

## PART 2

### Illustrations of the IPA

This part of the Handbook will contain the twenty or so 'Illustrations' which have appeared in the *Journal of the International Phonetic Association* since 1989. These are phonetic analyses of a language, showing how the IPA can be used in the description of its phonological inventory, and in the transcription of a continuous text. As an example, the following is a previously unpublished Illustration. The majority of the others are much shorter than this example.

#### Irish

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Irish, or Gaeilge, is a Celtic language which is spoken as a mother tongue in certain parts of Ireland, known as Gaeltacht regions. It is closely related to Scottish Gaelic and Manx, and more distantly to Breton, Welsh and Cornish. There are three main dialects of Irish, and although there is a written standard form there is no spoken standard accent. Written records in Gaeilge date back to the 8th century, with a literary tradition continuing in manuscript until the mid-nineteenth century, when published books became commonplace. The spelling system remained relatively unchanged from around the twelfth century until a government-sponsored reform in the mid twentieth century, but even so, orthographic forms can be rather archaic. There is on the whole a poor correspondence of letter to sound, as will be evident from the orthographic version of the text below. This phonetic opacity however confers the advantages of morpho-phonological transparency, and helps the written form bridge divergences between the modern-day dialects, being relatively equidistant from the spoken forms. The description and sample text given here is based on the speech of a native of Na Doirí Beaga, Gaath Dobhair, one of the Gaeltacht areas in County Donegal, situated in the north west of the country. She is a teacher in her thirties, working in Dublin.

#### Consonants

*Consonant quality:* The most striking feature of the consonantal system is the phonological opposition of a series of palatalized and velarized segments. This is accommodated in the table by subdividing the rows and placing the velarized series above the palatalized. Consonants which do not enter into the opposition, such as [h], are placed in the middle of a cell. The palatalized-velarized opposition serves not only for lexical differentiation, but may also express certain grammatical functions, such as case and number marking on nouns, e.g., *ól* [ɔ̠<sup>l̪</sup>] 'drink' (nom. sg.) *óil* [ɔ̠<sup>l̪</sup>] 'drink' (gen. sg.); [b<sup>v</sup>æd̪<sup>v</sup>], *bád* 'boat' (nom. sg.) [b<sup>v</sup>æd̪<sup>l̪</sup>] *báid* 'boat' (gen sg, and in some dialects, nom. plur.). Word internally, consonants in a cluster typically agree in terms of quality. The customary term velarization is used although the secondary articulation may be further back (in the uvular or upper pharyngeal regions) than strictly implied by the term velarization.

The phonetic distinctions between palatalized and velarized pairs of consonants may involve more than secondary palatalization and velarization. In the case of the labial consonants, the velarized segments are additionally labialized. For pairs such as /t̥ʲ t̥ʷ/ both primary and secondary features are involved. The former is a palatalized lamino-postalveolar, which will here be referred to as alveopalatal, and the latter is a velarized apico-dental with contact extending onto the alveolar ridge. In the case of palatals and velars, for example /c k/, where the primary place of articulation coincides with the secondary articulation characterizing the phonological series, the realizations are transcribed in terms of primary articulation differences alone.

|                       | Labial                                                         | Dental                          | Alveolar                         | Alveolo-palatal                 | Palatal | Velar | Glottal |
|-----------------------|----------------------------------------------------------------|---------------------------------|----------------------------------|---------------------------------|---------|-------|---------|
| Plosive               | p <sup>v</sup> b <sup>v</sup><br>p <sup>j</sup> b <sup>j</sup> | t̥ <sup>v</sup> d̥ <sup>v</sup> |                                  | t̥ <sup>j</sup> d̥ <sup>j</sup> | c ɟ     | k g   |         |
| Fricative/<br>Approx. | f <sup>v</sup> w<br>f <sup>j</sup> v <sup>j</sup>              |                                 | s <sup>v</sup>                   | ç                               | ç j     | x ɣ   | h       |
| Nasal                 | m <sup>v</sup><br>m <sup>j</sup>                               | ɱ <sup>v</sup>                  | n                                | ɲ <sup>j</sup>                  | ɲ       | ŋ     |         |
| Tap                   |                                                                |                                 | r <sup>v</sup><br>r <sup>j</sup> |                                 |         |       |         |
| Lateral<br>Approx.    |                                                                | l̥ <sup>v</sup>                 | l                                | l̥ <sup>j</sup>                 |         |       |         |

Since both velarization and palatalization are generally indicated the symbolization in the chart is over-specified, except for palatals and velars (as mentioned above) where primary and secondary features coincide, and /c/ and /w/ where the secondary articulation is also implicit in the symbol. In phonological terms it would be sufficient to mark only one member of the opposition (traditionally the palatalized one), but this over-specification draws attention to the auditorily striking presence of phonetic velarization in the non-palatalized series. Strong on/off glides are generally found between velarized consonants and adjacent front vowels.

Alveolar laterals and nasals, and glottal fricatives, are a potentially problematic area in this dialect. Here it appears that an earlier opposition of palatalized/velarized segments has been lost, or at least is in the process of being lost. As produced by the present informant, these segments have a rather neutral quality and take their coloring from the adjacent segments. The case of the nasals and laterals is discussed more fully below.

In some phonological treatments, a separate series of voiceless nasals and liquids has been posited. As such sounds occur only in certain grammatical morphemes, they are probably best treated as sequences of nasal (or liquid) plus /h/, an analysis suggested by Sommerfelt (1964).

|                |                                                |                   |                    |                |                                |                    |                    |
|----------------|------------------------------------------------|-------------------|--------------------|----------------|--------------------------------|--------------------|--------------------|
| p <sup>v</sup> | p <sup>v</sup> ir <sup>v</sup> ah              | <i>Paorach</i>    | (family name)      | p <sup>j</sup> | p <sup>j</sup> in <sup>j</sup> | <i>píghin</i>      | 'penny'            |
| b <sup>v</sup> | b <sup>v</sup> i                               | <i>buí</i>        | 'yellow'           | b <sup>j</sup> | b <sup>j</sup> i               | <i>bí</i>          | 'be' (imp.)        |
| t <sup>v</sup> | t <sup>v</sup> i <sup>j</sup> d <sup>j</sup> ə | <i>taoide</i>     | 'tide'             | t <sup>j</sup> | t <sup>j</sup> i               | <i>(ar) tí</i>     | 'about to'         |
| d <sup>v</sup> | d <sup>v</sup> i <sup>j</sup> n <sup>j</sup> i | <i>daoine</i>     | 'people'           | d <sup>j</sup> | d <sup>j</sup> i               | <i>dí</i>          | 'drink' (gen.)     |
| k              | ki <sup>j</sup> <sup>v</sup>                   | <i>caol</i>       | 'thin' (masc.)     | c              | cia <sup>j</sup> <sup>v</sup>  | <i>ciall</i>       | 'sense'            |
| g              | gi <sup>j</sup> <sup>v</sup>                   | <i>gaol</i>       | 'relative'         | ɟ              | ɟia <sup>j</sup> <sup>v</sup>  | <i>giall</i>       | 'hostage'          |
| f <sup>v</sup> | f <sup>v</sup> i                               | <i>faoi</i>       | 'under'            | f <sup>j</sup> | f <sup>j</sup> i               | <i>fí</i>          | 'weaving'          |
| w              | wi                                             | <i>mhaoigh</i>    | 'boasted'          | v <sup>j</sup> | v <sup>j</sup> i               | <i>bhí</i>         | 'was'              |
| s <sup>v</sup> | s <sup>v</sup> i                               | <i>suí</i>        | 'sit'              | c              | ci                             | <i>'sí</i>         | 'she is'           |
| x              | xi <sup>j</sup> <sup>v</sup>                   | <i>chaol</i>      | 'thin' (fem.)      | ç              | çia <sup>j</sup> <sup>v</sup>  | <i>(mo) chiall</i> | (my) 'sense'       |
| ɣ              | ɣi <sup>j</sup> <sup>v</sup>                   | <i>(mo) ghaol</i> | (my) 'relative'    | j              | ɟia <sup>j</sup> <sup>v</sup>  | <i>(mo) ghiall</i> | (my) 'hostage'     |
| h              | hi <sup>j</sup> <sup>v</sup>                   | <i>(le) haol</i>  | (with) 'lime'      | m <sup>j</sup> | m <sup>j</sup> i               | <i>mí</i>          | 'month'            |
| m <sup>v</sup> | m <sup>v</sup> i                               | <i>maoigh</i>     | 'boast' (imp.)     | n <sup>j</sup> | n <sup>j</sup> ih              | <i>nigh</i>        | 'wash' (imp.)      |
| n <sup>v</sup> | n <sup>v</sup> i                               | <i>naoi</i>       | 'nine'             |                | l <sup>j</sup> en <sup>j</sup> | <i>léinn</i>       | 'education' (gen.) |
|                | l <sup>j</sup> en <sup>v</sup>                 | <i>léann</i>      | 'education'        | n              | en                             | <i>éan</i>         | 'bird'             |
| ŋ              | ŋi <sup>j</sup> <sup>v</sup>                   | <i>(a) ngaol</i>  | (their) 'relative' | ɲ              | ɲia <sup>j</sup> <sup>v</sup>  | <i>(a) ngiall</i>  | (their) 'hostage'  |
| l <sup>v</sup> | l <sup>v</sup> e                               | <i>lae</i>        | 'day' (gen.)       | l <sup>j</sup> | l <sup>j</sup> ej              | <i>léigh</i>       | 'read' (imp.)      |
|                | ga <sup>j</sup> <sup>v</sup>                   | <i>Gall</i>       | 'foreigner'        |                | ka <sup>j</sup> <sup>j</sup>   | <i>caill</i>       | 'lose' (imp.)      |
|                |                                                |                   |                    | l              | lej                            | <i>leí</i>         | 'with her'         |
|                |                                                |                   |                    |                | g <sup>j</sup> il              | <i>(ag) gail</i>   | 'boiling'          |
| r <sup>v</sup> | m <sup>v</sup> ær <sup>v</sup> ah              | <i>'márach</i>    | 'tomorrow'         | r <sup>j</sup> | kær <sup>j</sup> ah            | <i>cáireach</i>    | 'dirty'            |

*Plosives:* The voiceless series is strongly postaspirated and devoicing of the voiced series is fairly widespread, especially in non-intervocalic contexts. The voiceless series are slightly preaspirated. Nasals and liquids before and after voiceless plosives are devoiced. The alveolopalatal plosives /t<sup>j</sup> d<sup>j</sup>/ are affricated, as are the palatal plosives /c ɟ/, though to a lesser degree.

*Fricatives:* /v<sup>j</sup> w j ɣ/ may be realized as approximants or as fricatives. The fricatives and approximants are grouped together because of their close relationship with their stop congeners. An important morphophonological alternation between word-initial stops and fricatives/approximants in Irish expresses certain grammatical functions such as present vs. past tense, gender marking on adjectives, and case marking in certain noun phrases. In the Gaoth Dobhair dialect, the voiceless velar fricative /x/ tends to occur only in initial position. Where it occurs non-initially in other dialects, Gaoth Dobhair usually has /h/.

*Laterals and Nasals:* Historically, there was a four-way opposition of laterals and nasals in the dental to alveolopalatal region. This system is widely reported in the dialect literature for Ulster (e.g. Quiggin 1906, Sommerfelt 1922, Ó Searcaigh 1925) and seems to have involved an opposition of palatalized and velarized alveolar segments, contrasting with a velarized dental and a palatalized alveolopalatal segment. However the present day situation, particularly among the younger generation in Gaoth Dobhair, is that one of the alveolar segments has more or less disappeared, leaving a robust three way contrast, with the possibility for some speakers of a marginal fourth phoneme. The latter was not reliably produced by this informant. In the case of the laterals, the velarized alveolar has tended to merge with the velarized dental /l<sup>v</sup>/ (see Ní Chasaide 1977, 1979). In the case of the nasals, the situation is more fluid: the palatalized alveolar has tended to merge with the palatalized alveolopalatal nasal /ɲ<sup>j</sup>/. In lexical items which have retained the

(original) alveolar pronunciation, there does not appear to be a contrast with the (originally) velarized alveolar.

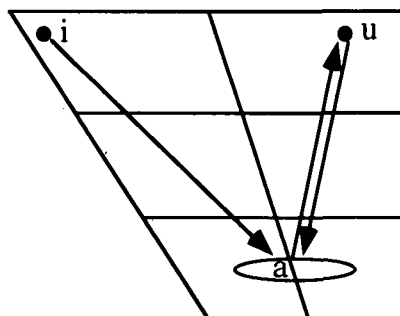
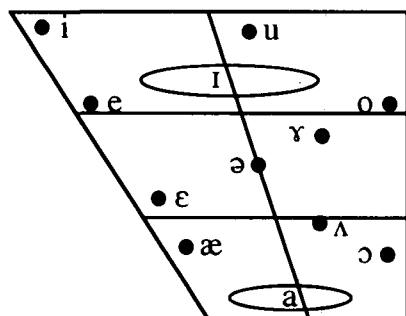
The remaining single alveolar lateral and nasal consonants have a fairly neutral or slightly clear quality, and tend to coarticulate freely with the quality of adjacent segments (see Ní Chasaide 1977). In prepausal position, the alveolar lateral and nasal segments tend to be devoiced, and to clip a preceding short vowel making it over-short. As the alveolar nasal does not occur in initial position, illustrations of the dental, alveolar, and alveolopalatal nasals and laterals in word-final position are included in the consonant word list.

*Rhotics*: An older four-way distinction among rhotics has been reduced to a two-way distinction in Gaoth Dobhair. Initially, the /r<sup>v</sup> r<sup>l</sup>/ distinction has been neutralized to a voiced post-alveolar approximant [ɹ], which takes its coloring from the following vowel. In non-initial position, the velarized member can be realized as either [r<sup>v</sup>] or [r<sup>l</sup>]. The historical palatalized /r<sup>j</sup>/, which in most other dialects is a palatalized tap or apico-postalveolar fricative, may also appear in Gaoth Dobhair as a voiced palatal fricative [j] in non-initial position. For both palatalized and velarized taps there is often incomplete closure with considerable frication.

## Vowels

Vowels fall into long and short sets, with long vowels (/i e æ ɔ o u/) typically shown in the orthography with an acute accent. Since long and short pairs of vowels are qualitatively distinct, the transcription does not mark length explicitly. Long vowels have short allophones in unstressed syllables and before /h/. Schwa occurs only in unstressed position. The close rounded vowel is often realized with only weak lip rounding.

*Allophonic realizations*: The locations of vowels marked on the charts represent a fairly high degree of abstraction, since consonantal quality exerts major influences on the quality of adjacent vowels. For all vowels, clearly audible on/off glides appear when their frontness or backness conflicts with the secondary articulation of the consonant with which they co-occur. Thus, a velarized consonant preceding a front vowel gives rise to a strong diphthongal glide of velar origin, and conversely, a strong palatal glide is audible between a palatalized consonant and a following back vowel. The wide range of steady state realizations of short /ɪ/ and /a/ are illustrated by large ellipses.



|   |           |                |                  |    |           |                 |           |
|---|-----------|----------------|------------------|----|-----------|-----------------|-----------|
| i | bʲiːˠvʲah | <i>baolach</i> | (to be) 'feared' | i  | ilə       | <i>uile</i>     | 'all'     |
| e | eːˠvʲi    | <i>éalaigh</i> | 'escape' (imp.)  | ɛ  | ɛlə       | <i>eile</i>     | 'another' |
| æ | æːˠvʲiˠj  | <i>álainn</i>  | 'beautiful'      | a  | aːˠvʲah   | <i>eallach</i>  | 'cattle'  |
| ɔ | ɔːˠvʲəˠvʲ | <i>ólann</i>   | (he) 'drinks'    | ʌ  | ʌːˠvʲə    | <i>ola</i>      | 'oil'     |
| o | oːˠvʲan   | <i>amhrán</i>  | 'song'           | ʁ  | ʁːˠvʲu    | <i>Uladh</i>    | 'Ulster'  |
| u | uːˠvʲi    | <i>úllai</i>   | 'apples'         |    |           |                 |           |
|   |           |                |                  | ia | iaːˠvʲahə | <i>iallacha</i> | 'laces'   |
|   |           |                |                  | ua | uaːˠvʲah  | <i>ualach</i>   | 'burden'  |
|   |           |                |                  | au | auwʲiˠj   | <i>Eamhain</i>  | (place)   |

### Suprasegmentals

Primary lexical stress is located on the first syllable of most words. The stress marks in the transcription indicate the syllables accented by the speaker in the reading of the passage. ‖ and | indicate the ends of major and minor intonational phrases respectively.

### Transcription of recorded passage

vʲi əˠn 'vʲi əˠdʲvʲuaj isʲ əˠn 'jɾʲian əʃ 'arʲvəgal lə ʃɛlə lə fʲal əˠmʲah 'caku dʲvəˠn  
 'vʲɛɾʲiˠj əbʲə ʃɾʲɛçə | ɲʲərʲvə hanʲʃ 'tʲvʲaçʲtʲaːˠvʲi əˠn 'bʲaːˠvʲah | əgəsʲ 'kɫʲvɔkə 'tʲjɛh  
 a xaçʲu ɛʃə ‖ 'dʲvəˠnʲvʲi çəˠdʲvʲ gərʲv əˠn dʲvʲiˠjə bʲvə 'ʃɾʲɛçə | əˠn dʲvʲiˠjə bʲvə 'lʲvʲuəçə  
 ə 'horʲvhu ərʲv əˠn 'tʲvʲaçʲtʲaːˠvʲi ə 'xɫʲvɔkə wʲvʲiˠj 'dʲvɔ ‖ m'çɪn 'hedʲj əˠn 'vʲi əˠdʲvʲuaj  
 xɾʲh 'tʲjɛˠnʲvʲ isʲv ə 'hɾʲku lɛçə | ah a 'vʲedʲj isʲv ə 'hedʲj çɪ | çə bʲvə 'lʲvʲuçə ə 'hanʲv  
 an 'tʲvʲaçʲtʲaːˠvʲi ə 'xɫʲvɔkə 'harʲvʲtʲv fʲvə 'dʲvʲu dʲvʲʌ ‖ əgəsʲ sʲvə 'dʲjɛɾʲu 'dʲjɛɾʲi əˠn 'ɣʲvʲi  
 əˠdʲvʲuaj əsʲv əˠn 'iarʲvʲarʲvʲtʲv ‖ əˠn'çɪn 'lʲvʲɾʲnʲvʲi əˠn 'jɾʲian gə 'tʲjɛh | əgəsʲ wʲvʲiˠj əˠn  
 'tʲvʲaçʲtʲaːˠvʲi 'dʲvɔ ə 'xɫʲvɔkə 'lʲvʲæhrʲah 'bʲvʲrʲv ‖ əgəsʲ ərʲv ə 'dʲvɔj çɪn | bʲjɛʃən dʲvəˠn  
 'vʲi əˠdʲvʲuaj ə 'adʲvʲwal | gɾʲvʲəbʲi i n 'jɾʲian ə bʲvə 'lʲvʲædʲjɛˠjə dʲvəˠn 'vʲjɛɾʲiˠj ‖

### Orthographic version

Bhí an ghaoth aduaidh 's an ghrian ag aragáil le chéile le fáil amach cé acu den bheirt a ba threise nuair a tháinig taistealaí an bealach agus clóca te á chaitheamh aige. D'aontaigh siad gur an duine 'ba threise an duine 'ba luaithe a thabhairfeadh ar an taistealaí a chlóca a bhaint dó. Ansin shéid an ghaoth aduaidh comh tréan is a thiocfadh léithe, ach dá mhéid a shéid sí 'sea ba dhlúithe a theann an taistealaí a chlóca thart fá dtaobh dó, agus sa deireadh d'éirigh an ghaoth aduaidh as an iarracht. Ansin lonnraigh an ghrian go te agus bhain an taistealaí dó a chlóca láithreach bonn. Agus ar a' dóigh sin b'éigean don ghaoth aduaidh a admháil gurbh í 'n ghrian a ba láidre den bheirt.

### Acknowledgments

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