

Diachronic clues to synchronic syntax: *pro*-drop and complementizer agreement in Bavarian

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1. Introduction

This paper proposes a diachronic explanation of the fact that in Bavarian, complementizer agreement and *pro*-drop are limited to 2nd person forms (together with 1pl in some dialects). More specifically, it is argued that this restriction follows from a conspiracy of morphological and syntactic factors that shaped the diachronic development of new verbal agreement markers in the history of Bavarian.

- In contrast to Standard German, Bavarian shows two series of pronominal elements: (i) a paradigm of full forms that may bear stress, and (ii) a set of reduced, atonic forms. The latter are C-oriented clitics that attach to the right of elements located in the C-system.

	Full form		Enclitic	
1sg	I	/i/	-a, -e	/a/, /e/
2sg	du	/du/	-(s)t	/sd/
3sg, masc	er, der (demonst.)	/er/, /der/	-a	/a/
3sg, fem	sie, die (demonst.)	/si/, /di/	-s	/s/
3sg, neut	es, des (demonst.)	/es/, /des/	-s	/s/
1pl	mir	/mir/	-ma	/mer/
2pl	ihr, es	/ir/, /es/	-(t)s	/ts/
3pl	sie, die (demonst.)	/si/, /di/	-s	/s/

Table 1: Nominative pronominal forms of Bavarian (Bayer 1984:230)

- The enclitic forms of the 2nd person nominative pronouns (2sg *-st*, 2pl *-ts*) exhibit special properties that set them apart from the other pronominal clitics (cf. Bayer 1984, Altmann 1984, Weiß 1998, among others).

Complementizer agreement in Bavarian

- The 2nd person subject clitics are obligatory in all contexts, that is, they cannot be simply replaced by the relevant full forms:

- (1) a. ob-st noch Minga kumm-st
 whether-CLIT.2SG to Munich come.2SG
 b. *ob du noch Minga kumm-st
 whether you.SG to Munich come.2SG
 ‘whether you come to Munich’

- (2) a. ob-ts noch Minga kumm-ts
 whether-CLIT.2PL to Munich come.2PL
 b. *ob es/ihr noch Minga kumm-ts
 whether you.PL to Munich come.2PL
 ‘whether you come to Munich’

- A full 2nd person subject pronoun is only acceptable if it co-occurs with the relevant clitic form, giving rise to obligatory subject clitic doubling. In these contexts, the full pronoun normally bears focal stress.

- (3) a. ob’st (DU) noch Minga kumm-st
 whether-CLIT.2SG you.SG to Munich come.2SG
 ‘whether you come to Munich’
 b. ob’ts (ES/IHR) noch Minga kumm-ts
 whether-CLIT.2PL you.PL to Munich come.2PL
 ‘whether you come to Munich’

- The other subject enclitics behave differently: they are not obligatory and doubling leads to strong ungrammaticality.¹

- (4) a. ob’e (*I) noch Minga kumm
 whether-CLIT.1SG I to Munich come.1SG
 b. ob i noch Minga kumm
 whether I to Munich come.1SG
 ‘whether I come to Munich’

- In contrast to the other clitics, the 2nd person forms cannot be derived from the relevant full pronouns via phonological reduction processes (cf. table 1).
- Furthermore, they are identical with the verbal agreement suffixes:

	Full pronoun	Enclitic pronoun	Verbal agreement
2sg	du	-st	-st
2pl	es/ihr	-ts	-ts

Table 2: 2nd person full/reduced pronominal forms and verbal agreement

- Pfalz (1918), Bayer (1984), Altmann (1984), Zwart (1993), Weiß (1998), (2002): the special properties of the 2nd person subject clitics suggest that these elements are in fact some form of inflection located in C. Following Bayer (1984), this paper analyzes the 2nd person “enclitics” as agreement morphemes that are attached to C: **AGR-on-C**.
- Open question: Why is complementizer agreement restricted to 2sg, 2pl?

¹ In a number of dialects, the 1pl clitic *-ma* has developed similar properties as the 2nd person forms, cf. section 2.3.

pro-drop in Bavarian

- According to Bayer (1984), the overt manifestation of agreement in C (with 2sg, 2pl) serves to license referential *pro* in present day Bavarian:

- (5) a. Kummst *pro* noch Minga, dann muaßt *pro* me b'suacha.
 come-2SG to Munich then must-2SG me visit
 'If you come to Munich you must visit me.'
 (Bayer 1984: 211)
- b. Kummts *pro* noch Minga, dann müaßts *pro* me b'suacha.
 come-2PL to Munich then must-2PL me visit
 'If you come to Munich you must visit me.'
- (6) a. *Kumm *pro* noch Minga...
 come-1SG to Munich
 'If I come to Munich, ...'
- b. *Kumm-t *pro* noch Minga?
 come-3SG to Munich
 'Will he/she/it come to Munich?'
 (Bayer 1984: 239)

- Again, the restriction to 2nd person is somewhat mysterious. For example, it cannot be attributed to some special morphological property of the 2nd person agreement suffixes, in the sense that 2nd person forms are “more distinctive” than e.g. 1sg or 3sg, cf.

1sg	-∅
2sg	-st
3sg	-t
1pl	-an
2pl	-ts
3pl	-an

Table 3: Verbal agreement paradigm (pres. indic.) of Bavarian

Basic claims:

- (i) The restrictions on *pro*-drop and complementizer agreement follow from a set of syntactic and morphological factors that determined the reanalysis of subject clitics as AGR-morphemes in the history of Bavarian.
- (ii) Syntax: this reanalysis could only take place in contexts with V-to-C movement; it forced the learner to assume the existence of (i) *pro*-drop and (ii) an agreement morpheme on C, leading to complementizer agreement.
- (iii) Morphology: the diachronic process in question is shaped by blocking effects that favor the use of more specified forms over less specified forms (Kiparsky 1973, 1982; Anderson 1992; Halle 1997). More specifically, the person/number restrictions observed above follow from the fact that the change affected only defective/underspecified slots of the verbal agreement paradigm.

2. The diachronic development of AGR-on-C in Bavarian

In all varieties of Bavarian, C-oriented enclitics were reanalyzed as enlargements of existing agreement markers, giving rise to new agreement suffixes for 2nd person (cf. Bayer 1984):

	‘Old’ inherited ending	‘New’ enlarged ending	Lexical source
2sg	-s	-s+t	t(hu)
2pl	-t	-t+s	(ē)s

Table 4: Old and new agreement suffixes for 2nd person in Bavarian

- The following data suggest that the historical development of the new 2nd person agreement morphemes affected first finite verbs in C and spread later to other verbal positions.

2.1 2sg *-st*

- The development of 2sg *-st* began already in early OHG (9th century); the new ending is found in (almost) all modern German varieties.
- It is commonly assumed (cf. Brinkmann 1931; Braune 1950:252) that the ending 2sg *-s+t* resulted from a reanalysis of the combination verb + clitic pronoun *t(hu)* in inversion contexts, possibly on the analogy of the preterit-presents which already showed *-st* for the 2sg present indicative (*kanst, tarst, muost, weist* etc.) and the 2sg of ‘be’ *bist* which resulted from an independent and earlier development (cf. Lühr 1984).²
- Examples such as (7) from the OHG *Tatian* seem to suggest that the new agreement ending was initially confined to verbs that have undergone V-to-C movement:

- (7) Ih forahtha, uuanta thu grim man bist, nimist
 I feared since you grim man are take-2SG
 thaz thu ni sáztoš inti arnošt thaz thu ni sátoš.
 that you NEG plant-2SG and earn-2SG that you not sow-2SG
 ‘Since you are a grim man, I feared that you take what you haven’t planted
 and earn what you haven’t sowed.’
 (Tatian ζ 151,7; Sievers 1961:228)

- However, a second look at the relevant data reveals that the picture is actually more complex. To settle this matter requires a detailed quantitative analysis of the OHG texts in question (which is a topic for future research). See appendix I for some speculations on the development of 2sg *-st* in Bavarian.

² The early OHG manuscripts written in the monastery of Fulda show this change in the process of its development, cf. the *Hildebrandslied* (preserved in an early 9th century copy of the original text dating from the late 8th century), the *Basel Recipes* (around 800), or the *Tatian* (translated around 830-840. This translation was then copied in the second half of the 9th century); see Moulton (1944), Sievers (1961), Sommer (1994) for details.

2.2 2pl *-ts*

- 2pl *-ts* ($-t+s < \bar{e}s$, originally a dual which became the form for 2pl) is a later (13th century) development confined to Bavarian.
- It can be shown that the new ending first appeared on elements in C.
- Pfalz (1918:232) notes that in some northern Bavarian dialects (spoken in Lauterbach and Sangerberg), the new ending for 2pl *-ts* still attaches only to conjunctions and verbs in C, but not to verbs in clause-final position:

(8) wei-**ts** iwə t'pruk khumt-Ø sea-**ts** s'wiətshaus
 when-2PL over the-bridge come see-2PL the-tavern
 'When you cross the bridge, you see the tavern.'

- These facts suggest that the new verbal agreement morphology developed via a transitional stage where the new ending was confined to the C-position. This claim is supported by data from Lower Bavarian.

2.3 1pl *-ma* in Lower Bavarian

- In Lower Bavarian, the 1st person plural subject enclitic *-ma* developed in a similar way as the 2nd person enclitics (cf. Pfalz 1918, Bayer 1984, Altmann 1984, Kollmer 1987, Wiesinger 1989, Abraham 1995, Weiß 1998, 2002).
- The enclitic 1pl *-ma* shows a similar behavior as the 2nd person forms: (i) it is obligatory in all contexts; (ii) it can be doubled by full forms for emphatic reasons:

(9) a. wem-**ma** aaf Minga fon
 when-1PL to Munich drive
 b. wem-**ma** MIA aaf Minga fon
 when-1PL we to Munich drive
 c. *wem mia aaf Minga fon
 when we to Munich drive
 'when we drive to Munich'
 (Weiß 2002:9)

(10) a. MIA fom-**ma** hoam.
 we drive-1PL home
 'We go home.'
 (Weiß 2002:9)
 b. *Mia fon hoam
 we drive home
 'We go home.'
 (Helmut Weiß, p.c.)

- Therefore, it is plausible to assume that in these dialects, *-ma* developed into an additional instance of AGR-in-C (cf. Bayer 1984, Weiß 1998, 2002).
- Further argument in favor of this analysis: in bisyllabic verbs such as *laffa* 'to run', *gengan* 'to go', *soucha(n)* 'to seek' etc., one can see that the original agreement ending is replaced by *-ma* in V2 contexts (cf. Kollmer 1987)

- (11) a. Mia laff-**ma**/*laff-**a** hoam
 we ran-1PL/ran-1PL home
 ‘We are running home.’
 b. Mia gem-**ma**/*geng-**an** hoam
 we go-1PL/go-1PL home
 ‘We are going home.’

- No such replacement is possible in sentence-final position:

- (12) wa-**ma** hoam laff-**a**/*laff-**ma**
 because-1PL home go-1PL
 ‘because we are going home’

- In other words, the dialects in question show a complementary distribution of the new suffix *-ma* and the old ending for 1pl, *-an* (cf. Kollmer 1987: I, 357):

- (i) *-ma* appears on verbs in V2 clauses (main & embedded), cf. (11)
 (ii) verbs in sentence-final position maintain the old ending *-an*, cf. (12)

- According to Bayer (1984:252), 1pl contexts license *pro*-drop in these dialects:

- (13) Fahr-*ma pro* noch Minga?
 drive-1PL to Munich
 ‘Will we go to Munich?’

- In a subset of these Lower Bavarian dialects,³ *-ma* has spread to auxiliaries such as ‘have’ and ‘do’ in clause-final position as well (Kollmer 1987: I, 357; Wiesinger 1989:38; Weiß 2002:9). Note that *-ma* must be analyzed as an agreement marker in the following examples, since enclitics cannot attach to clause-final verbs in Bavarian.

- (14) a. dass-**ma** (mia) koã geid ned hã-**ma** [instead of 1pl *hã-n*]
 that-1PL we no money not have-1PL
 ‘that we have no money’
 (Kollmer 1987: I, 362)
 b. we-**ma** (mia) des ned dou-**ma**... [instead of 1pl *dou-n*]
 if-1PL we that not do-1PL
 ‘if we don’t do that...’
 (Kollmer 1987: I, 358)

2.4 Summary

- In Bavarian, new verbal agreement morphology developed from enclitic subject pronouns in inversion contexts.

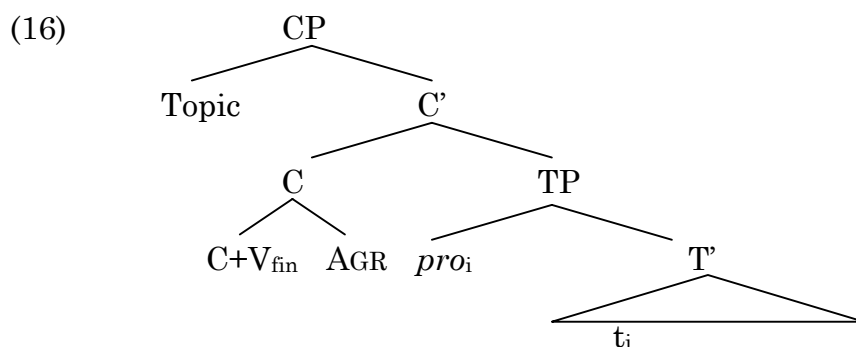
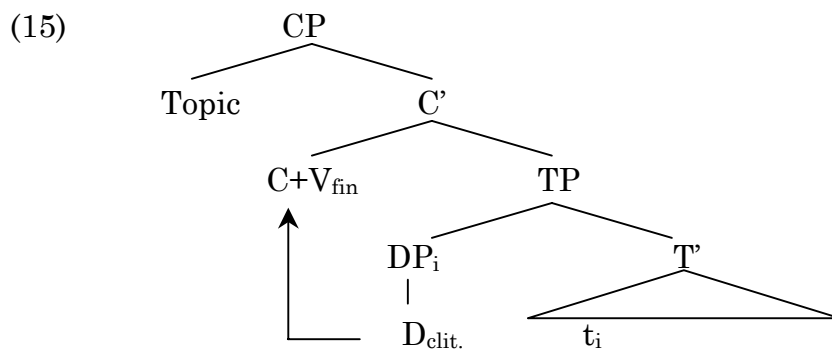
³ These dialects are spoken in the Bavarian Forest, in an area the boundaries of which are (roughly) marked by Cham in the west, Lam in the east, Furth i. W. in the north and Kötzing in the south, cf. Kollmer 1987, I.

- The data presented in this section suggest that the new 2nd person agreement markers developed first in C and spread to other verbal positions in a subsequent development.
- The latter claim is supported by data from Lower Bavarian dialects, where the new agreement marker for 1pl, *-ma*, is obligatory on C (on verbs and complementizers), but still impossible on most clause-final verbs.

3. The Analysis

3.1 Syntactic aspects

- Basic idea: structures such as (15) were reanalyzed as (16), where the reanalysis of the former clitic as an agreement morpheme forced the learner to assume the presence of *pro* in the subject position (due to the Theta Criterion), giving rise to limited *pro*-drop (cf. Bayer 1984 on *pro*-drop in Bavarian; Weiß 2002 for a related proposal):



- Following Halle & Marantz (1993), Mitchell (1994), Chomsky (1995), and Julien (2002), it is assumed that AGR does not head its own functional projection, but rather attaches parasitically to other functional heads. Canonical subject-verb agreement is then the result of an agreement morpheme attached to T (AGR-on-T).
- The change in question did not immediately lead to a replacement of the old ending (i.e. AGR-on-T) by the new one. Rather, it proceeded via a stage where the new agreement morpheme was confined to C ('AGR-on-C'), presumably due

to the fact that embedded clauses (without V-to-C) still provided enough evidence for the old ending.

The role of V2/V-to-C

- **Observation:** complementizer agreement/AGR-on-C is a cross-linguistically marked phenomenon which seems to be connected to another syntactic property, V2 (cf. Bayer 1984, Altmann 1984, Weiß 1998, 2002 on Bavarian; Goeman 1980, Haegeman 1990, 1992 for West Flemish; Hoekstra & Maráč 1989 on Frisian; Zwart 1993; Shlonsky 1994; Poletto 1999 for Northern Italian dialects historical stages of which showed V2 as well).
- **Claim:** The presence of the finite verb is a necessary precondition for a reanalysis that leads to the existence of (verbal) agreement features in a given functional head. Intuitively, the presence of the finite verb can be said to signal that a certain functional head is capable of hosting an AGR-morpheme.
- The new inflection may gradually spread to other verbal positions when the learner mis-analyzes the AGR-morpheme on C as part of the verbal morphology (i.e. as ‘AGR-on-T’ instead of ‘AGR-on-C’).
- The latter reanalysis depends on the V2 property as well: only cases where the original agreement morpheme is replaced by AGR-on-C can feed a possible misinterpretation of the latter as AGR-on-T.

To conclude...

This section has argued that there is a diachronic link between complementizer agreement, pro-drop and the development of new verbal agreement markers in Bavarian:

- The development of new verbal agreement markers from clitic pronouns could only take place in inversion contexts, forcing the learner to assume that the subject position is occupied by referential *pro*.
- Furthermore, the development in question had to proceed via a stage where the learner assumed the existence of an agreement morpheme which was initially confined to C (‘AGR-on-C’) and spread later to other verbal positions. AGR-on-C is still part of the grammar of present day Bavarian, giving rise to complementizer agreement.

3.2 Morphological aspects

- **Still unclear:** restriction to 2nd person/1pl
- **Basic claim:** person/number restrictions follow from morphological blocking effects that prefer the use of more specified forms over less specified forms
- This section focuses on the developments that are confined to Bavarian, i.e. 2pl *-ts* and 1pl *-ma* (see appendix I for some speculations on 2sg *-st*).

2pl -ts, 1pl -ma

- **Observation:** The development of the new endings 2pl *-ts*, 1pl *-ma* resolved existing homophony in the verbal agreement paradigm.
- The development of 2pl *-ts* (< clitic *-s*) began in the 13th century (in Northern and Middle Bavarian, cf. Wiesinger 1989:72f.), resolving homophony of 3sg, 2pl forms:

	Old paradigm	New paradigm
1sg	-∅	-∅
2sg	-st	-st
3sg	-t	-t
1pl	-an	-an
2pl	-t	-ts
3pl	-ant	-ant

Table 5: Verbal agreement paradigms (pres. indic.), 13th century Bavarian

- In the 18th century, final *-t* was lost in the 3pl, leading to homophony of 3pl and 1pl forms in most Bavarian dialects. In some dialects, this was resolved by the development of 1pl *-ma* as a new agreement ending (initially confined to C, see above):

	Old paradigm	New paradigm
1sg	-∅	-∅
2sg	-st	-st
3sg	-t	-t
1pl	-an	-ma
2pl	-ts	-ts
3pl	-an	-an

Table 6: Verbal agreement paradigms (pres. indic.), late 18th century Bavarian

- Basic idea: the reanalysis of clitics as agreement markers is triggered if the change leads to the elimination of syncretism in a defective agreement paradigm. This can be seen as the outcome of blocking effects that operate during language acquisition and block the acquisition of a less specified form if a more specific form is attested in the Primary Language Data (for discussion of blocking effects cf. Kiparsky 1973, 1982; Aronoff 1976; Anderson 1986, 1992; Kroch 1994; Sauerland 1996; Halle 1997).⁴
- In a Late Insertion model such as Distributed Morphology, this idea can be formalized as in (28):

(17) *Blocking Principle*

If several appropriate PF-realizations of a given terminal morpheme are attested in the Primary Language Data, the form matching the greatest number of the morpho-syntactic features included in the terminal morpheme must be chosen for storage in the lexicon.

- It can be shown that the new agreement suffixes 2pl *-ts*, 1pl *-ma* are more specified than their respective predecessors (see appendix II for the complete sets of insertion rules):
- 13th century Bavarian: /-t/ occurs in 3sg and 2pl, i.e. it is underspecified for [person] and [number]. In other words, it is the elsewhere case that is inserted as the default agreement ending:

⁴ See appendix III for further arguments (from language typology) that support the idea that the acquisition of agreement morphology is shaped by a principle such as (19).

(18) elsewhere → /-t/

- The introduction of 2pl /-ts/ was licensed by the Blocking Principle since the new form is specified for [person] and [number], resolving the existing homophony between 3sg and 2pl:

(19) [2, pl] → /-ts/

- 18th century Bavarian: among the plural forms, /-an/ is simply the ‘elsewhere’ case, which is underspecified for [person], cf. the following insertion rules:

(20) [2, pl] → /-ts/
 [pl] → /-an/

- The potential ‘new’ form for 1pl (-*ma*) is more specified than the existing agreement ending, since it is in addition specified for [person]. This state of affairs facilitates the grammaticalization process in question, cf.

(21) [1, pl] → /-ma/
 [2, pl] → /-ts/
 [pl] → /-an/

4. Conclusions

- In this paper, restrictions on pro-drop and complementizer agreement that can be observed in modern Bavarian were analyzed as a result of diachronic processes that led to new verbal agreement markers for 2nd person (and 1pl).
- It was claimed that new verbal agreement morphology could only develop in inversion contexts, where enclitic pronouns were reanalyzed as an agreement morpheme on C.
- This reanalysis forced the learner to assume that the subject position is occupied by *pro*, giving rise to limited pro-drop properties. After this change, new doubling structures could emerge where a (stressed) full pronoun is inserted instead of *pro*.
- Furthermore, the development of AGR-on-C led to the phenomenon of complementizer agreement which is a characteristic of present day Bavarian.
- The new agreement markers were first confined to C. In a subsequent change, they eventually replaced the existing verbal agreement morphology.
- Finally, the puzzling person/number restrictions on pro-drop and complementizer agreement were attributed to morphological factors. It was shown that the grammaticalization process in question affected only defective/underspecified slots of the verbal agreement paradigm. This observation was accounted for by the assumption that the acquisition of inflectional morphology is guided by blocking effects which prefer ‘new’ verbal agreement morphology to be more specific than existing morphology.

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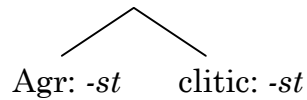
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Appendix I: The diachrony of 2sg *-st*

- Observation: prior to the reanalysis as AGR-on-C, the 2sg enclitic *-st* was homophonous with the relevant verbal agreement suffix.
- Altmann (1984), Nübling (1992): in Bavarian, the fusion of the existing verbal agreement ending with the enclitic 2sg *-t(u)* affected not only the shape of the agreement ending, but also the enclitic itself, which was mis-construed as *-st*:

(22) OHG *gilaubist(u)* ‘believe-2SG-clit.2SG’



- This development led to a situation where the learner had not enough evidence that the enclitic was a pronominal element since (i) it was not synchronically derivable from the full pronoun form *thu/dhu*, and (ii) it was homophonous to the relevant verbal agreement ending.
- This gave rise to a general reanalysis of the former 2sg enclitic as an agreement morpheme which is attached to the functional C node.

Appendix II: Insertion rules for Bavarian

Insertion rules for the verbal agreement paradigm: 13th century Bavarian

- Prior to the development of 2pl *-ts*:

(23)	[1, +pl]	→	/-an/
	[1, -pl]	→	∅
	[2, -pl]	→	/-st/
	[pl]	→	/-ant/
	elsewhere	→	/-t/

- After the development of 2pl *-ts*:

(24)	[1, +pl]	→	/-an/
	[2, +pl]	→	/-ts/
	[1, -pl]	→	∅
	[2, -pl]	→	/-st/
	[pl]	→	/-ant/
	elsewhere	→	/-t/

Insertion rules for the verbal agreement paradigm: 18th century Bavarian

- Prior to the development of 1pl *-ma*:

(25)	[2, +pl]	→	/-ts/
	[1, -pl]	→	∅
	[2, -pl]	→	/-st/
	[pl]	→	/-an/
	elsewhere	→	/-t/

- After the development of 1pl *-ma*:

(26)	[1, +pl]	→	/-ma/
	[2, +pl]	→	/-ts/
	[1, -pl]	→	∅
	[2, -pl]	→	/-st/
	[pl]	→	/-an/
	elsewhere	→	/-t/

Appendix III: The pioneering role of 1st and 2nd person

- Observation: Across the world's languages, verbal agreement markers for 1st and 2nd person subjects are much more common than for 3rd person subjects (cf. Bybee 1985, Cysouw 2001)
- Bybee (1985): 54% of the languages (in her sample) which manifest agreement do not mark third person on the verb. Examples: Basque (Arregi 2001), Buryat (Comrie 1980), Turkish (no verbal agreement for 3sg, Kornfilt 1990), and the native languages of North America (Mithun 1991).
- Similar person restrictions can be observed in Colloquial French and Northern Italian dialects (Gerlach 2002), Rhaeto-Romance dialects (cf. Haiman & Benincà 1992), and in the Bavarian data discussed in sections 2 and 3.
- Claim: The pioneering role of 1st and 2nd person in the development of agreement morphology can be attributed to the workings of the Blocking Principle as well.
- The special role of 1st and 2nd person in grammaticalization processes inspired numerous functionalist explanations, which mostly rely on the fact that speaker and hearer are the most salient participants in a speech event (cf. Mithun 1991, Ariel 2000), i.e. they exhibit a high degree of 'givenness', 'discourse accessibility/prominence' etc.
- In contrast, a purely formal explanation is available if we assume that 3rd person is in fact no person at all, but should rather be analyzed as the absence of (positive values for) 1st and 2nd person (cf. Benveniste 1971, Bayer 1984, Halle 1997, Grimshaw 1997, Poletto 1999, Ariel 2000, Cysouw 2001, Harley & Ritter 2002).
- It is therefore conceivable that the Blocking Principle is responsible for the fact that cross-linguistically, 3rd person agreement forms arise later (if at all) than forms for 1st and 2nd person: due to the inherent underspecification of "3rd person" w.r.t. [person], the grammaticalization of new 3rd person forms is less likely to be triggered if UG favors new forms that are more specified than already existing ones.