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Recent developments in the distribution of Danish Stød - and their theoretical implications.

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overview

- the nature of stød
- light and heavy syllables in Danish
- the function of stød
- stød and word structure
- stød in unexpected contexts
- cognitive implications

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stød is a kind of creaky voice
therefore only in voiced sounds

1. it requires more than zero stress on its syllable
2. it requires a certain amount of voiced material
 - either a long vowel as, e.g., in [p^he:ʔn] pæn *nice*
 - or a short vowel + a phonetically sonorant consonant as, e.g. in [p^henʔ] pen *pen*

syllables which fulfill these two requirements are **heavy** in Danish phonology

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some characteristic properties of the stød

- it is a property of the syllable rhyme;
- it is aligned with the onset of the stressed vowel;
- it is variable in both strength and temporal extension;

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stød is distinctive on the surface:

[ʔe:ʔsə]	læser	[ʔe:sə]	læser
	<i>reads</i>		<i>reader</i>
[ʔvæ:ʔlən]	hvalen	[ʔvæ:lən]	valen
	<i>the whale</i>		<i>numb</i>
[ʔhu:ʔsəð]	huset	[ʔhu:səð]	huset
	<i>the house</i>		<i>housed</i>
[ʔhɛnʔe]	hænder	[ʔhɛne]	hænder
	<i>hands</i>		<i>happens</i>

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stød is also productive

as in, e.g., the names of German composers in Danish:

[ʔbe:tʔowʔŋ]	Beethoven
[ʔhɛnʔdʔ]	Händel
[ʔmo:sɑ:ʔd]	Mozart
[ʔsu:ʔbɛd]	Schubert
[ʔbɛɑ:ʔms]	Brahms

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stød and word structure

Comprehensive analyses in:

Basbøll, H. (2005): *The Phonology of Danish*. Oxford: Oxford University Press.

Basbøll, H. (2008): Stød, diachrony and the Non-Stød Model. *NOWELE. North-Western European Language Evolution* 54/55. S. 147-189.

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stød in lexemes

NB: only heavy syllables

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(? marks the stød)

mu [?] s vs. muse	<i>mouse vs. Muse</i>
pan [?] t vs. tante	<i>lien vs. aunt</i>
vam [?] s vs. bamse	<i>doublet vs. teddybear</i>

it would seem that mono-syllabic lexemes have stød, di-syllabic lexemes do not

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however, consider:

(' marks the stressed syllable)

gal'an ['] t	<i>chivalrous</i>
ele'men ['] t	<i>element</i>
'Can ['] ada	<i>Canada</i>
ba'alance	<i>equilibrium</i>
marmellade	<i>marmelade</i>

accordingly, the proper general principle is:

the penultimate syllable of lexemes has no stød

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stød in inflection and derivation

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only **syllabic** endings influence stød

the pertinent question is:

"when does a heavy syllable in a poly-morphemic word **not** have stød?"

the answer is complex:

- it depends on the suffix and
- before certain suffixes it also depends on the number of syllables in the stem (one vs. more)

Note that for the present purpose we disregard lexically specified non-stød, as in native words like, e.g., ven *friend*, as well as generalized non-stød, e.g., in words of English or French origin, like team, ballon.

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three types of suffixes in Danish

fully productive
semi-productive
non-productive

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plural /-ər/ (productive):

hva?l	hva?ler	<i>whale (sg., pl.)</i>
ele'fan?t	ele'fan?ter	<i>elephant (sg., pl.)</i>
'tante	tanter	<i>aunt (sg., pl.)</i>
fa'jance	fa'jancer	<i>faience (sg., pl.)</i>

plural /-ər/ and other fully productive suffixes have no effect on stød or non-stød

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plural /-ə/ (non-productive):

hun?d	hunde	<i>dog (sg., pl.)</i>
so?l	sole	<i>sun (sg., pl.)</i>
hu?s	huse	<i>house (sg., pl.)</i>

plural /-ə/ is integrated in the stem, like other non-productive suffixes:
the ensemble resembles a lexeme

and remember that

the penultimate syllable of a lexeme has no stød

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infinitive /-ə/ (semi-productive):

bruge, genbru?ge	<i>use, recycle</i>
falde, overfal?de	<i>fall, attack</i>

before infinitive /-ə/ and other semi-productive suffixes, only mono-syllabic stems have no stød

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conclusion about stød in inflection and derivation

phonology and morphology together predict, by and large, the (presence or) absence of stød;

conversely, stød acts as a cue to morphological structure

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stød in unexpected contexts

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simple inflected nouns (plural)

formu²er fortunes
områ²der areas

but formue, område (sg.) are without stød and plural /ər/ does not normally influence stød

betjen²te policemen
fordom²me prejudices

the words have stød in the singular, betjen²t, fordom², but plural /ə/ normally entails loss of stød in the lexeme;

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simple inflected nouns (definite)

opga²ven the task
hygiej²nen the hygiene

but opgave, hygiejne are normally without stød in the indefinite, and definite singular /ən/ (and /əd/) do(es) not normally interact with the stød in the lexeme;

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compound inflected nouns

vinnav²ne wine names
folkesko²len the public primary school

but navne, skolen are without stød and composition does not normally yield stød in the non-initial member of compounds

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compound verbal adjectives

nule²vende (literally) now-living
compare levende (without stød)
nule²v+e *now-live
hvalpelig²nende *puppy-resembling
compare lignende (without stød)
hvalpelig²n+e *puppy-resemble

before infinitive /-ə/ only mono-syllabic stems have no stød

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all the stems with unexpected stød so far have two things in common:

- (1) they have morphological endings and
- (2) they are poly-syllabic;

perhaps this principle:

before infinitive /-ə/ only mono-syllabic stems have no stød

is being generalized to:

before **any syllabic suffix** only mono-syllabic stems have no stød

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we have also come across non-inflected lexemes with curious stød:

embe²de office (post)
tørklæ²de kerchief but normally

the penultimate syllable of lexemes has no stød

however, the words are phonetically similar to a stem + /ə/, so perhaps the principle just established

before **any syllabic suffix** only mono-syllabic stems have no stød

is being generalized to:

before **anything resembling a syllabic suffix** only mono-syllabic stems have no stød

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non-inflected compound noun stems

vingum²mi winegum
compare gummi without stød

but the final vowel, [i], in gummi is phonetically identical to semi-productive derivative -ig [i]

as in

mod+ig, overmo²d+ig courageous - foolhardy

and

before semi-productive, derivative -ig (= [i]) only mono-syllabic stems have no stød:

cont.

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cont.

medmenn²eske fellow human being
compare [ˈmɛnsgə] menneske without stød

but the final vowel, [ə], is phonetically identical to infinitive /-ə/ which we know to entail stød in poly-syllabic stems

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from a specific morphological parsing:

before semi-productive syllabic suffixes only mono-syllabic stems have no stød

to unspecified morphological parsing:

before any syllabic suffix, only mono-syllabic stems have no stød

to mainly phonological parsing:

in any word which phonetically **resembles** a stem + syllabic suffix, only mono-syllabic stems have no stød

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theoretical implications

more and more heavy syllables will have stød, and the need to formulate principles for its absence diminishes;

only in words where nothing precedes the stressed syllable, i.e. in words whose first syllable is stressed, will stød be truly distinctive and have morphological raison-d'être, as in musen *the Muse* vs. mu²sen *the mouse*;

in other contexts stød will become predictable from segmental structure alone (and degree of stress) and thus independent of the morphology;

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stød principles have hitherto operated in accordance with phonological, morphological (in the case of inflection and derivation) and semantic (in the case of composita) criteria and might thus, broadly speaking, be conceived as having a functional or cognitive basis;

the new tendencies we have observed have no impact on lexical or phonological aspects of stød; but they do represent a simplification of the morphological principles:

the unexpected stød occurrences represent a change towards more purely formal criteria, i.e. identification of the purely phonetic/phonological properties of words

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cognitive significance(?) of stød principles

generally, penultimate heavy syllables in the lexeme have no stød, cf.

hal²m, elefan²t straw, elephant
vs. tante, muse, tale aunt, Muse, speak

but in verbs, poly-syllabic stems have stød, cf.

→ holde, dele hold, divide
vs. ← behol²de, forde²le keep, distribute



extending to the rest of the lexicon, cf.

← embe²de, torklæ²de post (office), kerchief

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