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Diachronic complexification and isolation

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Abstract

One may hear that over time languages tend to simplify their grammar and notably their morphological system. This intuition, probably based on linguists' knowledge of the rich inflectional systems of older Indo-European languages, has been challenged, particularly by sociolinguistic typologists (e.g. Trudgill 2011; Braunmüller 1984, 2003; Nichols 1992). They hypothesise that languages spoken by small and isolated communities with a dense network may complexify their grammar (Trudgill 2011: 146–147).

The present article investigates the nominal inflection systems of 14 varieties of German in order to survey whether there is any such diachronic tendency towards simplification and whether instances of complexification can be observed, too. The varieties under analysis include present-day Standard German, Old High German and Middle High German (two older stages of German) and eleven present-day non-standard varieties which make part of the Alemannic dialect group.

First, it will be shown that there is a diachronic tendency towards simplification if we consider the total complexity of nominal inflection. Second, however, we can identify instances of diachronic complexification too if we take a closer look at single categories. Interestingly, diachronic complexification appears only in the non-standard varieties, not so in the standard variety. This may support the hypothesis that isolated varieties are more complex than non-isolated ones.

Keywords: complexity; isolation; microvariation; diachrony.

1. Introduction

During the 20th century it was widely assumed that all languages were equally complex (e.g. Hockett 1958)[1]. While complexity differences between languages and varieties were discussed by variationist linguists, they did not propose how complexity could be measured (e.g. Ferguson 1959). In the last few years, it has

[1] I would like to thank two anonymous reviewers and Thilo Weber for critical comments. I am grateful to Jane Kern and Thilo Weber for proofreading the paper in English.

mainly been typologists who have worked on structural complexity of languages (e.g. Miestamo et al. 2008; Sampson et al. 2009).

The sociolinguistic typology tries to determine complexity differences between languages and to connect these differences with the structure of the language community. In this line of research, evidence could be found that languages spoken by small and isolated communities with a dense network tend to show greater structural complexity (Trudgill 2011: 146–147; cf. Braunmüller 1984, 2003; Nichols 1992) and vice versa, that languages spoken by large communities with numerous contacts and a loose network as well as L2 acquisition tend to simplify their grammatical systems (Trudgill 2011: 146–147; cf. McWhorter 2001; Szmrecsanyi and Kortmann 2009). Furthermore, it seems that these isolated varieties do not only preserve their existing complexity, but they also increase structural complexity, which is called spontaneous complexification (Trudgill 2011: 64). In addition, in contact varieties additive borrowings can be found (Trudgill 2011: 27). An additive borrowing is a grammatical feature borrowed from another language. However, this borrowed feature does not replace any already existing feature, but it is added to the existing features (Trudgill 2011: 27).

In this paper I will detect instances of diachronic complexification in the nominal inflection of varieties of German. In the language sample, there are two older stages of German, the present-day standard variety and several present-day isolated and non-isolated non-standard varieties (the varieties will be presented in section 2). Based on the discussion above, I assume that it is more likely to find diachronic complexification in non-standard isolated varieties than in non-isolated ones. Concerning the standard variety I expect that less diachronic complexification may be identified than in the non-standard varieties. This may also be explained by the standard variety's sociolinguistic context. A standard variety is the exact opposite to a non-standard isolated variety: It is spoken by a large community with numerous contacts and a loose network. In this context simplification is expected (Trudgill 2011: 147).

This paper is structured as follows: I will start with the varieties to be analysed (Section 2), then I will give a definition of absolute complexity (Section 3) and explain how inflectional complexity can be measured (Section 4). In Section 5, I will first briefly show the total complexity of nominal inflection of the analysed varieties (Section 5.1) and subsequently discuss several instances of diachronic complexification (Section 5.2). Finally, in Section 6, I will draw a conclusion.

2. Varieties

Fourteen varieties of German are analysed here: two diachronic varieties, the standard variety and eleven non-standard varieties which form part of the Alemannic group in the South-West of the German-speaking language area. All the varieties are briefly presented in the following.

Old High German (OHG) is the oldest attested variety of German. Middle High German (MHG) was the variety spoken in the High Middle Ages. The present-day codified variety of German is here called New High German (NHG). However, OHG and MHG are not single varieties, but conventional labels for coexisting varieties spoken and written for about three centuries. Why can these normalised grammars of OHG and MHG be used to analyse diachronic simplification and complexification? At least to my knowledge these are the only grammars which provide an exhaustive description of the complete nominal inflection. Moreover, particularly the OHG grammar, less so the MHG grammar, exhibit differences in the inflectional system between centuries (from the 8th to the 11th century) and varieties (Alemannic, Franconian, Bavarian). If inflectional differences are given, the oldest Alemannic variant is taken. Another problem is that the OHG and MHG grammar are based on written language but the grammars of the Alemannic varieties on spoken language. However, this problem cannot be solved: we do not have any corpus of the spoken language in the Middle Ages and there do not exist any standardised written varieties of Alemannic dialects. Therefore, if we want to say something about diachronic simplification and complexification, we have to keep in mind these issues concerning the data.

The Alemannic varieties are categorised based on phonological and morphosyntactic features into Low Alemannic, High Alemannic and Highest Alemannic. In this sample the Low Alemannic varieties are Kaiserstuhl, Alsace (lowlands), Colmar and Münstertal Alemannic. Kaiserstuhl Alemannic is situated in the southwest of Germany, near the French border, and the other three varieties are in Alsace, a French region at the German border, opposite the Kaiserstuhl. Only Münstertal Alemannic is considered as isolated, because Münstertal is a small valley in the Vosges. In the High Alemannic group two Swiss dialects are selected: the dialect of Zürich and the dialect of Bern. Zürich and Bern are two cities in the Swiss midland, neither of which is isolated. Of the five Highest Alemannic dialects I have selected, four are situated in Switzerland and one in Italy. Uri Alemannic is spoken in the canton of Uri; Sensler and Jaun

Alemannic in the canton of Fribourg. Jaun Alemannic is an isolated variety, because the village Jaun is situated at the end of a valley and French is the language spoken in the preceding villages in the valley. Uri and Sensler Alemannic are considered as not isolated. Visperterminen and Issime Alemannic are Walser dialects in the Alps and isolated. The village Visperterminen is situated in the canton of Valais, at 1378m above sea level and at the very end of its only road access. Issime is located in a side valley of the Aosta Valley and is one of the several Alemannic colonies in northern Italy. People migrated in the 13th century from the canton of Valais (where Visperterminen is situated) to the Aosta Valley. Nowadays, many of the inhabitants of Issime are multilingual, because mainly Franco-Provençal, Piedmontese, Standard French and Standard Italian are spoken in the Aosta Valley, but not standard German. This signifies that contrary to the other Alemannic dialects, Issime Alemannic is not influenced by Standard German.

The data are based on the grammatical descriptions listed in Table 1. The sources come from different time periods. Unfortunately, there are not any grammatical descriptions for several Alemannic dialects from the same period. However, for the aim of this analysis, the sample is valid, because the dialects are chosen following linguistic, geographic and societal characteristics: low, high and highest Alemannic, distribution of the dialects across the countries (Switzerland, Germany, France, Italy), contact/non-contact and isolated/non-isolated dialects. Furthermore, it is important that the sources provide an exhaustive description of the nominal inflection.

3. Defining complexity

In the literature on complexity a distinction is made between relative and absolute complexity. Relative complexity is defined as whether a linguistic phenomenon is difficult to process or learn, e.g. for an L1 acquirer, an L2 learner, a hearer, a speaker and so forth (Miestamo 2008: 25). By contrast, when considering absolute complexity, one is interested in the language system itself. To measure absolute complexity, Miestamo (2008) suggests (citing Dahl 2004: 21–24) that: "[...] the complexity of a linguistic phenomenon may be measured in terms of the length of the description of that phenomenon [...]. A less complex phenomenon can be compressed to a shorter description without losing information" (Miestamo 2008: 24). Put differently, the shorter the description of the

Table 1. Varieties and data base.

Variety	Isolated?	References
Old High German (OHG)	no	Braune and Reiffenstein 2004
Middle High German (MHG)	no	Paul 2007
New High German (NHG)	no	Eisenberg 2006
Kaiserstuhl Alemannic	no	Noth 1993
Alsace Alemannic	no	Beyer 1963
Colmar Alemannic	no	Henry 1900
Münstertal Alemannic	yes	Mankel 1886
Zürich Alemannic	no	Weber 1987
Bern Alemannic	no	Marti 1985
Uri Alemannic	no	Clauß 1929
Sensler Alemannic	no	Henzen 1927
Jaun Alemannic	yes	Stucki 1917
Visperterminen Alemannic (Walser)	yes	Wipf 1911
Issime Alemannic (Walser)	yes	Zürrer 1999; Perinetto 1981

language system (the more it can be compressed), the less complex the language system. In this paper I consider only the absolute complexity of nominal inflection, or more precisely, the inflectional complexity of nouns, adjectives, articles and pronouns (personal, demonstrative, interrogative, possessive) in the varieties of German mentioned above. I selected these categories because the grammatical descriptions provide information only for these categories. A detailed overview of what is considered as rendering a language system more or less complex is given in Baechler and Seiler (2012).

4. Measuring complexity

For a long time it was assumed that all languages were equally complex (cf. section 1) and especially that there were trade-offs between morphology and syntax. By "trade-off", it is meant that what is not expressed in syntax is expressed in morphology and vice versa. If we want to check this trade-off hypothesis, we need a framework which differentiates between morphology and syntax. This is why I chose Lexical-Functional Grammar (LFG). In LFG, morphology and syn-

tax can be analysed and measured separately. Only after having measured morphological and syntactic complexity can one say something about possible trade-offs between morphology and syntax.

Furthermore, I assume Underspecification (cf. for German: Eisenberg 2006; Thieroff and Vogel 2009) and the Elsewhere Condition (Anderson 1992; Kiparsky 1973), which can both be nicely implemented into LFG. Underspecification means that the underspecified form is used in a certain cell of a paradigm if there is not any more specific form for that cell (Thieroff and Vogel 2009: 49). Regarding the varieties of German this concerns the word-forms not marked for case and number. Example: Table 2 shows a traditional paradigm for German with eight instructions containing a full specification of feature content and associated exponent. Thus, the paradigm consists of eight instructions: nom.sg. → *Tag*, acc.sg. → *Tag*, dat.sg. → *Tag*, gen.sg. → *Tages*, nom.pl. → *Tage*, acc.pl. → *Tage*, dat.pl. → *Tagen*, gen.pl. → *Tage*. Adopting Underspecification, only three instructions are needed: suffix *-es* in the genitive singular, suffix *-e* in the plural, suffix *-n* in the dative plural. The remaining cells of the paradigm will be filled with the underspecified form *Tag*. However, how can we prevent the underspecified form *Tag* being used as a genitive singular? This is ruled out by the Elsewhere Condition, which says that if there is a more specific rule you must not follow a less specific one. Thus, as the instruction "suffix *-es* in the genitive singular" is more specific for genitive singular than the underspecified form *Tag*, this more specific instruction will be used first, blocking the genitive singular cell and preventing the default form *Tag* from being inserted into the genitive singular cell.

Table 2. Paradigm of *Tag* 'day' (Eisenberg 2006: 159).

	Singular	Plural
Nominative	Tag	Tag-e
Accusative	Tag	Tag-e
Dative	Tag	Tag-en
Genitive	Tag-es	Tag-e

In LFG, among others, m-features and s-features are distinguished. S-features are defined by syntactic or functional features "which have to be expressed by

well-formed phrases and clauses" (Sadler and Spencer 2001: 72). M-features build the morphological structure of a word form, e.g. the structure of an inflected word form (Sadler and Spencer 2001: 72). Thus, if we want to measure inflectional complexity, we consider the m-features.

In the following it will be briefly shown how Underspecification and the Elsewhere Condition can be implemented into the LFG framework. We have seen that the paradigm of *Tag* needs only three instructions, and thus, also only three m-features: -*es*[NUM=SG; CASE =GEN], -*e*[NUM=PL] und -*en* [NUM=PL; CASE =DAT]. All the other cells of the paradigm will be filled by default. For example, if the syntax needs a nominative plural, this s-feature can be unified with the m-feature -*e*[NUM=PL], where CASE remains underspecified (see Table 3). However, the s-feature dative plural cannot be unified with the m-feature -*e*[NUM=PL], because there is a more specific m-feature for this s-feature, namely -*en*[NUM=PL; CASE =DAT]. Thus, the Elsewhere Condition is implemented too.

Table 3. Unification of s-features and m-features in the paradigm of *Tag* 'day'.

s-feature	*m-feature*	*unification?*
NUM PL CASE NOM	-*e* NUM PL	YES
NUM PL CASE DAT	-*e* NUM PL	NO
NUM PL CASE DAT	-*en* NUM PL CASE DAT	YES

We have seen that m-features built the morphological structure of word forms and thus that if we want to measure morphological complexity, we are concerned with m-features. However, how exactly can we measure morphological complexity and in this case inflectional complexity? Here, I suggest that inflec-

tional complexity may be measured by the number of m-features. Thus, the more m-features a paradigm has, the more complex the paradigm is.

In the following I will show which steps are necessary in order to measure inflectional complexity. First of all the paradigms must be built. Every grammatical description forms the paradigms in a different way even within the same language or variety. As I aim to compare several varieties, all the paradigms must be formed in the same way. Furthermore, in Section 3 I cited Miestamo (2008) who argues that "[...] the complexity of a linguistic phenomenon may be measured in terms of the length of the description of that phenomenon [...]. A less complex phenomenon can be compressed to a shorter description without losing information" (Miestamo 2008: 24). Thus, the paradigms under analysis here are formed by compressing them maximally. This enables us to compare the shortest description of variety 1 with the shortest description of variety 2. After having compressed the paradigms we must identify the m-features. Table 4 displays the paradigm of the weak inflection of the adjectives in Visperterminen Alemannic and the m-features are listed in the following.

-e	CASE	NOM V ACC
	NUMBER	SG
	GENDER	M
-s	CASE	NOM V ACC
	NUMBER	SG
	GENDER	N
-i	CASE	NOM V ACC
	NUMBER	SG
	GENDER	F
-um	CASE	DAT
	NUMBER	SG
	GENDER	M V N
-s	CASE	GEN
	NUMBER	SG
	GENDER	M V N

-er [CASE: DAT V GEN; NUMBER: SG; GENDER: F]

-i [CASE: NOM V ACC; NUMBER: PL]

-e [CASE: DAT; NUMBER: PL]

-er [CASE: GEN; NUMBER: PL]

It becomes clear that a linguistic interpretation has to be done to identify the m-features. For example, we can observe a syncretism between nominative and accusative in the singular of the three genders. This syncretism is represented in the m-features. For instance the first m-feature listed above, says that *-e* is a suffix for nominative or accusative masculine singular. Not only case syncretism can be shown but also gender syncretism: the fifth m-feature in the list indicates that *-s* is a suffix for the genitive singular masculine or neuter. Moreover, in Table 4 we may note that gender is distinguished only in the singular; in the plural it is not. This can be translated in the m-features too by omitting the information on gender (cf. the last three m-features in the list). Once having identified the m-features for a certain category, the inflectional complexity of that category can be measured, i.e. the number of m-features of a certain category corresponds to the inflectional complexity of that category. As nine m-features are identified for the weak inflection of the adjectives in Visperterminen Alemannic, this category has a complexity measure of nine (=degree of complexity).

Table 4. Weak inflection of the adjectives in Visperterminen Alemannic (Wipf 1911: 134).

	Nominative	Accusative	Dative	Genitive
m.sg.	-e	-e	-um	-s
n.sg.	-s	-s	-um	-s
f.sg.	-i	-i	-er	-er
pl.	-i	-i	-e	-er

This method is applied to the following categories: (a) weak and strong inflection of adjectives; (b) personal pronoun; (c) interrogative pronoun; (d) definite article, demonstrative pronoun; (e) indefinite article, possessive pronoun. In category (d) and (e) are two parts-of-speech, because their inflection has a common historical origin (for further explanation see Baechler (in press).

However, the noun inflection is not only measured by the number of m-features but also by the number of inflectional classes: "The inflectional class can be defined as a specific combination of [...] [m-features]. Therefore, both larger [...] [m-feature] inventory and large numbers of inflectional classes add to complexity, but they do not automatically follow one from another" (Baechler and Seiler 2012: 27). So, we have an inventory of m-features, which are combined in a specific way to generate the paradigm. For instance, if the morphology uses the inventory three times to create three paradigms, we count three inflectional classes. Thus, the complexity of nouns is the sum of the number of m-features and the number of inflectional classes. (For a discussion why the number of m-features and the number of inflectional classes are added, see Baechler in press.)

Finally, taking the complexity degree of each category we may calculate the total complexity of nominal inflection. Two points are important here. First, each category contributes to the total complexity of nominal inflection. Second, each category has the same weight, i.e. each category contributes equally to the total complexity of nominal inflection. Thus, the total complexity of nominal inflection may be calculated by adding the degree of complexity of each category: Total complexity of nominal inflection = complexity of strong and weak adjective + complexity of personal pronoun + complexity of interrogative pronoun + complexity of definite article / demonstrative pronoun + complexity of indefinite article/possessive pronoun + complexity of noun. For illustrative purposes the degree of complexity for Visperterminen Alemannic is presented in Table 5.

Table 5. Degrees of complexity in Visperterminen Alemannic.

Complexity of strong and weak adjective	14
Complexity of personal pronoun	45
Complexity of interrogative pronoun	4
Complexity of definite article / demonstrative pronoun	21
Complexity of indefinite article / possessive pronoun	13
Complexity of noun	33
Total complexity of nominal inflection	130

5. Results

In this section I will first present the total complexity of nominal inflection including all the categories under analysis (Section 5.1). It will be shown that there is a diachronic tendency towards simplification. However, on closer inspection it can be observed that new categories are grammaticalized in the present-day non-standard varieties. This will be discussed in Section 5.2.

5.1 Total complexity of nominal inflection

Graph 1 displays the total complexity of nominal inflection in the varieties under analysis here. Degrees of the total complexity are calculated following the metric presented in Section 4. In Graph 1 the varieties are on the horizontal axis and the degree of complexity on the vertical axis. Below the varieties is indicated whether the variety represents an older stage of German (diach), the standard variety (stand) or a Highest Alemannic (h-st), High Alemannic (high) or Low Alemannic (low) variety.[2]

The most complex variety is OHG, the oldest attested variety of German. Therefore, a diachronic tendency towards simplification can be observed. This observation may be challenged by the comparison of MHG with the present-day varieties. Graph 1 shows: first, that the isolated, Highest Alemannic varieties are more complex than MHG; second, the non-isolated, Highest Alemannic variety (Sensler) is less complex than MHG; third, all the other Alemannic dialects and NHG are less complex than MHG. On the basis of these results it could be concluded that there is not a clear diachronic tendency or that the isolated, Highest Alemannic dialects have undergone a complexifying process (after the stage of MHG). However, this analysis would be incorrect, because it is widely assumed that the Highest Alemannic dialects never reached the stage of MHG (Wiesinger 1983: 835; Hotzenköcherle 1984: 153–236). Evidence that the Highest Alemannic varieties developed separately from MHG can be found in the phonology and morphosyntax of the Highest Alemannic varieties. Therefore, the Highest Alemannic varieties and MHG both derive from OHG. Thus, there is a clear diachronic tendency towards simplification: all the Highest Alemannic dialects are less complex than OHG and all the other Alemannic dialects and NHG are less

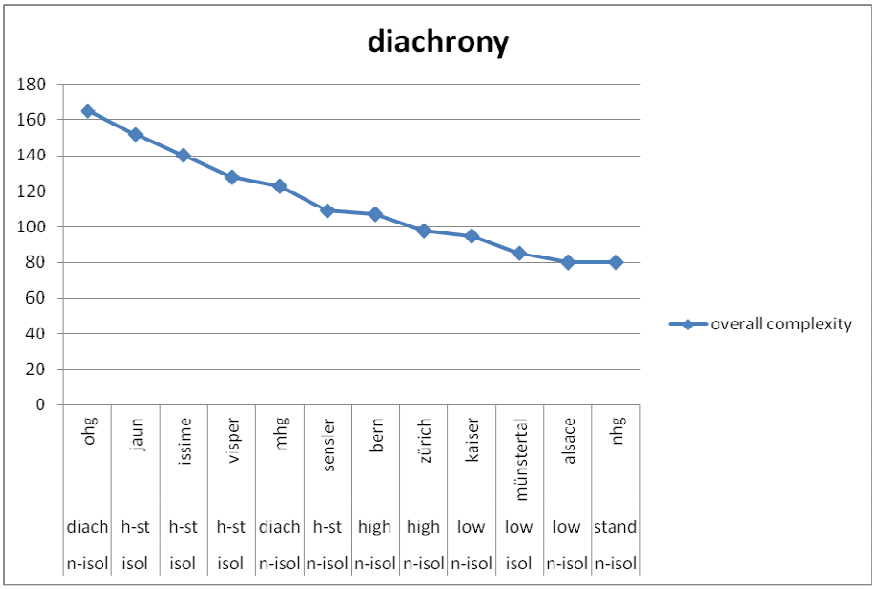
[2] Looking at Graph 1, one may observe that Uri Alemannic and Colmar Alemannic are missing. This is because the degree of complexity of these varieties has not been calculated yet.

complex than MHG. For a more detailed discussion of the total complexity see Baechler (in press) and Baechler (in press).

In Section 2 it was shown that the Alemannic dialects are categorised on the basis of phonological and morphosyntactic features into three groups: Highest, High and Low Alemannic. Comparing the total nominal inflection complexity of the Alemannic dialects (Graph 1), we can observe that the Highest Alemannic dialects are more complex than the High Alemannic ones, whereas the High Alemannic dialects are more complex than the Low Alemannic ones. Therefore, Alemannic dialects can be classified into these three groups not only on phonological or morphosyntactic grounds, but also on the basis of their morphological complexity.

Another interesting finding is that the standard variety (NHG) displays the lowest degree of inflectional complexity, i.e. the standard variety is less complex than all the non-standard varieties in this sample. This can be explained by Trudgill's observation that varieties spoken by large communities with loose social networks and tense linguistic contact tend to a lower linguistic complexity (Trudgill 2011: 146–147).

The final question to be answered in this section is whether isolation may influence the degree of complexity. Graph 1 shows that the majority of the isolated varieties, such as Jaun, Issime and Visperterminen, are more complex than non-isolated ones, except Münstertal Alemannic. Thus, one may not deduce that isolated varieties are more complex than non-isolated ones. However, if we compare isolated and non-isolated varieties belonging to the same geographical area, an isolated dialect is more complex than a non-isolated one. This can be observed by comparing Jaun with Sensler Alemannic and Münstertal with Alsace Alemannic. Jaun and Sensler Alemannic are both Highest Alemannic dialects, situated in the canton of Fribourg (Switzerland). However, Jaun Alemannic is isolated and more complex than Sensler Alemannic, which is not isolated. The same applies to Münstertal and Alsace Alemannic: both are Low Alemannic dialects and located in Alsace, but Münstertal is isolated and more complex than Alsace Alemannic. This shows very clearly that isolation does not cause complexification, but "represent[s] something like a precondition for complexity-development" (Trudgill 2011: 146). Furthermore, complexity may be influenced not only by isolation, but also geographical area.



Graph 1. Total complexity of nominal inflection.

5.2 Diachronic complexification

In the previous section, I compared the total complexity of nominal inflection in the analysed varieties. As a result, a tendency towards diachronic simplification could be observed. The degree of complexity was measured by the metric presented in Section 4 and included all categories listed in Section 4. However, changes in some grammatical categories display in part the opposite tendency, namely, a tendency to diachronic complexification. In the present-day varieties (especially in the non-standard varieties) some categories are expressed morphologically, whereas they were expressed in other subsystems in OHG, or new categories are grammaticalized, which were absent in the older stages of German. Thus, on one hand we can see that many morphological features are diachronically simplified, which could be shown in the previous section. However, on the other hand certain morphological features in the present-day varieties are more complex compared to the older stages of German. Due to space constraints, I will not discuss the complexity degrees of each category in the following chapters, but I will focus on instances of diachronic complexification.

5.2.1. Additive borrowing

As mentioned in Section 1, additive borrowings are linguistic features borrowed from another language without replacing any existing feature. They are likely to be found in contact varieties in a "long-term co-territorial contact situation involving child bilingualism" (Trudgill 2011: 34). This applies to Issime Alemannic and to the Alsatian varieties. However, only Issime Alemannic has an additive borrowing. Its stressed personal pronoun shows two forms in the plural: a simple form, for example *wir*, which means *we*, and a composed form, for example *wir-endri*, which can be translated as *we-others* (see Table 6). The two forms are used to express distinct meanings (Zürrer 1999: 216–221). In the Aosta-Valley where Issime is situated two other dialects are spoken: Franco-Provençal, a French dialect, and Piedmontese, an Italian dialect. Both dialects are also spoken by speakers of Issime Alemannic and both dialects show in the plural composed forms, e.g. *noj-autri* 'we-others' in Piedmontese (Brero and Bertodatti 1988: 72). Therefore, it can be inferred that the composed forms in Issime Alemannic are additive borrowings.

Table 6. Simple and composed forms of the stressed personal pronoun in Issime Alemannic (Zürrer 1999: 207–208).

	Nominative	Accusative	Dative	Genitive
1.pl.	wir	ündsch	ündsch	ündschuru
2.pl.	ir	auw	auw	auwuru
3.pl.	dschi	dschi	ürju	ürju, ürjuru
1.pl.	wir-endri	ündsch-endri	ündschen-andre	ündscher-andru
2.pl.	ir-endri	auw-endri	auwen-andre	auwer-andru
3.pl.	dschi-endri	dschi-endri	ürjen-andre	ürjer-andru

5.2.2. Inflectional classes

The complexity of noun inflection is not only measured by the m-features (information provided by inflected forms), but also by the number of inflectional classes, because they are considered as rules combining the m-features (c.f. Section 4). As I discussed in Section 4, every grammatical description forms the

paradigms in a different way. Thus, in order to have comparable paradigms for the analysis, the information from the sources in Table 1 must be compressed maximally to get the shortest description and then the paradigms can be identified. The same applies to the inflectional classes: They are identified following the definition given in Section 4. Examples and a discussion of the challenges encountered by identifying the inflectional classes are given in Baechler and Seiler (2012: 29–31).

The number of inflectional classes as identified in the way discussed above is shown in Table 7. OHG, the oldest attested variety of German, displays 18 inflectional classes, Issime Alemannic, a present-day isolated Highest Alemannic variety, 19 inflectional classes. Thus, the inflectional classes in Issime Alemannic have undergone complexification.

Table 7. Number of inflectional classes per variety.

Variety	no. of inflectional classes
Issime	19
OHG	18
Visperterminen	18
Jaun	16
Uri	12
MHG	11
NHG	10
Sensler	9
Zürich	8
Elsass	8
Münstertal	7
Bern	7
Kaiserstuhl	5
Colmar	5

5.2.3. Personal pronoun

The personal pronouns display two instances of diachronic complexification. The first instance concerns the stressed and unstressed paradigms; the second,

the development of an animate and an inanimate category in the third person singular neuter in some non-standard varieties.

OHG and MHG have one full paradigm for the stressed personal pronoun and one paradigm for the unstressed personal pronoun, but only in the third person singular (Braune and Reiffenstein 2004: 243–245; Paul 2007: 213–214). NHG has just one paradigm for the personal pronoun, so it does not make any morphological distinction between the stressed and unstressed personal pronoun (Thieroff and Vogel 2009: 82–83). All the non-standard varieties under analysis here, however, differentiate morphologically between the stressed and the unstressed personal pronoun: they have one full paradigm for the stressed personal pronoun and one full paradigm for the unstressed one. Thus, the non-standard varieties fully grammaticalized a category present in the older stages of German, but the standard variety did not. As an illustration, the paradigms of the stressed and the unstressed paradigm in Bern Alemannic are shown in Tables 8 and 9.

Table 8. Stressed personal pronoun in Bern Alemannic (Marti 1985/1964: 92).

	Nominative	Accusative	Dative
1.sg.	ī̓/īg	mī	mīr
2.sg.	dū	dī	dīr
3.sg.m.	ā̃r	īn	īm
3.sg.n.inanimate	ā̃s	ā̃s	īm
3.sg.n.animate	ā̃s	īns	īm
3.sg.f.	seie/sī	seie/sī	īre
1.pl.	mīr/mier	ū̃s	ū̃s
2.pl.	dīr	öich	öich
3.pl.	seie	seie/sī	īne

[3] Marti (1985/1964) uses different strategies to indicate long vowels. However, in this paper the macron is used to indicate long vowels.

Table 9. Unstressed personal pronoun in Bern Alemannic (Marti 1985/1964: 92).

	Nominative	Accusative	Dative
1.sg.	i	mi	mer
2.sg.	de	di	der
3.sg.m.	er	ne	im
3.sg.n.inanimate	es, s	es, s	im
3.sg.n.animate	es, s	es	im
3.sg.f.	si	se	ere
1.pl.	mer	is	is
2.pl.	er	ech	ech
3.pl.	si	se	ne

The second diachronic complexification concerns the third person singular neuter. In OHG, MHG and NHG there is a syncretism between the nominative and accusative. For example in NHG the pronoun is *es* (nominative), *es* (accusative), *ihm* (dative).[4] To refer to a woman, the third person singular feminine is used and to refer to a man, the third person singular masculine. However, some dialects use the neuter form to refer to a woman:

(1) Ds Marie singt – Äs singt.
The.$_{\text{NEUTER}}$ Mary sings – It.$_{\text{PERS.PRON.3th.SG.NEUTER}}$ sings.
(Example given by the author, a speaker of Sensler Alemannic)

Ds is the neuter form of the definite article and *äs* the neuter form of the personal pronoun. Dialects using the neuter to refer to a woman grammaticalized this distinction: they have one paradigm for the third person singular neuter inanimate and one for the third person singular neuter animate, used to refer to women (exemplified in Table 8). The inanimate paradigm shows two forms with a syncretism between nominative and accusative, the inanimate paradigm three different forms for the three cases. Furthermore, in the animate paradigm the ac-

[4] OHG, MHG and NHG have also a genitive, but as the genitive does not play any role in the following discussion, it can be excluded.

cusative takes a very interesting form: the accusative form *ihn* of the masculine paradigm is taken and the suffix *-s* added, which signifies neuter.

The non-standard varieties with such a system can be categorised into three groups (Table 10). The first group grammaticalized an animate paradigm only in the stressed pronoun, the second group in the stressed and unstressed pronoun. Alsace, Kaiserstuhl, Zürich and Uri Alemannic belong to the first group, Bern and Jaun Alemannic to the second group. Only Sensler Alemannic belongs to the third group which underwent the following change: in most nominal categories the accusative form was substituted by the dative form (Bucheli Berger 2010). Interestingly, only the inanimate category was affected by this change, the animate category shows the old forms with the syncretism between nominative and accusative (see Table 11).

Table 10. Grammaticalization of an animate and an inanimate paradigm in the third person singular neuter.

Group		Stressed personal pronoun	Unstressed personal pronoun
1	inanimate	nom=acc (äs-äs)	nom=acc
	animate	nom≠acc (äs-īns)	
2	inanimate	nom=acc (äs-äs)	nom=acc
	animate	nom≠acc (äs-īns)	nom≠acc
3	inanimate	nom≠acc (äs-īm)	nom≠acc
	animate	nom=acc (äs-äs)	nom=acc

Table 11. Comparison of animate and an inanimate paradigm in the third person singular neuter in the second and third group.

Group	Variety		(Un-)stressed personal pronoun
2	Jaun/Bern	inanimate	nom=acc≠dat (äs-äs-īm)
		animate	nom≠acc≠dat (äs-īns-īm)
3	Sensler	inanimate	nom≠acc=dat (äs-īm-īm)
		animate	nom=acc≠dat (äs-äs-īm)

The finding that an animate and an inanimate paradigm is distinguished applies to all non-standard varieties apart from Colmar, Münstertal, Visperterminen and Issime Alemannic. According to Henry (1900), in Colmar Alemannic the neuter form is used to refer to a woman, but he does not say whether there are two different paradigms in the neuter or not. For Münstertal Alemannic no information could be found for the use of the neuter form (c.f. Mankel 1886). In Issime and Visperterminen Alemannic, both Walser dialects, the third person singular neuter is used to refer to women too. However, contrary to the other dialects, it is also used to refer to a man. Furthermore, they did not grammaticalize an animate paradigm, so they have only one paradigm in the third person singular neuter.

5.2.4. Definite article and demonstrative pronoun

Contrary to all the other varieties under analysis here, OHG did not have a grammaticalized article, but only a demonstrative pronoun[5]. The other varieties grammaticalize a definite article on the basis of this demonstrative pronoun, as for example MHG and NHG. However, in these two varieties the definite article and the demonstrative pronoun show morphologically exactly the same forms as can be seen in following paradigm of NHG (Table 12).

Table 12. Definite article and demonstrative pronoun in NHG (Eisenberg 2006: 170).

	Nominative	Accusative	Dative	Genitive
m.sg.	der	den	dem	des
n.sg.	das	das	dem	des
f.sg.	die	die	der	der
pl.	die	die	den	der

By contrast, all the present-day non-standard varieties show two distinct paradigms: one for the definite article and one for the demonstrative pronoun. From

[5] In OHG definiteness could be expressed by word order, case, the prefix *gi-* and the weak adjective inflection (Szczepaniak 2011: 64–69).

this it may be interpreted that the non-standard varieties grammaticalized the definite article to larger extent than MHG and NHG. As an example, the two paradigms of Kaiserstuhl Alemannic are shown in the Tables 13 and 14.

Table 13. Definite article in Kaiserstuhl Alemannic (Noth 1993: 360–370).

Definite article	Nominative	Accusative	Dative
m.sg.	dr	dr	im
n.sg.	s	s	im
f.sg.	d	d	dr
pl.	d	d	dr

Table 14. Demonstrative pronoun in Kaiserstuhl Alemannic (Noth 1993: 376).

Demonstrative pronoun	Nominative	Accusative	Dative
m.sg.	daa	daa	dam
n.sg.	des	des	dam
f.sg.	dia	dia	daara
pl.	dia	dia	daana

5.2.5. Possessive pronoun

The possessive pronoun in OHG und NHG[6] has a strong paradigm; in MHG it has a strong and a weak paradigm, depending on its syntactic position.[7] In these three varieties the same paradigm is used independent of number, gender and person of the possessive pronoun. In Table 15, the inflection of the possessive pronoun in NHG is reported.

[6] Except the nominative singular masculine and neuter as well as the accusative singular neuter, which are underspecified, and the genitive singular masculine and neuter, which have the ending *-es* (Eisenberg 2006: 176).

[7] For the syntactic distribution of the strong and the weak paradigm see Paul (2007: 216).

Table 15. Inflection of the possessive pronoun in NHG (Thieroff and Vogel 2009: 73).

	Nominative	Accusative	Dative	Genitive
m.	mein	mein-en	mein-em	mein-es
n.	mein	mein	mein-em	mein-es
f.	mein-e	mein-e	mein-er	mein-er
pl.	mein-e	mein-e	mein-en	mein-er

By contrast, all non-standard varieties (exc. Münstertal, Alsace and Visperterminen Alemannic) show different paradigms depending on the number, gender and person of the possessive pronoun. To illustrate this, the following Tables (16–18) show the paradigms of the possessive pronoun in Uri Alemannic: Table 16 exhibits the paradigm of the first and second person singular, as well as of the third person singular masculine and neuter (*my*, *your*, *his*, *its*), Table 17 the first and second person plural (*our*, *your*), Table 18 the third person singular feminine and third person plural (*her*, *their*).

Table 16. Possessive pronoun of the first, second and third (m. and n.) person singular in Uri Alemannic (Clauß 1929: 193).

	Nominative	Accusative	Dative
m.sg.	-a/-ø	-a/-ø	-m
n.sg.	-s/-ø	-s/-ø	-m
f.sg.	-i/-ø	-i/-ø	-er
pl.	-i	-i	-a

Table 17. Possessive pronoun of the first and second person plural in Uri Alemannic (Clauß 1929: 193–194).

	Nominative	Accusative	Dative
m.sg.	-a	-a	-m
n.sg.	-s	-s	-m
f.sg.	-i	-i	-er
m./f.pl.	-ø	-ø	-na
n.pl.	-i	-i	-na

Table 18. Possessive pronoun of the third person singular feminine and third person plural in Uri Alemannic (Clauß 1929: 194).

	Nominative	Accusative	Dative
m.sg.	-a	-a	-em
n.sg.	-s	-s	-em
f.sg.	-i	-i	-er
pl.	-i	-i	-na

5.2.6. Article variation

This last point concerns the article variation in some non-standard varieties. In most varieties analysed here there is one exponent per morphosyntactic cell in a paradigm. However, some non-standard varieties show two different exponents, depending on whether the article is in a NP (nominal phrase), PP (prepositional phrase), or preceding a noun or an adjective (see Table 19). Sensler, Jaun, Bern and Uri Alemannic have the accusative indefinite article *e* (masculine and feminine) and *es* (neuter) in a NP, but *ne* (masculine and feminine) and *nes* (neuter) in a PP. This variation cannot be explained by the final sound of the preposition: it does not matter whether the preposition ends with a consonant or a vowel. In the definite article the same varieties show the same variation in the same case (but only in the masculine): *der* is used in a NP, *e* in a PP. Interestingly, the other non-standard varieties display the same variation in the dative (exc. Uri Alemannic: variation in the accusative and dative). In Colmar, Alsace, Münstertal, Zürich and Uri Alemannic the indefinite article *ime*/*inere* is used in a NP, *(e)me*/*(e)re* in a PP; only in Colmar, Alsace and Münstertal Alemannic (all Alsatian varieties) the definite article *im* is used in a NP, *m* in a PP. The varieties which exhibit article variation in the accusative show a further variation in the definite article. In the nominative and accusative singular feminine and in the plural[8] the definite article is *d* if it precedes a noun and *di* if it precedes an adjective.

To summarise, two interesting observations can be made. First, some varieties vary in the accusative, others in the dative, but they vary in the same way,

[8] In contrast to the singular, no gender distinction is made in the plural.

i.e. depending on the phrase. Furthermore, only the varieties varying in the accusative also vary in the nominative, accusative feminine singular and plural, but they vary in a different way, i.e. depending on whether the definite article precedes a noun or an adjective. Second, the varieties with the accusative variation are situated in the western part of German-speaking Switzerland; the varieties with the dative variation, in Alsace in France. There are two exceptions: Zürich and Uri Alemannic. They are both: (a) not located in the areas just mentioned, and (b) show the variation in the dative only concerning the indefinite article; additionally Uri Alemannic (c) varies not only in the dative but also in the accusative. The finding that there is article variation in some non-standard varieties is an instance of diachronic complexification, because neither OHG nor MHG made these distinctions.

Table 19. Article variation in non-standard varieties.

Indefinite article		acc.sg.m.,f./n.	dat.sg.m.,n./f.
	in NP	*e*/*es*	*ime*/*inere*
	in PP	*ne*/*nes*	*(e)me*/*(e)re*
Definite article		acc.sg.m.	dat.sg.m./n.
	in NP	*der*	*im*
	in PP	*e*	*m*
Definite article		nom/acc.f.sg. + pl.	
	preceding a noun	*d*	
	preceding an adjective	*di*	
Dialects		Sensler, Jaun, Bern, Uri	Colmar, Alsace, Münstertal, (Zürich, Uri)

6. Conclusion

The major findings of this study are the following: (i) there is a diachronic tendency towards simplification, (ii) the degree of complexity correlates with the

Alemannic group (Highest > High > Low Alemannic), (iii) isolation influences the degree of complexity, (iv) the standard variety is the least complex variety.

However, if categories in this sample are complexified, we find them in the non-standard varieties. These instances of complexification can be arranged into three groups. First, only Issime Alemannic shows an additive borrowing and a diachronic complexification concerning the inflectional classes (it has one inflectional class more than OHG). It is striking that only Issime Alemannic displays an additive borrowing, but the other contact varieties (all Alsatian Alemannic varieties) do not. Second, all the non-standard varieties grammaticalized a paradigm for the stressed and unstressed personal pronoun, two distinct paradigms for the definite article and the demonstrative pronoun. Third, several non-standard varieties developed (a) a paradigm for the third person singular neuter animate of the personal pronoun, (b) different paradigms in the possessive pronouns and (c) variation in the definite and indefinite article. Interestingly, particularly the Walser varieties, Issime and Visperterminen Alemannic, which are most isolated, do not show diachronic complexification in this third group. In the three instances of complexification in the third group, Issime Alemannic displays diachronic complexification only in the possessive pronouns, Visperterminen Alemannic in none of them. As the two varieties are isolated, we would have expected that they would show larger extent of diachronic complexification than the other non-standard varieties. However, this finding supports Trudgill's (2011: 64) hypothesis that strong isolation may not only lead to complexification (as was suggested by Nichols 1992 and Braunmüller 1984), but also to conserving effects and thus prevent certain changes.

The finding that complexification occurs in non-standard varieties and not in the standard variety may be explained by the different types of language communities described by Trudgill (2011): large communities with many contacts and a loose network vs. small and isolated communities with a dense network (Trudgill 2011: 146–147). The first community corresponds to the one in which a standard variety is spoken, the second community more to one, in which a non-standard variety is spoken. Trudgill (2011) expects less structural complexity in the first community and greater structural complexity in the second one (due to preservation of and increase in complexity (Trudgill 2011: 64)) and this is exactly what the findings of the present analysis show.

I compared two types of isolated and non-isolated varieties: standard (= non-isolated) vs. non-standard (= isolated) and non-standard non-isolated vs. non-standard isolated. For both types we could observe that isolated varieties

are more complex than non-isolated ones. Interestingly, although this paper is based on a rather small sample, its findings with regard to isolation favouring complexification point in the same direction as those of large-scale comparisons, c.f. for example Nichols (1992). However, an advantage of smaller samples is that qualitative and quantitative analysis can be done at the same time (c.f. Sections 5.1 and 5.2), which enables us to gain deeper insights into complexification processes.

In this paper I adopted the definition of isolation which is based on rather qualitative criteria: remote place (e.g. valley, mountain), little contact to other communities, a small community. However, it would be interesting to investigate possible correlations between inflectional complexity and population size as well as altitude. A few studies have already found correlations between complexity and population size, such as Sinnemäki (2009, 2011) for core argument marking and Hay and Bauer (2007) for phoneme inventory size.

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Abbreviations

nom nominative
acc accusative
dat dative
gen genitive
m masculine
n neuter
f feminine
sg singular
pl plural
NP nominal phrase
PP prepositional phrase
NUM number
OHG Old High German
MHG Middle High German
NHG New High German
diach diachronic
stand standard variety

h-st Highest Alemannic
highHigh Alemannic
low Low Alemannic

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