Wh-nominals: "adnominal *how*"

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1. Introduction

There is considerable variation across North Germanic when it comes to the composition of noun phrases that contain a *wh*-word, i.e. interrogative noun phrases such as English *which N*, *what N* and *what kind of N* or exclamative noun phrases such as English *what a N*. An overview of mainly interrogative noun phrases can be found in Vangsnes (2008a) whereas Delsing (2010) provides comparative information on exclamative noun phrases across North Germanic. (See also Lohndal 2010 for exclamative noun phrases in Norwegian.)

In the Nordic Syntax Database (NSD) only one particular phenomenon related to *wh*-nominals has been tested, namely the use of the *wh*-item *korleis/hvordan* 'how' in Norwegian and the morphologically similar *hurdan* in Swedish. In dictionaries of Norwegian *hvordan* and *korleis* will be listed as adverbs since their standard use is to function as an interrogative manner adverb as exemplified in (1).

(1) a. Korleis   vil   du   løyse   denne   oppgava?   (No. Nynorsk)

　　　　how　　*will　you　solve　this　task-DEG*

　　　　'How will you solve this task?'

　　b. Hvordan   vil   du   løse   denne   oppgava?   (No. Bokmål)

　　　　how　　*will　you　solve　this　task-DEG*

　　　　'How will you solve this task?'

Bokmål Norwegian also allows the form *åssen* and there is an abundance of different variants for English manner *how* in Norwegian dialects (see *Norsk Ordbok*, vol. 6 (the entry *korleis*), and Vangsnes 2008b for details).

In many Norwegian dialects the *wh*-item used in examples like (1) can also be used noun phrase internally, and the ScanDiaSyn questionnaire tests this by the following two sentences, differing in meaning (see below), rendered here with standard Nynorsk orthography.

(2)   a.   Korleis   bil   har   du?   (#1370) (Norwegian)

             how   *car*   *have*   *you*

             'What kind of car do you have?'

        b.   Korleis   bil   er   din?   (#1371)

             how   *car*   *is*   *yours*

             'Which car is yours'

In the following we will refer to this use of *korleis/hvordan* as 'adnominal how'. The first sentence in this pair will typically yield a KIND interpretation: the addressee is expected to answer which kind of car he or she has. The second sentence on the other hand will typically yield a TOKEN interpretation: the most salient answer will be for the addressee to specify which car is his or hers. This KIND~TOKEN test has been discussed in Vangsnes (2008a).

       In the Swedish dialect areas the test sentences had the item *hurdan*. As will be discussed below this *wh*-word cannot be used as an interrogative manner adverb, but nevertheless has interesting overlapping morphology and syntax with the Bokmål Norwegian item *hvordan.*

2. Results

2.1 Nordic Syntax Database (NSD)

The sentence pair in (2) above was only tested in Norway and Sweden/Finland. Moreover, it was included in the questionnaire after the collection of data had started, and it has therefore not been tested at all of the Norwegian measure points. This will become evident from the following maps.

       Map 1 shows the distribution of results for (2a) above, i.e. the sentence testing the KIND use of adnominal *how*. We see that the sentence is accepted in all of Northern Norway and also in central and eastern parts of the country plus a few places in the southeast (Rogaland county). We also see that there are some large uncovered areas in the middle of southern Norway, which is due to the late inclusion of the test sentences in the Norwegian questionnaire. In Sweden the sentence gets the best results in the southern part of the country, and in Finland it is accepted both in the south and the west.

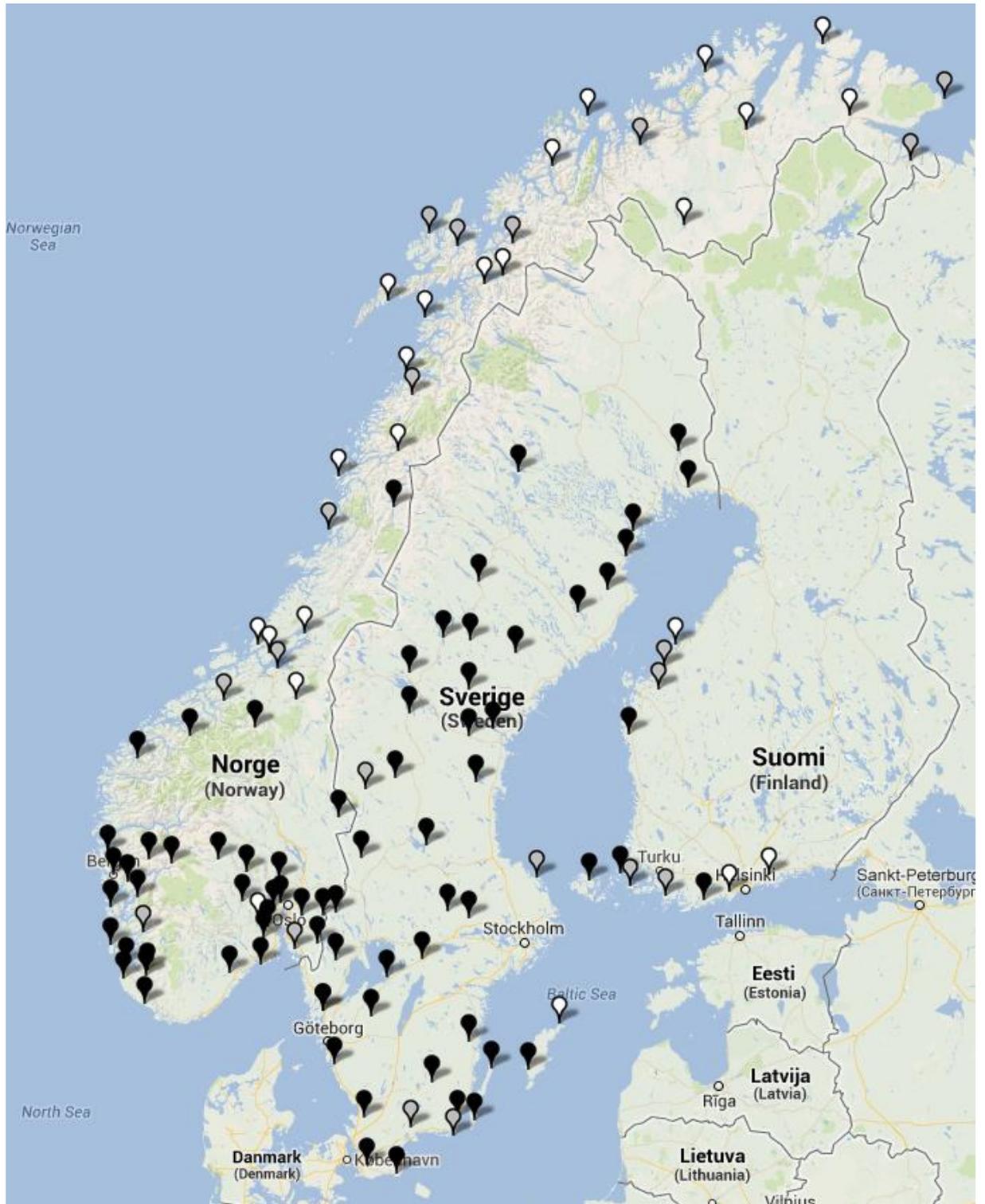*Map 1: Adnominal how with* KIND *interpretation*

(#1370: Korleis bil har du? 'What kind of car do you have?')

(White = high score, grey = medium score, black = low score).

Map 2 shows the results for the sentence in (2b) which tests for the TOKEN use of adnominal *how*, and we see that this sentence has a much more restricted geographical distribution. It is by and large rejected in Norway south of Trøndelag, modulo the areas not tested, and we see that in Northern Norway it gets a medium or bad score at 9 out of 23 measure points.[1] Moreover, the sentence receives a high score or medium score in very few places in the Swedish dialect area, mainly only at measure points in Finland where it gets a high average score in Larsmo (Ostrobothnia) and Borgå and Kyrkslätt (Nyland) and otherwise gets a medium score at four other measure points. On Swedish territory the sentence gets a high score in Fårø (Gotland) only and otherwise a medium score in three other places.

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[1] The single high score measure point in the south of Norway (Darbu), i.e. the white marker slightly west of Oslo, is due to flawed data. The test sentences here used the item *vem*, whose canonical function corresponds to the English personal pronoun *who* but which can also be used in many Eastern Norwegian dialects as a TOKEN querying determiner, i.e. corresponding to English *which*.

Map 2: Adnominal how with TOKEN *interpretation*

(#1371: Korleis bil er din? 'Which car is yours?').

(White = high score, grey = medium score, black = low score).

2.2 Nordic Dialect Corpus (NDC)

Examples of adnominal *how* are quite abundant in the *Nordic Dialect Corpus*. In the Norwegian part of the corpus there are at least 132 hits, and a rough classification into KIND and TOKEN suggests a quite even distribution: 68 instances of KIND and 63 of TOKEN.[2] There are no instances of adnominal *hurdan* in the Swedish recordings in the corpus.

As far as the general geographical distribution is concerned the data from the NDC by and large confirm the impressions from the questionnaire based data in NSD. Most instances are found in Northern Norway (55 hits) and in Central Norway (Trøndelag) (29 hits). Moreover, most of the hits from Western Norway are either from the most northern part (Bud; 2 hits), bordering to Central Norway or from the southernmost part (Sokndal; 12 hits), or bordering to the region Agder (Sørlandet). Of the remaining two hits one (from Fusa, Midhordland, Hordaland) is most likely irrelevant, and the other one (from Luster in Sogn) is in the area not covered by the questionnaire. In other words, the corpus data underscore the impression from the questionnaire results that adnominal *how* is not common in (large parts of) Western Norway.

The corpus data furthermore support the impression from the questionnaire data that the KIND interpretation is the most common one in Eastern Norwegian whereas both KIND and TOKEN readings are possible in Central and Northern Norwegian. This is evident from the figures in table 1 which summarizes the distribution across the various regions and distinguishes between age groups and sexes.

Northern Norway	younger male	younger female	older male	older female	Total
KIND	9	11	2	1	23
TOKEN	13	16	2	1	32
Central Norway (Trøndelag)	younger male	younger female	older male	older female	Total
KIND	6	6	–	4	16
TOKEN	4	5	1	3	13
Western Norway	younger male	younger female	older male	older female	Total
KIND	3	4	2	–	9
TOKEN	5	1	–	1	7

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[2] The hits were retrieved by searching for the standard Bokmål lemmata *hvordan* and *åssen* in combination with an indefinite noun. Some hits were also retrieved by searching for the lemma *hvilken* ('which'), which in 12 cases had (erroneously) been used as standard Norwegian gloss. After deleting irrelevant hits the remaining ones were classified as either KIND or TOKEN referring roughly according to whether Standard Bokmål Norwegian *hva slags* 'what kind of' or *hvilken* 'which' would be appropriate in the context.

Agder	younger male	younger female	older male	older female	Total
KIND	2	3	–	–	5
TOKEN	3	3	–	1	7
Eastern Norway	younger male	younger female	older male	older female	Total
KIND	4	10	1	1	16
TOKEN	2	2	–	–	4
Whole of Norway	younger male	younger female	older male	older female	Total
Total KIND	24	34	5	6	69
Total TOKEN	27	27	3	6	63
Total	51	61	8	11	132

Table 1: Instances of adnominal how in Norwegian dialects in the Nordic Dialect Corpus

As the table shows Eastern Norway is the only region in Norway where there is clearly an uneven distribution in favor of KIND examples (16:4, 80%).[3]

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[3] However, at the measure point Sokndal – the southernmost in Western Norway – the corpus data do not comply at all with the questionnaire results. All seven instances of token use in Western Norway come from this single measure point and are produced by three of the four informants consulted: all of these informants however rejected example (2b) above which tests for precisely the token reading. This is a spurious fact, but we may at least note that there is a discrepancy between the form of the *wh*-item used in the prerecorded questionnaire and the form produced by the informants in the corpus. The test sentences are read by a fieldworker in the Stavanger dialect, using the form *kossn*, but out of a total of 28 examples of both adnominal and clausal (manner) *how* in the corpus, 26 have the form *koss* and 2 have the form *kossn*. The two *kossn* instances are both produced by the older male informant, and he produces no instance of *koss*. Furthermore, one of the two *kossn* cases are adnominal, with a kind reading. Although this discrepancy between the input form and the judgments does not immediately account for why the informants allow the kind test sentence and not the token one, but it might be that it has created some noise in the test situation which for which the token sentence has been more vulnerable.
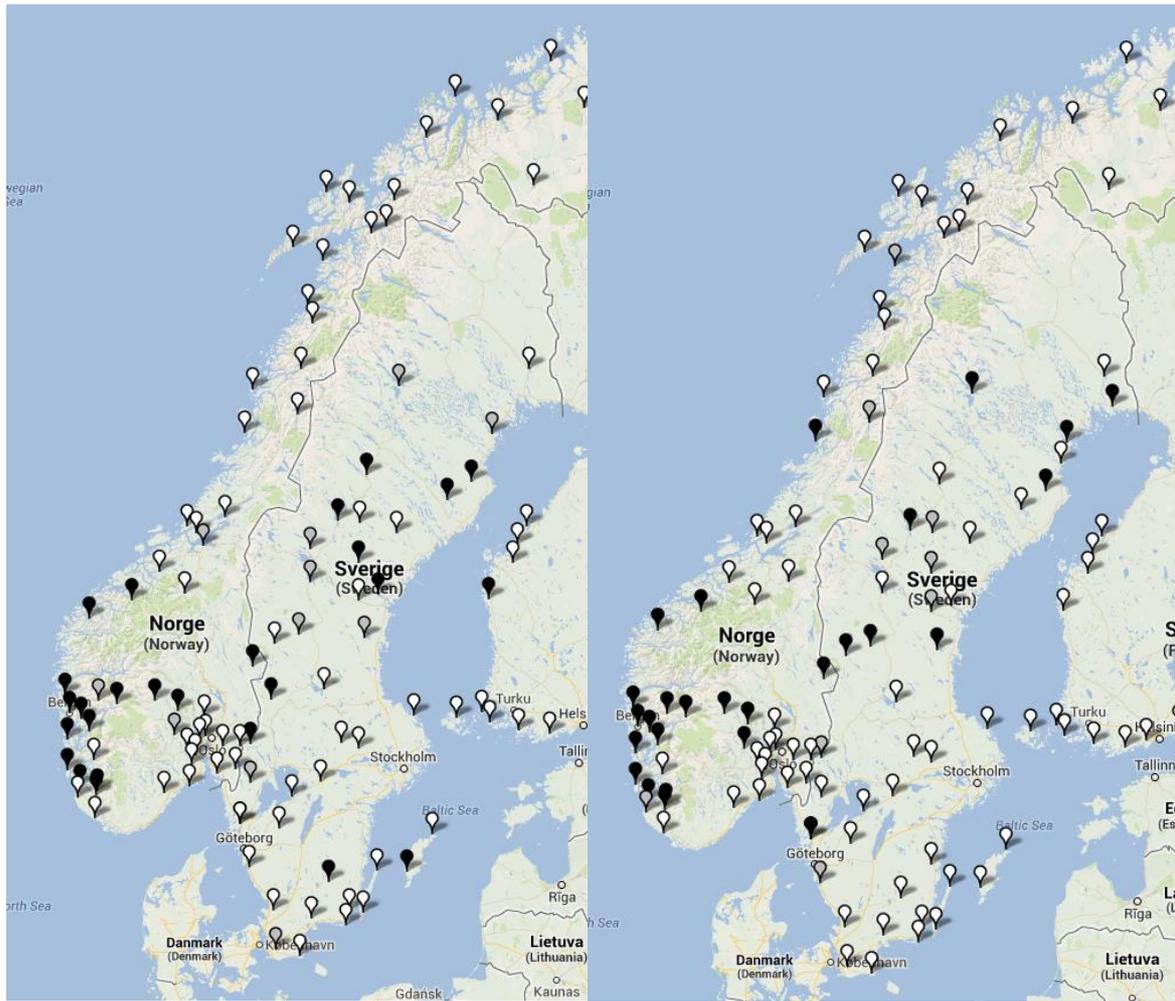
3. Discussion

3.1 Age variation NSD and NDC

Table 1 above also demonstrates the following: the great majority of the examples (85%) of Norwegian adnominal *how* in the NDC are produced by younger informants. This too squares with the results from the Norwegian questionnaire survey in the NSD in that more young informants than older ones accept (i) the phenomenon as such and (ii) TOKEN readings at measure points where all or most informants accept KIND readings.

The first point can be verified by comparing Maps 3a and 3b. Map 3a shows the result for the KIND reading sentence (2a) among younger informants whereas Map 3b shows the results for older informants. We see that there are a few places in Northern Norway that have a high score among young informants, but a low one (Sømna) or medium one (Hattfjelldal, Steigen) among the older informants, and we see that there are a couple of places in the south of Norway with a medium score among younger informants but a low score among the older ones (Voss, Rollag).

In the Swedish dialect area things are more convoluted. First of all, there are more measure points in Map 3b than in 3a, simply due to the fact that all informants on these locations belong to the older category. This said, we see that adnominal *hurdan* seems to be more accepted in the south of Sweden and furthermore that in the northern part the picture is far from clear: in some places younger informants approve of the construction and older ones do not whereas in other places it is the other way around.
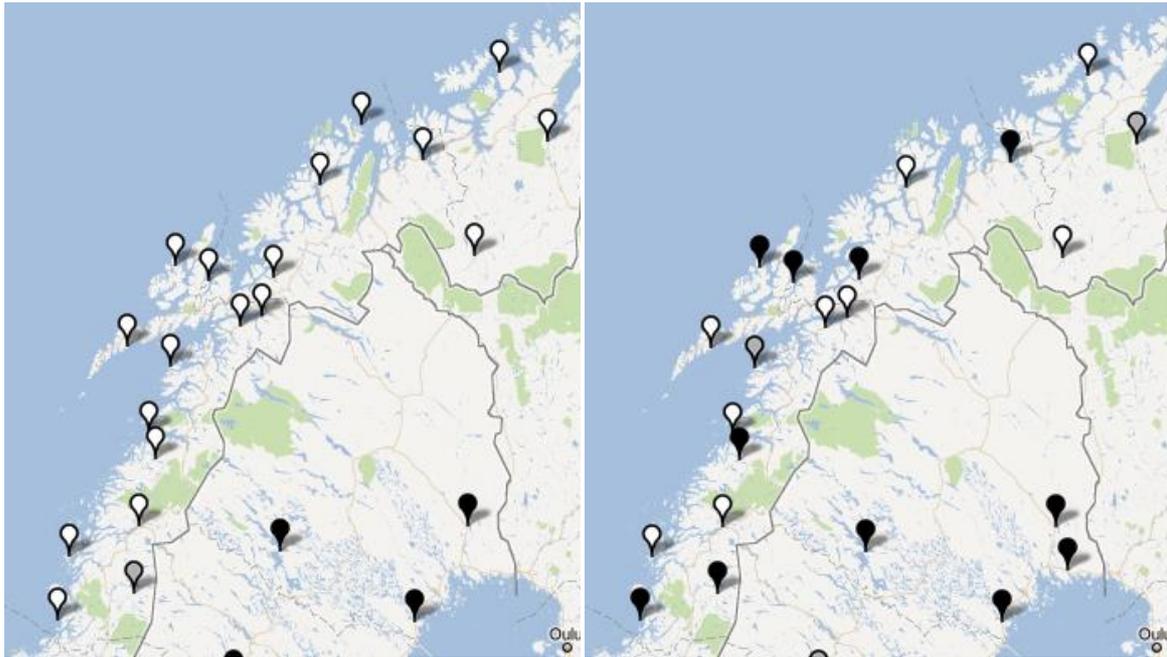
Map 3a: Results for sentence #1370 among younger informants

Map 3b: Results for sentence #1370 among older informants

(Korleis bil har du? 'What kind of car do you have?')

(White = high score, grey = medium score, black = low score).

The second point about age differences is especially clear for Northern Norwegian dialects, i.e. that there are more young informants than older ones who accept the TOKEN reading of adnominal *how*. Maps 4a and 4b show the difference between young and older informants for the TOKEN test sentence in (2b) in this part of Scandinavia, and we see that in all places where there is a difference, the sentence always gets a higher score among young informants than among older ones.

Map 4a: Results for sentence #1371 among   Map 4b: Results for sentence #1371 among older
younger informants   informants

(Korleis bil er din? 'Which car is yours?')

(White = high score, grey = medium score, black = low score).

All in all this means that we observe a quite clear age difference in the Norwegian dialect area: younger informants accept adnominal *how* to a greater extent than older ones and furthermore younger informants also produce the construction more.[4] This observation may in turn give us insights into the historical development of the construction, and we will return to that in section 3.4 below.

3.2. Other data sources

The dictionary *Norsk Ordbok* vol. 6 mentions the adnominal use of *korleis* and locates it on the basis of older records to all of Eastern Norway and Agder as well as various places in the northern part of Western Norway, in Central Norway and in Northern Norway. The fact that the phenomenon is widespread in colloquial Norwegian can easily be demonstrated by web searches: a Google search for the string "åssen bil" (i.e. 'how car') in January 2012 yielded 293 hits.

Furthermore, Vangsnes (2008c) investigated the use of *hvordan* and *åssen* in the Oslo dialect based on the Oslo part of the Norwegian Speech Corpus (NoTa) and found that 9,9% of the *åssen* instances (18 items) and 2,4% of the *hvordan* instances (11 items) were used adnominally. Out of the

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[4] Strictly speaking the production rate can only be decided when a full count of all KIND and TOKEN querying nominals has been carried out and the percentage of adnominal *how* cases within each age group has been established. But given the clear numeric difference between the two age groups there are no a priori reasons to think that the relative percentage of adnominal *how* should be the same across the groups.

total of 29 instances only 4 seem to have a TOKEN interpretation, suggesting an even clearer bias towards KIND interpretations than the figures for Eastern Norway above in table 1.

The use of adnominal *how* is also documented for Danish. *Ordbog over det danske sprog*[5] characterizes it as rare and colloquial but nevertheless lists several older literary examples. The phenomenon is also mentioned in the dialect dictionaries *Ømålsordbogen* and *Jysk Ordbog*, which cover the Danish isles and the Jutlandic mainland, respectively. In many of the examples listed by the Danish dictionaries, the *wh*-item is followed by an indefinite article.

Also in Icelandic we find an adnominal use of the *wh*-item *hvernig*, which otherwise corresponds to English manner *how*. Written examples are abundant on the World Wide Web, and according to Icelandic linguists consulted, the phenomenon has no particular colloquial ring to it. Adnominal *hvernig* seems to only allow for KIND readings.

Faroese seems to be the only North Germanic standard language for which adnominal *how* has not been documented and where a significant number of informants have rejected its existence (see Vangsnes 2009).

Outside of North Germanic it is worth mentioning that adnominal *how* (*hoe*) has been observed in dialects of Dutch, see Corver and Van Koppen (2011). Similar to what is sometimes the case for Danish such adnominal *hoe*'s appear to be followed by the indefinite article in these dialects of Dutch.

3.3 Theoretical issues regarding adnominal how

The Swedish item *hurdan*, which has been used in test sentences #1370 and #1371 in the Swedish dialect area, does not correspond directly to the Norwegian items *hvordan/åssen/korleis* insofar as it cannot be used for English manner *how*, i.e. as in the examples in (1). Rather, Swedish uses the item *hur* in such cases.

(3) Hur/*hurdan tenker du lösa den här uppgiften? (Swedish)

*how/how+ will you solve this task-*DEG

'How will you solve this task?'

However, the morphological similarity between *hurdan* and Bokmål Norwegian *hvordan* is evident, and as discussed in Vangsnes (2008b), the items can be decomposed into a *wh*-part (*hur/hvor*) and a lexical part (*dan*). The *wh*-part is identical to the item used in degree questions in the two languages (hence, for instance *hur gammal / hvor gammel* means 'how old') and the *dan*-formative stems according to received wisdom from the Low German participle of the verb *don* 'do'. Further discussion of these issues can be found in Vangsnes (2008b, 2013).

Furthermore, the two items do have an overlapping use, namely in predicative description queries of the kind exemplified in (4)

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[5] http://ordnet.dk/ods/

(4)   a.   Hurdan   ser   han   ut?   (Swedish)

              how   *looks* *he*   *out*

              'How will you solve this task?'

      b.   Hvordan ser   han   ut?   (Bokmål Norwegian)

              how   *will*   *you*   *solve*

              'What does he look like?'

As is evident from the maps in section 2.1 the adnominal use of *hurdan* is by and large only accepted with the KIND test sentence (i.e. #1370). We saw that the TOKEN test sentence (#1371) gets a high score at only three places and that Northern Ostrobothnia is the only *area* which stands: In addition to getting a high average score at Larsmo, the TOKEN sentence also gets a medium score at the neighboring measure points Munsala and Vörå. These few high or medium score measure points in the Swedish area may have an extra-linguistic explanation and requires further inquiries. The overall conclusion for Swedish dialects as a whole is nevertheless quite clear: adnominal *how* is only used in KIND queries.

In Vangsnes (2008a) it is suggested that the KIND and TOKEN interpretations relate to different structural configurations: the KIND interpretation relates to a *modifier* position within the noun phrase where for instance adjectives are merged, whereas the TOKEN interpretation relates to a determiner position, somewhat simplified as indicated in (5).

(5)   [$_{DP}$ \<determiner\>   [$_{AP}$ \<modifier\>   [$_{NP}$ \<noun\>

In dialects where adnominal *how* is compatible with both a KIND and a TOKEN interpretation the analysis would be that the *wh*-item can be merged either in the modifier or the determiner position (e.g. Northern and Central Norwegian). In varieties where adnominal *how* only allows for a KIND reading, however, the *wh*-item can only be merged in the modifier position (e.g. Eastern Norwegian, Swedish and Icelandic). Importantly, no place has been found where only the TOKEN reading is possible for adnominal how.

This suggests two things: (i) It is a core function of the *wh*-item used in adnominal *how* to refer to properties – this is the semantic connection between adnominal KIND function and the predicative description function, and the latter may furthermore be viewed as the link between the clausal MANNER function and the adnominal uses; (ii) the TOKEN interpretation is secondary and has developed by historical extension of the semantic properties of the *wh*-item(s) in question.

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Nordic Syntactic Judgements Database: http://www.tekstlab.uio.no/nota/scandiasyn/