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Case Contiguity from the Germanic Perspective: Typology, diachrony and reconstruction*

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Abstract This paper explores Contiguity – a Nanosyntax-derived universal constraint on case syncretism – from the Germanic perspective. A set of 11 applicable Germanic varieties is examined, covering a broad geographical and diachronic range. Following data analysis, their comparison leads for an illuminating diachronic and typological picture. First, it is discovered that North and East Germanic subbranches present a different case hierarchy to West Germanic. Second, although Caha's (2009) original Contiguity constraints are confirmed to be too strong, a more recent granular approach by Starke (2017) (which integrates underlying nuances in accusative and dative) is shown to account for the range of data. Third, from this, a case hierarchy for Proto-Germanic is posited, as well as for Proto-West-Germanic which seemingly diverged. Two significant outliers are discussed: Walser German, an isolated Alemannic subgroup, and Germanic personal pronouns. A number of potential causes for these is proposed, including contact-induced change and the conservativity of pronouns. Areas for further research are identified, including a potential nuance in genitive case (a 'big genitive'), the next logical step from Starke's (2017) hierarchy, which could unify the two outliers with the rest of the data. Throughout the investigation, the merit of bridging traditional linguistic dichotomies (e.g. morphology vs. syntax, synchronic vs. diachronic analysis) transpires with increasing clarity.

1 Introduction

(1) Contiguity Hypothesis:
'In a given language, syncretism in case targets contiguous regions in a sequence which is fixed for that language. Contiguity restricts quite severely the logical possibilities.' (Caha 2009: 7)

Contiguity, stated in (1), was first developed by Caha (2009) in the Nanosyntactic framework, his aim being to set out a universal constraint on syncretism. Subsequent studies have shown the original constraint to be too strong; however, Starke (2017) proposes an articulated version of the proposed universal hierarchy which can account for the range of existing data. This paper sets out to confirm the utility

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of Starke's (2017) revised Contiguity hierarchy for *nominative, accusative, genitive* and *dative* cases. Furthermore, it attempts to establish a typological and diachronic standpoint on Contiguity in Germanic. In section 2, the theoretical background will be set out. In section 3, data collection and analysis (some novel and some from existing literature) will establish Contiguity hierarchies for nominal inflection in 11 geographically and diachronically representative Germanic varieties (North, West and East subbranches). The results will be applied in section 4, where typological findings and compatibility with Starke's (2017) revised hierarchy will be examined. Furthermore, diachronic implications of the findings will be explored, leading to a reconstruction of the Common Germanic Contiguity hierarchy for inflection. Section 4 will be concluded with a reflection on outliers to the trends, and potential accounts for the anomalies will be posited. Section 5 concludes.

2 Background

This section will examine the theoretical background to Contiguity (sections 2.1 to 2.2) and more recent refinements to Caha's (2009) original theory (sections 2.3 to 2.5).

2.1 Nanosyntax

Underpinning the theoretical approaches discussed in this paper is the framework of *Nanosyntax*, first proposed by Michal Starke (2002). Nanosyntax follows the well-established Generativist tradition, albeit with certain fundamental theoretical departures. One such tenet of Nanosyntax is that the atoms of language appear to be smaller than traditionally thought (Starke 2010: 1). It has, in the Nanosyntactician's view, become necessary to contradict the traditional assumption that the most granular units of syntax – the syntactic terminals – are lexical items (words and morphemes). Instead, syntax is constructed from *sub*morphemic elements on a scale such that even morphemes 'span several terminals' (Starke 2010: 1). Furthermore, Nanosyntax suggests that lexical items contain subtrees (syntactic trees 'paired with phonological and conceptual information', Starke 2010: 1), and that spellout concerns the matching of the spontaneously constructed syntactic tree with corresponding (sub)trees from the lexicon. This is referred to as *phrasal spellout*. A result of this theoretical innovation is that the traditional barrier between morphology and syntax (as well as semantics) becomes seamless: they are a single system, constructed from the same submorphemic material and the syntactic operation Merge.

One implication of the Nanosyntactic view is that lexical items may now be of differing sizes, containing varying levels of (sub)trees. This can allow for a clearer theoretical understanding and delineation of word classes, such as 'eventive nouns are 'bigger' than non-eventive nouns', or 'verbs are bigger than nouns which are bigger than adjectives' (p.2). A similar situation can be posited for the relationships between morphemes and other lexical items. For instance, the irregular plural entry *mice* is suggested to hold two subtrees: the tree for the noun *mouse*, as well as the

feature for plural. These would be stored together as one larger tree in the lexicon (p.3). This stacking of subtrees is referred to as *containment*.

2.2 Caha (2009)

2.2.1 Containment in case

Traditionally, there has been a split between Case, 'a formal feature underlying syntactic licensing of NPs', and case 'the morphological category' (Bobaljik & Wurmbrand 2008: 1). The connection between these two concepts, however, has become increasingly 'tenuous' (Bobaljik & Wurmbrand 2008: 1).[1] Since morphology in the Nanosyntactic view (section 2.1) is now simply an extension of syntax, Caha (2009) notes a shift in the understanding (and a subsequent unification) of case. He proposes that case is in fact composed of the submorphemic features stored in the lexicon. Since these features are treated syntactically under the operation of Merge, case is built sequentially from cumulative featural subtrees, exhibiting containment. I set out in Table 1 an illustration of cumulative case features, as posited by Caha (2009: 21-24). In (2), I reproduce a diagram of these features as the product of Merge:

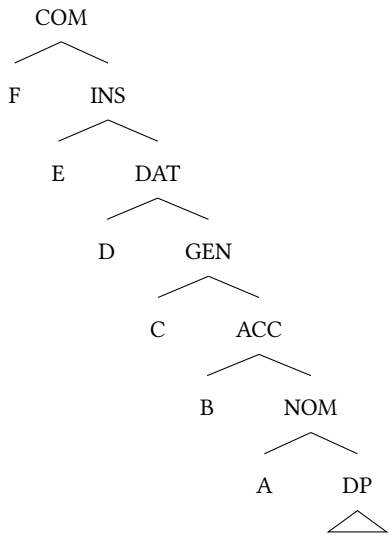
Case	Features
COM	F E D C B A
INS	E D C B A
DAT	D C B A
GEN	C B A
ACC	B A
NOM	A

Table 1 Example of cumulative case features, adapted from Caha (2009: 21).

As visible in (2), the outcome of Nanosyntax is that morphology becomes indistinguishable from the binary-branching trees of contemporary generative syntax, formed as the product of one operation: Merge. As illustrated, NOM is the lowest case, containing only one submorphemic case feature, which is abstractly represented by *A*. ACC forms one level above (that is to say, the next operation of Merge), containing both the submorphemic case feature *B* and the NOM subtree (containing *A*). GEN contains *C* as well as the subtree ACC (which in turn holds the subtree NOM). DAT contains *D* and the GEN subtree, and so on. What we see is the cumulative combination of submorphemic features producing case. Thus, the *containment* of case directly parallels other lexical entries in the Nanosyntactic worldview, such as the entry *mice* which contains the feature plural as well as the subtree for *mouse*.

[1] The O*xford Handbook of Linguistic Minimalism* states: 'It is fair to say that the phenomenon of case represents one of the more outstanding challenges for the Minimalist conjecture' (Pesetsky & Torrego 2011: 1).

(2) Case as a function of Merge in Nanosyntax, reproduced from Caha (2009: 24):



2.2.2 *Contiguity*

An intriguing prediction of the Nanosyntactic approach regards *syncretism*. Syncretism is the merging of forms expected to be distinct: for instance, in English, the singular form *deer* is syncretic with the plural form *deer*. Baerman, Brown & Corbett (2005) describe the phenomenon as 'the failure to make a morphosyntactically relevant distinction' (p.2).[2] Baerman & Brown (2005: 119) note that 'if two cases can be expressed by a single form, so the reasoning goes, this must be because they share some element of meaning'. This intuition becomes immediately apparent in Caha's (2009) cumulative approach illustrated in Table 1 and (2): Nanosyntactic containment potentially demonstrates the way in which these 'elements of meaning' (submorphemic features) could be distributed. Furthermore, Caha (2009) claims that this approach can account for crosslinguistic patterns of 'adjacency' widely acknowledged in linguistic literature (amongst others, see Baerman & Brown 2005, Johnston 1996, McCreight & Chvany 1991, Plank 1991.) Caha (p.7) illustrates adjacency in case inflection as follows:

	1	**2**	**3**	***4**
NOM	-es	-s	-a	A
ACC	-es	Ø	-a	B
GEN	-on	Ø	-a	A

Table 2 Illustration of adjacency and the *ABA pattern, adapted from Caha (2009: 7).

[2] More specifically, syncretism is a 'surface conflation of two [underlyingly] distinct morphosyntactic structures' (Caha 2009: 6).

Columns 1–3 in Table 2 show three inflectional patterns attested in Modern Greek, with syncretism highlighted in grey. The pattern which arises suggests that when the cases are arranged in a particular order, here being NOM-ACC-GEN, only directly neighbouring cases tend to display syncretism: NOM shows syncretism with ACC, and ACC with GEN. This is adjacency. Furthermore, in such an arrangement, the syncretism pattern in column 4 (unattested in Modern Greek) tends *not* to occur. This trend is referred to as *ABA, the asterisk signifying impermissibility. For the NOM in Table 2 to be syncretic with GEN, it would be expected that the 'intervening' ACC also share that syncretism, thus preserving adjacency (as visible in column 3, a pattern which is attested in Modern Greek).[3] Returning to Caha's (2009) approach to case, it turns out that the Nanosyntactic view already predicts *both* adjacency and *ABA (p.22). The precise reasons underlying this are beyond the ambit of this paper; the reader is directed to Caha (2009: 17-25) for an in-depth explanation, or Caha (2018: 19-24) for a more concise (although equally technical) overview. Nevertheless, the illustrations Table 1 and (2), depicting the containment of case features, can help visualise two important factors: first, the tree in (2) shows how hierarchical adjacency (of subtrees) is an unavoidable outcome of binary branching. Second, the cumulative set of features (Table 1) ensures that each case (excepting, of course, NOM) must contain the features of its the preceding lower-order case. Caha formalises these observations and Nanosyntactic predictions in the *(Case) Contiguity Hypothesis* (or simply *Contiguity*):

(1) Contiguity Hypothesis:
'In a given language, syncretism in case targets contiguous regions in a sequence which is fixed for that language. Contiguity restricts quite severely the logical possibilities.' (Caha 2009: 7)

The clause 'Contiguity restricts quite severely the logical possibilities' is no understatement. For instance, in a system with 6 cases, Contiguity predicts that only 15 of the 57 possible syncretisms would arise (Caha 2009: 8).[4] Nonetheless, Caha deemed Contiguity still insufficiently constrained: in a survey of 200 languages, Baerman et al. (2005) found that 'if one of the core cases is syncretic with an oblique, it is the marked core case' (Caha 2009: 9). In the context of nominative–accusative languages, this means the following:

(3) Crosslinguistic tendency in syncretism, reported by Baerman et al. (2005):
'If NOM or ACC is syncretic with an oblique case (GEN, DAT, INS, COM...), it is with ACC.'

For Caha (2009), (3) indicates that Contiguity alone is highly overgenerative. For instance, a language in which syncretism consistently indicated a sequence ACC-GEN-NOM would be deemed acceptable, despite its breaking what is paramount to a universal trend (3) (since GEN would be syncretic with NOM to the exclusion

[3] Henceforth, syncretism will be notated in the form {x|y} Column 3 would therefore be {NOM|ACC|GEN}.
[4] Caha (2009) was not the first to produce such calculations: Plank (1991) took a similar approach in modelling syncretism in Old English.

of ACC). Therefore, the data from Baerman et al. (2005) suggested a necessity to formalise a universal case hierarchy as well as Contiguity. Supported in his thesis by data from a variety of languages (Ancient Greek, Classic Armenian, Czech, German, Latin, Modern Greek, Old English, Russian, Serbian, Slovene and Ukrainian), Caha (2009) appends the 'Case Sequence' to his Contiguity, producing the 'Universal Case Contiguity Hypothesis' (UCCH):

(4) Universal Case Contiguity Hypothesis (UCCH) (Caha 2009: 49):

a. Non-accidental case syncretism targets contiguous regions in a sequence invariant across languages.

b. The Case Sequence (CS):
nominative < *accusative* < *genitive* < *dative* < *instrumental* < *comitative*

Numerous authors have previously also investigated such constraints (Jakobson, 1936, Johnston 1996 and Plank 1991, amongst others); notwithstanding, Caha's (2009) investigation was particularly successful for two reasons: first, prior frameworks often over- or under-generated permissible syncretisms, struggling to provide the theoretical constraints necessary to account for the emerging patterns. However, the UCCH predicts precisely the number and hierarchy of permissible syncretisms (p.8), whilst also providing the theoretical grounds for this (*containment* and *phrasal spellout* in Nanosyntax). Second, Caha (2009) makes clear that Contiguity is not simply a surface generalisation (p.10). He establishes very clear criteria for discerning accidental syncretisms: those syncretisms which are (ordinarily) the result of surface phonological conflation, rather than the result of Contiguity in the morphosyntactic system (p.15). I set out these criteria in section 2.2.3 below.

2.2.3 Accidental and non-accidental syncretism

According to Caha, *non-accidental syncretism* is to be distinguished from *accidental syncretism*, which is usually brought about by phonological conditions or 'accidental homophony' producing a surface-level conflation irrelevant to the UCCH (Caha 2009: 11).[5] He sets out diagnostic criteria (each in two parts) as follows (p.15):

(5) Non-accidental syncretism criterion 1 (Caha 2009: 15):

a. Accidental syncretisms are limited to a single exponent.

b. Non-accidental syncretisms tend to be replicated by various different exponents.

(6) Non-accidental syncretism criterion 2 (Caha 2009: 15):

a. Accidental syncretisms are confined to a single paradigm.

b. Non-accidental syncretisms show up across paradigms.

[5] Caha likens *accidental homophony* to lexical homophony, comparing English *two* and *too* (Caha 2009: 13).

Caha exemplifies criteria (5) and (6) with Russian declension, highlighting an *accidental homophony* producing {NOM|ACC|PREP}[6] syncretism (an 'offending' ABA) in neuter singular nouns:

	***window*.SG**	***field*.SG**	***building*.SG**
NOM	okn-o	pol'-e	zdani-e
ACC	okn-o	pol'-e	zdani-e
GEN	okn-o	polj-a	zdanij-a
DAT	okn-u	polj-u	zdanij-u
INS	okn-om	pol'-em	zdani-em
PREP	okn-e	pol'-e	zdani-i

Table 3 Canonical example of accidental syncretism through intersection ('An offending syncretism in Russian') (Caha 2009: 14).

First, it is to be noted that Russian declension has high allomorphy; as such, multiple exponents exhibit syncretism, supporting the Case Sequence.[7] However, the {NOM|ACC|PREP} syncretism is restricted to only one exponent: *-e*. This is consistent with criterion 1 (henceforth 5). Second, the 'offending' syncretism is restricted to one paradigm: that of *field*. This is consistent with criterion 2 (henceforth 6). As such, the {NOM|ACC|PREP} syncretism does not qualify as non-accidental. What becomes clear when comparing the paradigms for *window* and *building* is an accidental intersection of two disconnected but homophonous exponents: the PREP *-e* and the (separate) {NOM|ACC} exponent *-e*.

Caha presents a third criterion for 'languages with little allomorphy' (Caha 2009: 15):

(7) Non-accidental syncretism criterion 3 (Caha 2009: 15):

a. Accidental syncretisms do not target morpho-syntactic classes.

b. Non-accidental syncretism targets morpho-syntactic classes.

He describes (7) as a 'near equivalent' of (5). Although the definition of 'little allomorphy' is not discussed in detail, this criterion might prove useful as an aid in ambiguous instances.

2.3 Harðarson (2016): (ACC = DAT) ≠ GEN

In response to Caha's (2009) UCCH, Harðarson (2016) presents evidence from Northwest Germanic (see section 3.1), which appears to necessitate the following Contiguity hierarchy (p.3):

[6] This notation, {x|y}, indicates syncretism of *x* and *y* but remains neutral to hierarchy.

[7] Although present in Russian, Caha omits PREP in the CS (4b) due to a paucity of 'cross-linguistic analogues of such a case' (Caha 2009: 13).

(8) Harðarson's (2016) Contiguity hierarchy for Northwest Germanic:
nominative < *accusative* < *dative* < *genitive*

The impetus for this hierarchy is a persistent {ACC|DAT} syncretism which has come to be referred to as (ACC = DAT) ≠ GEN. Since ACC is shown to be non-accidentally syncretic with DAT, *to the exclusion of* GEN, this poses a challenge to the UCCH. Although *many* languages do present a hierarchy NOM<ACC<DAT<GEN, Harðarson (2016) claims that the Case Sequence of the UCCH presents too strong a constraint. In response, Harðarson presents his own (non-Nanosyntactic) featural approach, permitting two variations within a four-case system (either DAT<GEN or GEN<DAT). For Contiguity theory, however, Harðarson's findings seem to necessitate a retreat to Caha's (2009) earlier standpoint: that Contiguity holds, but only in 'a sequence which is fixed for that language' which is not universal (see 1 above). Doing so, however, would reinstate an old issue: Contiguity alone is overgenerative.

2.4 Starke (2017): BIG and SMALL

The year following Harðarson's (2016) seminal squib on (ACC = DAT) ≠ GEN, Starke (2017) presented a revised approach to this ABA, reinstating a potential universal hierarchy. It is essentially the same as the Case Sequence in Caha's (2009) UCCH, except with the insertion of two new nuances for ACC and DAT: BIG vs. SMALL. The revised hierarchy presents as follows:

(9) Starke's revised Case Sequence (SCS) (Starke 2017: 5):
NOM < SACC < SDAT < GEN < BACC < BDAT

Starke bases this amendment on observations regarding the English DAT, which can be shifted or non-shifted, and Spanish differential object marking (DOM), which can present ACC with or without the preposed marker *a*.[8] Starke infers from these morphosyntactic alternations the need for a more nuanced approach to DAT and ACC, as well as their positions in an underlying universal case hierarchy, and asserts the inadequacy of the traditional interpretation of 'surface' case which cannot capture these distinctions.

With SMALL and BIG variants inserted, the SCS can unite the NOM<ACC<GEN<DAT and NOM<ACC<DAT<GEN hierarchies documented by Caha (2009) and Harðarson (2016), all the while successfully re-constraining the overgenerative Contiguity.[9] According to Starke (2017: 6), the 'surface hierarchy' NOM<ACC<GEN<DAT corresponds underlyingly to the SCS as follows:

(10) Starke Case Sequence (SCS) for surface hierarchy NOM<ACC<GEN<DAT:
NOM < SACC < GEN < <u>BDAT</u>

[8] The latter in both languages taking 'larger', BIG forms, and the former appearing more 'structural' and SMALL.

[9] The higher-order cases (INS, COM, etc.) will henceforth not fall into discussion, since the primary aim of this paper is to investigate (ACC = DAT) ≠ GEN within attested Germanic, which is a predominantly four-case system.

On the other hand, the initially challenging surface hierarchy NOM<ACC<DAT<GEN employs a different underlying DAT, namely the small dative (SDAT), as follows:

(11) Starke Case Sequence (SCS) for surface hierarchy NOM<ACC<DAT<GEN:
NOM < SACC < SDAT < GEN

Furthermore, Nanosyntax can successfully incorporate these nuances by simply inserting two additional submorphemic features into the hierarchical system of containment outlined in section 2.1, and according to the evidence discussed.

Although Starke (2017) leaves the diagnostics and distinctions between SMALL and BIG forms open for future study, he notes that the Icelandic DAT is 'more structural' than that of New High German, which 'behave[s] syntactically much like PPs' (Starke 2017: 6).

2.5 Caha (2018)

Following Starke (2017), Caha (2018) released a paper in turn, adopting the proposed BIG/SMALL position. He outlines the inferred existence of two further surface hierarchies in nominal inflection according to the SCS (10):

(12) Starke Case Sequence (SCS) for surface hierarchy NOM<GEN<ACC<DAT:
NOM < GEN < BACC < BDAT

(13) Starke Case Sequence (SCS) for surface hierarchy NOM<DAT<GEN<ACC:
NOM < SDAT < GEN < BACC

Furthermore, Caha provides evidence of a non-accidental surface hierarchy NOM<GEN<ACC<DAT in Skolt Saami, which the SCS (12) can successfully account for (p.32). This finding strengthens Starke's (2017) proposal since it shows that the SCS's more fine-grained approach and its predictions are quite feasibly warranted.

3 Data and a Note on Morphology

Having established the theoretical foundations, the remainder of this paper will be dedicated to the continuation of discussion surrounding Contiguity theory and Starke's (2017) proposed more fine-grained approach from the angle of Germanic. As a result, there will be a focus specifically on the four cases concerned: NOM, ACC, GEN and DAT. This focus will guide selection of data sources. Since Harðarson's (2016) surface hierarchy NOM<ACC<DAT<GEN was discovered in Northwest Germanic, the immediate question which arises is: do any other languages or subbranches of Germanic appear to show the same? This section consists of the collation and analysis of surface hierarchy evidence covering a broad range of four-case[10] Germanic: from North, West, and East Germanic subbranches, standardised and isolated/non-standardised varieties, ranging from the 4th century CE till today.

[10] Some languages with five cases will be examined; however, only NOM, ACC, GEN and DAT will be considered for the purposes of this investigation.

When data are drawn from authors other than Caha (2009) and Harðarson (2016), it must be assumed that Caha's (2009) criteria for distinguishing accidental from non-accidental syncretism (5, 6, 7 above) were not considered unless explicitly stated. Thus, even if an author has drawn conclusions on syncretism, I analyse their dataset afresh under Caha's (2009) criteria and the Contiguity worldview. Caha's two criteria (5) and (6) take strict precedence in determining non-accidental syncretism. The third criterion (7), for languages with low allomorphy, is considered only in instances of considerable ambiguity.

Demarcation of stem–suffix borders sometimes presents a challenge. Baechler & Pröll (2018) also note this conundrum, particularly the difficulty in determining whether to include a terminal vowel as part of the stem or suffix.[11] I settle thus: if a terminal segment is present throughout the *entirety* of singular and plural forms, then I count it as part of the stem.

In establishing case hierarchies, I accept the widely supported premise that NOM sits at the lowest level (Caha 2009, McFadden 2018, Smith, Moskal, Xu, Kang & Bobaljik 2019).

Finally, data from personal pronoun paradigms will be addressed separately in section 3.4.

3.1 North Germanic

In this subsection, I examine Old Norse, Icelandic, Faroese, and Old Swedish. The former three belong to the Northwest Germanic subbranch; Old Swedish belongs to Northeast Germanic. Icelandic and Faroese are modern varieties. Modern Norwegian, Swedish and Danish do not retain the four-case system (neither in standardised nor dialectal varieties). As a result, they cannot contribute to the (ACC = DAT) ≠ GEN discussion. Other less commonly studied varieties were considered, such as Elfdalian and Westrobothnian, but their corpora appear after the decline of the four-case system. The grammars of Old Danish and Old Gutnish were inaccessible to the author, due to limitations relating to the COVID-19 pandemic. For Old Norse, Icelandic and Faroese (sections 3.1.1 - 3.1.3), I refer initially to Harðarson (2016), then provide further evidence and analysis. For Old Swedish (section 3.1.4), analysis in the Contiguity worldview is my own.

3.1.1 Old Norse

I reproduce in full Harðarson's (2016: 4) illustrative paradigms for Old Norse (ON) singular nouns in Table 4. Harðarson (2016), using Caha's diagnostic criteria (see 5, 6 and 7 in section 2.2.3), identifies three non-accidental syncretisms across ON singular nouns, which I summarise in Table 5.

Considering that the non-accidental exponent *-a* shows (ACC = DAT) ≠ GEN, and since the only syncretism involving GEN is also syncretic with the DAT, Harðarson

[11] 'To distinguish stem and suffix as well as the two suffixes from one another is not trivial' (Baechler & Pröll 2018: 15).

	Masc. *a*-stem	**Neut. *a*-stem**	**Masc. *i*-stem**	**Masc. *an*-stem**
NOM	arm-r	land-Ø	gest-r	grann-i
ACC	arm-Ø	land-Ø	gest-Ø	grann-a
GEN	arm-s	land-s	gest-s	grann-a
DAT	arm-i	land-i	gest-Ø	grann-a
	arm.SG	*land*.SG	*guest*.SG	*neighbour*.SG

Table 4 Syncretism in Old Norse singular inflection (Harðarson 2016: 4).

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	Ø	neut. *a*-stem
{ACC|DAT}	Ø	masc. *i*-stem
{ACC|GEN|DAT}	*-a*	masc. *an*-stem

Table 5 Summary of syncretisms in Old Norse inflection as per Harðarson (2016).

proposes a case hierarchy NOM<ACC<DAT<GEN. Turning to the plural paradigms, I once again reproduce Harðarson's (2016: 6) data in full:

	Masc. *a*-stem	**Neut. *a*-stem**	**Masc. *i*-stem**	**Masc. *an*-stem**	**Fem. *ōn*-stem**
NOM	arm-ar	lǫnd-Ø	gest-ir	grann-ar	sǫg-ur
ACC	arm-a	lǫnd-Ø	gest-i	grann-a	sǫg-ur
GEN	arm-a	land-a	gest-a	grann-a	sag-na
DAT	ǫrm-um	lǫnd-um	gest-um	grǫnn-um	sǫg-um
	arm.PL	*land*.PL	*guest*.PL	*neighbour*.PL	*saga*.PL

Table 6 Harðarson's (2016) paradigms for Old Norse plural nouns.

Harðarson (p.6) identifies a recurring non-accidental syncretism in ON plural nouns, {NOM|ACC}, shaded grey. He also identifies a problematic syncretism in two paradigms, {ACC|GEN}, shaded darker grey. I summarise these syncretisms in Table 7. Applying Caha's criteria (5, 6), the {ACC|GEN} is accidental since it presents only one exponent.

Furthermore, Harðarson (2016: 7) demonstrates the accidental syncretism to be an example of Caha's (2009) canonical Russian-style accidental intersection (see Table 3 in section 2.2.3 above). As illustrated in Table 8, the GEN *-a* cuts through *all*

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -ur*	neut. *a*-stem, fem. *ōn*-stem
{ACC|GEN}	*-a*	masc. *a*-stem, masc. *an*-stem

Table 7 Summary of Old Norse syncretisms as per Harðarson (2016).

genders in the plural,[12] whereas the accidental {ACC|GEN} syncretism is confined to masculine *a*-stems and *an*-stems.

	Masc. *a*-stem	Masc. *an*-stem	Neut. *a*-stem	Masc. *i*-stem	Fem. *ōn*-stem
NOM	arm-ar	grann-ar	lǫnd-Ø	gest-ir	sǫg-ur
ACC	arm-a	grann-a	lǫnd-Ø	gest-i	sǫg-ur
GEN	arm-a	grann-a	land-a	gest-a	sag-na
DAT	ǫrm-um	grǫnn-um	lǫnd-um	gest-um	sǫg-um
	arm.PL	*neighbour*.PL	*land*.PL	*guest*.PL	*saga*.PL

Table 8 Illustration of accidental syncretism (intersection) in Old Norse.

Thus, the plural noun data support NOM<ACC adjacency, but do not contribute to the ordering of DAT and GEN. To compensate for the paucity of oblique-case syncretism in plural nouns, Harðarson looks to the pronouns, which show (ACC = DAT) ≠ GEN (p.9). However, as will be discussed in section 3.4 and section 4.6, there is reason to believe that (Germanic) personal pronouns are to some degree exceptional.

Harðarson (2016: 5) acknowledges a potential weakness in his ON data: he identifies only one exponent of {ACC|DAT} syncretism (-Ø). Caha (2009: 15) presents *multiple* exponence as a criterion for non-accidental syncretism (5 above). Harðarson recognises this as potentially significant for his ON hierarchy claim: one could argue upon criterion (5) that the lone -Ø exponent be accidental. However, there is indeed at least one other supportive (ACC = DAT) ≠ GEN exponent to be found in ON. I present it below (Table 9), along with a selection of further syncretisms (Barnes 2008, Sweet 1895).

Before summarising these, I address three potentially accidental syncretisms, shaded in darker grey. First, the DAT in the {NOM|ACC|DAT} syncretism of *kvæði* seems accidental. The DAT *-i* permeates many other masc./neut. nouns in the singular, appearing to coincide accidentally with the *-i* of NOM and ACC *kvæði* 'poem'. As demonstrated in Table 10 below, this suggests an accidental intersection paralleling Caha's canonical Russian example (Table 3).

Second, there is a similar {ACC|DAT} syncretism in two singular paradigms: *hellir* 'cave' (masc. *ija*-stem) and *brúðr* 'bride' (fem. *ijō*-stem). At first, the former appears

[12] Although some decelnsions take *-n̲a* (Harðarson 2016: 7).

	Fem. *i*-stem	**Neut. *ja*-stem**	**Masc. *r*-stem**	**Neut. *an*-stem**	**Fem. *ō*-stem**	**Fem. *ōn*-stem**	**Neut. *an*-stem**
NOM	baun-ir	kvæð-i	feð-r	hjǫrt-u	mark-ar	sag-a	hjart-a
ACC	baun-ir	kvæð-i	feð-r	hjǫrt-u	mark-ar	sǫg-u	hjart-a
GEN	baun-a	kvæð-a	feð-ra	hjǫrt-na	mark-a	sǫg-u	hjart-a
DAT	baun-um	kvæð-um	feð-rum	hjǫrt-um	mǫrk-um	sǫg-u	hjart-a
	bean.PL	*poem*.PL	*father*.PL	*heart*.PL	*forest*.PL	*saga*.PL	*heart*.PL

	Fem. *i*-stem	**Fem. *ō*-stem**	**Fem. *wō*-stem**	**Neut. *ja*-stem**	**Masc. *ija*-stem**	**Fem. *ijō*-stem**	**Weak adj.**
NOM	baun-Ø	mǫrk-Ø	bǫð-Ø	kvæð-i	hell-ir	brúð-r	lǫng-u
ACC	baun-Ø	mǫrk-Ø	bǫð-Ø	kvæð-i	hell-i	brúð-i	lǫng-u
GEN	baun-ar	mark-ar	bǫð-var	kvæð-is	hell-is	brúð-ar	lǫng-u
DAT	baun-Ø	mǫrk-Ø	bǫð-Ø (-u)	kvæð-i	hell-i	brúð-i	lǫng-um
	bean.SG	*forest*.SG	*battle*.SG	*poem*.SG	*cave*.SG	*bride*.SG	*long*.SG

Table 9 Further syncretisms and exponents in ON nominals.

	Neut. *ja*-stem	**Neut. *ja*-stem**	**Masc. *a*-stem**
NOM	kvæð-i	egg-Ø	fisk-r
ACC	kvæð-i	egg-Ø	fisk-Ø
GEN	kvæð-is	egg-s	fisk-s
DAT	kvæð-i	egg-i	fisk-i
	poem.SG	*cave*.SG	*fish*.SG

Table 10 Illustration of accidental syncretism (intersection) in Old Norse neuter *ja*-stems.

to present the same accidental syncretism as *kvæði* above (and I acknowledge that it might). However, I suggest the paradigm of fem. *brúðr* is more arguably non-accidental, since the DAT.SG *-i* is a feature of *masc.* and *neut.* nouns, but not *fem.* nouns. On the basis that the *fem. brúðr* is not displaying the type of accidental syncretism illustrated above in Table 10, it is in turn not entirely implausible that masc. *hellir* (see Table 9) is reflecting Caha's criterion (6): non-accidental syncretisms show up across paradigms. Although perhaps seeming overly meticulous, the importance of correctly identifying accidental syncretisms is high: in languages where there might only be one or two exponents of a particular syncretism, it can be decisive as to selecting the appropriate surface hierarchy.

On this note, there is an instance of {NOM|ACC|GEN} syncretism in the weak inflection of adjectives (exemplified in Table 9 with *langur* 'long') which would be problematic for a NOM<ACC<DAT<GEN hierarchy (due to *ABA of DAT). However, although the syncretism does permeate all weak adjective paradigms in the plural, satisfying Caha's non-accidental criterion (6), there is only one exponent (*-u*): all classes of adjectives decline identically in the weak plural. Thus, although it does (almost by default) satisfy criterion (6), the lone exponent does not meet the expectation of multiple exponence stipulated in criterion (5). Ultimately, the surface {NOM|ACC|GEN} syncretism must be accidental, as 'accidental syncretisms are limited to a single exponent.'[13]

With the accidental syncretisms of *kvæði* and plural weak adjectives dealt with, and with the potentially non-accidental *hellir* factored in, I present a cumulative summary of non-accidental syncretisms in ON (Table 11).

Immediately clear is NOM<ACC adjacency, since the {NOM|ACC} data amply qualify according to Caha's criteria. {ACC|DAT}, now showing two exponents across two (or three) paradigms, indicates NOM<ACC<DAT<GEN. {ACC|GEN|DAT} and {NOM|ACC|GEN|DAT} are well represented but neutral to the ordering of DAT and GEN. This provides adequate support for Harðarson's (2016) proposed hierarchy. Thus, I conclude for ON:

[13] This accidental syncretism is lost in later Icelandic and Faroese, both of which dropping the dative nasal and creating a full {NOM|ACC|GEN|DAT} syncretism. It remains up for discussion whether this be further evidence of an underlying system averse to *ABA of DAT.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -ur, -r, -i, -ir, -ar*	neut. *a*-stem, fem. *ōn*-stem, neut. *ja*-stem, masc. *r*-stem, fem. *i*-stem, fem. *ō*-stem, fem. *wō*-stem
{ACC|DAT}	*-Ø, -i*	masc. *i*-stem, fem. *ijō*-stem, (masc. *ija*-stem)
{ACC|GEN|DAT}	*-a, -u, -ur*	masc.*an*-stem, fem. *ōn*-stem, masc. *r*-stem
{NOM|ACC|GEN|DAT}	*-a, -u*	neut. *an*-stem, masc./fem./neut. weak adj.

Table 11 Summary of non-accidental syncretisms in Old Norse.

	Neut. *ja*-stem	**Fem. *i*-stem**	**Neut. *an*-stem**	**Fem. *ōn*-stem**	**Fem. *ijō*-stem**
NOM	kvæð-i	baun-Ø	hjart-a	sag-a	brúð-r
ACC	kvæð-i	baun-Ø	hjart-a	sǫg-u	brúð-i
DAT	kvæð-um	baun-Ø	hjart-a	sǫg-u	brúð-i
GEN	kvæð-a	baun-ar	hjart-a	sǫg-u	brúð-ar
	poem.PL	*bean*.SG	*heart*.SG	*saga*.SG	*bride*.SG

Table 12 Illustration of Contiguity in Old Norse.

(14) Case hierarchy for Old Norse:
nominative < *accusative* < *dative* < *genitive*

3.1.2 Icelandic

Icelandic is largely the same as its ancestor ON, excepting a couple of exponents, as acknowledged by Harðarson (2016). He presents a limited but appropriately illustrative set of paradigms for the singular and plural, which I reproduce below in Tables 13 and 14. These yield the following summaries, Tables 15 and 16.

As with ON, {NOM|ACC} syncretism in IS singular and plural inflection strongly indicates NOM<ACC ordering. In the singular, there is once more {ACC|DAT} (although a different exponent than for ON section 3.1.1), as well as {ACC|GEN|DAT} syncretism (also with a different exponent). These suggest NOM<ACC<DAT<GEN. However, there is once again a problematic {ACC|GEN} syncretism, marked by shading, with the same exponent as in ON (*-a*). It patterns identically to its ancestral counterpart

	Masc. *a*-stem	**Neut. *a*-stem**	**Fem. *o*-stem**	**Fem. *on*-stem**
NOM	arm-ur	land-Ø	drottning-Ø	tung-a
ACC	arm-Ø	land-Ø	drottning-u	tung-u
GEN	arm-s	land-s	drottning-ar	tung-u
DAT	arm-i	land-i	drottning-u	tung-u
	arm.SG	*land*.SG	*queen*.SG	*tongue*.SG

Table 13 Syncretisms in Icelandic singular nouns, as per Harðarson (2016: 4).

	Masc. *a*-stem	**Neut. *a*-stem**	**Fem. *o*-stem**	**Fem. *on*-stem**	**Masc. *i*-stem**
NOM	arm-ar	lönd-Ø	drottning-ar	tung-ur	gest-ir
ACC	arm-a	lönd-Ø	drottning-ar	tung-ur	gest-i
GEN	arm-a	land-a	drottning-a	tung-na	gest-a
DAT	örm-um	lönd-um	drottning-um	tung-um	gest-um
	arm.PL	*land*.PL	*queen*.PL	*tongue*.PL	*guest*.PL

Table 14 Syncretisms in Icelandic plural nouns, as per Harðarson (2016: 6).

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø*	neut. *a*-stem
{ACC|DAT}	*-u*	fem. *o*-stem
{ACC|GEN|DAT}	*-u*	fem. *on*-stem

Table 15 Summary of syncretisms in Icelandic singular nouns, as per Harðarson (2016: 4).

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -ar, -ur*	neut. *a*-stem, fem. *o*-stem, fem. *on*-stem
{ACC|GEN}	*-u*	masc. *a*-stem

Table 16 Summary of syncretisms in Icelandic plural nouns, as per Harðarson (2016: 6).

as an accidental intersection,[14] since the *-a* permeates the entirety of plural noun paradigms in all genders.[15] I illustrate this in Table 17 below:

[14] Excepting that it is restricted to masculine *a*-stems, whereas in ON it is found across *a*-stems and *an*-stems.

[15] Although in some declensions presenting *-na* (Harðarson 2016: 7).

	Masc. *a*-stem	**Neut. *a*-stem**	**Fem. *o*-stem**	**Fem. *on*-stem**	**Masc. *i*-stem**
NOM	arm-ar	lönd-Ø	drottning-ar	tung-ur	gest-ir
ACC	arm-a	lönd-Ø	drottning-ar	tung-ur	gest-i
GEN	arm-a	land-a	drottning-a	tung-na	gest-a
DAT	örm-um	lönd-um	drottning-um	tung-um	gest-um
	arm.PL	*land*.PL	*queen*.PL	*tongue*.PL	*guest*.PL

Table 17 Illustration of accidental syncretism (intersection) in Icelandic plural inflection.

Thus, a summary of non-accidental syncretisms in IS so far:

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -ar, -ur*	neut. *a*-stem, fem. *o*-stem, fem. *on*-stem
{ACC|DAT}	*-u*	fem. *o*-stem
{ACC|GEN|DAT}	*-u*	fem. *on*-stem

Table 18 Non-accidental syncretisms in Icelandic inflection, as per Harðarson (2016).

Once again, as with ON, an issue arises regarding the hierarchy NOM<ACC<DAT<GEN. Since the {ACC|DAT} syncretism is represented by only one exponent, it does not quality under Caha's non-accidental syncretism criterion (5). To settle this, I note two further syncretisms in favour of NOM<ACC<DAT<GEN in Icelandic:

	Fem. *ōn*-stem	**Masc. *i*-stem**
NOM	fjöður-Ø	bíl
ACC	fjöður-Ø	bíl-Ø
GEN	fjaðr-ar	bíl-s
DAT	fjöður-Ø	bíl-Ø
	feather.SG	*car*.SG

Table 19 Examples of {NOM|ACC|DAT} and {ACC|DAT} syncretism in Icelandic (BÍN database).

In the interest of completeness, I also provide another {ACC|GEN|DAT} exponent in Table 20. Given the above, I update the table of non-accidental syncretisms (Table 21). The result is confirmation of non-accidental {ACC|DAT}, in strong favour of the proposed NOM<ACC<DAT<GEN hierarchy.[16]

[16] As well as another potential syncretism in favour of the hierarchy: {NOM|ACC|DAT} in Table 19. More evidence would be needed for it to qualify as non-accidental, however.

	Weak masc.	**Weak adj.**
NOM	nem-i	góð-i
ACC	nem-a	góð-a
GEN	nem-a	góð-a
DAT	nem-a	góð-a
	student.SG	*good*.M.SG

Table 20 Examples of {ACC|GEN|DAT} syncretism in Icelandic.

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -ar, -ur*	neut. *a*-stem, fem. *o*-stem, fem. *on*-stem
{ACC|DAT}	*-u, -Ø*	fem. *o*-stem, masc. *i*-stem
{ACC|GEN|DAT}	*-u, -a*	fem. *on*-stem, masc. weak noun and adj.

Table 21 Non-accidental syncretisms in Icelandic inflection.

(15) Case hierarchy for Icelandic:
nominative < *accusative* < *dative* < *genitive*

	Fem. *on*-stem	**Fem. *ō*-stem**	**Strong masc.**	**Fem. *o*-stem**	**Weak masc.**
NOM	tung-ur	fjöður-Ø	bíl-l	drottning-Ø	nem-i
ACC	tung-ur	fjöður-Ø	bíl-Ø	drottning-u	nem-a
DAT	tung-um	fjöður-Ø	bíl-Ø	drottning-u	nem-a
GEN	tung-na	fjaðr-ar	bíl-s	drottning-ar	nem-a
	tongue.PL	*feather*.SG	*car*.SG	*queen*.SG	*student*.SG

Table 22 Illustration of Contiguity in Icelandic.

3.1.3 Faroese

As with the two other NWGmc varieties, I begin with a reproduction of Harðarson's (2016: 4-6) illustrative data (Tables 23, 24). The data are summarised in the following Tables 25 and 26.

Due to the conservativity of Faroese (FO) morphology, the syncretisms are much the same as ON and IS. One notable difference is the absence of accidental {ACC|GEN} syncretism otherwise present in ON and IS plurals. This is due to analogy of the

	Masc. Class 1	Neut. Class 1a	Fem. Class 1a	Fem. Class 5
NOM	dag-ur	barn-Ø	vørr-Ø	tung-a
ACC	dag-Ø	barn-Ø	vørr-Ø	tung-u
GEN	(dag-s)[17]	(barn-s)	(varr-ar)	(tung-u)
DAT	deg-i	barn-i	vørr-Ø	tung-u
	day.SG	*child*.SG	*lip*.SG	*tongue*.SG

Table 23 Syncretisms in Faroese singular inflection, according to Harðarson (2016).

	Masc. Class 1	Neut. Class 1a	Fem. Class 1a	Fem. Class 5	Fem. Class 3
NOM	dag-ar	børn-Ø	varr-ar	tung-ur	eyg-ur/u
ACC	dag-ar	børn-Ø	varr-ar	tung-ur	eyg-ur/u
GEN	(dag-a)	(barn-a)	(varr-a)	(tung-a)	(eyg-na)
DAT	døg-um	børn-um	vørr-um	tung-um	eyg-um
	day.PL	*child*.PL	*lip*.PL	*tongue*.PL	*eye*.PL

Table 24 Syncretisms in Faroese plural inflection, according to Harðarson (2016).

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø*	neut. class 1
{NOM|ACC|DAT}	*-Ø*	fem. class 1a
{ACC|GEN|DAT}	*-u*	fem. class 5

Table 25 Summary of syncretisms in Faroese singular inflection, as per Harðarson (2016).

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-ar, -Ø, -ur, -u*	masc. class 1, neut. class 1a, fem. class 1a, fem. class 5, fem. class 3

Table 26 Summary of syncretisms in Faroese plural inflection, as per Harðarson (2016).

plural NOM -Vr suffix in the ACC form.[18] Once again, due to the illustrative nature of Harðarson's squib, it would do well to complement his data with a more thorough review, in order to meet Caha's criteria for non-accidental syncretism (5, 6). In

[17] Genitive forms are bracketed, since they are still productive but becoming less commonly used in recent years (Þráinsson, Peterson, Jacobsen & Hansen 2004: 61-62).

[18] Where *V* stands for any vowel.

Table 27, I set out a more complete summary of Faroese syncretisms (Þráinsson et al. 2004):[19]

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -ar, -ir* *-ur, -u, -i*	masc. class 2a, masc. class 1, masc. class 4, masc. class 6, neut. class 3, neut. class 2
{NOM|ACC|DAT}	*-Ø, -i*	neut. class 2, fem. class 1a
{ACC|GEN|DAT}	*-u, -a*	neut. class 5, masc. class 5
{NOM|ACC|GEN|DAT}	*-a, -u*	neut. class 3, masc./fem./neut. weak adj.

Table 27 Non-accidental syncretisms in Faroese inflection.

The absence of {ACC|GEN} without an intermediary DAT, and the two {NOM|ACC|DAT} exponents both strongly support a hierarchy of NOM<ACC<DAT<GEN as proposed by Harðarson for NWGmc. I conclude thus:

	Masc. Class 2a	Masc. Class 1	Fem. Class 1a	Weak Adj.	Neut. Class 5
NOM	akur-Ø	fugl-ar	ár-Ø	stór-u	tung-a
ACC	akur-Ø	fugl-ar	ár-Ø	stór-u	tung-u
DAT	akr-i	fugl-um	ár-Ø	stór-u	tung-u
GEN	akur-s	fugl-a	ár-ar	stór-u	tung-u
	field.SG	*bird*.PL	*year*.SG	*big*.SG	*tongue*.SG

Table 28 Illustration of Contiguity in Faroese.

(16) Case hierarchy for Faroese:
nominative < *accusative* < *dative* < *genitive*

3.1.4 Old Swedish

I now turn to North*east* Germanic: Old Swedish (OSwe). In their study on language-internal and external factors in Germanic case change, Baechler & Pröll (2018) (hence, B&P) explore OSwe syncretism. I summarise their findings (p.17) in Table 29.

These data provisionally suggest NOM<ACC<DAT<GEN, owing to {NOM|ACC|DAT} syncretism. However, considering Caha's criteria (5, 6), stipulating multiple exponence across multiple paradigms, the {NOM|ACC|DAT} reported by B&P does not qualify as non-accidental. Furthermore, it is necessary to examine the case ex-

[19] The paradigms referenced are provided in Appendix 1.1.

Syncretism	Paradigms
{NOM|ACC}	Strong neuter singular nouns Plural neuter nouns Plural feminine nouns
{NOM|ACC|DAT}	Singular strong feminine nouns
{ACC|GEN|DAT}	Singular weak masculine nouns Singular weak feminine nouns
{NOM|ACC|GEN|DAT}	Singular weak neuter nouns

Table 29 Summary of Baechler & Pröll's (2018:13) Old Swedish syncretism patterns.

ponents themselves. Thus, deeper investigation is required. Using the raw data provided by B&P (p.9), I present a more detailed summary in Tables 30 and 31.[20]

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø*	neut. *a*-stem
{NOM|ACC|DAT}	*-Ø, -e*	fem.*ō*-stem, neut. *ia*-stem
{ACC|DAT}	*-Ø, -e, -ur, -or*	masc. *ja*-stem, masc. *ia*-stem, masc. *r*-stem, fem. *r*-stem
{ACC|GEN|DAT}	*-a, -u, -ur, -or*	masc. *an*-stem, fem. *ūn*-stem, masc. *r*-stem, fem. *r*-stem
{NOM|ACC|GEN|DAT}	*-a*	neut. *an*-stem

Table 30 Syncretisms in Old Swedish singular inflection.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -e, -ar, -ir, -un, -ur, -er*	neut. *a*-stem, neut. *ia*-stem, fem. *ō*-stem, fem. *i*-stem, neut. *an*-stem, fem. *ūn*-stem, masc. consonant-stem
{ACC|GEN}	*-a*	masc. *a*-stem, masc. *ja*-stem, masc. *ia*-stem, masc. *an*-stem

Table 31 Syncretisms in Old Swedish plural inflection.

Reapplying Caha's criteria (5, 6), four qualifying non-accidental syncretisms emerge: {NOM|ACC|DAT}, {ACC|DAT}, {ACC|GEN|DAT} in the singular, and {NOM|ACC} in the plural. Given the non-accidental {NOM|ACC} in plural, this helps qualify the {NOM|ACC} of the singular too.

[20] The paradigms referenced for these exponents are provided in Appendix 1.2.

The plural {ACC|GEN} syncretism, accidental, is the same inherited syncretism as was challenging for ON and IS (avoided by analogy in FO). As discussed in sections 3.1.1 and 3.1.2, it is a paradigm-specific intersection of two separate underlying forms. The {NOM|ACC|GEN|DAT} syncretism is of no consequence, whether accidental or non-accidental, although it fails to qualify as non-accidental.

The result is a set of data closely reflecting the summary provided by B&P and coinciding with Harðarson's proposal for Northwest Germanic. Multiple exponence is demonstrated, as well as an additional syncretism: {ACC|DAT}. This provides further backing for a hierarchy NOM<ACC<DAT<GEN. I summarise OSwe in Tables 32 and 33.

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -e, -ar, -ir, -un, -ur, -er*	neut. *a*-stem, neut. *ia*-stem, fem. *ō*-stem, fem. *i*-stem, neut. *an*-stem, fem. *ūn*-stem, masc. cons.-stem
{NOM|ACC|DAT}	*-Ø, -e*	fem.*ō*-stem, neut. *ia*-stem
{ACC|DAT}	*-Ø, -e, -ur, -or*	masc. *ja*-stem, masc. *ia*-stem, masc. *r*-stem, fem. *r*-stem
{ACC|GEN|DAT}	*-a, -u, -ur, -or*	masc. *an*-stem, fem. *ūn*-stem, masc. *r*-stem, fem. *r*-stem
({NOM|ACC|GEN|DAT})	(*-a*)	(neut. *an*-stem)

Table 32 Non-accidental syncretism in Old Swedish inflection.

	Neut. *a*-stem	**Neut. *ia*-stem**	**Neut. *an*-stem**	**Fem. *ūn*-stem**	**Masc. *ja*-stem**
NOM	skip-Ø	minn-e	øgh-a	vik-a	væv-er
ACC	skip-Ø	minn-e	øgh-a	vik-u	væf-Ø
DAT	skip-i	minn-e	øgh-a	vik-u	væf-Ø
GEN	skip-s	minn-is	øgh-a	vik-u	væf-s
	ship.SG	*memory*.SG	*eye*.SG	*week*.SG	*web*.SG

Table 33 Illustration of Contiguity in Old Swedish.

In conclusion, Old Swedish presents strong support for the following surface case hierarchy:

(17) Case hierarchy for Old Swedish:
nominative < *accusative* < *dative* < *genitive*

3.1.5 Summary of North Germanic

The three Northwest Germanic varieties, Old Norse, Icelandic and Faroese all show strong evidence for the case hierarchy NOM<ACC<DAT<GEN as first proposed by Harðarson (2016). Although Harðarson's (2016) illustrative squib provided only a limited overview of NWGmc syncretisms and exponents, his proposal also stood up to a more in-depth exposition. Furthermore, data from Old Swedish, a Northeast Germanic variety, suggests the same hierarchy. Thus, I propose an overarching summary for North Germanic (18):

(18) Case hierarchy for North Germanic:
nominative < *accusative* < *dative* < *genitive*

3.2 West Germanic

In section 3.2, I present and analyse data from Old English, Old High German, New High German, two Walser German varieties (Visperterminen Alemannic and Issime), and Middle Dutch. These were chosen due to their retention of the four cases under study and their wide diachronic and geographic coverage. Old Frisian and Old Saxon were considered but omitted due to the difficulties surrounding allophony and dialectal variation. The vast majority of modern/recent non-standardised NHG varieties, as well as Luxembourgish and Netherlandic varieties, were omitted due to the lack of a four-case system.

3.2.1 Old English

An overview of syncretism in Old English (OE) is provided by Caha (2009) himself, who provides it in support of his proposed NOM<ACC<GEN<DAT hierarchy. Caha's data are drawn from a remarkably detailed piece by Plank (1991). I begin with a summary of OE singular syncretisms (Table 34).

Applying Caha's criteria (5, 6), all singular syncretisms appear to qualify as non-accidental since they cover multiple exponents across multiple paradigms. On closer inspection, however, the {NOM|ACC|DAT} syncretism only appears within small *subsets* of three paradigms, rather than across multiple *whole* paradigms. Considering Caha's third criterion (7), which aids in ambiguous instances and which states 'non-accidental syncretism targets *morpho-syntactic classes*', I note the {NOM|ACC|DAT} might be accidental: no whole morphosyntactic class shows this syncretism. Returning to Caha (2009: 273), he quotes Plank on the matter: '[it is] an accident of Old English phonology rather than a deep-seated trait of the morphological system' (Plank 1991: 180). On this basis, confirming the suspicion regarding subsets, Caha regards the {NOM|ACC|DAT} syncretism as accidental. Moving onto plural syncretisms, I provide a summary below (Table 35).

Once again applying Caha's criteria (5, 6), {NOM|ACC} and {NOM|ACC|GEN} qualify as non-accidental, with multiple exponents across numerous paradigms. The {NOM|GEN} syncretism appears accidental, with only one exponent (*-a*) across three homogenous

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -u, -e*	masc. and neut. *a*-stems, masc. and neut. *wa*-stems, masc. and neut. *ja*-stems (subset), all *i*-stems, *u*-stems, neut. weak, masc. and fem. athem.,[21] *nd*-stems, IE *-es*, IE *-os*, dental stems, neut. indef. adj., fem. indef. adj. (subset), neut. def. adj.
{NOM|ACC|DAT}	*-e, -Ø*	masc. and neut. *ja*-stems (subset), masc. and neut. *i*-stems (subset), fem. athem. (subset)
{ACC|GEN|DAT}	*-e, -an*	*ō*-stems, *jō*-stems, *wō*-stems, fem. *i*-stems, masc. and fem. weak, masc. and fem. def. adj.
{GEN|DAT}	*-e, -a, -an, -Ø, -þ, -an*	fem. *i*-stems, fem. *u*-stems, neut. weak, fem. athem., dental stems, neut. def. adj.
{NOM|ACC|GEN|DAT}	*-Ø, þ*	*r*-stems (subset), dental stems, fem. *i*-stems, fem. athem.

Table 34 Syncretisms in Old English singular inflection, as per Plank (1991: 171-173).

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-as, -Ø, -u, -e, -a, -þ, -an*	masc. and neut. *a*-stems, masc. and neut. *wa*-stems, masc. and neut. *ja*-stems, masc. and neut. *i*-stems, all weak, masc. and fem. athem., *r*-stems (subset), *nd*-stems, *es*- and *os*-stems, dental stems, indef. adj., def. adj.
{NOM|ACC|GEN}	*-a, -Ø*	*ō*-stems, *jō*-stems, *wō*-stems, fem. *i*-stems, fem. *u*-stems, fem. athem. *ēa*, *r*-stems (subset)
{NOM|GEN}	*-a*	*ō*-stems, *jō*-stems, *wō*-stems

Table 35 Syncretisms in Old English plural inflection, recorded by Plank (1991: 171-173).

paradigms, which are arguably three subclasses of *ō*-stems. Caha (2009: 272) address the {NOM|GEN} with another quote from Plank, who reports this syncretism as 'dubious and probably unattested in later West Saxon' (Plank 1991: 178). On the basis of this exponent being so highly restricted and 'dubious', it must be regarded accidental.

A final challenge to Caha's proposed hierarchy in OE regards personal pronouns (Caha 2009: 273-82). As with each Germanic variety in this paper, I present per-

[21] athem. = athematic

sonal pronoun data in section 3.4. This is due to a peculiarity of the personal pronouns which will be discussed in section 4.6. Thus, a summary of non-accidental syncretisms in OE is given in Tables 36 and 37.

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -u, -e, -as, -u, -a, -þ, -an*	masc. *a*-stems, neut. *a*-stems, masc. *wa*-stems, neut. *wa*-stems, masc. *ja*-stems, neut. *ja*-stems, all *i*-stems, all *u*-stems, all weak nouns, masc. athem., fem. athem., *nd*-stems, IE *-es*, IE *os*-stems, dental stems, all pl. indef. adj., all pl. def. adj.
{NOM|ACC|GEN}	*-a, -Ø*	*ō*-stems, *jō*-stems, *wō*-stems, fem. *i*-stems, masc. weak, fem. weak, masc. def. adj., fem. def. adj.
{ACC|GEN|DAT}	*-e, -an*	*ō*-stems, *jō*-stems, *wō*-stems, fem. *i*-stems, masc. weak, fem. weak, masc. def. adj., fem. def. adj.
{GEN|DAT}	*-e, -a, -an, -Ø, -þ, -an*	fem. *i*-stems, fem. *u*-stems, neut. weak, fem. athem., dental stems, neut. def. adj.
{NOM|ACC|GEN|DAT}	*-Ø, -þ*	*r*-stems (subset), dental stems, fem. *i*-stems, fem. athem.

Table 36 Non-accidental syncretisms in Old English inflection.

	Neut. *a*-stem	**Fem. *ō*-stem**	**Fem. *r*-stem**	**Masc. weak**	**Neut. weak**
NOM	þing-Ø	gief-a	doht-or	mōn-a	eag-e
ACC	þing-Ø	gief-a	doht-or	mōn-an	eag-e
GEN	þing-es	gief-a	doht-or	mōn-an	eag-an
DAT	þing-e	gief-um	deht-er	mōn-an	eag-an
	thing.SG	*gift*.SG	*daughter*.SG	*moon*.SG	*eye*.SG

Table 37 Illustration of Contiguity in Old English, adapted from Caha (2009: 272).

To conclude, Caha's original proposal stands for OE:

(19) Case hierarchy for Old English:
nominative < *accusative* < *genitive* < *dative*

3.2.2 Old High German

Old High German (OHG) is the ancestor common to Germanic varieties spoken in southern Germany, in Austria and in Switzerland. It is also the ancestor of standardised NHG. Its main corpus, of ecclesiastical nature, stems from the 9th century. My data are drawn from Wright's (1888) comprehensive *An Old High German Primer*.[22] When directed by Wright, I select the oldest attested OHG forms, in order that comparison with modern descendants (NHG section 3.2.3 and Walser varieties section 3.2.4) be most contrastive, for the widest possible diachronic view. I list singular syncretisms (with all referenced paradigms exemplified in Appendix 2.1) in Table 38.

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*Ø, -i, -u, -o, -a*	masc. *a*-stems, masc. *os*-stems, neut. *u*-stems, masc. *ja*-stems, neut. *ja*-stems, masc. *wa*-stems, neut. *wa*-stems, masc. *i*-stems, masc. cons.-stem
{NOM|ACC|GEN}	*-a, -e*	fem. *ō*-stems, fem. *jō*-stems
{NOM|ACC|DAT}	*-Ø*	masc. monosyll. cons.-stem
{ACC|GEN}	*-na*	masc. *jō*-stem
{ACC|GEN|DAT}	*-ūn*	fem. weak noun, fem. weak adj.
{GEN|DAT}	*-i, -en, -in*	fem. *i*-stems, masc. weak noun, masc. weak adj.
{NOM|ACC|GEN|DAT}	*-Ø, -n*	fem. *ī*-stem, fem. *r*-stem

Table 38 Syncretisms in Old High German singular inflection.

Applying Caha's criteria (5, 6), four non-accidental syncretisms emerge. I present these in Table 39. Due to the non-accidental {NOM|ACC|GEN} syncretism, it is appropriate to propose NOM<ACC<GEN<DAT. Turning to plural paradigms, only one syncretism is identified (Table 40). Due to the array of {NOM|ACC} data, as with OE above, NOM<ACC is irrefutable. Thus, a summary of non-accidental syncretism across OHG inflection is given in Table 41.

In summary for OHG, I propose a case hierarchy:

(20) Case hierarchy for Old High German:
nominative < *accusative* < *genitive* < *dative*

[22] Baechler & Pröll (2018) did investigate syncretism in OHG, although I found Wright's data more insightful, since B&P could only provide a limited overview.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*Ø, -i, -u, -o, -a*	masc. *a*-stems, masc. *os*-stems, neut. *u*-stems, masc. *ja*-stems, neut. *ja*-stems, masc. *wa*-stems, neut. *wa*-stems, masc. *i*-stems, masc. cons.-stem
{NOM|ACC|GEN}	*-a, -e*	fem. *ō*-stems, fem. *jō*-stems
{GEN|DAT}	*-i, -en, -in*	fem. *i*-stems, masc. weak noun, masc. weak adj.
{NOM|ACC|GEN|DAT}	*-Ø, -n*	fem. *ī*-stem, fem. *r*-stem

Table 39 Non-accidental syncretisms in Old High German singular inflection.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-ān, -e, -n, -on, -ūn, -ir*	fem. *jō*-stem, masc. *ja*-stem, neut. *ja*-stem, neut. *wa*-stem, fem. *ī*-stem, fem. *i*-stem, masc. weak, neut. weak, fem. weak, fem. *r*-stem, masc. *os*-stem

Table 40 Syncretism in Old High German plural inflection.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -i, -u, -o, -a, -ā, -e, -n, -on, ūn, -ir*	masc. *a*-stems, masc. *os*-stems, neut. *u*-stems, masc. *ja*-stems, neut. *ja*-stems, masc. *wa*-stems, neut. *wa*-stems, masc. *i*-stems, masc. cons.-stem, fem. *jō*-stem, fem. *ī*-stem, fem. *i*-stem, masc. weak, neut. weak, fem. weak, fem. *r*-stem, masc. *os*-stem
{NOM|ACC|GEN}	*-a, -e*	fem. *ō*-stems, fem. *jō*-stems
{GEN|DAT}	*-i, -en, -in*	fem. *i*-stems, masc. weak noun, masc. weak adj.
{NOM|ACC|GEN|DAT}	*-Ø, -n*	fem. *ī*-stem, fem. *r*-stem

Table 41 Non-accidental syncretisms in Old High German.

	Masc. *a*-stem	**Fem. *jō*-stem**	**Fem. *jō*-stem**	**Fem. *ī*-stem**	**Fem. weak**	**Fem. *i*-stem**
NOM	tag-Ø	sunt-ā	sunt-e	hōhī-Ø, -n	zung-a	anst-Ø
ACC	tag-Ø	sunt-ā	sunt-e	hōhī-Ø, -n	zung-ūn	anst-Ø
GEN	tag-es	sunt-ōna	sunt-e	hōhī-Ø, -n	zung-ūn	enst-i
DAT	tag-e	sunt-ōm	sunt-u	hōhī-Ø, -n	zung-ūn	enst-i
	day.SG	*sin*.PL	*sin*.SG	*height*.SG	*tongue*.SG	*favour*.SG

Table 42 Illustration of Contiguity in Old High German.

3.2.3 New High German

As mentioned in section 3.2, colloquial and dialectal varieties under the umbrella of *modern German* tend not to preserve the genitive case inflection and often merge ACC and DAT too. That being said, standardised modern German, henceforth *New High German* (NHG), does retain the four-case inflectional system required for study here. Caha considers NHG in his thesis (Caha 2009: 282-287). Evidence is drawn from Johnston (1996), to whom Caha refers the reader for a more detailed overview (Caha 2009: 282). I provide in Table 43 a summary of Johnston's data, which combine singular and plural inflection:

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-e, -es, -er, -Ø*	def.art.neut.sg., def.art.fem.sg., def.art.pl., str./weak.adj.neut.sg., str./weak.adj.fem.sg., str.adj.pl.
{NOM|ACC|GEN}	*-er, -e*	masc.&neut.&fem.nouns.pl[24]
{NOM|ACC|DAT}	*-er, -Ø*	str.masc.nouns.sg.,[25] str.neut.nouns.sg[24]
{ACC|GEN}	*-en*	str.adj.masc.sg
{ACC|DAT}	*-Ø*	1st&2nd.pl.pers.pron.
{ACC|GEN|DAT}	*-en*	weak.adj.masc.sg
{GEN|DAT}	*-en, -er*	def.art.fem., weak.adj.neut.sg., str./weak.adj.fem.sg
{NOM|ACC|GEN|DAT}	*-en, -s, -er*	weak.adj.pl., nouns.pl.[26]

Table 43 Syncretisms in New High German, according to Johnston (1996: 34-38).

Applying Caha's criteria (5, 6), five syncretisms qualify as non-accidental. I copy these into Table 44:

[24] Excepting NOM.PL in *-n* or *-s*.
[25] Polysyllabic nouns and (often) monosyllabic nouns.
[26] If NOM.PL form ends *-n* or *-s*.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-e, -es, -er, -Ø*	def.art.neut.sg., def.art.fem.sg., def.art.pl., str./weak.adj.neut.sg., str./weak.adj.fem.sg., str.adj.pl.
{NOM|ACC|GEN}	*-er, -e*	masc.&neut.&fem.nouns.pl
{NOM|ACC|DAT}	*-er, -Ø*	str.masc.nouns.sg., str.neut.nouns.sg.
{GEN|DAT}	*-en, -er*	def.art.fem., weak.adj.neut.sg., str./weak.adj.fem.sg.
{NOM|ACC|GEN|DAT}	*-en, -s, -er*	weak.adj.pl., nouns.pl.

Table 44 Non-accidental syncretisms in New High German.

In terms of assigning a case hierarchy, the NHG syncretism data are challenging: there appears to be non-accidental {NOM|ACC|DAT} in the singular, as well as {NOM|ACC|GEN} in plural paradigms. I present these in Tables 45 and 46, respectively.

	Masc. strong
NOM	Bruder-Ø
ACC	Bruder-Ø
GEN	Bruder-s
DAT	Bruder-Ø
	brother.SG

Table 45 Example of {NOM|ACC|DAT} syncretism in New High German.

	Masc. strong
NOM	Brüder-Ø
ACC	Brüder-Ø
GEN	Brüder-Ø
DAT	Brüder-n
	brother.SG

Table 46 Example of {NOM|ACC|GEN} syncretism in New High German.

The former (Table 45) suggests NOM<ACC<DAT<GEN, in line with NGmc (section 3.1), whereas the latter (Table 46) simultaneously suggests NOM<ACC<GEN<DAT. Both eventualities necessarily would acknowledge a non-accidental ABA pattern: an illicit (ACC=GEN)≠DAT in the former and (ACC=DAT)≠GEN in the latter. Assuming Contiguity holds, it must also be assumed that one of these is in fact accidental.

One approach to this is suggested by Johnston (1996: 36): in NHG, there is an optional *-e* in the DAT.SG of (monosyllabic) masc./neut. nouns. Nowadays, the DAT marker is usually considered archaic and omitted, although remaining grammatically permissible with monosyllables. Johnston suggests that the *-e* is indeed *always* underlyingly present in NHG masc./neut.DAT.SG., and that its omission is a phonological matter. As such, the {NOM|ACC|DAT} is rendered accidental, and the previously offending syncretism is simply {NOM|ACC}. Johnston therefore concludes NOM<ACC<GEN<DAT.

Caha proposes a different analysis: a theory of *single spellout* (2009: 285). He posits that case in NHG is assigned to only *one* element of a noun phrase. Whereas the adjective usually bears case, it is the noun in masc./neut.GEN.SG which receives the case marker (*-s*), and the adjective takes an unmarked suffix (*-en*) instead. From this view, the {NOM|ACC|DAT} is in fact {NOM|ACC|GEN|DAT}: the *-s* belongs to adjectival inflection, not the noun. This would resolve ABA of NOM<ACC<GEN<DAT. However, this approach must also apply to the DAT plural *-n*. The result is no clear hierarchy, since the remaining non-accidental syncretisms would be {NOM|ACC}, {GEN|DAT} and {NOM|ACC|GEN|DAT} (Caha 2009: 287).

I settle for Johnston's (1996) phonological approach for three reasons:

(i) There is a similar phonological process which occurs in the GEN.SG forms.

(ii) The GEN.SG *-s* is a recurrent exponent in WGmc, but *single spellout* does not seem to account for it elsewhere (see Walser German, section 3.2.4).

(iii) It is unclear how *single spellout* would account for NHG constructions with the archaic DAT *-e*, such as *rot-em, Wein-e, klein-em, Dorf-e*, etc. which would appear doubly marked for DAT.

Therefore, I conclude a *tentative* NOM<ACC<GEN<DAT hierarchy for NHG, illustrated (Table 47) as follows:

	Def. art.	**Masc. str.**	**Fem. str.**	**Weak adj.**	**Str. adj.**
NOM	d-ie	Nächt-e	Frau-en	rot-e	rot-e
ACC	d-ie	Nächt-e	Frau-en	rot-en	rot-e
GEN	d-er	Nächt-e	Frau-en	rot-en	rot-er
DAT	d-en	Nächt-en	Frau-en	rot-en	rot-er
	DEF.PL	*night*.PL	*woman*.PL	*red*.M.PL	*red*.F.PL

Table 47 Illustration of Contiguity in New High German.

(21) Case hierarchy for New High German:
nominative < *accusative* < *genitive* < *dative*

3.2.4 *Walser German*

Walser German represents a subgroup of Highest Alemannic German, spoken mainly in southern Switzerland and surrounding border regions. Walser varieties are often regarded as 'language islands' due to considerable historical isolation (Rabanus 2004: 339, 341). Although descending from OHG (just like NHG), mutual intelligibility with non-High Alemannic varieties is limited. In this paper, I examine two Walser varieties: Visperterminen Alemannic (VA) and Issime (IM). VA is spoken in a remote village in the extreme south of alpine Switzerland; IM is spoken in the Aosta Valley across the border in northern Italy. The two distinct varieties formed after the ancestors of IM speakers migrated away from the VA region to settle in the Aosta Valley. Both varieties are considered especially isolated till the modern day (Baechler 2014: 5). I present their locations in Figure 1.

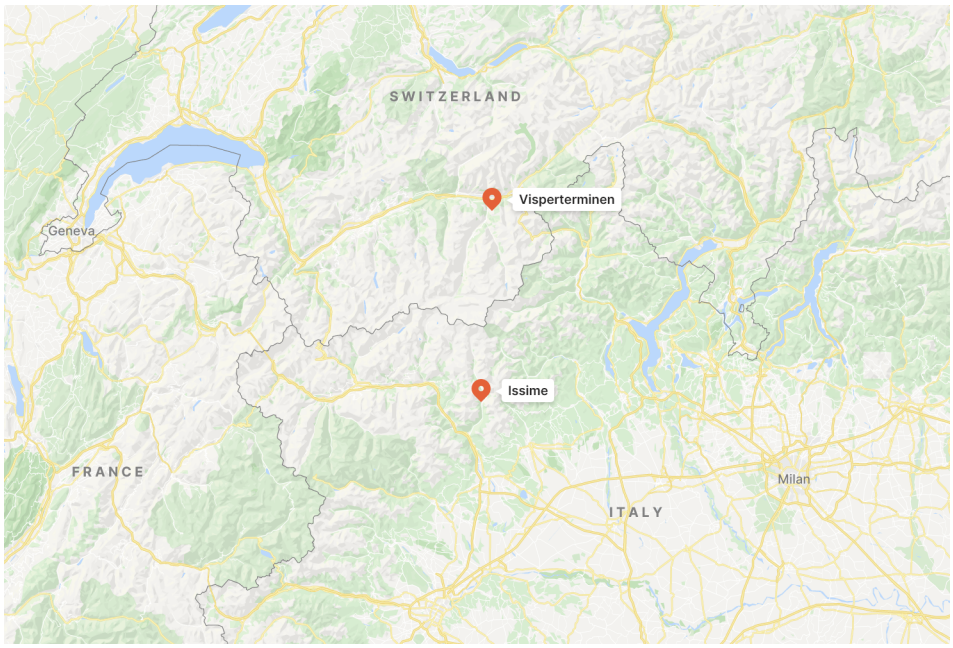


Figure 1 Map of Walser German region, identifying Visperterminen and Issime villages.

Visperterminen Alemannic

Baechler & Pröll (2018) discuss Visperterminen Alemannic (VA), an isolated variety spoken in southern Switzerland (see Figure 1). I analyse the entirety of B&P's raw data,[27] considering Caha's criteria for non-accidental syncretism, and beginning with singular inflection (Table 48).

Applying Caha's criteria (5, 6), initial analysis suggests three syncretisms, {NOM|ACC}, {GEN|DAT} and {NOM|ACC|GEN}, supporting NOM<ACC<GEN<DAT. This appears

[27] B&P *did* analyse syncretism patterns in VA, amongst other features. However, since they do not approach them from the Contiguity viewpoint, it cannot be certain that they took into account accidental syncretisms as per Caha's criteria.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-o, -a, -e, -i*	weak.masc.noun.sg., weak.fem.noun.sg., str.adj.masc.sg., str.adj.fem.sg., weak.adj.neut/fem.sg., indef.art.masc.sg.
{NOM|ACC|DAT}	*-Ø*	str.masc.noun.sg., str.neut.noun.sg., weak.neut.noun.sg.
{NOM|ACC|GEN|DAT}	*-Ø*	str.fem.noun
{GEN|DAT}	*-u, -er*	weak.masc.noun.sg., str.adj.fem.sg.
{NOM|ACC|GEN}	*-s, -as*	str.adj.neut.sg., indef.art.neut.sg.

Table 48 Syncretisms in Visperterminen Alemannic singular inflection.

consistent with West Germanic so far. However, I suggest that the data require further inspection, and a different hierarchy must be concluded.

Although showing only one exponent, the {NOM|ACC|DAT} syncretism is *highly* pervasive. Let us consider Caha's third criterion (7) for disambiguation: 'non-accidental syncretism targets morpho-syntactic classes.' This {NOM|ACC|DAT} syncretism, present in *every* masc. and neut. noun, seems plausibly eligible for non-accidental status.[28] I give an example of the syncretism in Table 49:

	Str. masc. noun	Str. neut. noun
NOM	tag-Ø	lamm-Ø
ACC	tag-Ø	lamm-Ø
GEN	tag-sch	lamm-sch
DAT	tag-Ø	lamm-Ø
	day.SG	*lamb*.SG

Table 49 Example {NOM|ACC|DAT} syncretism in Visperterminen Alemannic.

The *-sch* suffix parallels precisely the 'anomalous' genitive *-s* discussed in NHG (section 3.2.3). In both languages, under the hypothesis of NOM<ACC<GEN<DAT, this is as a challenge to Contiguity, producing an illicit (NOM=ACC=DAT)≠GEN.

Applying Johnston's (1996) approach from NHG, that the strong masc/neut. DAT.SG holds an underlying morpheme (*-e*) which only sometimes surfaces, does not seem to carry much water: I find no evidence of an analogue to this morpheme in VA. The only DAT.SG marker in nouns (aside from *-Ø*) is the exponent *-u*, which invariably is syncretic with the GEN when it appears. In addition, it is present only in weak masc. and *fem.* nouns, rather than masc. and *neut.* as in NHG (Table 50).

Clearly, this DAT exponent does not pattern like the archaic DAT *-e* in NHG. Johnston's (1996) theory in VA would therefore necessitate some underlying DAT-

[28] As does {NOM|ACC|GEN|DAT}, along similar lines.

	Weak masc.	**Weak fem.**
NOM	han-o	zung-a
ACC	han-o	zung-a
GEN	han-u	zung-u
DAT	han-u	zung-u
	rooster.SG	*tongue*.SG

Table 50 Examples of the {GEN|DAT} exponent in singular Visperterminen Alemannic inflection.

specific morpheme which *never* surfaces phonologically: there is simply no evidence for its existence.

The alternative approach to resolving this (NOM=ACC=DAT)≠GEN, namely Caha's *single spellout*, appears incompatible too. According to this theory for NHG, the masc./neut.GEN.SG strong adjective takes a 'default' suffix *-en*, whilst only the noun receives GEN marking (*-s*). This is clearly not occurring in VA, since it retains the *-s* in the equivalent str. adj. forms (masc./neut.GEN.SG):

	Str. adj.	
NOM	-e	-s
ACC	-e	-s
GEN	-s	-s
DAT	-um	-um
	masc.SG	neut.SG

Table 51 Strong adjectival paradigm (masculine and neuter) in VA.

Given that neither Johnston's (1996) nor Caha's (2009) approach can account for the *-sch* exponent, I suggest that the highly prevalent zero-marked {NOM|ACC|DAT} be eligible for *non-accidental* status in VA.

Contrastingly, the {NOM|ACC|*GEN*} syncretism appears accidental: both the *-s* and *-as* show a coincidental intersection as illustrated in Caha's example of Russian (Table 3). I reproduce Table 3 below for convenience, along with VA paradigms displaying the two accidental syncretisms Tables 52 and 53.

As seen in both Tables 52 and 53, {NOM|ACC|GEN} syncretism is restricted to the neut. paradigm, despite the GEN *-s* (Table 52) and *-as* (Table 53) featuring also in the masc. As a result, I suggest the str. adj. and indef. art. paradigms in neut. are instead displaying {NOM|ACC} syncretism with an accidentally homophonous GEN form. The non-accidental syncretisms in VA singular inflection are thus given in Table 54.

	window.SG	*field*.SG	*building*.SG
NOM	okn-o	pol'-e	zdani-e
ACC	okn-o	pol'-e	zdani-e
GEN	okn-o	polj-a	zdanij-a
DAT	okn-u	polj-u	zdanij-u
INS	okn-om	pol'-em	zdani-em
PREP	okn-e	pol'-e	zdani-i

Table 3 Canonical example of accidental syncretism through intersection ('An offending syncretism in Russian') (Caha 2009: 14).

	Str. adj.	
NOM	-s	-e
ACC	-s	-e
GEN	-s	-s
DAT	-um	-um
	neut.SG	masc.SG.

Table 52 Strong adjectival paradigms in VA (neuter and masculine singular).

	Indef. art.	
NOM	as	a
ACC	as	a
GEN	as	as
DAT	anum	anum
	neut.SG	masc.SG

Table 53 Indefinite article paradigms in VA (neuter and masculine singular).

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-o, -a, -e, -i*	weak.masc/fem.noun.sg., str.masc/fem.adj.sg. weak.neut/fem.adj.sg., indef.art.masc.sg
{NOM|ACC|DAT}	*-Ø*	str.masc.noun.sg., str.neut.noun.sg. weak.neut.noun.sg.
{GEN|DAT}	*-u, -er*	weak.masc.noun.sg., str.adj.fem.sg.
({NOM|ACC|GEN|DAT})	(*-Ø*)	(str.fem.noun)

Table 54 Non-accidental syncretisms in Visperterminen Alemannic singular inflection.

Turning to plural inflection, a summary is presented in Table 55. As found across Germanic, NOM<ACC adjacency in the plural is strongly indicated. Although fitting the proposed NOM<ACC<DAT<GEN hierarchy, the {NOM|ACC|DAT} syncretism seems at least partially accidental. I identify two discussions, hence indexing two separate *-u* exponents.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -a, -er, -i, -e*	str.masc.noun.pl., str.neut.noun.pl., str.fem.noun.pl., weak.fem.noun.pl., str.masc./fem./neut.adj.pl.
{NOM|ACC|DAT}	*-u_1, -u_2*	str.fem.noun.pl.$_{(1)}$, weak.masc.noun.pl.$_{(1)}$, weak.adj.masc./fem./neut.pl.$_{(2)}$
{NOM|ACC|GEN|DAT}	*-Ø*	str.masc.noun.pl.

Table 55 Syncretisms in Visperterminen Alemannic plural inflection.

First, the str.fem.PL and weak.masc.PL nouns show the same Russian-type intersection (Table 3) as discussed above. I exemplify this in Table 56.

	Str. fem. noun	Weak masc. noun	Str. masc. noun	Str. neut. noun	Str. fem. noun
NOM	sach-u	senn-u	tag-a	ber-i	farb-e
ACC	sach-u	senn-u	tag-a	ber-i	farb-e
GEN	sach-o	senn-o	tag-o	ber-o	farb-o
DAT	sach-u	senn-u	tag-u	ber-u	farb-u
	reason.PL	*herdsman*.PL	*day*.PL	*berry*.PL	*colour*.PL

Table 56 Comparative paradigms highlighting a recurrent dative morpheme in Visperterminen Alemannic.

As illustrated in Table 56, most VA nouns present DAT.PL *-u*; this suggests that {NOM|ACC|DAT} syncretism in str. fem. and weak. masc. paradigms (represented by *-u_1* in Table 55) is an accidental intersection. Addressing the exponent labelled *-u_2*, this {NOM|ACC|DAT} syncretism in plural is found across all (masc./fem./neut.) weak *adjectives* (Table 57).

The broad distribution of this across the whole morphosyntactic category *plural weak adjectives*, according to Caha's disambiguating criterion (7), suggests eligibility for non-accidental status. However, since the exponent *-u* is commonly found as DAT.PL marker in *noun* paradigms (as shown in Table 56), there is the possibility that we see here two different but coinciding syncretisms: {NOM|ACC} and a separate DAT. Were it indeed a non-accidental {NOM|ACC|DAT}, this would provide considerable additional support towards the proposed NOM<ACC<DAT<GEN hierarchy. However,

	Weak adj.		
NOM	*-u*	*-u*	*-u*
ACC	*-u*	*-u*	*-u*
GEN	*-o*	*-o*	*-o*
DAT	*-u*	*-u*	*-u*
	masc.PL	fem.PL	neut.PL

Table 57 Weak adjectival inflection in Visperterminen Alemannic.

since *-u* (as shown in Table 57) is the sole exponent for this syncretism (or *these syncretisms*), it is impossible to determine with the given data. Thus, it must remain an open question for now.

In Table 58 below is a finalised summary of non-accidental syncretisms in VA, singular and plural, alongside an illustrative table (Table 59):

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-Ø, -o, -a, -e, -i, -s, -as, -er, -u*	weak.masc.noun.sg., weak.fem.noun.sg., str.adj.masc.sg., str.adj.fem.sg., weak.adj.neut./fem.sg., indef.art.masc.sg., str.adj.neut.sg., indef.art.neut.sg., str.masc.noun.pl., str.neut.noun.pl., str.fem.noun.pl., weak.fem.noun.pl., str.masc./fem./neut.adj.pl., str.fem.noun.pl., weak.masc.noun.pl.
{NOM|ACC|DAT}	*-Ø, (-u)*	str.masc.noun.sg., str.neut.noun.sg., weak.neut.noun.sg., weak.adj.masc./fem./neut.pl.
{NOM|ACC|GEN|DAT}	*-Ø*	str.fem.noun, str.masc.noun.pl.
{GEN|DAT}	*-u, -er*	weak.masc.noun.sg., str.adj.fem.sg.

Table 58 Non-accidental syncretisms in Visperterminen Alemannic inflection.

Since there is no identified non-accidental syncretism suggesting GEN<DAT ordering, but at least one widely distributed {NOM|ACC|DAT} syncretism, a hierarchy NOM<ACC<DAT<GEN must be proposed for VA (22). This is contrary to the results of the other WGmc varieties presented so far (OE section 3.2.1, OHG section 3.2.2, and NHG section 3.2.3).

(22) Case hierarchy for Visperterminen Alemannic:
nominative < *accusative* < *dative* < *genitive*

	Weak masc.	Str. neut.	Str. masc.	Str. fem.	Weak fem.
NOM	han-o	ber-i	tag-Ø	farb-Ø	zung-a
ACC	han-o	ber-i	tag-Ø	farb-Ø	zung-a
DAT	han-u	ber-u	tag-Ø	farb-Ø	zung-u
GEN	han-u	ber-o	tag-sch	farb-Ø	zung-u
	rooster.SG	*berry*.PL	*day*.SG	*colour*.SG	*tongue*.SG

Table 59 Illustration of Contiguity in Visperterminen Alemannic.

Issime

Issime (IM) is another Walser German variety. Separated from VA due to migration in the 13th century, it has remained in the Aosta Valley in northern Italy ever since, isolated from other Germanic but in contact with local Romance varieties. Data are drawn from (Zürrer 1999: 159-166). Syncretisms in the singular are presented in Table 60:[29]

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-a, -u*	fem.10b, masc.4
{NOM|ACC|DAT}	*-Ø, -e*	masc.1, masc.2, masc.3, neut.6, neut.7, neut.8
{GEN|DAT}	*-u*	fem.10b
{NOM|ACC|GEN|DAT}	*-Ø, -i, -u*	fem.11a, fem.11b, fem.10a

Table 60 Syncretisms in Issime singular inflection.

Applying Caha's criteria (5, 6), there are three non-accidental syncretisms: {NOM|ACC}, {NOM|ACC|DAT}, {NOM|ACC|GEN|DAT}. Therefore, singular inflection suggests a case hierarchy NOM<ACC<DAT<GEN in IM, in line with VA and NGmc. Turning to plural syncretisms, I present findings as follows (Table 61):

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-a, -na, -i, -Ø, -er, -ini, -ni*	all nouns (masc., fem., neut.)
{GEN|DAT}	*-u, -nu, -inu*	masc. 4, fem. 10, fem. 12, fem. 11b, neut. 6

Table 61 Syncretisms in Issime plural inflection.

[29] The full set of paradigms referred to is laid out in Appendix 2.2.

Both syncretisms in the plural qualify as per Caha's criteria (5, 6), although they do not contribute towards the adjacency of ACC and DAT. Thus, the confirmed non-accidental syncretisms across singular and plural are given in Table 62:

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-a, -u, -na, -i, -Ø, -er, -ini, -ni*	all nouns (masc., fem., neut.)
{NOM|ACC|DAT}	*-Ø, -e*	masc. 1, masc. 2, masc. 3, masc. 4, neut. 6, neut. 7, neut. 8
{GEN|DAT}	*-u, -nu, -inu*	fem. 10b, masc. 4, fem. 10, fem. 12, fem. 11b, neut. 6
{NOM|ACC|GEN|DAT}	*-Ø, -i, -u*	fem. 11a, fem. 11b, fem. 10a

Table 62 Non-accidental syncretisms in Issime inflection.

IM presents the same four non-accidental syncretisms as VA, with one important difference: there are *two* distinct {NOM|ACC|DAT} exponents. I illustrate these in Tables 63 and 64:

	Masc. 1	Neut. 3
NOM	weg-Ø	bet-Ø
ACC	weg-Ø	bet-Ø
GEN	weg-sch	bet-sch
DAT	weg-Ø	bet-Ø
	way.SG	*bed*.SG

Table 63 {NOM|ACC|DAT} exponent A in Issime.

	Masc. 3	Masc. 2
NOM	noam-e[30]	uav-e
ACC	noam-e	uav-e
GEN	noam-endsch	uav-endsch
DAT	noam-e	uav-e
	name.SG	*oven*.SG

Table 64 {NOM|ACC|DAT} exponent B in Issime.

[30] The *-e* is not regarded part of the stem since it does not carry through to plural forms (as stipulated in section 3).

Exponent A (Table 63) shows the same {NOM|ACC|DAT} exponent, *-Ø*, as found in VA (*-Ø*); exponent B (Table 64), *-e*, is not found in VA. The result is bolstered support for NOM<ACC<DAT<GEN in Walser German, since the {NOM|ACC|DAT} syncretism fulfils completely Caha's two main criteria for non-accidental syncretism: multiple exponence (5) across multiple paradigms (6). An illustrative table of non-accidental IM syncretisms (Table 65) and the proposed hierarchy (23) are provided below:

	Masc.4	**Masc.2**	**Masc.1**	**Masc.2**	**Fem.11b**	**Fem.10b**	**Neut.6**
NOM	hoan-u	uav-na	weg-Ø	uav-e	chött-i	mum-a	bet-i
ACC	hoan-u	uav-na	weg-Ø	uav-e	chött-i	mum-a	bet-i
DAT	hoan-endsch	uav-ne	weg-Ø	uav-e	chött-i	mum-u	bet-u
GEN	haon-e	uav-nu	weg-sch	uav-endsch	chött-i	mum-u	bet-u
	rooster.SG	*oven*.PL	*way*.SG	*oven*.SG	*chain*.SG	*aunt*.SG	*bed*.PL

Table 65 Illustration of Contiguity in Issime.

(23) Case hierarchy for Issime:
nominative < *accusative* < *dative* < *genitive*

3.2.5 Middle Dutch

Data for Middle Dutch (MDut) are drawn from van Loey (1980: 8-28). All referenced paradigms are provided in Appendix 2.3. I begin with singular syncretisms (Table 66):

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -e*	masc. 1, neut. 1, fem. 1b, fem. 2, adj. neut. sg., adj. fem. sg.
{NOM|ACC|DAT}	*-Ø*	masc. 2, neut. 2
{ACC|DAT}	*-en*	adj. masc. sg.
{GEN|DAT}	*-e, -n, -er*	fem. 1b, fem. 2, adj. fem. sg.
{NOM|ACC|GEN|DAT}	*-Ø*	fem. 1

Table 66 Syncretisms in Middle Dutch singular inflection.

Applying Caha's criteria (5, 6), the patterns from MDut singular inflection prove inconclusive regarding a case hierarchy: {NOM|ACC|DAT} and {ACC|DAT}, which would suggest NOM<ACC<DAT<GEN, appear accidental. {NOM|ACC|GEN|DAT} appears also accidental according to the criteria; however, data from the plural support it as non-accidental. Plural syncretisms are presented in Table 67:

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-e, (-Ø)*	adj. masc. pl., adj. neut. pl., adj. fem. pl., (neut. 1e)
{NOM|ACC|GEN}	*-Ø, -e, -er*	masc. 1, neut. 1, neut. 1e, neut. 1f, fem. 1
{NOM|ACC|GEN|DAT}	*-n*	masc. 2, neut. 2, fem. 2

Table 67 Syncretisms in Middle Dutch plural inflection.

Non-accidental syncretisms in plural indicate NOM<ACC<GEN<DAT, consistent with OE, OHG and NHG. However, although Caha's criteria (5, 6) found them accidental, there were *two* syncretisms in the singular suggesting NOM<ACC<DAT<GEN. In light of the results for Walser German (section 3.2.4), it is worth briefly returning to check these syncretisms, to allay any doubt.

First, the {NOM|ACC|DAT} syncretism appears to be the result of phonological interaction. The DAT in masc./neut. strong nouns is ordinarily distinguished from the NOM and ACC by an exponent *-e*. In the concerned (limited) paradigms showing {NOM|ACC|DAT}, a terminal *-e* is already part of the stem. It seems there is a phonological rule blocking the realisation of an additional *-e*. Compare Tables 68 and 69 as follows:

	Masc. 1	Neut. 1
NOM	worm-Ø	blat-Ø
ACC	worm-Ø	blat-Ø
GEN	worm-s	blat-s
DAT	worm-**e**	blat-**e**
	worm.SG	*leaf*.SG

Table 68 Class 1 noun declension in Middle Dutch (van Loey 1980: 16).

	Masc. 2	Neut. 2
NOM	cnape-Ø	orloghe-Ø
ACC	cnape-Ø	orloghe-Ø
GEN	cnape-n	orloghe-s
DAT	cnap**e**-Ø	orlogh**e**-Ø
	boy.SG	*war*.SG

Table 69 Class 2 noun with phonological blocking of dative in Middle Dutch (van Loey 1980: 21).

It is plausible also to analyse the terminal *-e* as an intersecting recurring element of inflection, in which case a conclusion of accidental homophony is easily formed. This approach is equally valid, and I demonstrate its Russian-type intersection (compare Table 3) in Table 70.

	Masc.2	**Neut.2**	**Masc.1**	**Neut.1**
NOM	cnap-e	orlogh-e	worm-Ø	blat-Ø
ACC	cnap-e	orlogh-e	worm-Ø	blat-Ø
GEN	cnap-en	orlogh-es	worm-s	blat-s
DAT	cnap-e	orlogh-e	worm-e	blat-e
	boy.SG	*war*.SG	*worm*.SG	*leaf*.SG

Table 70 Demonstration of accidental syncretism (intersection) in Middle Dutch.

Second, the {ACC|DAT} seems to present another accidental intersection, as demonstrated in Table 71.

	Masc. adj.	**Neut. adj.**
NOM	goed-e	goed-e
ACC	goed-en	goed-e
GEN	goet-s	goet-s
DAT	goed-en	goed-en
	good.SG	*good*.SG

Table 71 A second accidental syncretism (intersection) in Middle Dutch.

In summary, the predictive strength of Caha's criteria (5, 6) in distinguishing non-accidental syncretism is shown to be successful. Since {NOM|ACC|DAT} and {ACC|DAT} syncretisms are confidently ruled out, a hierarchy NOM<ACC<GEN<DAT is clear. A final summary of the non-accidental syncretisms is provided in Table 72, alongside an illustration (Table 73).

Syncretism	**Exponents**	**Paradigms**
{NOM|ACC}	*-Ø, -e*	masc. 1, neut. 1, fem. 1b, fem. 2, adj. neut. sg., adj. fem. sg., adj. masc. pl., adj. neut. pl., adj. fem. pl., (neut. 1e)
{NOM|ACC|GEN}	*-Ø, -e, -er*	masc. 1, neut. 1, neut. 1e, neut. 1f, fem. 1
{GEN|DAT}	*-e, -n, -er*	fem. 1b, fem. 2, adj. fem. sg.
{NOM|ACC|GEN|DAT}	*-Ø, -n*	fem. 1, masc. 2, neut. 2, fem. 2

Table 72 Non-accidental syncretisms in Middle Dutch inflection.

	Masc.1	**All Adj.**	**Neut.1f**	**Fem.1**	**Fem.1**	**Neut.2**	**Fem.2**	**Fem. Adj.**
NOM	worm-Ø	goed-e	kind-er	dad-e	daet-Ø	herte-n	tonge-Ø	goed-e
ACC	worm-Ø	goed-e	kind-er	dad-e	daet-Ø	herte-n	tonge-Ø	goed-e
GEN	worm-s	goed-er	kind-er	dad-e	daet-Ø	herte-n	tonge-n	goed-er
DAT	worm-e	goed-en	kind-en	dad-en	daet-Ø	herte-n	tonge-n	goed-er
	worm.SG	*good*.PL	*child*.PL	*deed*.SG	*heart*.PL	*tongue*.PL	*good*.SG	

Table 73 Illustration of Contiguity in Middle Dutch.

(24) Case hierarchy for Middle Dutch:
nominative < *accusative* < *genitive* < *dative*

3.2.6 Summary of West Germanic

Case hierarchy findings in West Germanic are divided into two groups: OE, OHG and MDut strongly indicate a hierarchy NOM<ACC<GEN<DAT, whereas Walser German (both VA and IM) indicates NOM<ACC<DAT<GEN. The former is consistent with Caha's (2009) claim regarding the UCCH, whereas the latter suggests a surface hierarchy in line with North Germanic (section 3.1). Regarding NHG, the evidence was less conclusive, although there is reasonable evidence towards NOM<ACC<GEN<DAT, in line with the majority of West Germanic.

3.3 East Germanic

3.3.1 Gothic

Gothic is the only sizeably attested East Germanic variety, consisting primarily of a 4th-century Biblical translation. As such, it provides the earliest sufficiently documented Germanic corpus for detailed study. My primary source is *The Oxford Gothic Grammar* (Miller 2019), as well as the renowned Grammar of the Gothic Language by Wright (1910). As to be expected due to its antiquity, Gothic inflection is conservative and there is considerable allomorphy. Five cases are preserved: NOM, VOC, ACC, GEN and DAT. Since Caha (2009) disregards VOC in his analyses,[31] I do the same. Beginning with the singular syncretisms, I present my observations in Table 74.[32]

Applying Caha's criteria (5, 6), two non-accidental syncretisms are identifiable: {NOM|ACC} and {ACC|DAT}. These suggest a hierarchy NOM<ACC<DAT<GEN. The {NOM|GEN} syncretism also seems to pass the criteria for non-accidental syncretism. Although NOM<GEN is not impermissible (as identified by Caha (2018);

[31] 'Vocatives are often ignored in theoretical approaches to case, and I ignore them here too' (Caha 2009: 6).

[32] All referenced paradigms are reproduced in Appendix 3.1.

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-ar, -a, -o, -s*	masc. *r*-stem, fem. *ō*-stem, neut. *an*-stem, fem. irreg. *i*-stem
{ACC|DAT}	*-Ø, -n*	masc. *nd*-stem, fem. cons.-stem, fem. *n*-stem, fem. *īn*-stem, weak.adj.fem.
{NOM|GEN}	*-is, -s*	masc. *ja*-stem, fem. cons.-stem

Table 74 Syncretisms in Gothic singular inflection.

see section 2.5), it presents a challenge to Contiguity when alongside the other two non-accidental syncretisms. Under further investigation, the two {NOM|GEN} exponents, restricted to a single declension each (masculine *ja*-stems and feminine consonant-stems), are shown to be accidental. As I demonstrate in Tables 75 and 76, they show the canonical Russian-type (see Table 3) accidental intersection:

	Masc. *ja*-stem	**Masc. *a*-stem**	**Masc. *nd*-stem**
NOM	harj-is	dag-s	nasjand-s
ACC	hari-Ø	dag-Ø	nasjand-is
GEN	harj-is	dag-is	nasjand-is
DAT	harj-a	dag-a	nasjand-Ø
	army.SG	*day*.SG	*saviour*.SG

Table 75 An example of accidental syncretism (intersection) in Gothic.

	Fem.cons. -stem	**Fem. *i*-stem**	**Masc. *nd*-stem**
NOM	naht-s	dulþ	nasjand-s
ACC	naht-Ø	dulþ-Ø	nasjand-Ø
GEN	naht-s	dulþ-ais	nasjand-is
DAT	naht-Ø	dulþ-ai	nasjand-Ø
	night.SG	*feast*.SG	*saviour*.SG

Table 76 A second accidental syncretism (intersection) in Gothic.

Thus, singular inflection in Gothic supports NOM<ACC<DAT<GEN. Turning to the plural, there are numerous exponents indicating {NOM|ACC} syncretism:

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-ns, -s, -os, -a, -ans, -ona*	fem. *n*-stem, fem. cons.-stem, fem *jō*-stem, neut. *a*-stem, masc. *an*-stem, neut. *an*-stem

Table 77 Syncretisms in Gothic plural paradigms.

I identify no further syncretisms, and no accidental syncretisms in the syncretisms above (Table 77). A finalised table of non-accidental Gothic syncretism is given below (Table 78).

Syncretism	Exponents	Paradigms
{NOM|ACC}	*-ar, -a, -o, -s*	masc. *r*-stem, fem. *ō*-stem, neut. *an*-stem, fem. irreg. *i*-stem, fem. *n*-stem, fem. cons.-stem, fem. *jō*-stem, neut. *a*-stem, masc. *an*-stem, neut. *an*-stem
{ACC|DAT}	*-Ø, n*	masc. *nd*-stem, fem. cons.-stem, fem. *n*-stem, fem. *īn*-stem, weak.adj.fem.

Table 78 Summary of Gothic non-accidental syncretisms.

The result is a definitive NOM<ACC<DAT for Gothic, with no non-accidental syncretisms identified involving GEN. The evidence therefore necessitates the following hierarchy: NOM<ACC<DAT<GEN, the same as North Germanic and Walser German, illustrated in Table 79:

	Neut. *an*-stem	Fem. *n*-stem	Masc. *r*-stem	Masc. *nd*-stem	Fem. *īn*-stem
NOM	hairt-o	qino-ns	broþ-ar	nasjand-s	managei-Ø
ACC	hairt-o	qino-ns	broþ-ar	nasjand-Ø	managei-n
DAT	hairt-in	qino-m	broþ-r	nasjand-Ø	managei-n
GEN	hairt-ins	qino-no	broþ-rs	nasjand-is	managei-ns
	heart.SG	*woman*.PL	*brother*.SG	*saviour*.SG	*multitude*.SG

Table 79 Illustration of Contiguity in Gothic.

(25) Case hierarchy for Gothic:
nominative < *accusative* < *dative* < *genitive*

3.3.2 Summary of East Germanic

On the basis of the conclusion for Gothic, I tentatively propose the following surface case hierarchy (26) be assumed for the East Germanic subbranch as a whole:

(26) Case hierarchy for East Germanic:
nominative < *accusative* < *dative* < *genitive*

3.4 Germanic personal pronouns

Germanic personal pronouns are highly homogenous. Four cases (NOM, ACC, GEN and DAT) are expressed across two or three numbers: singular, plural, and (in older varieties) dual. Dual number, when present, is only expressed in the 1st and 2nd persons. The 3rd person is declined for gender (masculine, feminine and neuter) in the singular. The investigated North and East Germanic varieties, as well as OHG, distinguish gender also in the 3rd plural. Paradigms arranged by subgroup are provided below:

3.4.1 North Germanic personal pronouns

		1st	**2nd**	**3rd masc.**	**3rd neut.**	**3rd fem.**
Singular	NOM	ek	þú	hann	þat	hon
	ACC	mik	þik	hann	þat	hana
	GEN	mín	þín	hans	þess	hennar
	DAT	mér	þér	honum	þ(v)í	henni
Plural	NOM	vér	(þ)ér	þeir	þau	þær
	ACC	oss	yðr	þá	þau	þær
	GEN	vár	yð(v)ar		þeir(r)a	
	DAT	oss	yðr		þeim	
Dual	NOM	vit	(þ)it	-	-	-
	ACC	okkr	ykkr	-	-	-
	GEN	okkar	ykkar	-	-	-
	DAT	okkr	ykkr	-	-	-

Table 80 Old Norse personal pronouns (Barnes 2008: 73).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	ég	þú	hann	það	hún
	ACC	mig	þig	hann	það	hana
	GEN	mín	þín	hans	þess	hennar
	DAT	mér	þér	honum	því	henni
Plural	NOM	við	þið	þeir	þau	þær
	ACC	okkur	ykkur	þá	þau	þær
	GEN	okkar	ykkar		þeirra	
	DAT	okkur	ykkur		þeim	

Table 81 Icelandic personal pronouns (Einarsson 1945: 45).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	eg	tú	hann	það	hon
	ACC	meg	teg	hann	það	hana
	GEN	mín	tín	hansara	tess	hennara
	DAT	mær	tær	honum	tí	henni
Plural	NOM	vit	tit	teir	tey	tær
	ACC	okkum	tykkum	teir	tey	tær
	GEN	okkara	tykkara		teirra	
	DAT	okkum	tykkum		teimum	

Table 82 Faroese personal pronouns (Þráinsson et al. 2004: 116-17).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	iak, jaek	þu	han	þæt	hon
	ACC	mik	þik	han	þæt	hana
	GEN	min	þin	hans	þæs	hænna(r)
	DAT	mæ(r)	þæ(r)	hanum	þy	hænni
Plural	NOM	vi(r)	i(r)	þe(r)	þe, þøn	þa(r)
	ACC	os	iþer	þa	þe, þøn	þa(r)
	GEN	var(a)	iþra		þera	
	DAT	os	iþer		þem	

Table 83 Old Swedish personal pronouns (Noreen 1904: 388).

3.4.2 *West Germanic personal pronouns*

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	iċ	þū	hē	hit hēo	
	ACC	mē(ċ)	þē(ċ)	hine	hit	hiere
	GEN	mīn	þīn	his		hiere
	DAT	mē	þē	him		hiere
Plural	NOM	wē	ġē	hīe		
	ACC	ūs (ūsiċ)	ēow	hīe		
	GEN	ūser (ūre)	ēower	heora		
	DAT	ūs	ēow	him		
Dual	NOM	wit	ġit	-	-	-
	ACC	unc	inc	-	-	-
	GEN	uncer	incer	-	-	-
	DAT	unc	inc	-	-	-

Table 84 Old English personal pronouns (Lass 1994: 139-42).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	ih	dū, du	ër	iz̤	siu
	ACC	mih	dih	inan, in	iz̤	sia (sie)
	GEN	mīn	dīn	(sīn)	is, ës	ira (iru)
	DAT	mir	dir	imu	imu	iru
Plural	NOM	wir	ir	sie	siu	sio
	ACC	unsih	iuwih	sie	siu	sio
	GEN	unsēr	iuwēr		iro	
	DAT	uns	iu		im, in	

Table 85 Old High German personal pronouns (Wright 1888: 64-65).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	ich	du	er	es	sie
	ACC	mich	dich	ihn	es	sie
	GEN	meiner	deiner	seiner		ihrer
	DAT	mir	dir	ihm		ihr
Plural	NOM	wir	ihr	sie		
	ACC	uns	euch	sie		
	GEN	unser	euer	ihrer		
	DAT	uns	euch	ihnen		

Table 86 New High German personal pronouns (Durrell 2013: 48).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	īχ	dū̄	ǣr	ǣs	šī
	ACC	mīχ	dīχ	inu	ǣs	šī
	GEN	mīne, -a	dīne, -a	šīne		ira
	DAT	miər	diər	imu		ira
Plural	NOM	wiər	iər	šī		
	ACC	ıį̄š	eww	šī		
	GEN	ıį̄še	ewwe	iro		
	DAT	ıį̄š	eww	ine		

Table 87 Visperterminen Alemannic personal pronouns (Wipf 1910: 139-41).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	iich	dou	eer	iis	dschii
	ACC	mich	dich	im	iis	dschii
	GEN	meir(u)	deir(u)	dscheir(u)		irra
	DAT	miir	dir	im		irra
Plural	NOM	wir	iir	dschi		
	ACC	ündsch	auw	dschi		
	GEN	ündschuru	auwuru	ürju(ru)		
	DAT	ündsch	auw	ürju		

Table 88 Issime personal pronouns (Zürrer 1999: 207-8).

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	ic	du	hi	het	si
	ACC	mi	di	hem	het	haer
	GEN	mijns	dijns	sijns		haer
	DAT	mi	di	hem		haer
Plural	NOM	wi	ghi	si		
	ACC	ons	u	hem, hen		
	GEN	onser	uwer	haer		
	DAT	ons	u	hem, hen		

Table 89 Middle Dutch personal pronouns (van Loey 1980: 33-35).

3.4.3 East Germanic personal pronouns

		1st	2nd	3rd masc.	3rd neut.	3rd fem.
Singular	NOM	ik	þu	is	ita	si
	ACC	mik	þuk	ina	ita	ija
	GEN	meina	þeina	is		izos
	DAT	mis	þus	imma		izai
Plural	NOM	weis	jūs	eis	ija	ijos
	ACC	uns(is)	izwis	ins	ija	ijos
	GEN	unsara	izwara	ize(i)	ize	izo
	DAT	uns(is)	izwis		im	
Dual	NOM	wit	jut	-	-	-
	ACC	ug(g)kis	iggis/inqis	-	-	-
	GEN	ugkara	iggqara	-	-	-
	DAT	ug(g)kis	ig(g)qis	-	-	-

Table 90 Gothic personal pronouns (Miller 2019: 82-84).

3.4.4 Summary of syncretism in Germanic personal pronouns

By far the most common syncretism in Germanic personal pronouns is {NOM|ACC}, as found in other nominals. Across all varieties studied, except OHG, there is also {ACC|DAT} syncretism in non-singular 1st and 2nd person paradigms (i.e. plural *and* dual, when applicable). {GEN|DAT} syncretism appears in Walser German (Visperterminen Alemannic and Issime). {ACC|GEN|DAT} syncretism is also found in Old

English and Middle Dutch. There is one {NOM|GEN} syncretism, in Gothic, which turns out to be accidental:

	3rd masc.	3rd neut.
NOM	is	ita
ACC	ina	ita
GEN	is	is
DAT	imma	imma

Table 91 Demonstration of accidental syncretism in Gothic 3rd person personal pronouns.

Since the GEN, *is*, is found across two paradigms, masculine *and* neuter, it becomes clear that the *is* of masculine NOM is simply an accidental (homophonous) intersection of the type exemplified by Caha in Russian (see Table 3).[33]

Having ruled out the {NOM|GEN} syncretism in Gothic, a case hierarchy NOM<ACC<DAT<GEN emerges across all Germanic varieties examined,[34] supported strongly by the regular {ACC|DAT} syncretism:[35]

(27) Case hierarchy for Germanic personal pronouns:
nominative < *accusative* < *dative* < *genitive*

4 Discussion

Having set out data across the three subbranches of Germanic in section 3, this section will address the identifiable trends and some wider implications of the findings. In section 4.1, I summarise the subbranch-specific case hierarchies which emerge. In section 4.2, these surface hierarchies are framed in the theory of Starke (2017), which can unite the data under one underlying hierarchy. In section 4.3, the diachronic implications of the data are discussed, with a Common Germanic (inherited) hierarchy posited. In section 4.4, the application of Contiguity in reconstruction is considered and preliminarily tested. In sections 4.5 and 4.6, given the prior discussion, I address and propose accounts for the two outliers in the data: Walser German and personal pronouns. Finally, in section 5, I conclude this Germanic angle on Contiguity and summarise areas for future investigation.

4.1 Germanic hierarchies

The findings of the data seem clear: once accidental syncretisms are excluded, two distinct Germanic case hierarchies emerge:

[33] Two accidental {ACC|DAT} syncretisms are also identified, in Issime (*im*) and Middle Dutch (*hem*), of the same Russian-type (Table 3) intersection.
[34] Excepting OHG, whose forms remain neutral to GEN<DAT or DAT<GEN.
[35] The implications of and potential explanations for this are discussed in section 4.6 below.

(28) Contiguity hierarchy for North Germanic and East Germanic:
nominative < *accusative* < *dative* < *genitive*

(29) Contiguity hierarchy for West Germanic, excepting Walser German (section 3.2.5):[36]
nominative < *accusative* < *genitive* < *dative*

Essentially, my investigation indicates that West Germanic is an outlier within the broader Germanic Contiguity picture: Harðarson's (2016) NOM<ACC<DAT<GEN for Northwest Germanic appears applicable more widely, for North Germanic and for East Germanic. West Germanic presents NOM<ACC<GEN<DAT as originally proposed by Caha (2009). There are two exceptions to these Germanic generalisations: Walser German and the personal pronouns, which I discuss in section 4.5 and section 4.6.

4.2 Unifying the Germanic hierarchies

As discussed in sections 2.3 to 2.5, Harðarson's (2016) original documenting of NOM<ACC<DAT<GEN cast doubt on the universality of Caha's (2009) UCCH. In response, Starke (2017) presented a more nuanced approach (SCS) which appears able to unify both Harðarson's (2016) and Caha's (2009) original hierarchies, crucially whilst retaining universality. These unified hierarchies are the same two which I observe across Germanic; thus, Starke's (2017) approach can account for the Germanic data.

Recapping from section 2.4, Starke holds that the apparently conflicting hierarchies are underlyingly the *same* universal hierarchy:

(12) Starke's revised Case Sequence (SCS) (Starke 2017: 5):
NOM < SACC < SDAT < GEN < BACC < BDAT

The different hierarchies observed depend on which SMALL or BIG variants of ACC and DAT are invoked in a given language's inflection.[37] This variation, still constrained by Contiguity, leads to multiple possible *surface hierarches*, to which I will refer by the notation NADG, NAGD, and so on. The two surface-to-underlying correspondences for Germanic inflection according to SCS are outlined below:

(30) Surface NADG NOM < SACC < <u>SDAT</u> < GEN

(31) Surface NAGD NOM < SACC < GEN < <u>BDAT</u>

I represent the data from section 3 according to the SCS in Table 92. As becomes evident, Walser German appears to be an outlier within West Germanic, in that it presents NADG. I address this in section 4.5.

[36] See section 4.5 for discussion on the Walser German hierarchy.
[37] It is implied that a language will not demonstrate both BIG and SMALL variants of the same case within suffixed inflection.

Variety	Hierarchy	Abbr.
Old Norse	NOM < SACC < SDAT < GEN	NADG
Icelandic	NOM < SACC < SDAT < GEN	NADG
Faroese	NOM < SACC < SDAT < GEN	NADG
Old Swedish	NOM < SACC < SDAT < GEN	NADG
Old English	NOM < SACC < GEN < BDAT	NAGD
Old High German	NOM < SACC < GEN < BDAT	NAGD
New High German	NOM < SACC < GEN < BDAT	NAGD
Walser German	NOM < SACC < SDAT < GEN	NADG
Middle Dutch	NOM < SACC < GEN < BDAT	NAGD
Gothic	NOM < SACC < SDAT < GEN	NADG

Table 92 Summary of Germanic data according to Starke's (2017) revised Case Hierarchy.

4.3 Diachronic implications: Germanic inheritance

In comparing the Germanic subbranches, a question which arises immediately is inheritance. If each Germanic language is assumed to be a descendent of Common Germanic,[38] the Uniformitarian Hypothesis[39] and the proposed universality of the SCS lead us to wonder about the 'original' Germanic hierarchy for suffixed inflection. Furthermore, the evidence examined in this paper implies that at least one subbranch has deviated from this Common Germanic hierarchy. On a wider scale, this suggests that languages in general can shift their surface Contiguity hierarchies over time. Given the conclusion that both North and East Germanic follow NADG, and considering Gothic's conservativity as well as the remarkably early attestation of East Germanic, it seems reasonable to suggest that the inherited Common Germanic case hierarchy followed this same pattern:

(32) Proposed Contiguity hierarchy for Common Germanic:
NOM < SACC < SDAT < GEN[40]

It is presumed that early West Germanic underwent changes leading to a rearrangement of this case hierarchy. Viewed in terms of the SCS, it would seem that the expression of inflected DAT shifted from underlying SDAT to BDAT, yielding an innovative surface hierarchy NAGD. A further shift is presumed to have taken place in Walser German (section 4.5).

[38] The Indo-European dialect reconstructed in Proto-Germanic.

[39] Implicit throughout studies involving historical varieties is the notion of *Uniformitarianism*. In the context of language, this principle advocates that the forces causing variation in language today are the same which operated in the past. As a result, reasoning based on modern observations can be applied to historical varieties, and vice versa (Crystal 1985: 503).

[40] The position of INS (and potentially VOC) is ripe for future study.

4.4 Diachronic implications: Restructuring

It becomes clear that there is direct application of Contiguity theory (including the SCS) within the field of linguistic reconstruction, and that the relationship is bidirectional. First, comparative investigation of daughter-language syncretisms should allow prediction of an ancestral, inherited hierarchy (section 4.3 above). Second, any prediction as to an inherited hierarchy ought not to be contradicted in reconstructed proto-language paradigms.[41] This appears to bear out for Proto-Germanic (PGmc) and Proto-West-Germanic (PWGmc), suggesting that the comparative Germanic evidence is reliable. Ringe & Taylor (2014) provide a set of 20 reconstructed noun paradigms for PWGmc (pp.115-117). These same paradigms are also reconstructed in PGmc by Ringe (2017: 312-314), making for convenient comparison. Examining NOM, ACC, GEN and DAT, one non-accidental syncretism is identifiable in PGmc; in PWGmc, I note four:

Proto-language	**Non-accidental syncretisms**
Proto-Germanic	{NOM|ACC}
Proto-West-Germanic	{NOM|ACC}, {ACC|GEN}, {GEN|DAT}, {ACC|GEN|DAT}

Table 93 Reconstructed Germanic syncretisms.

The single syncretism in PGmc yields the hierarchy (33):

(33) Case hierarchy for Ringe's (2017) Proto-Germanic:
NOM < SACC < {DAT|GEN}

The ordering of DAT and GEN is inconclusive since they each remain inflectionally distinct. As a result, this hierarchy (33) in PGmc is consistent with *both* NADG and NAGD. The PWGmc syncretisms, however, suggest a clearer hierarchy (34), illustrated in Table 94.

(34) Case hierarchy for Ringe & Taylor's (2014) Proto-West-Germanic:
NOM < SACC < GEN < BDAT

This PWGmc hierarchy (34) is consistent with the NAGD pattern identified for West Germanic in section 4.1. From this preliminary examination of the reconstructions, then, we find signs of NAGD emerging in the WGmc subbranch, whereas no sign of this shows in the earlier PGmc stage. The conditions and motivations for this development would surely require deeper study. Presumably, a strong force would be required to counteract an established Contiguity tendency.

I note a potential phonological factor: the WGmc deletion of unstressed word-final PGmc *z (Campbell 1983: 166).[42] This often led to {GEN|DAT}, whereas reflexes of *z in NGmc and EGmc preserve the GEN–DAT distinction (Table 95).

[41] Of course, circularity of argument through this bidirectionality must be avoided.
[42] Sometimes in combination with other WGmc phonological change, such as loss of nasality, and apocope.

	yoke.SG	*army*.SG	*gift*.SG	*tongue*.SG	*livestock*.SG	*guest*.SG
NOM	dag-Ø	har-i	geb-u	tung-ā	feh-u	gast-i
ACC	dag-Ø	har-i	geb-ā	tung-ōn	feh-u	gast-i
GEN	dag-as	har-jas	geb-ā	tung-ōn	feh-ō	gast-ī
DAT	dag-ē	har-jē	geb-ē	tung-ōn	feh-ō	gast-ī
	***herdsman*.SG**	***lamb*.PL**	***eye*.PL**	***fetter*.SG**	***height*.SG**	***human*.SG**
NOM	hird-ī	lamb-izu	aug-ōn	band-i	hauh-ī	gum-ō
ACC	hird-ī	lamb-izu	aug-ōn	band-ijā	hauh-īn	gum-an
GEN	hird-ijas	lamb-izō	aug-anō	band-ijā	hauh-īn	gum-ini
DAT	hird-ijē	lamb-izum	aug-um	band-ijē	hauh-īn	gum-ini

Table 94 Illustration of Contiguity in Proto-West-Germanic (paradigms from Ringe & Taylor 2014: 115-17).

	PGmc	**PWGmc**	**Old Norse**	**Gothic**
NOM	*gast-i**z**	*gast-i	gest-**r**	gast-**s**
ACC	*gast-į	*gast-i	gest-Ø	gast-Ø
GEN	*gast-ī**z**	*gast-ī	gest-**s**	gast-i**s**
DAT	*gast-ī	*gast-ī	gest-Ø	gast-a

Table 95 Comparative paradigms of early and reconstructed Germanic.

However, presumably Contiguity would have been counteracting such a shift in the linguistic system; similar conclusions about system-internal interactions and competition have been drawn by Baechler & Pröll (2018: 4): 'the modern paradigm [of NHG] is clearly the result of morphological changes that even counteract phonology by adding segments and thus creating an additional syllable in nominative/accusative plural.'

4.5 Exception I: Walser German

The two Walser German varieties studied, VA and Issime (section 3.2.4), are non-standardised varieties spoken in southern Switzerland and northern Italy, respectively. Along with NHG, they developed from OHG. However, they appear to deviate from the WGmc trend, presenting NADG hierarchies. Given the established NAGD in OHG (and ancestral PWGmc), it seems necessary to propose that Walser German *reverted* to NADG, presenting the same surface hierarchy as NGmc and EGmc. Under Starke's (2017) SCS, this means a shift from BDAT to SDAT (undoing the earlier shift from PGmc SDAT to WGmc BDAT).[43] Furthermore, VA and Issime separated

[43] An investigation into the potential 'SMALL' nature of Walser DAT is warranted.

in the 13th century (and have remained isolated from each other) (Baechler 2014: 4). This suggests a likelihood that the Walser shift occurred some 800 years ago or more, unless VA and Issime underwent parallel innovation. As with PWGmc, discussion about the potential impetus for this shift can only be conjecture at this stage. However, an immediate line of enquiry must be *contact*. Although VA and Issime (particularly the latter) have remained isolated from other Germanic, contact with local Romance varieties has been considerable (Rabanus 2004: 339). The effects of this are well noted; for instance, Issime holds a set of alternative, extended personal pronouns derived as a direct calque from local Romance (Zürrer 1999: 215). Such a development in closed-class lexical items is the hallmark of deep historic contact (see Thomason & Kaufman 1988: 15 amongst others). Therefore, what if contact or bilingualism with local Romance be the root of the Walser NADG? Suppose that local Romance, perhaps pre-13th century, held the NADG hierarchy.[44] Bilingual (or L2) speakers of Walser varieties might have tended towards the shift, in tandem with other ongoing language-internal/inflectional change. In terms of future research, investigation into local historical Romance/contact varieties and their Contiguity hierarchies could prove fruitful.

4.6 Exception II: Germanic personal pronouns

As identified in section 3.4, Germanic personal pronouns seem somewhat anomalous in the Contiguity context: they show NADG across every variety (except OHG which remains inconclusive). This is problematic in WGmc since it contravenes the NAGD in other nominals.[45] I provide some illustrative comparisons (Tables 96 & 36).

Caha (2009: 274) treatment of the illicit NADG focuses on the intermediary GEN form in OE. However, having identified the same issue in German, Latin and Classical Armenian, he proposes this approach could be adopted more widely. He states that OE GEN personal pronouns are *not* subject to Contiguity, since they are in fact bimorphemic, containing an underlying GEN stem suffixed with an additional 'adjectiviser'[46] (Caha 2009: 274). Thus, OE *ēower* (see section 36) is underlyingly *ēow-* + *-er*.[47] The GEN *ēow-* stem (which itself *is* subject to Contiguity) provides {ACC|GEN|DAT} syncretism, no longer inconsistent with the wider NAGD. The main evidence given for this approach is that OE GEN pronouns are 'suffixed by agreement markers when they modify a noun' (p.274):

(35) Example of possessive agreement in Old English (Caha 2009: 274-75):

ēowr-u	*hors-Ø*	mīn-um	scip-e
you.GEN-NOM.PL	horse-NOM.PL	me.GEN-DAT	ship-DAT.SG
'your horses'		'my ship'	

[44] Or even very late Continental Celtic.
[45] Walser German excepted, with its NADG hierarchy.
[46] In other words, a 'possessive marker' (Caha 2009: 278).
[47] For other GEN forms, such as 1./2.sg. *mīn* and *þīn*, he suggests an adjectiviser-containing contraction.

	ON	IS	FO	OSwe	OE	OHG	NHG	VA	IM	MDut	GO
NOM	vér	við	vit	vī(r)	wē	wir	wir	wiər	wir	wi	weis
ACC	oss	okkur	okkum	os, ōs	ūs(iċ)	unsih	uns	ıi̯š	ündsch	ons	uns(is)
GEN	vár	okkar	okkara	vār	ūre (ūser)	unsēr	unser	ıi̯še	ündschuru	onser	unsara
DAT	oss	okkur	okkum	os, ōs	ūs	uns	uns	ıi̯š	ündsch	ons	uns(is)

Table 96 Comparative set of Germanic pronouns (1st person plural).

	ON	IS	FO	OSwe	OE	OHG	NHG	VA	IM	MDut	GO
NOM	(þ)ér	þið	tit	ī	ġē	ir	ihr	iər	iir	ghi	jūs
ACC	yðr	ykkur	tykkum	iþer	ēow(iċ)	iuwih	euch	eww	auw	u	izwis
GEN	yð(v)ar	ykkar	tykkara	iþar	ēower	iuwēr	euer	ewwe	auwuru	uwer	izwara
DAT	yðr	ykkur	tykkum	iþer	ēow	iu	euch	eww	auw	u	izwis

Table 97 Comparative set of Germanic pronouns (2nd person plural).

However, an issue with this approach is that the 'adjectiviser' suffix is retained even when not modifying a noun:

(36) Old English genitive personal pronoun in adverbal context (Caha 2009: 278):

God ūre helpe.
god us.GEN help

'God help us.'

To overcome this, Caha posits an obligatory 'possessor of SELF' in non-noun-modifying contexts (p.278). Although Caha's intuition about internal structure of the pronouns is well founded, given the continuing wealth of literature on this theme, it is unclear that his solution ultimately adds clarity to Germanic at this stage. Deeper investigation into the nuances between GEN personal pronouns, possessive adjectives, and possessive pronouns would be necessary for a fuller view. For instance, NGmc, OHG and MDut seem to distinguish between the GEN personal pronoun and the possessive forms; NHG has a distinct NOM possessive adjective form *mein* compared to the NOM possessive pronoun *meiner*, displaying the proposed adjectiviser suffix. In any case, Caha himself asserts that compound morphology *should* be subject to Contiguity (Caha 2009: 37); as such, I suggest the bimorphemic personal pronoun analysis should stand for now, despite its contradiction in WGmc, since the GEN does appear to build atop the {ACC|DAT} personal pronoun stem.

Given the diachronic conclusions drawn in sections 4.3 and 4.4, I propose a potentially more straightforward alternative: the conservativity of case in pronouns. Indo-European languages which have otherwise lost *all* case inflection (the majority of modern Germanic and Romance, and many more) tend to retain at least a NOM–OBL opposition in personal pronouns. Thus, it is possible that the Common Germanic NADG, established in section 4.3, was preserved in personal pronouns due to their conservativity and closed-class status. Interestingly, there might be some signs of this: early WGmc developed a distinct ACC suffix **-ike* (hence OHG *unsih, iuwih* and the OE alternative forms *ūsiċ, ēowiċ*) (Kroonen 2013: 275). Perhaps this is a sign of Contiguity working to enforce the new NAGD. On the other hand, NGmc and EGmc produced a 'salient dative' suffix **-iz*, analogised from the singular (Kroonen 2013: 591). Remarkably, this was in turn analogised to ACC, hence a renewed {ACC|DAT} (see ON *yð-r* and Gothic *izw-is* in section 36). It would appear that WGmc took steps to break the {ACC|DAT} syncretism, whereas NGmc and EGmc permitted and actively *preserved* it; this could be a sign of their established Contiguity hierarchies at play.

A tentative third approach might be the introduction of BIG GENITIVE, the logical parallel to BACC and BDAT. Ringe (2017: 323) reports that Germanic GEN personal pronouns derive from repurposed possessive adjectives; as such, they appear to present as a traditionally viewed 'morphology-heavy' item (possessive adjective), yet simultaneously assuming 'syntax-heavy' functions (verbal argument and preposition complement). Since the Nanosyntactic approach removes the traditional morphological–syntactic divide, as discussed in section 2.1, it might provide the

interface necessary to account for the hybridity of such phenomena, which are certainly under continued investigation: Cardinaletti (1994) has demonstrated the differing internal structures of strong and clitic pronominal forms, Déchaine & Wiltschko (2002) have claimed that the category *pronoun* is a conflation of at least three distinct phenomena, and Carvalho (2017) recently has concluded that traditional phi-features and categories in pronouns do contain deeper elemental features. Were BGen inserted above BDat, representing GEN personal pronouns as well as other morphosyntactic 'fringe' phenomena such as possessive *PP+DAT* and clitics, it could indeed settle Contiguity mismatches. This would parallel Starke's (2017) original nuances between SAcc/SDat and BAcc/BDat. Furthermore, investigation into whether BGen could better account for the Walser NADG pattern (or other unexpected surface patterns) might be a useful complement to the research on contact varieties suggested in section 4.5.

5 Conclusion

This paper set out to explore Contiguity, a Nanosyntactic framework involving case syncretism, from the perspective of Germanic. Surface hierarchies for nominal inflection were established across the broad geographic and diachronic range of four-case Germanic varieties, strictly according to Caha's (2009) criteria for non-accidental syncretism. Previous such studies tended to present either linguistically diverse or highly specified datasets; analysing a widely representative sample *within Germanic*, however, allowed for certain empirical benefits:

First, typological conclusions were achievable: it was found that North and East Germanic follow a Contiguity hierarchy different to that of West Germanic. This meant that Harðarson's (2016) report of (ACC=DAT)≠GEN in Northwest Germanic was valid, and in turn applicable to a considerably wider range of languages. These were all unified under Starke's (2017) articulated Contiguity hierarchy, which harnesses the submorphemic phrasal spellout of Nanosyntax to account for underlying nuances in accusative and dative forms.

Second, a combination of typological and diachronic considerations allowed for reconstruction of a Contiguity hierarchy in Proto-Germanic: NOM<SAcc<SDat<Gen (…). It appears that West Germanic underwent developments leading to a shift from SDat to *B*Dat, yielding NOM<SAcc<GEN<BDat. These results make clear that Contiguity hierarchies can change over time. Furthermore, they highlight the merit of applying synchronic analysis in a diachronic perspective.

Two outliers to the general trends were identified and discussed: first, Walser German (an isolated subgroup of Alemannic) appears to have reverted from the innovative West Germanic hierarchy to a surface hierarchy in line with North and East Germanic, as well as ancestral Germanic. The potential role of contact with local Alpine Romance varieties in this change was raised. Second, the personal pronouns in all varieties except Old High German appeared to follow a surface hierarchy NOM<ACC<DAT<GEN, which was challenging for most West Germanic varieties studied. Reasons for this remain unclear, although the conservativity of personal pronouns and the potential for a BIG GENITIVE were identified as areas

for further research. The latter might also account for the Walser German outlier, and reaffirms an important notion: surface forms often provide only the tip of an underlying iceberg.

Abbreviations

Grammatical cases

ACC	accusative case	INS	instrumental case
BACC	big accusative	NOM	nominative case
BDAT	big dative	PREP	prepositional case
COM	comitative case	SACC	small accusative
DAT	dative case	SDAT	small dative
GEN	genitive case		

Inflectional paradigms

adj.	adjective	monosyll.	monosyllabic
art.	article	neut.	neuter
athem.	athematic	pers.	person
class	declension class	pl.	plural
cons.	consonant	poss.	possessive
def.	definite	pron.	pronoun
fem.	feminine	sg.	singular
indef.	indefinite	str.	strong declension
masc.	masculine	weak	weak declension

Languages

EGmc	East Germanic	OE	Old English
FO	Faroese	OHG	Old High German
GO	Gothic	ON	Old Norse
IE	Indo-European	OSwe	Old Swedish
IM	Issime (Alemannic dialect)	PGmc	Proto-Germanic
IS	Icelandic	PWGmc	Proto-West-Germanic
MDut	Middle Dutch	VA	Visperterminen Alemannic
NGmc	North Germanic	WGmc	West Germanic
NHG	New High German		

Theories

CS	Case Sequence (Caha 2009)
SCS	Starke's (2017) revised Case Sequence
UCCH	Universal Case Contiguity Hypothesis

Other

NADG	NOM<ACC<DAT<GEN surface hierarchy, corresponding to NOM<SACC<SDAT<GEN
NAGD	NOM<ACC<GEN<DAT surface hierarchy, corresponding to NOM<SACC<GEN<BDAT
-Ø	zero-marked exponent
{x|y}	syncretism (unordered)

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Appendices

Appendix 1.1. Supplementary Faroese paradigm data

	Masc. Class 2a	**Masc. Class 1**	**Masc. Class 4**	**Masc. Class 6**	**Neut. Class 3**	**Neut. Class 2**
NOM	akur-Ø	fugl-ar	fund-ir	bønd-ur	eyg-u(r)	kvæð-i(r)
ACC	akur-Ø	fugl-ar	fund-ir	bønd-ur	eyg-u(r)	kvæð-i(r)
GEN	akur-s	fugl-a	fund-a	bónd-a	eyg-a	kvæð-a
DAT	akr-i	fugl-um	fund-um	bó nd-um	eyg-um	kvæð-um
	field.SG	*bird*.PL	*meeting*.PL	*farmer*.PL	*eye*.PL	*ballad*.PL

Source: Þráinsson et al. (2004)

Appendix 1.2. Old Swedish paradigm data

	Neut. *a*-stem	**Masc. *ja*-stem**	**Masc. *ia*-stem**	**Neut. *ia*-stem**	**Fem. *ō*-stem**	**Neut. *an*-stem**
NOM	skip-Ø	væv-er	birgh-ir	minn-e	agn-Ø	øgh-a
ACC	skip-Ø	væf-Ø	birgh-e	minn-e	agn-Ø	øgh-a
GEN	skip-s	væf-s	birgh-is	minn-is	agn-ar	øgh-a
DAT	skip-i	væf-Ø	birgh-e	minn-e	agn-Ø	øgh-a
	ship.SG	*web*.SG	*Bórje*.SG	*memory*.SG	*bait*.SG	*eye*.SG

	Masc. *an*-stem	**Fem. *ūn*-stem**	**Masc. *r*-stem**	**Fem. *r*-stem**	**Neut. *a*-stem**	**Neut. *ia*-stem**
NOM	bit-i	vik-a	faþ-ir	mōþ-ir	skip-Ø	minn-e
ACC	bit-a	vik-u	faþ-ur	mōþ-or	skip-Ø	minn-e
GEN	bit-a	vik-u	faþ-ur	mōþ-or(s)	skip-a	minn-a
DAT	bit-a	vik-u	faþ-ur	mōþ-or	skip-um	minn-om
	piece.SG	*week*.SG	*father*.SG	*mother*.SG	*ship*.PL	*memory*.PL

	Fem. *ō*-stem	**Fem. *i*-stem**	**Neut. *an*-stem**	**Fem. *ūn*-stem**	**Masc. cons.-stem**	**Masc. *a*-stem**
NOM	agn-ar	færþ-ir	øgh-un	vik-ur	føt-er	fisk-ar
ACC	agn-ar	færþ-ir	øgh-un	vik-ur	føt-er	fisk-a
GEN	agn-a	færþ-a	øgh-na	vik-na, -u	fōt-a	fisk-a
DAT	agn-om	færþ-om	øgh-um	vik-um	fōt-om	fisk-om
	bait.PL	*journey*.PL	*eye*.PL	*week*.PL	*foot*.PL	*fish*.PL

Source: Noreen (1904)

Appendix 2.1. Old High German paradigm data

	Neut. *u*-stem	**Masc. *os*-stem**	**Masc. *a*-stem**	**Masc. *ja*-stem**	**Neut. *ja*-stem**	**Masc. *wa*-stem**
NOM	fih-u	lam-Ø	tag-Ø	hirt-i	kunn-i	snē-Ø, -o
ACC	fih-u	lam-Ø	tag-Ø	hirt-i	kunn-i	snē-Ø, -o
GEN	fih-es	lamb-es	tag-es	hirt-es	kunn-es	snē-wes
DAT	fih-e	lamb-e	tag-e	hirt-(i)e	kunn-(i)e	snē-we
	cattle.SG	*lamb*.SG	*day*.SG	*herdsman*.SG	*kin*.SG	*snow*.SG

	Neut. *wa*-stem	**Masc. *i*-stem**	**Masc. cons.-stem**	**Fem. *ō*-stem**	**Fem. *jō*-stem**	**Fem. *r*-stem**
NOM	kne-o	gast-Ø	man-Ø	gëb-a	sunt-e	muoter-Ø
ACC	kne-o	gast-Ø	man-Ø	gëb-a	sunt-e	muoter-Ø

Continued on next page.

GEN	knë-wes	gast-es	man-nes	gëb-a, -u, -o	sunt-e	muoter-Ø
DAT	knë-we	gast-e	man-Ø, -ne	gëb-u, -o	sunt-u	muoter-Ø
	knee.SG	*guest*.SG	*man*.SG	*gift*.SG	*sin*.SG	*mother*.SG

	Fem. *jō*-stem	**Masc. *ja*-stem**	**Neut. *ja*-stem**	**Neut. *wa*-stem**	**Fem. *ī*-stem**	**Fem. *i*-stem**
NOM	sunt-ā	hirt-e, -a, -ā	kunn-i	kne-o	hōhī-Ø, -n	enst-i
ACC	sunt-ā	hirt-e, -a, -ā	kunn-i	kne-o	hōhī-Ø, -n	enst-i
GEN	sunt-ōna	hirt-(i)o, -eo	kunn-(i)o, -eo	knë-wo	hōhī-no	enst-o, -io, -eo
DAT	sunt-ōm	hirt-um, -un, -on	kunn-um, -un, -on	knë-wum	hōhī-m	enst-im, -in, -en
	sin.PL	*hersdman*.PL	*kin*.PL	*knee*.PL	*height*.PL	*favour*.PL

	Masc. weak	**Neut weak**	**Fem. weak**	**Fem. *r*-stem**	**Masc. *os*-stem**
NOM	han-on, -un	hërz-un	zung-ūn	muoter-Ø	lemb-ir
ACC	han-on, -un	hërz-un	zung-ūn	muoter-Ø	lemb-ir
GEN	han-ōno	hërz-ōno	zung-ōno	muoter-o	lemb-iro
DAT	hamōm, ōn	hërz-ōm	zung-ōm, -ōn	muoter-um, -un, -on	lemb-irum, -irom
	rooster.PL	*heart*.PL	*tongue*.PL	*mother*.PL	*lamb*.PL

Source: Wright (1888)

Appendix 2.2. Issime paradigm data

	Masc. 4	**Masc. 1**	**Masc. 2**	**Masc. 3**	**Neut. 6**	**Neut. 7**
NOM	hoan-u	weg-Ø	uav-e	noam-e	bet-Ø	chin-Ø
ACC	hoan-u	weg-Ø	uav-e	noam-e	bet-Ø	chin-Ø
GEN	hoan-endsch	weg-sch	uav-endsch	noam-endsch	bet-sch	chin-sch
DAT	haon-e	weg-Ø	uav-e	noam-e	bet-Ø	chin-Ø
	rooster.SG	*way*.SG	*oven*.SG	*name*.SG	*bed*.SG	*child*.SG

	Neut. 8	Fem. 10b	Fem. 10a	Fem. 11b	Fem. 11a	Masc. 1
NOM	lam-Ø	mum-a	matt-u	chött-i	aksch-Ø	weg-a
ACC	lam-Ø	mum-a	matt-u	chött-i	aksch-Ø	weg-a
GEN	lam-sch	mum-u	matt-u	chött-i	aksch-Ø	weg-u
DAT	lam-Ø	mum-u	matt-u	chött-i	aksch-Ø	weg-e
	lamb.SG	*aunt*.SG	*meadow*.SG	*chain*.SG	*ash*.SG	*way*.PL

	Masc. 2	Masc. 3	Neut. 7	Neut. 8	Masc. 4	Fem. 10
NOM	uav-na	noam-i	chin-Ø	lam-er	hoan-i	matt-i
ACC	uav-na	noam-i	chin-Ø	lam-er	hoan-i	matt-i
GEN	uav-nu	noam-u	chin-u	lam-eru	hoan-u	matt-u
DAT	uav-ne	noam-e	chin-e	lam-ere	hoan-u	matt-u
	oven.PL	*name*.PL	*child*.PL	*lamb*.PL	*rooster*.PL	*meadow*.PL

	Fem. 12	Fem. 11b	Neut. 6
NOM	schuld-ini	chött-ni	bet-i
ACC	schuld-ini	chött-ni	bet-i
GEN	schuld-inu	chött-nu	bet-u
DAT	schuld-inu	chött-nu	bet-u
	blame.PL	*chain*.PL	*bed*.PL

Source: Zürrer (1999)

Appendix 2.3. Middle Dutch paradigm data

	Masc. 1	Neut. 1	Masc. 2	Neut. 2	Neut. 2	Fem. 1
NOM	worm-Ø	blat-Ø	cnape-Ø	herte-Ø	ologhe-Ø	daet-Ø
ACC	worm-Ø	blat-Ø	cnape-Ø	herte-Ø	ologhe-Ø	daet-Ø
GEN	worm-s	blat-s	snape-n	herte-n	ologhe-s	daet-Ø
DAT	worm-e	blat-e	cnape-Ø	herte-Ø, -n	orloghe-Ø	daet-Ø
	worm.SG	*leaf*.SG	*boy*.SG	*heart*.SG	*war*.SG	*deed*.SG

	Masc. Adj	**Neut. Adj**	**Fem. 1b**	**Fem. 2**	**Fem. Adj.**	**Masc. 1**
NOM	goed-e	goed-e	vaerd-Ø	tonge-Ø	goed-e	worm-e
ACC	goed-en	goed-e	vaerd-Ø	tonge-Ø	goed-e	worm-e
GEN	goet-s	goet-s	vaerd-e	tonge-n	goed-er	worm-e
DAT	goed-en	goed-en	vaerd-e	tonge-n	goed-er	worm-en
	good.SG	*good*.SG	*way*.SG	*tongue*.SG	*good*.SG	*worm*.PL

	Neut. 1	**Neut. 1e**	**Neut. 1f**	**Fem. 1**	**Masc. 2**	**Neut. 2**
NOM	blat-e	wort-Ø	kind-er	dad-e	cnape-n	herte-n
ACC	blat-e	wort-Ø	kind-er	dad-e	cnape-n	herte-n
GEN	blat-e	wort-Ø	kind-er	dad-e	cnape-n	herte-n
DAT	blat-en	word-en	kind-en	dad-en	cnape-n	herte-n
	leaf.PL	*word*.PL	*child*.PL	*deed*.PL	*boy*.PL	*heart*.PL

	Fem. 2	**All Adj.**
NOM	tonge-n	goed-e
ACC	tonge-n	goed-e
GEN	tonge-n	goed-er
DAT	tonge-n	goed-en
	tongue.PL	*good*.PL

Source: van Loey (1980)

Appendix 3.1. Gothic paradigm data

	Neut. *a*-stem	**Neut. *ja*-stem**	**Fem. *ō*-stem**	**Neut. *an*-stem**	**Masc. *r*-stem**	**Masc. *ja*-stem**
NOM	kniu-Ø	kuni-Ø	gib-a	hairt-o	broþ-ar	haírd-eis
ACC	kniu-Ø	kuni-Ø	gib-a	hairt-o	broþ-ar	haírd-i
GEN	kniw-is	kunj-is	gib-os	hairt-ins	broþ-rs	haírd-eis
DAT	kniw-a	kunj-a	gib-ai	hairt-in	broþ-r	haírd-ja
	knee.SG	*kin*.SG	*gift*.SG	*heart*.SG	*brother*.SG	*shepherd*.SG

	Masc. *ja*-stem	**Fem. cons.-stem**	**Fem. cons.-stem**	**Fem. *n*-stem**	**Masc. *nd*-stem**	**Fem. irreg. *i*-stem**
NOM	harj-is	naht-s	ba-s	qino-Ø	nasjand-s	dulþ-s
ACC	hari-Ø	naht-Ø	baúrg-s	qino-n	nasjand-Ø	dulþ-Ø
GEN	harj-is	naht-s	baúrg-s	qino-ns	nasjand-is	dulþ-ais
DAT	harj-a	naht-Ø	baúrg-Ø	qino-n	nasjand-Ø	dulþ-Ø
	army.SG	*night*.SG	*city*.SG	*woman*.SG	*saviour*.SG	*feast*.SG

	Fem. *īn*-stem	**Weak adj.**	**Non-past part.**	**Masc. *u*-stem**	**Fem. *n*-stem**	**Fem. cons.-stem**
NOM	managei-Ø	blindo-Ø	gibandei-Ø	sunus	qino-ns	naht-s
ACC	managei-n	blindo-n	gibandei-n	sunu	qino-ns	naht-s
GEN	managei-ns	blindo-ns	gibandei-ns	sunáus	qino-no	naht-e
DAT	managei-n	blindo-n	gibandei-n	sunáu	qino-m	naht-am
	multitude.SG	F.SG	F.SG	*son*.SG	*woman*.PL	*night*.PL

	Fem. *jō*-stem	**Fem. cons.-stem**	**Neut. *a*-stem**	**Neut. *ja*-stem**	**Fem. *ō*-stem**	**Masc. *an*-stem**
NOM	máuj-os	baúrgs	kniw-a	kunj-a	gib-os	hans-ans
ACC	máuj-os	baúrgs	kniw-a	kunj-a	gib-os	hans-ans
GEN	máuj-o	baúrge	kniw-e	kunj-e	gib-o	han-ane
DAT	máuj-om	baúrgim	kniw-am	kunj-am	gib-om	han-am
	girl.PL	*city*.PL	*knee*.PL	*kin*.PL	*gift*.PL	*rooster*.PL

	Fem. *īn*-stem	**Neut. *an*-stem**	**Fem. *i*-stem**
NOM	managei-ns	hairt-ona	dulþ-s
ACC	managei-ns	hairt-ona	dulþ-Ø
GEN	managei-no	hairt-ane	dulþ-ais
DAT	managei-m	hairt-am	dulþ-ai
	multitude.PL	*heart*.PL	*feast*.SG

Sources: Miller (2019) and Wright (1910)

Case Contiguity from the Germanic Perspective: Typology, diachrony and reconstruction

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