Prosodic resources for the management of turn-taking in Finnish.

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1. INTRODUCTION

Hjelmslev & Uldall (1935); Firth (1948): 'prosody' is defined by function and domain, not by phonetic extent. See also Firth (1957), Robins (1957); and e.g. Ogden & Local (1994), Local & Ogden (1996) for modern interpretations of 'prosody'.

Robins (1957):   *Demarcative* prosodies offset chunks of material.
       Extensional prosodies are properties of larger pieces.
Many of the phonetic tasks associated with turn-taking relate directly to offsetting material and/or chunking it together.

Characteristics of Firthian linguistics:
1. Establishment of phonological systems with formal categories, based on syntagmatic and paradigmatic relations equally.
2. 'Congruence of levels': linguistic statements made at a number of levels, all mutually compatible and each level relatable to other levels. Modern linguistics is rooted in approaches which make statements with respect to only one level at a time: for example phonology without syntax.
3. An insistence that the shape of language is determined by the occasions of its use and the social actions it promotes; and the environment of language, its context of situation is not separable from it, but embedded within it.

2. DATA (Ogden 2001)
  radio phone-in programmes recorded in Finland, May 2000
  ten calls transcribed
  about 23 minutes in total of recorded material
  75 adjacency pairs (eg. question + answer; greeting + greeting) extracted and analysed
  all other turns analysed separately
  P = main presenter for the call, P2 = the other presenter, C = caller

2.1 The turn-final system
Turn-final creak is part of a system:
  {creak (C), breathiness (B), whisper (W), voicelessness (H), exhalation (h)}
Creak is the commonest. If there is more than one modality at the end of a turn, the order is that listed, e.g. creak < whisper < exhalation. (Laver 1994 gives more details of voice quality.)

2.2 Placement of creak
86% of creaky stretches start outside a stressed syllable (= first syllable of a word in Finnish),

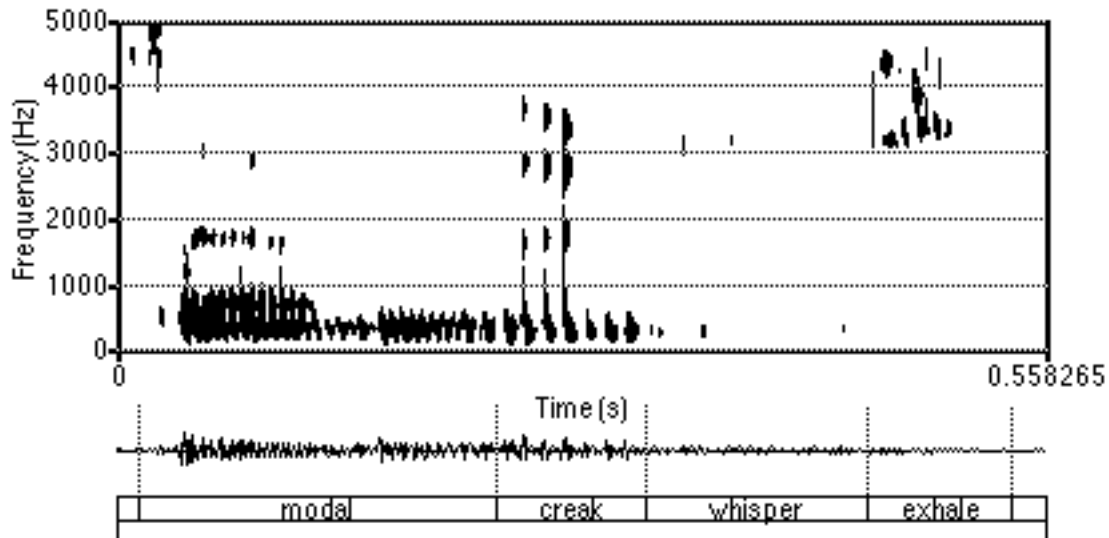and/or after a voiceless obstruent.

3. CREAK (ETC.) AS 'NORMAL'

Fig. 1. Changes in voice quality in tämmönen (extract 3.1/69).
Upper panel: spectrogram temporally aligned with waveform.
Lower panel: waveform, labelled.

3.1 Voix bulgares

```
65    P2        että jos sua kiinnostaa niin
                so if you're interested then


66                              {C------}      {all,p-------}
                m::inun ehdottomia lemppar{eitä on} (.) {muum muuassa}
                my absolute favourites are among others


67              trio bulgarka
                Trio Bulgarka


68              (0.5)
69                              {C-}{W--}
         1->    onks sulle tuttu täm{mö}{nen}h
                have you heard of them


70    C  2->    ei o
                no
```

3.2 Voix bulgares

```
12    P                                 {H-----}
         1->    jab| kerrotko toivomuks{estasi}
                and will you tell us about your request


13    C  2->    no- mä- tää on bulgarialainen naiskuoro jonka mäh
                well- I- this is a Bulgarian women's choir which I


14              .h mä kuulin ensimmäisen kerran
```

I heard for the first time

15   se oli joko .h semmonen myöhäisillalla /oleva omat levyt
it was either one of those late night request

16   ohjelma tai sitten tääl-
programmes or then here-

((continues))

3.3 Kaksi kitaraa/Two Guitars

```
21                          {all---------------}
      1-> ^v:oitteko {kertoa mikä teidäm:} (0.5)
          can you tell us what your
```
can you tell us what your

```
22                     {C,p-------}
      1-> toivek:app{aleenne on}=
```
request is

```
23   C                  {f---------}
      2-> =öö se on:· .hh {nimenomaan} hö Viljo (.)  Westerisen
```
erm it's actually er Two Guitars

```
24                              {H,l--}
      (.) soittama .hh kaksi ki{taraa}
```
played by Viljo Westerinen

3.4 Fado

```
80   P                                  {C----{p-------}
      1-> tarkottahakoham barco negro must{a[a} {venettä]}
```
I think Barco Negro means black boat doesn't it

```
81   C                                          {f---} {C--}
      2->                            [musta     ] {vene} {joo}
```
black boat yes

```
82   P   2->  .joo
```

3.5 Catalonia

```
78                      {H----}
      1-> kuunnellaanko nyt uue{staan}=
```
shall we listen again now

```
79   C              {H----}
      2-> =no kuune{llaan}
```
oh yes

3.6 Maajussin tytär/Peasant's daughter

```
119  P                      {C--} {H--- }
      1-> pannaanko koneet jyl{lää}[{mään]}
```
shall we get the machines grinding

```
120  C                                          {C----}
      2->                    [  pan]naan vaan kiert{ämään}
```
let's just get them turning

3.7 Pelimanni/Fiddler

```
80           {f,all---------------------{C----}
      1-> {olitteko koskaan mukana keik{oilla}h
```
were you ever at the gigs

```
81   C   2-> no kyl:lä tiätys[ti ] oon ollu jonkun verran
```
oh yes of course I was to some extent

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3.8 Kaksi kitaraa/Two Guitars

```
16    P    1->  =.h se on todella /ihanaa (0.5)
                it is really nice
17                                                  {C------}
           1->  /ettäp| (0.6) korvat on auki moneen suunt{[aan  ]}
                to have your ears open in many directions

18    C    2->                                          [kyllä] vaan
                oh definitely
```

3.9 Fado

```
66         1->  tuntuu siltä että/ (.) .hh
                it feels like

67                                             {C------}
           1->  /et se ei oo ihan eurooppalaista musiikk{ia enää}
                like it's not quite European music any more

68    C         {C-}              {C,p}
           2->  .hh {ee} siinähän on {öm }
                it has got erm

69              {p---}         {C,l-------}
           2->  varmaank{in i}tämaista {vaikutetta}h
                Eastern influeces in it for sure
```

3.10 Pelimanni/Fiddler

```
71    P    1->  hienoo että meillä on äänitteitä jo(i)ssa ihmiset on (..)
                great that we've got recordings where people are

72              {all--------}              {C--}{H---}
           1->  {eri tavalla} /eläviä ku v:alok{uvi}{ss[a]}
                alive in some other way than in photos

73    C                                                   {B}
           2->                                  [oi] kyll{ä}
                oh yes
```

4. CREAK + HIGH PITCH

Creak is compatible with high pitch, and therefore the Voice Quality system is independent of the Intonation system. Cf. Routarinne (forthcoming)

4.1 Leikkarit

```
16    P                      {all----------}
           -->  /ootteko    te /itse {mahdollisesti} soittaneet
                be-2PL-QCLI 2PL self  possible-ADV    play-PPC-PL
                have you yourself perhaps played

17                   {C-}
                leikkar{ei}s?
                Name-pl-INE
                in Leikkarit

                                             {B--}
18         -->  tai tunnetteko   henkilökohtaisest[i(k{aan}])?
                or  know-2PL-QCLI personal-ADV-CLI
                or do you know (them) personally at all

19    C                                            [no      t]unnen
                                                    PRT     know-1SG
                yes I do
```

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```
20          tunnen    kylläh    näitäh    soittajiah
            know-1SG certainly these-PAR player-PL-PAR
            yes I do know these musicians

21          .hh
```
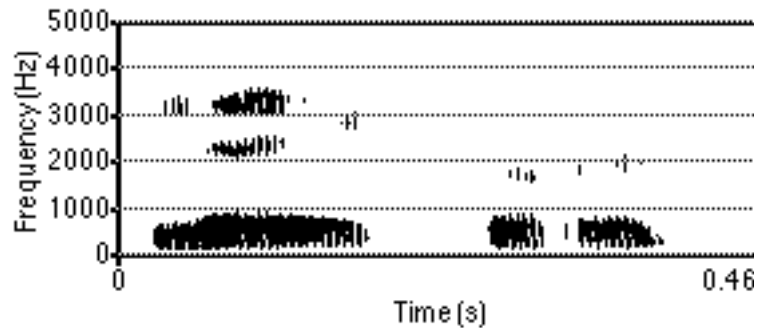

Fig. 2. *Leikkareis* (Fragment 4.1/17). The arrowed line delimits the creaky stretch.

5. CREAK IN RELEVANCE-DELIMITING INCREMENTS
(Ford, Fox & Thompson 2001; Schegloff 2000ms; Walker 2001).

The general shape of increments:

A:	a>	a turn which is hearable as reaching completion ('host')
		(pause)
B:	b>	(response)
		(pause)
A:	c>	a turn whose beginning is A's prior turn, and is hearable as complete ('increment')

Walker (2001): The phonetic matching of the increment to the host depends on the function of the increment. *Relevance delimiting increments* narrow the answer space for a question. In Finnish, the voice quality of the increment matches that of the host. Walker shows similar findings for English.

5.1 Maajussin tytär/Peasant's daughter
```
62  P2                  {all-------------------------------}
       a-> mitenkäs Pia {sinä tiedät   noin hyvin ja  paljon}
           how       Pia  2SG  know-2SG thus well  and much
           Pia, how come you know so well and so much

63                 {C------}
           Tal{larista}
           Name-ELA
           about Tallari ((a folk group))

64  P      .hh [   no/    ]
                   PRT
                   well
65  P2             {C, p----------------}
       c->      [{(ja) Valon]   Timosta}
```
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```
                    and  Name-GEN Name-ELA
                    and Timo Valo

66   P                              {all-------------------------
         no  Valon     Timosta {sen     takia   et   Timo oli
         PRT Name-GEN Name-ELA 3SG-GEN sake of COMP Timo be-PST-3SG
         well Timo Valo because Timo was

67          {all}
            {mun}   kollega   kaks vuottap| (.)
            1SG-GEN colleague two  year-PAR
            my colleague for two years
```

5.2 Kaksrivinen

```
73   P                                              {C-----}
     a-> no /ö /onko      teillä mitään toivekapp{aletta}
         PRT    be-3SG-QCLI 2PL-ADE any-PAR request-PAR
         did you have a particular piece

74         {H-----------}
                   {p----------}
     c-> m{i[tä    te {[ha}luatte]}
         which-PAR 2PL want-2PL
         that you want
         that you wanted

75   C                 {f-------------}
           [.hh      [{en     minä  ]} ol-
                       NEG-1SG 1SG        be-
         I'm not-

76                               {H---}
         kun mä em      muista nii{[tä]}
         as  1SG NEG-1SG remember 3PL-PAR
         because I can't remember them
```

5.3 Fado

```
75   P              [mm ] oliko teilläb| (0.4)
                          be-PST-3SG 2PL-ALL
         did you have

76                         {C--}
     a-> m:äärätty  kapp{ale}
         particular  piece
         a particular piece…

     b-> (.)

         {C,p----------------}
     c-> {jota     toi[votte]}
          which-PAR hope-2PL
         that you wanted
77   C                      [.hh ] joo m::u-
                                    PRT  1SG-
                                    yeah I


         m::ä (o)lin semmosta barco negro nimistä kappaletta
         1SG  be-PST-1SG such-PAR Barco Negro named-PAR piece-PAR
         I had (asked for) a piece called Barco Negro
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```

```
78                                          {C,p------
            josta    mä  oon    aivan  erik{oi(se)sti
            which-ELA 1SP be-1SG quite particular-ADV
            which I have always particularly


            {C,p------------------}
            {aina pitäny (n*n*tt**)}
             always like-PPC
            liked

79    P     {C,p}
            {joo}
             PRT
            yeah
```

6. CREAK AND OTHER PROSODIC RESOURCES

Creak followed by voicelessness: incoming talk placed during non-modal portion.
Rhythmicality: incoming talk comes in on beat; plosive in *koneet* exceptionally followed by
frication.
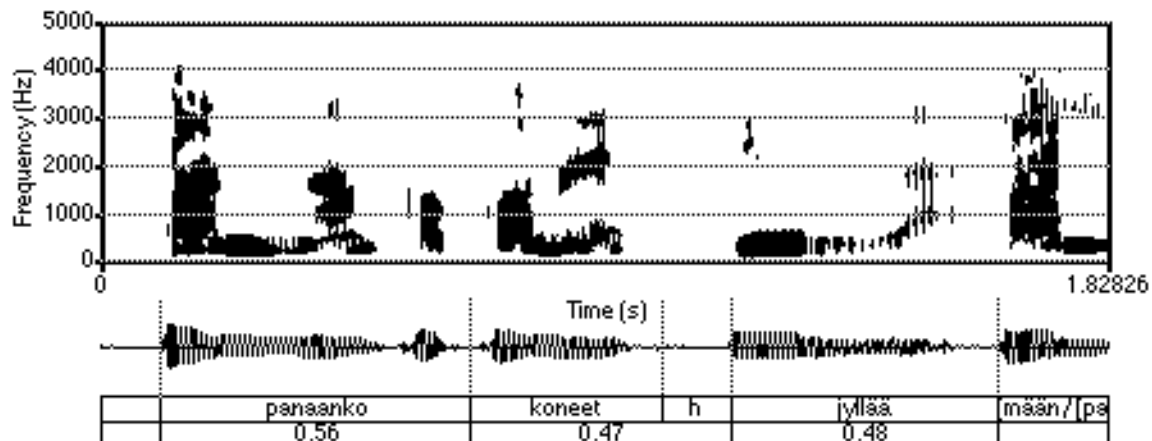
Fig. 3. Frication and rhythmicality (extract 6.1/119-120).
Upper panel: spectrogram temporally aligned with the waveform.
Lower panel: waveform, labelled, with intervals between word onsets.

6.1 Maajussin tytär/Peasant's daughter
```
119   P                                     {C--} {H--- }
                *          *          *            *
            pannaanko  koneetH    jyl{lää}[{mään]}
            put-4-QCLI machine-PL rumble-INF3-ILL
            shall we get the machines rumbling




120   C                                                {C----}
                                                  *
                                    [ pan]naan vaan kiert{ämään}
                                    put-4    just turn-INF3-ILL
```
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7. CONCLUSIONS: Issues for phonology

Representational issues: 1. Units; 2. 'Congruence of levels': how to relate phonology, lexis, syntax, etc.

Terminological issues: "Prosody" has no simple definition: if phonological categories are a bridge between sound and meaning, prosodic categories need to be motivated as rigorously as interactional ones are.

Transcription conventions.

Transcriptions are given on several lines. The basic transcription is a modified orthography, with occasional phonetic details included. More detailed phonetic information is provided above the line. A gloss is provided below the line in `courier` (derivational morphemes not included), and a free translation in *Times* font below that. Underlining is used on the orthographic line to mark accented syllables.

^	unexpectedly high pitch	[	start of talk in overlap
`	stressed syllable	]	end of talk in overlap
.	low final pitch	=	immediate start/end of turn
?	high final pitch	→	relevant line in the extract
;	non-low final pitch	{	start of extent
-	word cut off abruptly	}	end of extent
:	lengthening	C	creak
(.)	pause (<.> c. 0.2s)	W	whispery
(0.5)	measured pause of 0.5s	H	voiceless
h	exhalation	all	faster than surrounding talk
.h	inhalation	l	slower than surrounding talk
( )	transcriber uncertainty	f	louder than surrounding talk
(( ))	transcriber's comment	p	quieter than surrounding talk

Principles of glossing.

(Conventions adapted from Marja-Leena Sorjonen's work, eg. Sorjonen 2001.) The following forms are treated as unmarked and not indicated in the glossing: (i) nominative (ii) singular (iii) active voice (iv) present tense (v) 2SG imperative.

Case	*Abbr'n*	*Approx. meaning*		
ablative	ABL	off,from	ADV	adverb
accusative	ACC	object	CLI	clitic
adessive	ADE	at, on	COM	comparative
allative	ALL	on to, to, for	COMP	complementiser
essive	ESS	as	CON	conditional
genitive	GEN	possession, object, subject	IMP	imperative
elative	ELA	out of, about	INF(1-4)	infinitive (one of four forms)
illative	ILL	into, for	NEG	negation (= auxiliary verb)
inessive	INE	in	PAS	passive
instructive	INS	with, by	PC	participle
nominative	NOM	subject, object	PL	plural
partitive	PAR	'some', subject, object	POS	possessive suffix
translative	TRA	new state	PPC	past participle
			PPPC	passive past participle
			PRT	particle
1	first person	PST	past tense
2	second person	Q	interrogative
3	third person	SG	singular
4	impersonal	SUP	superlative

Kitzinger, John Local, Geoff Raymond, Marja-Leena Sorjonen, Bill Wells for comments on earlier drafts of the paper.

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