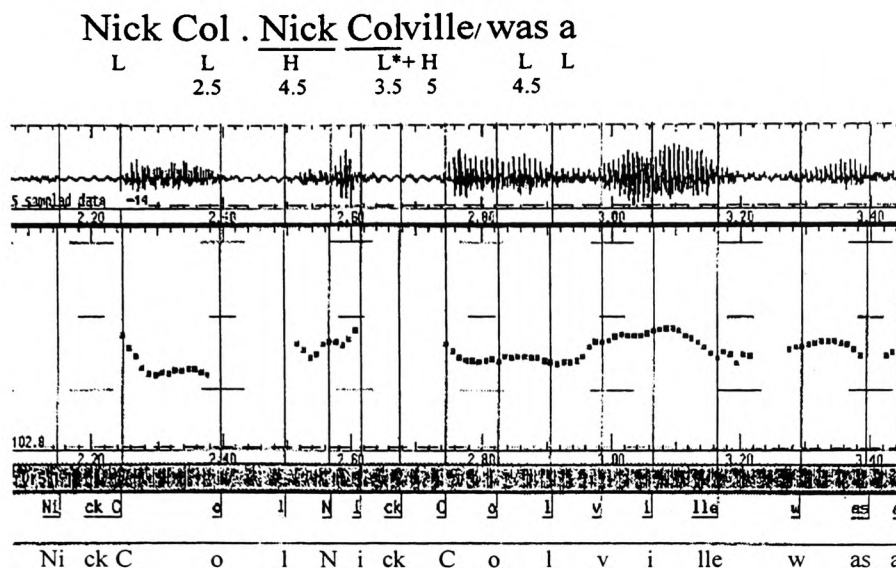


Fig 4.11.9.3(e) Rising tone on 'Colville' peaks during the /l/closing the second syllable.

4.11.9.4

There are three types of contour / profile at accents incorporating *rising-falling tones*, depending on whether pitch movement to them is up, level or down:

- i. H*+H+L there is a pitch obtrusion up to the stressed syllable, then a rising-falling tone from it
- ii. 0*+H+L pitch is level to the stressed syllable, then there is a rising-falling tone from it
- iii. L*+H+L there is a pitch obtrusion down to the stressed syllable, then a rising-falling tone from it

As with rising-tones (see 4.11.9.2), the starred pitch-levels are perceptually aligned with the stress maxima, but are commonly heard to 'sag' during the course of the stressed syllable before the subsequent rise. Examples of this, with acoustic records, can be seen in fig. 4.11.9.4(a)-(c).

The timing of the rise-element is similar to that of the simple rise. H-level peak alignments relative to onset of stressed vowel can be seen in Appendix 15.

1. [M1] H*+H+L accent on 'clean'
 and / . my father was coming home/ clean/

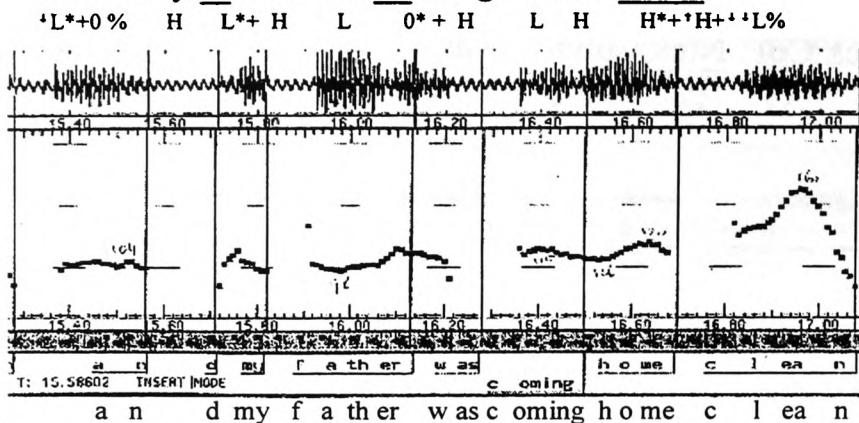


Fig 4.11.9.4(a) Rising element of rising-falling tone on 'clean' delayed ('sags').

2. [M9] L*+H+L accent on 'secretary' (peaks with 2nd syllable vowel)
 [ɪk:]

was a strict secretary/ of the Club/

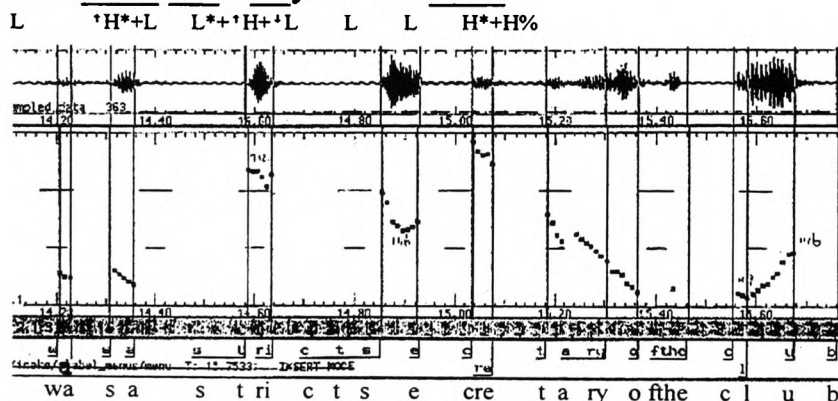


Fig 4.11.9.4(b) Rise element of the rise-fall tone on 'secretary' peaks with second syllable.

3. [M1] H*+H+L accent on 'modernized' (peaks 30ms into third vowel)
 /because they'd modernised that pit/

L L H H*+H*+L L* H*+H%

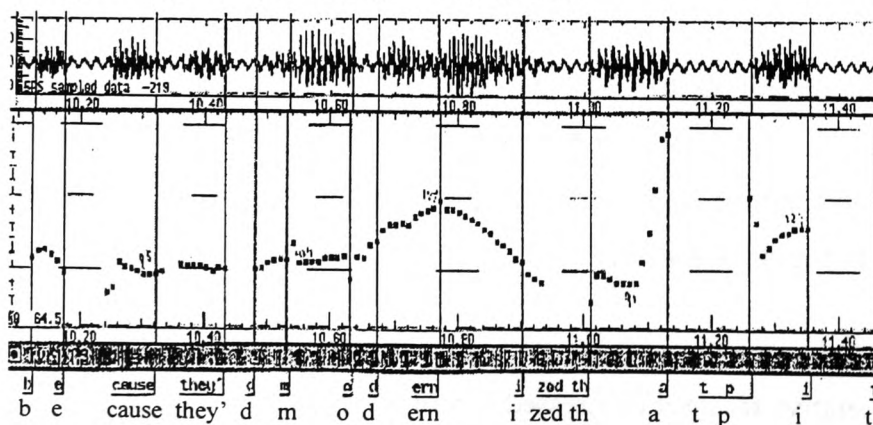


Fig 4.11.9.4(c) Rise element of the rise-fall tone on 'modernized' peaks in third syllable.

- In instances where the rise-fall is compressed into a single syllable (as in Example (1), fig. 4.11.9.4a) the H-peak was reached somewhat earlier than in simple rises - averaging 62% into the stressed vowel - clearly in order to get it over with, so that a fall could follow. There are often problems in distinguishing such single-syllable *rise-falls* from *falls* and from *rises*. This has been discussed in sec. 4.9.4.7.
- However in polysyllabic rise-falls, the alignment of the peak of the rise is as variable as in the simple rise. It is again timed generally with the second syllable, but in '*modernized*' (Example (3), 4.11.9.4c) it is aligned with the third syllable.

4.11.9.5

The three types of contour / profile at accents incorporating *falling tones* are :

- i. H*+L there is a pitch obtrusion up to the stressed syllable, then a falling tone from it
- ii. 0*+L pitch is level to the stressed syllable, then there is a falling tone from it
- iii. L*+L there is a pitch obtrusion down to the stressed syllable, then a falling tone from

The H*+L accent is usually perceptually distinct from H*+H+L through the H* peak being reached immediately ; it is aligned at the start of the stressed syllable.

An example is given in fig. 4.11.9.5. In contrast to an H*+H+L accent, the H*-peak in '*typical*' is reached immediately at the onset of the stressed vowel.

[P10] H*+L accent on '*typical*'
 / your *typical* /
 0 H* + L%

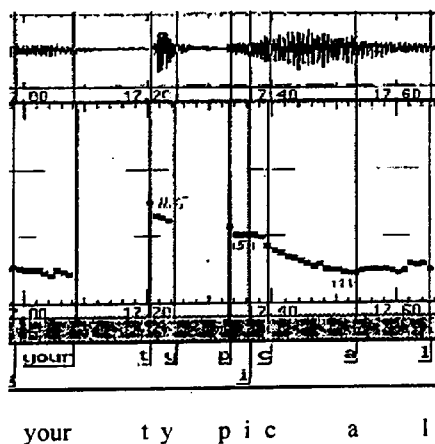


Fig 4.11.9.5 H-peak of falling tone on '*typical*' is at start of syllable.

4.11.9.6

Falling-rising tones are extremely rare in the transcribed data, occurring only in *nuclear contours* (see 4.10.4.3), where only three types of true falling-rising profile (i.e. where terminal tone was integrated with final accent) were found :

- i) H^*+L+H there is a pitch obtrusion up to the stressed syllable, then a falling-rising tone from it
- ii) $H^*+H+L+H$ the pitch obtrusion up to the stressed syllable is followed by a further rise before the falling-rising tone
- iii) $L^*+H+L+H$ the pitch obtrusion down to the stressed syllable is followed by a rise before the falling-rising tone

The pattern of accents clearly predicts the occurrence, also, of L^*+L+H , 0^*+L+H and of $0^*+H+L+H$.

There is only one falling-rising tone in the data for which an acoustic record exists at the time of writing. This is of an H^*+L+H accent, and is shown below. The H^* peak is aligned 30 ms (20%) into the stressed vowel, and the fall-rise tone continues throughout the vowel and into the nasal closing the syllable.

[T5] H^*+L+H accent on 'man'

[ɑ:]

/ but I remember the old man /

L H^*+H H L L H^*+L+H



Fig 4.11.9.6 Rising-falling tone on 'man'.

4.11.9.7

Level tones are perceived as a sustention of the same pitch level (the pitch appears to go neither up nor down) from the stressed syllable.

- i. in H^*+0 , there is a pitch obtrusion up to the stressed syllable
- ii. in L^*+0 a pitch obtrusion down to it
- iii. in 0^*+0 there is no perceivable pitch movement to the stressed syllable or from it
 - as when a stretch of speech is delivered in a monotone.

4.11.9.8

Single-level accents (H^* , 0^* and L^*) are used for labeling profiles where an accent is perceived but there is no noticeable tone within the prosodic domain of the accent.

In the example below (fig. 4.11.9.8), although there is a jump in pitch level between 'but' and 'it depended', these are in separate prosodic domains (see 4.11.7.2.2).

Because there is no perceptually salient pitch glide or sustention of pitch (level-tone) on 'but' itself, the accent is accordingly labeled L^* .

[T1] L^* accent on 'but'

[l e n t o]									
but it depended on the one that won/									
L^*	H^*+	H	L	L	H^*+H	L	$L^*+H\%$		
2.5	3.5	6			2 2.5	3	2 3		

Fig 4.11.9.8 Single level accent on 'but.'

4.11.10 Aspects of length

Next to pitch, the prosodic element of greatest perceptual salience at stresses in the data is length. Different kinds of durational phenomena of interest are found in RVE.

4.11.10.1

The first kind, familiar in all accents of English, is a lengthening of the vowel, whether phonologically long or short, on the stressed syllable.

An example can be seen in '*when I started to work*' in fig. 4.11.10.1. The IP begins with a strong H*+H accent on '*I*'. After it, pitch level declines steadily throughout the IP. The next accent, on '*started*' has clearly audible lengthening but little perceptible pitch movement - the pitch movement observed being subservient to the surrounding falling tune. The final prominence on '*work*' also has no perceptible pitch movement - it is again its extra duration that is the main clue to it being stressed.

[M1]

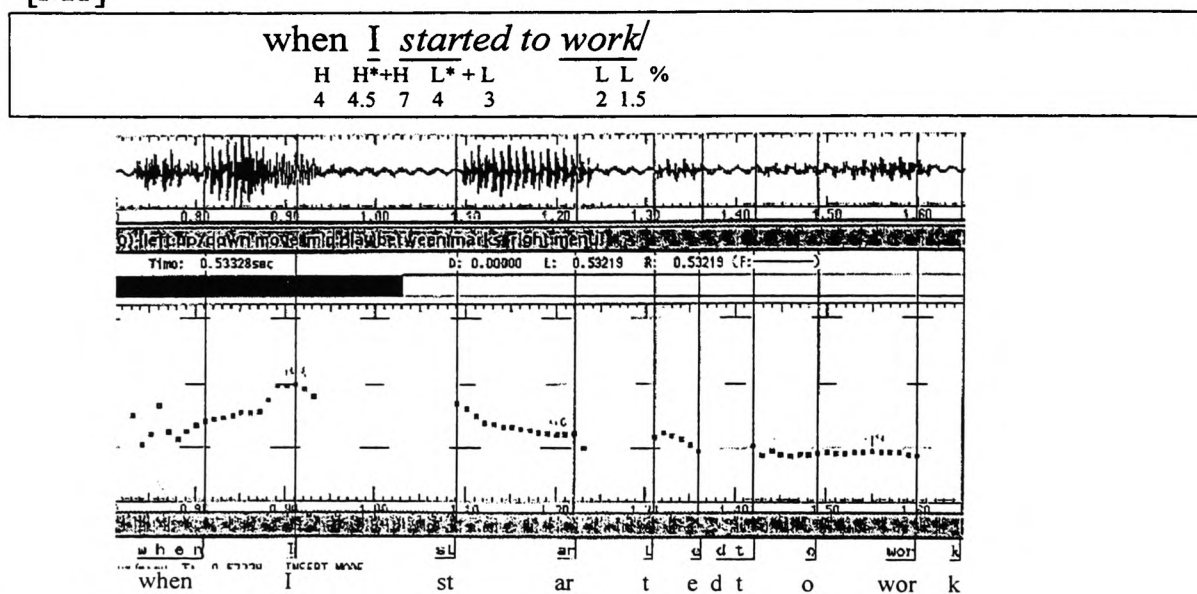


Fig 4.11.10.1 Duration is the main clue to stressing on '*started*'.

4.11.10.2

The second kind of durational feature found in RVE was a shortening of the vowel of the stressed syllable and lengthening of the following consonant. It has been seen (sec. 4.3.4.3) that this occurs in the Welsh language and has been found in Port Talbot English.²⁶ The feature is most likely to occur, or at least to be most perceptually salient, on strongly accented syllables.

An example is given with the phrase '*was a strict secretary of the club*' in fig. 4.11.10.2. The vowels of the strongly accented '*strict*' and '*sec-*' are heard as shortened and the succeeding consonants in each case lengthened.

[M9]

[ɪk:]									
was a <u>strict</u> <u>secretary</u> of the <u>Club</u>									
L	'H*+L	L*+'H+°L	L	L	L	L	H*+H%		
1.5	7.5 7	4.5 9 4.5	2	(0)	0.5	3			

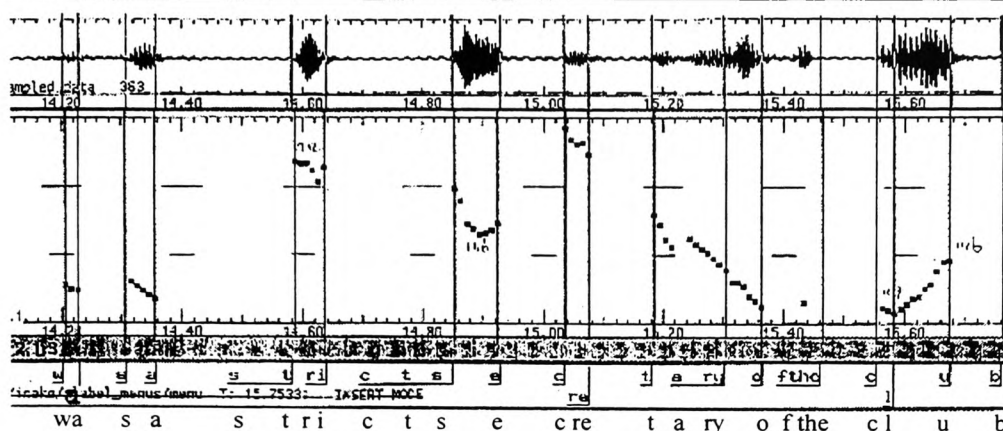


Fig 4.11.10.2 Shortened vowels and lengthened succeeding consonants on 'strict' and 'secretary'.

4.11.10.3

A third durational feature, also seen in the Welsh Language (see 4.3.4.5-6), is a lengthening of the post-stress syllable. The perceptual impression is of the post-stress syllable being as long and strong as the stressed syllable. An example is seen in the phrase '*and there was no children*' in fig. 4.11.10.3. '*children*' is accented, and the extra length and loudness of the second syllable, coupled with its higher pitch, make it as salient as the stressed syllable. This is clearly confirmed by the acoustic record.

[M9]

/.. <u>and</u> there was <u>no children</u> /									
H*+H	L	H*+°H	°L*+H%						

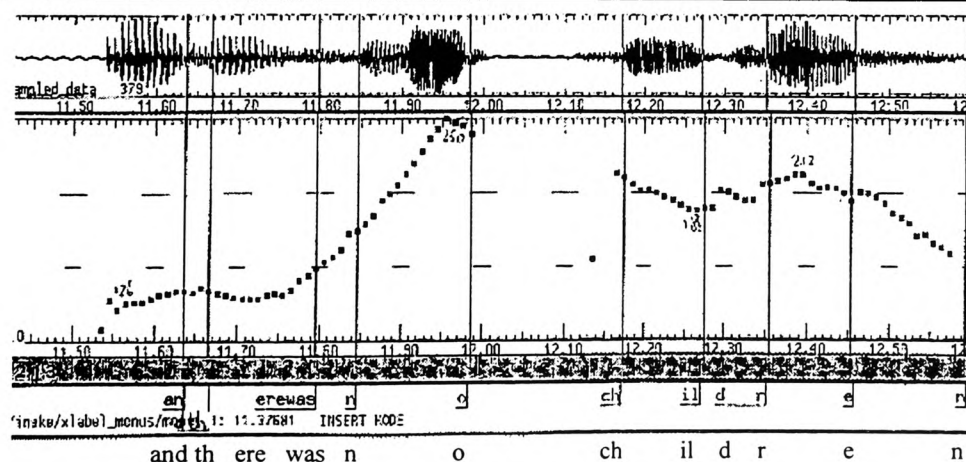


Fig 4.11.10.3 Post-stress syllable on 'children' is phonetically strong.

Vowel quality of such 'unstressed syllables' is, in such cases, typically fuller and more open than in RP . In the example in fig. 4.11.10.3, instead of a short schwa-like vowel on the second syllable of '*children*' the vowel quality is [ʌ] .

4.11.10.4

It has just been seen that in RVE stressed syllables, sometimes the vowel is lengthened and sometimes it is shortened. The question arises whether there is any patterning that would enable us to predict when lengthening rather than shortening of the vowels might occur, or whether these simply represent alternative strategies which the speaker can freely choose between.

The findings in the RVE data are that

- marked shortening of a stressed vowel was found to occur with all the short vowels, but also all diphthongs, and at least / i : , u : / among the long vowels
- marked lengthening of stressed short vowels was only found with / ɛ , a , ɒ / , i.e. it was not found with / ɪ , ʌ , ʊ / .

4.11.10.5

These vowels will briefly be taken, one by one.

/ ɪ /

This vowel, when stressed, was only encountered shortened, never lengthened in the data. It could be shortened before any consonant or cluster.

Examples include : *pit* (many instances) ; *pig*; *Glyn*; *hill*; '*Twickenham*; *ri'diculous*; *ter'rific*; *in'sisting*; *official* ; *pro'visions*; *re'ligious*; '*swimming*; '*silly*; '*fifty* ; '*hinting* ; '*builders*; '*pimples* ; *strict* ; '*Swindon*.

/ ɛ /

This vowel, when stressed, could be found either shortened or lengthened:

1. In stressed monosyllables, shortening of the vowel was found before:
 - voiceless consonants: e.g. *less* ; *met*
 - voiced consonants: e.g. *bed*; *head*; *leg*
 - clusters: e.g. *Welsh* ; *French* ; *wedge*; *sledge*

2. In polysyllables where the stressed vowel preceded an intervocalic consonant, the following patterns were observed:

- shortening or lengthening could be found before voiceless plosives.
e.g. *apath'etic* (short); *'second* (long and short); *'better* (long); *'record* (three instances of long).
- only lengthening could be found before voiceless fricatives:
e.g. *'messing* ; *'desecrated*; *'method*; *'Essex*; *'lessons*
- only lengthening was found before voiced consonants, nasals, /r/ and /l/:
e.g. *'ready*; *'regular*; *'Evans* ; *'weather* (4 occurrences); *alto'gether* ;
'many (4 occurrences); *'penalty* ; *'cemetery*; *'terrace* (4 occurrences);
'ferry; *'Heritage* (5 occurrences); *'buried*; *pros'perity*; *'telly*; *Llwyn'celyn*;
Rhyd'felin
- mainly shortening was found before a cluster
 - the vowel was always short before a cluster beginning with a nasal:
e.g. *de'pended* ; *per'centage*; *'pension*; *'vendering* (*machine*); *'twenty* ;
tre'mendous
 - only shortening could be found when a cluster begins with a voiceless consonant:
e.g. *'secretary*; *col'lections*; *'lecturers*; *e'lected*; *'excellent*; *'deathly*;
 - only shortening could be found when a cluster begins with a lateral:
e.g. *'helpful*; *'Welshman*;
 - shortening or lengthening could be found when a cluster begins with a voiced consonant :
e.g. *ce'lebrities* (long); *'negligence* (long); *'Cledwyn* (*Hughes*) (short)

The pattern can be seen to bear some similarity to that quoted for the Welsh Language (Awberry, G. 1984: 65-9) where vowels are said to be

- only short before voiceless consonants [although they could be long before certain voiceless fricatives]
- only long before voiced consonants
- short or long before nasals, laterals and /r/.
- always short before a cluster

/a/

This vowel, used for TRAP and most BATH words (see 3.4), was found sometimes lengthened and sometimes shortened. The following patterns seemed to emerge from the data analyzed:

1. In stressed monosyllables and final syllables:

- before a voiceless consonant, shortening or lengthening could occur:
e.g. *cap*(short); *back* (two occurrences of long, two of short); *pack* (long);
mat (long); *that* (long)
- only lengthening could be found before a voiced consonant, nasal or lateral:
e.g. *have*; *sad*; *bad* (three examples); *man* (four examples); *Mam*; *damn*;
Aber'fan
- only shortening, except with *France*, could be found before clusters:
e.g. *tax*; *lax*; *stacks*; *stacked*; *smashed*; *France* (one occurrence of long,
three of short)
- In lengthened, stressed monosyllables, the voice quality usually changed to a more backed vowel [ä-Ǟ] (see 3.4.3).

2. As a stressed vowel before an intervocalic consonant:

- When the consonant was voiceless, either lengthening or shortening could be found :
e.g. '*chapel* (four long, one short); '*apathy* (short); '*category* (long);
'*Latin* (long); '*matter*(long) ; '*accurate* (short); *e'vacuated* (short);
'*catholic* (long) ; *ca'pacity* (short); *com'passion* (one short, one long);
'*ashes* (one short, one long)
- Before any other single consonant, only lengthening could be found :
e.g. '*rabbit*; '*fabulous* ; '*Braddock*; '*Dagenham*; '*i'magine*; '*travel*;
Tre'hafod; *Aber'avon*; '*family*; '*damage*; '*gramophone*; '*management*
(eight examples); *Tre'banog*; *ap'parently* (three examples); '*married*;
'*garage*; '*carry*; *com'parison*; '*Barry*; *Llan'harry*; '*valleys* (nine
examples); '*talent*; *Tre'alaw*
- Before a cluster, mainly shortening was found :
e.g. '*accent*; '*factories*; *dis'aster*; '*plasterer*; *head'master* (95% short, 5%
long in the questionnaire data) ; '*after*; '*Africa*; '*satchel*; *ro'mantic*;

'ambulance; 'auntie; (Dai) 'Bando; Tony'pandy

The distribution of long vs short is similar to that found for /ε/, and again quite similar to the phonotactic 'rules' set out for the Welsh Language by Awberry, G. (1984: 65-9). The obvious exception is that not only shortening, but also lengthening, can occur in the environment of a following voiceless consonant e.g. *mat*, *back* and *'chapel*, *'Latin*.

/ɒ/

This vowel could be found either lengthened or shortened in the data:

1. In stressed monosyllables :
 - when closed by a voiceless consonant or cluster, only shortening could be found in the data:
e.g. *top*; *spot*; *boss*; *docks*; *Scots*; *chopped*; *robbed*
 - when closed by any other consonant, only lengthening was found in the data:
e.g. *job*; *God*; *dog*; *Tom* ; *gone* ; *wrong* ; *Gnoll* (*Football Ground*)
2. As a stressed vowel before an intervocalic consonant:
 - before a voiceless consonant, shortening and lengthening could be found in the data:
e.g. *'proper* (short); *'soccer*(short); *'bosses* (short); *'offers* (long); *'office* (long);
 - before any other single consonant, mainly lengthening was found;
e.g. *'probably*; *'Sodom and Go'morrah*; *'lobbyist*; *'modern*; *'products*; *'bother* (three examples); *'Coventry* (three examples); *'communist*; *'honest*; *'comical*; *'Donald* (four examples); *'Thomas* (five examples); *'forestry*; *'quarry*; *'sorry* (three examples); *'Morris*; *'colliery* (two short, four long); *'collier* (short); *'solid* (three examples); *tech'nology*; *'Hollybush*;
 - before any cluster, only shortening could be found:
e.g. *'hospital*; *res'ponsible*; *'context*; *'always*; *'longer*; *'Wattstown*; *'Sospan*; *'Rhondda* (four examples); *'Ponty* (seven examples); *'Colville* ;

The distribution of long vs short is similar to that found for /ε, a /. The exception to the phonotactic 'rules' set out for the Welsh Language by Awberry (1984: 65-9) is

that not only shortening, but also lengthening, can occur in the environment of a following voiceless, intervocalic consonant, e.g. *'bosses* (shortening) but *'offers* (lengthening) in the data.

/ʌ/

Only shortening of this vowel was found.

- 1) In stressed monosyllables, before a voiceless consonant or a cluster only shortening was found in the data :

e.g. *up*; *(the eleven) plus*; *touch*; *much*; *dust*; *once*; *thumped*; *clubs*.

- 2) As a stressed vowel before an intervocalic consonant:

- only shortening was found before a single consonant of any kind :

e.g. *'couple*; *'mucker* (= work colleague) ; *'butty* (= friend) ; *'busses*;
'nothing (three examples); *'muscle*; *'Russian*; *'trouble*; *'coming*;
'summons; *'Cymmer*; *Aber'cynon*; *'colour*; *'Dylan*

- only shortening was found before a cluster:

e.g. *'rugby* (three examples); *'struggling*; *cy'mysgiad* (= mix-up) ;
'Dyffryn; *'hundred* (three examples); *'pumping*; *'company*; *'functions*;
re'dundant; *re'dundancy*; *'hunger*; *'hundred*; *'youngsters* (three
examples); *'wonderful* ; *'Rhymney*

/ʊ/

Only examples of shortening were found in the data:

e.g. *soot* ; *push*; *tooth* ; *'putting*; *'pudding* ; *'wooden* ; *'cooking* ; *'bully*; *'football*

4.11.10.6

It can be seen above, that the phonologically short vowels /ε/ , /a/ , /ɒ/ could be found either lengthened or shortened in the data. Whether lengthening or shortening can take place seems to depend on the way the word is syllabified by the speaker :

1. If a succeeding consonant closes the stressed syllable, only shortening takes place:

e.g. *apa'thetic* [apə'tɛt · |ɪk]

'accurate ['ǣk · |ɪurɛt]

'*soccer* ['sɒk • | ʌ]
Aber'cynon [abɹ'kɹn • | ʌn]

2. If the succeeding consonant was syllabified with the following syllable, only lengthening occurs :

e.g. '*record* ['rɛ • | kɒd]
 '*Evans* ['ɛ • | vʌnz]
 '*catholic* [kə • | θʌlɪk]
 '*damage* ['dʌ • | mɛdʒ]
 '*office* ['ɒ • | fɪs]
 '*bother* ['bɒ • | ðɹ]

Although there was a strong tendency for voiceless consonants to be syllabified by the speaker with the stressed vowel, this was by no means universal with /ɛ, ʌ, ɒ/ as can be seen from '*record*, '*catholic* and '*office* in the data above.

It seems that speakers exercise a certain freedom of choice as to how to syllabify. The result is that not only words of similar phonetic composition, but even identical words were syllabified differently by different speakers, as the following examples show:

second [sɛk • | ʌnd] or [sɛ • | kʌnd]
chapel [tʃæp • | l] or more commonly [tʃə • | pl]

4.11.10.7

/iː, uː/

With long vowels, only cases of shortening are of interest. In the data, the following were among the examples that occurred :

- /iː/: *keep*; '*sleeping*; *meat*; *Pete*; '*heating*; '*beating*; *cheek*; *week*; *teeth*;
 Keith; *po'lice*; *po'licemen*; '*recent*; *east*;
- /uː/: *roof*; *proof*; (*Glyn and Donald*) '*Houston* (five examples); *boost*; *boots*

Shortenings observed were most marked in the environment of a succeeding voiceless consonant or consonant cluster.

4.11.10.8

With diphthongs, many cases of shortening occurred in the data: e.g.

□ /ʌi/

life; right (three examples); *lies; time; pints; fight* (seven examples); *twice; 'finest; 'miner(s)* (five examples); *'private; 'lying; re'tired; 'lighting* (three examples); *'driver; 'higher; 'ninety; 'Blaina (Terrace); (Barry) 'Island*

□ /ɒi/

(un)em'ployment; 'royal; 'noisy; en'joyed; 'toilets; boys; oil; 'loiter; 'boyo; 'Noisel

□ /ʌu/

house (six examples); *down; 'houses* (three examples); *'shouting; 'hours & our* (both disyllabic); *'thousand; 'mountain; 'trousers; 'Tower*

□ /ɪu/

mute; Bute; dis'pute; 'duo; 'beautiful; 'Brewery

□ /ɛi/

tails; days; plays; failed; train; saying; 'station (when diphthongal); *'eighty; 'training*

The shortening of diphthongs was found to involve two differing patterns:

3. In the first pattern, the first element of the diphthong is shortened and the second lengthened - as in the Valleys accent rendering of *'Hiya'*: [ʌ i̯ · j ʌ], or in the pronunciation of the name of *'the Tower'* (the last deep coal-mine left in Wales at the time of the research): [t ʌ u̯ · w ʌ] .

- Such a pattern is found in the environment (V#(C)V), i.e. where, in a polysyllabic word, the speaker closes a non-final stressed syllable with a diphthong, and where any succeeding consonant is syllabified with the next syllable.

e.g.	'private ;	[ˈprʌi · vɛt]
	'lying ;	[ˈlʌi · ɪŋ]
	em'ployment ;	[ɛmˈplɔi · mʌnt]
	'noisy ;	[ˈnɔi · zi]
	'houses ;	[ˈhʌu · zɪs]
	'tidy'	[tʌi · di]
	'thousand ;	[ˈθʌu · zʌnd]
	'duo ;	[ˈdʁu · wo:]
	'brewery ;	[ˈbrɛu · wʌri]
	'saying ;	[ˈsɛi · ɪŋ]

- It could also be found in the environment (VC[lenis]), i.e. where, in monosyllables or stressed ultima, the diphthong is followed by a single voiced consonant.

e.g.	<i>lies</i>	[lʌi · z]
	<i>oil</i>	[ɔi · l]
	<i>down</i>	[daʊ · n]
	<i>train</i>	[trɛi · n]

2. In the second pattern, the whole diphthong is shortened and a succeeding consonant lengthened. This happens:

- in stressed monosyllables closed by an obstruent, particularly a fortis one
- when the speaker syllabifies the succeeding consonant (often a fortis obstruent) with the stressed syllable
- when the diphthong is followed by a consonant cluster

e.g.	<i>fight</i>	[fʌɪ̯t ·]
	<i>house</i>	[haʊ̯s ·]
	<i>mute</i>	[mɪ̯ʊt ·]
	'shouting	[ˈʃʌʊ̯t · ɪŋ]
	'loiter	[ˈlɔɪ̯t · ʌ]
	'later	[ˈleɪ̯t · ʌ]

<i>'beautiful</i>	[ˈbɪʊt ˈɪfʊl]
<i>pints</i>	[pɪɪnˈts]
<i>finest</i>	[ˈfɪɪn ˈʌst]

4.11.10.9

Measurements were taken of the shortened and lengthened vowels :

1. The IP in fig 4.11.10.9a is spoken quite quickly and there are three accents : on 'I', on the second syllable of 'in'sisting' and on 'now'. The accent on 'in'sisting' is particularly strong, and involves (as well as a marked pitch-rise from the stressed syllable) a noticeable shortening of the stressed vowel and lengthening of succeeding consonants.

Measurements show that the length of the shortened /ɪ/ of '-sis' is about 50ms, markedly shorter than the 80ms of the unstressed /ɒ/ in the previous 'was'.

[M9]

[ɪs:]
 / . . so I w~was insisting/ now/
 L H*+H L H H*+H *L*+H%
 2 3 4.5 3 3.5 5 8.5 3.5 6

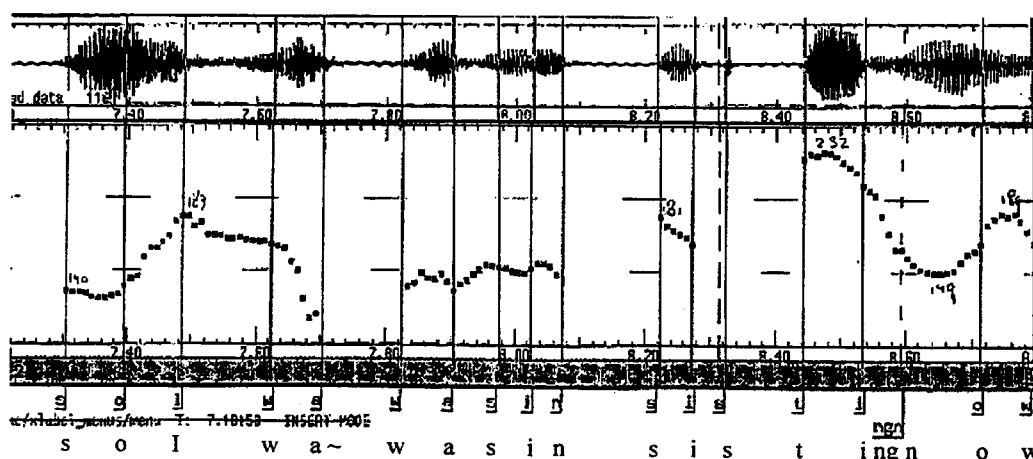


Fig 4.11.10.9(a) Shortening of stressed /ɪ/ in 'insisting'.

2. It has been seen above (4.11.10.5) that /ɛ/ can either be shortened or lengthened in RVE. In the IP in fig 4.11.10.9b there are two strongly accented occurrences of /ɛ/ on

- (i) 'Evans'
- (ii) 'secretary'

That on '*Evans*', is lengthened whereas the other, on '*secretary*', is shortened.
Measurements show approximate lengths of 130 ms and 70 ms, respectively.

[M9]

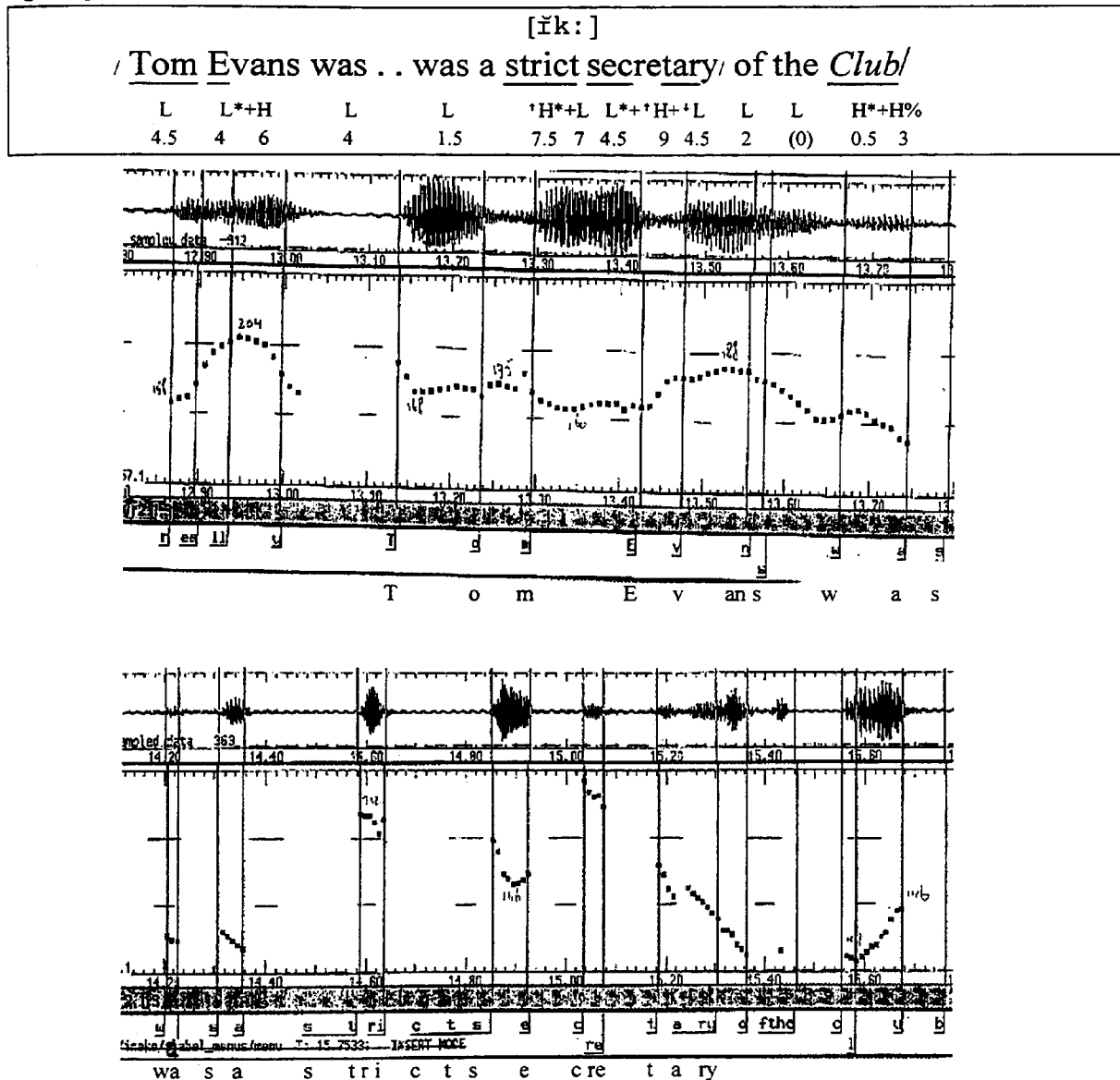


Fig 4.11.10.9(b) /ɛ/ on '*Evans*' is lengthened, whereas on '*secretary*' it is shortened.

- In the IP in fig 4.11.10.9c the /ɛ/ on the accented second syllable of '*celebrities*' is lengthened.

Measurements find it to be approximately 100 ms, the same length as the phonologically long vowel /e:/ on accented '*came*'.

[P10]

/... celebrities came there like/

H	L*	H+L	L*	H	H*+H%
5	4	5.5	3	5	7 7.5

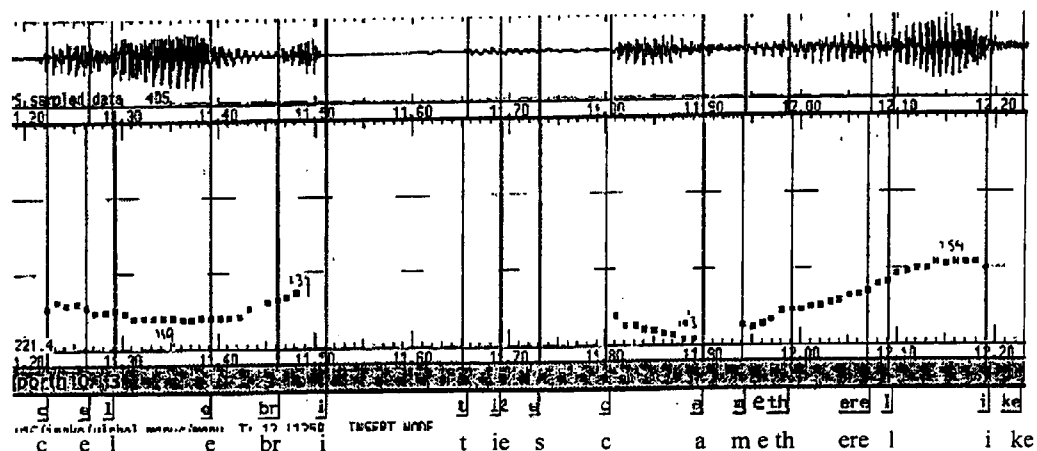


Fig 4.11.10.9(c) Lengthened 'short vowel' /ε/ in 'celebrities' equals length of 'long vowel' in 'came'.

4. It has been seen that, in RVE, /a/ can be either shortened or lengthened (see 4.11.10.5). In fig. 4.11.10.9(d), the lengthened /a/ in accented 'back', despite being closed by a fortis consonant, is about 130 ms, and in fig. 4.11.10.9(e) the lengthened /a/ in the IP-final accented 'man' is about 200 ms.

[T5]

[ā:]
a... full full back there/
L H 0 0*+H L %
4.5 4.5 5

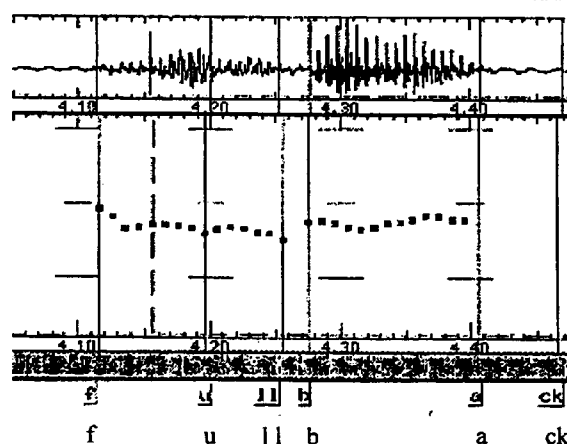


Fig 4.11.10.9(d) Lengthened 'short vowel' /a/ in 'back'.

[T5]

[ɑ:]
 but I remember the old man/
 L H*+ H L L H*+L+H%

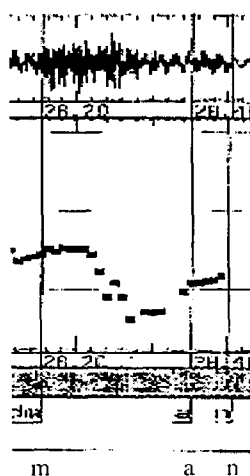


Fig 4.11.10.9(e) Lengthening of stressed /a/ in 'man'.

4.11.10.10

Measurements of lengthened consonants following shortened stressed vowels were taken, and these were compared (where possible) with the lengths of consonants following unstressed vowels in the same IP.

- In fig. 4.11.10.9(b) above, the consonants following the stressed vowels in the strongly accented '*strict*' and '*secretary*' are markedly lengthened. The length of the /k/ of '*secretary*' is about 110 ms, compared with the un-lengthened /m/ of '*Tom*' (60 ms) and /v/ of '*Evans*' (50 ms).
- In fig. 4.11.10.10 below, the consonants succeeding the stressed vowels in accented '*official*' and '*functions*' are also noticeably lengthened. The length of the /ʃ/ of '*official*' is about 120 ms, compared with the relatively unlengthened 80 ms of /l/ in accented '*always*'.

[P10]

and he was always there on official functions/									
L	H	H* + H		L*+L 0		H*+H		L* + H %	
4.5	5	6	7	5	4.5	5	5.5	3.5	6

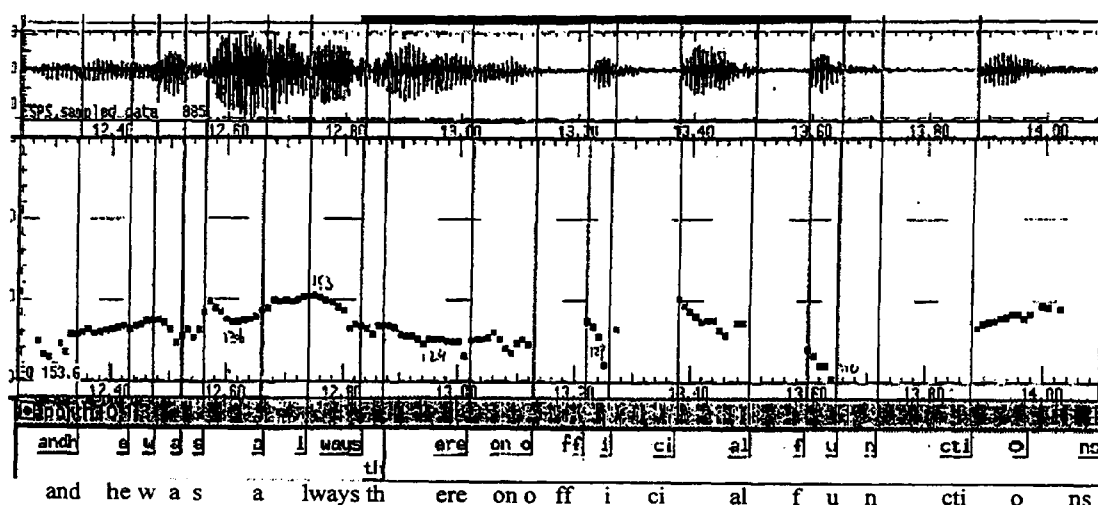


Fig 4.11.10.10 Length of post stress consonant in 'official'.

4.11.10.11

It has been seen that, both in the Welsh Language and in RVE, a supposedly 'unstressed' syllable following a stressed penultimate syllable could be phonetically strong, with marked pitch prominence, intensity and length (see 4.11.10.3).

Measurements were taken of the total syllable lengths of stressed penults and ultima in strongly accented words in the data.

- In fig. 4.11.10.11a the syllabification of the strongly stressed 'modernized' sounds to be ['mɔ-dʒ-nɪzɪd]. The length of the accented syllable is about 150 ms, and the combined length of the second and third syllables about 330 ms, with the second and third syllables carrying the main pitch movement and the third syllable being the longest and having the greatest overall amplitude of the three.

[M1]

/because they'd modernised that pit/									
L	L	H	H* + 'H+		'L	L* H*+H%			
3.5	1.5	2	2.5	6	2	1	3	5	

Fig 4.11.10.11(a) Length of post stress syllables in 'modernized' (see fig. 4.11.9.4 (c) for acoustic record).

- In fig. 4.11.10.9(a), the length of the second, accented syllable of '*in'sisting*' is 250 ms and that of the final syllable is about 270 ms. The final syllable has the greater pitch prominence via the large pitch jump to it and pitch movement from it, and has the greater peak and overall amplitude.
- In fig 4.11.10.11(b) the length of the accented syllable of '*children*' is 290 ms and that of the final syllable 320 ms. The final syllable again has the greater peak and overall amplitude.

[M9]

/. . and/ there was <u>no children</u> /							
H*+H		L	H*+H		L*+H	H %	
1.5	2		5	10	6.5	7.5	

Fig 4.11.10.11(b) Final syllable of '*children*' has greater length, amplitude and pitch prominence than stressed syllable (see acoustic record in fig 4.11.10.3).

4.11.11 Loudness

4.11.11.1

So far there has only been passing mention of loudness. This is because, although greater intensity is nearly always present with stressing, it is rarely noticeable perceptually.

4.11.11.2

Only the loudness of post stress syllables was a frequent perceptible feature, perhaps because this conflicts with the hearing expectation of alternation of weak with strong.

In the strongly accented '*modernized*' in fig. 4.11.10.11(a) above, the post-stress syllable *-nized* not only has greater pitch prominence and length, but also strikingly greater intensity, as can be seen in the amplitude readings.

The same can be seen in the final syllable of accented '*children*' in fig. 4.11.10.3, and in the final syllable of accented '*in'sisting*' in fig. 4.11.10.9(a). In the latter case, it not only has marked length and pitch prominence, but has much greater intensity than the stressed syllable - an observation which is all the clearer given that the

vowels for the stressed syllable and post stress syllable are /ɪ/ in each case.

The impression given in RVE when a speaker accents a word or phrase in this way, is not of strong + weak, but strong + strong.

4.11.12 Rhythm and stress

4.11.12.1

In section 4.11.6.2-3, connections between stress and rhythm in RVE were observed.

- Stresses are perceived as forming part of a larger rhythmical organization, consisting of alternating strong and weak elements.
- In the absence of strong intrinsic clues to stress, rhythmical expectation looks, after a suitable interval, for one of the syllables to be occupied by a strong beat.

4.11.12.2

The influence of the Welsh language on the manifestation of stress and rhythm in RVE is clearly strong:

- In sec. 4.11.8, pitch movement phenomena at accents have been discussed, particularly the prevalence of rising tones from the stressed syllables. In sec. 4.11.6.1 it was found that such rising pitch movements may accompany not only accents but also rhythmic stress. The linking of such rising tones with the Welsh language and their occurrence in other British Isles accents that are assumed to contain Celtic influence was noted in sec. 4.3.4.5.
- In sec. 4.11.10.2-3, other prosodic features that may accompany strong accents were observed:
 - possible shortening of the stressed vowel and lengthening of the succeeding consonant
 - the phonetic strength, in terms of duration, amplitude and pitch prominence of the post stress syllable(s)

Both these features are identified by Williams (1983, 1985, 1986) as belonging to the Welsh language (see 4.3.4.6).

- The Welsh language seems in the RVE data to influence, on occasion, word stress placement. For example, stress could be heard in some words further back than in RP:

1. on the penultimate, where it normally is in Welsh.

e.g.	<i>subsidence</i>	always	[sʌb'saɪdəns]
	<i>cooperative</i>	usually	[kʊ,ɒpə're:tɪv]
	<i>origins</i>	from one speaker	[ɒ'rɪdʒɪnz]
	<i>maintenance</i>	from one speaker	[meɪn'teɪnəns]

2. in anti-penultimate position, where, with the penultimate syllable weak, the effect is similar to (1).

e.g.	<i>coronary</i>	[kə'rɒn(ə)rɪ]
	<i>capitalist</i>	[kə'pɪt(ə)lɪst]

4.11.12.3

The notion has been discussed that accents / stresses occur regularly, so that typically no more than two weak syllables intervene between them (see 4.3.2). Such a momentum of strong / weak, setting up an interval-hearing expectation of stress, has already been found to be a means by which stress can be identified in RVE in doubtful cases (see 4.11.6.2).

The number of syllables per accent / stress in Extracts One, Two and Three can be seen in fig. 4.11.12.3 :

Stress frequency		
	total syllables	syllables per accent / stress
<i>Extract One</i>	95	2.5
<i>Extract Two</i>	98	2.0
<i>Extract Three</i>	97	2.2

Fig 4.11.12.3 Frequency of occurrence of stresses in Extracts 1 - 3.

It can be seen that accented / stressed syllables occurred at intervals of 2 to 2.5 syllables. That is to say, on average one to two weak syllables intervened between strong ones.

The differences between extracts may reflect the relative calmness - excitement of the speakers in the extracts (see 4.9.1.3 & 4.11.1.2).

- Extract One exhibits the calmest, best organized speech and its accents / stresses are on average spaced out at every 2.5 syllables.
- Extracts Two and Three are samples of more excited speech, and stresses occur more frequently : every 2.0 and 2.2 syllables respectively.

4.11.12.4

For the convenience of referring to the number of syllables per accent / stress within an IP, the researcher will use the term *foot*, the stressed syllable itself being the first syllable of the foot.

The actual number of syllables per foot in the data varied between one and five; i.e. the number of unstressed syllables between accents / stresses within an IP varied from zero to four. Examples of the different foot lengths can be seen in fig. 4.11.12.4.

Examples of different rhythmic-foot lengths within IPs

1 [T5]	<u>/but</u> I was <u>always</u> <u>up</u> in the <u>one</u> <u>two</u> <u>three</u> <u>area</u> /
	3 2 3 1 1 1
2 [T1]	/the <u>both</u> of the <u>teams</u> was <u>going</u> <u>up</u> /
	3 2 2
3 [M1]	they were <u>finishing</u> the <u>job</u> that I was <u>doing</u> /
	4 2 2
4 [M1]	<u>cause</u> he'd been <u>showering</u> in the <u>pit</u> /
	3 5

Fig 4.11.12.4 Different rhythmic foot-lengths. (Full transcriptions can be seen in Appendix 18).

4.11.12.5

There are many instances in the RVE data of what appears to be strong beat insertion, seemingly to fulfil the needs of the rhythm (see 4.3.2). One example has already been given above in the IP '*they wanted a wireless over the Shot*' (see 4.11.6.2), where the word '*over*' is perceived to attract a rhythmical stress ; because otherwise four unstressed syllables would intervene between the accents on '*wire-*' and '*Shot*'.

4.11.12.6

Stress-shifting in order to avoid two consecutive 'strong beats' and space them out, occurs in RVE as it does in RP and other varieties of English. Examples from the data include the following (stressed syllables are underlined) :

Spacing out of Strong Beats	
<u>nineteen</u> <u>thirty</u>	
<u>fourteen</u> <u>years</u> of <u>age</u>	
<u>Fernhill</u> <u>Colliery</u> (where the citation-stress is <i>Fern'hill</i>)	

Fig 4.11.12.6 'Stress shifting' to space out strong beats.

4.11.12.7

Strong beat insertion in RVE may take forms that are not normally found in R.P. Examples from the data can be seen in fig. 4.11.12.7(a). Stresses are underlined, and accented syllables capitalized.

Strong Beat Insertion		
<u>tele</u> <u>VI</u> sion	co <u>ope</u> <u>RA</u> tive	<u>over</u> <u>HEA</u> DS
<u>epile</u> <u>EP</u> sy	<u>heli</u> <u>CO</u> Pter	<u>contro</u> <u>VER</u> sy

Fig 4.11.12.7(a) Examples of strong beat insertion.

The Longman Pronunciation Dictionary (Wells, 1990) has the citation forms of the above words in RP with primary stress on the first syllable and no other stresses - except *television*, which is given as having an additional (tertiary) stress on its third syllable.

In the RVE data the words were heard with two clear stresses, the second of the two forming the accented syllable. The impression is of stress insertion to avoid a sequence of more than two unstressed syllables, and may again derive from Welsh language influence.²⁷ An acoustic record of only one of these examples is available :

4.11.12.9

Confirmation of the presence of some kind of rhythmic organization in the data comes from evidence that speakers seem to be able to increase rhythmicity at will, doing this by heightening the rhythmic effect of alternation between strong and weak in their discourse (cf Crystal, D. 1969: 161-5).

For example, in fig. 4.11.12.9 the speaker notices some homophony in what he has just said and so repeats the utterance again for his listeners, imparting greater rhythmicity to gain a stronger effect. He accomplishes this by adjustments in the direction of isochrony and expanding slightly the span of the pitch movements of the L* H accents (cf Crystal's 'spiky' rhythm: 1969: 164).

[r h y t h m i c a l]						
/. . it <u>de</u> pend <u>e</u> d on the <u>o</u> ne that <u>w</u> on/. .						
L	L*+	'H	L	L*	H	L* %
	2.5	5.5	4	2.5	3.5	2

Fig.4.11.12.9 Speaker imparting rhythmicity.

4.11.12.10

With the length of rhythmic feet varying between one and five in the data, what evidence is there of tendency towards isochrony (see 4.3.2.5-6)?

Using the data from two of the extracts for which acoustic records were available, the researcher measured all inter-stress intervals inside every IP that contained three or more stresses and no pauses or other discontinuity. The total of IPs was 16 in all. Measurements were only taken within IPs and in the stretch between the first and last accent. This is because between IPs occurrence of post final accent lengthening, disjunctures and disfluencies often 'interfere with the rhythm' ; lengthening after the final IP accent can be particularly marked in RVE, as seen in 4.11.10.3.

Inter-stress measurements were taken between the onset of the stressed vowels (see 4.3.2.5) and are given in seconds. In the ratios, the longer foot-length is expressed first.

1 [T1]

a good supporter of Cardiff

1 .34sec 2 .52sec 3

In (1) there are two feet. Comparative duration of feet is exactly proportionate to the number syllables contained [both 3 : 2] : there is no tendency towards isochrony.

2 [T1]

I remember them playing erm

1 .43sec 2 .37sec 3

In (2) there is near isochrony despite unequal numbers of inter-stress syllables; however there is a minor demarcation boundary in foot 2 , which may have added to its length. There may therefore be less actual isochrony than appears.

3 [T1]

the both of the teams was going up

1 .36sec 2 .32sec 3 .17sec 4

In (3) there is near isochrony between foot 1 & foot 2 despite unequal syllable numbers; foot 3 is much shorter, however.

4 [T1]

but it depended on the one that won

1 .48sec 2 .63sec 3 .42sec 4

In (4), between foot 1 and foot 2, the comparative duration of feet is exactly proportionate to the number of syllables [both 4 : 3]; there is no tendency towards isochrony. Between foot 2 and foot 3, the comparative duration is 3 : 2 whereas the number of syllables ratio is 2 : 1, so there is some tendency towards isochrony.

5 [T1]

there's a bit of a cymysgiad

1 .16sec 2 .30sec 3

In (5) the comparative duration of feet is exactly proportionate to the number of syllables [both 2 : 1] : there is no tendency towards isochrony

6 [T1]

it <u>de</u> pended on the <u>one</u> that <u>won</u> /			
1	.57sec	2	.42sec 3

This is the same phrase as (4), but repeated rhythmically and a little more quickly . Between foot 1 and foot 2 the syllable ratio is 2 : 1, whereas the comparative duration is about 4: 3 . The speaker has therefore adjusted the inter-stress intervals in the 'repeat version' slightly more towards isochrony.

7 [M1]

when I <u>start</u> ed to <u>work</u> /			
1	.28 2	.40sec	3

Between foot 1 & foot 2 in (7), there is a syllable ratio of 3: 1 whereas the comparative duration is about 3 : 2 ; so, there is some tendency towards isochrony. There is a minor demarcation boundary in foot 1 which may have added to its length; there may therefore be less isochrony than appears.

8 [M1]

I <u>start</u> ed at <u>fifteen</u> and a <u>half</u> /				
1	.26 2	.46sec 3	.60sec	4

Between foot 1 & foot 2, there is a syllable ratio of 3 : 1, whereas the comparative duration is about 2 : 1 ; so, there is a tendency towards isochrony. There is a minor demarcation boundary in foot 1 which may have added to its length; there may therefore be less isochrony than appears. Between foot 2 & foot 3, the comparative duration of feet is exactly proportionate to the number of syllables [both 4 : 3] : there is no tendency towards isochrony. It is interesting to see that the duration of foot 1 is similar to foot 1 in (8), the immediately previous IP containing identical words.

9 [M1]

<u>colliery</u> / <u>down</u> in Ferndale/			
1	.36sec 2	.58sec	3

Between foot 1 and foot 2 the syllable ratio is 1 : 1, but the duration ratio is about 3 : 2, reflecting the presence of two long vowels during the latter.

10 [M1]

and my <u>father</u> / was <u>working</u> in the <u>colliery</u> in <u>Maerdy</u> /				
1	.42sec	2	.52sec	3 .46sec 4

Between foot 1 and foot 2 the comparative duration of inter-stress intervals is approximately proportionate to the syllable ratio [4 : 3]; there is no tendency towards isochrony. Between foot 2 and foot 3 there is near isochrony.

11 [M1]

and <u>he</u> was <u>having</u> a <u>bath</u>		
1 .21sec	2 .39sec	3

Between the two feet the syllable ratio is 3 : 2, but the duration ratio is 2 : 1. There is no tendency towards isochrony, indeed the reverse.

12 [M1]

because they'd <u>modernised</u> that <u>pit</u> /				
1	.29sec	2 .24sec	3 .24	4 .25 5

In (12) there are four feet, foot 1 & foot 2 containing two syllables and foot 3 & foot 4 one syllable. There is near isochrony between the four feet, remarkably so between the last three. The speaker is heard to be imparting rhythmicity (see 4.2.8.1).

13 [M1]

and still <u>bathing</u> in <u>front</u> of the <u>fire</u> /			
1	.39sec	2	.32sec 3

Between foot 1 & foot 2 there is a syllable ratio of 1 : 1 whereas there is a duration ratio of 5 : 4 ; so a fair isochrony pertains.

14 [M1]

my <u>father</u> was <u>coming</u> home/ <u>clean</u> /		
1	.42sec	2 .48sec 3

Between foot 1 & foot 2 there is a syllable ratio of 1 : 1 whereas there is a duration ratio of 8 : 7 ; so a good isochrony pertains. There is a minor demarcation after 'home' which adds some duration to the latter, without which isochrony would have been stronger.

15 [M1]

<u>cause</u>	he'd been	<u>showering</u>	in the	<u>pit</u>
1	.43sec	2	.55sec	3

Fig 4.11.12.10 (1 - 15) Measurements of isochrony

Between foot 1 & foot 2 there is a syllable ratio of 5 : 3, whereas the duration ratio is 5 : 4. So, there is some tendency towards isochrony.

4.11.12.11

What may be concluded from this analysis?

1. The hypothesis of strict isochrony , i.e. that inter-stress intervals are adjusted to achieve isochrony regardless of the number of syllables, the segmental composition of the syllables and prosodic constituency, is not borne out :
 - ❑ In over a third of the examples (1, 4, 5, 9, 11 & 12) the comparative length of at least two of the feet is about proportionate to the number of syllables.
 - ❑ The segmental composition of syllables, for example vowel length, may affect their timing ; for instance in (10), the presence of two long vowels in foot 2 probably contributes towards the lengthening of the foot.
 - ❑ In (2, 8, 9 & 15), the presence of minor demarcations has a lengthening influence on the feet in which they are contained.
 - ❑ Within an IP, constant speed may not be maintained; in (12) there seems to be a slowing down as 'the informational crunch' '*having a bath*' is reached.
A further example of slowing-down may be seen at the end of example 10.
2. Some tendency towards isochrony, nevertheless, can be observed:
 - ❑ There are feet which are remarkably isochronous, for example in (13).
 - ❑ A tendency towards isochrony , involving some drawing out or crushing together of syllables, is seen (between at least two of the feet) in twelve out of the sixteen examples (2, 3, 4, 6, 7, 8, 9, 11, 13, 14, 15, 16) .
 - ❑ In both the examples where the speaker imparts rhythmicity, (6) & (12), he appears to enlist a degree of isochrony ; supporting the notion that there is a psychological connection between rhythm and isochrony for the speaker.

4.11.12.12

The impression from the findings in sec. 4.11.12 is that the most powerful factor of

rhythmical organization in RVE is *rhythmic alternation*. This consists basically of an alternating between strong(er) vs weak(er) beats, involving such devices as strong beat insertion where there is a succession of weak beats, and the reduction of the clashes between strong beats (spacing them out) e.g. by 'stress-shifting' . The isochronicity of 'strong beats' would seem to be a factor of less importance, given the complicating factors of vowel length, tempo changes etc. It nevertheless appears to be of some psychological reality to the speaker.

4.11.13 Tunes

4.11.13.1

For the purpose of describing the *tunes* (overall contours) of RVE IPs, an addition to terminology is necessary :

Local pitch sequences that contribute towards *tunes* are not, in RVE, confined to accents. For example, L H can occur not only as an L*+H accent, but also

- at a non-accentual *rhythmical stress* (see 4.11.6.1)
- between a single-level accent and the succeeding syllable (L*...H)
- as a *terminal tone* (e.g. H*+H+L ...H%).

The term *local contours* shall be used to subsume all local tune-forming pitch movements.

4.11.13.2

The tune of an IP may be analyzed, in the first instance, as a sum of its local contours.

Fig. 4.11.13.2 is an illustration of an IP tune (total contour) which, after the H*+H+L contour on the initial accent, is shaped entirely of LH local contours. All the initial pitch movements from the stressed syllables are rising, as is the case with 87.8% of non-final accents in RVE (see 4.11.8.7). This clearly has a powerful effect on IP tunes and is possibly the most striking feature of the 'melody' of RVE.

[M1]

th~they were finishing the job that I was doing!

0 H*+H+L L*+H L L H L*+H%

Fig 4.11.13.2 An IP tune containing a series of L H local contours.

4.11.13.3

As seen in 4.11.8.7, 60.1% of nuclear contours are ultimately rising, and 39.9% ultimately falling. Seen as a sum of its *local contours*, therefore, the two most typical RVE IP tunes are:

1. a sequence of mainly rising pre final-accent local contours followed by a an *ultimately rising* nuclear contour ; examples of such tunes can be seen in fig. 4.11.13.3(a)
2. a similar sequence, followed by an ultimately falling nuclear contour can be seen in fig 4.11.13.3(b) : (4) has a falling final profile, and (5) has a rising-falling final profile

(1) Examples of tunes with ultimately rising nuclear contours

1.	<u>so</u> . . . they <u>made</u> us . <u>redundant</u> <u>then</u> !	[M1]
	L 0 L*+H L*+H L*+H%	
2.	. and <u>he</u> <u>happened</u> to be <u>looking out</u> of the <u>window</u> !	[P10]
	0 H L*+H 0 H*+H +L L L*+H%	
3.	there's . . <u>there's no work</u> at <u>all</u> !	[M8]
	0 H*+H L*+H H H*+H%	

Fig 4.11.13.3(a) Tunes comprising a sequence of mainly rising local contours ending in an *ultimately rising* nuclear contour.

(2) Examples of tunes with ultimately falling nuclear contours

4.	I <u>told</u> him I'd <u>only just</u> <u>gone</u> to . <u>bed</u> !	[T1]
	0 L*+H H H L*+H 0 H*+L%	
5.	. . <u>there</u> was <u>pits</u> <u>every couple</u> of . <u>villages</u> !	[M1]
	L 0 H*+H L*+H L*+H 0 H+H+L%	

Fig 4.11.13.3(b) Tunes comprising a sequence of mainly rising local contours ending in an *ultimately falling* nuclear contour .

4.11.13.4

Another factor in tune-formation is the relative scaling of the H-peaks in accents, as was found in Edinburgh Scottish English (Brown, G. et al, 1980 : 60-3). Whereas,

however, in Edinburgh Scottish English the H-peaks are the start of falling tones, in RVE they are typically the ends of rising tones.

- *Initial-peaked contours* are where the H-level reached at the first accent is the highest, the top-line of the IP thereafter slants down towards the end. An example is in fig. 4.11.13.4(a).

[M1]

when I started to work
 H H*+H L*+L L L %

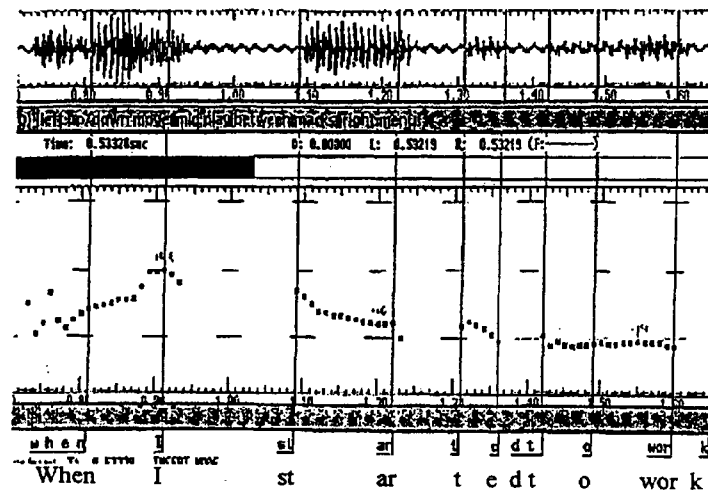


Fig 4.11.13.4(a) Example of an initial peaked IP tune.

- *Final-peaked contours* are where the highest H-level is at the final accent ; the top-line slants up towards it. An example is given in fig. 4.11.13.4(b).

[M1]

my father was coming home clean
 H L*+H L 0*+H L H H*+H+L%L%

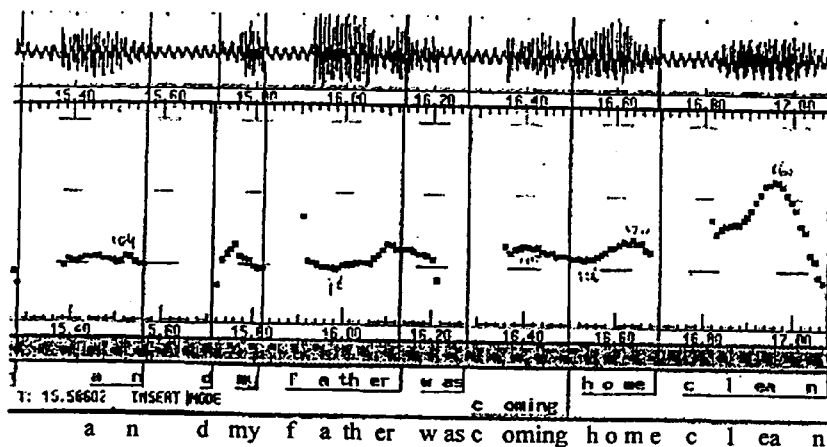


Fig 4.11.13.4(b) Example of a final peaked IP tune.

- In a small number of cases, a medial accent has the highest H-peak, so that there is a tune with a *medial-peaked contour*. An example can be seen in '*because they'd modernized that pit*' (see fig. 4.11.9.4c).

4.11.13.5

Attempting to obtain a finite set of overall tunes in this way, however, runs into problems such as :

- Commonly 'tunes' are *twin-peaked* in which, for example, the Highs of both the first and final accents are more or less equally salient perceptually. Questions then arise such as how much higher (for example) the initial peak needs to be for a tune to be counted as *initial-peaked*. Added to this are such complicating factors as the ear being able to compensate for the factor of declination (see 4.4.5.2), by hearing a final peak to be higher than instrumental measurements show to be the case.
- An initial-peaked contour does not predetermine the shape of the remaining tune.
 - in fig. 4.11.13.4(a) above, it falls throughout
 - in fig. 4.11.13.5(a) below, it falls during '*they wanted a wireless*' and then rises slightly during '*over the Shot*'

[M9]

they wanted a wireless over the . Shot/

H*+H L H , L*+H L H H*+L%

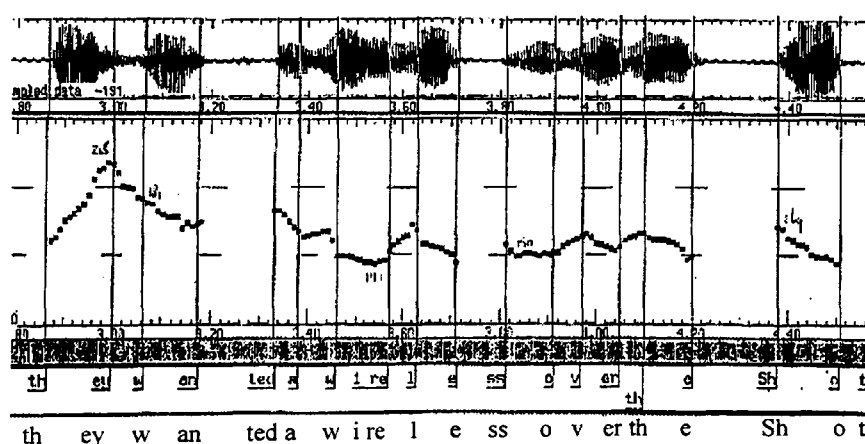


Fig 4.11.13.5(a) Example of an initial-peaked tune in which pitch does not fall throughout, but rises (slightly) to the end .

- Nor are the shapes of tunes always the same in final-peaked contours: whereas in fig. 4.11.13.4(b) the tune rises gradually throughout, in fig. 4.11.13.5(b) the tune falls gradually throughout, before a big pitch jump to the final accent.

[M9]

for the old people to hear the fight/.

L H L*+H L*+H \ L*+0 H *H*+L%

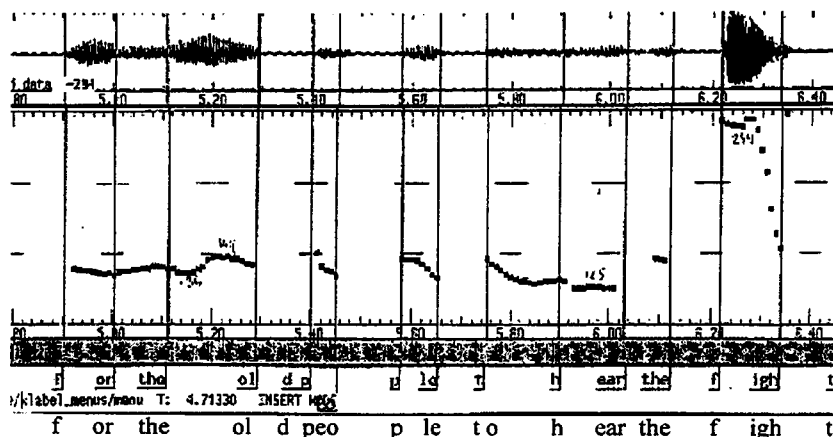


Fig 4.11.13.5(b) Example of a final-peaked tune in which pitch does not rise throughout, but falls (slightly) before the final pitch jump.

The impression is, therefore, that the way accents are scaled strongly influences the tune, but not in the direction of a finite set of overall contour types such as *initial peaked*, *medial peaked*, *final peaked* each with its own distinctive characteristics (e.g. slant of its top-line).

4.11.13.6.

Nevertheless, there are occasions in the data when an IP tune seems to take on a whole life of its own, and all the local contour peaks and valleys in it appear to be moulded to its course. Commonly, such a whole-tune has a descending momentum throughout, falling gradually as in fig. 4.11.13.6(a), or steeply as in fig. 4.11.13.6(b).

[M9]

once the fight was over/ I had to come out/

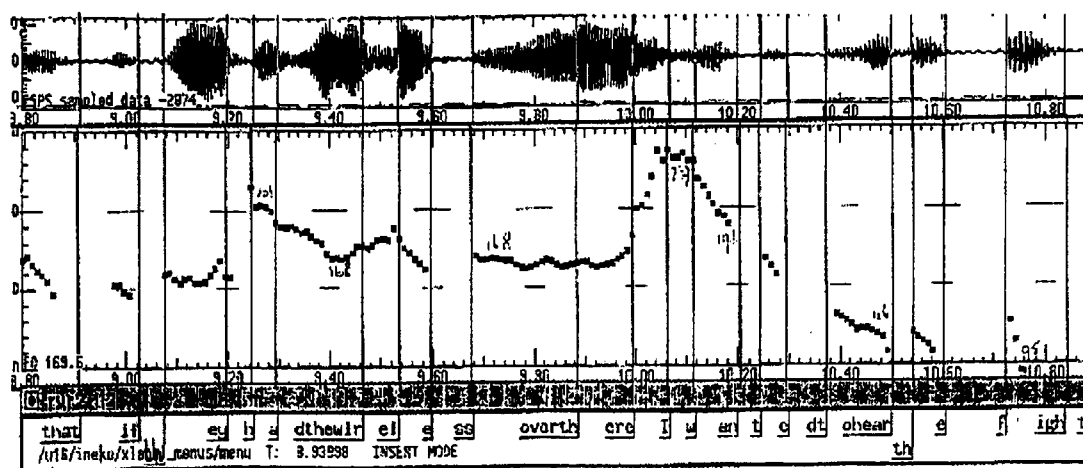
L* 'H 'L* L L*+H \ L*+ H \ L L*+H%

Fig 4.11.13.6(a) A gradually descending tune (marked by down-stepping diacritics).

[M9]

I wanted to hear the *fight*!

H*+H L L L* + L L*+L%



I w a n t e d t o h e a r t h e f i g h t

Fig 4.11.13.6(b) A steeply falling IP tune.

4.11.13.7

There are also whole tunes that seem to have an upwards momentum. An example can be seen in fig. 4.11.13.7 .

[M1]

and I was *coming home*/ and *still* bathing in *front* of the *fire*/

L H +H 0*+H H H% L 0 L*+ H L*+ H H*+H%

Fig 4.11.13.7 Example of a tune that ascends throughout.

4.11.13.8

In the last example (fig. 4.11.13.7), there are two IPs with ascending tunes following one other: an overarching tune seems to extend over the whole *sequence*.

4.11.13.9

Another way in which a sequence of two IPs may have an overall tune, is when, semantically, they are in a major-minor relation to each other. The example in fig. 4.11.13.9(a) illustrates a sequence familiar in RP. The major IP is at a higher overall pitch and ends with a falling terminal , whereas the minor IP is at a lower overall pitch and ends with a rising terminal.

[T1]

<u>taking</u>	<u>the</u>	<u>workers</u>	<u>up/</u>	<u>you</u>	<u>know/.</u>
L*+ H		0*+ H	L %	↑L	H*+H%

Fig 4.11.13.9(a) Sequence of IPs: the first has a rising-falling tune, the second a rising tune

The examples in fig. 4.11.13.9(b) show another sequence common in RVE : both 'major' and 'minor' IPs have rising terminals. The subordination of the second is realized by its IP being in a lower key.

[M1]

<u>cause</u>	<u>he'd</u>	<u>been</u>	<u>showering</u>	<u>in the</u>	<u>pit/</u>	<u>you</u>	<u>see/</u>
H*+ H		H	0*+ H		H*+H% ↑L	H*+H%	

[M9]

<u>because</u>	<u>there</u>	<u>was</u>	<u>a</u>	<u>strict</u>	<u>law/</u>	<u>in</u>	<u>those</u>	<u>days/</u>
L	L*		H		0*+H H*+H% ↑L	L* +	H %	

Fig 4.11.13.9(b) Sequence of IPs: both have rising tones.

4.11.14 Significance of pitch level

4.11.14.1

The researcher has so far used terms - 'rises', 'rise-falls' etc - which assume that, at accents, it is mainly 'configurations' rather than 'levels' that are heard .

No evidence in this research has been presented which confirms that this is so. It could be argued, for example, that the rises commonly taking place from the stressed syllable at RVE accents could be due to the speaker's motivation to produce a 'High', possibly on some wave of excitement (cf Bolinger, D. 1986: 194-5) . The fact that the 'High' (H-tone of AM theory) is aligned after the stress, in this viewpoint, would account for the rise.

4.11.14.2

But the data confirms that 'levels' are independently meaningful :

1. Ladd, D. (1996: 67-70) observes that speakers appear to be able to precisely scale the relative peak heights of two 'Highs'. This is clearly of significance, when (all other things being equal) a higher pitch peak at one accent than

another can indicate the speaker intends to give it greater prominence.

An example can be seen in the IP '*because they'd modernized that pit*' (fig. 4.11.14.2), where the scaling of the medial accent '*modernized*', much higher than any other accent in the IP, signals it as the most important information for the speaker (see Appendix 18 p 457 for full transcription and context.)

[M1]

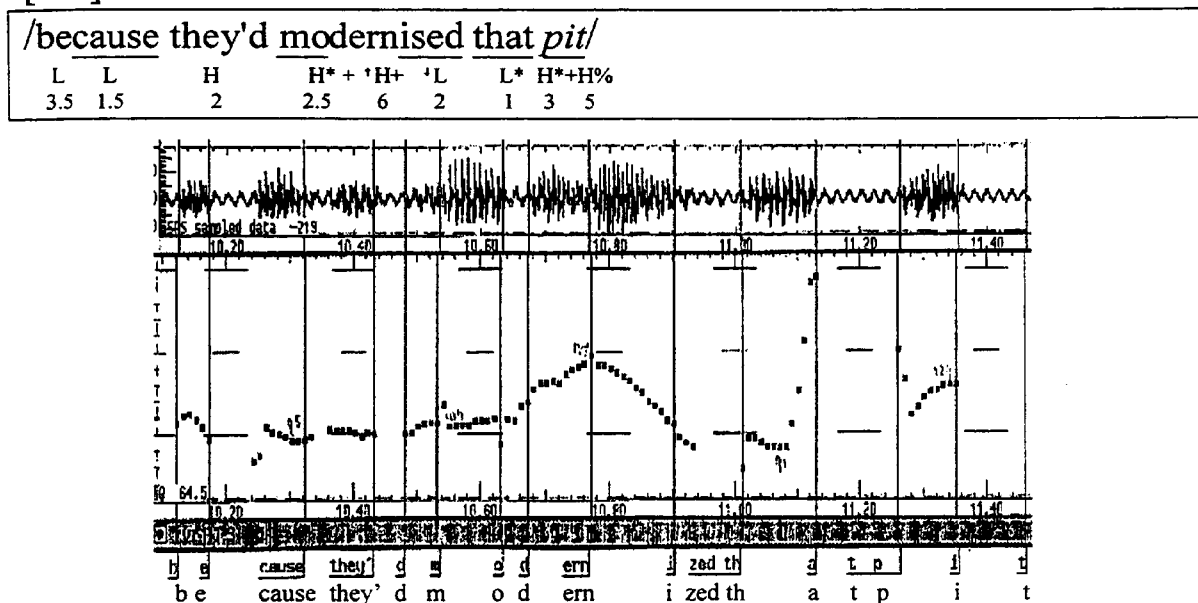


Fig 4.11.14.2 Scaling of accent on '*modernized*' (full transcription in Appendix 18 p 457).

- Another instance of the communicative significance of *pitch level* is termination height at the end of an IP (see 4.10.6.4). For example, the greater the end-height of a terminal rise, the greater may be its referring power .

4.11.14.3

Whereas the scaling of 'Highs' is clearly of potential significance, there is less evidence that 'Lows' (L-Tones of AM theory) represent precise 'targets' for the speaker or that their relative scaling is significant to the listener.

In RVE, 'Lows' are of perceptual significance mainly in L*+H accents where there is an obtrusion down to the stressed syllable. The impression from the data is that when there is a particularly large fall to a Low, it is not so much the scaling of the 'Low' that

is perceptually significant as the whole pitch span that follows - the function of the 'Low' has been to make room for a large pitch rise to the 'High'.

The example '*and he was always there on official functions*' (fig. 4.11.14.3) may illustrate this. The IP starts with a strong H*+H accent on '*always*', ending quite high in the speaker's normal pitch range. Thereafter in the IP, the pitch level declines until '*official functions*'. Since the final accent of the IP focuses on important information ('*official functions*') as well as being terminal for the whole IP, the speaker clearly intends to make it very prominent. The fall to the 'Low' on '*func-*' enables him to accomplish the extra prominence he needs, not so much by the lowness of the fall, as by the sizeable pitch-span it gives to the rise to the 'High' that follows it.

[P10]

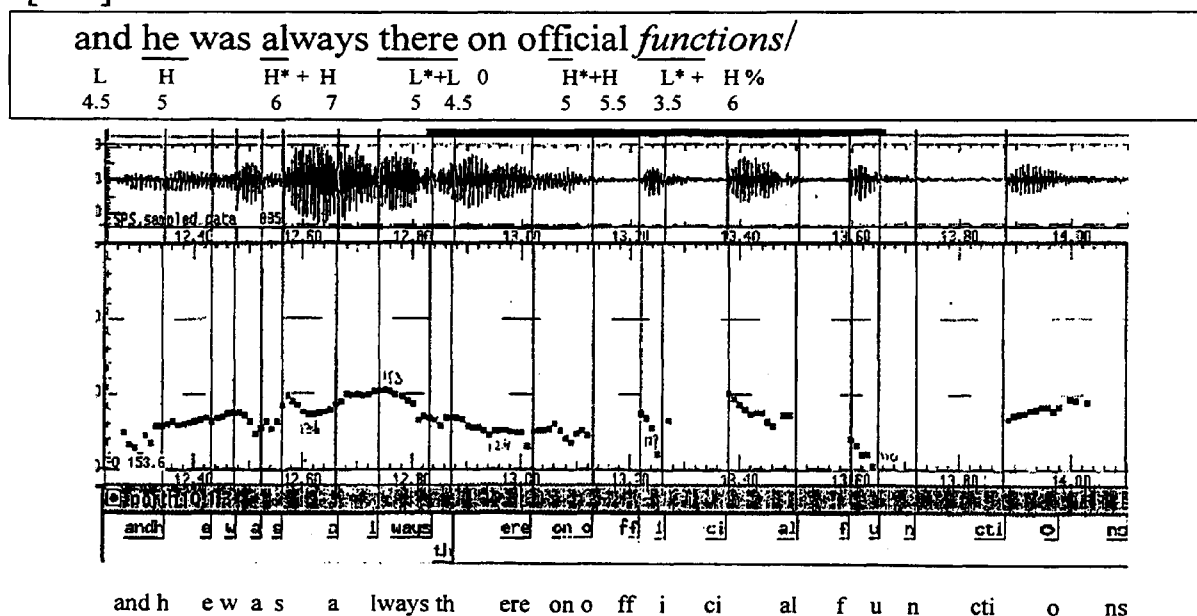


Fig 4.11.14.3 Low obtusion as 'springboard' for subsequent rise.

4.11.14.4

It is hypothesized that, for speaker and listener, pitch configurations and levels are significant. The value is confirmed, thereby, of using a system of describing accents profiles (L*+H ; H*+L etc) which enables reference to both of them .

4.11.15 Function

4.11.15.1

Linguists have speculated as to whether there are any universal, cross-language 'meanings' of intonation. Bolinger (1986: 221-3), for example, supposes that the 'binarity of Up and Down' may signify a kind of deep psychological impulse of + or - arousal, so that, for example, what is 'up' is being highlighted or being 'left up in the air' for completion and what is 'down' is being downplayed or being 'closed off.'

Such a hypothesis seems, at first, not to fit the prosody of RVE accentuation, in which the initial pitch movement at an accent is mostly down not up: as seen in sec. 4.11.8.7, 50.4% of non-final accents and 55.8% of final accents in the data are accompanied by downwards obtrusions to the stressed syllable. However, a more consistent feature of RVE is that pitch goes upward from the stressed syllable: it rises in 87.8% of non-final accent profiles and 75.7% of final accent profiles in the data (see 4.11.8.7). This being so, the speaker's motivation might, after all, be to produce a 'High', an interpretation that is supported by the clear connection in the data between strength of accentuation and height of rise, e.g. fig. 4.11.9.2(d), 4.11.9.3(b), 4.11.9.4(c).

T5 high rising accent on '*told you*'

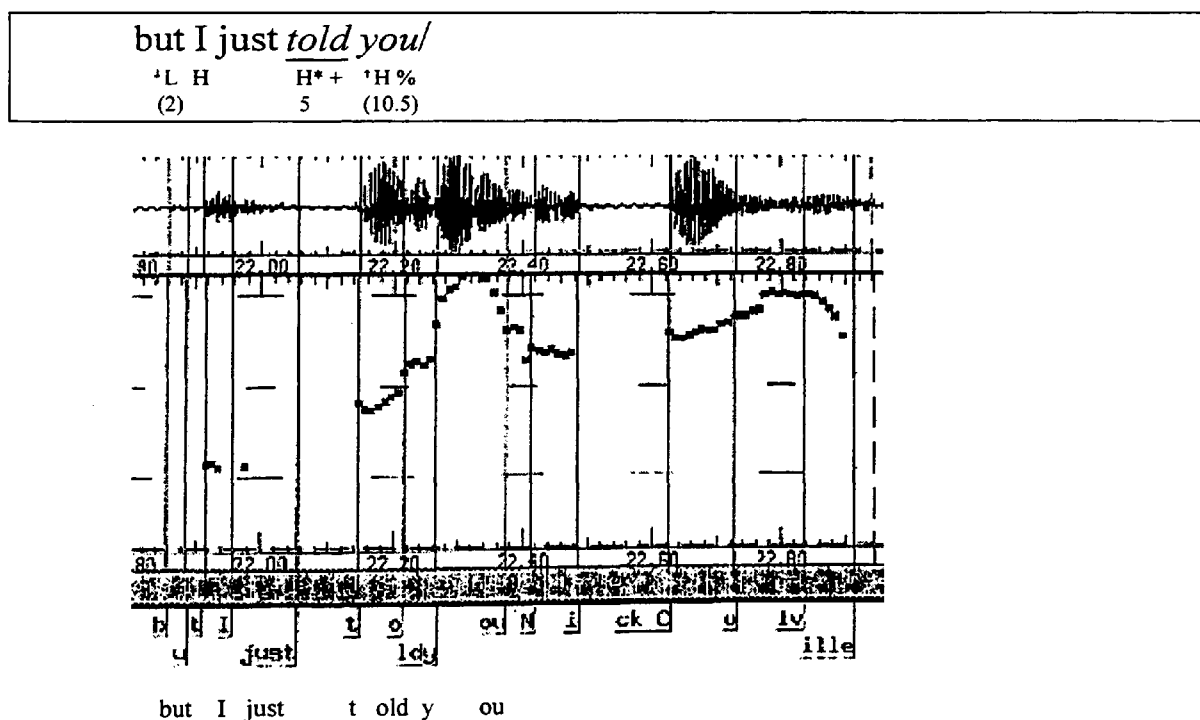


Fig 4.11.15.1 Strength of accent signaled by height of rise after the stressed syllable.

4.11.15.2

Although not a primary aim of the research (see 1.1.3 & 4.1.2), the description of RVE prosody will now conclude by making some reference to ways in which the prosodic forms described appear to contribute towards certain meanings.

4.11.15.3

First, affective meaning or attitude, will receive a brief mention:

While analyzing the conversational data, instances were found in which it was clear that prosody was contributing strongly towards the expressing of the speaker's apparent attitudes and affective states - to mention but a few of these : *surprise*, *amusement*, *disgust*, *jocularly*, *assertion*, *puzzlement*, *certainty/uncertainty*, *sadness*, *excitement*, *agreement/disagreement*, *impatience*, *regret*, *approval / disapproval*.

An example can be seen in the utterance . . . aye/ (see 4.11.15.6(18)). Speaker B
↑ ↑ H*+H%
has just said that (when he was younger) he had taken the train to Cardiff and walked back. Speaker A's high amplitude and high pitch response of 'aye' with rising tone, helps signal, in the context, something in the nature of surprise, astonishment or incredulity. (The full context and transcription can be seen in Appendix 17 p 438)

It was also clear from the data, however, that

- 'attitudes' of the speaker could not be unambiguously identified by prosody alone, but needed understanding of the full context
- that a number of the features employed were from the 'less linguistic' end of the prosodic continuum, e.g. *voice qualifiers* and *vocal reflexes* (see 4.2.8)
- that gradience was a strong factor, e.g. *pitch range* and *degrees of loudness*.
- labeling of a speaker's 'attitude' is, in any case, problematic; attitudes such as 'surprise', 'amazement', 'incredulity' do not seem to be discrete and are therefore hard to disentangle

It would, nevertheless, be interesting to examine the whole data, identify all cases of what might be termed 'surprise', 'amusement', 'disgust' etc and see if each tends to be accompanied by its own bundle of prosodic features (cf Crystal, D. 1969 : 297-

308). There seems to be no reason why correlations should not be established between notional attitudes, however loosely defined, and bundles of prosodic features in this way.

4.11.15.4

Apart from contributing towards the signaling of affective meaning or attitude, the research confirms that prosodic forms contribute more or less systematically towards the carrying out of the following ‘*discourse functions*’ :

1. *Informational structuring and highlighting* :

a) SEGMENTING OF THE SPOKEN DISCOURSE INTO SPEAKER-CREATED SENSE UNITS :

- Prosody signals *major demarcations* of spoken discourse into *Intonational Phrases* (see 4.10.2.1).
- It also signals *minor demarcations*, making minor divisions of information within Intonation Phrases (see 4.10.2.5) .

b) SIGNALING OF INFORMATIONAL PROMINENCE :

- Prosody helps to make information in Intonation Phrases *prominent* through *accentuation* (see 4.10.3.1)
- It helps to order the prominence of information by the *scaling* of accent strengths relative to one another (see 4.10.6.3)
- It aids in the signaling of prominence relations between different Intonation Phrases, e.g. by use of *key* (see 4.10.6.4)

c) SIGNALING FINALITY / NON-FINALITY OF INFORMATION :

- Prosody helps to signal *propositional* finality / non-finality, e.g. by choice of *terminal tone* (see 4.10.4)
- It aids in the marking of the beginnings and endings of *topics / sub-topics*, e.g. through the use of *key* and *termination* height (see 4.10.6.4).

2. *Interactional management* :

a) THE MANAGEMENT OF TURN-TAKING

- Prosody helps to manage the *turn-taking* between conversation participants (see 4.6.5), e.g. by use of *terminal tone*, *key* and *termination* heights

b) PROCLAIMING AND REFERRING

- ❑ Prosody signals the *interactional* finality / non-finality of something said, i.e. whether it is proclaimed (asserted) or referred, for example by use of *terminal tone* and *termination height*.
- ❑ When it strongly refers, it helps to *elicit* responses from an interlocutor.

4.11.15.5

The ‘proclaiming’ vs ‘referring’ contrast is one proposed by Brazil (1980, 1997). He does not relate such labels to notions of ‘finality / non-finality’, but a link may be made: A falling terminal tone may appear to *proclaim* by virtue of its ‘finality’ sounding interactively *assertive* in a given situation, whereas the ‘non-finality’ of a rising terminal tone serves to *refer* onwards to the listener or ‘into the common ground’.

4.11.15.6

An episode of the conversational data will now be looked at, to illustrate how the meanings outlined in 4.11.15.4 are contributed to by prosody. It is taken from the Treherbert 1 conversation, prosodic transcription of which can be seen in Appendix 17 pp 436-441. The use of the term *contextual*, throughout, refers to the entire range of factors other than prosodic that are involved in the speakers' negotiation of meaning, e.g. the propositional content conveyed by the lexis-grammar, the situational context, gesture and body language, and mutual understandings between the interlocutors.

1. B: not women/ soccer/
 H 'L*+ H% H*+H+L%
 (2.5) 3 1

The immediate context is the topic 'what used to interest Speaker B most'. Speaker A suggests, jokingly, that it was the female sex. Speaker B says it was soccer.

The utterance is clearly divided into two IPs: '*not women*' and '*soccer*'. The rising terminal tone on the '*women*', in the context, signals informational non-finality.

The ultimately falling terminal tone on '*soccer*' signals the propositional completion of '*not women...soccer...*'; and at an interactional level *proclaims* this to the listener.

The quietness with which the word '*soccer*' is spoken, its falling tone, its pitch level near the bottom of the speaker's register and the succeeding pause are all prosodic clues to potential topic or speaking-turn completion. Speaker A, however, makes no attempt to take up the turn, awaiting Speaker B's development of the topic. Contextual clues are clearly stronger than prosodic ones in this instance: the topic is barely under way, and Speaker B is identified as being in possession of the immediate information to continue it.

2. B: I was a sup~a good supporter of Cardiff. erm. .

H	H	L	H*+H	H	L*+H	L	L*+H%	L*+0
(2)	3	2	3 3.5	4	2 2.5		1.5 2	2

During the next IP, Speaker B continues the topic. Two information focuses attract accents : '*good supporter*' (containing two accents) and '*Cardiff*' (final accent). The most salient of these accents, with the highest pitch and greatest intensity, is the H*+H on '*good*'. Probably, it is the speaker's main point, since '*Cardiff*' is predictable information - it is the only National Football League team in the vicinity. It is anticipated that tone-unit theorists would have difficulty in choosing between the accents '*good*', '*supporter*' and '*Cardiff*' for placement of 'nucleus', with a number of them opting for '*Cardiff*' even though it is not the main information or the most salient. The RVE mode of analysis assigns accents to all three, with the IP terminal tone on '*Cardiff*'.

The contextual expectations raised by '*supporter of Cardiff*', the rising terminal tone on '*Cardiff*' and the level tone on '*erm*' which is sustained at about the same pitch level as the termination height of '*Cardiff*', all seem to contribute towards a sense of topic non-finality at the end of the IP.

3	[h i g h k e y]										
B:	I <u>used</u> to . do you <u>know</u> / I <u>walked</u> from <u>Cardiff</u>										
	H	H*+	H	L	H	L*+H%	L	H*+H	L	L*+	H%
	4		6	5.5	6.5	6	6.5 (5)	8	9	4	2 4.5

(acoustic record in Appendix 22 p 481)

The next utterance is divided into two IPs, the main clues to demarcation being the lengthening on '*know*' and slight juncture after it, the consequently demarcative-sounding tone, and the base-line reset on '*I*'. The demarcation, it can be seen, disambiguates between two possible meanings of '*do you know I worked from Cardiff*'.

Throughout both IPs, Speaker B uses *high key* and ascends ever higher in his pitch range, thus appearing to indicate that he is thoroughly launched into the topic.

The greatest informational prominence in the second IP is given to '*walked*', since the distance involved is more than 20 miles, and '*Cardiff*' itself is old and predictable information. Both are strongly accented. '*walked*' is the more phonetically salient, with an H*+H accent containing the highest pitch peak (near the top of the speaker's pitch range) and maximum intensity of the IP, together with larger than normal pitch-spans to its obtrusion and tone. '*Cardiff*' has an L*+H accent-profile that also contains larger than usual pitch spans. Tone-unit theory would have to choose between '*walked*' and '*Cardiff*' for its 'nucleus'. The RVE mode of analysis can assign accents to both, with the terminal tone to '*Cardiff*'.

The rising terminal tone on '*Cardiff*' seems to function mainly at an interactional level, i.e. to be referring. The termination height on '*-diff*' is possibly higher than might be expected. Is it high enough to elicit ? As a listener, one feels to be in some doubt: a significantly higher termination would certainly have been felt to be elicitive and, no doubt, have triggered back-channels such as '*no !*' '*get on with you!*'. In the event, no audible reaction from the listeners was recorded - although this does not preclude reactions having been present and expressed, for example, through the body language of the listeners.

4	[h i g h k e y]										
B:	/. . I remember them <u>playing</u> <u>erm</u> / . . . <u>Birmingham</u> /										
	L	H	'H*+	H +	L	L*+H	L 0%	'L*+	H +	L %	
	2.5	4	7.5	10	(8.5)	6 6.5	6	2.5	4	2	

(acoustic record in Appendix 22 p 481-2)

Retention of the previous high key seems to signal that the topic and wave of enthusiasm with which the speaker has been delivering it is unbroken.

The first IP is analyzed as '*I remember them playing erm*' despite its incomplete syntax and finishing with '*erm*' (see discussion in 4.11.4.2a). By far the stronger of the two accents in the IP is on '*remember*'. It is marked, therefore, as the most prominent information in the IP: Speaker B remembers something. The level terminal tone on '*erm*' signals information incomplete. The meaning of the IP seems to be: 'I recall a particular Cardiff game, and if you hold on I'll be able to tell you what it is'.

The next IP, '*Birmingham*', completes the immediate information (the team that Cardiff was playing). It comprises an IP of its own. Because the previous IPs are all in high key, Speaker B, rather than ascend into even higher pitch, achieves the necessary highlighting of '*Birmingham*' mainly by a big drop in pitch. It has an L*+H+L profile, with the H peaking at the onset of the vowel of the second syllable. The falling tone is informationally complete, and interactionally proclaiming . There is low termination, with the speaker's voice dropping to the bottom of his pitch range. This might be interpreted as potential topic / turn-completion. However, the context (the tale is clearly not over yet) indicates otherwise.

5

[ä:]

[p r e s t o]

B: /. . . . and/ . it depended on / now/ the both of the teams was going up/

L*+H% 0 H H*+ 'H 'L*+H L H% L H*+ 'H L L* L L*+L H*+H%

1.5 2.5 3 3.5 6.5 2.5 2 2.5 2 (3.5) 7.5 (5.5) 3 2 1.5 2

(acoustic record in Appendix 22 p 482)

'*and*' has all the clues for a separate IP (see discussion in 4.9.2.6 & 4.11.4.2e). Its rising-tone signals informational non-finality: 'I am going to add something else now'.

The next IP is uttered at a fast speed. The effect is both to aid its demarcation as an IP, and to place it in a parenthetical relation to what precedes and follows it. The main information focuses are evidently '*both of the teams*' and '*going up*'. The H*+H accent on '*both of*' sounds much the strongest in the IP, with a larger than normal pitch span to its rise ; the rise, in fact, continues steeply after '*both of*' and peaks high on the next syllable '*the*'. The whole of '*going up*' is also strong: although spoken low in the speaker's pitch register, both words are forcefully stressed. The reason for choice of rising terminal tone on '*up*' isn't obvious. It may mark sub-topic non-finality - Speaker B has yet to explain 'what it depended on' - or it may be referring the immediate information that both teams 'were going up'.

(acoustic record in Appendix 22.p 483)

(acoustic record in Appendix 22 p 483)

8 [r h y t h m i c a l]
 B: /.. it depended on the one that won/.. (wheeze-laugh)
 L L*+ 'H L L* H L* %
 2.5 5.5 4 2.5 3.5 2

Speaker B next repeats the homophonous IP word for word, employing an increased rhythmicity to add force to it . This time he ends with a falling terminal tone, and descends quite low into his pitch range , although not diminishing greatly in intensity. The falling terminal tone, where there was rising one in the original utterance, seems to be *proclaiming* the joke to his listeners, and he laughs *himself* at it.

In the next IP the information focus is '*top dog*', signaled by accents on both. The information is potentially completive and the falling terminal tone seems to signal finality, at least at the immediate information level. Speaker A acknowledges by responding '*aye*'. Speaker B immediately adds, '*isn't it you know*', appealing to his

listeners' understanding. The clues to its demarcation as a separate IP lie in the marked base-line reset at the start and in the change of tempo. The rising terminal tone at the end of the appeal adds its referring force. The topic / turn now seems to be nearing its end, although some clarification may be needed : 'top' of what ?

10

A: [aye] aye /
H L*+H%

[r a l l]

B: the top of the erm / . aye / [aye]
L H*+ H L* 0% L*+L% L L

I: of the first division / you mean /
H H* H*+ H% L L*+L%

Speaker B proceeds to add the information '*the top of the erm*'. Despite the incomplete syntax and the '*erm*', this is heard as a completed IP rather than an interrupted / abandoned one (see 4.9.2.6 & 4.11.4.2a). There is a marked slowing down, starting from '*the*', which appears to be primarily due to the speaker having finished what he wants to say : contextually, '*the erm*' can only refer to 'the [something] division'. Confirmation of sub-topic completion appears to come from Speaker A, who comes in with '*aye aye*' before Speaker B has finished '*the erm*', and from the subsequent two '*aye*'s added by Speaker B.

The completion of the speaker's immediate sub-topic, the lexical repetition and tail-off at the end of '*the top of the erm*' seem to indicate potential topic / turn completion. Prosodic clues strengthen this impression: the slowing down of the whole IP, and sinking down via the two subsequent '*aye*'s to low key. The interviewer (the researcher) appears uncertain, however, and asks '*of the first division you mean*' to obtain clarification.

11

[l o w k e y]

B: . yeah / of the first erm . go up to the first division /
H*+ L% 0*+H 0 'H H*+ H L L* L*+L%

Thus appealed to for clarification, Speaker B answers with a proclaiming 'yeah' (H*+L accent) and begins to repeat '*of the first*'. All of this is in low key ; the feeling is still of potential topic completion. Then after a minor demarcation, he breaks off with a hesitant '*erm*' that is weak in intensity and sounds cut short ; the IP is incomplete and abandoned.

Perhaps because of the interviewer's intervention, and perhaps because he has just remembered more about the topic, Speaker B now adds more information '*go up to the first division*', and strongly raises the pitch level from low to mid key to do so. The most prominent information is '*up to*', which has an H*+H profile with a big upwards obtrusion to the H* and big rise from it. All the remaining pitch movements in the IP thereafter are descending until (and including) the L*+L% final accent . Such a series of falling contours is unusual in RVE, in which rising local contours are more common, and gives the impression of being strongly proclaiming.

12

<p>B: . . <u>from</u> the <u>second</u>/. . <u>to</u> the <u>first</u>/</p> <p style="text-align: center; margin-left: 10%;"> $\text{'H*} \quad \text{H} \quad \text{L*} + \text{H} \% \quad \text{L*} \quad \text{L*} + \text{L} \%$ </p>	<p>. . <u>yeah</u>/ .</p> <p style="text-align: center; margin-left: 10%;"> $\text{H*} + 0 \%$ </p>
<p>I: . . <u>oh aye</u>/</p> <p style="text-align: center; margin-left: 10%;"> $\text{H*} \quad \text{L} \quad \text{L} \%$ </p>	

Speaker B elaborates with '*from the second to the first*'. The utterance is clearly divided into separate IPs, but has an overarching rhythm : each IP has two *strong beats* with a single weak intervening ('*from the sec..*' and '*to the first*'), and nearly identical timing.

The rising terminal tone on '*second*' clearly marks informational non-finality. The falling terminal tone on '*first*' together with falling tune of the whole IP marks informational finality, and is heard to be proclaiming. Since it completes information the interviewer himself has requested, the supplying of it calls for some response from him : '*oh aye*'. Although the terminal tone of the second IP is falling with low termination, therefore, context makes Speaker B's utterance elicitive.

Speaker B follows this exchange with a low-key, potentially turn-completing '*yeah*'.

13 [piano & breathy]
 B: / . . on the I can't remember/ now/ to be honest with you/

Having just arrived at a point of potential topic / turn completion, Speaker B now embarks on new information with '*on the ...*'. The utterance / IP is, however, abandoned, and a lengthy hesitational pause follows.

His next utterance is analyzed into three IPs. The first IP, '*I can't remember*', is spoken very quietly in a breathy voice, prosodic clues that seemingly signal some emotional state (perplexity? chagrin?) to the admission that he cannot recall the desired information. The H*+H profile on '*remember*' rises to a termination height that is at the top of the speaker's register, almost at the level of falsetto. It sounds referring, but there seems no functional reason, e.g. need for strongest possible emphasis, why it should rise so extremely high. Perhaps it is a prosodic feature that is correlated with the very quiet, breathy delivery.

'now' has sufficient length, and is followed by sufficient juncture, for its accent profile to sound demarcative. The third IP is *'to be honest with you'*. The rising L*+H terminal tone on *'honest with you'* again rises high enough to be heard as strongly referring.

Because the three IPs seem to form a larger whole, the impression is that the terminal tone on the third - because it is the last and followed by a pause - to a large extent 'overtakes' the terminal tones on the first and second. The contents of the whole utterance (comprising the three IPs) is thereby referred via the high rising terminal tone on the third IP.

It may be noted that terminal tones on all three IPs are rising, even though the first IP may be considered the ‘major information’ and ‘*now to be honest with you*’ the ‘minor’ information (see 4.11.13.9).

B: / . . . but anyhow / . . . I seen Cardiff play /
 'L H*+H+ L\% H H* 'L*+ H L\%

In the immediately preceding IPs, Speaker B has said he can't remember some information he was going to mention. Now he drops sharply in pitch and, with further pauses, tails away with falling terminal tone : '*but anyhow I seen Cardiff play*'. Contextually, these are the strongest indications so far of potential topic and turn-completion.

A: (inaudible) [where did] you use to go to Cardiff / .by train / or what /
 ' H*+H H L*+ H L*+ H L*+ H\% $\text{H 'H*+H\% 'L L*+ L\%}$

B: I seen Cardiff play /
 H H* 'L*+ H L\%

Speaker A may sense Speaker B's previous utterance '*but anyhow I seen Cardiff play*' as potential turn-completion because he begins a speaking turn before Speaker B has finished. Since they are thus speaking for a short period simultaneously, Speaker A begins at a higher level of pitch and intensity than Speaker B is at the time employing.

The main accents in his first IP are on '*where*' (H*+H profile) and '*Cardiff*' (L*+H), with '*where*' being the more prominent through its much higher pitch level ; '*Cardiff*' is, to a large extent, given information. Whereas tone-unit analysis would be forced to choose between these two for 'nucleus' , the RVE analysis assigns accents on both, and terminal tone to '*Cardiff*'. The speaker's choice of rising terminal tone on '*Cardiff*' may here signal 'question incomplete', because the question is immediately elaborated '*by train or what*'. This is divided into two IPs, with rising terminal tone at the end of the first and falling tone at the end of the second. This, on the surface, represents the common intonation found in OR questions. Prosodic clues, however, are of '*by train*' being the real question [train would be the assumed method of travel in the crowded Valleys]. The terminal tone rises high, so that it sounds to be strongly referring / elicitive. By contrast, '*or what*' is at a much lower key, and sounds to be a

16

[low key]

17

347

told before. It is delivered as two IPs, containing strong accenting and with pausing after each IP that helps to convey the information clearly and forcibly.

The terminal tone of the first IP on *'train'* is rising, which in the context signals informational non-finality. The falling terminal tone on *'home'* sounds informationally completive and, at an interactional level, strongly proclaiming.

18

.. aye/
†† H*+H%

B: .. I used to go by train/and walk home/

Speaker B reiterates *'I used to go by train and walk home'*, perhaps to heighten the power of his extraordinary revelation through repetition, or perhaps because last time it overlapped with the question from Speaker A and might not have been heard.

delivery would be more effective than exact replication, or because - having made the point once - the second time around a more 'matter of fact' delivery seems now appropriate. Some extra proclaiming effect, nevertheless, is given by the L*+L accent on 'home' dropping to a lower termination than it had done in the first version.

The rising-tone H*+H 'aye' response from Speaker A with high amplitude, high-key and high termination is strongly elicitive ('really ?' 'you're not kidding ?')

Speaker B responds with a laughing, confirmatory '*that's right I did*'. The utterance seems to be divided into two IPs, although the demarcation after '*right*' could be a minor not major one. The main accent in the utterance is on '*right*' with an L*+H profile. The large span to its rise effects a high rising terminal, continued on '*I did*', which is strongly referring ('what do you think of that then?').

19	[h i g h k e y]	[low key & lento]
A:	. . <u>walk</u> from <u>Cardiff</u>	. . <u>good</u> <u>God</u>
	^{'H*} H ^{H*+H+ 'L%}	^{' 'L*+L} ^{L*+L%}

B:	. . <u>aye</u>
	^{'H*+H+L%}

Speaker A responds, by echoing '*walk from Cardiff*' with his voice starting on an even higher pitch level than that on which Speaker B has terminated the previous phrase , and climbing throughout the IP to near falsetto register. These prosodic clues, in context, seem to signal an attitude akin to incredulity, whether real or feigned (he might have heard the tale before !).

There are two accents in the IP: on '*walk*' (H*) and on '*Cardiff*' (H*+H+L). The latter is the more phonetically salient through its higher pitch and longer pitch movement. Although the IP terminal tone is ultimately falling, the high peak it has reached on '*Cardiff*' before starting to fall constitutes high termination and is thus strongly referring / elicitive ('really' ? 'do you mean that?').

Speaker B responds with a high-key proclaiming H*+H+L 'aye'. Since it is an IP of one word, the high key is at the same time high termination, and as such is strongly

referring to the listeners ('what do you think of that, then ?').

Perhaps because there has been a succession of high key IP exchanges between the speakers, Speaker A now drops to a much lower key to make a response of 'good God'. To add to the exclamatory force of the utterance, the phrase is uttered with a descending tune throughout, both 'good' and 'God' are accented with L*+L profiles and the whole phrase is drawled from the beginning to the low termination at the end.

4.11.15.7

The foregoing brief commentary on a short episode from the transcribed data offers at best speculative interpretations of meaning for all the reasons enumerated in sec.

4.1.2.2. Reference was, however, made to the meaning potential of several of the prosodic phenomena and forms outlined in sec. 4.2 and 4.10, for example *major and minor demarcations, amplitude, duration, tempo, accents & accent profiles, pitch level (e.g. in the relative scaling of accents), terminal tone, key and termination.*

4.11.15.8

With *terminal tones*, the general hypothesis followed has been that ultimately falling and rising tones contain very general meanings of 'finality' and 'non finality' respectively, and that two aspects of 'finality' are involved :

(1) informational (text-orientated) and (2) interactional (listener orientated) .

Since completed information may be accompanied by a rising rather than a falling terminal tone, it can be seen that in the polite, cooperative conversations forming the data, the interactional level may outrank the informational level. It seems that, in RVE, when speakers have a choice whether to 'proclaim' or 'refer' completed information they frequently choose the latter as possibly being more 'listener orientated' and conducive to cooperation.

4.11.15.9

Another prosodic form frequently referred to in the commentary has been *termination height*. This has mainly been with respect to the referring power of high termination. A rising tone with high termination is, *ceteris paribus*, more strongly referring than

one with mid termination .

4.11.15.10

The data suggests that high-termination is an 'all-or-nothing' perception (see 4.10.6.4), but also clearly indicates that a 'gradient' effect operates : the higher the termination, the stronger its referring / eliciting potential , e.g. see 4 11 15.6 [19].

High termination with either rising or falling terminal tone (see 4.10.6.4) may be strongly referring, although possibly for different reasons: with falling terminal tone, the referring potential might come from certain proclaimed information being made strongly contrastive and thereby comment-worthy

Six examples of high termination, with the responses from other speakers (if only back-channels) can be seen in fig. 4.11.15.10(a) & (b).

- The first three (set A) involve rising tones with high termination.
- The second three (set B) have falling tones with high termination.

A Rising tones with high termination

1. [T1] (high termination on 'Cardiff')

A: that was . that was a dear trip/ that was/ from Cardiff/

$$\begin{array}{ccccccc} L^* & 0 & H^*+H & H^*+L\% & L^* + H & L & ^\circ L^* + ^\circ H\% \end{array}$$

B: [l e n t o]
.. aye / .. Dieu/
 $L^*+H^*\% \quad L^*+L\%$

2. [T5] (high termination on 'Terrace')

A: [R h y t h -
.. what was that little
 $^\circ L^* + ^\circ H \quad L \quad H^*+L$

m i c] [r a l l]

A: fellow after/ . erm/ . . . from/ erm . Blaina Terrace/

$$\begin{array}{ccccccc} ^\circ L^*+^\circ H & , L^*+^\circ H\% & ^\circ L^*+H\% & 0^*+H & L^*+0 & L^*+H & L^*+^\circ H\% \end{array}$$

B: . . . Jack Nash/
 $\begin{array}{cc} L & H^*+H\% \\ 5 & 7 \quad 8.5 \end{array}$

3. [M8] (high termination on 'Braddock')

A: Joe Louis took the title off Braddock/

H*+H L*+H L L*+H L L*+ 'H %

B: aye

L H

Fig 4.11.15.10(a) Examples of rising tones with high termination that elicited responses from listeners.

B Falling tones with high termination

1. [T1] (high termination on 'Cardiff')

[h i g h k e y]

A: . . walk from Cardiff/

'H* H H*+H+'L%

B: . . aye/

'H*+H+L%

2. [T5] (high termination on 'Colville')

[lento] [ăk :]

A: no/ . that little full back mun/ . Colville/

+'L*+H% H H*+H L H*+H L L% H*+'H+L%

B: . but I just told you/

'L H H*+ 'H%

3. [M9] (high termination on 'summons')

A: because they were afraid you'd have a summons/

L L H*+ H H H*+ H+L%

B: [yes . aye]

H L L L

Fig 4.11.15.10(b) Examples of (ultimately) falling tones with high termination that elicited responses from listeners.

4.11.15.11

Whatever may be the case in other dialects, it is clear that *statements* in the RVE

conversational data are not particularly associated with falling terminal tone.

Statements were, in fact, more commonly with rising than falling tones in the data.²⁸

Twenty declaratives fitting the very rough general category of 'statement', were taken at random (avoiding tagged ones) from each of the six conversations comprising the transcribed data, one hundred and twenty statements in all. It was found that

- 46.7% (⁵⁶/₁₂₀) had a falling terminal tone
- 53.3% (⁶⁴/₁₂₀) had a rising terminal tone.

There are three examples of statements with rising terminal tones in fig 4.11.15.11

(full contexts can be seen in Appendices 17-19.)

- In Example One, the rising tone perhaps signals two kinds of non-finality :
 - (1) at the information level, because the speaker is in the middle of listing kinds of former entertainments at Maerdy Workmen's Club
 - (2) at the interactional level, because the listing is not a solo effort but a cooperative venture in which Speaker A is fully involved ; the information is thus being referred 'into the common ground'
- In both Examples Two and Three, there may be an element of informational non-finality in that the topic under discussion is still very much 'up in the air'. The stronger element, however, seems to be the interactional one of referral to the listener / common ground.

Statements with rising tones

1. [M8] (n.b. rising terminal tone on '*films*')

A:

. *aye* /
L*+H%

B: . . . and before videos *come out* / then we used to have *films* /
L H* L* + H H* + H % L*+H L H L H*+ H %

2. [M1] (n.b. rising terminal tone on '*strike*')

. . . but *unfortunately* / we lost the *strike* /
L L*+ H H H % L H*+H L H*+ H %

3. [M9] (n.b. rising terminal tone on 'title')

.. he almost won the title/

H H*+H 0* H L*+H%

Fig 4.11.15.11 Examples of statements with rising tones.

4.11.15.12

Of the 56 statements with falling terminal tone, 29 (over half) had a rising-falling contour. This raises the question of what, if any, the functional difference is between falling and rising-falling tones.

14.3% (8 out of the 56) had H* L contours, and 39.3% H* H L (22 out of 56).

Examples of both are given below. (Full contexts can be seen in Appendices 17-19.)

Statements with (ultimately) falling tones

1. [T5] (rising-falling contours on 'back mun' and 'Colville')

[lento] [āk:]

A: no/. that little full back mun/. Colville/

++L*+H% H H*+H L H*+H L L% H*+H+L%

2. [M1] (rising-falling contours on 'deputies' and 'management')

B: for the .erm . . the deputies/ and management/.

L* 0 0*+L 0 H*+H+L% 0 H*+H+ L%

3. [M8] (falling-contour on 'week')

B: /. so/. . they can't afford to go . . drinking/ . . more than once a week/

L*+H L H*+H L* H L*+H L*+H% H*+ 0 H* H H*+L%

4. [M9] (falling contour on 'club')

[d i m]

A: . . . and erm . that's where I heard that fight/ was in~in that club/

L 0 H* H H*+L L L*+H% L H 0 H H*+L%

Fig 4.11.15.12 Examples of statements with (a) rising-falling tones and (b) falling tones.

As seen in sec. 4.11.9.4-5, H*+L% and H*+H+L% are usually perceptually distinct in RVE, with the H-peak being reached early in the stressed vowel in H*+L, and late

with H*+H+L or peaking in the following syllable if the profile covers more than one syllable. The question arises as to why a speaker may choose one rather than the other. Without fuller investigation, the researcher can only suggest the following possibilities :

- preference for H*+L might be in part conditioned by the phonetic environment
 - the profiles in both the examples above are confined to single syllables and shortened vowels
- there might be a distinction between the two types of profile in meaning, the choice of H*+L being more assertive through hitting the peak straight away and allowing more space for the fall.

4.11.15.13

‘Statements’ have been looked at in order to illustrate the fallacy of attempting to map terminal tones to such specific meanings. Rather, the data reveals a picture in which the speaker is constantly making choices as to whether to signal information as final or non final, and whether it is to be proclaimed or referred to the listener.

4.11.15.14

Because ‘question’ is as problematic a notion to define as ‘statement’, the researcher has been using instead the notion of ‘elicit’. For example, the eliciting power of high termination has been looked at in sec. 4.11.15.10 .

Again, however, there can be no direct mapping of ‘elicit’ to high termination. Phonetic clues and context have to be taken together. There are instances in the episode commented on above, for example in 4.11.15.6 [12 & 18], where an utterance with low termination is elicitive, because of contextual factors.

4.11.15.15

4.11.15.15.1

Fig. 4.11.15.15.1 totals up all the different types of *interrogative* found in the entire transcribed data - whether or not the speaker intends them to elicit - together with the terminal tones used.

Interrogatives in the Transcribed Data					
Type	Treherbert	Maerdy	Porth	Total	%
Aux verb tags with falling tone	104	179	163	446	55.20%
Aux verb tags with rising tone	75	28	43	146	18.07%
Polar questions with falling tone	9	5	5	19	2.35%
Polar questions with rising tone	25	10	23	58	7.18%
WH- questions with falling tone	33	9	31	73	9.03%
WH- questions with rising tone	26	13	27	66	8.17%
Total	272	244	292	808	100.00%

Fig 4.11.15.15.1 Totals of different types of interrogative found in the data.

4.11.15.15.2

WH-interrogatives form 17.2 % of the total, with the proportion of rising (8.2%) to falling tones (9%) not far from equal. They are used, generally, in order to elicit. Their IP tune may be initial-peaked or final-peaked (see 4.11.13.4). The high proportion of rising tones relative to RP may, as with rising-tone statements (see 4.11.15.11), reflect a socio-cultural tendency towards a more friendly, listener-orientation.

4.11.15.15.3

Polar-type interrogatives form 9.5% of the total, with rising tones (7.2%) being more common than those with falling tones (2.4%).

By far the most common type of interrogative in the data are auxiliary verb tags (73.3%).²⁹ These include the invariant tag *'isn't it'*, similar functionally to the French *'n'est-ce pas'*.³⁰

The prosodic clues to the elicitative strength of polar-interrogatives and tags lie not only with type of tone (rising being generally elicitative than falling) but also with termination height. Further prosodic clues include whether the tag is separated off as a full IP - this is more elicitative than when it is joined in the same IP as the stem - and the length of pause the speaker allows before and after the tag.

Elicitative power, also, depends heavily on context, e.g. whether it is the listener or the speaker who is judged to be the maker of the next move, and 'non-linguistic'

The context indicates that the topic of recalling well-known past sportsmen from the Rhondda is reaching its end. There is a tailing off of the topic, with repetition, a succession of '*aye*'s, and the markedly summative '*them were the days*'.

Accompanying prosodic clues include

- slowing down, low key and diminuendo
- strongly rising tones on the final '*Con*' and succeeding '*aye*', that are, in the context, referring into agreed 'common ground' (cf Brazil, 1997: 70), rather than from one speaker to the other to gain a response.
- lengthy pauses at this point
- a low falling terminal tone, strongly signaling finality, on '*them were the days*'

Such prosodic clues for ends of topic are by no means the rule in the data, however. For example, a new topic or sub-topic may be launched by one of the speakers while the other speaker is still engaged on the previous one ; in which case the prosodic clues are stronger to the beginning of a new topic, e.g. use of high key by the 'interrupting' speaker, than completion of the old one. Similarly, a speaker may himself - in the middle of a topic - suddenly appear to think of a new one or a new slant to the old one, in which case key may switch at that point from mid to high .

4.11.15.17

The transferring of speaking turns appears, in the data, to involve a range of contextual factors, analysis of which goes beyond the scope of the current research. Brief mention will only be made of various prosodic aspects.

- There are incidences in the data of turn-completion with clues similar to those of end of topic : for example the speaker's immediate information is clearly completed, there is lexical tail-off and prosodic clues such as slowing down, diminuendo, and low key (e.g. 4.11.15.6 [14 - 15]).
- Turns are equally often, however, transferred by referring / eliciting, in which there is typically high termination (e.g. 4.11.15.6 [18] and [19]).
- Most turns in the data, however, appear to be exchanged at points judged by the listener as potential completion by the speaker. The major factors in the listeners' judgment seem to be contextual, notably whether the speaker has completed the immediate proposition embarked on, and are prosodic only in

so far as the speaker taking up the turn tends to time the interruption to take place at points of demarcation. Since there is a large element of forward guessing as to exactly when the point of demarcation is going to occur, there is often a lack of exact correspondence between point of interruption and point of demarcation - resulting in overlapping speech.

- Where, at a point of potential completion, the new speaker wishes to assert his turn over the existing speaker, he characteristically does this by speaking at a higher pitch and higher level of intensity .
-

NOTES CHAPTER 4

1. Typical median fundamental frequency levels for men have been found to be 134 to 146 Hz (Lehiste, I. 1970: 58), thus lying in the bottom third of the actual pitch range exploited in normal speech.
2. The justification of t'Hart, J. Collier, R. & Cohen, A. (1990: 23-24) in taking *semi-tones* is that they form units of potential perception for the listener :

The main reasons [for choosing logarithmic units] are that, with a view to the perception of pitch, we are more interested in frequency distances than in the absolute frequencies themselves, and that we want to express the magnitudes of these distances independently of the incidental frequency. This makes it possible for us to compare *F₀* curves from different speakers, with different ranges of voice. If, for instance, *F₀* in a male voice rises from 100 to 150Hz, we experience it as a perfect imitation of a rise from 180 to 270Hz in a female speaker. We are unable to express this effect if we talk about a frequency difference of 50Hz in the former, and one of 90Hz in the latter case. A conversion into logarithmic units does enable us to express the effect satisfactorily.

3. Among the differing functions of pausing of potential interest to the linguist are :
 1. *Demarcation (segmentation)* of continuous speech into meaningful and 'digestible' chunks.
 2. *Hesitation*, for reasons such as need for cogitation in encoding spontaneous speech (cf Goldman-Eisler, F. 1958a : 66-7 ; 1958b : 226).
 3. To aid emphasis or other *rhetorical* effect (cf Bloch, B.1946: 200-248).
 4. A filled pause is one of the strategies a current speaker may use to signal the desire not to yield the *speaking-turn* (cf Coulthard, M. 1977: 52-62).
 5. A pause might be necessary because of the physiological need for a breath.
4. Lehiste, I. (1970: 114-117) describes how auditory perception of loudness can be affected by frequency of the sound wave, with the effect that 'of two sounds of equal intensity but of different frequency, one may be subjectively louder than the other if it falls into a frequency range at which the ear is more sensitive.' Since, with most listeners, it is sounds relatively high in a speaker's pitch-range that are perceived as louder, there are interesting implications for

loudness perception in Welsh-English, where stressed syllables are frequently accompanied by a downwards rather upwards pitch obtrusion.

5. Lehiste, I. (1970: 13), reporting the results of various studies into length perception, summarises that 'the just noticeable differences in duration are between 10 and 40 msec.'
6. One of these factors is the intrinsic duration of vowels. Lehiste, I. (1970: 18-19) reports the results of studies in various languages, in which it was found that, all other factors being equal, high vowels such as /i : , u : / are shorter than the low vowels /a , ɑ : /, the differences between these two sets being greater than the threshold of auditory discrimination.

It has also been found in both American and British English that succeeding consonants influence the duration of vowels. Peterson and Lehiste (1960) is one of many studies that has found that the duration of vowels preceding voiceless consonants is normally significantly shorter than when preceding voiced. They also found that place of articulation of succeeding consonants influenced vowel duration, for example when the vowel is in the environment of a succeeding plosive, it is shortest before /p , b /, longer before /k , g / and longest before /t , d /.

7. The researcher's university has a Welsh language teaching section, members of whom are all natives of S.E. Wales. When the researcher is in the vicinity of a conversation between such colleagues but not close enough to hear the words they are using, he often cannot tell from the rhythm and melodic line if they are speaking English or Welsh . The strong impression is that they are using substantially the same prosodics for English as for Welsh.
8. Williams, B (1983 : 28-29) distinguishes between *peak amplitude*, straightforwardly identified from the narrow-band amplitude display, and *envelope amplitude*, an integral of mean amplitude and duration. In Welsh, the

stressed penult may have the greater peak amplitude but the final syllable the greater envelope amplitude.

9. Cruttenden, A.(1986: 139) observes that such rising tones are reported for the urban areas of Birmingham, Liverpool, Glasgow, Belfast and Tyneside, and maintains that it is due to Celtic influence in the areas concerned.
10. Crystal, D. (1969 : 256), in his conversational data found that 80% of tone-units had a maximum length of seven words.
11. Tench, P. (1996: 60) gives the following among his examples :

The question is raised about the destination of [a] person's holiday.
 After handling the response to that question, he or she may well return
 with the same question : *and where are you going on your holidays?*
12. Some linguists link level tones functionally with rising tones. Among those that do so, to a greater or lesser extent, are Sweet. H (1890: 32), Crystal, D. (1969 : 216), Cruttenden, A. (1986: 102) and Tench, P. (1996: 81).
13. Trager, G. and Smith, H (1951 : 42) have the levels in the reverse order to Pike, K. (1945) : " ['] for lowest, [²], [³], [⁴], for successively higher levels." Wells, R. (1945) also has the reverse order of Pike's.
14. Discourse Intonation (Brazil, D. 1997 : 17,18) marks as prominences only 'primary' and 'secondary' stress, specifically excluding other degrees of stress.
15. The researcher leaves the question open as to the nature of the relationship between rhythmical and intonational tiers, e.g. whether pitch movements at accents are to be viewed as 'prominence lending' , or as 'associated' with but essentially independent of the rhythmical tier (see 4.5.4.1).
16. The term *tone* has been used to describe two significant pitch movements in the IP:
 (1) pitch movement from the stressed syllable in an accent profile (see 4.10.3.3)
 (2) *terminal tone* - final pitch movement (rising or falling) of an IP (see

4.10.4.2)

17. All pitch accents are held to be 'single tone' (e.g. H*) or 'bitonal' (e.g. H*+L) in AM theory, at least in the original version of Pierrehumbert (1980).
The current RVE analysis, in addition, marks what would be termed '*tritone*' accents (e.g. H*+H+L).
18. When the terminal tone is combined into the profile of the final accent, as it most frequently is (see note 25 below), the tone has a dual function, being both accentual and IP terminative. The terminative role, in turn, is in part demarcative (helping to segment up the discourse) and in part expressing the speaker's attitude towards the finality / non-finality of information uttered in the IP.
19. In fact only one speaker in the whole corpus, Speaker B from Treherbert 8, showed little trace of a 'Valleys accent'.
20. Because the researcher's university does not have the necessary equipment, the instrumental readings were done at the Department of Linguistics, Edinburgh University.

Recordings were digitised at a 16kHz sampling rate with appropriate low-pass pre-filtering. They were then analyzed using ESPS Waves on a Sun SPARC workstation. Fo was extracted using the pitch-tracking facility of Waves, with a 49ms cos window moving in 10ms steps. Durational measurements were made from waveforms in combination with wide-band spectrograms, following standard criteria of segmentation (Peterson and Lehiste, 1960).

21. In interpreting the acoustic record, micro-intonational factors had to be ironed out such as
 - intrinsic pitch differences between high vowels / i: /, / u: / etc and low, e.g. / a / (cf research of Lehiste & Peterson 1961, reported in Lehiste, I. 1970: 68)
 - coarticulatory fluctuations such as the occurrence of higher fundamental

frequencies after voiceless than voiced consonants (Lehiste, I. 1970: 71).

22. '*cymysgiad*' is Welsh. It means 'mixing together', 'confusion'.
23. Pike, K. (1945: 31) states that a 'tentative pause tends to sustain the height of the final pitch of the contour'.
24. The grammatical model of description and terms used are those of Quirk et al (1972), '*A Grammar of Contemporary English*' .
25. Of the 556 terminal tones in the prosodic transcriptions, 83.5% were conflated with the final accent and 16.5% separated :

Terminal Tone					
Conflated	%	Separated	%	Total	%
464	83.5%	92	16.5%	556	100.0%

Terminal Tones : proportions conflated with or separated from final accent.

26. In Welsh English, the most detailed account of the environments in which consonant lengthening may occur is given in the description of Port Talbot English by Connolly, J. (1981: 59-60). He links the phenomenon mainly with obstruents following stressed short vowels. The consonants concerned may be intervocalic as the /k/ in *lucky* and /s/ in *gassy* , or may be pre-pausal, closing stressed monosyllables, as the /t/ in *light* or /f/ in *grief*. The long vowels /i:/ , /u:/ and all diphthongs can also be subject to shortening, and lenis as well as fortis obstruents may be shortened, e.g. the /d/ in *ladder* and /z/ in *fizz*.

He observes that when lengthening applies to clusters, it affects the first fortis consonant if there is one, i.e. the /p/ of *lipstick* but /t/ of *shunting* , and the first consonant if there is not.

27. Such stress insertions are also noted to occur in the local Welsh dialect by Thomas, C. (1961: 130), who observes "there seems some reluctance on the part of dialect speakers to pronounce more than two consecutive weak syllables".
28. A higher than RP incidence of rising-tones with declaratives is reported for other U.K.dialects of English, e.g. Belfast (Jarman & Cruttenden, 1986), Derry (McElholm, 1986), Liverpool (Knowles, 1974) and Glasgow (Currie, 1979).
29. The total includes clear idiosyncratic differences between speakers, for example a single speaker (Maerdy 9) was responsible for no fewer than 91 of the 179 total falling-tone auxiliary verb tags (mostly '*isn't it*') from the ten Maerdy conversations recorded.

It may be noted that tags other than auxiliary-verb ones may be used to elicit. Examples in the data include '*you see*' (or just '*see*'), '*if you understand me*' and the ubiquitous '*you know*'.

30. Coupland, N. (1988 : 36) hypothesizes that the '*isn't it*' / '*is it*' tag fulfils a different function from agreement tags.

It is possible that the *it* of non-standard *isn't it?* refers anaphorically to the whole preceding utterance rather than specifically to the previous noun-phrase subject....It may be functionally equivalent, then, to *isn't that so?* or French '*n'est-ce pas?*'.

Table of Appendices

No.	Title	Page
1. Informants: (A)	Personal Data Summary	368
	(B) Fluent Welsh Speakers	371
	(C) Place of Birth of Informants' Parents	371
2.	Main questionnaire used in field-work	372
3.	Questionnaire annex	378
4.	Synopsis and partial orthographic transcription of a whole conversation. [Maerdy 8.]	379
5.	Standard Lexical Sets (J.C. Wells, Accents of English Vol. I, pp 127-168)	392
6.	BATH Lexical Set : Incidence of /a/ vs /a : /in Data	402
7.	Incidence of diphthong vs monophthong in parts of Gloucestershire, Somerset and Devon (LAE 1978)	403
	(A) Words of the FACE Lexical Set	403
	(B) Words of the GOAT Lexical Set	404
8.	Incidence of diphthong vs monophthong in parts of S.E Wales (SAWD 1977)	405
	(A) Map of localities	405
	(B) Words of the FACE Lexical Set	406
	(C) Words of the GOAT Lexical Set	408

9. FACE Lexical Set : Incidence of /e:/vs /ɛi/ in the RVE data	412
10. GOAT Lexical Set: Incidence of /o:/vs /ou/ in the RVE data	413
11. GOOSE Lexical Set : Incidence of /u:/vs /ɪu/ in the RVE data	414
12. Auditory Experiment : The tasks of the intonationalists	415
13. Auditory Experiment : The transcriptions of the intonationalists	416
14. Auditory Experiment : summarised findings	427
15. H-peak alignment relative to onset of stressed vowel	432
16. Prosodic transcription of the RVE data: KEY	434
17. Prosodic transcription of extracts from Treherbert 1 & 5	436
18. Prosodic transcription of extracts from Maerdy 1, 8 & 9	449
19. Prosodic transcription of extract from Porth 10	470
20. Acoustic record of (parts of) Maerdy 1	474
21. Acoustic record of (parts of) Maerdy 9	477
22. Acoustic record of (parts of) Treherbert 1	481
23. Miscellaneous acoustic records.	485

Appendix 1

INFORMANTS : (A) PERSONAL DATA SUMMARY

Interview	Informant	Place of birth	Age	Left school	Occupation	Welsh
Treherbert						
T1	<i>T1</i>	<i>Treherbert</i>	<i>85</i>	<i>14</i>	<i>Miner</i>	<i>Some**</i>
	<i>T2</i>	<i>Blaencwm</i>	<i>60</i>	<i>15</i>	<i>Miner</i>	<i>Some</i>
T2	<i>T3</i>	<i>Treherbert</i>	<i>59</i>	<i>15</i>	<i>Engineering industry</i>	<i>None</i>
	<i>T4</i>	<i>Treherbert</i>	<i>71</i>	<i>16</i>	<i>Factory worker</i>	<i>Fluent</i>
T3	<i>T5</i>	<i>Treherbert</i>	<i>74</i>	<i>15</i>	<i>Miner & electrician</i>	<i>Some</i>
	<i>T6</i>	<i>Blaenrhondda</i>	<i>67</i>	<i>15</i>	<i>Colliery assistant (blind)</i>	<i>Some*</i>
T4	<i>T7</i>	<i>Treherbert</i>	<i>71</i>	<i>14</i>	<i>Miner & railways</i>	<i>None</i>
	<i>T8</i>	<i>Fernhill</i>	<i>63</i>	<i>15</i>	<i>Factory worker</i>	<i>Some*</i>
T5	<i>T9</i>	<i>Treherbert</i>	<i>81</i>	<i>14</i>	<i>Miner</i>	<i>Some**</i>
	<i>T10</i>	<i>Treherbert</i>	<i>78</i>	<i>14</i>	<i>Miner & factory worker</i>	<i>Some**</i>
T6	<i>T11</i>	<i>Llwynypia</i>	<i>42</i>	<i>15</i>	<i>Miner</i>	<i>None</i>
	<i>T12</i>	<i>Treherbert</i>	<i>37</i>	<i>15</i>	<i>Building worker</i>	<i>None</i>
T7	<i>T13</i>	<i>Gelli</i>	<i>35</i>	<i>15</i>	<i>Plasterer & roofer</i>	<i>None</i>
	<i>T14</i>	<i>Treherbert</i>	<i>41</i>	<i>15</i>	<i>Miner</i>	<i>None</i>
T8	<i>T15</i>	<i>Blaencwm</i>	<i>41</i>	<i>15</i>	<i>Carpenter</i>	<i>None</i>
	<i>T16</i>	<i>Treherbert</i>	<i>38</i>	<i>15</i>	<i>Sales assistant</i>	<i>None</i>
T9	<i>T17</i>	<i>Llwynypia</i>	<i>45</i>	<i>15</i>	<i>Storeman</i>	<i>None</i>
	<i>T18</i>	<i>Gelli</i>	<i>45</i>	<i>15</i>	<i>Miner</i>	<i>None</i>
T10	<i>T19</i>	<i>Gelli</i>	<i>45</i>	<i>15</i>	<i>Buildings worker</i>	<i>None</i>
	<i>T20</i>	<i>Treherbert</i>	<i>41</i>	<i>15</i>	<i>Labourer</i>	<i>None</i>

T1 - T10: 'over 60's age-group'

T11- T20: '30's age-group'

Interview	Informant	Place of birth	Age	Left school	Occupation	Welsh
Maerdy						
M1	<i>M1</i>	<i>Maerdy</i>	<i>58</i>	<i>15</i>	<i>Miner</i>	<i>Some**</i>
	<i>M2</i>	<i>Maerdy</i>	<i>82</i>	<i>14</i>	<i>Miner</i>	<i>Fluent</i>
M2	M3	Maerdy	30	16	Factory worker	Fluent
	M4	Maerdy	43	15	Building worker	None
M3	<i>M5</i>	<i>Ferndale</i>	<i>65</i>	<i>14</i>	<i>Miner</i>	<i>None</i>
	<i>M6</i>	<i>Trefforest, Glam</i>	<i>60</i>	<i>15</i>	<i>Miner</i>	<i>None</i>
M4	<i>M7</i>	<i>Ferndale</i>	<i>60</i>	<i>15</i>	<i>Miner</i>	<i>None</i>
	M8	Llwynypia	40	15	Painter & decorator	Some
M5	M9	Maerdy	41	16	Miner	None
	M10	Ferndale	41	16	Miner	None
M6	M11	Maerdy	31	16	Never worked	None
	M12	Maerdy	38	15	Factory worker	Some**
M7	M13	Maerdy	32	16	Miner	Some
	M14	Maerdy	31	16	Building worker	None
M8	<i>M15</i>	<i>Ferndale</i>	<i>63</i>	<i>14</i>	<i>Miner</i>	<i>Some**</i>
	M16	Blaenllechau	40	15	Miner	None
M9	<i>M17</i>	<i>Maerdy</i>	<i>68</i>	<i>14</i>	<i>Miner</i>	<i>None</i>
	<i>M18</i>	<i>Maerdy</i>	<i>69</i>	<i>14</i>	<i>Miner & factory</i>	<i>Some**</i>
M10	<i>M19</i>	<i>Maerdy</i>	<i>70</i>	<i>14</i>	<i>Miner & publican</i>	<i>Some*</i>
	<i>M20</i>	<i>Maerdy</i>	<i>61</i>	<i>15</i>	<i>Miner</i>	<i>None</i>

M1, 2, 5-7, 15, 17-20 : 'over 60's age-group'
M3, 4, 8-14, 16 : '30's age-group'

Interview	Informant	Place of birth	Age	Left school	Occupation	Welsh
Cymmer, Porth						
P1	P1	Trebanog	67	14	Miner	None
	P2	Porth	64	14	British Rail	Some**
P2	P3	Trebanog	62	14	Maintenance fitter	Some*
	P4	Trebanog	66	14	Bricklayer	None
P3	P5	Porth	89	7	Miner	Some**
	P6	Porth	82	14	Colliery welder	Some
P4	P7	Trebanog	62	15	Telephone engineer	None
	P8	Cymmer, Porth	64	14	Builder	None
P5	P9	Cymmer, Porth	75	14	Factory worker	None
	P10	Porth	72	14	Butcher	None
P6	P11	Trebanog	37	15	Labourer	None
	P12	Caerphilly,	34	16	Baker	None
P7	P13	Rhondda	45	15	Painter & decorator	None
	P14	Porth	40	15	Motor fitter	None
P8	P15	Trehafod	35	16	Miner	Some
	P16	Porth	31	16	Factory worker	None
P9	P17	Stanleytown	45	15	Brewery worker	None
	P18	Penygraig	35	16	Building worker	None
P10	P19	Llwynypia	42	15	Printer	None
	P20	Porth	42	15	Skip driver	None

P1 - 10 : 'over 60's age-group'

P11- 20 : '30's age-group'

Key	
T1, T2 etc :	Treherbert 1, Treherbert 2 etc
some*,	one parent fluent in Welsh
some**	both parents fluent in Welsh

(B) FLUENT WELSH LANGUAGE SPEAKERS

Location	Informants				Parents of informants		
	No.	Over 60's	30's	Total	Over 60's	30's	Total
Treherbert	20	1	0	1	10	1	11
Maerdy	20	1	1	2	11	2	13
Porth	20	0	0	0	7	1	8
Total	60	2	1	3	28	4	32

(C) PLACE OF BIRTH OF INFORMANTS' PARENTS

Location	Fathers of informants						Mothers of Informants					
	Treherbert		Maerdy		Porth		Treherbert		Maerdy		Porth	
	60's	30's	60's	30's	60's	30's	60's	30's	60's	30's	60's	30's
Rhondda	8	7	6	9	6	8	7	9	6	10	5	9
Neighbouring Valleys	1	-	3	-	2	1	-	-	2	-	3	1
Cardiff/ Newport	-	-	-	-	-	1	-	1	-	-	-	-
North Wales	-	-	1	-	-	-	-	-	2	-	-	-
Bordering England areas:												
Forest of Dean		1	-	-	-	-	1	-	-	-	-	-
Gloucester / Somerset	-	2	-	-	2	-	-	-	-	-	2	-
Herefordshire	-	-	-	-	-	-	1	-	-	-	-	-
TOTAL	(1)	(2)	(-)	(-)	(2)	(-)	(2)	(-)	(-)	(-)	(2)	(-)
Elsewhere in England	-	-	-	1	-	-	1	-	-	-	-	-
Scotland		-	1	-	-	-	-	-	-	-	-	-
GRAND TOTAL	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)

Appendix2

QUESTIONNAIRE

(Fieldwork Version)

Location: _____ No. _____

WORD	PHONEMIC PURPOSE	Elicited by:	rounding
1 PIT(S)	-KIT vowel realization -/p/aspiration force	<i>Miners used to work down the _____.</i>	
2 PETS	-DRESS vowel realization -/p/aspiration force	<i>We keep dogs and cats as household _____.</i>	
3 BAT	-TRAP vowel realization	<i>Cricket is played with a ball and a _____ (ACT).</i>	
4 ROD	-LOT vowel realization - /r /realization	<i>We fish in the river with a _____ and line.</i>	
5 BATH	-TRAP or PALM vowel?	<i>If you want to wash yourself all over, the best way is to get into a nice hot _____ !</i>	
6 BLOOD	-STRUT vowel realization	<i>The red liquid when one cuts oneself?</i>	
7 GRASS	-TRAP or PALM vowel? -/r /realization	<i>In the field a cow eats _____.</i>	
8 BUTTER	-STRUT vs SCHWA realizations of vowels -/t /realization -rhoticity ? -stress effect ?	<i>Bread and _____.</i>	
9 SOOT	-FOOT or GOOSE vowel? -glottaling or glottalizing of /t / ? -/s /articulation force	<i>Chimney sweeps used to get covered with this!</i>	
10 DANCE	-TRAP or PALM vowel?	<i>We go to a ballroom to _____.</i>	
11 TOOTH	-FOOT or GOOSE vowel? -/t /aspiration force	<i>A dentist fills this or takes it out!</i>	

- 12 FOOTBALL -FOOT vowel realization *Brazil are world champions of which sport?*
 -/t/ release?
 -/l/ realization
 -stress effect?
- 13 HEAD-MASTER -TRAP or PALM vowel? *If something was wrong with my boy at school, I'd go and see the top man!*
 -/d/ release?
 -er realization
 -/h/ dropped?
 -rhoticity?
 -stress effect?
- 14 BROTH -CLOTH vowel realization *A nice thick soup with lamb, potatoes and onions ; called 'cawl' in Welsh.*
 -/r/ realization
- 15 LAUGHING -TRAP or PALM vowel? *When I watch a good comedian or clown I can't stop _____!*
 -ing realization
 -stress effect?
- 16 EXAMPLE -TRAP or PALM vowel? *What parents should set to their children : a good _____ !*
 -le realization
 -stress effect ?
- 17 NORTH -NORTH vowel realization *Opposite of South?*
 -rhoticity?
- 18 NURSE -NURSE vowel realization *She takes our temperature & looks after us in hospital.*
 -rhoticity?
- 19 MEAT -FLEECE vowel realization *A vegetarian eats no _____ .*
 -glottaling or glottalization of /t/ ?
- 20 A -FACE)
 K -FACE) vowel real-
 O -GOAT) izations
 U -GOOSE)
Can you read these letters of the alphabet? (CHART)
- 21 WHEEL -FLEECE vowel realization *If I have a puncture when driving, I have to change the _____.*
 -vowel glide before /l/ ?
 -/w/ realization
 -/l/ realization
- 22 WASTE -FACE vowel realization *Common saying: " _____ not want not!"*
- 23 CALM -PALM vowel realization *Don't panic, keep _____!*
 - /k/ aspiration force

- 24 WAIST -FACE vowel realization *If I buy a pair of trousers, I have to know the size of my _____. (ACT)*
- 25 FATHER -PALM vowel realization
 - /f/ articulation force
 - er realization
 - rhoticity ?
 -stress effect? *My two parents : my mother and my _____.*
- 26 WAITING -FACE vowel realization
 -ing realization
 -stress effect ? *He was late and kept me _____ for half an hour!*
- 27 STALE -FACE vowel realization
 -/l/ realization *If you keep bread for too long it goes _____!*
- 28 CAUGHT-THOUGHT vowel realization
 -/t/ glottaled or glottalized?
 -/k/ aspiration force *In cricket you can be out bowled, stumped or _____ (ACT).*
- 29 TAIL -FACE vowel realization
 -/t/ aspiration force
 -/l/ realization *What does a dog wag when it's happy ?*
- 30 SALT -THOUGHT or LOT vowel?
 -/s/ articulation force
 -/l/ realization *Pepper and _____.*
- 31 BEHAVE -FACE vowel
 -/v/ realization
 -/h/ dropped? *To bring them up well, parents should teach children how to _____!*
- 32 FALSE -THOUGHT or LOT vowel?
 -/f/ articulation force
 -/l/ realization *True or _____.*
- 33 SOLE -GOAT vowel realization
 -/s/ articulation force
 -/l/ realization *A kind of fish: Dover _____.*
- 34 THROUGH -GOOSE vowel realization
 -/r/ realization *At the turnstiles when you've paid your money, you can pass _____. (ACT)*

35	SOUL	-GOAT vowel realization -/s/ articulation force -/l/ realization	Body and _____.
36	THREW	-GOOSE vowel realization -/r/ realization	Yesterday, he was run out; Morris _____ down the wicket. (ACT)
37	TOES	-GOAT vowel realization -/t/ aspiration force -/z/ realization	Bend down & touch your _____!
38	BLUE	-GOOSE vowel realization	He was so bruised after his fall that he was black & _____ all over!
39	TOWS	-GOAT vowel realization -/t/ aspiration force -/z/ realization	If your car breaks down on the Severn Bridge a vehicle comes and _____ you away.
40	BLEW	-GOOSE vowel realization	The wolf huffed and he puffed & he _____ the house down!
41	NOSE	-GOAT vowel realization -/z/ realization	My mouth (TOUCH), my _____ (TOUCH).
42	MOOD	-GOOSE vowel realization	Don't speak to him right now, he's in a bad _____!
43	KNOWS	-GOAT vowel realization -/z/ realization	When will the world end? God only _____!
44	BEAUTY	-GOOSE vowel realization -last vowel realization -stress effect?	Common saying : " _____ is in the eyes of the beholder". The name of a princess : "Sleeping _____".
45	CLOTHES	-GOAT vowel realization -/o/ realization -/z/ realization	We take them all off before we go to bed. (ACT)
46	WHITE	-PRICE vowel realization -/w/ realization	Opposite of black: black and _____.
47	SOFA	-GOAT vowel realization -last vowel realization -stress effect?	In our front room, 3 people can sit on our _____! (ACT)
48	FIRE	-PRICE vowel realization -diphthong or disyllabic? -smoothing before SCHWA? -intrusive /j/ ?	If you're careless with a match, you can start a _____!

- 49 VOICE -CHOICE vowel realization *I can't speak; I've lost my ____ !*
- 50 SOUTH -MOUTH vowel realization *Opposite of north?*
- /s/ articulation force
- 51 SHOWER -MOUTH vowel realization *After a game of rugby we need a bath or*
-diphthong or disyllabic? *a ____ !*
-smoothing before SCHWA?
-intrusive /w/ ?
-rhoticity?
-stress effect?
- 52 HOUSE -MOUTH vowel realization *Where in Parliament does the Queen read the*
- /h/ dropped? *Queen's speech?*
- 53 BEER -NEAR vowel realization *The main drink served at the bar?*
-diphthong or disyllabic ?
-intrusive /j/ ?
-rhoticity?
- 54 BEARD -NEAR vowel realization *On his chin my grandfather had*
-diphthong or disyllabic ? *a long _____. (ACT)*
-intrusive /j/ ?
-rhoticity?
- 55 PERIOD -NEAR vowel realization *A woman's monthly condition?*
-iod realization
- /r/ realization
- /p/ aspiration force
-stress effect?
- 56 EAR -NEAR vowel realization *An eye; an eyebrow; _____ (TOUCH).*
- rhoticity ?
- 57 PAIR -SQUARE vowel realization *What do we call two shoes or two socks ?*
- /p/ aspiration force
- rhoticity?
- 58 FAIRY -SQUARE vowel realization *With her magic wand, she helped Cinderella to go to*
- /f/ articulation force *the ball : The Good _____.*
- /r/ realization
-final vowel realization
-stress effect?

- 59 FERRY -DRESS vowel realization *A ship carrying cars and passengers*
 - /f/ articulation force *across a river?*
 - /r/ realization
 -final vowel realization
 -stress effect?
- 60 START -START vowel realization *A few Grand Nationals ago, they made a real*
 -rhoticity? *mess-up of the ____ !*
- 61 SWORD -FORCE vowel realization *We fence with a _____. (ACT)*
 - /s/ articulation force
 -rhoticity?
- 62 POOR -CURE vowel realization *Opposite of rich?*
 -diphthong, monophthong
 or disyllabic ?
 - /p/ aspiration force
 -intrusive /w/ ?
 -rhoticity ?
- 63 SURE -CURE vowel realization *If sb asks whether the bus has gone and you're*
 -intrusive /w/ ? *uncertain you say "I'm not _____."*
 -rhoticity?
- 64 TOUR -CURE vowel realization *A trip around a country by bus : a bus _____.*
 - /t/ aspiration force
 -intrusive /w/ ?
 -rhoticity ?
- 65 CURE -CURE vowel realization *Scientists hope to find this one day for diseases like*
 - /k/ aspiration force *cancer and AIDS.*
 -intrusive /w/ ?
 -rhoticity?
- 66 JURY -GOOSE or CURE vowel? *The 12 men or women in a court who decide whether*
 - /r/ realization *you're guilty or not.*
 -final vowel realization
 -stress effect?

J. Roderick Walters
 University of Glamorgan
 5.11.95

Appendix 3

QUESTIONNAIRE ANNEX

		Location	No
WORD	PHONEMIC PURPOSE	Elicited by	rounding
1 RUIN	- <u>ui</u> realization -/r/realization	Harlech castle has no roof, it's walls are falling in; it's just a _____.	
2 HAPPEN	- <u>en</u> realization -/h/dropped? -stress effect?	Chernobyl was a nuclear accident just waiting to _____.	
3 ANNIVERSARY	-elision of unaccented syll? -/r/realization -end vowel realization -stress effect?	Tomorrow they will have been married for a year. It will be their first wedding _____.	
4 RHINOCEROS	-elision of unaccented syll? - <u>rh</u> realization -/r/realization -end vowel realization -stress effect?	A large animal in Africa which people try to kill for its horn.	
5 RHUBARB	-GOOSE vowel realization - <u>rh</u> realization -end vowel realization -stress effect?	This makes my favourite tart ; before I chop it up for cooking it looks a bit like a stick of celery.	
6 TREASURE	-DRESS vowel realization -/t + r/realization -/ʒ/realization -end vowel realization -stress effect	Long John Silver was looking for a chest full of this on the island!	
7 TORIES	-FORCE vowel realization -/r/realization -/z/realization -stress effect?	They will be thrown out in the next general election?	
8 BAD	-TRAP or PALM vowel + realization?	'Average' means not good and not _____.	
9 BAD	-TRAP or PALM vowel + realization?	Another word for he's sick or he's ill.	
10 TREE	-FLEECE vowel realization -/t + r/realization	Where we put the fairy lights at Christmas: on the Christmas _____.	

Appendix 4

synopsis & transcript

MAERDY 8

INFORMANTS:

A:	Male: 62 year old Welsh: fluent/ <u>some</u> /slight/ <u>none</u> Mother's birth: Porthmadoc N. Wales Father's birth: Aberdare, Rhondda	B:	Male: 40 years old Welsh: fluent/ <u>some</u> /slight/ <u>none</u> Mother's birth: Maerdy, Rhondda Father's birth: Maerdy, Rhondda
----	---	----	---

They start rummaging through the pictures in front of them.

[00.00 min - 00.10 min]

They see a picture of the Houston Brothers, and talk about them. They talk quite a lot about Stanley Baker. Informant A was at school with him, and remembers his father. They talk about famous entertainers that have come to the Club, and the sad state of the Club now.

[00.10 min - 03.50 min]

A: . Tonypandy

B: (looking at picture) . . over in Tonypandy

I: who were these then . were they born around here

B: . . . the other valley . . yes . . within the Rhondda

I: . . oh right . . and erm . . . did~did

A: . . oh yeah they were good~good actors

I: you like them did you go and see their films

A: fair play all right . . . I remember them acting like .

B: . . before my time (laughs) [aye]

A: (laughs) . . yeah . . . Glyn and Donald

B: . .

I: erm that's . . who is it . Donald Houston

A: Houston . . . no

B: [aye] . no

I: . . yeah . . did they ~. . did they ever come around the clubs

A: nowhere around here anyhow . . I've never seen them around

B: . . no [no]

I: . . . and what

A: Stanley

I: other famous people have been produced now in the Rhondda Valleys

A: Baker I mean . I was in school the same time as

B: Tom Jones . . Ponty

A: Stanley Baker likeso I . aye . . bottom of

B: . . he's from Ferndale wasn't he

A: Ferndale . . . I knew him well like . .

I: . . . what ~what do you remember about him

A: what . . he was a hell of a bully he was (laughs) . . he was a bloody thug he was .

B: thug

A: fair play . . oh he and his father . I can remember his father as well . . . you

A: couldn't miss him . he had one leg . . . his old man did (huh huh)

B: did he . . . I can

A: . . aye . well it was up on . .

B: remember his . erm . funeral they buried his ashes up

A: on . . aye . they had the . . choir and all up there

B: they buried his ashes up in [Pandy]

A: [they did] [aye] . . yeah . . . I don't

B: aye . . there was thousands of them up there wasn't there

A: know why the hell they buried his ashes . chucked his ashes up there for (laughs)

B: . . aye

A: [yeah](inaudible) I don't think

B: {they} all like to come home to rest don't they . .

I: yes

A: he ever came back mind he had his ashes

B: . . no . . yeah [he had his

I: . but he had his ashes

A: scattered~scattered up on top of the mountain . .[yeah]

B: ashes] yeah there was

I: . . did he

A: . . yeah . . I remember

B: thousands up there wasn't there . thousands and thousands

A: when they . started . when he star~had the first . . when he got a play you know he

A: was in the . New Hall . . . in . . . there was . . a school play it was like and . . they

A: were . . there was four . . four of them went . . . out of the play . to London then .

A: for interviews . . . and he was the only one they kept . . the other three came back

A: like one of them was a erm . . . cartoonist in the D~ . . the . . Echo . . . South

A: Wales Echo . . . for years . . . I don't know if he's still there now

I: oh . . was he a good

A: oh yes

B: . I should

I: looking boy then erm . [why did he . . why . was he successful as an actor]

A: . . he was tall . he was a big boy like

B: imagine he was tall was he [tall] . . . carried himself

A: . aye . . . he was a . . fair play he w~ . . . he was a good actor mind

B: well he

A: [yeah]

B: . . I suppose you look . . he looks average enough on telly though (inaudible)

A: [yeah] . . . oh he was a big lump of a chap like

B: out . . outside he sticks out a bit doesn't he

I: and erm . who else then . what other famous people come from around here

A: oh I don't know aye

B: . . it's hard to think now isn't it (laughs) . . . [as] I say Tom

A: . . oh aye . . Tom Jones has been

B: Jones . . he's sung up here hasn't he [yeah] . . before

A: . yeah . . no . . we~we can't

B: he was famous obviously [no]

I: . . does he come around at all

A: afford him (laughs) . .

B: [we'll get] . . we'll get him back on his . when he's going down-hill . . (laughs)

A: I don't think we'll ever have him . oh this

B: . . no

I: ah well there we are

A: place has seen a lot of people mind . a lot of famous people . . actors you know and

B: [yeah]

A: . . entertainers

B: [well] . . they had what-do-you-call last year didn't they erm . . . David

A: yes

B: Alexandra . . . [and erm] he died last week didn't he . and they had him last

I: oh yes oh

A: [yes]

B: October didn't they upstairs . . big show supposed to come back . but they'll

A: oh he was . . quite a . . few big artists up [here] upstairs

B: never have him now mm

A: . . . that was when we had a couple of bob that was . we haven't got nothing now

B: [yeah] [yes]

A: (laughs) . yeah

B: . . . we was a rich club once

I: . . . does it . and how does it keep going

A: . . just about managing

B: well they . . I think they're all white

I: this big building

A: [yeah]

B: elephants .erm the old . . miners' institutes . erm . . have had their day haven't they

A: . you know . . it's such a big place . the upkeep . the~the lighting alone is

B: . . so

A: terrific like . and the heating . . takes so much money . . . they can't hardly keep it

A: going . oh yeah only the club

I: and is it all erm paid for out of the club funds

A: funds that's all keeps it going

B: . . and they've had a bad policy of . . . bricking

A: . . aye

B: windows up

They discuss the dilapidated condition of the building, the bricking up of the windows and the financial problems in keeping the Club going. They say that Ferndale Hall, just down the Valley, has been pulled down. To make matters worse, the price of a pint of beer at the Club is high, and they can no longer afford decent entertainment.

[03.50 min - 07.40 min]

They recall the range of entertainment taking place at the club when the times were better. They talk about people's lack of money through reasons of low wages or unemployment. Informant A is lucky. He has a pension from the National Coal Board. Informant B has had different jobs, and even left the Valleys for a while in search of work.

[07.40 min - 13.50 min]

B: oh about ten years ago when upst . . when we were rich . . we'd have three shows

B: . . every Sunday . . erm . like an opera singer or . . an hopeless singer I'd call them

B: at the time . . a comedian or a duo . . and then the main group . . or main artist

B: well now . . . they . . they just . . . got their speakers and their . . karaoke .

I: . . really

B: tapes and they sing from there one singer . and you can't . . afford them can

I: yes

A: no

B: you so it's hard . to get a good atmosphere going so

I: [yes] . . yes

B: 'cause . th~this . club used to be . . well . here it was more or less every night of the

A: [every night] of the week they used to have something here

B: week wasn't it [it] was full with

A: [yeah] [yes]

B: bingo up . a crowd upstairs . cause there were so many . . balcony and all . bingo

B: Monday and Thursday dance on a Friday . . I~ I can't remember what was a

I: yes

A: [yes] and a . and a Wednesday . we used to have

B: Saturday and . . concert on a S~Sunday [wasn't it]

A: a show on a Wednesday

B: [yeah] . . . and before videos come out then we used to have films

A: . aye

I: yes w~what's needed is a bit . of . prosperity around here isn't it

A: . oh yes

B: . oh aye . of course . besides that then everybody's . either on low wages

B: now . . or on . . dole income support or . . invalidity . so . . they can't afford to go

I: yes

A: . . I mean everywhere . everybody's . . .

B: . drinking . . more than once a week

I: . . . no

A: nearly everybody around here there's . . there's no work at all . you've got to

A: travel to have work

I: . . what~what per~percentage of the men are out of work now

A: . . oh

B: . . . I don't think it's so much the percentage . . the one's that's out of work

B: . . there's not many on good money . . . you know . erm . . hundred and forty

B: before tax erm . before tax . . so you know you're . only bare . . barely making a

B: hundred pound . . . and some of them got to have a car to get to work . and .

B: you know . so it's . . . your overheads are . . . so high when you start work

I: yes . . low

A: [yes]

B: . . low wages yes . . . there's one or two on high wages but of course

I: wages yes

B: if . . if their friends can't afford to go out . . the~ the whole atmosphere's . . gone

B: the . the one's that's making the money I suppose are the old . .miners

B: that's had redundancy and still got . . . erm either invalidity or a pension . .

A: . . . no

B: you know . . but . the youngsters . haven't got nothing have they

A: . . yes . I've got a pension

I: have you got a pension [inaudible] . . . what age did you

A: . . fifty four [yeah]

B: see so . I suppose everybody over fifty . . . are quite

I: retire then

B: okay . . . but everybody . . . under . say forty then . . or under thirty five . . you . . .

A: . yeah but that only went for . . . until nineteen

B: you know they . . low wages sort of

A: eighty six . . . after that there was nobody having a pension

B: pension no . . they

A: . . we had one lump sum we had I mean when I finished we

B: just had a lump s~ yeah

A: was having . . we didn't have much . such a big lump sum . but we had a pension

A: every week . if you was over fifty

B: that's when they tried to bribe . the jobs in

I: yes

B: the beginning . . . but as they got a bit more . . cocky they . . . kicked that out and . .

B: threatened that the pit . if you didn't take it the pit would shut and which

I: [yes] [yes]

B: was going to shut anyhow . . but erm

I: did you work down erm . . down the

B: . yeah . . yeah . . twenty years

I: pit here . . . at . at Maerdy . . and . and what have . .

B: . . I've

I: . . . erm . . have you had any . . job opportunities you know . . things to do

B: {one} . . . I've had one or two . . I've worked on a chicken farm . . for about a year

B: . . and . . . done a bit of long distance driving or short distance it was but

B: HGV . . . erm . . . but that's . . . about it really the wages . . then . was getting a bit

B: . . . thin for . . erm . low . and the . . the hours were getting longer . . . 'cause the

B: last time I was driving was . . . there was like only two hours work . . but it was on

B: the M 25 . . . but you were taking three hours to get there . . . th~th~three . more

B: . sometimes more than three hours to get home and so two young kids

I: yes

B: . . . you know . . .f~ family commitments . it was . . getting a bit hard

I: [yes] . . .

B: I've . left . the area .

I: . do many . . do many . people your age leave the area

A: [i n a u d i b l e]

B: I've only just come back . . . erm . . . I don't know . . . I don't know where they go

A: [i n a u d i b l e] . . I mean erm . . . all

B: to . I don't think it is . nowhere special to go anywhere now

A: over the country you can't . there's nowhere . there's no work anywhere really

A: like . . . and we had . most of the ones they have . was manual workers . . well

B: or

I: mm

A: . . . you know they didn't have a . . . a trade or nothing like that

B: mm

I: . . . yes . . what

A: . . no

B: no . . . training for

I: about training schemes then . . are they any ~any good

A: . . couldn't train you for anything so we didn't . there was no good

B: what . . (laughs)

A: . there was . . . what are you going to train for{there}

B: yeah erm . mind you . . I . .

A: . . . what you went on that . . [training] with Ian

B: I did . . erm do my HGV with erm yeah

A: . aye . they didn't have that when I [finished]

B: . . but that's . . awful hard to get a job . . 'cause

B: . although I can drive . . . it's . . the experience of off . . off loading or loading . . .

B: if you have a tipper wor~ . . tipper work . . . it's . . erm . . . fr~frightening to . . .

I: mm

B: to~to go and tip by yourself you know . 'cause erm . . it is dangerous and . . . the

B: same with any . . of the . . driving you know erm

Informant A says he has been lucky because he has had his pension. He describes how Tylorstown and Ferndale collieries were closed down and the workforce moved to Maerdy. They discuss types of coal : steam coal in the lower Rhondda Fach but anthracite at Maerdy.

[13.50 min - 15.30 min]

TAPE ENDS

Appendix 5

STANDARD LEXICAL SETS

(J.C. Wells, *Accents of English* Vol. I, pp 127-168)

KIT

*ship, bit, sick, stitch, stiff, pith, this, wish,
rib, kid, dig, bridge, give, his,
dim, skin, sing, fill,
milk, limp, hint, drink, lift, list, plinth, mix,
slither, vision, spirit, dinner, silly, winter, sister,;
myth, symbol, rhythm, Syria,;
pretty, England, English,
build, guilt,
women, sieve,
busy, business*

DRESS

*step, bet, neck, fetch, Jeff, mess, mesh,
ebb, bed, egg, edge, rev, fez
hem, pen, bell,
shelf, hemp, tent, theft, best, sex, next,
effort, method, terror, tenor, jelly, centre/center, pester,;
threat, sweat, deaf, death,
bread, dead, head, health, realm, meant, breast,
ready, jealous, pleasant, weather, treacherous,;
any, many, Thames,
friend, says, said, Leicester, bury.*

TRAP

*tap, cat, back, batch, gaff, math(s), mass, dash,
cab, mad, rag, badge, have, jazz,
ham, man, hang, shall,
scalp, lamp, ant, hand, thank, lapse, tax,
arrow, carriage, banner, abbey, tassel, cancel, panda,;
plaid.*

LOT

*stop, pot, sock, notch, Goth,
rob, odd, cog, dodge,
Tom, con, doll,
solve, romp, font, copse, box,
profit, possible, proverb, bother, rosin,
honest, ponder,;
swan, quality, yacht, wasp, watch, squabble,
waffle,;
knowledge, acknowledge.*

- STRUT** *cup, cut, suck, much, snuff, fuss, rush,
rub, bud, jug, budge, buzz,
hum, run, lung, dull,
pulse, bulge, punch, lump, hunt, trunk,
butter, study, punish, number, mustn't, Guthrie,;
done, come, love, mother, stomach,
monk, tongue, onion, money, front,;
touch, enough, young, double, southern, country,;
blood, flood.*
- FOOT** *put, puss, bush,
full,
cuckoo, butcher, cushion, pudding, bullet,;
good, stood, wood, cook, look, shook, wool,;
could, should, would, shouldn't.*
- BATH** (a) *staff, giraffe,
path, lath,
brass, class, glass, grass, pass,
raft, craft, graft, daft, shaft, aft, haft, draft,
clasp, grasp, rasp, gasp,
blast, cast, fast, mast, aghast, last, past, contrast, vast, avast,
ask, bask, mask, flask, cask, task,
after, rafter, Shaftesbury,
master, plaster, disaster, castor, pastor, nasty, disastrous,
basket, casket, rascal,
fasten, raspberry, ghastly, castle,
laugh, laughter, draught;*
- (b) *dance, advance, chance, France, lance, glance, enhance,
prance, trance, entrance (v),
grant, slant, aunt, chant, plant, advantage, vantage,
chantry, supplant, enchant,
branch, blanch, ranch, stanch, stanchion,
demand, command, remand, slander, Chandler,
commando, Alexander, Sandra, Flanders,
example, sample,*
- (c) *calf, half, calve, halve, rather, Slav,
shan't, can't
Iraq, coral, morale, Iran, Sudan banana.*

(appendix: fluctuate in RP between /æ/ & /ɑ:/)	<i>chaff, graph, alas, hasp, Basque, masque, plastic, drastic, elastic, gymnastic, (Cornish) pasty, enthus- iastic, bastard, paschal, pastoral, masculine, masquerade, exasperate, blasphemy, masturbate, Glasgow, lather, stance, askance, circumstantial, intransigent, sub- stantial, transit, transport, transfer, transport, transitory, transient, transept, and other words in trans- ; contralto, alto, plaque, Cleopatra.</i>
---	--

- CLOTH** (a) *off, cough, trough, broth, froth, cross, across, loss, floss, toss, fosse, doss, soft, croft, lost, oft, cost, frost, often, soften, lofty, Australia, Austria, Austen, Austin, gone;*
- (b) *moth, boss, gloss, joss, moss, Ross, long, strong, wrong, gong, song, thong, tongs, throng, accost, coffee, coffer, coffin, offer, office, officer, glossy, foster, Boston, Gloucester, sausage; wash;*
- (c) *origin, Oregon, oratory, orator, orange, authority, borrow, categorical, correlate, coroner, coral, florid, Florida, florist, florin, historic(al), horrid, horrible, majority, horrify, horror, metaphoric(al), morrow, Morris, moral, Norwich, porridge, rhetorical, sorrel, moribund,; sorrow, tomorrow, sorry, Laurence/Lawrence, laurel, laureate, quarrel, quarry, warrant, warren, warrior, Warwick.*

NURSE *usurp, hurt, lurk, church, turf, purse, curb, curd, urge, curve, furze, turn, curl, spur, occurred, burnt, burst, murder, further,; shirt, irk, birch, birth, bird, dirge, firm, girl, fir, stirred, first, circus, virtue,; myrrh, myrtle, Byrne; twerp, assert, jerk, perch, serf, berth, terse, verb, erg, emerge, nerve, term, stern, deter, err, preferred, certain, person, immersion, emergency, kernel,; Earp, earth, dearth, hearse, rehearse, search, heard, earn, yearn, earl, pearl, rehearsal, early, earnest, wort, work, worth, worse, word, worm, whorl, worst, Worthing, worthy, whortleberry; scourge, adjourn, courteous, journal, journalist, journey; attorney, colonel, liqueur*, masseur*, connoisseur*.*

** also sometimes with the vowel of CURE*

- FLEECE** (a) *creep, meet, seek, beech, reef, teeth,*
seed, sleeve, seethe, cheese,
seem, greed, feel,
see, tree, agree,
needle, feeder, sweeten,;
grebe, these, Peter, even,;
shriek, brief, piece, believe, field,;
ceiling, Keith, Sheila,;
be, me,;
key, people;
- (b) *reap, meat, speak, teach, leaf, beneath, peace, leash,*
bead, league, leave, breathe, please,
team, mean, deal,
sea, tea,
feast, reason, weasel, easy, Easter,;
metre, equal, decent, legal, penal,
complete, scene,;
deceive, receive, seize,;
Caesar, an(a)emic, Aesop,;
Phoenix, subpoena, f(o)etus,;
quay;
- (c) *police, unique, machine, prestige, elite,*
mosquito, casino, visa, trio, ski, chic,
- FACE** (a) *tape, late, cake, safe, case,*
babe, fade, vague, age, wave, bathe, craze,
name, mane, vale,
change, waste,;
taper, bacon, nature, station, lady, raven, invasion, April;
bass (in music), gauge, gaol/jail,
crepe, fete, bouquet;
- (b) *wait, faith, plaice, aitch, raid, nail, main, faint,;*
day, play, way, grey/gray,;
rein, veil, beige, feint,;
they, whey, obey,;
weigh, weight, eight, straight,;
reign campaign, deign,;
- (c) *great, steak, break, yea.*
- PALM** (a) *calm, balm, psalm, alms, father,*
bra, ma, pa, mamma, pappa, aha,
ah, ha(h), blah, hurrah;

- (b) *baht, Bach, facade, couvade, roulade, raj, taj, salaam, Brahms, Kahn, Afrikaans, kraal, Transvaal, Taj Mahal, spa, Shah, Pooh-Bah, Armagh, schwa, cantata, innamorato, legato, sonata, staccato, pizzicato, Lusaka, Karachi, mafia, Dada, bravado, incommunicado, Mahdi, Mikado, lager, Zhivago, (Maha)rajah, kava, guava, Java, Swazi, Dali, Mali, Guatemala, Somali(a), lama, llama, Yokohama, swami, Brahmin, guano, piano (softly), marijuana, iguana, Botswana, (maha)rani, ha-ha, Malawi, Bahai, Sumatra, candelabra.*
- (c) *baa, bah, Koran, khan, Pakistan, Shan chorale, rationale, locale, khaki, pasha, Nazi, Colorado, enchilada, Nevada, aubade, lava, palaver, plaza, almond, drama, pyjama, panorama, Ghana, nirvana, sultana, soprano, pirhana, Bali, finale*

THOUGHT (a) *taught, caught, Maugham, Vaughan, Waugh, naughty, haughty, slaughter, daughter, ought, bought, wrought, brought, fought, nought, sought, taut, auk, debauch, sauce, applaud, cause, faun, haul, Paul, autumn, author, taunt, laundry, gauntlet,...; gawp, hawk, crawl, shawl, awn, yawn, jaw, law, saw, draw, awe,...; chalk, talk, walk, stalk, caulk, all, fall, small, wall, appal, instal, Raleigh*....; bald, water, broad,*

- (b) *halt, salt, malt, false, alter, also, alderman, walrus,...; fault, vault.*

**also with /æ, ɑ: /*

GOAT (a) *soap, boat, oak, roach, loaf, oath, road, loathe, coal, roam, loan, boast, coax,...; note, rope, joke, both, gross, robe, code, rogue, grove, clothe, rose, hole, home, tone, so, no, toe, foe, don't, host, noble, ocean, explosion, holy,...; brooch, beau, gauche, mauve;*

- (b) *bowl, own, tow, know, grow, owe, Owen,...;*
soul, poultry, mould/mold, shoulder,...;
colt, holster, old, bold, soldier,...;
roll, scroll, control,...;
sew, dough, though, although.

GOOSE (a) *loop, shoot, spook, smooch, proof, tooth, loose, tarboosh,*
boob, mood, Moog, groove, smooth, choose,
boom, spoon, fool, too,
boost, schooner, booty,...;
move, prove, lose, whose,...;
tomb, do, who, two,...;
group, youth, ghoul, you, Vancouver, through,

- (b) *dupe, mute, duke, truth, obtuse,*
cube, rude, fugue, huge, amuse,
plume, tune, mule, blue,
funeral, lucre, prudent,...;
flu, duty, pupil, mucus, lucid, crucial, confusion,
ludicrous, music, human, lunatic,...;
sleuth, deuce, feud, neutral, feudal, eunuch,...;
newt, lewd, few, knew, pewter, sewage,...;
fruit, juice, cruise, nuisance,...;
view, review,
beauty, beautiful.

PRICE (a) *ripe, write, like, knife, ice,*
tribe, side, arrive, writhe, rise,
time, fine, mile, fire, die, tried,...;
Friday, tiger, silent, violent, liar, science,
indict, isle, child, pint, find, ninth, Christ,
viscount, bicycle, island,
hi-fi, chi,...;
type, try, Cyprus, hybrid, dye, Glynde,...;
eider, kaleidoscope, eye, height, aisle, buy, choir

- (b) *fight, high, sign,....*

CHOICE (a) *boy, toy, joy, annoy, oyster...;*
noise, voice, choice, rejoice,
void, moist...;

- (b) *coin, join, oil, boil, soil, toil,*
poison, ointment ...;
buoy, employ ...;

- (c) *groin, hoist, joist.*

MOUTH *out, pouch, south, house,*
loud, gouge, mouth (v.), rouse,
noun, foul, thou,
count, round, pronounce, oust,
flour, sour, trousers, mountain, council, boundary,...;
crowd, browse, owl, down, cow, allow,
dowry, flower, coward, towel, powder,...,
bough, plough / plow, doughty,...;
MacLeod.

- NEAR** (a) *beer, deer, career,...;*
here, mere, sincere, interfere,...;
bier, pier, cashier,...,
weir;
fear, ear, appear, yearling,...;
- (b) *fierce, pierce;*
weird, Deirdre,
beard;
- (c) *serious, mysterious, period, serum, diphtheria, hero,...;*
eerie, peerage, Madeira, dreary, weary.
- (d)* *idea Korea, diarrh(o)ea, Galatea,...;*
European, Jacobean, Crimean,...;
ratafia, Maria, sophia,...;
Museum, Colosseum, Te Deum,...;
real, ideal.

*several of these words also have RP variants with /i : ə/

- SQUARE** (a) *care, share, bare,...;*
air, fair, pair,...;
bear, pear, wear, swear,...;
heir, their, there, where, Ayr, Eyre, prayer, mayor.
- (b) *scare;*
- (c) *vary, canary, Mary, aquarium, various, rarity, area,*
Pharoah,...;
dairy, prairie, fairy,...;
ariel, Dun Laoghaire, Eire.

- START** (a) *far, star, bar,...;*
bazaar, Saar;

- (b) *sharp, part, bark, arch, scarf, farce, harsh, garb, card, large, carve, parse, farm, barn, snarl, Charles, Party, market, marvelous, ...; heart, hearken, hearth; sergeant; aardvark;*
- (c) *sari, Bari, safari, cascara, curare, Mata hari, aria, scenario, Sahara, tiara.*

NORTH (a) *or, for, nor, Thor; war;*

- (b) *Thorpe, assort, cavort, consort, distort, exhort, resort, retort, short, snort, tort, cork, fork, stork, torque, York, scorch, torch, morph, gorse, horse, remorse, orb, absorb, accord, chord, cord, lord, record (v), George, gorge, corm, form, reform, storm, storm, adorn, born, corn, horn, morn, porn, scorn, shorn, thorn, corpse, porpoise, torpid, torpor, fortify, fortunate, fortune, important, importune, mortal, mortar, shorten, tortoise, orchestra, orchid, Dorking, torture, forfeit, morphine, morphia, orthodox, torso, orbit, order, border, ordinary, organ, organism, organize, Morgan, dormer, Mormon, normal, ornament, corner, forward, fortress, quart, quarter, quartz, sward, swarm, swarthy, warble, ward, warden, wardrobe, warlock, warm, warmth, warn, warp, Warsaw, wart;*
- (c) *aura, Aural, Laura, Taurus.*

FORCE (a) *ore, adore, afore, before, bore, chore, core, deplore, explore, fore, galore, gore, ignore, implore, more, ore, restore, score, shore, snore, sore, spore, store, tore, whore, wore, yore, boar, hoar, oar, roar, soar,; floor, door; four, pour;*

- (bi) *deport, export, fort, import, port, report, sport, support, pork, porch, forth, divorce, afford, ford, horde, sword, forge, borne, shorn, sworn, torn, worn, portent, porter, portrait, proportion, Borneo;*
- (bii) *coarse, hoarse, board, hoard, boarder, court, fourth, course, resource, source, mourn, courtier, mourning;*

- (c) *oral, adorable, angora, aurora, borax, boron, choral, Dora, fedora, flora, floral, glory, gory, moron, Nora(h), porous, story, thorax, torus, Tory, censorious, euphoria, glorious, Gregorian, historian, laborious, memorial, meritorious, moratorium, notorious, pictorial, pretorian, stentorian, thorium, uxorious, Victoria(n), other words in -orial hoary, uproarious.*

CURE (ai) *boor, moor, Moor, poor, spoor, amour, dour, tour, your,*

- (aii) *abjure, adjure, allure, assure, conjure, demure, endure, ensure, immure, insure, lure, McClure, manure, mature, obscure, procure, pure, secure, sure;*

- (b) *bourse, gourd, Bourbon, bourgeois, gourmand, gourmet, tournament, tourney, tourniquet;*

- (ci) *boorish, houri, tourism, tourist;*

- (cii) *Ural, angostura, assurance, bravura, bureau, c(a)esura, Huron, incurable, insurance, mural, plural, rural, Truro, anthurium, centurion, curious, furious, injurious, luxurious, Muriel, penurious, spurious, Uriel, curate, during, fury, futurity, jury, lurid, maturity, obscurity, purify, purity, security, sulfuric/sulphuric, tellurium, thurible; Europe, neural, neuron/neurone, pleurisy.*

happy (a) *copy, city, inky, baby, ready, foggy, fluffy, heavy, breathy, fussy, busy, fishy, tetchy, edgy, gloomy, penny, sorry, lily, canopy, vanity, strategy, economy,...; scampi, spaghetti, khaki, corgi, Nazi, taxi, hibachi, salami, macaroni, sari, chilli,...; sortie, talkie, birdie, boogie, movie, lassie, budgie, stymie, prairie, calorie,...;*

- (b) *committee, coffee; hockey, abbey, covey, curtsey, jersey, money, comfrey, valley,...; Chelsea, Swansea*

lettER *paper, better, whisker, rubber, order, tiger,
 offer, cover, leather, dresser, cruiser,
 usher, teacher, soldier, customer, liner,
 scorer, dealer, tower,...;
 metre, centre/center acre, fibre/fiber, ogre,...;
 calendar, sugar, polar, liar,...;
 stupor, indicator, anchor, Tudor, camphor, survivor,
 author, professor, razor, major, tremor,
 donor, error, pallor,...;
 succo(u)r, harbo(u)r, odo(u)r, vigo(u)r,...;
 martyr, satyr, zephyr;
 figure, pressure, measure, feature, perjure, tenure,
 failure,....*

comma *catalpa, quota, vodka, am(o)eba, panda, saga,
 sofa, saliva, Bertha, balsa, visa, acacia,
 dementia, neuralgia, drama, arena, opera,
 Cinderella, phobia,...*

Appendix 6

BATH lexical set : incidence of /a/ vs /a:/ in the data.

phonological environment	/a/	/a: /
___f	<i>laughing*</i> [9];	<i>laughing*</i> [51]; <i>laugh</i> [2]; <i>half</i> [8];
___fC	<i>after*</i> [10]; <i>grafted</i> [1] <i>draft/draught*</i> [4]; <i>shaft</i> [6];	<i>after*</i> [2]; <i>draft/draught*</i> [1]
___θ	<i>bath*</i> [31]; <i>bathing*</i> [2]	<i>bath*</i> [29]; <i>bathing*</i> [1]; <i>path</i> [1]
___θC	no occurrences	no occurrences
___s	<i>grass*</i> [45]; <i>pass*</i> [3] <i>castle</i> [1]; <i>glass</i> [3] <i>passing*</i> [1]; <i>class*</i> [2]	<i>grass*</i> [16]; <i>pass*</i> [2] <i>passing*</i> [2]; <i>class*</i> [2] <i>glasses</i> [5];
___sC	<i>ask</i> [4]; <i>last*</i> [4] <i>past*</i> [6]; <i>master</i> [1] <i>disaster</i> [3]; <i>fast</i> [1]	<i>last*</i> [11]; <i>past*</i> [1] <i>plaster</i> [1];
___nC(fortis)	<i>dance</i> [60]; <i>chance</i> [4] <i>transfer</i> [1]; <i>auntie</i> [2] <i>grant</i> [3]; <i>transport</i> [2] <i>advance</i> [1]; <i>dancing</i> [1] <i>France*</i> [1]; <i>answer</i> [3] <i>can't*</i> [6];	<i>plants</i> [1]; <i>France*</i> [3] <i>can't*</i> [2];
___nC(lenis)	<i>demanding</i> [1]	no occurrences
___mp	<i>example*</i> [59]	<i>example*</i> [2]

- Numbers in square brackets [] indicate how many times the item occurred in the data.
- Items with asterisk * were heard with both the long and short vowel.)

Appendix 7

(A) INCIDENCE OF DIPHTHONG VS MONOPHTHONG IN WORDS OF THE FACE LEXICAL SET

LAE (1978)

	Bacon	April	Make	Break	Drain	Faint	Tail	Lay	Weigh
Hereford-shire									
Brimfield	-	D	D	D	D	D	D	D	D
Weobley	-	D	D	D	D	D	D	D	D
Longtown	D	-	D	D	D	D	M	D	D
Gloucester-shire									
Gretton	D	D	-	D	D	D	-	D	D
Bream	D	D	-	D	D	D	D	D	D
Whiteshill	M	M	M	M	D	D	-	D	D
Deerhurst	-	M	M	M	D	-	D	D	D
Slimbridge	M	M	M	M	D	D	D	D	D
Latteridge	M	M	M	D	D	D	D	-	D
Somerset									
Blagdon	D	D	D	D	D	D	D	D	D
Wedmore	D	-	-	D	D	D	-	D	D
Wooton	M	-	M	M	-	-	-	D	D
Stogursey	D	D	D	-	D	D	D	D	D
Stogumber	M	-	-	D	D	D	D	D	-
Devon									
Parracombe	M	M	-	-	-	D	D	D	D
Swimbridge	M	M	M	D	-	-	D	D	D
Wear Gifford	-	M	-	D	D	D	D	D	D

(B) INCIDENCE OF DIPHTHONG VS MONOPHTHONG
IN WORDS OF THE GOAT LEXICAL SET

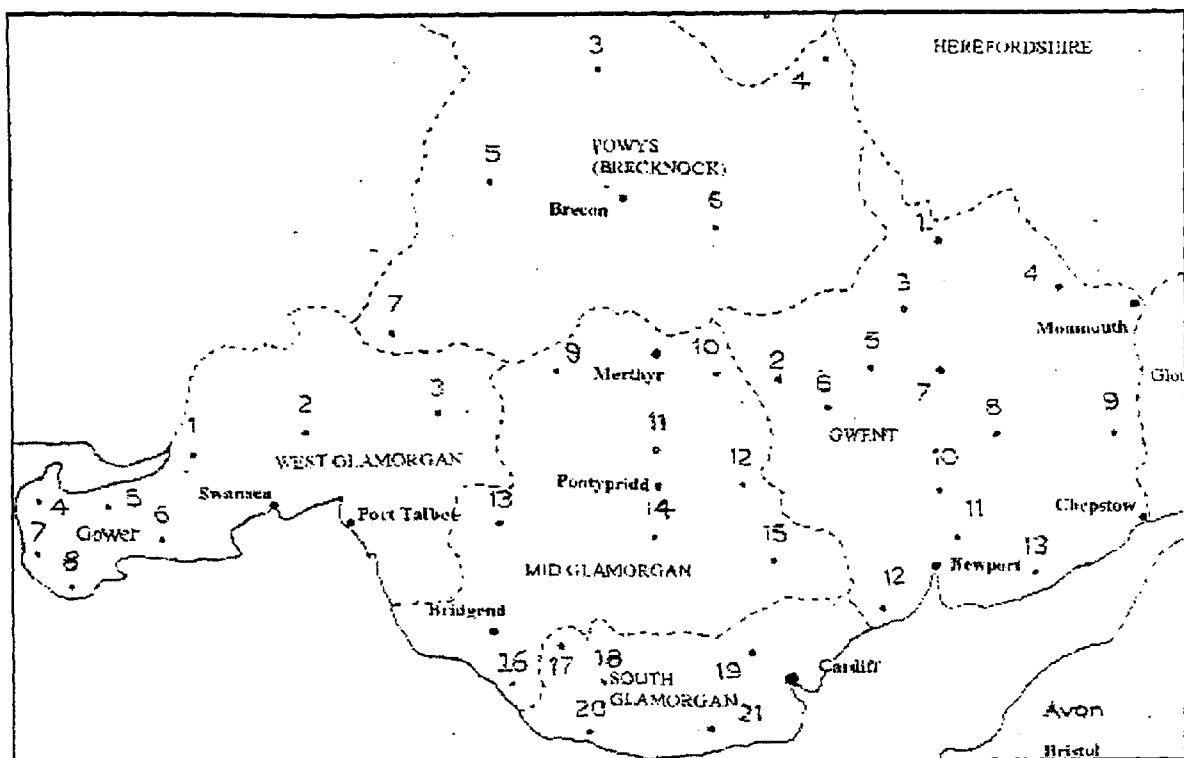
LAE (1978)

	Spokes	Oak	Coat	Toes	Nose	Shoulder	Mow	Snow	Grow
Hereford-shire									
Brimfield	M	M	M	M	D	-	D	D	-
Weobley	M	D	M	-	-	D	D	D	D
Longtown	M	M	M	M	M	M	D	D	D
Gloucester-shire									
Deerhurst	M	D	-	D	D	-	D	D	D
Gretton	D	D	D	-	D	D	-	D	D
Bream	D	D	D	D	D	-	D	D	D
Whiteshill	D	D	D	D	D	D	D	-	-
Slimbridge	M	M	-	M	D	-	-	-	-
Latteridge	M	-	-	M	M	-	-	D	D
Somerset									
Blagdon	D	D	M	D	-	-	D	D	D
Wedmore	D	-	M	M	M	-	D	D	M
Wooton	M	M	M	M	M	D	-	-	D
Stogursey	-	M	M	M	-	D	D	D	-
Stogumber	M	M	M	M	M	M	M	M	M
Devon									
Parracombe	-	M	M	M	M	M	M	M	M
Swimbridge	M	M	-	M	M	M	M	M	M
Wear Gifford	M	M	M	M	M	-	M	M	M

KEY: M = Monophthong D = Diphthong

Appendix 8

(A) MAP OF LOCATIONS REFERRED TO IN SAWD



Locations researched by SAWD (Parry, D. ed 1977), and referred to in Appendix ** below.

WEST GLAMORGAN

1. Gorseinon
2. Glais (Swansea Valley)
3. Resolven (Neath Valley)
4. Llangennith
5. Llanrhidian
6. Bishopston
7. Middleton
8. Horton

MID GLAMORGAN

9. Penderyn
10. Pontlloftyn
11. Miskin
12. Hengoed
13. Cwnfelin
14. Tonteg
15. Rudry
16. St Brides Major

SOUTH GLAMORGAN

17. Llangan and Treoes
18. Cowbridge
19. Peterston-super-Ely
20. Llantwit Major
21. Llancairol

GWENT

1. Pandy
2. Manmoel
3. Abergavenny
4. Rockfield
5. Blaenavon
6. Llanhilleth
7. Llanover
8. Usk
9. Tintern
10. Llanddewi Fach
11. Caerleon
12. Marshfield
13. Undy

(B) INCIDENCE OF DIPHTHONG VS MONOPHTHONG
IN WORDS OF THE FACE LEXICAL SET

SAWD (1977)

GWENT

Word	Pandy	Rockfield	Tintern	Manmoel	Blaenavon	Llanhilleth
Gate	D	D	D	D	D	D
Grave	D	D	D	M	M	M
Make	D	D	D	M	M	D
Take	D	D	D	M	M	D
Break	D	D	D	M	M	M
Great	D	D	D	**	D	D
Chain	D	D	D	M	D	M
Clay	D	D	D	D	D	D
Eight	D	D	D	D	D	D
Hay	D	D	D	D	D	D
Neighbour	D	D	D	D	D	M
Tail	D	D	D	D	**	D
Weigh	D	D	D	D	D	D
Whey	D	D	D	M	D	D

SOUTH GLAMORGAN				
Word	Cowbridge	Peterston	Llantwit Major	Llancarfan
Gate	M	D	M	M
Grave	M	M	M	D
Make	M	D	M	M
Take	M	M	M	M
Break	M	M	M	M
Great	M	M	M	M
Chain	M	D	D	D
Clay	M	D	D	D
Eight	D	D	D	D
Hay	M	D	D	D
Neighbours	D	D	D	D
Tail	M	D	D	D
Weigh	D	D	D	D
Whey	M	D	D	D

MID GLAMORGAN

Word	Pontlottyn	Miskin	Hengoes	Cwmfelin	Tonteg
Gate	M	M	D	M	D
Grave	M	D	D	M	D
Make	M	M	D	M	D
Take	M	M	D	M	D
Break	M	M	**	M	D
Great	M	M	**	M	D
Chain	M	M	D	M	D
Clay	M	M	D	D	D
Eight	D	D	D	M	D
Hay	D	D	D	D	D
Neighbours	D	**	D	M	D
Tail	M	**	D	M	D
Weigh	D	D	D	M	D
Whey	D	D	**	M	D

WEST GLAMORGAN

Word	Middleton	Horton	Glais	Resolven
Gate	M	M	M	M
Grave	M	M	M	M
Make	M	M	M	M
Take	M	M	M	M
Break	M	M	M	M
Great	M	M	M	M
Chain	M	M	D	M
Clay	D	D	D	M
Eight	D	D	D	M
Hay	**	D	D	M
Neighbours	D	M	D	M
Tail	**	D	D	M
Weigh	D	D	D	M
Whey	D	D	D	M

Key: **D** = **Diphthong**
 M = **Monophthong**
 ****** = **No response recorded**

(C) INCIDENCE OF DIPHTHONG VS MONOPHTHONG
IN WORDS OF THE GOAT LEXICAL SET

SAWD (1977)

GWENT

Word	Pandy	Rockfield	Tintern	Manmoel	Blaenavon	Llanhilleth	Caerleon	Undy
Coal	M	D	D	M	M	M	D	M
Foal	D	D	D	D	M	M	D	M
Home	D	D	D	M	M	M	M	M
Loaf	D	D	**	M	M	M	D	M
Nose	M	D	D	M	M	M	D	M
Oak	M	D	D	M	M	M	D	D
Road	M	D	D	M	M	M	D	M
Mow	D	D	**	D	D	M	D	M
Snow	D	D	D	M	D	D	D	M
Dough	D	D	D	M	D	D	D	M
Grow	D	D	D	M	D	M	D	M
Shoulder	D	D	D	M	D	M	D	M
Gold	D	D	D	M	D	M	M	D
Old	D	D	D	M	D	M	D	M
Cold	D	D	D	M	D	M	M	D

SOUTH GLAMORGAN

Word	Llangan	Cowbridge	Peterston	Llantwit	Llancarfon
Coal	M	M	M	M	M
Foal	M	M	M	M	D
Home	M	M	M	M	M
Loaf	M	M	M	M	M
Nose	M	M	M	M	M
Oak	M	M	M	M	M
Road	M	M	M	M	M
Mow	D	D	D	D	D
Snow	D	M	D	D	D
Dough	D	M	D	D	D
Grow	D	D	D	D	D
Shoulder	D	M	D	D	D
Gold	D	M	D	D	D
Old	D	M	D	D	D
Cold	D	M	D	D	D

MID GLAMORGAN

Word	Pontlottyn	Miskin	Hengoed	Cwmfelin	Tonteg
Coal	M	M	D	M	M
Foal	M	M	D	M	M
Home	M	D	M	M	M
Loaf	D	M	M	M	D
Nose	M	M	D	M	M
Oak	M	M	M	M	D
Road	M	M	M	M	M
Mow	D	M	D	D	D
Snow	M	M	D	D	D
Dough	D	**	D	D	M
Grow	M	M	D	D	D
Shoulder	**	**	D	M	M
Gold	M	M	D	M	D
Old	M	M	D	D	M
Cold	M	M	**	D	D

WEST GLAMORGAN

Word	Gorseinon	Glais	Resolven	Middleton	Horton
Coal	D	M	M	M	M
Foal	D	M	D	M	M
Home	D	M	M	M	M
Loaf	M	M	M	M	M
Nose	D	M	D	M	M
Oak	D	M	M	M	D
Road	D	M	M	M	M
Mow	D	D	M	M	D
Snow	D	D	D	D	D
Dough	D	D	D	D	D
Grow	D	D	D	D	D
Shoulder	D	D	D	**	D
Gold	D	M	**	D	M
Old	D	D	**	D	D
Cold	D	D	D	M	D

Key:	D	=	Diphthong
	M	=	Monophthong
	**	=	No response recorded

Appendix 9

FACE : LEXICAL INCIDENCE OF / e : / vs / ei / IN DATA

orthography realization		examples
with <u>-i</u> ; <u>-y</u>	/e:/	<i>waist</i> (Questionnaire 81%) ; <i>tail</i> (Questionnaire 3%) <i>unveiled</i> ; <i>they've*</i> ; <i>plai</i> ce ;
	/ei/	<i>waist</i> (Questionnaire 9%) ; <i>tail</i> (Questionnaire 97%) <i>waiting</i> (Questionnaire 100%) ; <i>train(n)</i> ; <i>train (v)</i> <i>their</i> (/eiΔ/,disyllabic); <i>entertainers</i> ; <i>rain</i> ; <i>Wayne</i> <i>Hayden</i> ; <i>played</i> ; <i>training</i> ; <i>campaign</i> ; <i>eight</i> ; <i>days</i> ; <i>ain't</i> ; <i>eighty</i> ; <i>wait</i> ; <i>sleigh</i> ; <i>main</i> ; <i>afraid</i> ; <i>railway</i> ; <i>maiden</i> ; <i>Bill Paynter</i> ; <i>eighteen</i> ; <i>drains</i> ; <i>paid</i> ; <i>failed</i> ; <i>drainage</i> ; <i>rail-</i> ; <i>-way</i> ; <i>conveyors</i> ; <i>neighbours</i> ; <i>tails</i> ; <i>aid</i> ; <i>painted</i> ; <i>gained</i> ; <i>straight</i> ; <i>Spain</i> ; <i>against</i> ; <i>days</i> ; <i>fundraising</i> ; <i>main--tained</i> ; <i>claim</i> ; <i>explain</i> ; <i>stayed</i> ; <i>Taylor</i> ; <i>they've*</i> ; <i>their</i>
other ortho- graphies	/e:/	<i>waste</i> (Questionnaire 97%) ; <i>stale</i> (Questionnaire 92%) <i>behave</i> (Questionnaire 97%); <i>station*</i> ; <i>James</i> ; <i>state</i> ; <i>name</i> ; <i>Wales*</i> ; <i>mistake</i> ; <i>game</i> ; <i>race</i> ; <i>Ferndale</i> ; <i>table</i> ; <i>lady</i> ; <i>amazing</i> , <i>plate</i> ; <i>changed</i> ; <i>place*</i> ; <i>name</i> ; <i>became</i> ; <i>age</i> ; <i>face</i> ; <i>rapier</i> ; <i>Davies</i> ; <i>trade</i> , <i>same</i> , <i>stadium</i> ; <i>came</i> ; <i>ale</i> ; <i>Dunraven</i> ; <i>parades</i> ; <i>race</i> ; <i>David</i> ; <i>gave</i> ; <i>made</i> ; <i>stage</i> ; <i>basically</i> ; <i>conversation</i> ; <i>take</i> ; <i>safe</i> ; <i>lady</i> ; <i>Clydach Vale</i> ; <i>tape</i> ; <i>save</i> ; <i>agent</i> ; <i>translate</i> , <i>Labour</i> ; <i>deprivation</i> ; <i>appreciation</i> ; <i>gradient</i> ; <i>baby</i> ; <i>pages</i> ; <i>blade</i> ; <i>Stanley Baker</i> ; <i>safeten</i> ; <i>wages</i> ; <i>trade</i> ; <i>famous</i> ; <i>escape</i> ; <i>sake</i> ; <i>paper</i> ; <i>waved</i> ; <i>safe</i> ; <i>fatalities</i> ; <i>desecrated</i> ; <i>labourer</i> ; <i>Kate</i> ; <i>crazy</i> ; <i>pavement</i> ; <i>mistake</i> ; <i>cooperative</i> ; <i>education</i> ; <i>blazer</i> ; <i>date</i> ; <i>parades</i> , <i>navy</i> ; <i>hate</i> ; <i>cake</i> ; <i>base</i> ; <i>mates</i> ; <i>related</i> ; <i>sabre</i> ; <i>basically</i> ; <i>bakery</i> ; <i>space</i> ; <i>scales</i> ; <i>snakes</i> ; <i>renovated</i> ; <i>Beddau</i> ; <i>saves</i> ; <i>statement</i> ; <i>shake</i> ; <i>originated</i> ; <i>shale</i> ; <i>graveyard</i> ; <i>lemonade</i> ; <i>slates</i> <i>break</i> ; <i>great</i> ;
	/ei/	<i>waste</i> (Questionnaire 3%); <i>stale</i> (Questionnaire 8%) <i>changes</i> ; <i>segregation</i> ; <i>station*</i> ; <i>Wales *</i> ; <i>places *</i> ; <i>nationalization</i> ; <i>accommodation</i> ; <i>dangerous</i> ; <i>occasionally</i> ; <i>major</i> ; <i>association</i> ; <i>ancient</i> ; <i>chaos</i> ;

Appendix 10

GOAT : LEXICAL INCIDENCE OF /o:/vs /ou/IN THE DATA

orthography	realization	examples
<u>ou</u> ; <u>ow</u>	/o:/	<i>soul</i> (Questionnaire 8%) ; <i>although</i> ; <i>own</i> *
	/ou/	<i>soul</i> (Questionnaire 92%) ; <i>tows</i> (Questionnaire 100%) ; <i>knows</i> (Questionnaire 100%) ; <i>known</i> ; <i>bowl</i> ; <i>owned</i> ; <i>own</i> * ; <i>flow</i> ; <i>shows</i> ;
<u>o</u> ; <u>oa</u> ; <u>oe</u> ;	/o:/	<i>sole</i> (Questionnaire 79%) ; <i>toes</i> (Questionnaire 85%) <i>nose</i> (Questionnaire 87%) ; <i>clothes</i> (Questionnaire 88%) <i>sofa</i> (Questionnaire 63%) ; <i>so</i> ; <i>no</i> * ; <i>oh</i> ; <i>coal</i> ; <i>photos</i> * <i>home</i> ; <i>over</i> ; <i>coach</i> ; <i>local</i> ; <i>road</i> * ; <i>both</i> ; <i>closed</i> ; <i>coke</i> ; <i>go</i> ; <i>sold</i> ; <i>spoke</i> ; <i>don't</i> ; <i>suppose</i> ; <i>most</i> ; <i>Corona</i> ; <i>solely</i> ; <i>grocery</i> ; <i>hopefully</i> ; <i>close</i> (v) ; <i>old</i> * ; <i>dole</i> ; <i>Dover</i> ; <i>pneumonia</i> ; <i>photograph</i> ; <i>control</i> ; <i>whole</i> ; <i>closure</i> ; <i>those</i> ; <i>coat</i> ; <i>throat</i> ; <i>colder</i> ; <i>stone</i> ; <i>loads</i> ; <i>joke</i> ; <i>social</i> ; <i>reopen</i> ; <i>Jones</i> ; <i>Coldstream</i> ; <i>broke</i> ; <i>nobody</i> ; <i>ago</i> ; <i>Robeson</i> ; <i>stove</i> ; <i>remote</i> ; <i>moment</i> ; <i>bloke</i> ; <i>open</i> * <i>October</i> ; <i>roamed</i> ; <i>holes</i> ; <i>boasting</i> ; <i>(bull)dozer</i> ; <i>promoted</i> ; <i>hole</i> ; <i>phoned</i> * etc etc
	/ou/	<i>Joe</i> ; <i>photo</i> * ; <i>road</i> * ; <i>old</i> * ; <i>gold</i> ; <i>phone</i> * ; <i>reopen</i> * <i>no</i> *

Appendix 11

GOOSE : LEXICAL INCIDENCE OF /ɪu/ vs /u:/ IN DATA

environment	realization	examples
<u>-oo</u> ; <u>-ou</u> <u>-o</u>	/u:/	<i>mood</i> (Questionnaire 100%); <i>food</i> ; <i>school</i> ; <i>cool</i> <i>loo</i> ; <i>moon</i> ; <i>afternoon</i> ; <i>pool</i> etc
		<i>through</i> (Questionnaire 100%); <i>you</i> ; <i>group</i> <i>do</i> ; <i>who</i> ; <i>two</i> ; <i>lose</i> ; <i>move</i> etc
	/ɪu/	<i>you</i>
<u>-ew</u> ; <u>iew</u> ; <u>-ieu</u> ; <u>eu</u> ; <u>-eau</u> ; <u>-ui</u> ;	Always /ɪu/,	<i>threw</i> & <i>blew</i> (Questionnaire 100%); <i>Dieu</i> ; <i>few</i> <i>grew</i> ; <i>drew</i> ; <i>Lewis</i> ; <i>new</i> ; <i>feudal</i> ; <i>beauty</i> ; <i>pneumonia</i> ; <i>beautiful</i> (Questionnaire 100%); <i>suit</i> ; <i>brewers</i> ; <i>knew</i> ; <i>view</i> ; <i>interviews</i>
labials + <u>u</u>	Always /ɪu/	<i>murals</i> ; <i>music</i> ; <i>Municipal</i> ; <i>community</i> ; <i>mute</i> ; <i>abuse</i> ; <i>Bute</i> ; <i>pure</i> ; <i>Pugh</i> ; <i>dispute</i> ; <i>deputies</i>
dento-labials + <u>u</u>	Always /ɪu/	<i>funeral</i> ; <i>future</i> ; <i>refuel</i> ; <i>refusing</i> ; <i>fuse</i>
dentals + <u>u</u>	/ɪu/	<i>enthusiasm</i> (only example)
alveolars + <u>u</u>	/ɪu/	<i>attitude</i> ; <i>institute</i> ; <i>tube</i> ; <i>stupid</i> ; <i>students</i> <i>duty</i> ; <i>during</i> ; <i>introduce</i> ; <i>duo</i> ; <i>scheduled</i> ; <i>manual</i> ; <i>supermarket</i> ; <i>superior</i> ; <i>Sudan</i> ; <i>saluting</i> ; <i>influence</i> ; <i>revolution</i> ; <i>clue</i> ; <i>seclusion</i> ; <i>absolute</i> ; <i>fluent</i>
	/u:/	<i>blue</i> (Questionnaire 100%)
post-alveolar + <u>u</u>	/ɪu/	<i>ruin</i> (Questionnaire Annex 60%); <i>cruel</i>
	/u:/	<i>ruin</i> (Questionnaire Annex 40%); <i>rude</i> ; <i>rule</i>
palato-alveolars + <u>u</u>	/ɪu/	<i>jury</i> (Questionnaire 78%); <i>assurance</i> ; <i>June</i> <i>junior</i> ; <i>statue</i>
	/u:/	<i>jury</i> (Questionnaire 22%); <i>insurance</i>
velars + <u>u</u>	Always /ɪu/	<i>cure</i> (Questionnaire 100%); <i>rescue</i> ; <i>argue</i>
/h/ + <u>u</u>	Always /ɪu/	<i>humour</i> ; <i>Hughes</i> ; <i>huge</i>

Appendix 12

AUDITORY ANALYSES OF THREE EXTRACTS BY SIX INTONATIONALISTS

Copy of instructions sent to the volunteers

TASK SHEET

Please complete the analysis by marking the transcript and writing down any comments in the margins; pencil will be perfectly O.K. since a number of rubbings out (changes of mind) may well occur!

1. Listen to and divide the utterances of the main speaker in each passage into intonation units (e.g. 'tone-groups / units').

Comment on the factors which influenced your judgement in cases that were not straightforward.

2. (a) Underline all syllables you consider to be 'prominent' or 'salient' in each intonation unit.

(b) Circle any of these 'prominences' / 'saliences' which you consider to be a 'nucleus' or 'tonic syllable'.

Comment on factors that influenced your judgement in intonation units where such identifications were not straightforward.

3. Label the 'tone(s)' found in each intonation unit.

Comment on difficult / interesting cases.

Appendix 13

Auditory Analyses of Three Extracts by Six Intonationalists:

Transcripts of each volunteer

[FOR THE RESEARCHER'S PROSODIC TRANSCRIPTIONS OF THE FULL PASSAGES FROM WHICH THESE EXTRACTS ARE TAKEN, SEE APPENDIX **]**

KEY

/ (single slash)	'tone-unit boundary'
underlining	'salience/prominence' e.g. <i>started</i>
underlining & capitals	'nucleus" e.g. <u>STARTed</u>
(numeral placed above 'nucleus'):	
0	level 'nuclear tone'
1	falling 'nuclear tone'
2	rising-falling 'nuclear tone'
3	rising 'nuclear tone'
4	falling-rising 'nuclear tone'
A:	Speaker A
B:	Speaker B
I:	Interviewer
<i>V1, V2, V3, V4, V5</i>	Volunteer 1, 2, 3, 4, 5

1. Excerpt from MAERDY 1

	3	3
V1	when I started to <u>WORK</u> I / <u>started</u> at <u>fifteen</u> and a <u>HALF</u> / . . . and	
	3	3
V2	when I <u>started</u> to <u>WORK</u> / I <u>started</u> at <u>fifteen</u> and a <u>HALF</u> / . . . and	
	3	3
V3	when I <u>started</u> to <u>WORK</u> / I <u>started</u> at <u>fifteen</u> and a <u>HALF</u> / . . . and	
	1	1
V4	when I <u>started</u> to <u>work</u> / I <u>started</u> at <u>fif-teen</u> and a <u>HALF</u> / . . . and	3
	1	1
V5	when I <u>started</u> to <u>work</u> / I <u>started</u> / at <u>fifteen</u> and a <u>HALF</u> / . . . and	3
	1	1
V6	when I <u>started</u> to <u>work</u> / I <u>started</u> at / <u>fifteen</u> and a <u>HALF</u> / . . . and	3
<u>B: when I started to work I started at fifteen and a half . . . and</u>		
	2	
V1	I was <u>working</u> in the . <u>colliery</u> down in Fern <u>DALE</u> / . . and my <u>father</u> was	
	1	
V2	I was <u>working</u> in the . <u>colliery</u> <u>down</u> in Fern <u>DALE</u> / . . and my <u>father</u> was	
	1	
V3	I was <u>working</u> in the . <u>colliery</u> down in Fern <u>DALE</u> / . . and my <u>father</u> was	
	1	3
V4	I was <u>WORKing</u> in the / . <u>colliery</u> <u>down</u> in Fern <u>DALE</u> / . . and my <u>F</u> ather was	3
	3	0
V5	I was <u>WORKing</u> / <u>IN</u> the / . <u>colliery</u> down in Fern <u>DALE</u> / . . and my <u>father</u> was	1
	0	1
V6	I was <u>WORKing</u> in the / . <u>colliery</u> down in Fern <u>DALE</u> / . . and my <u>father</u> was	
<u>B: I was working in the . colliery down in Ferndale . . and my father was</u>		

3	3
V1 <u>working</u> in the <u>colliery</u> in <u>MAERdy</u> and/ <u>he</u> was having a <u>BATH</u> . because they'd/	

3	0
V2 <u>working</u> in the <u>colliery</u> in <u>MAERdy</u> / and he was having a <u>BATH</u> / . because they'd	

3	2
V3 <u>working</u> in the <u>colliery</u> in <u>MAERdy</u> / and <u>he</u> was <u>having</u> a <u>BATH</u> / . because they'd	

3	1
V4 <u>working</u> in the/ <u>colliery</u> in <u>MAERdy</u> /and <u>he</u> was <u>having</u> a <u>BATH</u> / . because they'd	

3	3
V5 <u>working</u> in the <u>colliery</u> in <u>MAERdy</u> / and <u>he</u> was having a <u>BATH</u> / . because they'd	

3	1
V6 <u>working</u> in the <u>colliery</u> in <u>MAERdy</u> / and he was having a <u>BATH</u> / . because they'd	

B: working in the colliery in Maerdy and he was having a bath . because they'd

1	3
V1 <u>MODernized</u> <u>THAT</u> pit/ . . and I was coming <u>home</u> and still <u>bathing</u> in front of	

3	
V2 <u>modernized</u> <u>THAT</u> pit/ . . and I was coming <u>home</u> and still <u>bathing</u> in <u>front</u> of	

1	3
V3 <u>MODernized</u> <u>THAT</u> pit/ . . and I was <u>coming</u> home and <u>still</u> <u>bathing</u> in <u>front</u> of	

2	3
V4 <u>MODernized</u> <u>THAT</u> pit/ . . and I was coming <u>home</u> and still <u>bathing</u> in <u>front</u> of	

2	3	0
V5 <u>MODernized</u> / <u>THAT</u> pit/ . . and I was <u>COMing</u> home/and still <u>bathing</u> in front of		

1	3
V6 <u>MODernized</u> / <u>THAT</u> pit/ . . and I was <u>coming</u> home and still <u>bathing</u> in front of	

B: modernized that pit . . and I was coming home and still bathing in front of

1	1
V1 the <u>F</u> ire/	. and . my <u>f</u> ather was <u>c</u> oming home <u>C</u> LEAN/. . cause
2	1
V2 the <u>F</u> ire/	. and . my <u>f</u> ather was coming home <u>C</u> LEAN/. . <u>cause</u>
2	1
V3 the <u>F</u> ire/	. and . my <u>f</u> ather was <u>c</u> oming home <u>C</u> LEAN/. . cause
2	3 1
V4 the <u>F</u> ire/	. and . my <u>f</u> ather was coming <u>H</u> OME/ <u>C</u> LEAN/. . cause
3	0 3 1
V5 the <u>F</u> ire/	. <u>A</u> ND/. my <u>F</u> ather/was <u>c</u> oming home <u>C</u> LEAN/. . cause
1	3 1
V6 the <u>F</u> ire/	. and . my <u>F</u> ather/ was <u>c</u> oming home <u>C</u> LEAN/. . . cause
B: the fire	. and . my father was coming home clean . . cause
A:	. . yes
I:	. . aye
1 3	
V1 he'd been <u>s</u> howering in the <u>P</u> IT you <u>S</u> EE/	
0 3	
V2 he'd been <u>s</u> howering in the <u>P</u> IT/you <u>S</u> EE/	
1 3	
V3 he'd been <u>s</u> howering in the <u>P</u> IT/ you <u>S</u> EE/	
1 3	
V4 he'd been <u>s</u> howering in the <u>P</u> IT/ you <u>S</u> EE/	
1 3	
V5 he'd been <u>s</u> howering in the <u>P</u> IT/ you <u>S</u> EE/	
1 3	
V6 he'd been <u>s</u> howering in the <u>P</u> IT/ you <u>S</u> EE/	
B: he'd been showering in the pit you see	

2. Excerpt from MAERDY 9

1			
V1	. . .	they wanted a wireless over the . SHOT/ . for the old people to hear the	
1			
V2	. . .	they wanted a wireless over the . SHOT/ . for the old people to hear the	
1			
V3	. . .	they wanted a wireless over the . SHOT/ . for the old people to hear the	
3		1	
V4	. . .	they wanted a WIREless/ over the . SHOT/ . for the old people to hear the	
3		3	1
V5	. . .	they WANTED/a WIREless/over the/. SHOT/. for the old PEOPLE/ to hear the	3
3		1	3
V6	. . .	they wanted a WIREless/ over the . SHOT/ . for the old PEOPLE/ to hear the	
<u>A: . . . they wanted a wireless over the . Shot . for the old people to hear the</u>			
1		3	
V1	FIGHT/ . . .	so I w~was insisting NOW that if they/ had the wireless over there	
1		3	3
V2	FIGHT/ . . .	so I w~was insisting NOW/ that if they had the wireless over THERE/	
1		2	3
V3	FIGHT/ . . .	so I w~was inSISTing now/ that if they had the wireless Over there/	
1		2	3
V4	FIGHT/ . . .	so I w~was inSISTing NOW/that if they had the WIREless over there/	
1		3	2
V5	FIGHT/ . . .	so I/ w~was inSISTing/ NOW/ that if they had the wireless over there	
1		1	3
V6	FIGHT/ . . .	so I w~was inSISTing/NOW/that if they had the wireless over THERE/	
<u>A: fight . . . so I w~was insisting now that if they had the wireless over there</u>			

1
V1 I wanted to hear the fight/ . . and there was no children . . really Tom

1
V2 I wanted to hear the fight/ . . and there was no children . . really Tom

2 3
V3 I wanted to hear the fight/ . . and there was no CHILdren/ . . really Tom

1 3
V4 I wanted to hear the fight/ . . and there was no CHILdren/ . . really Tom

1 2
V5 I wanted to hear the fight/ . . and there was no CHILdren/ . . really Tom

1 0
V6 I wanted to hear the fight/ . . and there was no CHILdren/ . . really Tom

A: I wanted to hear the fight . . and there was no children . . really Tom

1 3
V1 Evans was . . was a strict SECretary of the CLUB/ . . and the only way they

3 3
V2 Evans/ was . . was a strict secretary of the CLUB/ . . and the only way they

2 2 3
V3 Evans was/ . . was a strict SECretary of the CLUB/ . . and the only way they

3 2 3
V4 Evans was/ . . was a strict SECretary of the CLUB/ . . and the only way they

3 2 3 3
V5 Evans/ was/ . . was a strict SECretary/ of the CLUB/ . . and the only WAY/ they

0 1 3
V6 Evans was/ . . was a strict SECretary/ of the CLUB/ . . and the only way they

A: Evans was . . was a strict secretary of the club . . and the only way they

V1 could have that wireless was allowing me in . . in the club to hear the

3 1 3

V2 could have that WIREless/ was allowing me IN/ . . in the CLUB/ to hear the

3

V3 could have that WIREless/ was allowing me in . . in the club to hear the

3

V4 could have that WIREless/ was allowing me in . . in the club to hear the

3 1 3

V5 could have that WIREless/ was allowing me IN/ . . in the CLUB/ to hear the

3 0 3

V6 could have that WIREless/ was allowing me IN/ . . in the CLUB/ to hear the

A: could have that wireless was allowing me in . . in the club to hear the

1 4

V1 FIGHT and erm~and erm/. ONLY the fight mind/ once the fight was over I had

1 3 3

V2 FIGHT/and erm~and erm . only the FIGHT mind/ once the fight was Over/ I had

1 3

V3 FIGHT/and erm~and erm . only the FIGHT mind/ once the fight was over I had

1 2 3 3

V4 FIGHT/and erm~and erm . ONLY the FIGHT mind/once the fight was Over/ I had

1 0 3 3

V5 FIGHT/and erm~AND erm/. only the FIGHT mind/ once the fight was Over/ I had

1 2 3

V6 FIGHT/and erm~and erm/ . ONLY the fight mind/ once the fight was Over/ I had

A: fight and erm~and erm . only the fight mind once the fight was over I had

3

V1 to come OUT/ . .

1

V2 to come OUT/

1

V3 to come OUT/

2

V4 to come OUT/

3

V5 to come OUT/

3

V6 to come OUT/

A: to come out . .

3. Excerpt from PORTH 10

	3		4		
V1 . . when I . <u>lived</u> in Pen <u>RHYS</u> / . . I <u>worked</u> on the <u>door</u> of the Com <u>MUN</u> ity					
	3		1		
V2 . . <u>when</u> I . <u>lived</u> in Pen <u>RHYS</u> / . . I <u>worked</u> on the <u>door</u> of the Com <u>MUN</u> ity					
	3		2		
V3 . . <u>when</u> I . <u>lived</u> in <u>PEN</u> rhys/ . . I <u>worked</u> on the <u>door</u> of the Com <u>MUN</u> ity					
	2	3	2		
V4 . . when I . <u>LIVED</u> in Pen <u>RHYS</u> / . . I <u>worked</u> on the <u>door</u> of the Com <u>MUN</u> ity					
	0	3	0	1	
V5 . . when I / . <u>lived</u> in Pen <u>RHYS</u> / . . I <u>WORKED</u> on the/ <u>door</u> of the Com <u>MUN</u> ity					
	0	1	3	0	1
V6 . . <u>WHEN</u> I / . <u>LIVED</u> in/Pen <u>RHYS</u> / . . I <u>WORKED</u> on/the <u>door</u> of the Com <u>MUN</u> ity					
A: . . when I . lived in Penrhys . . I worked on the door of the Community					
I:	yes				
			4		
V1 Centre up there you know on a part/ <u>TIME</u> basis like/ . . and <u>got</u> to m~meet a					
	3		3		
V2 <u>Centre</u> up there/ you <u>KNOW</u> /on a <u>part-time</u> <u>BA</u> sis like/ . . and got to m~meet a					
	3		3		
V3 <u>Centre</u> up <u>there</u> / you <u>KNOW</u> /on a <u>part-time</u> <u>BA</u> sis like/ . . and <u>got</u> to m~meet a					
	3		3		
V4 <u>Centre</u> up there/ you <u>KNOW</u> /on a <u>part-time</u> <u>BA</u> sis like/ . . and got to m~meet a					
	3		3		
V5 Centre up there/ you <u>KNOW</u> /on a <u>part-time</u> <u>BA</u> sis like/ . . and got to m~/meet a					
			3		
V6 Centre up there/ you know on a <u>part-time</u> <u>BA</u> sis like/ . . and got to m~meet a					
A: Centre up there you know on a part-time basis like . . and got to m~meet a					

	0		4	
V1	lot of the . local COUNcillors	and . you know . .	ceLEbrities	came there
	3	3	3	
V2	lot of the . local COUNcillors/and . you KNOW/ . .	celebrities	CAME	there
	3	3	3	
V3	lot of the . local COUNcillors/and . you KNOW/ . .	celebrities	CAME	there
	2	0	3	2 3
V4	LOT of the/ . local COUNcillors and/ . you KNOW/ . .	ceLEbrities	CAME	there
	0	3	3	3
V5	lot of THE/ . local COUNcillors/ and/ . you KNOW/ . .	celebrities	CAME	there
	0	0	3	3
V6	lot of THE/ . local COUNcillors and/ . you KNOW/ . .	celebrities	CAME	there
<u>A: lot of the . local councillors and . you know . . celebrities came there</u>				

	4			
V1	like and he was/ always there	on offICial functions	you know/	George
		3	3	
V2	like/ and he was always there	on official FUNcTions/you	KNOW/	George
		3	3	3
V3	like/ and he was always there	on official FUNcTions/ you	KNOW/	GEORGE
	2	3	3	
V4	like/ and he was ALways there	on/official FUNcTions/ you	KNOW/	George
		3	3	3
V5	like/ and he was always there	on official FUNcTions/ you	KNOW/	GEORGE/
		3	3	0
V6	like/ and he was always there	on official FUNcTions/ you	KNOW/	GEORGE
<u>A: like and he was always there on official functions you know George</u>				

	3		1
V1	would . . shake <u>HANDS</u> with him and say how are <u>you</u> your/ <u>typical</u> r~ <u>REal</u>		
	3		
V2	would . . shake <u>HANDS</u> with him/ and say how are you/ your <u>typical</u> r~ <u>real</u>		
	3	3	1 1
V3	would/ . . <u>shake</u> <u>HANDS</u> with him/ and say <u>HOW</u> are you/your <u>TYPical</u> / r~ <u>REal</u>		
	3	3	1 1
V4	would . . shake <u>HANDS</u> with him/ and say <u>how</u> are <u>YOU</u> / your <u>TYPical</u> / r~ <u>REal</u>		
	3		1 1
V5	would/ . . shake <u>HANDS</u> with him/ and say <u>how</u> are you your <u>TYPical</u> / r~ <u>REal</u>		
	3		1 1
V6	would/ . . <u>shake</u> <u>HANDS</u> with him/ and say how are you your <u>TYPical</u> / r~ <u>REal</u>		
<u>A: would . . shake hands with him and say how are you your typical r~real</u>			

	3		
V1	Welshman <u>isn't</u> he you know/ <u>real</u> <u>Welsh</u> <u>SPOken</u> erm/		
	3	3	
V2	<u>WELSH</u> man/ <u>isn't</u> he you <u>KNOW</u> / <u>real</u> <u>Welsh</u> <u>spoken</u> erm		
	2	3	3
V3	<u>Welsh</u> man/ <u>ISn't</u> he/ you <u>KNOW</u> / <u>real</u> <u>WELSH</u> <u>spoken</u> /erm		
	1	3	2
V4	<u>Welsh</u> man/ <u>ISn't</u> he/ you <u>KNOW</u> / <u>real</u> <u>Welsh</u> <u>SPOken</u> erm		
	4	3	
V5	Welshman/ <u>ISn't</u> he you know/ <u>real</u> <u>Welsh</u> <u>SPOken</u> erm/		
	3	0	
V6	Welshman/ isn't he you <u>KNOW</u> / <u>real</u> <u>Welsh</u> <u>SPOken</u> erm/		
<u>A: Welshman isn't he you know real Welsh spoken erm</u>			

Appendix 14

Auditory Analyses of Three Extracts by Six Intonationalists:

SUMMARISED FINDINGS

Task 1 : dividing the utterances into intonation units (e.g. tone-units / tone-groups)

DATA		Volunteers				
Extract	V1	V2	V3	V4	V5	V6
One	9	10	10	13	17	14
Two	8	14	12	14	24	20
Three	8	13	17	17	21	18
TOTAL	25	37	39	44	62	52

Range	
V1 - V6	V1 - V4
9 - 17	9 - 13
8 - 24	8 - 14
8 - 21	8 - 17

IUs agreed		
By 4Vs	By 5Vs	By 6Vs
8	6	2
8	0	0
7	2	0
23	8	2

Task 2 (a) Underline all syllables you consider to be 'prominent' or 'salient' in each intonation unit.

V1	No. of saliences	27	34	22
	Words per salience	2.67	2.59	3.27
V2	No. of saliences	26	45	36
	Words per salience	2.77	1.96	2
V3	No. of saliences	32	42	36
	Words per salience	2.25	2.1	2
V4	No. of saliences	34	39	34
	Words per salience	2.12	2.26	2.12
V5	No. of saliences	24	37	30
	Words per salience	3	2.38	2.4
V6	No. of saliences	22	28	28
	Words per salience	3.27	3.14	2.57

Extract	V1			V2			V3		
	Nuclear	Other	TOTAL	Nuclear	Other	TOTAL	Nuclear	Other	TOTAL
One	11	16	27	10	16	26	11	21	32
Two	9	25	34	14	31	45	13	29	42
Three	9	13	22	12	24	36	17	19	36
TOTAL	29	54	83	36	71	107	41	69	110
Extract	V4			V5			V6		
	Nuclear	Other	TOTAL	Nuclear	Other	TOTAL	Nuclear	Other	TOTAL
One	16	18	34	17	7	24	14	8	22
Two	17	22	39	22	15	37	19	9	28
Three	20	14	34	18	12	30	18	10	28
TOTAL	53	54	107	57	34	91	51	27	78

Task 2 (b) *Circle any of these ‘prominences’ / ‘saliences’ which you consider to be a ‘nucleus’ or ‘tonic syllable’.*

DATA	Volunteers					
Extract	V1	V2	V3	V4	V5	V6
One	11	10	11	16	17	14
Two	9	14	13	17	22	19
Three	9	12	17	20	18	18
TOTAL	29	36	41	53	57	51

Range	
V1 - V6	V1 - V4
10 - 17	10 - 16
9 - 22	9 - 17
9 - 20	9 - 20

Task 3 **Label the ‘tones’ found in each intonation unit.**

Volunteer	Extract	Level	Falling	Rising falling	Rising	Falling rising	TOTAL
V1	one		4(2*)	1	6(2*)		11
	two		5(1*)		3(1*)	1	9
	three	1	1		3	4	9
	TOTAL	1	10	1	12	5	29
V2	one	2	2	1	5		10
	two		6		8		14
	three		1		11		12
	TOTAL	2	9	1	24	0	36
V3	one		4(1*)	2	5(1*)		11
	two		4	4	5		13
	three		2	2	13		17
	TOTAL	0	10	8	23	0	41
V4	one		7(2*)	2(1*)	7(3*)		16
	two		4	4(3*)	9(3*)		17
	three	1	3	6	10		20
	TOTAL	1	14	12	26	0	53
V5	one	3	5	1	8		17
	two	1	5	3	13		22
	three	3	3		11	1	18
	TOTAL	7	13	4	32	1	57
V6	one	1	8		5		14
	two	3	6	1	9		19
	three	6	4		8		18
	TOTAL	10	18	1	22	0	51

(Asterisk* indicates that V marked a double ‘nucleus’ in the tone-unit concerned)

4. *Rising-Falling tones marked by the Intonationalists*

EXTRACT ONE

'half'	Rising	Rising	Rising	Rising	Rising	Rising
'Ferndale'	Rising-falling	Falling	Falling	Falling	Falling	Falling
'Maerdy'	Rising	Rising	Rising	Rising	Rising	Rising
'bath'	Rising	Level	Rising-falling	Falling	Rising	Falling
'that [pit]'	Rising	Rising	Rising	Rising	Rising	Rising
'fire'	Falling	Rising-falling	Rising-falling	Rising-falling	Rising	Falling
'clean'	Falling	Falling	Falling	Falling	Falling	Falling
'[the] pit'	Falling	Level	Falling	Falling	Falling	Falling
'[you]see'	Rising	Rising	Rising	Rising	Rising	Rising

EXTRACT TWO

'Shot'	Falling	Falling	Falling	Falling	Level	Falling
'fight' (line 2)	Falling	Falling	Falling	Falling	Falling	Falling
'I' [wanted]	Falling	Falling	Rising-falling	Falling	Falling	Falling
'club'	Rising	Rising	Rising	Rising	Rising	Rising
'fight' (line 5)	Falling	Falling	Falling	Falling	Falling	Falling
'out'	Rising	Falling	Falling	Rising-falling	Rising	Rising

EXTRACT THREE

'Community'	Falling-rising	Falling	Rising-falling	Rising-falling	Falling	Falling
'councillors'	Level	Rising	Rising	Level	Rising	Level
'hands'	Rising	Rising	Rising	Rising	Rising	Rising

Appendix 15

H- Peak Alignment Relative to Onset of Stressed Vowel

(Prosodic transcripts can be seen in Appendices 17-19.
Acoustic Records [of some of the profiles] in Appendices 20-23)

KEY

[V0]	=	onset of stressed vowel
[C1]	=	onset of consonant after stressed vowel
[CC1]	=	onset of 2nd consonant of a C1 cluster
[V1]	=	onset of succeeding vowel
[C2]	=	onset of consonant after it
[V2]	=	onset of third vowel
[C3]	=	onset of consonant after it
[H]	=	H-level peak after stressed syllable
[L]	=	L-level bottom point after H-level peak
ms	=	milliseconds

1. rises & rise-falls (single syllable)

Extract	accent	profile	alignment	
Treherbert 1	<u>won</u>	L*+H%	[H] = 218ms	[C1] = 77ms
Treherbert 5	<u>Tom</u>	L*+H	[H] = 165ms	[C1] = 152ms
" "	<u>Glyn</u>	H*+H	[H] = 138ms	[C1] = 71ms
" "	<u>Nash</u>	H*+H%	[H] = 86ms	[C1] = 150ms
Maerdy 1.	<u>I</u>	H*+H	[H] = 102ms	[C1] = 123ms
" "	<u>Ferndale</u>	H*+H+L%	[H] = 104ms	[L] = 182ms [C1] = 197ms
" "	<u>bath</u>	H*+H%	[H] = 106ms	[C1] = 115ms
" "	<u>clean</u>	H*+H+L%	[H] = 130ms	[L] = 190ms [C1] = 197ms
" "	<u>pit</u>	H*+H%	[H] = 47ms	[C1] = 79ms
" "	<u>see</u>	H*+H%	[H] = 76ms	[C1] = 98ms
Maerdy 8	<u>pound</u>	H*+H%	[H] = 122ms	[C1] = 103ms [CC1] = 166ms
Maerdy 9.	<u>they</u>	H*+H	[H] = 119ms	[C1] = 138ms
" "	<u>no</u>	H*+H	[H] = 112ms	[C1] = 148ms
" "	<u>club</u>	H*+H%	[H] = 92ms	[C1] = 99ms
" "	<u>out</u>	H*+H%	[H] = 76ms	[C1] = 87ms

2. rises & rise-falls (polysyllable)

Extract	accent	profile	alignment
Treherbert 1	<i>supporter</i>	L*+H	peaks 10ms into [V1]
" "	<i>Cardiff</i>	L*+H%	peaks 28ms into [V1]
" "	<i>Cardiff</i>	L*+H%	peaks 62ms into [V1]
" "	<i>remember</i>	H*+H	peaks 26ms into [V1]
" "	<i>Birmingham</i>	L*+H+L%	peaks during [C1= / m /], 15ms before [V1]
" "	<i>depended</i>	H*+H	peaks 11ms into [V1]
" "	<i>depended</i>	H*+H	peaks during [C1= / n /], 13ms before [V1]
Treherbert 5	<i>Colville</i>	L*+H	peaks 35ms into C2
" "	<i>Parry</i>	L*+H	peaks 68ms into [V1]
" "	<i>brothers</i>	L*+H%	peaks 71ms into [V1]
" "	<i>remember them</i>	0*+H+L%	peaks 3ms into [V1]
" "	<i>fellow</i>	L*+H	peaks with [V1] onset
" "	<i>after</i>	L*+H%	peaks 69ms into [V1]
" "	<i>Blaina</i>	0*+H	peaks during [C1= / n /], 17ms before [V1]
" "	<i>Terrace</i>	L*+H%	peaks 18ms into [V1]
" "	<i>Colville</i>	H*+H+L%	peaks with [V1] onset
" "	<i>told you</i>	H*+H%	peaks 50ms into [V1]
Maerdy 1	<i>father</i>	H*+H	peaks 20ms into [V1]
" "	<i>Maerdy</i>	L*+H%	peaks 111ms into [V1]
" "	<i>modernized</i>	H*+H+L	peaks 30ms into [V2]
" "	<i>fire</i>	H*+H%	peaks with [V1] onset
Maerdy 8	<i>percentage</i>	L*+H%	peaks 91ms into [V1]
" "	<i>money</i>	0*+H%	peaks during [C1= / n /], 20ms before [V1]
" "	<i>barely</i>	0*+H	peaks with [V1] onset
" "	<i>making</i>	L*+H	peaks 18ms into [V1]
Maerdy 9	<i>people</i>	H*+H	peaks 31ms into [V1=syllabic / l /]
" "	<i>insisting</i>	H*+H	peaks 29ms into [V1]
" "	<i>wireless</i>	L*+H	peaks during [C1= / l /], 9ms before [V1] onset
" "	<i>children</i>	L*+H%	peaks 39ms into [V1]
" "	<i>secretary</i>	L*+H+L	peaks 30ms into [V1]
" "	<i>wireless</i>	L*+H%	peaks 44ms into [V1]
" "	<i>allowing</i>	H*+H	peaks with [V1] onset
Porth 10	<i>community</i>	0*+H+L	peaks during [C1= / n /], 18ms before [V1]
" "	<i>councillors</i>	0*+H+0%	peaks 14ms into [V1]
" "	<i>celebrities</i>	L*+H+L	peaks 15ms into [V1]
" "	<i>always</i>	H*+H	peaks 13ms into [V1]
" "	<i>functions</i>	L*+H%	peaks 14ms into [C2]

3. falls

Extract	accent	profile	alignment
Maerdy 9	<i>Shot</i>	H*+L%	peaks with [V0] onset; [C1] = 130ms
" "	<i>fight</i>	H*+L%	peaks 55ms into [V0]; [C1] = 103ms
Porth 10	<i>typical</i>	H*+L%	peaks with [V0] onset; [C1] = 41ms

Appendix 16

Prosodic Transcriptions : KEY

<u>Orthographic Tier</u>	
A:	speaker A
B:	speaker B
C:	speaker C
I:	interviewer
<hr/>	
[]	overlapping speech : the less prominent speakers are bracketed
()	completely inaudible
{ }	sounds like what is contained in the brackets
<hr/>	
.	0.5 seconds (- 1.0 seconds)
..	1.0 seconds (- 1.5 seconds)
...	1.5 seconds (- 2.0 seconds)
....	2.0 seconds (- 2.5 seconds)
.....	2.5 seconds (- 3.0 seconds)
.....	3.0 seconds (- 3.5 seconds)
etc	
erm	filled pause that resembles central vowel / ɜ : /
<hr/>	
/	major demarcation, marking the end of an IP
/	minor demarcation, within an IP
<hr/>	
<u>going back</u>	underlining denotes a salient syllable
at the <i>back</i> of it	italics denote nuclear contour (the stretch from final accent to end of IP)

<u>Intonational Tier</u>		(below orthographic tier)
H		higher pitch than previous level marked
L		lower pitch than previous level marked
0		same pitch as previous level marked
(the 'previous level' may be of any speaker, but must have contributed towards 'the intonational line'; many back-channels do not do so)		
<hr/>		
↑	↓	pitch span of 3 - 6 semi-tones
↑↑	↓↓	pitch span of 7 semi-tones or more
<hr/>		
H*	H*+L	accents, and description of the accentual profile
	*	the accent pitch level most nearly aligned with the stressed syllable
	+	indicates the pitch levels that are joined into the accentual profile
<hr/>		
L*+H	↗ L*+H	second L is upstepped from the first
L*+H	↘ L*+H	second L is downstepped from the first
<hr/>		
H%	L%	final pitch level of the IP; (end of) terminal tone

<u>Miscellaneous Tiers</u>	
1.0 ; 3.5 ; 8.0 etc	pitch level used by speaker, where 0 = bottom of his range & 10 = top. <i>(these levels have only been only put in where acoustic record is available)</i>
high key ; low key	stretch over which high-key or low-key used by the speaker
<hr/>	
lento ; presto ; rall	markedly slow ; markedly fast ; slowing down
piano ; forte	markedly quiet ; markedly loud
etc	
<hr/>	
(coughs) etc	non-linguistic events

Appendix 17

Prosodic Transcription : TREHERBERT

synopsis & transcript

TREHERBERT 1

INFORMANTS:

A:	Male, 84 years old Welsh: <u>fluent</u> /some/slight/none Mother's Birth: Treherbert, Rhondda Father's Birth: Treherbert, Rhondda	B:	Male, 60 years old Welsh: fluent/some/ <u>slight</u> /none Mother's Birth: Treherbert Father's Birth: Blaenrhondda
-----------	--	-----------	---

They find a picture of Prince Charles visiting Rhondda, and identify people in the photo, e.g. politicians Annie Powell and James Griffiths.

[00.00 min - 02.00 min]

They look at a picture of the Houston actor brothers (Donald and Glyn), and a brief encounter with Donald is recalled. Next, they look at a picture of politician George Thomas, and talk about him. They find a picture of Cliff Morgan and talk about rugby - describing him as a player and saying how the rules have changed since his playing days.

[02.00 min - 04.10 min]

They talk about journeys to see Cardiff City play soccer :
(transcript)

[04.10 min - 06.20 min]

B:

	not	women/	soccer/
H		L*	H %	H*+H+L%	
				(2.5) 3 1	

B: I was a sup~a good supporter of *Cardiff*/. erm . . I used to . do

H	H	L	H**+H	H	L**+H	L	L**+H%	L**+0	H	H**+	H	L	
(2)	3	2	3	3.5	4	2	2.5	1.5	2	2	4	6	5.5

H	L*+H% L	¹ H*+H	¹ L	L*+ H%	L	H	¹ H*+	H +	L	L*+ H	L 0%
6.5	6 6.5 (5)	8 9	4	2 4.5	2.5	4	7.5	10 (8.5)	6 6.5	6	

⁴ L*+	H+	L %	L*+H%	0	H	H*+ ¹ H	⁴ L*+H	L H%	L	H*+ ¹ H	L	L*				
2.5	4	2	1.5	2.5	0	3	3.5	6.5	2.5	2	2.5	2	(3.5)	7.5	(5.5)	3

L	L*+L		H*+H%		L*		H*+H		L		L*+H%		L*+H	
	2	1.5	2		2.5		3.5	6	L	2	2.5	3		4

L	L	L*	H %	H*	H* +	L %	L	L*	H	L* %
3.5	2	(1)	3	4	5	3		2.5	3.5	2

[aye]
L L

H*	H*	L*+L	L %	H* +	L	L	H* %	L	H* + H
3.5	4	(3) 2	1.5	3.5	2.5		(3)		

$$H = \frac{L^* + H^0}{2}$$

[r a l l]

$$H \quad \overline{H^*} \quad \overline{H^* + H\%} \quad L \quad \overline{L^* + L\%}$$

[l o w k e y]

B: from the second/ . . to the first/ . . yeah/ . .
^{'H*} H L*+ H% _{L*} L*+L% H*+0%

I: . . oh aye/
H* L L%

[piano & breathy]
B: on the I can't remember/ now/ to be honest with you/ . . . but
H* 0 L L* H 'H*+ 'H% 'L*+H% L 'L*+H H H% 'L

A: (inaudible)[where did] you use to go to Cardiff/ .by train/or
'H*+H H L*+ H 'L*+H 'L*+ H% H 'H*+H% 'L

B: anyhow/ I seen Cardiff play/
H*+H+ L% H H* 'L*+ H 'L%

A: what/ . . from . from [from the station
L*+L% H 0 0 0*+ H

[low key]
B: . . by train/ aye/ [aye] [aye] . . I used to go by train/ . and walk
0 L*+H L L% L 0 0 0 'H 0*+ H 'H*+H L 'L*+H% L H*+H

A: by here/] . . aye/
H H*+H% 'H*+H%

(laughing)
B: home/ . . I used to go by train/and walk home/ that's right/ I did/
L*+L% H 0*+ H H*+ H 'L*+H% L H* 'L*+L% L L*+ 'H% H H*%

[high key] [low key & lento]
A: . . walk from Cardiff/ . . good God/
'H* H H*+H+ 'L% 'L*+L L*+L%

[high key]
B: . . aye/ I caught the bus one morning/ . .
'H*+H+L% H 'H* H 'L*+H L 0*+ H%

[rall]
B: the first bus from/ erm . . Peny~. Penygraig/ . . and it was going up/ to
L H*+H L*+H L 0 L 0 H*+H 'L*+H% 'L* H H*+H L* H

A: aye
H*H

rall] [p r e s t o] [p i a n o]
B: erm . . . taking the workers up/ you know/ . . . and I was on there/ . .
0 0 L*+H 0*+ H L% 'L H*+H% L 'H*+H 'L*+H%

[ɑ:] [ʌu:]
B: . . and I went to bed/ . . and the old man/ was shouting for me/ . . and he
L 'H* +H 'L*+H% L H H* L*+H L H*+H L L*+H% L*

(laughing)
[h i g h k e y] [p i a n o]
B: said/ Keith/ time for work/ he s~ . . . time for work/ . . yes/ . see/
H*+H% 'H*+H% 'L* H*+0% L L H* L*+L% 'L*% L*

A: (laughs)

p i a n o] [b:ed:]
B: I told him/ I'd only just gone to . bed/ . (laughs) . . so I lost my
0 L*+ H H H L*+H 0 H*+L% L H*+ H

A: [aye . aye] aye aye
H L H H L H

(l a u g h i n g)
[äi:]
B: shift/ that morning/ I'm not going to say lies/ . I'll say I lost it/ erm/
L*+H L 'L*+ 0% L H*+ 'H L 'L*+'H% L H* 0*+H L% L*+L%

A: that was . that was a dear trip/ that was/ from Cardiff/
L* 0 H*+H H*+L% L*+ H L 'L*+ 'H%

[l e n t o]
B: . . aye / . . Dieu/
L*+H*% L*+L%

[ēi:]
A: . . . I remember/ I used to catch the Ninian Park Train/ . . in the station/
H L*+ H ,L H ,L* H 0*+H L*+H ,L*+H% L H*+'H

A: by there/ [inaudible] [aye] . not
 L H*+H+L% L L H*+

[h i g h k e y]
 [ɛɪ:]

B: . . aye/ . train/ I used to go/ but not the Ninian Park Train/
 'H*+H% H*+H 'L 'L* L*+'H% L 'H* H L*+H 'L*+H 'L*+'H%

A: the Ninian Park Train/ [oh/] what did
 H 'L*+H 'L*+H H H% H*+'H% H

B: no/ . no/ . I used to go the other train/erm/
 L*+0% L*+0% H L* H H H*+H 'L L% L L

A: you go for/ there/ . about . . about one o'clock/ . like that/ from
 H* H 'L*+H% L H 0 H*+ H H*+H% 'L H*+H% L

B: yeah yeah
 H L L L

A: [inaudible] . . . the
 0

B: . . well/ the regular train/
 H H*+H+L L L%

I: what . what other train was this/ now/
 H L*+H 'L*+H 'L*+L L*+H%

A: service train/see/ [the station]
 H*+ H 'L % H*+H% L H*+H

[l o w k e y + d i m

B: . . service train/you know/ the regular/ . the regular
 L*+ H 'L % L H*+H% L H*+H+L % 0 H*+ 0

[ʌp:]

A: up . the top there/ you know/ [inaudible]
 H* 0 H*+H L % 'L H*+H%

]

[r a l l]

B: [train/] because/ I was going/ erm . . a
 L% H H* H*+H L*+H 'L*+0 L

[p r e s t o]

B: little bit early/ . . . you know what I mean/ I was going a little bit

H*+H L 'L*+H+L% H L* L*+H% L L*+H 'L*+H

[ʌ i :]

B: early/ . . . erm/ get a couple of pints/ first/

'L*+'H% 'L*+0% 'H L*+ H 'L*+H% 'L*+H%

*They resume talking about rugby and then
talk about the games they used to play them-
selves in their younger days.*

[06.20 min - 09.00 min]

TAPE ENDS

Synopsis and transcript

TREHERBERT 5

INFORMANTS

A: Male , 80 years old Welsh : fluent/ <u>some</u> /slight/none Mother's birth : Rhondda Father's birth : Rhondda	B: Male , 78 years old Welsh : fluent/ <u>some</u> /slight/none Mother's birth : Rhondda Father's birth : Rhondda
(A & B are brothers)	

They look through a number of pictures and find pictures of boxer Tommy Farr and rugby star Cliff Morgan. They talk a little about the former, then about the latter and about rugby.

[00.00 min - 1.40 min]

*They talk about local rugby teams and players and they describe how it was that their father got them to work down a coal-pit :
(transcript)*

[01.40 min - 04.00 min]

B: [lento]
... oh / well and how many
L*+H+L% 'L*+L% H 'H* 'H H

I: can you remember/ that international/
0 H*+ H L H*+ H%

B: years ago was that/... I was I~I was young/... very very young/
'L* H L* H L*+H% L*+H L H H*+H+L% H*+0 L L*+ L%

A [staccato]
... Dieu/we could go. back . further/
H*+L% 0 H* 0* H*+ H+L%

B: anyway/... aye/
H*+H+ L% 'L*+H%

C: ... no/... that was
0*+H% H L

I: yeah
L L

A: . aye/. [nineteen] fifty/ . . but I do [erm] . when we
 L*+L\% H*+ H H*+H+L\% 'L* 0 'H*+ H

B: was it/
 H*+ 'H\%

C: nineteen fifty/ oh yes/
 H*+ H H*+H\% H*+ 'L\%

A: was kids/ we used to . . Treherbert/ or Treorchy/ used to play/ . . .
 L L*+H\% L H*+ H 0 H*+ H L H*+ H 0 H*+H+L\%

B: [aye]
 0 L

[rall] [ɛɪ:]
A: where erm/ (inaudible) aye/ by the station/ by there/
 H*+H 0 0% L*+L\% H H*+ 'H\% 'L H*+H+L\%

B: . . in the Brewery Field/ [yeah]
 L H*+H+L 'L L\% 0 H

A: . . they used to play/ old {Grouton}/ and all them/ and/
 'L H 'H*+H+L\% 'L* H*+ 'H\% 'L H H*+H\% 'L*+L

B: [I re~] . I remember
 L H L*+ H

B: Cardiff/ they had {Derlay}/ of Cardiff was playing a~against/.
 'H*+ H\% 'L 0 H*+H $0*+H$ L $0*+H$ L H*+L\%

A: yeah/ . aye/ . aye/ . . aye/ .
 H*+L\% L*+L\% L*+L\% L*+L\%

B: T~Treherbert/. oh/ wonderful game it was/
 L L*+ L\% H*+L\% 'H*+ 'H+ 'L L*+ H L\%

A: (inaudible) they had
H

B: [inaudible] [oh] they'd a [good side/]
L H* L*+H%

I. Treherbert had a good side/ did they/
H H*+H L L L*+L% H* H%

[ä:]

A: talent around here/ then/. in those days/
0*+H L* L H*+H% L H*+ H%

B: [yes] .. Nick Col . Nick Colville/ was
L L L L H L*+H L
2.5 4.5 3.5 5 4.5

A: .. and/ Staley/ up here/ .. Frank
L H*+H L H*+H% L

[a:]

B: a .. full full back there/ . aye . aye
L H 0 0*+H L% L H L L
4.5 4.5 5

A: Staley/ .. Tom/
L*+H% L*+H%

B: .. and the Parry brothers/. remember them/ Tom and/ ..
L H L*+H 0*+H% L 0*+H L% L*+H L%
(3.5) 2.5 4.5 4.5 7 5.5 7 6 4 6.5 5

A: mm [R h y t h -
L L .. what was that little
L*+H L H*+L

B: Glyn Parry/ . . . (inaudible) erm/ three quarters/
L*+H L*+H% L*+H H* L*+H%
3.5 4.5 (2.5) (3) (4) (2.5)

m i c a l]

[r a l l]

A: fellow after/. erm/... from/ erm . Blaina Terrace/ ..
L*+H L*+H% L*+H% 0*+H L*+0 L*+H L*+H%

B: .. . Jack Nash/
L H*+H%
5 7 8.5

[lento] [ǎk:]
 A: no/. that little full back mun/. Colville/
¹L*+H% H H*+H L H*+H L L% H*+¹H+L%

B: . but I just told you/Nick
¹L H H*+ ¹H% L
 (2) 5 (10.5) 7.5

A: . aye/ . . . don't remember him/. erm~erm Pete/. do you/
¹L*+L% ¹H* L H*+ ¹L H*+H% ¹L 0 H*+H% H*+ L%

B: Colville/
¹H*+H+L%
 8 (10) 8.5

C: . . I
¹L

A: [aye]
 L L

B: [ǎ:]
 . . the old man/ . aye/
 H H* H*+L% ¹L*+L%

[ɑ:]
 C: don't recall {him} / but I remember the old man/
¹H* ¹L H*+ ¹L H% L H*+ H L L H*+L+H%

A: . aye/ well he's no
¹L*+H% H*+ H L L

B: no no/.
¹H* L*+L%

C: . and that's not playing football/ obviously/
 H H* L 0 H*+ L% H*+ H+ L%

A: (inaudible) . . he was a member of a Con/
 H L*+ ¹H L H*+H+L%

B: a Con/. a Con member/ he
 H H*+H% L H*+H ¹L L

A: [lento] . . . aye/ .
¹L*+¹H%

[l o w k e y & d i m]
 B: was/ . . he was a he was a . . . big member of the Con/
^{L%} ^{H* H 0 L* H 0 H*+H L 0 L L*+¹H%}

A: them were the days/
¹L* H 0*+H+¹L%

B: {aye} . . aye
^{L H H H}

I: . did you use to work/ down the
¹H*+ H L H*+H L*

A: [lento] . . yes/ [inaudible]
¹L*+¹H+L%

B: . . yes {sir}/ . . erm I spent my birthday/ in
^{L*+H+¹L%} ^{H 0 L 0* 0*+ H L}

I: mines/ . both of you/
^{H*+H%} ¹H* H L L%

[l a u g h i n g] [coughs]
 B: Fernhill Colliery/ . . . on Monday/ {four erm} . . when I was four-teen/
^{0*+ H 0*+H+ L% 0 L*+ H 0 0 H 0 H*+H+L%}

[r a l l]
 A: . aye aye/ . . . and erm/ . when I was four-teen/ . . . my father/ . .
^{H L*+H% 1}H*+ H% 0 1L*+ 1H 0 H*+H% 1L H*+H%

A: went up to school/ . . to see old Prosser/ the head-master/ . . .
¹L 0 L*+¹H% 1L 0 L*+ H% L 0 L*+ H%

[r a l l]
 A: and said/ erm/ . . I want Emlyn to finish/ now/ to go down the pits/ . . .
¹L 0* 0*+0% 0 H* L*+ H L H*+H L*+H% L H* H H*+L%

A: and/ he said/ . . old Prosser/ {oh} trainee/ . . sorry/ cause I was
^{L*+H% H* L H% L L*+ H L 0 H*+L% H*+¹H% 1L*+ H H}

[r a l l] [piano]

A: pretty good/ like/ isn't it/ see/ I'm not/ erm/ . . hinting/ . but I was
 L*+H H*+H L% H* + L% L*+H% L H* L L% L*+ 'H% 'L H

[rhythmical] [presto]

A: always up/ in the one two three area/ you know/ he was the same/
 H*+ H L*+H L 0* 0 H* L L% L L H*+H L H*+'H%

[eʃ:]

A: . . . you know/ in the examinations/ like/
 L L*+H% L H 0 H*+ H 'L L%

B: [i n a u d i b l e] I was in the~ had to do the
 'H 0*+ H L*+ H L*+ H

A: [aye]
 L H

[ʌs:]

B: eleven plus/ . you know/ . the schol~ I was in the scholarship class/
 0*+0 L*+H% L L*+L% H L 0 H*+ H L*+H+ L L*+H%

B: you know/ . . and/ the teacher/ Tom Price/ . . . he comes/
 L H*+H% 'L*+H% L H*+ H% L L*+L% H L*+H

B: to my father/ about four or five times/ over that/ asking to let me
 H L*+ H% L L H*+ H L*+ H L*+ L% H*+H L 0

A: [aye]/
 L*+L%

[ɪt:]

B: try/ but he wouldn't/ you see/ . . it's down the pits/ he's going/
 L*+H% L H H*+ H L L*+H% L H*+H H L*+H% L L*+H%

A: . . well/ we were hard up/ . hard up/ in them
 H*+H% L H*+H H*+L% H*+H H*+L% L L*+H

(laughs)

B: and that's it/ he said/
 L H*+H H*+L% L L*+L%

I: [i n a u d i b l e]

A: days / see / . . we were hard up / in them days see /
 H H% 'L H*+H H*+L% L L* H H%

B: [aye] / . hard up aye /
 L*+H% H*+H H* L L%

*They talk about the 1926 coal-strike, about
 black-legs, and about strikes in the twenties.
 A narrates stealing a lump of coal and
 avoiding detection by the police.*

[04.00 min - 07.30 min]

*They say in which collieries they worked and
 describe a tunnel that used to connect the Upper
 Rhondda with Blaengwynfi.*

[07.30 min - 09.10 min]

*They describe a trip by train to London in Oct
 1940 and the three-day week which had given
 them the free time to go. They say a little
 about their life and work as coal-miners.*

[09.10 min - 11.15 min]

TAPE ENDS

Appendix 18

Prosodic Transcription : MAERDY

synopsis & transcript

MAERDY 1

INFORMANTS

A:	Male, 57 years old	B:	Male, 83 years old
	Welsh: fluent/some/slight/none		Welsh: fluent/some/slight/none
	Mother's Birth: Maerdy, Rhondda		Mother's Birth: Caernarvon
	Father's Birth: Maerdy, Rhondda		Father's Birth: Capel Curig North Wales
(Informants are father and son.)			

*They look at a picture of a group of miners
and talk about them.*

[00.00 min - 01.40 min]

*They talk about their work at Maerdy Colliery,
the strike of 1983, the closure of the pit and
the hard times since then :*
transcript

[01.40 min - 06.20 min]

B:

.. well / .
H*+L%

I: tell me about this closure now / . from ~ . . what happened / [from the]
H H L* H , L*+L L H% H H L*+ L% H

B: well ~ . . it ~ it started in nineteen eighty / . . eighty four / . . when the ~
H L L *L*+H H L*+ H H*+ H+L% L*+ H H*+L% L 0

I: beginning /]
L*+ L%

A: the [*strike started*]/
 H H*+L L L%

B: . . when we went on the . . we went on strike to . . to erm/ try and
 0 H L*+ H L L*+ H H*+H L 0*+0 H*+H

B: save the pits/ you see/ . to keep employment/ in the village/ . and/ in the
 H*+H L L% 'L H*+H% L 0*+H 0*+ H L H*+H+L% L*+0 0

A: . . and we (inaudible)
 L*+H 0

B: valleys/ . . but unfortunately/ we lost the strike/ we were
 H*+H+L% L L*+ H H H% L H*+H L H*+H% L

[r a l l] [ä :]
 B: out for a twelve month/ but erm . . as soon as we came back/ to work/
 H*+H L L*+ 'H% L* 0 H H*+ L L L*+H L L*+H%

[l o w k e y]
 B: they had . said that erm/ they'd cut down the work force/ then/ . . I had
 'L* 0 L* H L 'H H* L L*+ H L*+H% H*+H L

A: yeah
 L L

B: to . . finish in nineteen eighty six/ . . . erm/. because . . the job
 L*+H *L+ 0 L H*+H% L+0% L 0 0 0*+H

B: that I was doing was . . no longer/ . . being . . you know/ . because
 L L*+ H L*+H L 0 L*+ H% L*+H 'L L*+ H% L

A: yeah
 L H

B: th~they were finishing the job that I was doing/ so . . they made us .
 0 H*+H+L L*+H L L H L*+H% L 0 L*+ H

[l o w k e y]
 B: redundant then/ and then they cut the workforce down/ from then/ to
 L*+ H L*+H% H L*+H H* L 0*+H L 0 H% L*+ L% H

B: two hundred and fifty men/... and in nineteen ninety-one/ I think it
 $\frac{L^* + H}{0}$ $\frac{L^*+H}{H^*+H+L\%}$ $\frac{L}{L^* + H}$ $\frac{L^* + H}{L^* + H}$ $\frac{H^*+H\%}{H}$ $\frac{L^* + H}{L^* + H}$

A: [erm] yes/. yeah/. .
 'H*+L% H*+L%

high key (cont)]
presto (cont)]
B: *was/ wasn't it Dad/ . . . they closed it altogether, like/*
0% H* + H H*+H% 'L 0* + H L*+H L* + H L L%

A: nineteen ninety/ . December/ nineteen [ninety]/
 ¹H* + H L*+ L% H H* + H L* + H L* + L%

B: $\frac{\text{nineteen } \underline{\text{ninety}}/}{\text{H}^* + \text{H} \quad \text{L}^* + \text{L}\%}$ $\frac{\text{December } \underline{\text{ninety}}/}{\text{L} \quad \text{H}^* + \text{H} \quad \text{L}^* + \text{H}\%}$

A: yes . . .

B: wasn't it/ aye/ and my father/ worked in a a

H*+H+ L% 'L*+L% H H L*+ H L* +H H L

A: well I ^[rall]erm~I ^[rall]erm~I'm going ^[lento]back/ ^[rhyth]now erm/ . . in erm . . nineteen

H H*+H +L H*+H +L H L H*+L L*+H L% 0*+0 H*+H

A: $\frac{\text{mical}}{\text{L}^*+0} \frac{]}{\text{L}^*+\text{H}\%}$. . . there were $\frac{[}{\text{H}^*+0} \frac{\text{rhythmical}}{\text{L}^*+0}$ $\frac{\text{men}}{\text{H}^*+\text{L}\% \text{L}}$ employed in $\frac{\text{Maerdy}}{\text{L}^*+\text{L}\%}$

A: [l e n t o]
and erm/ . I was erm . . on the . union/ I was a disputes agent
H*+H L % H*+H L 0 0 L*+H% L*+0 H*+H L

B: mm
L H

A: then/ . . . and then it dwindled down/ to three hundred odd/ by the
 $\text{L}^{*+}\text{H}\%$ L 0^{*+}H $\text{L}^{*+} 0$ L^{*+}H $\text{L}^{*+} \text{H}$ $\text{L}^{*+}\text{H}\%$ L L^{*+}

I: yes
 L L

A: erm eighties/ and the . nineties/ and erm/ . of course/ erm~
 L $0^{*+} \text{H}\%$ L 0 $\text{L}^{*+}\text{H}\%$ L^{*+}H $\text{H}\%$ 0 $\text{H}^{*+} \text{H}$ L

I: mm . was
 L L H

A: no/ . . well the point here
 $\text{H}^{*+}\text{L}\%$ H H^{*+}H $\text{L}^{*+}0$

B: . . no . no
 L L H H

I: that because of new technology/ or [because of]
 H^{*+} H $\text{L}^{*+} \text{H}$ L H $\text{L}^{*+} \text{H}\%$ L L

[r h y t h m i c a l]
A: . was that . . Maerdy . . I can remember Maerdy Pit/ . . the Maerdy
 L L $\text{H}^{*+} \text{H}$ $\text{L}^{*+} 0$ $\text{L}^{*+} 0$ $\text{L}^{*+} \text{H}$ $\text{L}^{*+}\text{L}\%$ H 0^{*+}H

[ĩt:]

A: Pits/ . . there was four here/ . . . I~ . I can remember them/ . closing
 $\text{H}^{*+}\text{H}+\text{L}\%$ H H^{*+}H $\text{L}\%$ H $\text{H}^{*+} \text{H}$ L $\text{L}^{*+} \text{H}$ 0 L^{*+}H

B: mm
 L L

A: down/ three times/ . . and this was the final one now/ in nine~ in
 L^{*+}H $\text{L}^{*+}0$ $\text{L}^{*+}\text{H}\%$ L H^{*+} 0 H^{*+}H L L^{*+}H L L H

A: nineteen ninety/ but erm . in the . ear~ear~early thirties/ . . . it
 $\text{L}^{*+} \text{H}$ $\text{L}^{*+} \text{H}\%$ $\text{H}^{*+} 0$ $\text{L}^{*+} 0$ $\text{H}^{*+} \text{H}$ $\text{L}^{*+} \text{H}\%$ L

B: mm
 L H

I: mm
 L L

A: closed down/. . . and even in~ in~ during the war/ . . it closed down/
 $H^{*+}H$ $H^{*+}H\%$ L $H^{*+}H$ L 0 $L^{*+}H$ $H^{*+}H\%$ L $H^{*+}H$ $L^{*+}H$

A: in October nineteen forty/. . . and then/ when nationalization come in/
 L $L^{*+}H$ L $L^{*+}H\%$ H $H^{*+}H\%$ L $H^{*+}H$ L $L^{*+}H$ L $L^{*+}H$

I: yes
 L L

[r h y t h m i c a l]

A: in nineteen forty-seven/. . . then/ this pit was re-opened/. . . and when/
 L $L^{*+}H$ $L^{*+}0$ $L^{*+}H\%$ $L^{*+}H\%$ L^{*} 0 L $H^{*+}HL^{*+}L\%$ H H^{*+}

I: yes
 L H

A: it was re-opened/. . . they give us the assurance/. . that there was a
 H L 0 $L^{*+}H\%$ L $H^{*+}H$ L $H^{*+}H+L+H\%$ L 0

[l e n t o] [w:]

A: hundred years/ . . work there/. . . and it didn't~ didn't last forty years/
 $H^{*+}H$ $L^{*+}H$ $L^{*+}H$ $L^{*+}L\%$ H 0 $H^{*+}H$ L $H^{*+}H$ $L^{*+}L\%$

B: mm
 H L

[r a l l] [r a l l]

B: oh aye/ . . and my father had to erm . finish in erm . in erm
 H $L^{*+}H\%$ H $L^{*+}H$ L^{*} H L $L^{*+}H$ L 0 L

I: (inaudible)

B: the nineteen seventies/. . because of a illness/ my mother had this
 L^{*+} H L^{*+} $H\%$ L $0^{*+}H$ $L^{*+}H\%$ L $L^{*+}H$ L^{*} 0

B: serious illness/. and he had to . . finish to . . to look after her/you see/
 $L^{*+}H$ $L^{*+}H\%$ $L^{*+}L$ $H^{*+}H$ $L^{*+}H$ L 0 H $H^{*+}H$ $L\%$ L $H^{*+}H\%$

I: ah ah
 H L H

B: ... well he was a dispute agent/ and I took over the job of dispute
 L H*+H L L* H H% L H*+H 0 L*+H , L* H L*

I: right
 L L

[low key]
 B: agent from him/... and erm/... but erm/ it~it~it~it was a~ a place/
 H H*+ H+L% 'L* H 0% H* 0 0 H*+HL 0 L*+H

I: mm
 L L

B: where~ Maerdy/ well . . we all think of our own pit as a special place/
 L L*+H+L% L*+L H H*+H L* + H , L*+H, L*+H L H*+H 0*+H%

A: . that's right/
 L H* +L%

[l e n t o]
 B: if you understand me/ .. and erm/ . th~th~the work~. . the
 L L L* + 'H% H*+H H% L 0 H 0

B: work-force there were erm~ were exceptionally good/ weren't they
 H*+H 'L L*+H L* 0 0 H*+H +L L*+H% H* + L

A: . oh/ of course they was/ . . yes/
 L*+H% L 0*+H H L*+L% H*+H+L%

[d i m i n u e n d o]
 B: Dad/ .. a good work-force/ you know/
 L*+H% L H*+H L*+H+L% L L*+H%

[ǎ i :]
 A: . . well erm/... when I was working there/ when I started work at
 H*+H L% L H*+H L L*+H H% L H , L*+ 0 L*+ 0

A: fourteen years of age/ . . there was pits every couple of . villages/
 L* + H , L*+0 L H*+H% L 0 H*+H L* +H , L*+ H 0 H+H+'L%

B: . that's right/ yeah/
0 L*+ H% L*+ L%

B:	yes
	H L

B: [inaudible]

I:	yes
	L H

[ĩt:]

A: of age/ . . . and erm/ . that's~ that's all was here/ . . there was pits

L*+L% H* L 0 0 H*+H L H*+H% L H*+H

I: [did you]
H: I

[ǎk:]

A: everywhere/ you had nowhere else/ to go to/ . there was no factories/

L* + H + L % H 0 H* + H L*+H 0 H*+H+'L% H H*+H'L* + 'H%

A: or anything like that/ here/ . . it were~ it depended on coal/ and erm/.

A: I'm afraid . . . that it's gone now/ but erm/ . . I won't see it/ I don't
 L H*+H L H*+H 'L H% , L*+H L% H*+H L H*+H% L H*+H

[ǎv:]

A: suppose/ but I'm afraid that they'll have to come back to . . . to coal
 L*+H% L* 0 L*+H L 0 H*+H+L L L* H L H*+H

A: again/
 H*+H+L%

I: . . . has~ has it gone now/ . . I mean the reserves which are
 H H*+H L*+H L H% 0 H* L*+H L

B: no . no/ . you~ you'd never be able
 L L L*+L% H H H*+H L L*+H

I: still underground/ . . are they protected/
 L* L L*+ H% 'H H*+H%

A: [no]
 L L

[ǎ:]

[lento]

B: to open/ that pit again/ . in erm~ in erm/ . in Maerdy/ . . because . the~
 L L*+H L*+0 L 0 L*+L% L 0 H* L L% 0 L*+H+L+H% L H*+H L

A: . . building up [in there]
 L*+H H* H%

[rall]

B: the amount of . water/ . . that is building up in there/ .
 0 0*+H L*+H% L 0 L*+H H* L*+H%

B: is . is . tremendous/ . . and it's more than likely that . . it would cost
 L 0 L H*+H+L% H* L*+H L 0 L*+

[rall]

B: them too much/ . anyway to reopen erm/ . that mine/
 H , L* H*+H% L*+H+L% L L*+H+L L L% L* H*+H%

I: . . well/ there's a
 L*+H% H*+H

B: *oh/* there's
H*+H% L

A: ... of course [*there is*]/
H H* H L %

B: <u>millions of tons</u> <u>left there</u>	when I <u>started to work</u>
H* + H L* + H L* L L%	H H*+H L* + L L L%
	4 4.5 7 4 3 2 1.5

B: I started at fifteen and a half . . . and I was working in the colliery.

H*+H	L*+L		L*	+L	L		H*+H%		L	H*+H	L		L*+H	L		L*+	H	
2.5	4.5	2	1.5		1	0	1	2		2	3		2	3.5	3		2	3.5

B: down in Ferndale/. . and my father/ was working in the colliery in

L*+H	0	H*+H+L%	L	H*+H	L	0*+H	L	L*+	H	L
2.5 3.5		4 6 2.5		2 3.5		3 3.5		2	2.5	

B: Maerdy/and he was having a bath/because they'd modernised that pit/

L* + 'H%	L	0* + H	L	H	L	H* + H%	L	L	H	H* + 'H+	'L	L*	H* + H%				
1	5	3	3	3.5	2.5	3	3.5	5	3.5	1.5	2	2.5	6	2	1	3	5

B: .. and I was coming home/ and still bathing in front of the fire/

⁴ L	H* + H	0* + H	H	H%	L	0	L* + H	L* + H	H* + H%				
2.5	3	4	4	4.5	5	5.5	5	4	5	4.5	5	5.5	7.5

A: yes
H L

B: . . . and/. my father was coming home/ clean/. cause he'd been

¹ L*+0%	H	L*+	H	L	0*+H	L	H	H*++H*+ ¹ L%	H*	+	H	H	
2.5	3	2	3.5		3	3.5	3	4	5	8.5	1.5	2	2.5

B: showering in the pit/ you see/

$$\begin{array}{ccccc} 0^*+ & H & & H^*+H\% & {}^1L & H^*+H\% \\ 3 & 4 & & 6.5 & 8 & (1) 2.5 & 5.5 \end{array}$$

I: . . now . why~why~why was that/ . it

$$\begin{array}{ccccccc} {}^1L & H & 0 & H^*+H & L & L\% & H \end{array}$$

A: . yes/ but~

$$H^*+H\% L$$

B: yes . they only had showers/ down

$$\begin{array}{ccccccc} L^*+H & 0 & H^*+H & L & L^*+H & L^*+ & \end{array}$$

I: was all the N C B/ then/

$$\begin{array}{ccccccc} H^*+H & L^*+H & L^*+H\% & L^*+H\% & \end{array}$$

B: in the~. the number five pit/ for the . erm . . the deputies/

$$\begin{array}{ccccccccccccccc} H & 0 & L^*+ & H & L^*+H & H\% & L^* & 0 & 0^*+L & 0 & H^*+H+{}^1L\% & \end{array}$$

[r a l l]
 B: and management/ . they didn't have no . showers for work people/ . the

$$\begin{array}{ccccccccccccccc} 0 & H^*+H+ & L\% & 0 & H^*+H & L & 0 & L^*+H & L & L^* & L\% & 0 & \end{array}$$

B: workforce/

$$L^*+ {}^1H\%$$

*They continue to talk about work in the pits,
 life as colliers and the bleak circumstances
 that have descended on Maerdy since the
 Maerdy pit closed.*

[06.20 min - 14.20 min]

TAPE ENDS

synopsis & transcript

MAERDY 8

INFORMANTS:

A:	Male: 62 year old	B:	Male: 40 years old
	Welsh: fluent/ <u>some</u> /slight/ <u>none</u>		Welsh: fluent/some/slight/ <u>none</u>
	Mother's birth: Porthmadoc		Mother's birth: Maerdy,
	N. Wales		Rhondda
	Father's birth: Aberdare, Rhondda		Father's birth: Maerdy,
			Rhondda

They see a picture of the Houston Brothers, and talk about them, about Stanley Baker, and about Tom Jones. [00.00 min - 03.20 min]

They talk about the Club, the deteriorating condition of the building, the financial problems in running it. [03.20 min - 07.40 min]

They recall the range of entertainment taking place at the club when the times were better. They talk about people's lack of money through reasons of low wages or unemployment . [07.40 min - 10.50 min]
(transcript)

A: aye
L L

B: oh about ten years ago when upst~. . when we were rich . . we'd
H*+L 0 L H*+L L*+H H% L 0 0* + H L L*+H% L

B: have three shows . . every Sunday . . erm . like an opera type singer/
H 0*+H H*+H+L% H*+H L*+ H% L H L*+ H 0 L*+ H%

B: or . . an hopeless singer I'd call them/ at the time / . . a comedian / or a
L*+0 0 L*+ 0 0 0 0 L* + H 0 L*+H% L H*+H L

B: duo/ . . and then the main group/ . or/ . main artist/ well now/ . . .
 L*+H% L L H ,L*+H H*+H% L*+H H*+H H*+H % 'L L*+H%

I: really
 L L

[rall]
 B: they . . they just . . . got their speakers/ and their . . karaoke . tapes/
 L 0 L*+H L H ,L*+H L 0 0 L*+H ,L*+H%

B: and they sing from there/ one singer/ and . you can't . .
 L H ,L*+H 0 ,L*+H H H% L L L*+H

I: yes
 L H

A: no aye
 H L 'L L

B: afford them/ can you/ so it's hard . to get a good atmosphere
 0 H*+ 'H% L*+H% L H*+H L L*+H L L*+H+ L

[piano]
 B: going/ . . so/ 'cause th~this . club used to be . . well/ .
 L*+H% 'L*+H% L* H ,L*+H 0 H L*+H%

I: . . yes/
 L*+H%

A: [every night] of the
 'L*+H ,L*+H H

B: here/ it was more or less every night of the week/ wasn't it/
 L*+H 0 L*+H ,L*+H H*+H L* 0 H*+H% L*+H+L%

A: week/ we used to have something here/
 H*+'L% L L*+ H L L*+H H%

B: [it] was full with bingo up~ . a
 L H* H L*+H H L

A: [yeah] [yes]
 L L L H

B: crowd upstairs / cause there were so many / . . balcony and all / . bingo /
 H*+ H L L*+H% L* H L L*+H% L*+ H H*+H+L% H*+ H

[low key
 B: Monday and Thursday / dance / on a Friday / . . I . can't
 L*+ H L L*+ H% L*+ H L L*+H% 'L H

I: yes
 L L

[low key] [rall]
 B: remember what was a Saturday / and . . concert on a S~Sunday /
 H*+ H L H L*+ H% L H*+ H L L*+ H %

A: and a . and a Wednesday / we used to have a show / on a Wednesday /
 L*+ H L + H L*+ H% 'L L*+ H H*+ H L H*+ H %

B: [wasn't it] / [yeah]
 H*+ H% H L

A: . aye /
 L*+H%

B: . . . and before videos come out / then we used to have films /
 L H* L*+ H H*+ H% L*+ H L H L H*+ H%

I: yes / wh~what's needed / is a bit . of . . prosperity
 L*+H% H 0 L*+ H H* 0 0 H*+H+L

A: . oh yes /
 H*+ L %

B: . oh aye / of course / . besides that / then /
 H*+ L % 0 H*+ H% L H*+ H L*+ H L %

I: around here / isn't it /
 L L % H*+ L %

B: everybody's / . either on low wages / . now / . . or on . . dole / income
 H*+ H + L L*+ H L L L*+H% L*+H% L* H*+ H L*+H% L

B: support/ or / . . invalidity/ . so/ . . they can't afford to go . . drinking/

$$\text{H}^* + \text{H}\% \text{ } ^\circ\text{L}^* + 0\% \quad \text{H} \quad \text{H}^* + \text{H}\% \quad \text{L}^* + \text{H} \quad \text{L} \quad \text{H}^* + \text{H} \quad \text{L}^* \quad \text{H} \text{ } \text{L}^* + \text{H} \quad \text{L}^* + \text{H}\%$$

A: I mean/ everywhere/ everybody's/ . . .

$$\text{H} \quad \text{H}^* + \text{H} \quad \text{H} \quad \text{L}^* + \text{H} + \text{L} \%$$

B: . . more than once a week/

$$\text{H}^* + 0 \quad \text{H}^* \quad \text{H} \quad \text{H}^* + \text{L}\%$$

I: no

$$\text{L} \quad \text{L}$$

A: nearly everybody/ around here/ there's . . there's no work/ at all/ .

$$0 \quad \text{H}^* + \text{H} + \text{L} \quad \text{L}^* + \text{H} \% \quad \text{L} \quad 0 \quad \text{H}^* + \text{H} \quad \text{L}^* + \text{H} \quad \text{H} \quad \text{H}^* + \text{H}\%$$

[ä:]

A: you've got to travel/ to have work/

$$^{\circ}\text{L} \quad \text{H}^* + \text{H} \quad ^\circ\text{L}^* + \text{H} \quad \text{H} \quad \text{H}^* + \text{H} \quad \text{L}^* + \text{L}\%$$

I: . . . what~what per~percentage/ of the

$$\text{H} \quad 0 \quad \text{L} \quad \text{L}^* + \text{H} \quad \text{L}$$

A: . . oh

$$\text{H} \quad \text{L}$$

B: . . . I don't think/ it's so much the

$$\text{H} \quad \text{H}^* + \quad \text{H} \quad \text{H} \quad \text{L}^* + \text{L} \quad \text{L}$$

$$4.5 \quad 5.5 \quad 6 \quad 7.5 \quad 6.5 \quad (4)$$

I: men are out of work/ now/

$$\text{L}^* + \text{H} \quad \text{L}^* + \text{H} \quad \text{L} \quad \text{L}^* + \text{H}\%$$

B: percentage/ . . the one's that's out of work/ . . there's not many/ on

$$\text{L}^* + \text{H} \% \quad \text{L} \quad \text{H}^* + \text{H} \quad \text{H} \quad \text{L}^* + \text{L} \quad \text{H} \quad \text{H}\% \quad 0 \quad \text{H} \quad \text{L}^* + \text{H} \quad 0$$

$$2.5 \quad 4.5 \quad 4 \quad 4.5 \quad 5.5 \quad 6.5 \quad (4) \quad 2.5 \quad 3 \quad 5 \quad 3.5 \quad 4.5$$

B: good money/ . . you know/ . erm/ . . hundred and forty/ before tax/erm

$$\text{H} \quad 0^* + \text{H}\% \quad ^\circ\text{L} \quad \text{L}^* + \text{H}\% \quad \text{L}^* + \text{H}\% \quad \text{H}^* + \text{H} \quad \text{L} \quad \text{H}^* + \text{H} \quad \text{L} \quad 0^* + \text{H}\%$$

$$5 \quad 6 \quad 2.5 \quad 2 \quad 2.5 \quad 2 \quad 2.5 \quad 3.5 \quad 4.5 \quad 3.5 \quad 3.5 \quad 3.5 \quad 4.5 \quad \text{L}$$

B: . before tax/ . . so you know/ you're . only bare~ . . barely making a

$$\text{H} \quad 0^* + \text{H}\% \quad \text{L} \quad \text{L}^* + \text{H} \quad 0 \quad \text{H} \quad \text{H} \quad \text{L}^* \quad 0^* + \text{H} \quad \text{L}^* + \text{H} \quad \text{L}$$

$$4 \quad 4 \quad 4.5 \quad 2.5 \quad 3.5 \quad 4 \quad 2.5 \quad 2.5 \quad 3 \quad 2 \quad 3$$

B: hundred pound/ . . . and some of them/ got to have a car/ to get to work/
 $\frac{H^* + 0}{1.5} \quad \frac{L^* + H\%}{2.5} \quad L \quad \frac{H^* + H}{(2.5)} \quad \frac{L^* + H}{3.5} \quad \frac{L}{2.5} \quad L \quad \frac{0^* + H}{2} \quad \frac{L}{3} \quad \frac{L^* + H}{1.5} \quad \frac{H}{3} \quad \frac{H\%}{3.5}$

B: . and/ . you know/ . so it's . . your overheads are/ . . . so high/ when
 $\frac{L^* + L}{2} \quad H \quad \frac{L^* + H\%}{3.5} \quad \frac{H^* + L}{2} \quad \frac{0}{2} \quad \frac{H^* + H}{3} \quad \frac{L^* + H}{4} \quad \frac{0}{2} \quad \frac{0\%}{2.5} \quad \frac{H}{3.5} \quad \frac{L^* + H\%}{2} \quad \frac{L}{3.5}$

I: yes
H L

B: you start work/ . . . low wages/ yes/ . . . there's one or two
 $0 \quad \frac{L}{2} \quad \frac{H^* + H\%}{2} \quad \frac{H^*}{2} \quad \frac{L^* + H\%}{2} \quad \frac{L^* + L\%}{2} \quad H \quad 0 \quad \frac{H^* + H}{2}$

I: yes
L L

B: on high wages/ but of course/ if . . if their friends/ can't afford to go
 $L \quad L \quad \frac{L^* + H\%}{2} \quad L \quad \frac{H^* + L}{2} \quad H \quad 0 \quad 0 \quad \frac{H^* + H}{2} \quad L \quad \frac{L^* + H}{2}$

B: out/ . . the~the whole atmosphere's . . gone/ the . the one's
 $\frac{H^* + H\%}{2} \quad L \quad 0 \quad \frac{L^* + H}{2} \quad \frac{H^* + H}{2} \quad \frac{L}{2} \quad \frac{L}{2} \quad \frac{L^* + L\%}{2} \quad H \quad 0 \quad \frac{0^* + H}{2}$

[p r e s t o]

B: that's making the money/ I suppose/ are the old . miners/ that's had
 $L \quad \frac{L^* + L}{2} \quad \frac{L^* + H\%}{2} \quad H \quad \frac{L^* + H\%}{2} \quad L \quad H \quad \frac{H^* + H}{2} \quad \frac{L^* + H}{2} \quad L \quad \frac{H^* + H}{2}$

B: redundancy/ and still got . . . erm/ either invalidity/ or a pension/ .
 $L \quad \frac{L^* + H\%}{2} \quad 0 \quad \frac{L^* + H}{2} \quad \frac{L^* + H\%}{2} \quad L \quad H \quad L \quad \frac{L^* + H\%}{2} \quad L \quad \frac{H^* + H\%}{2}$

B: . you know/ . . but . . the youngsters/ haven't got nothing/ have they/
 $L \quad \frac{L^* + H\%}{2} \quad \frac{L}{2} \quad 0 \quad \frac{H^* + H}{2} \quad \frac{L^* + H\%}{2} \quad \frac{H^* + H}{2} \quad 0 \quad \frac{H^* + H\%}{2} \quad \frac{L^* + H\%}{2}$

A: . . no/
 $\frac{L^* + L\%}{2}$

Talk continues about miners' pensions and the lack of job opportunities, for those wishing to work, in the Rhondda.

[10.50 min - 14.20 min]

They discuss the successive closures of collieries in Rhondda Fach, the reasons for this and about types of coal.

[14.20 min - 15.30 min]

TAPE ENDS

synopsis & transcript

MAERDY 9

INFORMANTS:

A:	Male, 67 years old	B:	Male, 69 years old
	Welsh: fluent/some/slight/none		Welsh: fluent/some/slight/none
	Mother's birth: Maerdy, Rhondda		Mother's birth: Blaenllechau Rhondda
	Father's birth: Mountain Ash, Cynon Valley		Father's birth: Tylorstown Rhondda

They find a picture of Ty Mawr Colliery and talk about some problems at the site since its closure. Then, seeing a picture of a chapel, they talk about chapel-going - in the past and present.

[00.00 min - 02.50 min]

They look at a picture of a Rhondda Fach colliery. A thinks he can identify it. He talks about his work driving tunnels in the pits. They see a picture of Cliff Morgan and talk about rugby, mentioning a famous win for Wales against Scotland in the last minute of the game. Seeing a picture of the boxer Tommy Farr, they then talk about his legendary fight with Joe Louis.

[02.50 min - 06.50 min]

*This leads to A describing how it happened that, as a child, he came to listen to that fight. They talk more about the fight :
(transcript)*

[06.50 min - 08.20 min]

A: I'm talking about . . . ex-service men now . . . and . . . they had no

H H*+H H 0 H*+H ¹L ¹L*+¹H% L*+H% H H*

I: yes

L L

A: wireless see . . . in this club . so my father was a chairman of the

H* +H+¹L ¹L L% L L*+H% L L*+H H H*+ H L

[ʌi:]
A: club at the time we had a wireless in the house . . .
L* L L*+H% 'L*+H H L*+H H H*+H+L%

I: oh yes yes
L L H L H

[presto]
A: as I say I was about ten . . . I would be ten nineteen thirty six . .
H*+H L*+H L 0 0*+H% H*+H H L*+H% L*+ H L*+H L*+L%

[forte]
A: eleven / . . and / . . they wanted a wireless over the . Shot / . for the old
HH*+L% H*+H% H*+H L H L*+H L H H*+L% L H L*+H
5 8 5.5 3 4 3.5 4 4.5 2.5 2.5 3

[ʃs:] [presto]
A: people to hear the fight / . . so I w~was insisting now / that if they had
L*+H L*+0 H*+H*+L% L H*+H L H H*+H 'L*+H% L L H H*
2.5 3 2 3 9.5 4 2 3 4.5 3 3.5 5 8.5 3.5 6 4.5 3.5 4 6.5

I: yes
L L

[presto]
A: the wireless over there / I wanted to hear the fight / . . and there was
L*+H L 0% H*+H L L L*+L L*+L% H*+H L
7 4.5 5.5 4 4 6.5 9 7 4 1.5 1 (0.5) (0) 1.5 2

[ʃk:]
A: no children / . . really / Tom Evans was . . was a strict secretary / of the
'H*+H 'L*+H% L*+H L L*+H L L 'H*+L L*+H*+L L L
5 10 6.5 7.5 4 7 4.5 4 6 4 1.5 7.5 7 4.5 9 4.5 2 (0)

B: (l a u g h s) yes [yes]
L H L H

(l a u g h -
A: Club / . . and / the only way / they could have that wireless / was allowing
H*+H% L*+0% H H*+H L*+0 L L*+H L L*+H% L L H*+H
0.5 3 2 3.5 9.5 7.5 6 5 6.5 4 6.5 5 3.5 4.5 7.5

B: yes [yes]
L H L H

i n g) [ʌ b :]
 A: me in/ . . in the club/ to hear the fight/ and erm~and erm/ . only the fight
 L L*+H% L* H L* H* H L*+L% L H L H* 0 H*+H L L*+H
 6.5 5.5 6.5 4 7 5 5.5 4.5 3.5 2.5 2 3 4 10 8 3.5 4

I: (laughs)

A: mind/ once the fight was over/ I had to come out/ . . because there was
 H H% L* H L* L L*+H L*+ H L L*+H% L L* H
 5.5 6 5 (9) 5.5 5 4 4.5 (3) 2 1.5 4

B: (laughs)

A: a strict law/ in those days/ no children in . . in clubs/ or erm .
 0*+H H*+H% L L* + H % L L* + H L 0 L*+H% L L

B: [you were you were very
 L H L H L*+H

A: (inaudible) it was religious/ like/ you know/ . . shouldn't have a child/
 H H*+H L*+L% H L*+H% L*+H L*+H

B: honoured/ . very honoured/ aye
 H*+ H+L% H*+H L L% L H

A: in the club/ . . . because they were afraid you'd have a summons/
 L H*+L+H% L L H*+ H H H*+ H+L%

B: (laughs)

[d i m]
 A: . . . and erm . that's where I heard that fight/ was in~in that club/
 L 0 H* H H*+L L L*+H% L H 0 H H*+L%

B: [yes . aye]
 H L L L

B: . . yeah/ . that was a . . he almost made it/ didn't he/ according to the
 H*+H% L L L H H*+H L*+ H% L* + H% L L*+H L

A:

B: critics/
H*÷H %

I:

A:

B: nineteen thirty si~
 $\begin{array}{cccc} \text{H}^* & + & \text{H} & \\ & & 0 & \text{H} \end{array}$

A:

B: thirty seven yes/]

$\frac{H^* + H}{L^* + L} \quad \frac{L}{L\%}$

A: fought Joe Louis/ June of nineteen thirty seven/

0* 0 L*+H% L*+H L 0*+ 0 L*+0 L*+L %

B: [i n a u d i b l e]

I:

A: . aye/ . Joe Louis took the title off Braddock/ . and . Tommy Farr/ was

B:

A: his first defence of the title

B:

A: his title up/ . . to defend it/ was against Tommy Farr/

L*+H H% L L*+ 'H% L H*+H L*+ H L*+L%

B: aye was against [Farr]/

L L 0 H*+H L*+L%

They look at a picture of Tylorstown Colliery and discuss the safety of old tips and their removal.

[08.20 min - 09.30 min]

*They look at different pictures and discuss them.
A talks about his family's move to Dagenham ;
where he remembers his father bringing home a five
pound note.*

[09.30 min - 12.00 min]

*Continuing to recall his time spent in Dagenham,
A talks about his taking of the eleven plus and
about his schooling there.*

[12.00 min - 14.00 min]

TAPE ENDS

Appendix 19

Prosodic Transcription : PORTH

synopsis & transcript

PORTH 10

INFORMANTS

A: Male , 42 years old Welsh : fluent/some/slight/ <u>none</u> Mother's birth : Ynyshir, Rhondda Father's birth : Ynyshir, Rhondda	B: Male , 42 years old Welsh : fluent/some/slight/ <u>none</u> Mother's birth : Porth, Rhondda Father's birth : Pontygwaith, Rhondda
---	---

Finding an aerial photo of Rhondda Fach: A & B identify many of the places in the photo - in some detail because A was brought up there.

[00.00 min - 04.10 min]

They look at pictures of various collieries in the Rhondda, identify them and talk further about the particular areas and their landmarks. They then try to identify people in a group photo of some miners.

[04.10 min - 08.10 min]

A picture of George Thomas sets A off on a personal recollection of him :
transcript

[08.10 min - 09.20 min]

A:	[piano]
	<u>oh</u> we <u>know</u> <u>Georgel</u> <u>aye</u> /.{ <u>uncle</u> } <u>Georgel</u>
	L*+L L H*+H L*+H% L*+H% L*+H L*+H%
(looking at picture)	
B:	<u>oh</u> we <u>know</u> <u>him</u> / <u>don't</u> [we]/
	L*+L L H* L*+H% H* H%

A: . . . aye/
L*+H%

. . . erm/. spoken to him
L*+H% 0*+0 H

I: . do you know him personally/
L H* + H H*+H H%

A: many a time/ I have/ yeah/
H*+H L L*+L H*+H% L*+0%

. well/ .
H*+L%

I: . . . what~what did he say to you/
L H* L* + L%

A: he was~he was~he was on . . a steam train/. I live right by the
H 0 H L*+H 0 H*+H L L% 0 H L* + H

A: railway line/ in Porth/ . . . and/ they run a steam train/ back a
H*+ H 'L L L*+H% L*+H 0 H H H*+H L L% L*

I: yes
L L

A: couple of years/. erm/. some historical reason/ . . . they run a
L*+ 0 L*+H% L*+0% H*+ H L*+H+L L*+H% L 0*+ H

I: yes
L 0

A: steam train/ up the Rhondda/ . . about . must have been about . three
H*+H L% H*+ H L*+ H+L% L 0 0*+ H L L H*+0

A: four years ago/. maybe longer/ . . . and/. George was on it/ . like/ _
H*+0 H* H 'L% H*+ H H*+H+'L% H*+H% 0*+ H 0 H*+H% 'L*+L%

I: yes
L L

A: and/ . I met him through . . when I w~. lived in Pen-rhys/ . .
H*+H H*+H L*+ H 0 0 H L*+0 L L H*+H%
6 8 6 5 3 3.5

I: yes
L H

[rall]

A: I worked on the door of the Community Centre up there/ you know/

0	H*+H	L	H	H*+H	L	H	0*+H+L	L	L	0*	0	L	H*+H%
6.5	7	6	6.5	7.5	8	6.5	7	7	9 (7)	3.5	2		

A: on a part-time basis/ like/ . . and got to m~meet a lot of the/ . .

L	L*+H	L	L*+H	H	H%	L	H*+H	H	0	0*+H	L*+L%		
4	3.5	4.5		5	7.5	5	5.5	6.5	7	7	9	7	5

I: [yes]

LH

A: local councillors/ and/ . you know/ . . celebrities came there/ like/

L*+H	0*+	H	0%	L*+H%	H	L*+H%	H	L*+H+L	L*	H	H*+H%			
3.5	4	5		(2)	4	3.5	4.5	5	4	5.5	3	5	7	7.5

A: and he was always there on official functions/ . you know/ George

L	H	H*+H	L*+L	0	H*+H	L*+H%	L	H*+H%	L*+H		
4.5	5	6	7	5	4.5	5.5	6	4	4.5	3.5	4

A: would/ . . shake hands with him/ and say/ how are you/ your typical/

L	H	L*+H	H	0%	L	H	H*	L%	0	H*+L%	
3.5	5	(2.5)	3	6		4.5	5	4.5	4.5	8.5	4.5

A: r~real Welshman/ isn't he/ you know/ real Welsh spoken/ erm

0	H*+H+L	L*+H+	L%	H*+H	H	L	H*+H%	H*+L	L*+H	L*+0	L	L%					
4.5	8	9	6.5	3	4	3	4.5	8	(4)	4.5	5	6.5	5.5	4.5	4.5	3.5	3

I: he

H

A: . . . no/ I'd . I'd come out on the front door/

L*+H	H	0	H*+	H	L	L	L*+H%
------	---	---	-----	---	---	---	-------

I: recognised you/ did he/

H*+H	+	L	L%	H*+H%
------	---	---	----	-------

A: and . and he happened to be looking out of the window/ of the train/

L	0	H	L*+H	0	H*+H	L	L*+H%	L	L*+H%
---	---	---	------	---	------	---	-------	---	-------

A: . . it had stopped right outside my front door like/ I live/ . just .
 L H H*+H L* + H L* 0 H*+H 'L% H H*+H 0

B: yes
 LH

(laughing)
 A: narrow street across the . . from the platform/ . . and I just went/ . .
 H*+H L*+H L* + H H H*+H+'L% H H L* L%

[h i g h k e y] (l a u g h i n g) [h i g h k e y]
 [ɔ̃j :]

A: how are you/ George/ . all right/ . . and he went/ . how's things/ boy-o/
 'H* + H% 'L*+ H% H H*+H% 'L L*+H% 'H*+H H*+L% H*+HH%

(laugh-
 A: (inaudible) you know/ . how . . just like/ as if he did/ . . he most
 'L L*+H% 'L L* H H H*+H+L% H L

B: (laughs)

ing)

A: probably/ wouldn't remember me/ from Adam/ . but erm/ .
 L*+ H L H H L*+ H H H 0*+H+'L% L*+H%

[d i m]
 A: that's the conversation we had like/ you know/ . . aye/ . so/
 L*+ H L*+ H H*+H 'L L*+L% H H*+H% L*+L% L*+L%

*They look at and discuss more pictures : of
 old collieries; of a street of terraced houses ;
 of a meeting bringing together different Welsh
 Secretaries of State; of a picture of a local
 Welsh-medium school.*

[09.20 min - 12.40 min]

*B recalls an encounter with Welsh-speaking ladies in
 a house on the mountain. Then, a picture of Lewis
 Merthyr Colliery leads to discussion of the fact that
 a shaft had recently been discovered under a tip
 being cleared ; a local football field is then talked
 about and other landmarks at the location.*

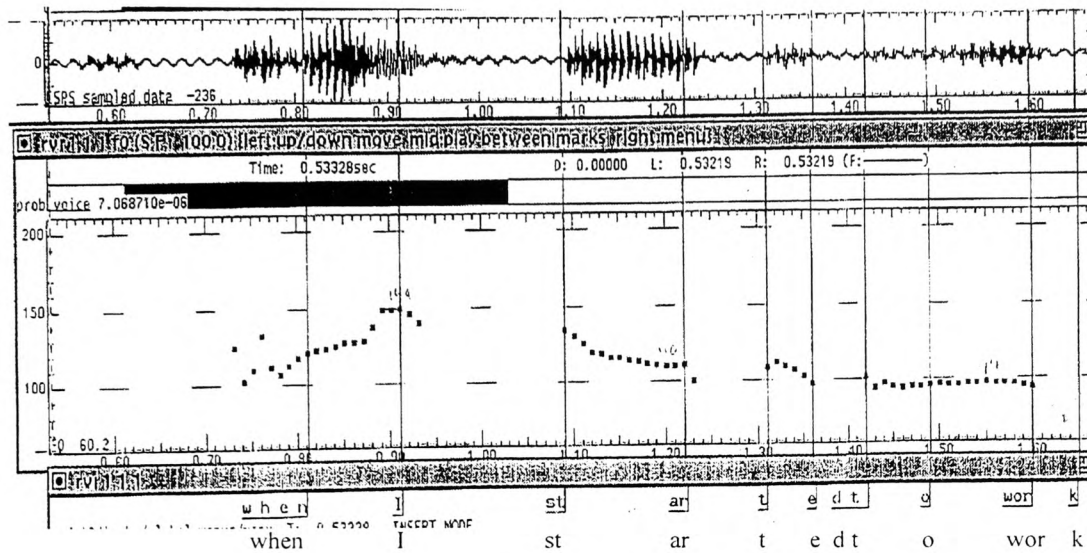
[12.40 min -16.55 min]

TAPE ENDS

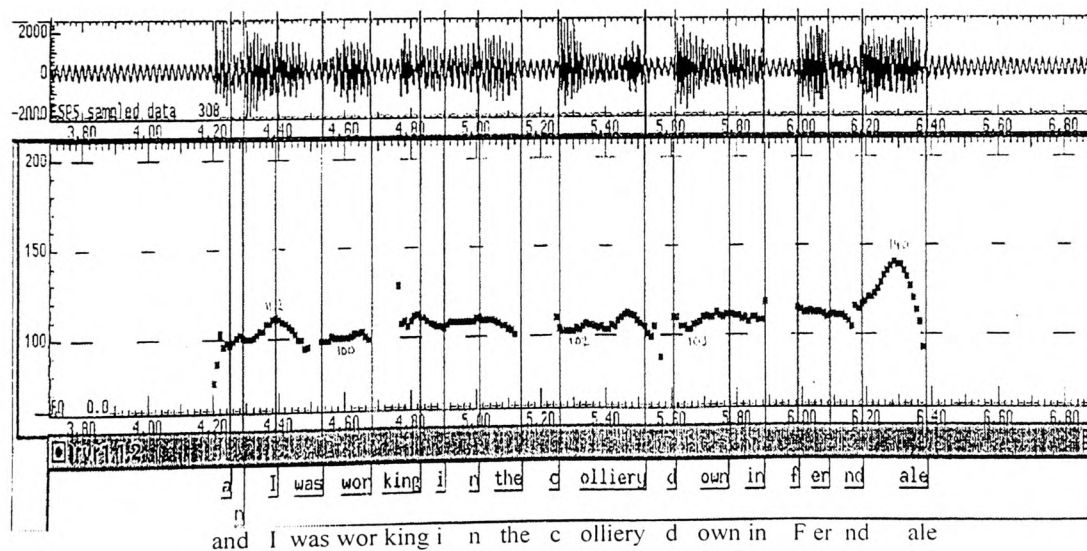
Appendix20

ACOUSTIC RECORDS OF MAERDY 1 (EXTRACT)

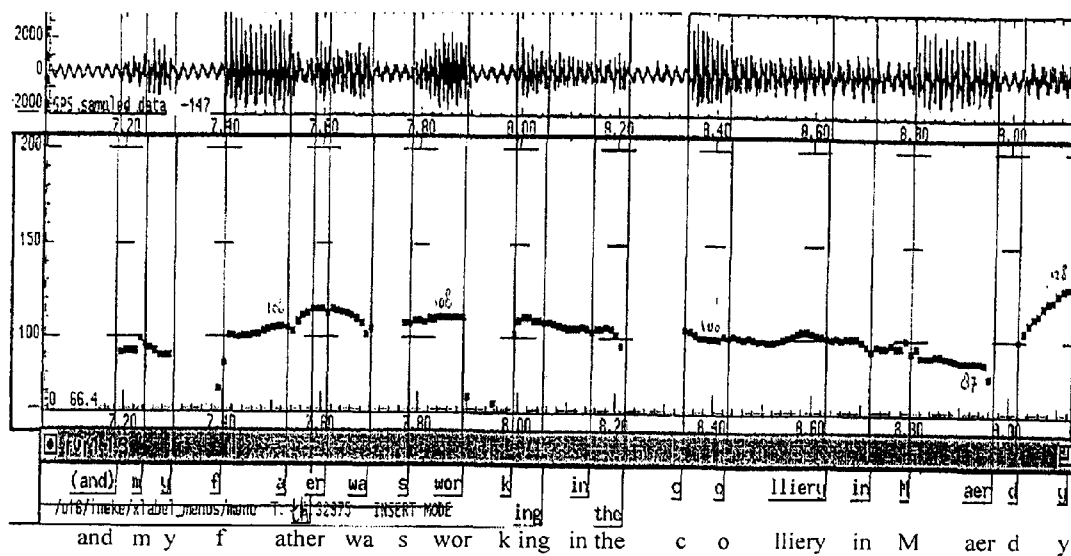
Maerdy 1.1



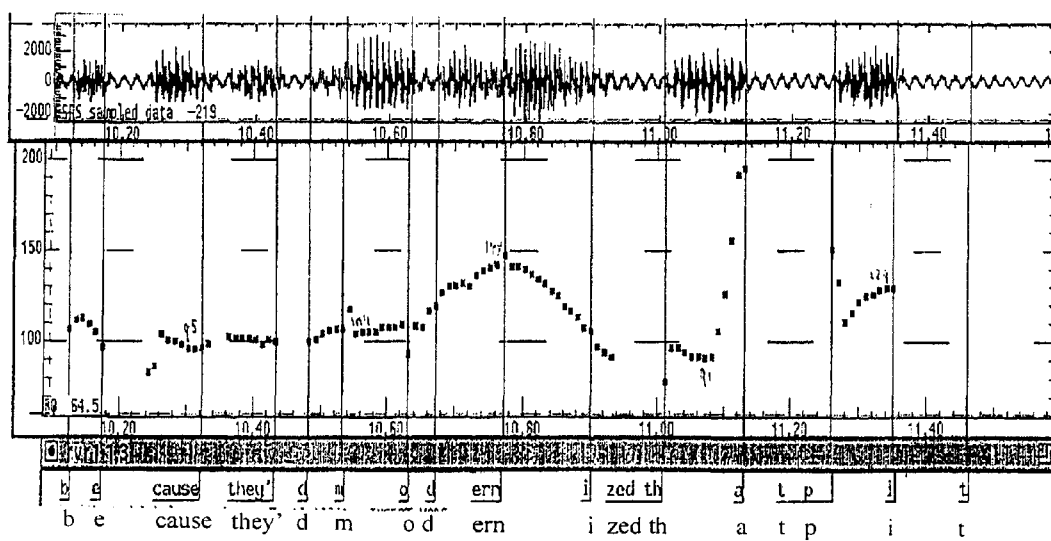
Maerdy 1.3



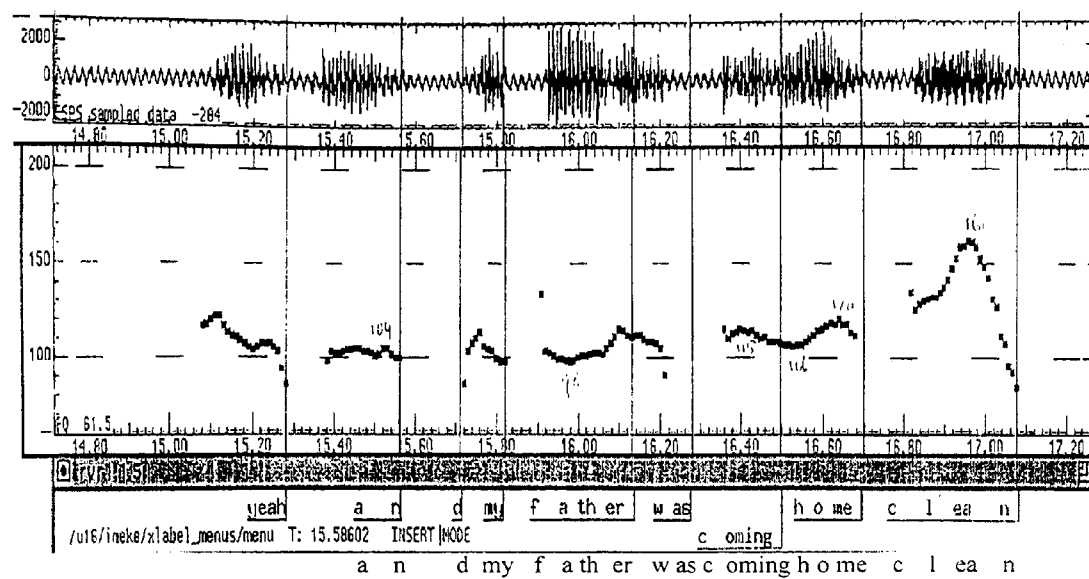
Maerdy 1.4



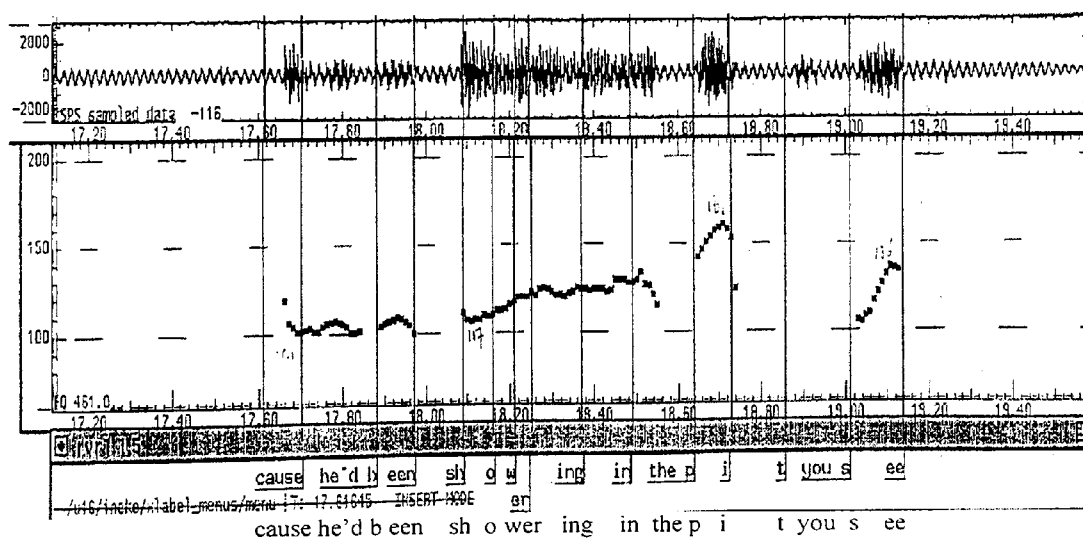
Maerdy 1.6



Maerdy 1.8



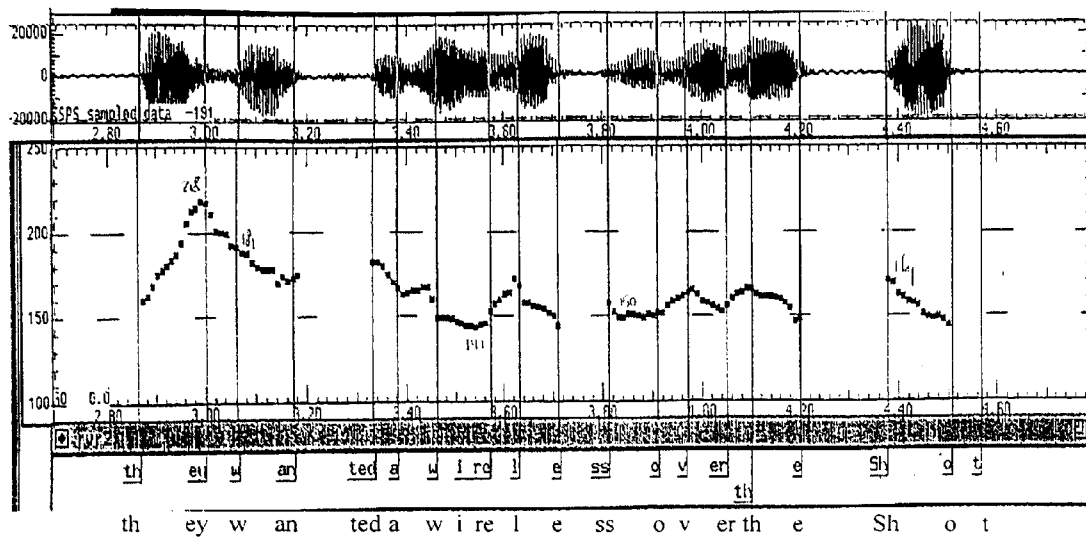
Maerdy 1.9



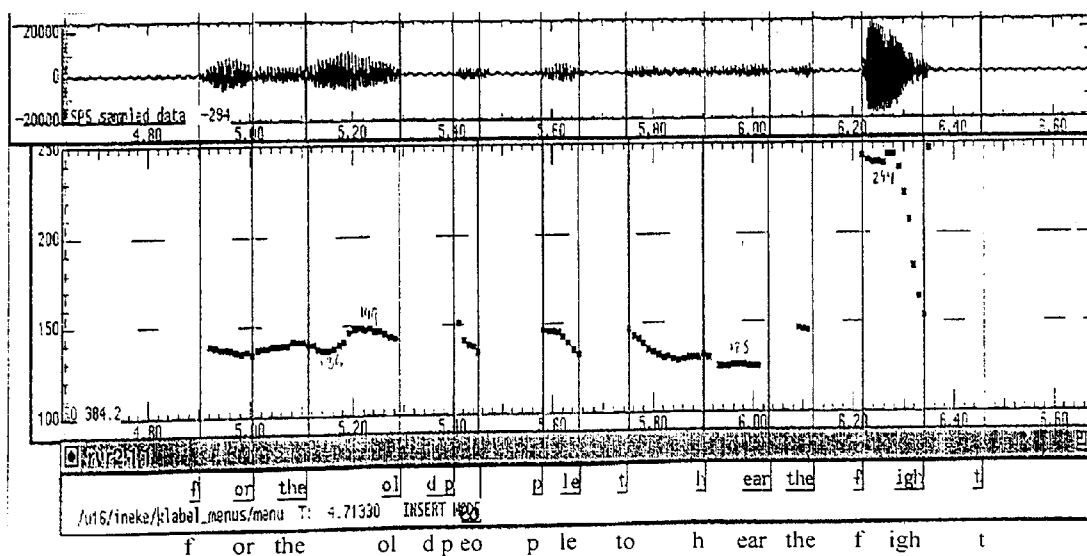
Appendix 21

ACOUSTIC RECORDS OF MAERDY 9 (EXTRACT)

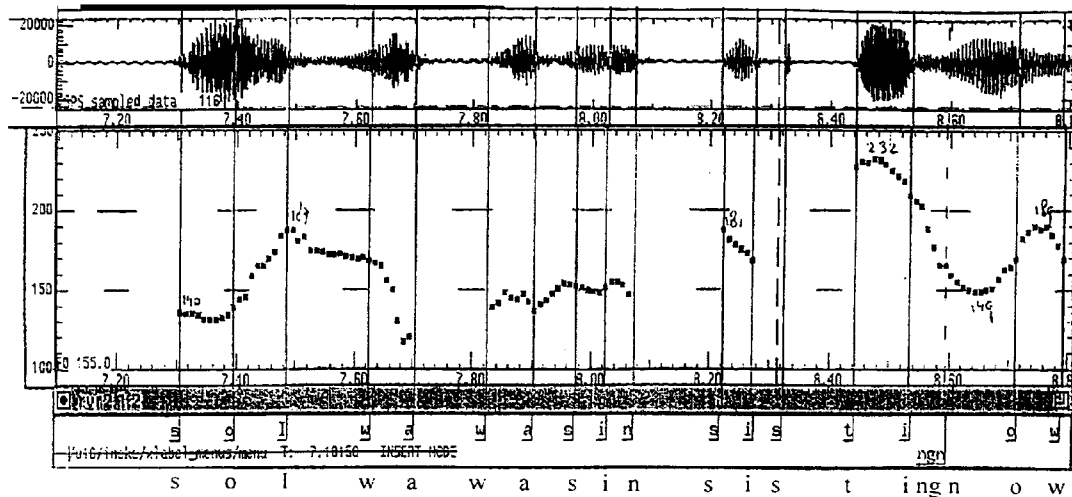
Maerdy 9.1



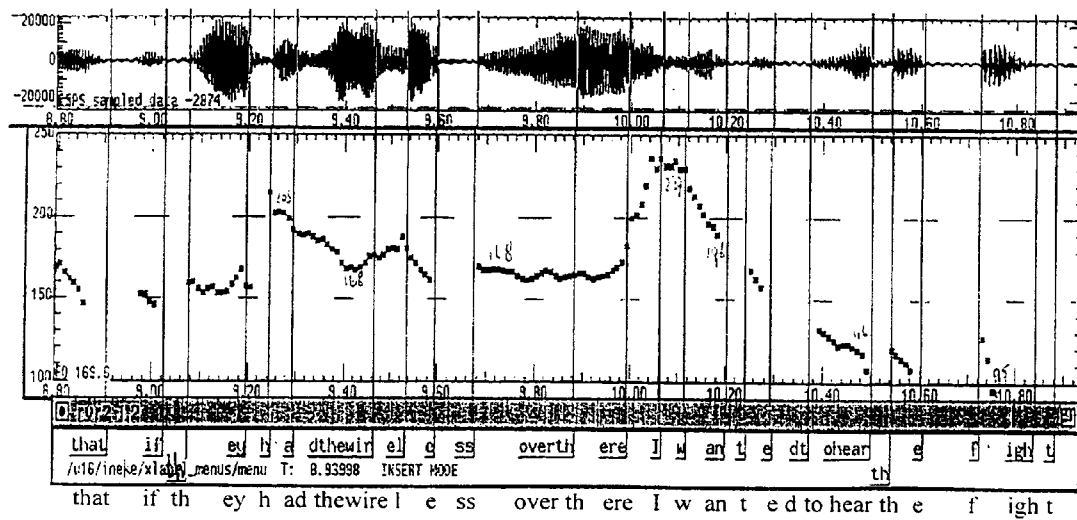
Maerdy 9.2



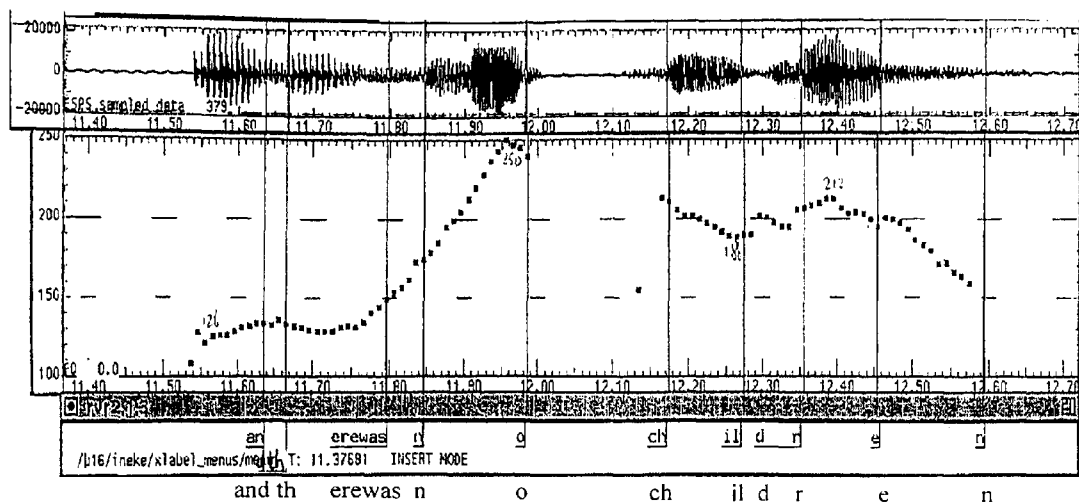
Maerdy 9.3



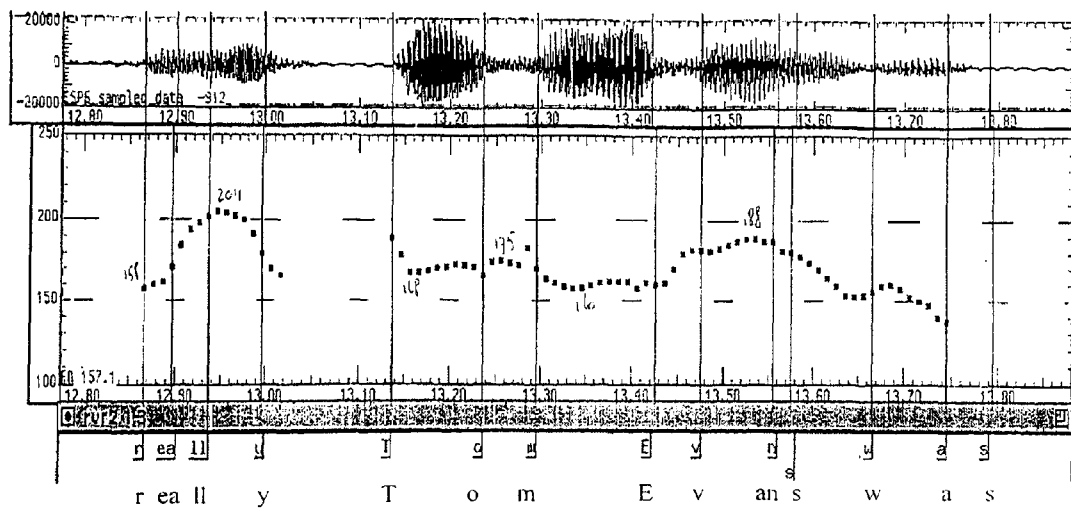
Maerdy 9.4



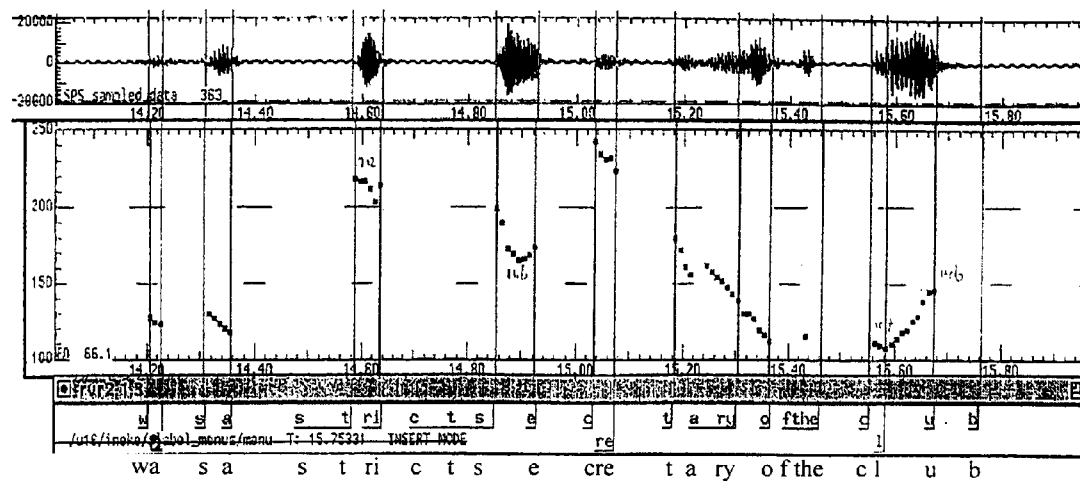
Maerdy 9.5



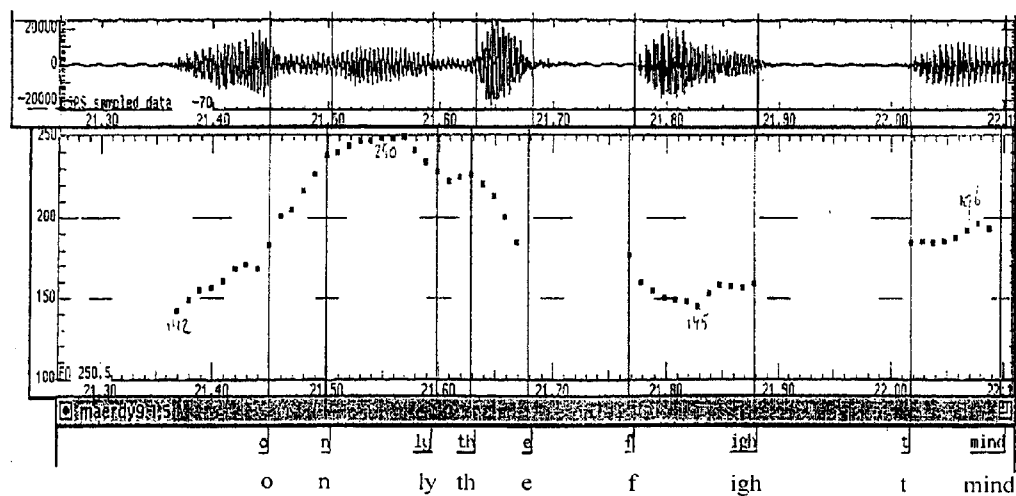
Maerdy 9.6



Maerdy 9.7



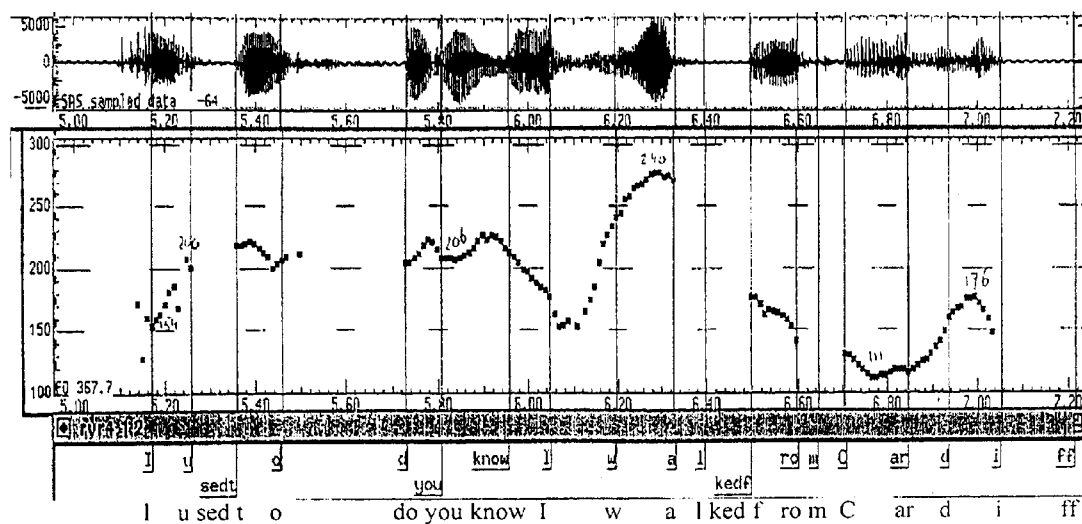
Maerdy 9.11



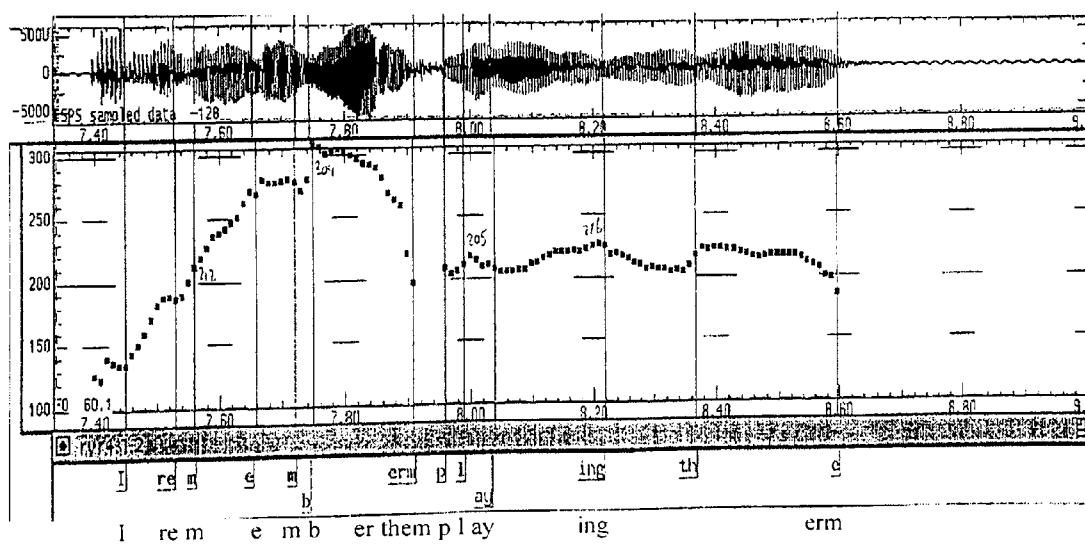
Appendix22

ACOUSTIC RECORDS OF TREHERBERT 1 (EXTRACT)

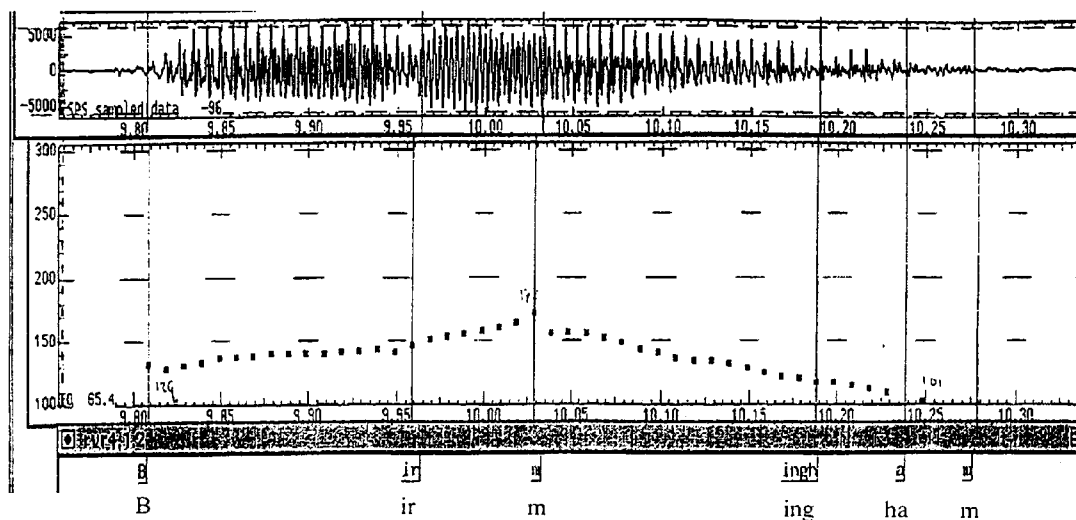
TREHERBERT 1.3



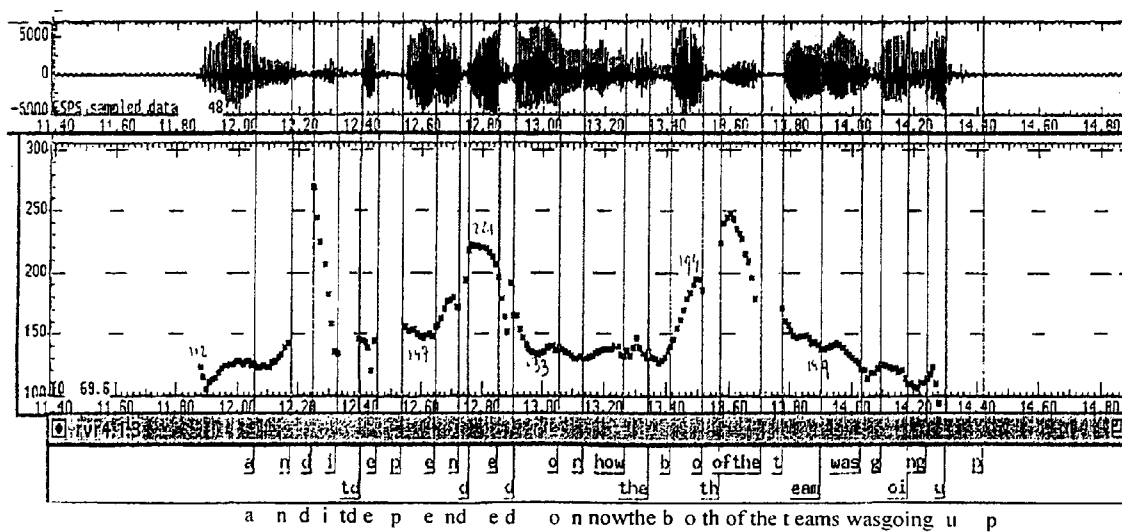
TREHERBERT 1.4



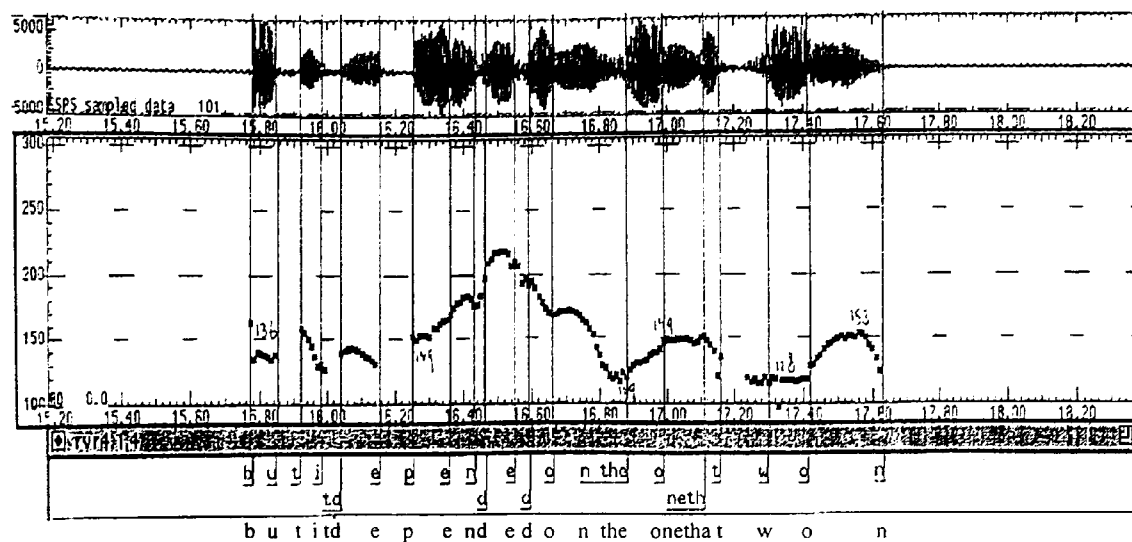
TREHERBERT 1.5



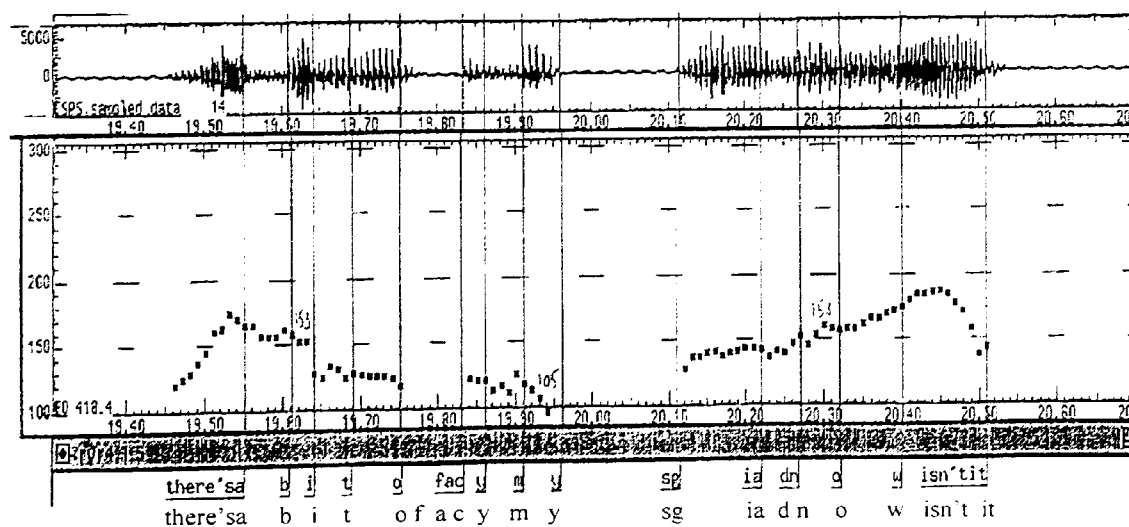
TREHERBERT 1.6



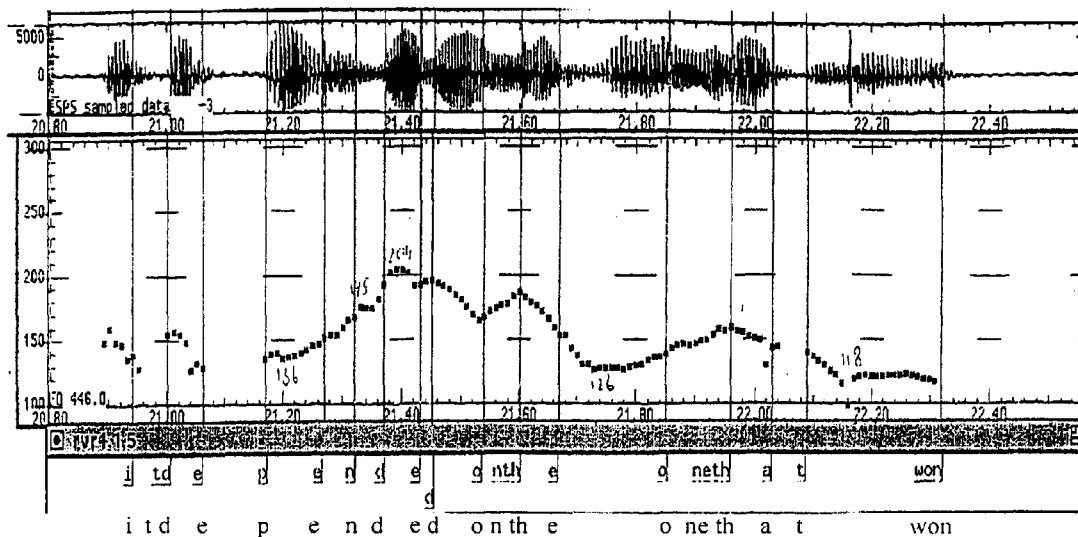
TREHERBERT 1.7



TREHERBERT 1.8



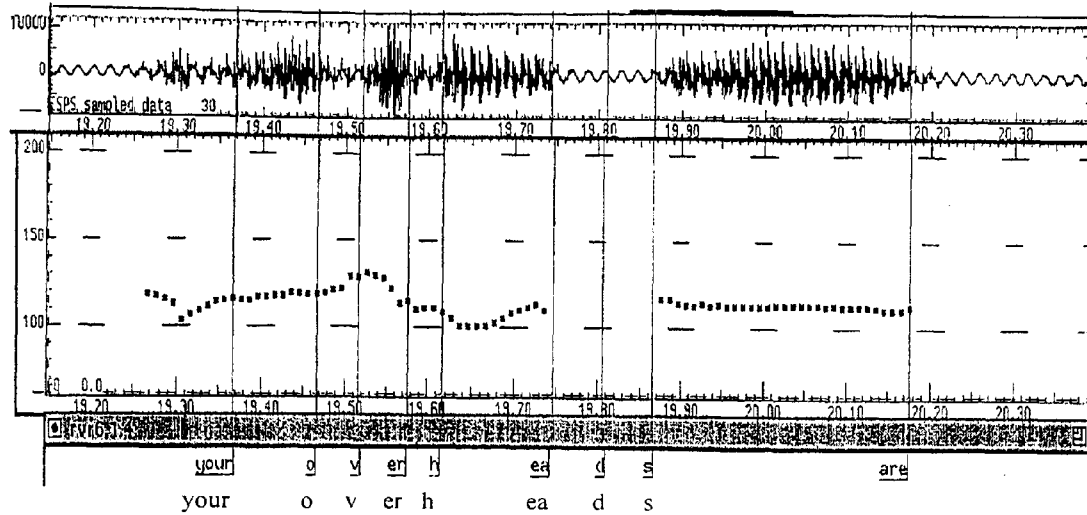
TREHERBERT 1.9



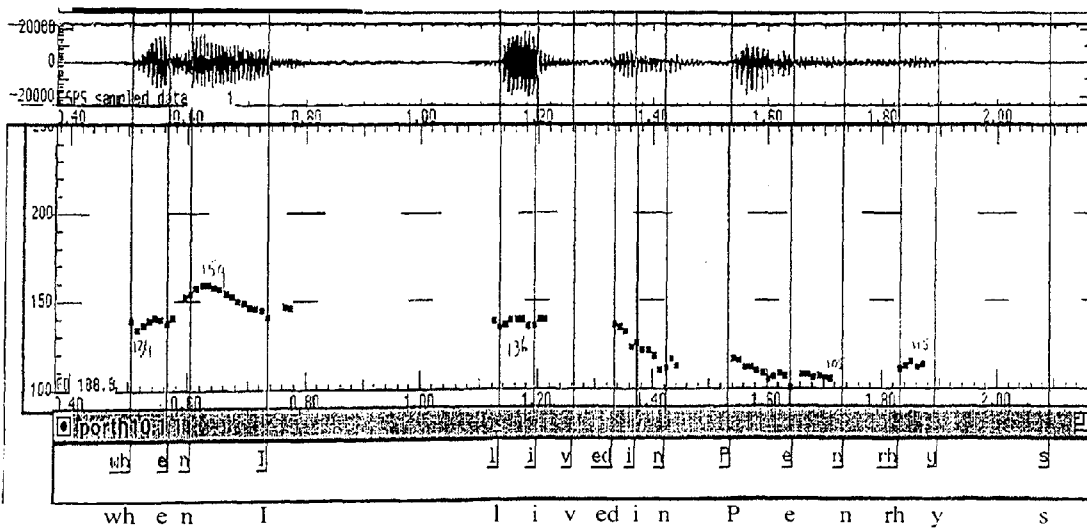
Appendix23

ACOUSTIC RECORDS : MISCELLANEOUS

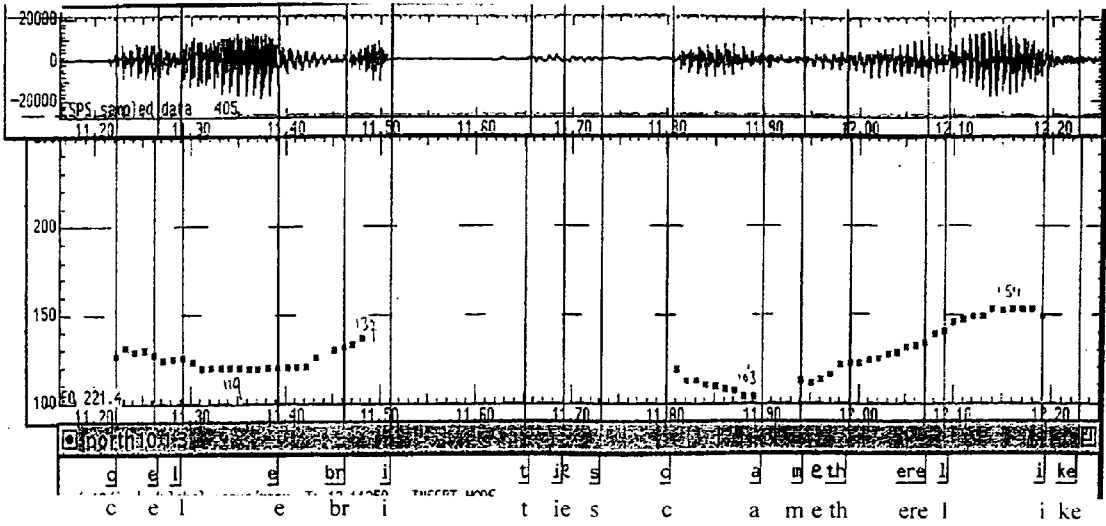
From MAERDY 8.10



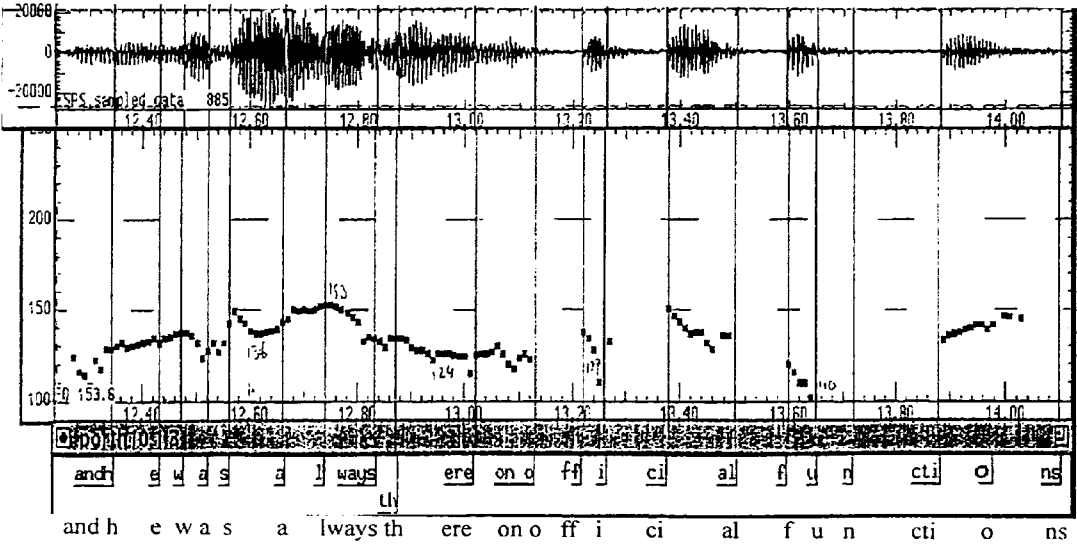
PORTH 10.1



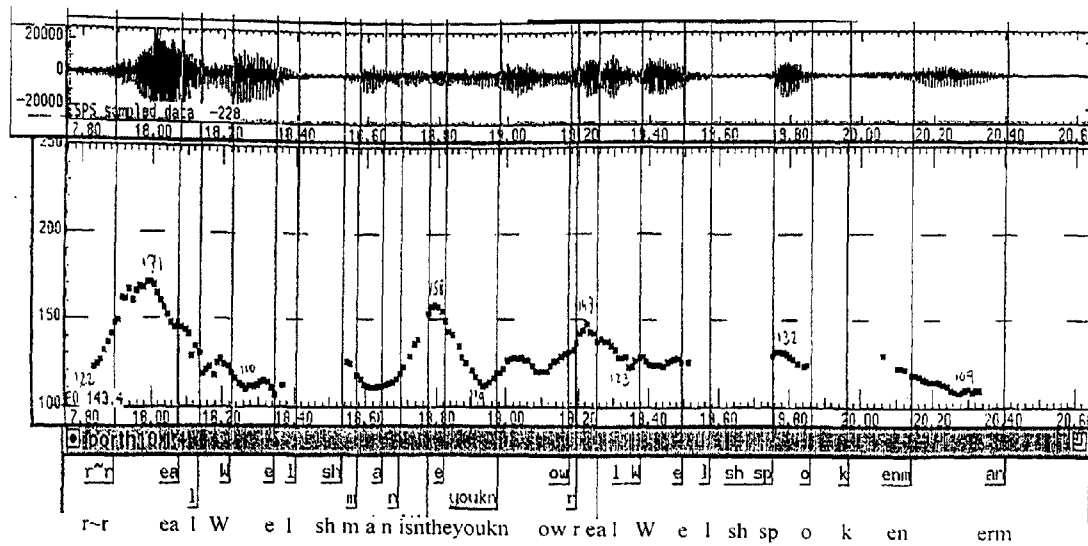
PORTH 10. 6



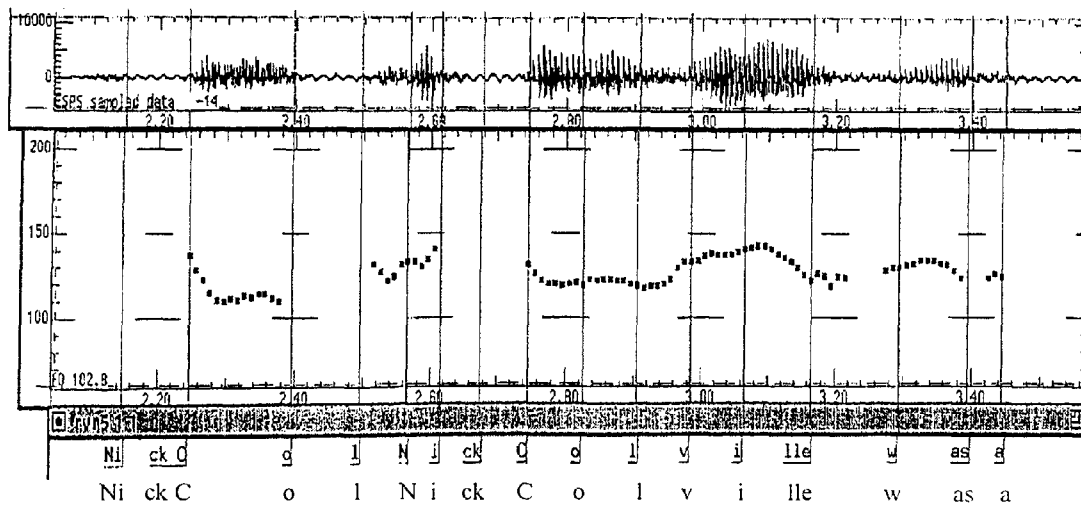
PORTH 10. 7



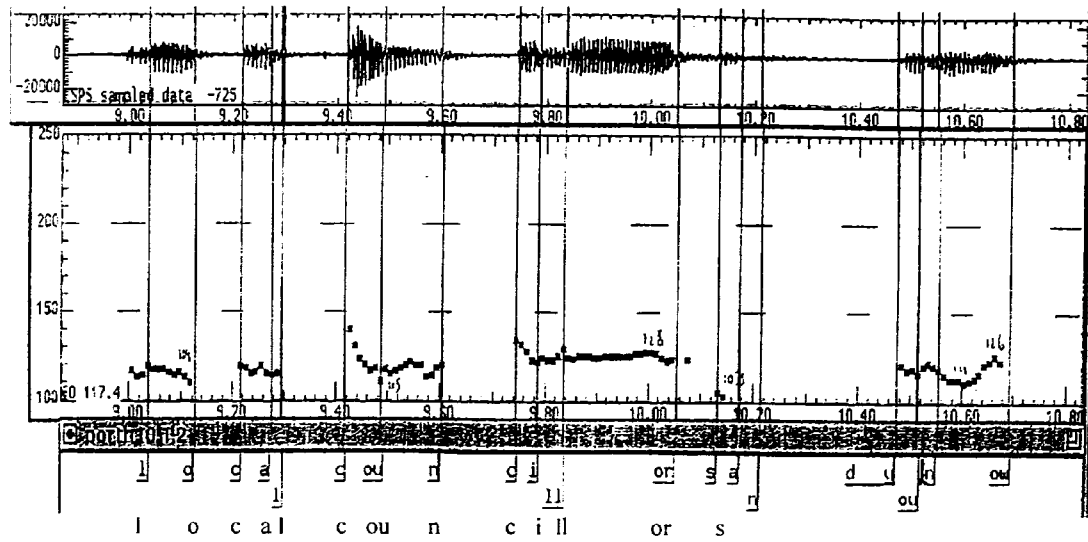
PORTH 10.10



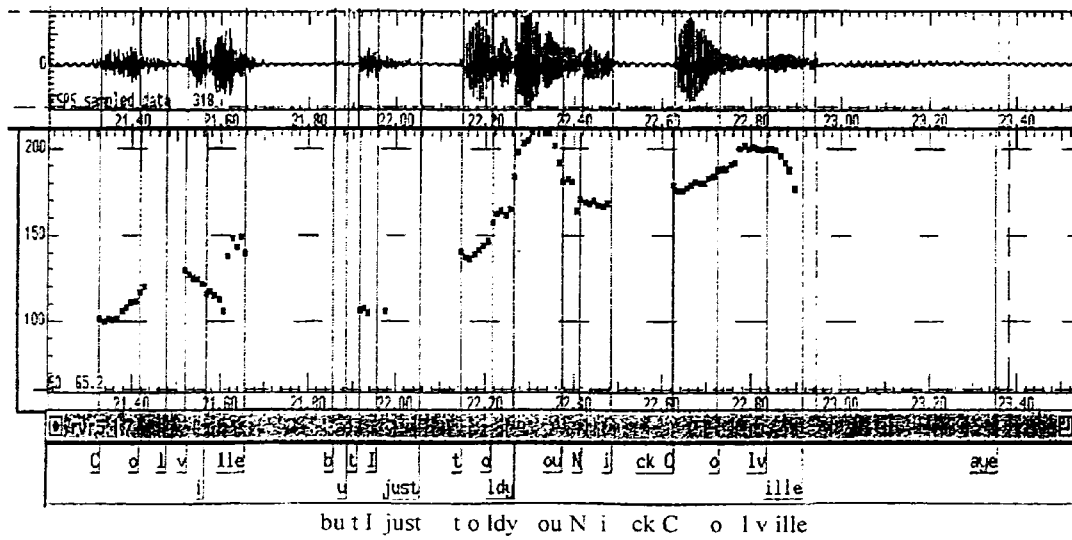
TREHERBERT 5.1



Porth 10.5



TREHERBERT 5.9



BIBLIOGRAPHY

- Abercrombie, D. 1967. Elements of general phonetics. Edinburgh. Edinburgh University Press.
- Aitken, A. 1984. "Scottish accents and dialects". In: Trudgill, P. (ed.) 1984. Language in the British Isles. Cambridge, U.K. Cambridge University Press.
- Anderson, H. et al 1991. "The HCRC map task corpus." In: Language and Speech, 43, (351-66).
- Armstrong, L. & Ward, I. 1926. Handbook of English intonation. Cambridge, U.K. Heffer.
- Arvaniti, A. & Ladd, D.R. 1995. "Tonal alignment and the representation of accentual targets." In: ICPHS, Vol. 4. (220-223.)
- Awberry, G. 1984 "Phonotactic constraints in Welsh" In: Ball, M. & Jones, G. 1984 Welsh Phonology. Cardiff. University of Wales Press.
- Ball, M. 1983. "A spectographic investigation of three Welsh diphthongs." In: Journal of the International Phonetic Association, 13, 82-89.
- Ball, M. 1990. "Voicing and Welsh fricatives." In: Cardiff Working Papers in Welsh Linguistics, 6, 23-32.
- Ball, M. 1984. "Phonetics for phonology." In: Ball, M. & Jones, G. (ed.) 1984. Welsh Phonology. Cardiff. University of Wales Press.
- Ball, M. 1989. "The transcription of suprasegmentals in Welsh." In: Journal of the International Phonetic Association, 19:2. (89-96).
- Ball, M.J. & Jones, G.E. (ed.) 1984. Welsh Phonology. Cardiff. University of Wales Press.

- Beckman, M. & Pierrehumbert, J. 1986. "Intonational structure in Japanese and English." In: *Phonology Year Book 3* 1986, (255-309.)
- Beckman, M. & Ayers, G. 1994. *Guidelines for ToBI labeling, vers 2.0. Ms and accompanying speech materials.* Ohio. Ohio State University.
- Bloch, B. 1946. "Studies in colloquial Japanese." In: *Language*, 22, (200-248).
- Bolinger, D. 1958. "A theory of pitch accent in English." In: *Word* 14, 109-149.
- Bolinger, D. 1972. "Accent is predictable (if you're a mind reader)." In: *Language*, 48, (633-44.)
- Bolinger, D. 1978. "Intonation across languages." In: Greenberg, J. et al (ed.) *Universals of Human Language. Volume 2: Phonology.* Stamford, California. Stanford University Press.
- Bolinger, D. 1986. *Intonation and its parts.* Stanford, California. Stanford University Press.
- Bolinger, D. 1989. *Intonation and its uses.* Stanford, California. Stanford University Press.
- Boomer, D., & Dittmann, A. 1962. "Hesitation pauses and juncture pauses in Speech." In: *Language and Speech*, 5, (216-220).
- Boomer, D. 1965. "Hesitation and grammatical encoding." In: *Language and Speech*, Vol. 8.
- Bradford, B. 1997. "Upspeak in British English." In: *English Today*. 13/3: 29-36.
- Brazil, D. 1975. "Discourse intonation." *Discourse Analysis Monographs*, No.1. English language research unit. Birmingham, U.K. University of Birmingham.

- Brazil, D., Coulthard, M. & Johns-Lewis, C. 1980. Discourse intonation and language teaching. London. Longman.
- Brazil, D. 1986. "Intonation and the study of dialect." In: Annual Report of Dialectology, Vol. 29.
- Brazil, D. 1997. The communicative value of intonation in English. Cambridge, U.K. Cambridge University Press.
- Britain, D. 1992. "Linguistic change in intonation: the use of high rising terminals In New Zealand English." In: Language Variation and Change, 4, (77-104).
- Brown, G., Currie, K. & Kenworthy, J. 1980. Questions of intonation. London. Croom-Helm.
- Brown, G., & Yule, G. 1983. Discourse analysis. Cambridge, U.K. Cambridge University Press.
- Bruce, G. 1977. Swedish word accents in sentence perspective. Lund. Gleerup.
- Buxton, H. 1983. "Temporal predictability in the perception of English speech." In: Cutler, A. & Ladd, D. (eds.) 1983. Prosody: models and measurements. Berlin. Springer-Verlag.
- Campbell, N. 1993. "Automatic detection of prosodic boundaries in speech." In: Speech Communication, Vol. 13. (343-354.)
- Cauldwell, R. 1993. "A comparison of discourse intonation and systemic intonation." Unpublished paper. English language research unit. Birmingham, U.K. University of Birmingham.
- Cauldwell, R. 1993. "A comparison of discourse intonation and Crystal's description." Unpublished paper. English language research unit. Birmingham, U.K. University of Birmingham.
- Chambers, J.K. & Trudgill, P. 1980. Dialectology. Cambridge, U.K. Cambridge University Press.

- Chomsky, N. & Halle, M. 1968. The sound pattern of English. New York. Harper and Row.
- Cohen, A. & t'Hart, J. 1967. "On the anatomy of intonation." In: *Lingua*, 19, 177-92.
- Collier, R. & t'Hart, J. 1971. "Perceptual experiments on Dutch intonation". In: *Proceedings of the Seventh International Congress of Phonetic Sciences*, Montreal.
- Collins, B. & Mees, I. 1990. "Phonetics of Cardiff English." In: Coupland, N. (ed.) 1990. *English in Wales*. Cleveland, Philadelphia. Multilingual Matters.
- Connolly, J.H. 1981. "On the segmental phonology of a South Wales accent of English." In: *Journal of I.P.A.*, Vol.11. (51-62.)
- Connolly, J.H. 1990. "Port Talbot English." In: Coupland, N. (ed.) 1990 *English in Wales*. Clevedon, Philadelphia. Multilingual Matters.
- Coulthard, M. 1977. *Introduction to discourse analysis*. London. Longman.
- Coulthard, M. & Brazil, D. 1979. "Exchange structure." Unpublished paper. English language research unit. Birmingham, U.K. University of Birmingham.
- Couper-Kuhlen, E. 1986. *Introduction to English prosody*. London. Edward Arnold.
- Coupland, N. 1984. "Social and linguistic characteristics in the pronunciation of Welsh place-names in Cardiff." *Cardiff Working Papers in Welsh Linguistics*. 3, (31-44). Cardiff. University of Wales, Cardiff.
- Coupland, N. 1988. *Dialect in use (Sociolinguistic Variation in Cardiff English)*. Cardiff. University of Wales Press.
- Coupland, N. (ed.) 1990. *English in Wales*. Cleveland, Philadelphia. Multilingual Matters.

- Croft, W. 1995. "Intonation units and grammatical structure." In: *Linguistics*, Vol. 33, (839-882.)
- Cruttenden, A. 1986. *Intonation*. Cambridge, U.K. Cambridge University Press.
- Cruttenden, A. 1994. "Rises in English." In: Windsor Lewis, J. (ed.) 1994. *Studies in general and English phonetics* (Essays in honour of Professor J.D. O'Connor). London. Routledge.
- Cruttenden, A. 1994. *Gimson's Pronunciation of English*. London. Edward Arnold.
- Crystal, D. 1969. *Prosodic systems and intonation in English*. Cambridge, U.K. Cambridge University Press.
- Crystal, D. & Davy, D. 1975. *Advanced conversational English*. London. Longman.
- Crystal, D. & Davy, D. 1969. *Investigating English style*. London. Longman.
- Crystal, D. 1975. *The English Tone of Voice*. London. Edward Arnold.
- Crystal, D. 1994. "Documenting rhythmical change." In: Lewis, J. (ed.) 1994. *Studies in general and English phonetics* (Essays in honour of Professor J.D. O'Connor). London. Routledge.
- Currie, K.L. 1979. "Contour systems in one variety of Scottish English". In: *Language and Speech*.
- Cutler, A. & Ladd, D.R. (eds.) 1983. *Prosody: models and measurements*. Berlin. Springer-Verlag.
- Cutler, A. & Pearson, M. 1986. "On the analysis of prosodic turn-taking cues." In: Johns-Lewis, C. (ed.) 1986. *Intonation in discourse*. London. Croom Helm.

- Douglas-Cowie, E., Cowie, R. & Rahilly, J. 1978. "The social distribution of Intonation patterns in Belfast." In: Trudgill, P. 1978. *Sociolinguistic patterns in British English*. London. Edward Arnold.
- Duncan, S. 1972. "Some signals & rules for taking speaking turns in conversations." In: *Journal of Personality and Social Psychology*, 23, (283-292.)
- Edwards, J. 1985. *Talk Tidy: The art of speaking Wenglish*. Cowbridge, S.Wales. D. Brown & Sons Ltd
- Fant, G. 1960. *Acoustic theory of speech production*. The Hague. Mouton.
- Fox, A. 1994. 'Principles in intonational typology' In: Lewis, J. (ed.) 1994. *Studies in general and English phonetics* (Essays in honour of Professor J.D. O'Connor). London. Routledge.
- Fry, D. 1955. "Duration and intensity as physical correlates of linguistic stress." In: *Journal of the Acoustical Society of America*, 27, (765-8).
- Fry, D. 1958. "Experiments in the perception of stress." In: *Language and Speech*, 1, (126-52).
- Fujisaki, H. 1983. "Dynamic characteristics of voice fundamental frequency in singing and speaking." In: MacNeilage, P. (ed.) 1983. *The production of speech*. Heidelberg. Springer-Verlag.
- Garding, E. 1983. "A generative model of intonation." In: Cutler, A. & Ladd, D. (eds.) 1983. *Prosody: models and measurements*. Berlin. Springer-Verlag.
- George, C. 1990. *Community and coal: an investigation of the English dialect of the Rhondda Valleys, Mid Glamorgan*. Unpublished PhD thesis. Swansea. University of Wales, Swansea.
- Giegerich, H.J. 1985. *Metrical phonology and phonological structure*. Cambridge, U.K. Cambridge University Press.

- Giles, H. 1971. "Patterns of evaluation in reaction to RP, South Welsh and Somerset accented speech." In: *British Journal of Social and Clinical Psychology*, 10.3 (280-1).
- Gimson, A. 1972. *An introduction to the pronunciation of English*. London. Edward Arnold.
- Gimson, A. 1984. The RP accent. In: Trudgill, P. (ed.) 1984. *Language in the British Isles*. Cambridge, U.K. Cambridge University Press.
- Goldman Eisler, F. 1958. "Speech analysis and mental processes." In: *Language and Speech*, 1, (59-75.)
- Goldman-Eisler, F. 1958. "The predictability of words in context and the length of pauses in speech." In: *Language and Speech*, 1, (226-31.)
- Goldman Eisler, F. 1961. "A comparative study of two hesitational phenomena." In: *Language and Speech*, 4, (18-26).
- Goldman Eisler, F. 1961. "Continuity of speech utterance, its determinants and its significance." In: *Language and Speech*, 4, (220-237.)
- Graddol, D. 1986. "Discourse specific pitch behaviour." In: Johns-Lewis, C. (ed.) 1986. *Intonation in discourse*. London. Croom Helm.
- Grice, M. and Savino, M. 1995. "Low tone versus 'sag' in Bari Italian intonation; a perceptual experiment." In: *Proceedings of the International Congress of Phonetic Sciences*, Stockholm 4, (658-661).
- Gumperz, J. 1982. *Discourse strategies*. Cambridge, U.K. Cambridge University Press.
- Gussenhoven, C. 1984. *On the grammar and semantics of sentence accents*. Dordrecht. Foris.
- Gussenhoven, C. 1986. "The intonation of 'George and Mildred': post-nuclear generalizations." In: Johns-Lewis, C. (ed.) 1986. *Intonation in discourse*. London. Croom Helm.

- Guy, G. et al 1986. "An intonation change in progress in Australian English." In: *Language in Society*, 15, (23-52).
- Halliday, M. 1967. *Intonation and grammar in British English*. The Hague. Mouton.
- Halliday, M. 1970. *Course in spoken English : intonation*. Oxford. Oxford University Press.
- Harris, J. 1984. "English in the north of Ireland." In: Trudgill, P. (ed.) 1984. *Language in the British Isles*. Cambridge, U.K. Cambridge University Press.
- t'Hart, J. & Collier, R. 1975. "Integrating different levels of intonation analysis". In: *Journal of Phonetics*, 3, (235-55.)
- t'Hart, J., Collier, R., & Cohen, A. 1990. *A perceptual study of intonation*. Cambridge, U.K. Cambridge University Press.
- Henton, C. 1983. "Changes in the vowels of received pronunciation." In: *Journal of Phonetics*, 11, (352-371).
- Hirschberg, J. & Pierrehumbert, J. 1986. "Intonational structuring of discourse." *Proceedings of the 24th meeting of the Association for Computational Linguistics*, New York, pp. 136-44.
- Hollien, H. & Ship, T. "Speaking fundamental frequency and chronological age in males". In: *Journal of Speech and Hearing Research*. 15, (155-159).
- Hopkins, K.S. (ed.) 1974 *Rhondda Past and Future*. Rhondda Borough Council.
- Hughes, A. & Trudgill, P. 1996. *English accents and dialects*. London. Edward Arnold.
- Hultzen, L. 1957. "Communication in Intonation: General American". In: *Study of Sounds*, 5, 317-333.

- Jarman, E. & Cruttenden, A. 1976. "Belfast intonation and the myth of the fall."
In: Journal of the I.P.A., Vol. 6, (4-13.)
- Jassem, W. & Gibbon, D. 1980. "Redefining English accent and stress."
In: Journal of I.P.A., 10, (2-17).
- Jassem, W. & Demenko D. 1986. "On extracting linguistic information from Fo traces." In: Johns-Lewis, C. (ed.) 1986. Intonation in Discourse. London. Croom Helm.
- Johns-Lewis, C. (ed.) 1986. Intonation in discourse. London. Croom Helm.
- John-Lewis, C. 1986. "Prosodic differentiation of discourse modes."
In: Johns-Lewis, C. (ed.) 1986. Intonation in Discourse. London. Croom Helm.
- Jones, C. 1961. The Welsh Dialect of Nantgarw. Unpublished M.A.Thesis. London. University College of London.
- Jones, D. 1909. The Pronunciation of English. Fourth Edition : 1956. Cambridge, U.K. Cambridge University Press.
- Jones, D. 1918. An outline of English phonetics. 1975 Edition : Cambridge, U.K. Cambridge University Press.
- Jones, D.M. 1949. "The accent in modern Welsh." In: Bulletin of the Board of Celtic Studies, X111, (63-4.)
- Jones, G. 1984. The distinctive vowels and consonants of Welsh.
In: Ball, M.J. & Jones, G. Welsh Phonology. Cardiff. University of Wales Press.
- Jones, R. 1967. A structural phonological analysis and comparison of three Welsh dialects. Unpublished M.A. thesis. Bangor. University of Wales.
- Kingdon, R. 1958. The groundwork of English intonation. London. Longman

- Knowles, G. 1974. Scouse: the urban dialect of Liverpool. Unpublished PhD thesis. Leeds. University of Leeds.
- Knowles, G. 1978. "The nature of phonological variables in Scouse."
In: Trudgill, P. 1978. Sociolinguistic Patterns in British English.
London. Edward Arnold.
- Knowles, G., Wichmann, & Alderson, P. (eds.) 1996. Working with Speech.
London. Longman.
- Labov, W. 1966. The social stratification of English in New York City.
Washington D.C. Centre for Applied Linguistics.
- Labov, W. 1972. Sociolinguistic patterns. Philadelphia. University of
Pennsylvania Press.
- Ladd, D. 1983. "Peak feature and overall slope." In: Cutler, A.
& Ladd, D. (eds.) 1983. Prosody: models and measurements.
Berlin. Springer-Verlag.
- Ladd, D. 1986. "Intonational phrasing: the case for recursive prosodic
structure." In: Phonology Yearbook 3, 1986, (311-340.)
- Ladd, D., Scherer, K.R., & Silverman K. 1986. "An integrated approach to
studying intonation and attitude." In: Johns-Lewis, C. (ed.) 1986
Intonation in discourse. London. Croom Helm.
- Ladd, D. 1996. Intonational phonology. Cambridge, U.K. Cambridge
University Press.
- Ladefoged, P. 1993. A course in phonetics. New York. Harcourt Brace
Jovanovich.
- Laver, J. 1972. "Voice quality and indexical information." In: Laver, J.,
& Hutcheson, S. (ed.) 1972 Communication in face to face interaction.
Harmondsworth. Penguin.
- Laver, J. 1994. Principles of phonetics. Cambridge, U.K. Cambridge University
Press.

- Lediard, J. 1977. "The sounds of the dialect of Canton." In: Parry, D. (ed.) 1977. The survey of Anglo Welsh dialects. Vol. 1. The South East. Swansea. Department of English. University of Wales, Swansea.
- Lehiste, I. 1970. Suprasegmentals. Cambridge, Massachusetts. MIT Press.
- Lehiste, I. 1977. "Isochrony reconsidered." In: Journal of Phonetics, 5, (253-63.)
- Lehiste, I. 1979. "Perception of sentence & paragraph boundaries." In: Lindblom B. et al (eds.) 1979. Frontiers of speech communication research. London. Academic Press. (191-202.)
- Lewis, E.D. 1958. "The Rhondda Valleys". Reprint of second edition, 1984. Cardiff. University College Cardiff Press.
- Lewis, E. D. 1975. "Population changes and social life 1860-1914". In: Hopkins, K. 1975. Rhondda past and present Rhondda. Rhondda Borough Council.
- Lewis, J, 1964. "Transcribed specimen of Cardiff English". In: Le Maitre Phonétique, 121, (6-7).
- Lewis, J. 1990. "The roots of Cardiff English." In: Coupland, N. (ed.) 1990 English in Wales. Clevedon, Philadelphia. Multilingual Matters.
- Liberman, M. and Sag, I. 1974. "Prosodic form and discourse function". In: Proceedings of the Chicago Linguistics Society. 10, (416-427).
- Liberman, M. & Prince, A. 1977. "On stress and linguistic rhythm." In: Linguistic Inquiry, 8, (249-336).
- Lieberman, P. 1957. "Some acoustic correlates of word-stress in American English". In: Journal of the Acoustical Society of America. 32, 451-4.
- Lindau, M. & Ladefoged, P. 1990. Interarticulatory relationships in vowel Production. Working Paper. London. Phonetics Department, University College of London.

- Lindblom, B. & Sundberg J. 1971. "Acoustic consequences of lip, tongue, jaw and larynx movements." In: *Journal of the Acoustical Society of America*, 50, (1166-1179).
- Llewelyn, R. 1931 *How green was my valley*. London. M. Joseph).
- Local, J. 1986. "Patterns and problems in a study of Tyneside intonation." In: Johns-Lewis, C. (ed.) 1986 *Intonation in Discourse*. London. Croom-Helm.
- Local, J. 1994. "Syllabification and rhythm in non-segmental phonology." In: Lewis, J (ed.) 1994. *Studies in general and English phonetics* (Essays in honour of Professor J.D. O'Connor). London. Routledge.
- McLaughlin, M. 1984. *How talk is organized*. Beverly Hills. Sage Publications.
- McClure, J.D. 1980. "Western Scottish intonation: a preliminary study." In: Waugh, L.R., & Van Schooneveld (eds.) 1980. *The melody of language: intonation and prosody*. Baltimore: University Park Press.
- McClure, J.D. 1994. "The vowels of Scottish English - formants and features." In: Lewis, J. (ed.) 1994. *Studies in general and English Phonetics* (Essays in honour of Professor J.D. O'Connor). London. Routledge.
- McElholm, D. 1986. "Intonation in Derry English: a preliminary study." In: Kirkwood, H. (ed.) *Studies in intonation*. Belfast. University of Ulster Press.
- Mees, I. 1983. *The speech of Cardiff schoolchildren*. Unpublished PhD thesis. Leiden. University of Leiden.
- Milroy, L. 1984. "Urban dialects in the British Isles." In: Trudgill, P. (ed.) 1984. *Language in the British Isles*. Cambridge, U.K. Cambridge University Press.
- Nespor, M. and Vogel, I. 1983. "Prosodic structure above the word." In: Cutler, A & Ladd, D (eds.) 1983. *Prosody: models and measurements*. Berlin. Springer-Verlag.

- Nolan, F. 1994. "The effect of emphasis on declination in English Intonation."
In: Lewis, J. (ed.) 1994. *Studies in general and English phonetics*
(Essays in honour of Professor J.D. O'Connor). London. Routledge.
- O'Connor, J. & Arnold, G. 1973. *Intonation of colloquial English*. London.
Longman.
- Orton, Harold, et al. (eds.) 1962-1971. *Survey of English dialects*
(A) Introduction & (B) The basic material. Leeds. Arnold.
- Orton, H., Sanderson, S. & Widdowson, J. 1978. *The linguistic atlas of England*
(LAE). London. Croom Helm.
- Palmer, H. 1922. *English intonation with systematic exercises*. Cambridge,
U.K. Heffer.
- Parry, D. 1977. *Survey of Anglo-Welsh dialects*. Vol. 1. The South East.
Swansea. University of Wales, Swansea, Department of English.
- Parry, D. 1990. "The conservative English dialects of North Carmarthen".
In: Coupland, N. (ed.) 1990 *English in Wales*. Clevedon, Philadelphia.
Multilingual Matters.
- Parry, D. 1998. *Dialects in Gwent*. Newport-on-Usk. Lynwood Books.
- de Pijper, J.R. & Sanderman, A.A. 1994. "On the perceptual strength of prosodic
boundaries and its relation to suprasegmental clues." In: *Journal of the*
Acoustical Society of America, 96(4), (2037-2047.)
- Pellowe, J. & Jones, V. 1978. "On intonational variability in Tyneside speech."
In: Trudgill, P. (ed.) 1978. *Sociolinguistic patterns in British speech*.
London. Edward Arnold.
- Penhallurick, R. 1993. "Welsh English: A national language ?".
In: *DiG*, 1, (28-46).
- Penhallurick, R. 1994. *Gowerland and its language*. Frankfurt am Main.
Peter Lang.

- Peterson, G. & Lehiste, I. 1960. "Duration of the syllable nuclei in English."
In: *Journal of the Acoustical Society of America*, 32, (693-703).
- Petyt, K.M. 1980. *Study of Dialect*. London. Andre Deutsch.
- Pierrehumbert, J. 1980. "The phonology and phonetics of English intonation".
PhD thesis. Cambridge, Massachusetts. MIT. Published by IULC.
- Pierrehumbert, J. & Hirschberg, J. 1990. "The meaning of intonational contours
in the interpretation of discourse." In: *Intentions in communication*.
Cambridge, Massachusetts. The MIT Press.
- Pike, K. 1945. *The intonation of American English*. Ann Arbor. University of
Michigan Press.
- Quirk, et al. 1964. "Studies in the correspondence of prosodic to grammatical
features in English." In: Lunt, H. (ed.) *Proceedings of the ninth
international congress of linguists*. The Hague. Mouton.
- Quirk, R., Greenbaum, S., Leech, G. & Svartvik, J. 1972. *A grammar of
contemporary English*. London. Longman.
- Roach, P. 1982. "On the distinction between 'stress-timed' and 'syllable-timed'
languages." In: Crystal, D. (ed.) 1982. *Linguistic controversies: Essays
in linguistic theory and practice in honour of F.R.Palmer*. London.
Edward Arnold.
- Roach, P. 1994. "Conversion between prosodic transcription systems: Standard
British and ToBI." In: *Speech and Communication*, 15, (91-9).
- Rhys, M. 1977. *Aspects of Welsh intonation*. Unpublished PhD thesis.
Edinburgh. University of Edinburgh.
- Rhys, M. 1984. "Intonation and the discourse." In: Ball, M.J. & Jones, G.
Welsh phonology. 1984. Cardiff. University of Wales Press.
- Schmerling S.F. 1976. *Aspects of English sentence stress*. Austin, Texas.
University of Texas Press.

- Selkirk, E.O. 1984. Phonology and syntax: the relation between sound and structure. Cambridge, Massachusetts. MIT Press.
- Shuy, R. 1970. "Sociolinguistic research at the Centre for Applied Linguistics: The correlation of language and sex." In: International Days of Linguistics. Rome.
- Silverman, K. et al. 1992. "ToBI: a standard for labeling English prosody." In: Proceedings, Second International Conference on Spoken Language Processing, 2: (867-70). Banff. Canada.
- Stevens, K. & House, A. 1963. "Perturbation of vowel articulations by consonantal context: an acoustics study". In: Journal of Speech and Hearing Research. 6.2, (111-127).
- Sweet, H. 1890. Primer of Spoken English. Oxford. Clarendon Press.
- Tench, P. 1990. "The pronunciation of English in Abercrave." In: Coupland, N. (ed.) 1990. English in Wales. Clevedon, Philadelphia. Multilingual Matters.
- Tench, P. 1990. "The roles of intonation in English discourse." Frankfurt am Main. Peter Lang.
- Tench, P. 1996. The intonation systems of English. London. Cassell.
- Tench, P. 1998. "Intonation innovations." In: IATEFL Newsletter, Dec 1997-Jan 1998.
- Thomas, A. 1973. The linguistic geography of Wales. Cardiff. University of Wales Press.
- Thomas, A. 1984. "Welsh English". In: Trudgill, P. (ed.) Language in the British Isles. Cambridge. Cambridge University Press.
- Thomas, C. 1961. A phonological conspectus of the Welsh dialect of Nantgarw. Unpublished M.A. thesis. London. University of London.

- Thomas, C. 1967. "Welsh intonation - a preliminary study". In: *Studia Celtica*, 2, (8-28.)
- Thorsen, N. 1983. "Two issues in the prosody of standard Danish." In: Cutler, A. & Ladd, D. (eds.) 1983. *Prosody: models and measurements*. Berlin: Springer-Verlag.
- Trager, H. and Smith, H. 1951. "An outline of English structure." *Studies in Linguistics Occasional Papers* 3. Washington, DC. American Council of Learned Societies.
- Trim, J. 1959. "Major and minor tone-groups in English." In: *Le Maitre Phonétique*, 112, (26-29).
- Trubetskoy, N. 1949. *Principes de phonologie*. Translated by C.A.M. Baltaxe. 1969. University of California Press.
- Trudgill, P. 1974. *The social differentiation of English in Norwich*. Cambridge, U.K. Cambridge University Press.
- Trudgill, P. 1975. "Sex, convert prestige, and linguistic change in the urban British English of Norwich." In: Thorne, B., & Henley, N. (eds.) *Language and Sex: difference and dominance*. Rowley. Massachusetts.
- Trudgill, P. (ed.) 1984. *Language in the British Isles*. Cambridge, U.K. Cambridge University Press.
- Vaissiere, J. 1983. "Language-independent prosodic features." In: Cutler, A. & Ladd, D.R. (eds.) *Prosody: models and measurements*. Berlin. Springer-Verlag.
- Wakelin, M. 1972. *English dialects: an introduction*. London. Athlone Press.
- Wakelin, M. 1984. "Cornish English". In: Trudgill, P. (ed.) 1984. *Language in the British Isles*. Cambridge, U.K. Cambridge University Press.
- Watt, D. 1994. *The phonology and semeology of intonation in English*. Bloomington. Indiana University Linguistics Club.

- Watkins, T. 1953. "The accent in Cwm Tawe Welsh." In: *Zeitschrift für Celtische Philologie*, XXIV.
- Wells, J. 1962. A study of the formants of the pure vowels of British English. Unpublished M.A. Thesis. London. Department of Linguistics, University College of London.
- Wells, J. 1982. *Accents of English* (Volumes 1-3). Cambridge, U.K. Cambridge University Press.
- Wells, J. 1990. *Longman Pronunciation Dictionary*. Harlow. Longman.
- Wells, R. 1945. The pitch phonemes of English. *Language*, 21, 27-40.
- Wells, W. 1986. "An experimental approach to the interpretation of focus in spoken English." In: Johns-Lewis, C. (ed.) 1986 *Intonation in Discourse*. London. Croom-Helm.
- Williams, B. 1983. *Stress in modern Welsh*. PhD thesis. Cambridge, U.K. University of Cambridge. Published, 1989. Bloomington, Indiana. Indiana Linguistics Club Publications.
- Williams, B. 1985. "Pitch and duration in Welsh stress perception: the implications for intonation." In: *Journal of Phonetics*, 13, (381-406.)
- Williams, B. 1986. "An acoustic study of some features of Welsh prosody." In: Johns-Lewis, C. 1986. *Intonation in Discourse*. London. Croom-Helm.
- Willems, N., Collier, R. & de Pijper, J. 1988. "A synthesis scheme for British English intonation." In: *Journal of the Acoustical Society of America*, 52, (1250-61.)