

ILLUSTRATIONS OF THE IPA

Danish

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Together with Icelandic, Faroese, Norwegian and Swedish, Danish belongs to the Nordic group of Germanic languages. It is the national language of Denmark, spoken by virtually all of its 5.2 million inhabitants. It is written with the Latin alphabet, extended with *æ*, *ø*, *å*.

Danish, Swedish and Norwegian are mutually intelligible in writing to a fairly high degree, but the spoken languages probably fare less well, and Swedes and Norwegians may have a somewhat harder time understanding Danish than vice versa. These are empirical issues which have never been properly tested, however. If the surmise (which is a common enough among linguists) is correct, the explanation lies close at hand: Danish has undergone a very pronounced lenition of obstruents in syllable final position; post-tonic syllables may be highly reduced through schwa assimilation and deletion; the complementary distribution of vowel and consonant length in stressed syllables in Swedish and Norwegian is lost in Danish, to the exclusion of long consonants. Finally, the analogy to the tonal word accent distinction in Swedish and Norwegian is a—perhaps less perceptually salient—distinction between modal and creaky voice in Danish.

A number of distinct dialects of Danish exist, mainly differentiated by their phonological and phonetic characteristics, but the variety of Danish spoken in the greater Copenhagen area serves well as the standard language. For a complete account, see Grønnum (1998).

Consonants

| | BILABIAL | LABIO-DENTAL | ALVEOLAR | ALVEO-PALATAL | PALATAL | VELAR | SUPRA-PHARYNGEAL | GLOTTAL |
|---------------------|-------------------|--------------|-------------------|---------------|---------|-------------------|------------------|---------|
| PLOSIVE | p ^h b̥ | | t ^s d̥ | | | k ^h ɡ̊ | | |
| NASAL | m | | n | | | ŋ | | |
| FRICATIVE | | f v | s | ʃ | | | | h |
| APPROXIMANT | w | | | ð | j | w | ɣ | |
| LATERAL APPROXIMANT | | | l | | | | | |

Add to this the non-syllabic manifestation of /r/ in post-vocalic position, transcribed either [ɾ] or (as in this paper) [ʌ].

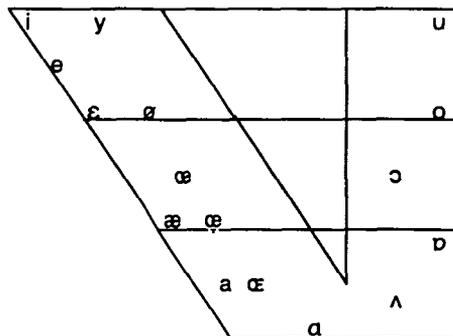
| | | | | | | | | | | | |
|----------------|-------------------|-----|----------------|----------------|-------------------|----------|------------|----------------|-------------------|-------|-------------------|
| p ^h | p ^h aɖ | pat | stalemate | t ^s | t ^s aɖ | tat | bob | k ^h | k ^h aɖ | kat | cat |
| b | b̥aɖ | bat | bat | ɖ | ɖaɖ | (dit og) | (this and) | ɟ | ɟaɖ | gat | vent |
| | | | | | | dat | that | | | | |
| m | maɖ | mat | lustreless | n | naɖ | nat | night | ŋ | 'lɛŋə | længe | long |
| f | faɖ | fat | seize! | s | saɖ | sat | sedate | | | | |
| v | vaɖ | vat | cotton wool | ç | çaɖ | sjat | slop | | | | |
| w | hɑw | hav | ocean | ð | mað | mad | food | ʁ | ʁaɖ | rat | steering wheel |
| | | | | j | ja | ja | yes | ʌ | b̥æʌ | bær | berry |
| | | | | l | laɖ | ladt | loaded | h | haɖ | hat | hat |

[ð ŋ w] do not occur in prevocalic position, [p^h t^s k^h ç h v ʁ] do not occur in postvocalic position in the syllable.

Note that in a narrower transcription the aspirated plosives would be rendered as [b^h ɖ^s ɟ^h], since they are in fact lenis. [v] would be [ʋ] since it lacks frication noise. And [ð] and [ʁ] would be [ð̥] and [ʁ̥], respectively, for the same reason.

Taking morphologically conditioned phonological alternation into account, the consonant sounds are manifestations of 15 phonemes: /p t k b d g f s h v m n l r j/, cf. Grønnum (1998).

Vowels



In stressed syllables Danish has 16 distinct monophthongal vowel sounds, most of which can occur both short and long; long vowels may occur with or without stød (see below). Add to this [ə] which occurs in unstressed syllables only. Further, there are 18 (19) falling diphthongs, and as many rising diphthongs as there are [j]+vowel sequences.

The monophthongs are plotted in the cardinal vowel chart, with the broad symbols conveniently ascribed to them.

Monophthongs

| short | | | | long | | | |
|-------|--------|------------|-------------|------|---------|-------|----------|
| i | liḑ | lidt | suffered | i: | 'mi:lə | mīle | miles |
| e | leḑ | lidt (adv) | little | e: | 'me:lə | mele | meal |
| ɛ | leḑ | let | light (adj) | ɛ: | 'mɛ:lə | mæle | utter |
| æ | bæʌ | bær | berry | æ: | 'mæ:lə | male | paint |
| a | laḑ | ladt | loaded | ɑ: | 'kʰɑ:bə | karpe | carp |
| ɑ | laḑ | lak | lacquer | y: | 'sy:nə | syne | inspect |
| y | tʰysḑ | tyst | silent | ø: | 'fø:nə | føne | blow dry |
| ø | øsdḑ | øst | east | œ: | 'hœ:ne | høne | hen |
| œ | hœnʰs | høns | hens | œ̃: | 'ʁœ:bə | røbe | disclose |
| œ̃ | ʁœsdḑ | røst | voice | u: | 'mu:lə | mule | muzzle |
| œ̃ | ḡʁœnʰ? | grøn | green | o: | 'mo:lə | mole | pier |
| u | ḑu | du | you | ɔ: | 'mɔ:lə | måle | measure |
| o | jo | jo | yes | ɒ: | 'b:lə | årle | early |
| ɔ | pʰɔ | på | on | | | | |
| ɒ | vɒ | vor | our | | | | |
| ʌ | sʌ | så | then | | | | |

Taking morphologically conditioned phonological alternation into account, the vowel sounds are manifestations of 10 vowel phonemes: /i e ɛ a y ø œ u o ɔ/, cf. Grønnum (1996, 1998).

Diphthongs

There are no principled restrictions in sequences of [j] plus vowel, and phonetically they form rising diphthongs, as in, e.g., ['jidiç 'jæ:nə jysḑ 'jø:ðə 'jo:nas 'jʌḑə] *jiddisch, Jane, jysk, jøde, Jonas, jokke* 'Yiddish, Jane, Jutlandish, Jew, Jonah, shore (archit.)'.

The falling diphthongs end in [j], [w], or [ʌ]:

| | | | |
|-----|---------|--------|-------------------------------|
| aj | maj | mig | me |
| æj | mæj | møḑ | dung |
| (uj | 'hujə | huje | hoot — in this one word only) |
| iw | 'iʋxi | ivrig | eager |
| ew | 'pʰewʌ | peber | pepper |
| ɛw | 'ɛwnə | evne | capability |
| æw | ḑæw | drev | pinion |
| aw | 'sawnə | savne | miss |
| yw | 'tʰywdə | tyvte | accuse of theft |
| øw | 'øʋxi | øvrig | remainder |
| œw | 'sœwni | søvnig | sleepy |

| | | | |
|----------------|-------------------------------------|--------|---------------|
| œw | d̥kœw | drøv | cud |
| ɔw | t̥ɔw | tov | rope |
| i ^ˆ | b̥i ^ˆ ʌ̥ḡ | birk | beech |
| e ^ˆ | p ^h e ^ˆ ʌ̥ | Per | (proper name) |
| æ ^ˆ | b̥æ ^ˆ ʌ̥ | bær | berry |
| y ^ˆ | 's̥d̥y ^ˆ ʌ̥ḡə | styrke | strength |
| ø ^ˆ | 'k ^h ø ^ˆ ʌ̥s̥ | kørsel | driving |
| œ ^ˆ | mœ ^ˆ ʌ̥ḡ | mørk | dark |
| u ^ˆ | 'hu ^ˆ ʌ̥d̥i | hurtig | fast |
| o ^ˆ | so ^ˆ ʌ̥d̥ | sort | black |

The diphthongs can all be analyzed phonologically as consonant-vowel and vowel-consonant sequences, respectively. The rising diphthongs all begin with /j/, of course. Falling diphthongs in [-^ˆ] are vowel plus /t/ sequences, whereas the identification of [-j] and [-w] diphthongs is less straightforward. In a morphophonemic analysis [-j] derives from /j/ as well as /g/; and [-w] derives from /v/, /b/ and /g/, respectively, cf. Basbøll (1975) and Grønnum (1998).

Schwa-assimilation

Assimilation of [ə] is pervasive in Danish, not only in spontaneous speech but also in distinct speech styles. Schwa is assimilated to a neighbouring vowel or to a sonorant consonant which then becomes syllabic:

| | | |
|----------------------|---------------|------------|
| 'd̥i:i | <i>die</i> | suckle |
| 'd̥u:u | <i>due</i> | dove |
| 'æ:æ | <i>ae</i> | caress |
| 'b̥æ:ð̥ | <i>bade</i> | bathe |
| 'hu:l̥ | <i>hule</i> | cave |
| 'mɔ:ŋ̥ | <i>måne</i> | moon |
| 'd̥æ:m̥ | <i>dame</i> | lady |
| 's̥biðð̥ | <i>spidde</i> | impale |
| 'k ^h ull̥ | <i>kulde</i> | cold (sb) |
| 'k ^h ʌmm̥ | <i>komme</i> | come |
| 'vɛn̥ | <i>vende</i> | turn |
| 'lɛŋ̥ | <i>længe</i> | long (adv) |
| 'hylð̥ | <i>hyldet</i> | praised |
| 'ḡam̥ | <i>gammel</i> | old |

Complete elision, with loss of a syllable, also occurs, although not as frequently, thus ['sḡæ:b̥ə] *skabe* 'create' becomes [sḡæ:b̥] and ['p^hasə] *passe* 'fit' becomes [p^has].

Prosody

Stød

Stød is a kind of creaky voice. It occurs in long vowels and in phonetically voiced (sonorant) consonants. Presence vs absence of stød create an abundance of minimal contrasts:

| | | | | | |
|-----------|------------|------------|----------|--------|----------------------|
| 'vi:²sʌ | viser | shows | 'vi:sʌ | viser | hand (on instrument) |
| 'b̥e:²n̥ð | benet | the leg | 'b̥e:n̥ð | benet | bony |
| 'v̥e:²s̥ŋ | væsen | creature | 'v̥e:s̥ŋ | hvæsen | hiss |
| 'v̥æ:²l̥ŋ | hvalen | the whale | 'v̥æ:l̥ŋ | valen | half-hearted |
| 's̥y:²n̥ð | synet | the vision | 's̥y:n̥ð | synet | inspected |
| 'kʰø:²b̥ʌ | køber (vb) | buys | 'kʰø:b̥ʌ | køber | byer |
| 'mu:²s̥ŋ | musen | the mouse | 'mu:s̥ŋ | musen | the Muse |
| 'mo:²ð̥ŋ | moden | ripe | 'mo:ð̥ŋ | moden | the fashion |
| 'vo:²b̥m̥ | våben | weapon | 'vo:b̥m̥ | åben | open |
| h̥m̥² | ham | slough | h̥m̥ | ham | him |
| v̥eŋ² | vend | turn! | v̥eŋ | ven | friend |
| s̥g̥al² | skal | shell | s̥g̥al | skal | must |
| t̥œ̥ʌ² | tør | dry | t̥œ̥ʌ | tør | dares |

For stød to occur in a stressed syllable, one of two conditions must be satisfied: either the vowel must be long, and the stød then tends to coincide with the end of the vowel, or the short vowel must be succeeded by a phonetically voiced consonant which then carries the stød. Syllables with short vowels succeeded by unvoiced consonants do not satisfy this condition and accordingly cannot have stød. Although stød is distinctive, its presence or absence in a word is to a very large extent predictable from phonological and morpho-syntactic structure, cf. Basbøll (1985, 1988). Basbøll (1998, 1999) suggests that syllables be further broken down into moræ. Stød is then a property of bi-moraic syllables.

Length

The distinctive length in vowels, cf. above, can be considered a prosodic feature, because it is lost or added under certain morpho-syntactic conditions, cf. [hu:²s 'husli s̥gi:²b̥ 's̥giḃsfa²d̥] *hus, huslig; skib, skibsfart* 'house, domestic; ship, shipping'.

Stress

Stress is free in Danish, but its lexical distinctive function is limited, i.e. stress location in a word is to a considerable extent predictable from phonological and morphological factors. Thus, there are a maximum of perhaps 20-30 minimal stress pairs, e.g. ['b̥ilis̥d̥ ḃi'lis̥d̥ 'aw̥g̥ɔs̥d̥ aw̥'g̥ɔs̥d̥ 't̥e̥g̥ni̥g̥ʌ t̥e̥g̥'ni̥g̥ʌ] *billigst, bilist; August*,

august; tekniker, teknikker ‘cheapest, motorist; August (proper name), (the month of) August; technician, techniques’. But stress location in, e.g., the following words is predictably located (indicated for the present purpose in the spelling) *’ælte, ’hule, ’usus, ’eventyr, ’fedekalv, me’lasse, maka’roni, ’tegningerne, ’elskede, be’kende, pro’saisk, ’Panama, ge’bærde, trompe’tist, maler’inde, ’tyndest, ’kvindelig, li’noleumet, bala’lajkaer, ’turbanen, ’skorstensfejer*.

Stress reduction in syntactic phrases is pervasive in Danish. Thus, e.g., the verb loses stress when it governs a noun without determiner, as in [*k^hø:bø ’hu:’s lɛ:sə ’bø:’ʌ*] *købe hus, læse bøger* ‘buy (a) house, read books’ vs [*k^hø:bø ’hu:’sɔ ’lɛ:sə ’bøw’ŋ*] *købe huset, læse bogen* ‘buy the house, read the book’; or in names, e.g. [*joħaŋlui:sə ’hajbøæʌ’ pħwɔɹ] nyɔbø ’ʁasmusŋ*] *Johanne Luise Heiberg, Poul Nyrup Rasmussen*, with stress only on the surname.

Intonation

Danish intonation is a hierarchical structure where components of larger structural scope carry and scale the manifestation of components of lesser scope. Thus, the stress group pattern—the fundamental frequency pattern associated with a stressed and all succeeding unstressed syllables—rides upon and is subordinate to the prosodic phrase contour, which in its turn is carried by and is subordinate to the more global utterance contour. See further Grønnum (1992).

Transcription of recorded passage

’noʌʌnven’ŋ ʌ ’so:’ɹɪn k^hʌm eŋ’gɹɹŋ’ i ’sɔkɹið’ ʌm’ ’vem’ ’a bŋ ɖa va ɖŋ ’sɔæʌgəsɔə ||
’ɖa ’so:’ ɖi ŋ ’vandbøxnsman’ ɖa k^hʌm ’gɔ:ɔnə | ’svøbɔ i ŋ ’va:’m ’k^hʌbø | ʌ ɖi ’e:nɔðəs
ʌm’ | a ’ɖen’ ɖa ’fœʌsɔ k^hu fɔ ’k^hʌbŋ ’a ham | sɔu ’anse:’s fʌ ɖŋ ’sɔæʌgəsɔə ||
’fœʌsɔ t^so ’noʌʌnven’ŋ ’fɑɖ | ʌ han ’bøɹ:sɔə ʌ ’bøɹ:sɔə | men jo ’me:ʌ han ’bøɹ:sɔə ɖes
’t^sɛɖʌʌ hʌɹɔ ’man’ŋ ’k^hʌbŋ ’sam’ŋ ’ʌm’ sa || t^se ’sisɔ mʌɖə ’noʌʌnven’ŋ gɹi
fʌ’t^sʌbɔ || ’sʌ t^so ’so:’ɹɪn ’fɑɖ | ʌ han ’sɔgənððə ʌ ’sɔgənððə | ʌ t^se ’sisɔ ’feɔ ’man’ŋ ɖe fʌ
’va:’mɔ ʌ mʌɖə t^sa ’k^hʌbŋ ’æ:’ || ’ɖa mʌɖə ’noʌʌnven’ŋ ’enbœm’ə a ’so:’ɹɪn va ɖŋ
’sɔæʌgəsɔə a ɖi ’t^so:’ ||

Orthographic version

Nordenvinden og solen kom engang i strid om, hvem af dem der var den stærkeste. Da så de en vandringsmand, der kom gående, svøbt i en varm kappe. Og de enedes om, at den der først kunne få kappen af ham skulle anses for den stærkeste. Først tog nordenvinden fat, og han blæste og blæste, men jo mere han blæste, des tættere holdt manden kappen sammen om sig. Til sidst måtte nordenvinden give fortabt. Så tog solen fat. Og han skinnede og skinnede, og til sidst fik manden det for varmt og måtte tage kappen af. Da måtte nordenvinden indrømme, at solen var den stærkeste af de to.

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