PRODUCTIVE SYNCRETISM IN SAAMI INFLECTIONAL MORPHOLOGY

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Syncretism, whereby a single form represents several ‘paradigm cells’, is a topic of controversy in current morphological theory. A key question is whether such form-to-form identity relations constitute grammatical facts in their own right (represented by ‘rules of referral’ or analogous devices). I argue for the importance of diachronic evidence in this context, bringing data from Saami to bear on the debate. Two developments are examined: (a) the conflation of the previously separate inessive and ablative into a unified ‘locative’ case; (b) the identity between comitative singular and locative plural forms. I demonstrate how the $\text{COM}_\text{SG}=\text{LOC}_\text{PL}$ syncretism was extended from polysyllabic to monosyllabic stems in eastern Finnmark dialects of North Saami, indicating that the identity pattern constituted a productive aspect of the inflectional system. The non-contiguity of the paradigm cells involved argues in favour of ‘referrals’; the Saami facts are simply incompatible with more restrictive theories.

1. Introduction

Syncretism is the cross-linguistically widespread phenomenon whereby a single inflected form fits more than one morphosyntactic description (Spencer 1991:45). In Latin, for example, where dative and ablative are typically distinct, $\text{DAT}._\text{PL}$ and $\text{ABL}._\text{PL}$ are identical in each and every inflectional class ($\text{serv}.-\text{es}$ $\text{DAT}./\text{ABL}._\text{PL}$ of $\text{serv}.-\text{us}$ “slave”, $\text{mar}-\text{ibus}$, $\text{DAT}./\text{ABL}._\text{PL}$ of $\text{mar}-\text{e}$ “sea”). As a general phenomenon, syncretism is of great importance to morphological theory. For example, syncretism is allotted chapter-length treatment in the studies of inflectional morphology by Carstairs (1987) and Stump (2001), and is

*I would like to thank Matthew Baerman, Andrew Garrett, Sharon Inkelas, the editors, and five anonymous reviewers for discussion, comments and suggestions which greatly helped to improve this work at various stages of its development. Needless to say, any remaining errors are my own.*
the topic of several contributions in Plank (1991a). Syncretism has been the central focus of much recent work by Greville Corbett, Matthew Baerman and other associates in the Surrey Morphology Group, culminating in the first book-length study entirely devoted to the topic (Baerman et al. 2005; see also Baerman et al. 2001; Corbett et al. 2001; Evans et al. 2001; Baerman 2004). The group’s website (http://www.surrey.ac.uk/LIS/SMG) contains several useful resources on syncretism, including an annotated bibliography and two web-searchable typological databases.1

Despite its importance, syncretism remains rather poorly understood, and works on this topic have espoused a wide range of different, often conflicting, views regarding its nature and formal analysis. A common view is that syncretism arises through the neutralization of morphosyntactic oppositions (Jakobson 1936; Williams 1981; Neidle 1988; Blevins 1995; Johnston 1997; Noyer 1997, 1998; Kiparsky 2001). A competing view allows for the alternative possibility that syncretism be taken at face value, as a purely morphological fact, whereby the realization of one inflectional form is systematically ‘referred to’ that of another form within the same paradigm (Zwicky 1985; Corbett & Fraser 1993; Stump 1993, 2001; Evans et al. 2001).

This paper contributes to the ongoing debate about syncretism as a morphological phenomenon, its typological properties cross-linguistically, and its formal analysis. As such, the paper has a twofold goal. The first is to emphasize the relevance of diachronic evidence, especially as regards the difficult task of distinguishing between systematic inflectional homonymy patterns (genuine syncretism) and ones that can legitimately be called accidental (Zwicky 1991). Secondly, various diachronic changes affecting the inflectional morphology of the Saami languages, in particular North Saami and its dialects, are examined from the perspective of syncretism as a (potentially productive) synchronic morphological phenomenon.

The main focus is on inflectional marking involving the locative (inessive/ellative) case, including a pervasive identity pattern, observed in North Saami and elsewhere, whereby comitative singular = locative plural (thus biillain means either ‘by car, with the car’ or else ‘in (the) cars, from (the) cars’).2 Dialectal

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1Baerman et al. (2005) appeared shortly before the present volume went to press; as that monograph was unavailable to me, none of its content is reflected here.

2All forms cited are in the standard orthography for North Saami (and for the other Saami languages, where relevant); phonemic transcription is provided where necessary. Note that postvocally, <i> denotes a glide /j/ (biillain = /pijlaju/). Note also that <á> stands for /a:/ (dialectally /æ:/), and <b>, <d>, <g> represent voiceless unaspirated stops /p t k/.
differences within North Saami with respect to the scope of this identity pattern are argued to be the result of the analogical extension of the syncretism from polysyllabic to monosyllabic stems in certain dialects. The syncretism is thus shown to be a productive aspect of North Saami inflectional morphology, which in turn has serious implications for our understanding of syncretism as such. The Saami facts are powerful evidence in favour of frameworks which allow for syncretisms to be stipulated by means of ‘rules of referral’ or analogous devices. Furthermore, the Saami evidence directly contradicts proposals which limit syncretism to geometrically contiguous regions within a paradigm (McCreight & Chvany 1991; Johnston 1997).

The paper is organized as follows: some of the main alternatives that have been pursued in the formal analysis of syncretism are introduced in section 2, with particular attention to inferential-realizational theories of morphology (to use the terminology of Stump 2001); the problem of distinguishing between systematic and accidental inflectional homonymy is also addressed. The notion of productive syncretism in diachronic change — the analogical extension of an identity pattern from one paradigm to another — is introduced in section 3, and illustrated with detailed discussion of the historical development of locative case marking in the Saami languages. Proposals regarding potential constraints on syncretism patterns are considered in section 4, in particular constraints that would prohibit syncretisms relating disjoint (non-contiguous) paradigm cells. In section 5, the COM.SG=LOC.PL syncretism found in many Saami languages is examined in detail, focusing on its development in the Finnmark dialects of North Saami, and the theoretical implications of these facts are considered. The general conclusions are summarized in section 6.

2. Syncretism and its analysis
2.1 Syncretism as inflectional homonymy

In a broad sense, the term syncretism simply refers to an identity relation, that might be called inflectional homonymy. From this perspective, any instance of phonologically identical forms occurring within the same inflectional paradigm would count as an instance of syncretism. Consider the ambiguity of the English form called: it can be either the finite past tense form of the verb CALL or the past participle of that same lexeme. Under this simplistic view, the ambiguity of a form like called is essentially no different from that of, say, the form match (as in tennis match versus box of matches). That is, syncretism is merely a special case of a many-to-one relationship between meaning and form, one where such a relationship happens to hold within the inflectional paradigm of individ-
ual words. In its most general form, this view is of little theoretical interest, as it ignores the systematic character of syncretism patterns, treating them as being on a par with accidentally homophonous word pairs. Consequently, no predictions are made about what types of syncretism patterns are possible in human language, whether there are any constraints on their realizations, and so forth.

2.2 Syncretism and feature neutralization

One commonly held position on the nature of syncretism is that it arises from the neutralization or underspecification of morphosyntactic features (Jakobson 1936; Bierwisch 1967; Williams 1981; Neidle 1988; Blevins 1995; Johnston 1997; Noyer 1997, 1998; Kiparsky 2001). The underlying assumption is that the syncretized forms share an array of morphosyntactic and/or semantic feature specifications separating them from other cells in the paradigm. The syncretism itself is a matter of neutralizing, or leaving unspecified, the feature (or features) distinguishing the two cells from one another.

For example, Bierwisch (1967) uses underspecification to capture the pervasive NOM/ACC syncretism found throughout much of German nominal inflection: NOM/ACC.SG.FEM *diese* ‘this’, NOM/ACC.SG.NEUT *dieses*, NOM/ACC.PL (all genders) *dieser*, and so on. Bierwisch interprets the German four-way case contrast in terms of two binary features, essentially [±oblique] (GEN/DAT versus NOM/ACC) and [±object] (ACC/DAT versus NOM/GEN). Syncretism arises because among the transformational rules responsible for suffixation there happen not to be any that distinguish between [-obl, -obj] (= nominative) and [-obl, +obj] (= accusative). For example, the rules adding -es in neuter singulars (dies-es) or -e in feminine singulars (dies-e) refer only to [-obl], without mentioning the feature [±obj]. An alternative perspective, which is identical for all intents and purposes, would hold that a suffixal morpheme like -es is, as a lexical entry, specified as [+neuter], [+singular], [-oblique], and so on, but carries no value at all for [±object]. An actual syncretic form like *dieses* is, on this view, neither nominative nor accusative, strictly speaking, but simply ‘direct’ (as opposed to oblique). This is essentially what Blevins (1995) refers to as ‘artifactual’ syncretism: rather than a homophony relation between two inflected forms, we are in fact dealing with a single inflected form whose content is to some extent featurally impoverished or underspecified.

A related approach, which takes the notion of impoverishment a step further, is advocated by Noyer (1997, 1998). He suggests that when two paradigm cells are linked through syncretism, the (marked) feature value distinguishing one cell from the other actually undergoes outright deletion by a so-called im-
poverishment rule. As a result, the set of morphosyntactic properties for that cell is defective, and is filled in with default (unmarked) values supplied by redundancy rules. The German example above would then, given the featural system assumed by Bierwisch (1967), be the result of an impoverishment rule along the lines of (1a), combined with a redundancy rule like (1b).

(1)  

a.  

\[ [+\text{object}] \rightarrow \emptyset / [+]N, -\text{oblique}, \ldots \]

b.  

\[ [\ ] \rightarrow [-\text{object}] \]

On this interpretation, we might again say that a syncretic form like *dieses* is actually a single form that does double duty, rather than two separate but homophonous forms. It should be noted that although underspecification plays a central role in Noyer’s approach, underspecified representations only occur as an intermediate stage: after the application of a neutralizing impoverishment rule but before that of the relevant redundancy rule.³

All accounts of syncretism relying on underspecification, neutralization or related notions share a fundamental assumption: that the contrast being neutralized reflects underlying (covert, not necessarily apparent) affinities at the morphosyntactic and/or semantic level. Gvozdanović (1991:153) articulates this assumption by stating that “syncretism as an identity in form presupposes an identity at some level in meaning” (though she hastens to add, as an exception clause, “unless this formal identity is due to phonological developments or distributional restrictions”), and a section heading is particularly telling of this perspective: “Patterning of grammatical meaning as revealed by syncretism”. On this view, the fact that two paradigm cells display syncretism is evidence that they form a neutralizable opposition (specified with ‘+’ versus ‘−’ for some binary feature, for example) at that hidden level of grammatical structure. The assumption that syncretism patterns reflect underlying patterns of grammatical organization formed the basis of much theoretical work in morphology in the structuralist tradition (Hjelmslev 1935; Jakobson 1936; see Plank 1991b on the ancient provenance of this view).

³As pointed out by one reviewer (see also Noyer 1998), impoverishment rules become very similar to rules of referral (see section 2.3) as soon as the reference to markedness is removed. While this is true, complications arise when the two paradigm cells are disjoint, as in some of the crucial examples discussed below. For example, in order to syncretize COM\text{sg} with LOC\text{pl} in North Saami (see section 5), one needs two separate but crucially interdependent impoverishment rules: one eliminating the feature for comitative case, but only in the singular, the other rule eliminating the singular feature, but only in the comitative.
2.3 Syncretism and rules of referral

The neutralization approach derives syncretism from the organization of paradigms at the level of morphosyntactic or semantic oppositions. A competing view allows for syncretism to be taken at face value as a purely morphological fact, essentially as an outright stipulation. The realization of a particular inflectional form is systematically ‘referred to’ that of another form within the same paradigm (Zwicky 1985; Stump 1993; note also the notion of ‘take-over’ in Carstairs 1984, 1987).

This alternative to the neutralization approach is compatible with most theories of inflectional morphology in Hockett’s (1954) ‘word-and-paradigm’ category, such as those of Matthews (1972); Zwicky (1985); Anderson (1992); Corbett & Fraser (1993); and Stump (2001). These are all, in Stump’s (2001) classification, inferential-realizational theories of inflectional morphology. They are inferential, rather than lexical, in that they see the relation between a lexeme’s root and its fully inflected word forms as being expressed by rules or formulas, not by the concatenation of lexically listed objects each carrying their own morphosyntactic properties. In other words, they assume that affixes do not exist as lexical entries (morphemes) in their own right. Moreover, such theories are realization, rather than incremental, in that an inflected word does not acquire its morphosyntactic properties in a piecemeal fashion by accumulating the elements expressing those properties (for example, affixes). Instead, the presence of those elements is simply licensed by the presence of the properties in question.

As it is the most formally elaborated of all the frameworks incorporating rules of referral, the Paradigm Function Morphology of Stump (2001) will serve as an illustrative example. In this framework, each cell in the inflectional paradigm of some lexeme L is defined as a form/property-set pairing \(<Y, \sigma>\), where Y is the inflected form as such (its phonological representation) and \(\sigma\) is its complete set of morphosyntactic properties. The inflectional morphology of a given language is simply a function in the set of such pairings, a ‘paradigm function’ (PF), which serves as a well-formedness condition. Given a lexeme L, whose root is X, a pairing \(<Y, \sigma>\) is licensed as a cell in L’s inflectional paradigm if and only if applying the paradigm function to the root pairing \(<X, \sigma>\) yields \(<Y, \sigma>\) as its result, that is, if \(PF(<X, \sigma>) = <Y, \sigma>\). For example, if \(\sigma\) stands for the morphosyntactic property set \{\text{CASE:comitative}, \text{NUM:pl}\}, then (2) is true given the PF that constitutes North Saami inflectional morphology (mánná “child”, COM.PL mándíguin “with children”).

\[
(2) \quad PF(<\text{mánná}, \sigma>) = <\text{mándíguin}, \sigma>
\]
The paradigm function is in turn defined in terms of realization rules (RR): the individual morphological rules of the language. Typically these take the form of *rules of exponence*, formalized as in (3), where $\tau$ stands for the set of morphosyntactic properties the rule is expressing and $C$ the class of lexemes encompassed by the rule.

\[
\text{RR}_{\tau,C}(\langle X, \sigma \rangle) = \text{def} \langle Y, \sigma \rangle
\]

Here and throughout this chapter, the statement of realization rules has been greatly simplified (relative to Stump 2001), for example by ignoring the notion of rule *blocks*. Each rule is here assumed to apply directly to the root, and an inflected form is defined by a single rule, not a nested series of rules affiliated with separate rule blocks (such as $\text{RR}_{\tau,\phi,C}(\text{RR}_{\nu,\psi,C}(\text{RR}_{\lambda,\tau,C} \langle X, \sigma \rangle))$ for rule blocks $A$ through $C$).

If we ignore the vagaries of Saami consonant gradation and other morphonological alternations, and also assume for the sake of the argument that the plural marker -i- (/j/-) and the following case ending are introduced jointly by a single rule (rather than two rules residing in different blocks), then (4) is not implausible as one of the rules of exponence in the North Saami inflectional system.

\[
\text{RR}_{\{\text{CASE:com, NUM:pl}\},N}(\langle X, \sigma \rangle) = \text{def} \langle \text{Xiguin}, \sigma \rangle
\]

Inflected forms whose shapes are affected by syncretism derive from realization rules of a second type: *rules of referral*, a term originally introduced by Zwicky (1985). Such rules refer the realization of a given cell in a lexeme’s paradigm to the realization of another cell in that same paradigm. In Zwicky’s original formulation, these are essentially statements like the one in (5), describing the German NOM/ACC syncretism discussed earlier. Zwicky’s ‘Nounal’ covers nouns, adjectives and determiners; note that (5) expresses a default, which is overridden by a more specific rule in the masculine singular (where we find ACC -en versus NOM -er).

\[
\text{In the context of } [\text{CAT:Nounal}, [\text{CASE:acc}]] \text{ has the same realization as } [\text{CASE:nom}].
\]

The format for rules of referral in the Paradigm Function Morphology of Stump (1993, 2001) is shown, somewhat simplified, in (6).

\[\text{As before, the concept of rule blocks has been left out, and with it the ability to distinguish} \]
The expression $\sigma/\rho$ stands for the set of morphosyntactic properties associated with the other paradigm cell in the referral relation: the one to which the realization of $<X, \sigma>$ is being ‘referred’. In other words, $\sigma/\rho$ is identical to $\sigma$ except for whatever properties are mentioned explicitly in $\rho$.

For example, if the realization of some case form is being referred to that of the nominative form, then $\sigma/\rho$ should read ‘$\sigma/\{\text{CASE:nom}\}$’. Translated into this formalism, the statement in (5) reads approximately as (7).

\begin{align*}
\text{(6)} & \quad RR_{C,C}(<X, \sigma>) = \text{def} <Y, \sigma>, \\
& \quad \text{where PF}(<X, \sigma/\rho>) = <Y, \sigma/\rho> \nonumber
\end{align*}

The second line of (7) simply states that the phonological realization of a nominative form of a word with root $X$ is independently defined as $Y$ by the inflectional system (PF) of the language in question. In the case of a German adjective like *jung* “young”, $X$ is *jung*- and the PF of German independently defines $Y$ as *junges* when $\sigma$ contains the properties \{GEND:neut, NUM:sg, CLASS:strong\}. To put it differently, a separate rule of exponence exists in German which suffices -es in the strong NOM\_SG\_NEUT forms of adjectives. The rule in (7) simply states that the corresponding accusative form — that is, the paradigm cell which contains all the same feature values except for having accusative instead of nominative case — uses the same phonological form $Y$ (here, *junges*) as its realization.\footnote{Syncretism and referrals are approached in a similar manner in Network Morphology (Corbett & Fraser 1993; Evans et al. 2001). Here lexical information is organized as a network in the form of an inheritance hierarchy (usually formalized in the knowledge-representation language DATR; Evans & Gazdar 1996), where all facts — including relations between form and morphosyntactic properties (morphological ‘rules’ in the usual sense) — are distributed across the individual nodes in the hierarchy. In a Network Morphology implementation, Zwicky’s rule in (5) would likely be captured in the form of the following declaration, situated at the ‘Nounal’ node in the hierarchy and thus inherited by default by all lower nodes, including all lexemes belonging to the Nounal category (the attribute label ‘mor’ simply stands for morphology):

\begin{enumerate}
\item <mor acc> == ‘<mor nom>’
\end{enumerate}

Here the value assigned to the attribute-path <mor acc>, and any extension of that path such as <mor acc sg neut>, is declared to be identical to the value assigned to the corresponding path between whole-word syncretisms and so-called block syncretisms (Stump 2001:217-218). Also omitted is the notion of rule competition by Pāṇini’s principle; in Stump’s formulation, the right-hand clause in (6) does not refer to PF($<X, \sigma/\rho>$) directly, but to Nar$_n(<X, \sigma/\rho>)$, where ‘Nar$_n$’ stands for the ‘narrowest applicable rule’ in rule block $n$ given the property set $\sigma/\rho$.}
The very notion of referral entails a specific directionality (the realization of one form is referred to that of the other form, not vice versa), yet nothing has yet been said about directionality effects or how the directionality implicit in a syncretism can be discovered. As an example, consider the ACC,PL=GEN,PL syncretism in animate nouns in Russian, which is illustrated in Table 1 in the following section; for example, -ov marks both forms in many masculine nouns. We are able to determine that this suffix (and all other ACC,PL=GEN,PL suffix variants) in fact originates in the GEN,PL by examining the paradigms of inanimate nouns, where the ACC,PL is instead syncretic with NOM,PL, and the suffix in question is thus exclusively a GEN,PL marker. Hence it must be the ACC,PL whose realization is being referred to the GEN,PL, not the other way around. In many cases, evidence of this kind is hard to come by, and the choice of directionality appears arbitrary. In yet other cases, the identity relation in fact seems to be bidirectional. See Baerman (2004) for extensive discussion of directionality and related issues. The question of directionality will arise again in section 5.3 in connection with the North Saami COM,SG=LOC,PL syncretism.

It is important to note that in approaches which make use of rules of referral, these are not the only possible source of syncretism. Syncretism may also arise in situations where the relevant rules of exponence are general enough to cover both of the syncretized paradigm cells. Consider a language whose verbal morphology includes separate rules of exponence applying, respectively, in the contexts \{PER:1, NUM:sg\}, \{NUM:sg\} and \{NUM:pl\}, but no rules explicitly mentioning combinations like \{PER:2, NUM:pl\} or \{PER:3, NUM:sg\}. The result is the complete syncretism of 1st/2nd/3rd person in the plural (all being defined by the single rule referencing \{NUM:pl\}), and the complete syncretism of 2,SG and 3,SG forms (defined by the single rule for \{NUM:sg\}; this is overridden in the 1st person by the specific rule for \{PER:1, NUM:sg\}). Here syncretism derives from the relative lack of specificity of some of the rules of exponence, not from any referral.

Stump (2001) refers to this phenomenon as unstipulated syncretism, to be contrasted with the stipulated syncretisms produced by rules of referral. Unstipulated syncretisms are a close parallel to the idea that syncretism arises through neutralization or underspecification (in the above example, one might speak of a single plural form, not specified for person). What distinguishes inferential-containing \(<\text{nom}>\) instead of \(<\text{acc}>\). In our German example, the value of the full path \(<\text{mor nom sg neut}>\) at the lexeme node \text{jung} is \text{junges}, and the value of the path \(<\text{mor acc sg neut}>\) at that same node is, then, likewise \text{junges} by the above declaration.
realizational approaches like those of Zwicky (1985); Corbett & Fraser (1993) or Stump (2001) is their insistence that a considerable number of attested syncretisms are not of this type, but must instead be seen as stipulated outright; consequently, morphological theory must have the formal resources to encode such stipulations.\footnote{In a recent paper, Arnold Zwicky (who coined the very term ‘rule of referral’; Zwicky 1985) advocates an alternative to referrals which is nonetheless stipulative in the same sense (Zwicky 2000; see Baerman 2004 for discussion). He suggests that the two paradigm cells are defined as a class (by a declaration like \( \{2,SG \cup 1,PL\} = X \)), and that this class is then referenced by an ordinary rule of exponence (such as \( X = \text{stem} + -ne \)). Formally speaking, this is close in spirit to approaches using neutralization or underspecification, though it is far less restrictive; any two feature combinations can in principle be conflated into a single class through this kind of set union. However, it is not quite equivalent to referrals in terms of formal power: Baerman (2004) demonstrates that Zwicky’s solution is incapable of capturing so-called bidirectional syncretisms (where the directionality of referral is different for different inflectional classes). With respect to the North Saami \( \text{COM} = \text{LOC} \) case examined in section 5 below, the fact that the \( \text{LOC} \), ending -\( in \)/-\( jn \)/ is arguably bimorphemic (plural -\( j \)/ + locative -\( n \)/) is also a problem for Zwicky’s proposal.}

2.4 Systematic versus accidental homonymy

Any theory that incorporates a principled treatment of syncretism must have some means of distinguishing between inflectional homonymies that are genuinely systematic and ones that are better seen as purely accidental. Only the former would need to be accounted for in morphological terms; the latter would presumably either be treated as lexical exceptions or as genuine homophony (in the traditional sense) at the level of affixes or the rules which introduce them. For example, consider the fact that in (North) Saami, demonstratives like \( da-t \) “that, it” have identical NOM,SG and NOM,PL forms, both happening to end in -\( t \). The NOM,SG suffix -\( t \), unique to these demonstratives and a complete anomaly in the overall inflectional system, happens to be identical to the regular NOM,PL suffix -\( t \). Should this identity relation be taken seriously as a (systematic) syncretism within North Saami inflectional morphology? Or should it be treated as a pure accident that the affix introduced by the special rule determining the NOM,SG of demonstratives is phonologically identical to that introduced by the regular NOM,PL rule?

The question may be turned around, and stated more generally: when can an inflectional homonymy be plausibly interpreted as genuinely systematic rather than merely accidental? The clearest cases are where the identity pattern repeats itself across many distinct paradigms, and where the actual affixal material in-
volved is different for each paradigm. Consider the inflection of animate nouns in Russian, whose ACC.PL is always identical to their GEN.PL, as illustrated in Table 1. Here the ACC.PL=GEN.PL pattern holds across the various inflectional classes, even though the actual suffixes involved are different in each case (-ov, -ej, -Ø). This makes it highly implausible that the identity relation is accidental within each class. However, evidence of this sort is circumstantial, as it appeals primarily to the common sense of the morphologist: the facts simply suggest that the state of affairs is probably more than a mere accident. The criteria are not clear-cut; one might ask just how many distinct paradigm classes are required, what exactly constitutes different affixal material (for example, does zero marking really count?), and so forth.

It should be mentioned at this point that syntactic evidence can sometimes be brought to bear on the issue of determining whether an inflectional homonymy pattern is systematic or merely accidental. In the phenomenon known as syncretic resolution, a form which is ambiguous between conflicting morphosyntactic properties is able to represent both of these at once (Zwicky & Sadock 1975; Taraldsen 1981; Dyå 1984; Zaenen & Karttunen 1984; Pullum & Zwicky 1986; McCreight & Chvany 1991; Zwicky 1991). Consider the German sentences in (8), where the pronominal subject of the headless relative clause is simultaneously required to carry nominative case (as subject of ärgern “annoy”) and accusative case (the relative clause being the object of zerstören “destroy”); the examples are from Taraldsen (1981).

(8) a. *Ich zerstöre [was mich ärgert].
   I destroy what-{NOM, ACC} me annoys
   “I destroy what annoys me.”
   b. *Ich zerstöre [*wer/*wen mich ärgert].
   I destroy who-NOM/ACC me annoys
   “?I destroy who(m) annoys me.”

Because of the systematic NOM=ACC syncretism in German neuters, the
form was “what” is used in accusative as well as nominative syntactic contexts. This is apparently enough to resolve the case-marking conflict inherent in the construction in (8), making (8a) acceptable. In (8b), on the other hand, where a syncretic form is not available, the sentence is entirely unacceptable with either accusative wen or nominative wer.

It is generally assumed that the ability of a form to appear in syncretic resolution contexts is a sign that the homonymy in question is systematic rather than accidental. This would suggest that resolution can be used as a diagnostic to determine whether an identity pattern is a genuine syncretism (and thus part of the grammar) or not. Things are unfortunately not so simple. As noted by Zwicky (1991; see also Pullum & Zwicky 1986), the availability of syncretic resolution crucially depends on whether the conflicting feature values are ‘free’ (for example, tense in a main-clause verb) or ‘imposed’ by the syntactic context (for example by subcategorization). In the latter case, resolution appears to be possible even when the identity pattern is quite clearly an idiosyncrasy of individual lexical items: a truly accidental homonymy with no systemic status in the inflectional morphology.

The complications noted by Zwicky (1991) make syncretic resolution far less feasible than one might think as a diagnostic for genuine syncretism qua systematic inflectional homonymy. It will frequently be extremely difficult, or even impossible, to devise syntactic contexts where ‘free’ values of the feature(s) in question are in conflict. Alternative sources of evidence for the systematicity of inflectional homonymies would thus be desirable. One such alternative, drawing on historical changes in inflectional systems, is introduced in the following section.

3. **Diachronic change and productive syncretism**

3.1 **Productive syncretism as analogical extension**

A great many syncretism patterns appear to have their origin outside of morphology, in sound changes that are ‘destructive’ in the sense that they happen to collapse inflectional forms that were previously distinct. For example, modern Finnish uses the same ending, -n, to mark the accusative and genitive singular of most nominals, even though these reflect nasals with distinct place of articulation at earlier stages of the language (Proto-Uralic ACC *-m versus GEN *-n). Here the syncretism has been caused by a phonological change whereby non-coronal consonants became eliminated from word-final position.

Although the ultimate origin of syncretism is often non-morphological in this sense, it may subsequently take on a life of its own. Frequently an identity
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Consider the historical development of the accusative and genitive in Saami. Most Saami languages share with Finnish the ACC,SG=GEN,SG syncretism mentioned above, due to a sound change by which word-final nasals were lost. This collapse of ACC,SG and GEN,SG is shared by North Saami and all the Eastern Saami languages (Inari, Skolt, Akkala, Kildin and Ter Saami): North Saami guoli “fish (A/G,SG)” < Proto-Saami (PS) ACC,SG *kuolē-m versus GEN,SG *kuolē-n; cf. Finnish A/G,SG kala-n. By contrast, in the southwestern part of the Saami language area (South, Ume, Pite and Lule Saami) the ACC versus GEN distinction is upheld: South Saami ACC,SG gueliem, GEN,SG guelien.

In the plural, North Saami also conflates accusative and genitive (guliid “fish (A/G,PL”), but this is a later development. The two were originally distinct, GEN,PL going back to Proto-Fenno-Saami (PFS) *-j, the bare plural marker (originally a ‘connective’, reanalyzed to form the basis of the entire oblique plural paradigm), and ACC,PL going back to PFS *-j-ta/tä (plural marker + partitive ending). Where modern North Saami has A/G,PL guliid, PS thus had, on the one hand, ACC,PL *kuoliijDe (< PFS *kala-j-ta) and, on the other hand, GEN,PL *kuoliij (< PFS *kala-j). Evidently the form which was originally confined to the ACC,PL (now guliid in North Saami), has ousted the historical GEN,PL form. However, this appears to be a relatively recent innovation. In the orthography devised by Konrad Nielsen (Nielsen 1979[1932–1962]), the two were still kept distinct as ACC,PL guliid versus GEN,PL galli. It does not appear likely that the collapse of accusative and genitive in the plural paradigm is the consequence of any sound change, as its counterpart in the singular clearly was. Instead, as pointed out by Sammallahti (1998:67), the development in the plural is, at least in part, based on analogy with the syncretism pattern found in the singular.

7Here and throughout this article, the transcription used for rendering Proto-Saami and Proto-Fenno-Saami reconstructed forms is that of Sammallahti (1998). When labelling such forms, Proto-Saami will henceforth be abbreviated PS, and Proto-Fenno-Saami (also known as ‘Early Pre-Finnic’, a direct translation of Finnish varhaiskantsasuomi) will be abbreviated PFS.
The following section discusses another, far more elaborate example of productive syncretism in the historical development of the Saami case system. In addition to further illustrating productive syncretism as a phenomenon, it provides useful background to the crucial case discussed in section 5, where yet another historical change of the same kind is shown to have profound implications for theories of syncretism.

3.2  Productive syncretism in the Saami locative

In many of the Saami languages, the system of local cases has undergone significant changes on its way from the original Proto-(Fenno-)Saami state of affairs. What originated as a three-way opposition of ‘inner’ local cases (illative versus inessive versus elative) has been reduced to a two-way opposition, where a single form now fulfills the function of the previously distinct inessive and elative, that is, encoding either Location or Source. Although the ultimate trigger of this inessive-elative syncretism appears to have been phonological in nature, its historical development clearly shows that analogical extension played an even more significant role. The following discussion is based to a large extent on Korhonen (1981) and Sammallahti (1998).

In the singular, the three-way system is reconstructed for Proto-Saami and Proto-Fenno-Saami as shown in Table 2. The *-s- element shared by all three cases was originally a separate morpheme, a lative suffix which is attested also in the Volgaic languages (Mari and Mordva). The inessive and elative endings go back to the combination of this morpheme with, on the one hand, the essive (or locative) ending *-na/nä and on the other hand the partitive (or ablative) ending *-ta/tá.

The subsequent development of the illative is complex and need not concern us here: it will be ignored in what follows.\(^8\) What is crucial in Table 2 is the

\(^8\)For example, the North Saami ending -i (= -j/) must be the result of some secondary development, perhaps through generalization of the stem-final consonant of *j-stem nouns like boazu “reindeer” < PS *poazoj < PFS *počoj (Sammallahti 1998:66). The stem-vowel alternations found in guollí “fish”, ILL.SG guollá- i, or nieida “girl”, ILL.SG niidá-i, are due to contraction fol-

<table>
<thead>
<tr>
<th></th>
<th>PS</th>
<th>PFS</th>
</tr>
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<tbody>
<tr>
<td>ILL.SG</td>
<td>*-(sâ)n</td>
<td>*-sin</td>
</tr>
<tr>
<td>ILL.SG</td>
<td>*-snè</td>
<td>*-sna/snä</td>
</tr>
<tr>
<td>ILL.SG</td>
<td>*-stè</td>
<td>*-sta/stä</td>
</tr>
</tbody>
</table>

Table 2: Local case endings in Proto-Saami and Proto-Fenno-Saami
contrast between the inessive and elative forms. This opposition is preserved in the languages spoken to the south of the North Saami area; this is illustrated by the forms in (9), all from the noun meaning “hut” (North Saami goahti < PS *koat’e < PFS *kota).

(9) South Ume Pite Lule
INE.SG gåete-sne gååtie-sne gååtie-n goade-n
ELA.SG gåete-ste gååtie-ste gååtie-st goade-s

In North Saami, as well as in the entire Eastern branch (Inari, Skolt, Akkala, Kildin and Ter Saami), the distinction between inessive and elative has been lost, resulting in a single case form fulfilling both functions. This syncretic case is usually referred to simply as ‘locative’, though strictly speaking this is a misnomer, since it can signify not only “in X”, “on X”, but also “from X”, “out of X” and so forth. The forms in (10) represent the locative singular of the noun meaning “summer” (North Saami geassi < PS *keas’e < PFS *kesä).9

(10) North Inari Skolt/Akkala Kildin/Ter
LOC.SG geasi-s(t) keesi-st kie´ze-st kie´ze-st

Given that the marker of the new syncretic locative contains the cluster /st/, one might assume that it is the direct descendant of the elative suffix *-stê; in other words, that the elative form has simply ‘taken over’ the function of the inessive form. This does not seem to be the case. Instead, the conflation of the two cases appears to be the result of merger through sound change. The traditional explanation is that inessive *-snê developed into -st as a result of apocope followed by the devoicing and subsequent desonorization of the word-final n: *-snê > *-sn > *-sn > *-st (Wiklund 1902:57; Ravila 1960:32; Korhonen 1981:224; Sammallahti 1998:66).

lowing the loss of the intervocalic *s. Thus guollâ- < late PS *kuol’ân < early PS *kuol’â-sân < PFS *kala-si (cf. NOM.SG guolli < PS *kuol’ê < PFS *kala). An alternative reconstruction (see Korhonen 1981:217-18) posits two distinct illative endings for Proto-Saami, *-sân in non-personal pronouns (North Saami ma-sa “what ILL.SG”, cf. Finnish mi-hin < PFS *mi-siin) but *-jân otherwise. If so, then the contraction would be due to loss of an intervocalic j rather than s; but even on this account, the /-j/ ending of modern North Saami needs to be interpreted as a secondary phenomenon, not as a direct descendant of the *j of the *-jân ending itself.

9In North Saami, the LOC.SG ending was rendered as -st in the Nielsen orthography (Nielsen 1979[1932–1962]), but the t is typically not pronounced; in the modern orthography the ending is spelled -s, reflecting current pronunciation. However, the /t/ reappears whenever a LOC.SG form is followed by a possessive suffix (goadi-st-an “in/from my hut”), and it may therefore be reasonable to assume that the ending is underlyingly /-st/.
A likelier hypothesis is that *sn > st occurred as a more general sound change, not confined to word-final position. This is suggested by North Saami sisti “tanned reindeer hide” < PS *sisnel, a borrowing from (early) Proto-Fennic *šišna (cf. Finnish hihna “strap, [leather] band”). The Proto-Fennic word in question goes back to PFS *šišna, ultimately itself a loanword from (Proto-) Baltic. Cognates of this word in South and Lule Saami appear to be direct reflexes of that original word, rather than mediated by Proto-Fennic through borrowing: PFS *šišna > PS *sāsnē > Lule Saami sasne “thin hide, shammy”, South Saami sesnie “hide, from which the hair has been removed by soaking” (Korhonen 1981:179). Another cognate pair supporting a general *sn > st sound change in North Saami is South Saami gesnedh versus North Saami gastit “sneeze”.

The transitional dialects located on the border between North Saami and Lule Saami present an interesting compromise between the two systems. In Torne Saami, the southernmost dialect group within North Saami, the locative singular ending is -n rather than -st(t), and the same is also true of the northernmost dialects of Lule Saami (Korhonen 1981:224; Sammallahti 1998:47). The correspondences are shown in Table 3.

The -n used to mark the syncretic locative in the Torne dialects cannot be the result of any phonological merger of earlier -st(V) and -sn(V), but must be a reflex of inessive -*snē alone, corresponding to Lule Saami -n. It appears that

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10I am grateful to one of the anonymous reviewers for pointing out this pair. The same reviewer also notes that there is reason to believe that the same denasalization sound change affected all /sy/ clusters in North Saami, not just *sn: cf. South Saami gasngese (with /sy/) versus North Saami gaskas “juniper” and Inari Saami lusme versus North Saami luspi “outlet of lake”, though the *sm > sp change appears somewhat erratic (witness South Saami luspi “id.”, as well as the North Saami back-formation bisma alongside bispa “bishop”).
the syncretism pattern as such — the identity relation between forms expressing “in X” and “from X” — has been extended from the Finnmark Saami dialects (where it was the fortuitous result of sound change) to neighbouring dialects which at the time had an inessive -n versus elative -s opposition. As a result, Torne Saami and Finnmark Saami share the same syncretism pattern, and hence neither dialect maintains a case distinction which is absent in the other dialect. The syncretic locative case is simply signalled by different segmental material in the two dialects. At the level of morphological structure, the local case system is thus identical across North Saami as a whole.

Returning to Finnmark North Saami and the Eastern languages, the conditions that resulted in the phonological merger of inessive and elative were only relevant in the singular paradigm. However, the syncretism has also been extended by analogy to other parts of the grammar and lexicon, not just the plural paradigm but also adverbs and postpositions with spatial semantics. (Sammallahti 1998:66 includes the possessive declension in this list, cf. goadi-st-an “in/from my hut”, but if *sn > st was a regular phonological development, as suggested above, the inessive-elative syncretism need not be attributed to analogical extension in such forms.) This extension is a clear indication that the inessive=elative identity relation had attained systemic status within the grammar. In other words, the development constitutes a case of productive syncretism.

The situation in the plural paradigm is complicated somewhat by the fact that Proto-Fenno-Saami did not have any specific local cases (illative, inessive or elative) in the plural paradigm, only in the singular; the plural counterparts seem to have developed sometime during the Proto-Saami period (Sammallahti 1998:67-69). What Proto-Saami did inherit from Proto-Fenno-Saami was a general partitive/ablative plural, PFS *-j-ta/tä > PS *-jđe (surviving as the ACC.PL in most modern Saami languages), and a general essive/locative plural, PFS *-j-na/nä > PS *-j-nē. The latter became the plural counterpart of inessive singular *-snē. For the elative plural, a new ending *-j-stē was created by combining the plural marker and the EL.A.SG ending. In South, Ume, Pite and Lule Saami, where the inessive versus elative distinction is upheld in the singular, the plural paradigm reflects this (late) Proto-Saami situation quite closely, as the partial paradigm of South Saami gåetie “hut” in Table 4 illustrates.

In North Saami and the whole Eastern branch — that is, in precisely those languages where inessive and elative were merged through sound change in the singular — the inessive versus elative distinction is absent from the plural as well. Here it is clear that the inessive plural form has taken over the function of
the elative plural: North Saami goðin “in/from the huts” (< PS *koaðijne “in the huts”), gielain “in the snares/out of the snares”. The syncretism found in the singular has thus been extended to the plural paradigm.

Interestingly, the transitional dialects on the border between Lule Saami and North Saami again present a slightly different picture. In the southernmost varieties of the Torne dialect of North Saami (as spoken in the Kaitum and Jukkasjärvi areas), the LOC,PL ending is -is and not -in (Sammallahti 1998:47; according to Korhonen 1981:223-24, the same is also true of the northernmost dialects of Lule Saami); see Table 5.

Here it is the ELA,PL that has ousted the INE,PL, rather than vice versa. What makes this even more curious is the fact that in precisely these dialects (as well as other varieties of Torne North Saami) the LOC,SG marker is -n, a reflex specifically of the inessive, as was shown in Table 3 above. Again, it appears that the syncretism pattern as such has been modelled after the neighbouring North Saami dialects, but that the segmental material used to mark the syncretic locative form is different from that used in those dialects.

Once the syncretism pattern has been extended from singular to plural in this manner, there are no longer any grounds for positing inessive and elative as separate morphosyntactic categories within the inflectional system. Instead of the

11It should be noted that, despite the fact that the transitional dialects diverge in various ways, all varieties nevertheless appear to show inessive/elative syncretism either in singular and plural alike or not at all. In other words, there are to the best of my knowledge no dialects with syncretism only in the singular but not in the plural (or vice versa, for that matter). The dialectal variations mentioned here and in Table 3 concern the source of segmental material (the suffix) used for realizing the syncretic inessive/elative form.


Table 6: Spatial adverbs and postpositions in North Saami

original system of three local cases, all varieties of North Saami and the Eastern Saami languages now have a two-way system opposing ‘illative’ (really a generalative, indicating orientation towards something or someone) with ‘locative’ (indicating location in/at X, or motion out of/away from X).

This two-way system contrasting a lative and a (semantically dual-purpose) ‘locative’ has also been carried over into the domain of spatial adverbs and postpositions. As a result, a single form with both Location and Source functions now stands in opposition to another signifying Direction; examples from North Saami are shown in Table 6.

The dual-purpose ‘locative’ forms typically end either in -de/-te or in -n. Most spatial adverbs and postpositions developed historically out of what were originally case forms of locational nouns. Those words that end in -n generally go back to forms with the PFS essive (general locative) suffix */nä*, and may safely be assumed to have had a purely locative (inessive/adessive) function. The ones ending in -de or -te go back to forms containing PFS partitive/ablative */-tä/; these presumably had a purely elative/ablative function, with no locative meaning (in the narrower sense). For example, North Saami olggun “outside; from outside” can be compared with the Lule Saami pair ålggon “outside” versus ålggot “from outside” (Sammallahti 1998:66).

The short list in Table 6 reveals that in North Saami, the surviving form expressing the syncretic ‘locative’ function is sometimes the original ablative form and sometimes the original locative form; there seems to be very little regularity, except perhaps that adverbs appear to favour -n. Note that the suffix-like
elements found in spatial adverbs and postpositions, though they are reflexes of Proto-Fenno-Saami case endings, were not directly identifiable with the inessive or elative case endings involved in the inflectional syncretism patterns described earlier. The basis for extending the syncretism to these lexical items appears to be the semantic-functional relationship between spatial adverbs and postpositions on the one hand and local case forms of nouns on the other.

4. Constraints on syncretism patterns

4.1 Is any syncretism pattern possible?

In theoretical frameworks that use referrals to capture syncretism (see section 2.3), there are few, if any, inherent limitations on which two paradigm slots can be linked. The formalism in which rules of referral (or their equivalent) are expressed is sufficiently powerful that it can easily connect the realization of one set of morphosyntactic features to that of any other set. To pick a random example, a syncretism in verbs between the first person singular present subjunctive form and the third person plural past indicative form could, in Paradigm Function Morphology, be captured by a rule like (11).

\[(11) \text{RR}_{\{\text{TNS:prs, MOOD:sub, PER:1, NUM:sg}\}, V}(<X, \sigma>) = \text{def} <Y, \sigma>, \]
\[\text{where } \text{PF}(<X, \sigma/\{\text{TNS:past, MOOD:ind, PER:3, NUM:pl}\}>) = <Y, \sigma/\{\text{TNS:past, MOOD:ind, PER:3, NUM:pl}\}>)\]

The ability of the formalism to express syncretism between radically different pairs of paradigm cells, which share virtually no morphosyntactic properties at all, might easily be seen as a weakness of the theories in question. Since they appear to place no limits on what constitutes a possible syncretism pattern, are they not excessively powerful?\(^{12}\)

\(^{12}\)One reviewer notes that it is still possible in principle, and probably necessary in practice, to formulate restrictions on which paradigm cells can be linked through referral. The reviewer points out that in (11), the two forms involve “syncretized combinations of values which belong to the same features”, in that each is defined in terms of values for TENSE, MOOD, PERSON and NUMBER, as opposed to a hypothetical (and probably impossible) syncretism linking accusative singular and 1st person subjunctive. The general point is certainly valid: referrals are a very powerful construct, and nothing rules out the existence of (as yet undiscovered or unstated) substantive universal restrictions on their form or extent in natural languages. On the other hand, the specific point about values of the same versus distinct features is, I believe, somewhat misguided. The reason why all four features are mentioned for each of the two forms in (11) is simply that each constitutes an individual (unique) paradigm cell, the definition of which thus requires a full set of feature specifications. It would have been equally possible to syncretize, say, the set of all present subjunctive singular forms with the set of all past indicative 3rd person
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At the opposite end on the scale of empirical restrictiveness are theories that account for syncretism by way of neutralization or underspecification (see section 2.2). Consider again the hypothetical \(1_{-SG}\cdot\text{PRS} \cdot\text{SUB}=3_{-PL}\cdot\text{PAST} \cdot\text{IND}\) example. Let us assume, for the sake of the argument, that the first versus third person opposition is to be represented featurally as \([+\text{speaker}, -\text{hearer}]\) versus \([-\text{speaker}, -\text{hearer}]\), and that the other oppositions are a matter of the binary features \([\pm\text{subjunctive}], [\pm\text{plural}]\) and \([\pm\text{past}]\). The two inflectional cells would then, given full specification, be represented as in (12).

\[
\begin{align*}
(12) & \quad \text{a. } [-\text{past}, +\text{sub}, -\text{pl}, +\text{speaker}, -\text{hearer}] &= 1_{-SG}\cdot\text{PRS} \cdot\text{SUB} \\
& \quad \text{b. } [+\text{past}, -\text{sub}, +\text{pl}, -\text{speaker}, -\text{hearer}] &= 3_{-PL}\cdot\text{PAST} \cdot\text{IND}
\end{align*}
\]

An underspecified representation covering both would contain no information beyond \([-\text{hearer}]\), or ‘non-2nd person’. Consequently, the neutralization of the oppositions distinguishing (12a) from (12b) would encompass all other first and third person forms as well, throughout the entire paradigm, be they singular or plural, past or present, indicative or subjunctive, and so forth. In sum, ‘disjoint’ pairings of the sort in (12) cannot be related through neutralization, and a strong prediction is made: syncretism patterns relating such pairings cannot exist in any inflectional system.13

Ultimately the choice between alternative theories must be based not so much on their inherent restrictiveness as on available empirical evidence. Greater restrictiveness is preferable only insofar as predictions are upheld by the known facts. If syncretisms like the hypothetical \(1_{-SG}\cdot\text{PRS} \cdot\text{SUB}=3_{-PL}\cdot\text{PAST} \cdot\text{IND}\) do in fact occur, theories unable to express them must be discarded on the grounds that forms. That referral would mention tense, mood and number on one side but tense, mood and person on the other. Secondly, syncretism is by definition a relation between forms within the same inflectional paradigm. To the extent that no single lexeme has a paradigm containing two inflected forms describable as ‘accusative singular’ and ‘1st person subjunctive’, a syncretism linking such a pair of forms will of course be inconceivable. One could however imagine a syncretism between a non-finite verb form (with no values for tense, person or number) and a finite form like \(3_{-SG}\cdot\text{PRS} \cdot\text{SUB}\) (with specific values for those features), and this would be a close analogue of the \(\text{ACC} \cdot\text{SG} = 1_{-SUB}\) scenario. Though I am unaware of any cases of this type, they might well be possible.

13There is in fact a solution available within the underspecification/neutralization approach, albeit an unsavoury one. The affix which marks the paradigm cells in (12a-b), but no others, could be treated as a generic default, specified only as non-2nd person \([-\text{hearer}]\), or even left entirely unspecified for all features. The failure of that affix to appear in 1st and 3rd person forms other than those in (12) would then be ascribed to override (blocking) by other affixes realizing more specific morphosyntactic representations.
they are too restrictive. In practice, resolving this issue by empirical observation is not straightforward, as one must take care to demonstrate that the crucial data constitute a genuine syncretism rather than an accidental homonymy (see section 2.4). That difficult empirical issue is the focus of the remainder of this paper. It is ultimately argued (in section 5) that North Saami provides unequivocal evidence of precisely the crucial kind of ‘disjoint’ syncretism. However, we must first consider a third alternative, less restrictive than theories based on neutralization or underspecification but considerably less powerful than rule-of-referral theories, as the Saami evidence bears directly on the empirical predictions of this theory as well.

4.2 Geometric aspects of syncretism

McCreight & Chvany (1991) propose a theory of syncretism which formalizes the traditional notion that an inflectional paradigm is a geometrically arranged group of related forms. The features distinguishing individual forms constitute the dimensions of the geometry, and combinations like ACC,PL or 1,SG,PRS,SUB thus exist as locations in the space defined by these dimensions. A paradigm is then simply “the partitioning of grammatical space by a set of related forms” (McCreight & Chvany 1991:94). In this model, which continues a tradition initiated by Roman Jakobson in his famous paper on Russian case inflection (Jakobson 1936; cf. Neidle 1988), syncretism is seen as the conflation of two or more paradigm cells which are contiguous: adjacent along some dimension (see also Plank 1991b; Johnston 1997). This has typological implications: two forms which by themselves constitute a geometrically non-contiguous pair can be syncretized, but crucially only by way of a chain of adjacency relations. For example, 2,SG and 1,PL may be syncretized as long as 1,SG (or 2,PL) is included as well (it is adjacent to one form in the person dimension and the other in the number dimension).

It is helpful to consider the various logical possibilities of identity patterns in a simple 2 × 2 paradigm, modelled in (13) with two binary features, [±F] and [±G]. Neutralization approaches predict that (13a-c) will be possible syncretism patterns, but not (13d-e). The former three can be characterized as [+F, 0G], [0F, +G] and [0F, 0G], respectively, while the last two would require devices such as disjunction or set union.
The geometric conflation model advocated by McCreight & Chvany (1991), on the other hand, allows syncretism to affect an irregularly shaped (non-rectangular) area of the paradigm, as long as it is contiguous as in (13d). The authors clearly hold non-contiguous syncretisms like (13e) to be impossible in principle, separating “conflatable syncretisms” from “identical endings that are not contiguous” (citing in this context the distinction between systematic and accidental homonymy as drawn by Zwicky 1991).

McCreight & Chvany (1991) adduce evidence from syncretic resolution (see section 2.4 above) in support of their proposal, arguing that geometric contiguity is a necessary condition (though not a sufficient one; see their footnote 7) for syncretic resolution. However, most of their evidence is highly problematic. For example, in their interpretation of Finnish examples cited from Zaenen & Karttunen (1984), McCreight & Chvany fail to recognize the existence of a separate accusative case in Finnish (thus ACC sinu-t contrasts with GEN sinu-n for the 2SG pronoun sinä “you”). A possessed form like kirjansa “his/her book” thus covers not only GEN, SG, NOM, SG and NOM, PL, but also crucially ACC, SG and ACC, PL, and this completely undermines their analysis of the syntactic distribution of such forms. Secondly, they do not control for the distinction between ‘free’ and syntactically ‘imposed’ feature values (see section 2.4). In fact, none of the negative evidence cited by McCreight & Chvany (that is, ungrammaticality of sentences with allegedly impossible syncretic resolution patterns) is expected on Zwicky’s (1991) account. If nothing else, all of this highlights the difficulties inherent in using syncretic resolution as a diagnostic for separating genuine
Problems aside, one of the virtues of the geometric conflation model is that it makes an important empirical prediction about the typology of syncretism patterns. Non-contiguous identity patterns within a paradigm must in every instance be a matter of accidental rather than systematic inflectional homonymy, and hence do not count as syncretisms in any meaningful sense. Unfortunately, there is reason to believe that this prediction is too strong. Some well-known counterexamples are considered in the next section, but are shown to be inconclusive. In section 5 evidence from North Saami dialects is shown to provide a far stronger case against the geometric conflation approach, as well as against the even more restrictive neutralization/underspecification approach.

4.3 Apparent challenges to the geometric model

On a purely observational level, there is no shortage of apparent counterexamples to the geometrical contiguity claim in the world’s languages. There is a fair number of cases where it seems, at least superficially, that an identity relation links two inflectional forms that do not form a contiguous region under any conceivable geometric construal of the paradigm in question. These, then, would seem to be instances of syncretism patterns with the structure in (13e) above, precisely the type that is predicted not to be possible in the model advocated by McCreight & Chvany (1991; cf. Johnston 1997).

A striking case is agreement marking in Hua, a Papuan language of New Guinea (Haiman 1980, 1998; Stump 2001). Here the 2.SG and 1.PL of verbs carry the same suffix, while all other person-number combinations have a different suffix. The distribution is illustrated in Table 7; the dual marker -? (preceding the suffix) is omitted for simplicity.14

Each mood uses different agreement markers, but always with the same general pattern, juxtaposing a 2.SG/1.PL variant with a default one. The pairs are summarized in Table 8.

In every mood paradigm, Hua affixal morphology thus enforces an identity linking two blatantly non-contiguous paradigm cells, 2.SG and 1.PL. There

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14Hua is different from other cases considered in this paper, in that syncretism does not result in complete identity of word-forms, due to alternations within the stem. For example, the stem of a (monosyllabic) verb typically contains a rounded vowel (u or o) in 1. person forms, but an unrounded vowel (i or a) in 2. person forms. The 2.SG and 1.PL forms are thus not homonymous as such: they merely contain identical endings. This has implications for the formal expression of rules of referral (see the discussion of ‘whole-word syncretism’ versus ‘block syncretism’ in Stump 2001:217ff), but these complications need not concern us here.
would seem to be no way of relating these geometrically without incorrectly implicating 1.SG or 2.PL as well (leaving aside the dual sub-paradigm).

Another intriguing case, also involving agreement morphology, is the North-East Caucasian language Khinalug. In this language, which has four distinct genders (labelled I-IV), the affixes used to mark gender-number agreement fall in three separate sets (Corbett 1991:119-123); these are shown schematically in Table 9. The members of the three sets occur in different slots in a verb’s morphological structure — for example, a single verb form will often simultaneously include Set 1 and Set 2 markers of a given gender-number combination. The Set 3 markers are restricted to a small set of irregular verbs.

Each of the three paradigms (the ‘sets’) has only three distinct exponents of the eight possible gender-number combinations. One of these is non-syncretic, uniquely marking II.SG, whereas the other two are syncretic, marking I.PL/II.PL/III.SG on the one hand and I.SG/III.PL/IV.SG/IV.PL on the other. As in Hua, the same distribution of identity relations (here considerably more intricate) repeats itself over three separate paradigms. One of the two syncretisms in Ta-
Table 9: Gender-number agreement marking in Khinalug

<table>
<thead>
<tr>
<th>Set 1</th>
<th>Set 2</th>
<th>Set 3</th>
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<tr>
<td>SG</td>
<td>PL</td>
<td>SG</td>
</tr>
<tr>
<td>I</td>
<td>Ø-</td>
<td>-b-</td>
</tr>
<tr>
<td>II</td>
<td>-z-</td>
<td>-b-</td>
</tr>
<tr>
<td>III</td>
<td>-b-</td>
<td>Ø-</td>
</tr>
<tr>
<td>IV</td>
<td>Ø-</td>
<td>Ø-</td>
</tr>
</tbody>
</table>

Table 9 is problematic for the geometric conflation model: the I.PL=II.PL=III.SG identity. It is impossible to rearrange the paradigms geometrically (even in a 3-dimensional diagram) such that the III.SG cell can be linked contiguously with either I.PL or II.PL without erroneously implicating some additional paradigm cell. By contrast, the other syncretism pattern (I.SG=III.PL=IV.SG=IV.PL) can straightforwardly be construed as contiguous; this is easily visualized by shifting the row for gender I to the bottom of Table 9 instead of the top.

Unfortunately, such apparent cases of geometrically non-contiguous syncretism are not always sufficiently convincing. One fundamental problem concerns the exponents (affixes, in these cases) which mark the syncretic forms. The strength of the Hua and Khinalug cases derives primarily from the fact that the identity pattern repeats itself across several distinct paradigms (see also the Russian example in Table 1 above). The syncretic 2.SG/1.PL in Hua is marked with -ne, -pe, -pana, and so forth, depending on the mood of the verb, and the syncretic I.PL/II.PL/III.SG in Khinalug is marked with -b-, -v- or -f- depending on the identity of the verb and its internal structure. But how distinct are these paradigms, really? In Khinalug, the -b-, -v- and -f- which mark I.PL/II.PL/III.SG are conspicuously all labial obstruents, just as the -z- and -s- marking II.SG are alveolar sibilants; the series -Ø-, -j-, -h- which marks I.SG/III.PL/IV.SG/IV.PL might also be connected phonologically without any great stretch of the imagination. This raises the legitimate question whether the three ‘sets’ might not be reduced to a single paradigm, given a sufficiently elaborate analysis of Khinalug (morpho)phonology. (As noted by Corbett 1991:120, the picture in Table 9 already masks a great range of predictable variation; for example, the set 1 marker shown here as -b- is realized as -b-, -pʰ-, -bi- or even -Ø-, depending on context.) Such a reduction would, in turn, make it harder to argue that the disjoint I.PL/II.PL = III.SG identity is anything more than an accidental homonymy.

Similar reservations could be voiced about Hua. Within each mood paradigm, the syncretic 2.SG/1.PL suffix and the default suffix are always eerily sim-
ilar to each other, and consistently differ only in their initial segment. A p-initial 2.SG/1.PL suffix always corresponds to an m- or n-initial default suffix; all three are labials. Another regular correspondence is s versus h: needless to say, the latter is cross-linguistically often a lenited counterpart of the former. A third one is n versus either g (before a back vowel) or Ø (before a front vowel). It is not at all difficult to envisage an analysis which does not posit separate affix shapes for the syncretic 2.SG/1.PL category, but instead posits, for each of the twelve moods, a single underlying affix for all person-number combinations. On such an analysis, what the 2.SG and 1.PL have in common — and what sets them apart from other cells — is then some relatively abstract phonological property (for example a floating feature, or perhaps a prespecified prosodic-constituent edge), which triggers a slightly different surface realization of the mood affix. This makes an accidental homonymy analysis of the 2.SG=1.PL pattern far less awkward than it would appear at first glance.

A second major problem with such cases as these is that they involve static distributional patterns. It is always possible in principle — especially if one is willing to play devil’s advocate — to write such cases off as accidental homonymy rather than genuine syncretism. (Note that ‘accidental’ does not imply that the pattern came about by pure chance, but merely that it has no status as an element of organization in the synchronic grammar internalized by speakers of the language.) This is a persistent problem, as syncretism is by definition manifested in distributional terms. By contrast, the diachronic processes discussed in section 3 under the rubric of ‘productive syncretism’ are, as evidence, not fraught with the same problems. These are dynamic processes (in the real-time dimension of diachronic change), and the syncretism patterns involved therefore cannot be explained away as mere observational curiosities. In the next section I argue that a case of precisely this kind is found in certain dialects of North Saami, where a geometrically non-contiguous syncretism pattern has been extended by analogy from one inflectional class to another.

5. Non-geometric productive syncretism in North Saami

5.1 Syncretism of comitative singular and locative plural

In the inflectional paradigms of all North Saami polysyllabic nominals (that is, nouns, non-attributive adjectives and participles, and certain pronouns), the forms encoding comitative singular and locative plural are always identical, both
endings in -\textit{in} (/\textit{jn}/).\textsuperscript{15} This is illustrated by the noun paradigms in (10), with the relevant forms indicated in boldface (\textit{čalbmi} “eye”, \textit{viessu} “house”, \textit{nisu} “woman”, \textit{muitalus} “story, tale”).

In the \texttt{LOC.PL} forms, the string /\textit{jn}/ is best interpreted synchronically as a sequence of two affixes, the (oblique) plural marker /\textit{-j-}/ and a locative case ending /\textit{-n}/ (this is certainly true historically, see discussion below and in section 3.2 above). The morpheme boundaries in Table 10 reflect this assumption. However, regardless of whether the \texttt{LOC.PL} ending is analyzed as internally complex or not, the \texttt{COM.SG} ending can only be interpreted synchronically as a unitary suffix, /\textit{-jn}/.

The question which immediately arises is whether or not the \texttt{COM.SG = LOC.PL} identity observed in North Saami nominals is a fact to be captured in the synchronic grammar of the language. In all relevant words, the same string is involved, /\textit{-jn}/, and this makes it perfectly plausible to treat the homonymy as accidental rather than systematic. The fact that both \texttt{COM.SG} and \texttt{LOC.PL} happen to be expressed by affixing the string /\textit{jn}/ is then about as interesting as the fact that in English, plural in nouns and 3.SG.PRS in verbs are both expressed by affixing /\textit{-z}/. If this is a valid interpretation of the North Saami facts, they can have no implications whatsoever for the formal analysis of syncretism.

\textsuperscript{15}The same \texttt{COM.SG = LOC.PL} identity pattern is observed in most other Saami languages as well; the following discussion is concerned exclusively with North Saami and its dialects.

### Table 10: Polysyllabic nominals in North Saami

<table>
<thead>
<tr>
<th>NOM</th>
<th>\texttt{SG}</th>
<th>\texttt{PL}</th>
<th>A/G</th>
<th>\texttt{SG}</th>
<th>\texttt{PL}</th>
<th>ILL</th>
<th>\texttt{SG}</th>
<th>\texttt{PL}</th>
<th>LOC</th>
<th>\texttt{SG}</th>
<th>\texttt{PL}</th>
<th>COM</th>
<th>\texttt{SG}</th>
<th>\texttt{PL}</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{čalbmi}</td>
<td>\textit{čalmmi-t}</td>
<td>\textit{viessu}</td>
<td>\textit{viessu-t}</td>
<td>\textit{čalmmi-i}</td>
<td>\textit{viessu-i}</td>
<td>\textit{viessu-i-d}</td>
<td>\textit{viessu-i-de}</td>
<td>\textit{čalmmi-s}</td>
<td>\textit{viessu-s}</td>
<td>\textit{viessu-i-n}</td>
<td>\textit{viessu-i-guin}</td>
<td>\textit{čalmmi-in}</td>
<td>\textit{viessu-i-n}</td>
<td></td>
</tr>
<tr>
<td>A/G</td>
<td>\textit{nissu}</td>
<td>\textit{nissona-t}</td>
<td>\textit{muitalus}</td>
<td>\textit{muitalusa-t}</td>
<td>\textit{nissi}</td>
<td>\textit{nissoni-i-d}</td>
<td>\textit{muitalusa}</td>
<td>\textit{muitalusa-i-d}</td>
<td>\textit{nissoni-i}</td>
<td>\textit{nissoni-i-dda}</td>
<td>\textit{muitalussi-i}</td>
<td>\textit{muitalusa-i-de}</td>
<td>\textit{nissoni-in}</td>
<td>\textit{nissoni-i-n}</td>
</tr>
</tbody>
</table>
version of the labic pronominal stems, the syllabic stems), even though the two are admittedly highly similar. The /-jn/ is distinct from that used to mark locative plural (\(\text{gea-n}\)). This is illustrated in Table 11 with the paradigms of

\[ \text{Table 11: Monosyllabic pronouns in (western) North Saami} \]

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>\text{da-t}</td>
<td>\text{da-t}</td>
<td>\text{gei}</td>
<td>\text{gea-t}</td>
</tr>
<tr>
<td>A/G</td>
<td>\text{da-n}</td>
<td>\text{da-i-d}</td>
<td>\text{gea-n}</td>
<td>\text{gea-i-d}</td>
</tr>
<tr>
<td>ILL</td>
<td>\text{da-sa}</td>
<td>\text{da-i-dda}</td>
<td>\text{gea-sa}</td>
<td>\text{gea-i-dda}</td>
</tr>
<tr>
<td>LOC</td>
<td>\text{da-s}</td>
<td>\text{da-i-n}</td>
<td>\text{gea-s}</td>
<td>\text{gea-i-n}</td>
</tr>
<tr>
<td>COM</td>
<td>\text{da-inna}</td>
<td>\text{da-i-guin}</td>
<td>\text{gea-inna}</td>
<td>\text{gea-i-guin}</td>
</tr>
<tr>
<td>ESS</td>
<td>\text{da-nin}</td>
<td>\text{gea-nin}</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the face of it, there does not seem to be anything in the synchronic grammar of North Saami that could be used as a counterargument against this view. That is, there is little in the way of hard evidence that the \(\text{COM,SG=}\text{LOC,PL}\) identity relation is in fact part of the North Saami morphological system. For one thing, there are no distinct inflectional classes, with separate sets of suffixes, across which the same abstract identity pattern repeats itself. The main class distinction that exists in Saami is that between imparisyllabic stems (ones with an odd number of syllables), such as \(\text{nisu} \text{“woman”}\), and parisisyllabic stems (with an even number of syllables), such as the other nouns in Table 10. But even there the sole divergence in terms of affixal material is found in the \(\text{ILL,PL}\) forms (-idda versus -ide).

To make matters even worse, when we look at the paradigms of monosyllabic pronominal stems, the \(\text{COM,SG=}\text{LOC,PL}\) identity pattern appears to break down. This is illustrated in Table 11 with the paradigms of \text{dat} “that, it” and \text{gii} “who”. Here the phonological material used to mark \(\text{COM,SG} \text{(-inna} = /-jn:a/\) is distinct from that used to mark locative plural \(-\text{in} = /-jn/\) just as in poly-syllabic stems), even though the two are admittedly highly similar. The \/-jn:a/ version of the \(\text{COM,SG}\) ending is also found in the singular paradigm of personal pronouns (\text{mu-inna} “with me”).

16 In the dual paradigm, \(\text{COM mu-nnu-in}\) shows the same /-jn/ allomorph as do (parisisyllabic) nominals like \text{viessu} “house”, \(\text{COM,SG viessu-in}\). In the plural, the \(\text{COM}\) form is \text{minguin}, formed along the same lines as the \(\text{COM,PL}\) of nouns and non-personal pronouns; the origin of that structure is a (genitive) postpositional phrase, with \text{-guin} related to the noun \text{guoibmi} “companion”. Phonologically, \text{minguin} is /\text{mi}nkujn/ with a long root vowel; as suggested by one reviewer, this is likely a prosodic word minimalism effect (cf. \text{GEN,PL min /\text{mi}n/}}, \text{LOC,PL mis /\text{mi}s/}) and as such attests to the elitic status of /-kuju/. One might speculate that the original \(\text{COM,PL}\) form was perhaps */\text{mi}-jn/ (cf. \(\text{COM,DU mu-nnu-in} \text{/munxo-}jn/\)), and that the eventual homophony of this form with the \(\text{GEN,PL}\) form further facilitated the introduction of the \(\text{GEN,PL} \text{+/} /-\text{kuju/}\) construction by analogy with nouns and non-personal pronouns.
Table 12: Monosyllabic pronouns in eastern Finnmark dialects

<table>
<thead>
<tr>
<th></th>
<th>SG</th>
<th>PL</th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>da-t</td>
<td>da-t</td>
<td>gii</td>
<td>gea-t</td>
</tr>
<tr>
<td>A/G</td>
<td>da-n</td>
<td>da-i-d</td>
<td>gea-n</td>
<td>gea-i-d</td>
</tr>
<tr>
<td>ILL</td>
<td>da-sa</td>
<td>da-i-dda</td>
<td>gea-sa</td>
<td>gea-i-dda</td>
</tr>
<tr>
<td>LOC</td>
<td>da-s</td>
<td>da-i-nna</td>
<td>gea-s</td>
<td>gea-i-nna</td>
</tr>
<tr>
<td>COM</td>
<td>da-inna</td>
<td>da-i-guin</td>
<td>gea-inna</td>
<td>gea-i-guin</td>
</tr>
<tr>
<td>ESS</td>
<td>da-nin</td>
<td>gea-nin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

morphology (-s) throughout all three numbers (LOC.SG munno-s, LOC.DU munno-s, LOC.PL mi-s), and this precludes anything corresponding to the LOC.PL=COM.SG syncretism of non-pronominal paradigms.

The mismatch between the COM.SG and LOC.PL forms of pronouns in Table 11 above would seem to be sufficient evidence against treating the identity pattern observed in polysyllabic nominals as a genuine syncretism rather than an accidental homonymy. However, this is not the whole story. The fact is that the paradigm in Table 11, though it is the one typically presented in reference works on North Saami (Bartens 1989; Nickel 1990; Sammallahti 1998), does not hold true throughout the entire North Saami dialect area. It is based specifically on the dialects and western Finnmark dialects, that is, those varieties of North Saami spoken in Alta, Kautokeino, Enontekiö, Sodankylä and further to the south and west of these areas.17

The eastern Finnmark dialects on the other hand — as spoken, for example, in Karasjok and Utsjoki — show a slightly different pattern, which is shown in Table 12. Note that works published in Finland by Finnish scholars do frequently show these eastern Finnmark forms, sometimes to the exclusion of the western ones (Itkonen 1960).

Here we find the same inflectional homonymy pattern as in polysyllabic stems; the -inna ending, which in western dialects is confined to the COM.SG, is here used in the LOC.PL as well. In eastern Finnmark North Saami, we thus

17I have been unable to confirm whether the same pattern (COM.SG dainna, geainna versus LOC.PL dain, geain) also extends to the Sea North Saami dialects. As these are known to have been conservative in many respects (for example the treatment of Proto-Saami geminate nasals and *št/*šk clusters), such comparative evidence might shed light on the discussion below. As for Torne dialects, note that the LOC.PL -is found in their southernmost varieties (see Table 5) extends to monosyllabic pronouns as well; thus “in these mountains” is dá-is vári-is as opposed to dá-in vári-in in the other Torne dialects (Sammallahti 1998:47).
find that two separate (albeit similar) affixal strings are each used to encode two apparently unrelated cells within the paradigm. The string /-jn/ marks COM,SG = LOC,PL on polysyllabic stems, whereas /-jn:a/ does the same for monosyllabic stems. In the western dialects, by contrast, only /-jn/ has this dual function (in polysyllabic stems, specifically) whereas the /-jn:a/ of monosyllabic stems is strictly a COM,SG marker.

In what follows, I will argue in favour of the hypothesis (articulated originally by Korhonen 1981:222) that the eastern Finnmark pattern represents a secondary innovation. Specifically, the claim is that the eastern pattern in Table 12 developed out of the system in Table 11 through analogical extension of the COM,SG=LOC,PL syncretism pattern found in polysyllabic stems. (It should be kept in mind that the polysyllabic class represents the vast majority of nominals in the language, whereas monosyllabic stems are extremely few in number.) The very fact that this historical development occurred entails, in turn, that the identity relation between the two categories must have had systemic status within the grammar of North Saami at the time when the change occurred, and presumably still does.

The following section examines in detail the comparative-historical background of the comitative singular and locative plural morphology in Saami, in support of the claim that the eastern Finnmark system is indeed an innovation. We then turn to the broader implications of the North Saami facts for the analysis of syncretism as such, bearing in particular on the theoretical alternatives discussed in section 2 and section 4.

5.2 The historical evidence

The historical origin of the locative plural morphology is quite clear and unequivocal. As already explained in section 3.2 above, it is to be identified with the inessive plural in those languages which still retain an inessive versus elative case distinction: South, Ume, Pite and Lule Saami. North Saami -in /-jn/ is thus a direct reflex of PS *-j-nē, which in turn goes back to PFS *-j-na/nä, a combination of the (oblique) plural marker *-j and the essive/locative case suffix *-na/nä. Unlike the elative plural, which is demonstrably an innovation that developed after Proto-Saami split off from Proto-Fennic (see Sammallahti 1998:68-69), the inessive plural in PS *-j-nē goes back to a form existing already in Proto-Fenno-Saami (though its semantics may have been somewhat different).

In terms of its phonotactic makeup and subsequent development through Proto-Saami and into the individual daughter languages, the inessive/locative plural closely parallels another form which also goes back to the Proto-Fenna-
Saami period. This is the plural partitive/ablative in PFS *-j-ta/tä, which survives as the accusative-genitive plural in the modern Saami languages. The parallel is shown in Table 13 with the relevant forms of the noun “hut” (North Saami goahti, cf. Finnish kota).

Turning now to the monosyllabic pronouns, such as dat “it, that”, whose stem appears to go back to PFS *ti- (cf. Finnish se- ~ si-), it is not quite clear exactly what the expected phonological development ought to be. If a morphologically complex form like ESS/LOC.PL PFS *ti-j-nä (the ancestor of North Saami LOC.PL dain) were to be treated exactly like a morphologically simple word, the regular outcome ought to have been PS *täjnä > North Saami **daidni, or perhaps **dainni with weak grade generalized due to relative lack of stress, the pronoun being a function word. (Note that from this point on, a double asterisk will be used to indicate incorrect/unattested forms, while a single asterisk marks reconstructed forms at earlier diachronic stages.) The PART/ABL.PL form PFS *ti-j-tä (the ancestor of North Saami A/G.PL daid) should by the same token have come out as **daidi or **daiddi. For expository purposes, and as a tentative thought experiment, Table 14 presents a full paradigm where such ‘expected’ forms are juxtaposed with the ones actually observed (in western Finno-Saami dialects). The additional complication of grade alternations has been factored out by assuming a generalized weak grade throughout the paradigm. Those paradigm slots where the attested form is (or may be) different from what is expected are indicated in boldface.

The essive has simply been augmented by addition of -(i)n by analogy with polysyllabic nouns (cf. guolli “fish”, ess. guolli-n; eallim “life”, ess. eallim-in). The expected outcome in the COM.SG is somewhat unclear (either unattested **dainni or attested dainna) because the phonological shape of the COM.SG suffix in Proto-Fenno-Saami is not quite certain; this issue will be taken up again below. This leaves three paradigm slots where the attested form deviates from the one that the regular sound changes in the history of North Saami ‘ought to’ have given rise to: locative singular, accusative/genitive plural, and locative plural. In each of these three categories, we find a monosyllabic form (das, daid, dain) instead of a disyllabic one (**dastti, **daiddi, **dainni), where a word-
It is certainly not this seems to be contradicted by disyllabic forms such as either as a phonological process (perhaps again due to lack of stress, although form), augmented with (in)essive/locative plural PFS vowelless (fi the same phonological structure in PFS (ical extension of the generalization; the modern form dainna may either go back to an earlier *dani (the expected form), augmented with -n, or else to monosyllabic *dan (cf. LOC,SG das), augmented with -in.

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**Table 14:** ‘Expected’ vs. observed forms for pronouns in North Saami

<table>
<thead>
<tr>
<th></th>
<th>SG expected</th>
<th>SG actual</th>
<th>PL expected</th>
<th>PL actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOM</td>
<td>dat(?)</td>
<td>dat</td>
<td>dat</td>
<td>dat</td>
</tr>
<tr>
<td>A/G</td>
<td>dan</td>
<td>dan</td>
<td><strong>daiddi</strong></td>
<td>daid</td>
</tr>
<tr>
<td>ILL</td>
<td>dasa</td>
<td>dasa</td>
<td>daidda(?)</td>
<td>daidda</td>
</tr>
<tr>
<td>LOC</td>
<td><strong>dastti</strong></td>
<td>das</td>
<td><strong>dainni</strong></td>
<td>dain</td>
</tr>
<tr>
<td>COM</td>
<td><strong>dainni</strong></td>
<td>dainna</td>
<td>daiguin</td>
<td>daiguin</td>
</tr>
<tr>
<td>(or dainna)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESS</td>
<td><strong>dani</strong></td>
<td>danin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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18The essive (going back ultimately to PFS *ti-nä) is not necessarily an exception to this generalization; the modern form dainna may either go back to an earlier *dani (the expected form), augmented with -n, or else to monosyllabic *dan (cf. LOC,SG das), augmented with -in.
parative evidence from the individual Saami and Fennic languages is somewhat contradictory. There are two alternative reconstructions for this suffix in PFS, either *-jna/nä or *-jni (Korhonen 1981; Häkkinen 1985; Sammallahti 1998). The former of these reconstructions is typically interpreted as the combination of a derivational suffix *-j (forming possessive adjectives) and the essive case marker *-na/nä (Korhonen 1981:225) The comitative singular would then have been completely identical in its (morpho)phonological structure to the essive/locative plural, both being marked with bimorphemic PFS *-j-na/nä. The second alternative reconstruction, PFS *-jni, does not have any adequate interpretation, except perhaps as a secondary (and irregular) development from earlier *-j-na/nä; that is, with *-ni as a variant of essive *-na/nä, which existed already in Proto-Fenno-Saami or perhaps even earlier (Sammallahti 1998:66).

Some languages clearly point towards PFS *-jna/jnä (> PS *-jnë). For example, the second-syllable vocalism in North Saami parasyllabic i-stem and u-stem nouns (guollí “fish”, buoddú “dam”) indicates that the third syllable contained PS *ē (< PFS *a/ä) rather than PS *ä (< PFS *i). What we find is forms like COM.SG gulíin (< PS *kuol’i-jnë < PFS *kala-jna) and COM.SG buóddín (< PS *puodö-jnë < PFS *pado-jna). Had the PFS forms instead been *kala-jni and *pado-jni, they would have come out as PS *kuol’ä-jnä and *puodü-jnä, eventually yielding incorrect **guoláin and **buóddin in North Saami. Compare ESS.SG guollí-n “as a fish” (< PS *kuol’ë-në < PFS *kala-na) with 1.SG possessed NOM.SG guolle-n “my fish” (< PS *kuol’ä-mä < PFS *kala-mi).

Even more direct evidence for *-jna/jnä is found in South Saami, where the vowel of the ending has not been apocopated and clearly betrays its origin in PS *ē, such as in COM.SG gieriehtsinie “sled” (Korhonen 1981:225). Finally, there is a limited amount of evidence from Fennic languages in support of *-jna/jnä, specifically in Votic and certain Estonian dialects, where forms with *-ina(a), *-inä(ü) and the like are attested.

However, the body of evidence pointing towards *-jni is equally robust. In Inari Saami, the qualitative and quantitative makeup of the stem-final vowel preceding the COM.SG ending unequivocally indicates that the apocopated suffix vowel was PS short *ä (< *i) rather than long *ē < *a/ä (Korhonen 1981:225, 293; cf. Itkonen 1939). According to Sammallahti (1998:66), Lule Saami likewise presupposes *-jnä < *-jni, and the same is also true of Fennic in general (outside of the varieties mentioned above), for example Finnish -ine. Finally, Mordva has a comitative suffix -n’ek which, if cognate with the *nV component of the Fenno-Saami comitative, also speaks in favour of PFS *-jni over *-jna/jnä.
There seems to be no other option available than to reconstruct both variants of the comitative suffix, \(^*\)-\(jna\)/\(^*\)-\(jnä\) and \(^*\)-\(jni\), as having coexisted in PFS, and to assume that PFS retained the reflexes of both variants, \(^*\)-\(jnä\) and \(^*\)-\(jinjä\). The disagreement among the individual daughter languages may then reflect dialectal variation existing in the Proto-Saami period.

Korhonen (1981:222) assumes that North Saami COM.SG dainna, mainna, geainna and so forth are regular forms: the expected reflexes of regular phonological changes. This is supported by the fact that COM.SG -inna is found across all dialects of North Saami, and that it is independently attested in the (rather less regular) paradigm of personal pronouns (muinna, duinna, suinna). However, it is not clear how the North Saami outcome /CVjn:a/ fits with the general diachronic correspondences otherwise posited by Korhonen (1981) and other sources on Saami historical phonology, unless the ending is assumed to have been PS \(^*\)-\(jnä\) < PFS \(^*\)-\(jni\) and not PS \(^*\)-\(jnē\) < PFS \(^*\)-\(jna/jnä\). But as we saw above, parasyllabic i- and u-stems in North Saami unequivocally point towards COM.SG PS \(^*\)-\(jnē\) < PFS \(^*\)-\(jna/jnä\). When suffixed to a monosyllabic stem such as PFS \(^*\)-ti- > PS \(^*\)-tā- > North Saami da-, the latter would presumably have yielded \^{**}dainni\^{**}, or perhaps apocopated \^{**}dain as in the locative plural, but most certainly not the attested form dainna. Since it seems clear that the two versions of the COM.SG suffix (PS \(^*\)-\(jnä\) and \(^*\)-\(jinjä\)) must have coexisted in Proto-Saami, it is possible that modern North Saami reflects both variants, each in a different word class. In monosyllabic pronouns the COM.SG then goes back to forms in PS \(^*\)-\(jnä\) whereas in polysyllabic nominals it reflects PS \(^*\)-\(jinjä\). Given the evidence available at present, this must be considered the most plausible hypothesis.

Just as COM.SG -inna cannot reflect PS \(^*\)-\(jinjä\) < PFS \(^*\)-\(jna/jnä\), given what is known about Saami historical phonology, the homophonous ending found in the LOC.PL of the eastern Finnmark dialects (dainna, geainna) cannot be a regular reflex of what we know for certain was the ending for that form in Proto-Saami: \(^*\)-\(j-\)jë < PFS \(^*\)-\(j-na/nä\). It is true that the development of the western variants dain, geain, is not completely clear either. Nevertheless, the other two inflectional forms where the ending also had the structure \(^*\)-C-Cë in Proto-Saami, inessive/elative singular (PS \(^*\).s-në/**s-të) and accusative plural (PS \(^*\).j-Dë), show the exact same monosyllabism across western and eastern dialects alike: \(\text{das}(t)\), \(\text{daid}\). The western LOC.PL ending -in is therefore not in itself problematic in the same way as its eastern counterpart LOC.PL -inna.

The conclusion to draw from the comparative-historical evidence is, then, that the eastern Finnmark dialects, with LOC.PL dainna, geainna, matching


Table 15: Extension of COM,SG=LOC,PL syncretism in eastern Finnmark dialects

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<td>ILL</td>
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<td>COM</td>
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COM,SG dainna, geaimna, represent a secondary state of affairs. The paradigm must originally have been as it is today in the remaining dialects, with monosyllabic LOC,PL forms (dain, geaim) distinct from the disyllabic COM,SG forms. Since they are not the result of regular phonological changes, the eastern disyllabic LOC,PL forms must have come about by some analogical process. The most plausible explanation — indeed the only feasible one — is that suggested by Korhonen (1981:222). The monosyllabic pronouns simply copied the COM,SG = LOC,PL syncretism pattern which was ubiquitous throughout the nominal inflection.

5.3 Theoretical implications of the North Saami evidence

The diachronic development of the LOC,PL of monosyllabic pronouns in the eastern Finnmark dialects of North Saami, schematized in Table 15, constitutes evidence that the inflectional homonymy linking COM,SG and LOC,PL in poly-syllabic stems — and, in eastern Finnmark dialects, of monosyllabic stems as well — is in fact a genuine syncretism. A prerequisite for the analogical extension of this homonymy pattern from one word class to another is that the syncretism was encoded in the grammar. In other words, the COM,SG=LOC,PL relation must be a systematic element of North Saami morphology and not a mere accidental homonymy (along the lines of, say, 1.SG -n in verbs and essive -n in nouns).

It should be clear that this syncretism pattern is precisely of the sort that ought to be ruled out given the underspecification/neutralization approach. To begin with, it would be hard to argue that the categories Locative(/Ablative) and
Comitative(/Instrumental) somehow form a minimal opposition, distinguished by some feature [+F] versus [-F], while at the same time forming a ‘natural class’ within the case system based on their specifications for all other attributes ([±G], [±H], and so on). Aside from the difficulty in identifying any such commonalities, the Locative(/Ablative) category obviously enters into a much more closely knit two-way subsystem with the Illative, in which the Comitative(/Instrumental) takes no part.

But even if such an analysis in terms of abstract semantic features were feasible, a thornier problem remains: the geometrically contiguous versus -i- distinction. A similar problem arises for the geometric opposition of LOC,SG and COM,PL as well. A similar problem arises for the geometric conflation approach of McCreight & Chvany (1991): ‘diagonal’ pairs of disjoint cells like COM,SG and LOC,PL can only be syncretized through the mediation of LOC,SG or COM,PL (or both), as this is required in order to yield a geometrically contiguous partitioning of the case/number space.

A further problem, shared by both approaches, involves the fact that the LOC,PL ending is arguably internally complex (plural -i- + locative -n), while the COM,SG ending is not. As long as we want to analyze the LOC,PL as containing the very same number-marking suffix -i- as other oblique plural case forms do, then there would appear to be no viable way of expressing an identity relation between the LOC,PL form and any singular case form ending in -in — even if this happened to be true of the geometrically contiguous LOC,SG rather than the non-contiguous COM,SG.

Approaches that express syncretism through referral, by contrast, encounter no problems with the North Saami pattern. Recall that in inferential-realizational theories such as Paradigm Function Morphology (Stump 2001) or Network Morphology (Corbett & Fraser 1993), inflectional morphemes do not exist as such; rather, the segmental string which makes up an inflectional affix is introduced by a rule making reference to the relevant morphosyntactic properties (those marked by that affix). In North Saami, the plural marker -i- is accounted for by a rule of exponence like (14), and the rule responsible for locative -n (in the plural) is something along the lines of (15).

(14) \[ RR_{\text{NUM,PL}}(X, \sigma) \overset{\text{def}}{=} X_{i}, \sigma \]

(15) \[ RR_{\text{CASE,LOC, NUM,PL}}(X, \sigma) \overset{\text{def}}{=} X_{n}, \sigma \]

Let us assume that the rules assigning case suffixes, such as (15), apply to the output of rules assigning number suffixes, like (14). The realization of a
word W in the $\text{LOC,PL}$ — in other words the realization of $<W, \rho>$, where $\rho$ is a complete extension of the set \{CASE:loc, NUM:pl\} — will be determined as in (16). The result is $<\text{Win}, \rho>$, which is thus also the result of applying the paradigm function as a whole (North Saami inflectional morphology as such) to the pairing $<W, \rho>$. In other words, $\text{PF}(<W, \rho>) = <\text{Win}, \rho>$.

(16) \[ \text{RR}_{\{\text{CASE:loc, NUM:pl}\}, N}(\text{RR}_{\{\text{NUM:pl}\}, N}(<W, \sigma>)) = <\text{Win}, \sigma> \]

We can now make use of this fact in the account of the $\text{COM,SG}=\text{LOC,PL}$ syncretism pattern. If we stipulate that it is $\text{COM,SG}$ which is ‘copying’ the realization of $\text{LOC,PL}$, rather than the other way around, the syncretism can be captured by the rule of referral in (17) or something like it (the issue of directionality will be addressed below).

(17) \[ \text{RR}_{\{\text{CASE:com, NUM:sg}\}, N}(<X, \sigma>) =_{\text{def}} <Y, \sigma>, \]

where $\text{PF}(<X, \sigma>/\{\text{CASE:loc, NUM:pl}\})$

\[ = <Y, \sigma>/\{\text{CASE:loc, NUM:pl}\> \]

The rule of referral in (17) will determine the content of the $\text{COM,SG}$ paradigm cell (of the same word-root W), that is, the pairing $<W, \tau>$ where $\tau$ is a complete extension of the set \{CASE:com, NUM:sg\}. The rule does so by referring it to the realization of the $\text{LOC,PL}$ cell in the same paradigm (that is, of the pairing $<W, \rho>$ dealt with above). Since $\text{PF}(<W, \rho>) = <\text{Win}, \rho>$ by (16), the effect of rule (17) is that $\text{PF}(<W, \tau>) = <\text{Win}, \tau>$. We have arrived at the desired result: (a) that $\text{COM,SG}$ and $\text{LOC,PL}$ are both marked by the suffixation of -in; (b) that this commonality is not accidental but explicitly encoded in the morphological system; and (c) that the -i- of the $\text{LOC,PL}$ is the same as that found in other oblique plural forms (in that a single rule determines the occurrence of -i- throughout the plural).

Something like (14–17), then, constitutes part of the inflectional morphology of North Saami, and provides the basis for the analogical extension that occurred in the eastern Finnmark dialects. In the western dialects, the rule of referral is restricted to the inflectional class of polysyllabic nominals: nouns, adjectives, participles, and those indefinite pronouns that are not monosyllabic (and which occur in the plural, such as soames ~ soamis “someone”). There are two ways of incorporating this limitation into the above analysis. One is to explicitly restrict the class of words to which the rule of referral in (17) applies (indicated here by the subscript ‘N’, intended to stand for all nominals). Another, more attractive, solution is to maintain the generality of (17) as encompassing all nominal
categories, but to have it be overridden by a more specific rule, applying to the COM,SG of (monosyllabic) pronouns alone as shown in (18). The need for specific rules for this class of lexemes is independently motivated in some of the other case forms, for example ILI,SG being marked with -sa (instead of the general -i) as captured by (19).

\[
(18) \quad RR_{\text{PRON}+, \text{CASE=com, NUM=sg}, N}(<X, \sigma>) = _{\text{def}} <\text{Xinna}, \sigma>
\]

\[
(19) \quad RR_{\text{PRON}+, \text{CASE=ill, NUM=sg}, N}(<X, \sigma>) = _{\text{def}} <\text{Xsa}, \sigma>
\]

Being more narrowly defined, the rule of exponence in (18) overrides the rule of referral in (17). Consequently, the COM,SG of a pronoun like dat (with the root da-) is dainna by (18), instead of being defined by (17) as having an identical realization to the LOC.PL form dain (whose realization is in turn defined by the joint action of the rules of exponence in (14) and (15) above). This is precisely what we find in the western dialects.

At this point the reader may be puzzled by an apparent contradiction. The rule of referral in (17) states that, synchronically, the COM,SG ‘copies’ the realization of the LOC,PL, whereas what happened in the eastern Finnmark dialects was that, diachronically, the LOC,PL instead copied the COM,SG form. However, a crucial distinction must be upheld between a synchronic ‘process’ (essentially an implicational relationship defined by a synchronic grammar \(G\)) and a diachronic process (the relationship between a synchronic grammar \(G\) at time \(t\) and another, slightly different synchronic grammar \(G'\) at time \(t+1\)). Assuming that analogical change typically occurs through imperfect learning, that is, in the process of language transmission across generations (Kiparsky 1992), grammar \(G'\) results from a learner’s attempt to ‘reconstruct’ grammar \(G\) (imperfectly, hence restructuring it in the process) using the output of \(G\) as his/her primary input data on which to base that (re)construction.

Given the existence of rules (14), (15), (17) and (18) in grammar \(G\) (essentially, the grammar currently found in western Finnmark dialects), the eastern Finnmark system with LOC,PL dainna instead of dain (and no other overt differences) could have arisen as grammar \(G'\) by the following conjectural scenario. Imagine a speaker-learner S who has, on the basis of observed data, correctly posited the general rules for plural and locative (plural) marking in (14–15). Let us assume that S has also correctly posited the general rule of referral in (17), deriving the shape of the COM,SG from that of the corresponding LOC,PL form. S would have done so on the basis of (a) the persistently recurring COM,SG=LOC,PL matches in the input data, and (b) the insight that the LOC,PL
-in must be the morphologically complex -i-n, based on comparison with the other oblique plural forms (-id, -ide/-idda, -iguin). Finally, S is in the process of establishing special rules — overriding these more general ones — which s/he has discovered are necessary to account for certain inflectional forms of mono-syllabic pronouns, including Ill,sg -sa (for non-personal pronouns), nom,sg -t (for demonstratives), Ill,sg -nnje/-tnje (for personal pronouns), and so forth.

Upon encountering dainna as the COM,SG form of dat “that, it” (and similarly COM,SG mainna from mii “what”, COM,SG geainna from gii “who”), and noticing that this contains an ending different from the usual one (that is, -inna rather than -in), S is faced with a choice between two alternatives. One is the ‘correct’ one, namely to assume that COM,SG -inna should be accounted for by a special rule of exponence for the COM,SG form of pronouns, analogous to the special rule required, for example, for Ill,sg -sa. This would result in G' = G, the successful ‘replication’ by S of the previous generation’s grammar (at least with respect to this part of the inflectional morphology). The other alternative interpretation of COM,SG dainna which S must consider is an ‘incorrect’ one, namely that this form, just like all other COM,SG forms in the language, is an exact replica of the corresponding LOC,PL form. Consequently, S will infer that, given COM,SG dainna, it must be the case that the LOC,PL of dat is also dainna. This too is a slightly unexpected form, since the general rule in (15) would predict dain (da-i-n). S must therefore assume that there is a special rule of exponence accounting for the occurrence of -nna (instead of -n) as the locative marker in the plural paradigm of pronouns — just like there is such a special rule for -sa (instead of -i) as the illative marker in the singular paradigm of these same words, and so forth.

The end point of this alternative learning path is a system where the LOC,PL of a pronoun like dat is da-i-nna, by the general rule suffixing plural -i and a special pronoun rule suffixing locative (plural) -nna, and where the COM,SG of dat is exactly identical to this form, due to the general rule of referral in (17). In other words, we now have G' ≠ G, where the grammar of S at time t+1 is subtly different from the grammar of older speakers at time t. A diachronic change has occurred, both at the covert level of the grammar itself (the realization rules and their definitions) and at the overt level of language output (the observable inflectional forms). At the level of the grammar, there is now a special pronoun rule for locative case marking in the plural (-nna rather than -n), instead of there being a special pronoun rule for comitative case marking in the singular (-inna rather than -in). At the level of observable language output, the LOC,PL form of
monosyllabic pronouns has the shape \textit{CVinna} instead of \textit{CVin}.

As long as our language-learner S is the least bit uncertain of what exactly the correct LOC.PL form of monosyllabic pronouns like \textit{dat} is supposed to be, there is a distinct possibility that s/he will choose the wrong one of these two learning paths. This will ultimately result in the transformation of the pronominal paradigm (relative to that of the generation preceding S) exactly as shown in Table 15b above. As a diachronic event, the change LOC.PL \textit{dain} \Rightarrow \textit{dainna} will thus have occurred by means of productive syncretism: an analogical restructuring based on the existence of the rule of referral (17) in the grammar. This is precisely what took place in the diachronic development of the eastern Finnmark dialects of North Saami.

The apparent contradiction in the directionality of the referral relation (COM.SG \rightarrow LOC.PL versus COM.SG \leftarrow LOC.PL) is a mere illusion, which evaporates as soon as one is careful to keep the dimensions of synchrony and diachrony separate. The directionality inherent in rule (17), whereby the realization of \textit{COM.SG} is dependent on that of \textit{LOC.PL} but not vice versa, is thus fully compatible with the historical change that took place in the North Saami dialects in question.

6. Summary

The proper analysis of syncretism in inflectional morphology is a controversial topic, and one that bears on fundamental differences between competing formal-theoretical frameworks. In this paper I have attempted to elucidate what the main issues are in this context, and what kinds of evidence can be adduced to determine whether a given inflectional homonymy pattern does in fact count as a syncretism (and can thus be used as empirical evidence for or against a given theory). A central argument was that diachronic changes of a particular kind — so-called productive syncretisms — provide a particularly valuable type of evidence in this regard.

Three broadly defined approaches to syncretism were contrasted with each other with respect to their predictions regarding possible versus impossible syncretism patterns. These were referred to as the feature neutralization (or underspecification) approach, the closely related geometric conflation approach, and the rule of referral approach. A central claim was that certain subtle differences among modern North Saami dialects, when taken together with comparative-historical evidence and current knowledge about Saami historical phonology and morphology, constitute unequivocal evidence in favour of the rule of referral approach over other alternatives. In the eastern Finnmark dialects, the perva-
sive identity pattern $\text{COM.SG} = \text{LOC.PL}$ has been extended from the inflectional paradigm of polysyllabic nominals to that of monosyllabic ones. As the two paradigm cells are disjoint, the rule of referral approach is the only alternative which is capable of expressing the $\text{COM.SG} = \text{LOC.PL}$ relation. A tentative analysis was developed within one such model, the Paradigm Function Morphology of Stump (1993, 2001). Finally, a diachronic scenario was outlined, invoking analogical restructuring through imperfect learning, to account for the change distinguishing the eastern Finnmark dialects.

Baerman et al. (2001) propose a typology of case syncretism patterns, in which ‘Type 5’ is the use of a single form for one case in one number and a different case in a different number. Citing an earlier version of the present work, they refer to North Saami as “the most convincing example” of such syncretism existing as “a stable morphological relationship” between the two paradigm cells in question (the North Saami facts are again cited in Baerman 2004 in a similar context). Other cases of disjoint syncretism patterns are most certainly attested (cf. section 4.3; see also Stump 2001: ch. 7). However, what sets the North Saami case apart as a particularly persuasive one is the fact that the syncretism is revealed through an active (diachronic) process, supported by clear comparative-historical evidence, involving the analogical extension of a productive identity pattern.

In conclusion, the rather innocuous morphological reanalysis that happened at some point in the recent history of the eastern Finnmark dialects of North Saami has profound implications for morphological theory, and constitutes strong evidence in favour of rules of referral, or their equivalent, as a component of inflectional systems in the world’s languages.

References


