Intraparadigmatic cyclic and roll-up derivations in the Old Norse reinforced demonstrative

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1. Background and data

The North and West branches of Germanic share a morphological innovation known as the reinforced demonstrative (RDem), usually glossed as 'this'. It was formed in Proto-Northwest Germanic by combining the distal demonstrative 'that' (Dem) with the particle *-*si*. The etymology of this particle is verbal, being derived from an imperative interjection 'look! see!' (cf. Gothic *saihʋ*, *sai*, Old High German *see*, *se*, ON *sé*, *se*; see the OED). This combination of Dem and *-*si*[1] is the historical basis for the different RDem paradigms we see attested in the daughter languages (Old Norse, Old English, Old Frisian, Old Saxon, Old High German). Typically, the evolution of RDem involved the emergence of a new stem, such as *þes-* or *þis-*, which was inflected with strong adjective endings (Haugen 1982: 100-1, EWAhd II: 611, 613).

This paper discusses the RDem paradigm of Old Norse (ON) (c. 1050-1300) in particular. It focuses on the internal syntax of the 24 forms in (1). The boxed forms in (1) display an RDem stem *þess-* plus regular strong adjective endings. The ON strong adjective endings (of the *n*-type class) are given in (2).

(1) *Old Norse reinforced demonstrative paradigm*

	F.SG	M.SG	N.SG	F.PL	M.PL	N.PL
NOM	**þessi**	**þessi**	þetta	þess-ar	þess-ir	**þessi**
ACC	þess-a	þenna	þetta	þess-ar	þess-a	**þessi**
GEN	þess-ar	þessa	þessa	þess-a	þess-a	þess-a
DAT	þess-i	þess-um	þess-u	þess-um	þess-um	þess-um

(2) *Old Norse strong adjective endings*

	F.SG	M.SG	N.SG	F.PL	M.PL	N.PL
NOM	-Ø	-r	-t	-ar	-ir	-Ø
ACC	-a	-n	-t	-ar	-a	-Ø
GEN	-rar	-s	-s	-ra	-ra	-ra
DAT	-ri	-um	-u	-um	-um	-um

Note that initial *r* is missing in the endings of the F.GEN.SG, F.DAT.SG, and GEN.PL: *þess-**ar*** (< *þess-rar*), *þess-**i*** (< *þess-ri*), *þess-**a*** (< *þess-ra*). This is not surprising in the context of ON phonology: inflectional *r* was highly vulnerable to assimilation with *s* (e.g. *laus-r* 'loose-M.NOM.SG' > *lauss*).[2]

The non-boxed forms fall into two categories. The bolded forms in (1) all surface as *þessi* and do not overtly show their adjective endings: there is no adjectival *-r* visible in M.NOM.SG *þessi*, nor can we see adjectival *-Ø* in F.NOM.SG / N.NOM/ACC.PL *þessi*. The non-boxed, non-bolded forms, on the other hand, all show their adjective endings word-internally and in geminated form: M.ACC.SG *þe-**nn**-a* (ending *-n*), N.NOM/ACC.SG *þe-**tt**-a* (ending *-t*), and M/N.GEN.SG *þe-**ss**-a* (ending *-s*). These forms end with a morpheme *-a*, which is an additional reinforcer morpheme (a so-called 'secondary reinforcer') that arose in the North Germanic branch only (not in West Germanic).

2. Descriptive templates

[1] This earliest stage in the development of RDem is attested in Runic Norse (c. 800-1050): F.NOM.SG **susi** (*súsi*) (< NWGmc **sō-si*), M.NOM.SG **saR:si** (*saʀsi*) / **sasi** (*sási*) (< NWGmc **sa-si*), M.ACC.SG **þansi** (*þansi*) (< NWGmc **þa-n-si*), N.ACC.SG **þatsi** (*þatsi*) (< NWGmc **þa-t-si*), M.DAT.SG **þaimsi** (*þæimsi*) (< NWGmc **þai-m-si*).

[2] It is also conceivable that this is deletion, meaning that the cluster *ssr* reduces to *ss*. I will not take a stand on whether this is assimilation or deletion, as nothing in my proposal hinges on this.

The basic structural template of the boxed forms may be thought of as *þess*-K (where '-K' means 'strong adjective ending'). Further decomposition is possible. The element *þe-* is the *i*-umlauted allomorph of the ON Dem stem *þa-* (cf. Dem forms N.NOM/ACC.SG ***þa-****t*, M.ACC.SG ***þa-****nn*, N.NOM/ACC.PL ***þa-****u*). There is reason to believe that the reinforcer component *-ss-* is responsible for this *i*-umlaut (consider for instance that *-ss-* ultimately comes from **-si*, which is known to have conditioned *i*-umlaut; Nielsen 2000: 237, n.3). The reinforcer *-ss-* may therefore be represented instead as *-ss^{i}-*, where the 'floating' *i* induces *i*-umlaut.[3] Thus the template of the boxed forms is more precisely *þa-ss^{i}*-K (> *þe-ss*-K). Similarly, the non-boxed, non-bolded forms can be represented as *þa-nn^{i}-a* (> *þe-nn-a*), *þa-tt^{i}-a* (> *þe-tt-a*), and *þa-ss^{i}-a* (> *þe-ss-a*).

For the template of the bolded (*þessi*) forms, I will first need to discuss the phonology of floating *i* in ON. It will be seen that it is deleted in most environments, but surfaces word-finally (i.e. *þa-ss^{i}* > *þe-ssi*). The phonology of floating *i* will also provide us with a test for the position of -K in *þessi*. In the end, the three templates in (3) emerge from the RDem paradigm.

(3) (a) boxed forms: ***þa-*** ***-ss^{i}*** **-K** => *þess-um*, *þess-u*, etc.
(b) bolded forms: ***þa-*** **-K** ***-ss^{i}*** => *þessi*
(c) non-boxed/non-bolded: ***þa-*** **-KK^{i}** ***-a*** => *þenna*, *þetta*, *þessa*

A final refinement we can make to (3) is to recognize that all three templates display gemination: gemination of *-s* in (a) and (b), and gemination of -K in (c); see (4).

(4) (a) boxed forms: ***þa-*** ***-s*** **-C^{i}** **-K**
(b) bolded forms: ***þa-*** **-K** ***-s*** **-C^{i}**
(c) non-boxed/non-bolded: ***þa-*** **-K** **-C^{i}** ***-a***

Note that the reinforcers *-s* and *-a* are in complementary distribution: they never cooccur within the same RDem form. Thus I assume that *-s* and *-a* are two flavors of the same syntactic head.

3. Derivations: Cinque (2005) and the U20 perspective

In total, we have four basic ingredients in ON RDem: *þa-* (D), inflection (K), a consonant geminator *-C^{i}* (call this R_1), and the reinforcers *-s/-a* (call this R_2). There are 24 possible combinations of the four heads D, K, R_1, and R_2. Only one of these 24, however, can be the correct underlying functional sequence. I will systematically narrow down the 24 possible orders using a number of tests, the most important test being that the correct fseq must be able to derive the three templates in (4) by U20 rules, i.e. leftward movement only; only XPs move; only structures that contain NP may move (Cinque 2005). Once the correct fseq has been found, the precise derivations for (4a-c) are discussed: (4a) and (b) have 'cyclic'-type derivations, and (4c) has a 'roll-up' derivation. Interestingly, the lexicalization of R_2 as *-s* or *-a* seems to depend on whether the derivation is cyclic or roll-up. The ON RDem paradigm therefore provides support for Cinque's (2005) system.

I will also discuss why we only see three kinds of structures in the ON RDem paradigm, even though a full 13 structures should be syntactically derivable by U20 rules. I will show that in addition to syntactic constraints, there are morphological and phonological constraints at stake as well. Only three structures (the ones in (4)) survive all these constraints.

Cinque, G. 2005. Deriving Greenberg's Universal 20 and its exceptions. *LI* 36, 3: 315-32. ***Etymologisches Wörterbuch des Althochdeutschen* (EWAhd).** 1988-. Lloyd, A., Springer, O. & Lühr, R. (eds.). Göttingen: Vandenhoeck & Ruprecht. **Gibson, C. St. John & Ringen, C.O. 2000.** Icelandic umlaut in optimality theory. *Nordic Journal of Linguistics* 23 (1): 49-64. **Haugen, E. 1982.** *Scandinavian Language Structures*. Minneapolis: University of Minnesota Press. **Nielsen, H.F. 2000.** *The Early Runic Language of Scandinavia: Studies in Germanic Dialect Geography*. Heidelberg: C. Winter Universitätsverlag. ***Oxford English Dictionary* (OED).** www.oed.com. OUP.

[3] This move is meant to parallel Gibson & Ringen (2000), who posit that those morphemes in modern Icelandic which induce *y*-umlaut have a floating bundle of [+round, -back] features in their phonological structures.