Hand in hand or each on one's own? On the connection between morphological and syntactic change

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1. Introduction

- Old idea, going back at least to Sapir (1921): Systematic correlation between syntax and morphology:[1]

   "[...] as the inflected forms of English became scantier, as the syntactic relations were more and more inadequately expressed by the forms of the words themselves, position in the sentence gradually took over functions originally foreign to it." (Sapir 1921: 178)

- Sapir focuses largely on seemingly directional historical developments ('drift') in the history of English, leading from inflectional to analytic constructions (loss of case endings – stabilization of SVO word order – rise of the invariable word).

- Vennemann (1975) generalizes Sapir's insights in the form of a **diachronic universal** (based on considerations of language processing/perception and linguistic typology):

   "As a substantive S-O marking system is eroded by phonological change, word order syntax must react to compensate for the ambiguities and perceptual complexities arising in a consistent verb-final language." (Vennemann 1975: 293)

- In the generative literature, the apparent link between morphology and syntax has been reinterpreted in terms of **synchronic universals** (i.e., 'hard-wired' properties of UG), in the sense that the presence of a certain morphological property M triggers a syntactic property S.[2,3]

- Perhaps the most widely discussed of these is the 'Rich Agreement Hypothesis' (RAH, originally going back to work by Kosmeijer 1986 and Platzack & Holmberg 1989), according to which verb movement to INFL/T (i.e., to a position to the left of negation and VP-related adverbs) is linked to rich subject agreement morphology on the finite verb.

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[1] Sapir (1921: 186) contends that these long-term drifts are initiated by small-scale phonological changes: "A drift that begins as a slight phonetic readjustment or unsettlement may in the course of millennia bring about the most profound structural changes. The mere fact, for instance, that there is a growing tendency to throw the stress automatically on the first syllable of a word may eventually change the fundamental type of the language, reducing its final syllables to zero and driving it to the use of more and more analytical or symbolic methods."

[2] For the connection between (the loss of) rich case marking and basic SOV order, cf. e.g. Roberts (1997) (focusing on the history of English).

[3] Relevant diachronic generative studies investigated the impact of the loss of verbal inflection on the availability of verb movement (for the history of English cf. Roberts 1993; for the Scandinavian languages Platzack 1988, and Holmberg and Platzack 1995; see also Rohrbacher 1999) and pro-drop (for the history of French cf. Roberts 1993, Vance 1997; for present-day varieties of French cf. Roberts 2010b; for Swedish Falk 1993, for the Scandinavian languages in general cf. Holmberg and Platzack 1995; for English Allen 1995, Haeberli 1999), the relation between the loss of nominal inflections and changes affecting word order and the rise of ECM constructions (for the history of English cf. Lightfoot 1979, 1991, 1999, van Kemenade 1987, Roberts 1997, Kiparsky 1996, 1997, Haeberli 1999, 2004, Biberauer and Roberts 2005, 2008), or changes affecting the inventory of C-related clausal particles and the rise of generalized V2 syntax in Germanic (cf. Ferraresi 2005 on Gothic and Axel 2007 on Old High German).

- The RAH comes in two basic variants:[4]

(1) a. <u>The 'strong' RAH</u>: Rich subject agreement morphology $\longleftrightarrow$ V-to-INFL/T

   b. <u>The 'weak' RAH</u>: Rich subject agreement morphology $\longrightarrow$ V-to-INFL/T

- While the debate on the validity and exact character of the RAH mainly focused on synchronic data (notorious problems include the exact definition of 'rich agreement' and the status of (apparent) exceptions such as Faroese, or Kronoby Swedish), diachronic evidence also played a significant role from early on...

- Initially, the observation that in the Germanic SVO languages, the erosion of the formerly rich verbal agreement system preceded the loss of verb movement, was taken to support a strong interpretation of the RAH.

- When it became clear that the loss of agreement morphology and the loss of verb movement are often separated by a considerable temporal gap, diachronic evidence was used as an argument against a strong, biconditional interpretation of the RAH.

- Recently, Koeneman & Zeijlstra (2014) have argued that the RAH should be reinstated in its strongest, biconditional form; they suggest that problematic diachronic evidence can be accounted for by assuming that after the loss of the morphological distinctions, conflicting word order patterns may be preserved via syntactic reanalysis.

- <u>This paper</u>: Re-assessing the relationship between morphological and syntactic change:
  - ❖ Discussion of diachronic facts suggesting that the connection between syntax and morphology is less tight than one might hope for;
  - ❖ Problematic cases: (i) Syntactic change without (or with delayed) morphological change; (ii) rise of inflections without (or with delayed) syntactic change (iii) syntactic change in the face of apparently conflicting morphological evidence.
  - ❖ Cases where the connection between morphological and syntactic change seems to be more direct: Grammaticalization of inflectional markers via syntactic reanalysis.

Overview:
- Section 2 discusses strong/weak theories of the morphology/syntax interface and their predictions for language change.

- Section 3 briefly reviews a set of (well-known) problems concerning the diachronic connection between (the loss of) rich verbal agreement and verb movement (the RAH)

- Section 4 presents a set of new and/or less well-known data that raise some questions for the assumption that there is a (strong) link between morphology and syntax:
  - ❖ Rise of basic SVO order in Lithuanian
  - ❖ Rise of prefixal/proclitic agreement in Aslian (Mon-Khmer) languages
  - ❖ Cases of syntactic change in the face of conflicting morphological evidence

- Section 5 discusses evidence from the rise of (partial) pro-drop and accusative alignment suggesting that there are cases where a morphological change has 'direct' syntactic consequences.

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[4] Early proponents of the strong biconditional RAH include Vikner (1997) and Rohrbacher (1999); weaker formulations in terms of a one-way implication have been advocated by Platzack & Holmberg (1989), Koeneman (2000), and Bobaljik (2003). See Alexiadou & Fanselow (2002) for an attempt to give a diachronic explanation for the apparent link between rich verbal agreement and verb movement.

2. Does morphology drive or reflect syntax? Predictions for language change

2.1 The strong view

- Theories assuming a strong causal link between morphology and syntax (e.g., the strong RAH, Rohrbacher 1999, Koeneman & Zeijlstra 2014): Morphological and syntactic change should proceed more or less simultaneously:

  - ❖ Loss of morphological property $M \Rightarrow$ loss of a syntactic property S linked to M
  - ❖ Rise of morphological property $M \Rightarrow$ rise of S linked to M

- This approach necessarily leads to a conflict w.r.t. language acquisition:

- Loss of M: At the point when a learner fails to acquire M, M will still be part of the target grammar. As a result, syntactic patterns linked to M will continue to be part of the input the learner receives, leading to a situation where morphological and syntactic cues for a given property/parameter contradict each other:

Target grammar G1 (+M, +S) $\Rightarrow$ Output 1 (status of M unclear, but synt. cues linked to +S)

$$\downarrow$$

Grammar G2 acquired by the learner ($-M$, $-S$?) $\Rightarrow$ Output 2

- Rise of M: When the learner acquires M (e.g., rich agreement via a reanalysis of subject clitics), he/she will encounter syntactic patterns that does not match M (since the target grammar lacks both M and S):

Target grammar G1 ($-M$, $-S$) $\Rightarrow$ Output 1 (status of M unclear, but synt. cues linked to $-S$)

$$\downarrow$$

Grammar G2 acquired by the learner (+M, +S?) $\Rightarrow$ Output 2

- Koeneman & Zeijlstra (2014) propose that this conflict is resolved via reanalysis of problematic patterns, focusing on scenarios resulting from the loss of inflections:
  - i.   V-Neg/Adv patterns that cannot any longer be parsed in terms of V-to-T/Arg movement are reanalyzed in terms of
    - a. embedded V-to-C movement (Faroese)
    - b. involving an exceptionally low position of adverbs and negation (Regional Northern Norwegian).
  - ii. Restoration of rich verbal inflection via a reanalysis of subject clitics as agreement markers (French).

- Problems:
  - i.   This proposal seems to insulate the strong RAH from problematic diachronic evidence.
  - ii. Moreover, it relocates the problem but does not solve it: Why are structures that result from such reanalyses not stable over time? After all, the relevant parametric choices (e.g. reanalysis of adverb placement, or verb movement) should be as 'good' or stable as any other grammar that is compatible with the principles of UG.

2.2 The weak view

- Theories assuming a weak causal link between morphology and syntax (e.g., the weak RAH, Bobaljik 2003): The loss of *M* does not necessarily entail a loss of *S* connected with it, as long as the latter can be acquired based on syntactic trigger evidence alone:
  - ❖ Loss of morphological property $M \Rightarrow$ evidence for *S* linked to *M* weakened, but *S* may remain part of the grammar

- Loss of *M*: A weak approach provides enough wiggle room to account for temporal gaps between the loss of *M* and syntactic change. Moreover, the loss of inflections does not lead to a conflict during L1 acquisition.
- Rise of *M*: When it comes to the rise of *M* (e.g., via grammaticalization processes), the diachronic predictions of the weak position does not differ from those of the strong view:
  - ❖ Rise of morphological property $M \Rightarrow$ rise of *S* linked to *M*

- Even under the weak view, the rise of *M* leads to a conflict: The word order patterns generated by the target grammar (which lacks both *M* and *S*) does not match morphological properties posited by the learner (e.g., innovated rich verbal agreement).
- Further Problems: The weak position raises the question of why the resulting system does not seem to be stable (but cf. e.g. Haeberli 2004 for some relevant considerations).
- Summing up:
  - ❖ Weak theories can better handle scenarios that involve the loss of morphological properties (temporal gap between morphological and syntactic change)
  - ❖ Both strong and weak theories make strong predictions concerning the rise of a morphological property *M* causally linked to a syntactic property *S*.
  - ❖ The strong approach further predicts that it should not be possible to innovate a syntactic property *S* in the absence of a morphological property *M* to which *S* is causally linked.

2. Known problems – reanalysis as a solution?

2.1 Morphological change and delayed syntactic change I: Danish

- Verbal agreement: By 1350 all person distinctions have been lost (Sundquist 2002, 2003):

	Present	Past
1sg	*dømær*	*dømdæ*
2sg	*dømær*	*dømdæ*
3sg	*dømær*	*dømdæ*
1pl	*dømæ*	*dømdæ*
2pl	*dømæ*	*dømdæ*
3pl	*dømæ*	*dømdæ*

Table 1: Middle Danish (around 1350): *dømæ* 'to judge' (Sundquist 2003: 244)

- Syntax: V-to-T continues to occur at a rate of over 40% till the end of the 16th century (in embedded clauses without V2)

	V–Neg	%	V–Neg revised[5]	%
1500–1550	52/116	45%	16/38	42%
1550–1600	40/123	33%	7/24	29%
1600–1650	13/106	12%	6/45	13%
1650–1700	13/110	12%	5/33	15%

Table 2: V–Neg orders in Early Modern Danish: 1500–1700 (Sundquist 2003: 242)

- Loss of agreement inflection and loss of verb movement are separated by a temporal gap of approximately 250 years (see Sundquist 2002, 2003 for details and an account not based on the (strong) RAH).[6]
- The weak RAH: no problem (so it seems)
- The strong RAH: Potential account (in the spirit of Koeneman & Zeijlstra 2014): Reanalysis of V-Adv/Neg orders in terms of (i) V-to-C movement, or (ii) a low position of Adv/Neg.
- Unclear: Why are the products of the reanalysis diachronically unstable? (Note: The weak RAH faces a related problem.)

2.2 Morphological change and delayed syntactic change II: French

- Modern (Standard) French: Weak agreement, but obligatory verb movement across adverbs and negation:

	Written language	Phonetic form
1sg	porte	[pɔʀt]
2sg	portes	[pɔʀt]
3sg	porte	[pɔʀt]
1pl	(on) porte	[pɔʀt]
	(nous) portons	not used in Colloquial French
2pl	portez	[pɔʀˈteː]
3pl	portent	[pɔʀt]

Table 3: Subject agreement in written/spoken French

(2) Loïc visite   souvent ses parents.
     Loïc visits   often   his parents
     'Loïc often visits his parents.'

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5 Without clauses (i) introduced by *at* (possible instances of embedded V2 under bridge verbs) and (ii) containing pronominal subjects (which may cliticize onto the complementizer and thus might license stylistic fronting of adverbs).

6 See also Heycock & Wallenberg (2013) on related developments in other Scandinavian languages and an account in terms of Yang's (2000) variational acquisition model.

- Similar to Danish, it seems that the loss of inflections (Middle French, 14th-16th century, cf. Wartburg 1970, Ashby 1977, Harris 1978, Roberts 1993, Vance 1997) had no direct influence on the availability of verb movement.

- The weak RAH: again, no problem.

- The strong RAH (Koeneman & Zeijlstra 2014): Reanalysis/grammaticalization – the loss of verbal agreement suffixes in combination with V-Adv/Neg patterns triggered an ongoing change in which subject clitics first became obligatory and then underwent a **reanalysis as prefixal agreement markers**.[7]

- Observation: The subject 'clitics' of Colloquial French differ from those of the standard language:[8]

  i. The preverbal 'subject clitics' are obligatory, occupy a fixed position, may not receive stress and cannot be replaced by full tonic pronouns (historically an oblique form); examples with apparent clitic doubling generally favor a basic, non-dislocated interpretation:

  Colloquial French
(3) a. (Moi) je   porte la   table.
           me   1SG   carry the   table
          'I carry the table.'
      b. Moi *(je) porte la   table.
           me   1SG   carry the   table
          'I carry the table.'
          (Gerlach 2002:224)

  ii. In 'advanced' non-standard varieties of French (Picard, or Pied-Noir), doubling has been extended to quantified expressions and indefinite NPs (cf. Roberge 1990, Friedemann 1997, Auger 1994b, 2003):[9]

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[7] In the history of French, we can observe a cluster of changes involving pronouns, verbal agreement and the pro-drop property, which appears to be cyclic in nature (cf. e.g. Wartburg 1970, Ashby 1977, Harris 1978, Lambrecht 1981, Roberge 1990, Roberts 1993, Vance 1997, Roberts 2010b):
(i)   distinctive verbal Agr/pro-drop (OFr.)
(ii)   loss of Agr/loss of pro-drop (Middle Fr., 14th-16th century)
(iii)   subject pronouns lose emphatic force and become clitics (15th-18th century)
(iv)   clitics are reanalyzed as verbal agreement/rise of pro-drop (ongoing change)
Note that according to Wartburg (1970: 72) and Harris (1978: 113), the rise of overt pronouns (in Middle French) is not directly related to the loss of agreement morphology, but rather is linked to word order properties and prosodic factors (in fact, Harris claims that subject pronouns became obligatory prior to the erosion of the agreement system, but see Simonenko et al. 2015 for a different conclusion based on a quantitative analysis of data from the MCVF corpus of historical French). Givón (1976) claims that the rise of new agreement markers in French involves a reanalysis of a former topic left dislocation structure. However, there are at least some indications that the relevant syntactic environment was *not* topic left dislocation, but rather a structure where a reinforcing full form (e.g. the oblique 1sg form *moi*) has been added to the non-stressable clitic for reasons of emphasis/focus (cf. Wartburg 1970, Ashby 1977 for details).
[8] For details cf. Ashby (1977), Harris (1978), Lambrecht (1981), Roberge (1990), Auger (1993, 1994a, 2003), Zribi-Hertz (1994), Fonseca-Greber (2000), Fonseca-Greber and Waugh (2003), Gerlach (2002), Roberts (2010b); but see de Cat (2005) for an opposing view.
[9] Corpus studies carried out by Fonseca-Greber (2000) and Fonseca-Greber & Waugh (2003) show that doubling is being extended to contexts with quantified NPs in spoken (Swiss) French as well. Auger (2003: 5) notes that in Picard, a default 3sg.masc clitic is also present in wh-questions:
(i)   tchèche qu' **il** a   dit   qu' i   folloait nin finir?
         who   that he   has said that it   had-to   of-it to-finish
        'Who said we had to put an end to it?'

(4) Personne **i(l)** sait   qui c'est   leur mère.
     nobody   he   knows who that-is their mother
     'Nobody knows who is their mother.'
     (Pied-Noir, Friedemann 1997: 125)

(5) Un homme **il**   vient.
     a   man   he   comes
     (Pied-Noir, Roberge 1990: 97)

(6) Chacun **il** a   sa   chimère.
     everybody he has his spleen
     'Everybody has a spleen.'
     (Picard, Friedemann 1997: 125)

Problems (cf. e.g. de Cat 2005):
- All colloquial varieties of French exhibit verb movement and the extension of *on* to 1pl, but only in some of them, the 'subject clitics' show all characteristics of agreement prefixes. In particular, in many spoken varieties of French, the clitics are incompatible with quantified expressions, indefinite DPs, and wh-phrases.
- At least in some of the relevant varieties, it seems that the position of the alleged person/number markers (2sg, 3sg) is not fixed (the clitic follows the verb in yes/no questions), cf. (7).
- Other preverbal clitics (object clitics, elements such as *en*, *y* and the negation particle *ne*) may intervene between the alleged agreement markers and the verb; under standard assumptions these elements must then be analyzed as affixes as well, which does not seem to be warranted (following Zwicky & Pullum 1983, clitics can attach to hosts+affixes, but affixes cannot attach to hosts+clitics), cf. (8).

(7) Peut-il   avoir une petite bouchée?
     may-he   have   a   little mouthful
     'Can he have a little bite?'
     (de Cat 2005: 1200)

(8) a. Je la lui   donnerai.
         I it to-him will-give
         'I'll give it to him.'
     b. Je ne t'   en   veux   pas.[10]
         I NEG to-you of-it   want   NEG
         'I don't begrudge you.'
     c. On y   va?
         we there goes
         'Shall we go?'
         (de Cat 2005: 1200)

- Conclusion: Varieties in which the preverbal person markers cannot be analyzed as agreement prefixes continue to be a problem for the strong RAH (assuming that the elements are clitic agreement markers, does not help either since it cannot be assumed that clitics trigger verb movement).

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[10] It is sometimes claimed that the negation particle *ne* is not part of the grammar of spoken French anymore (cf. e.g. Auger 1994a, b). This claim is refuted by de Cat (2005).

2.2 Syntactic change and delayed morphological change: English

- English (Haeberli & Ihsane 2014, 2015):
- Verb movement is lost in two steps:
  - (i) loss of movement to a 'high' position to the left of adverbs (Haeberli & Ihsane: $T^{0/}$) (start: middle of 15th century; completion: middle of the 16th century);
  - (ii) loss of movement to a 'low' position to the left of negation (Haeberli & Ihsane: Asp^{0}) (start: middle of the 16th century; completion: second half of the 18th century)
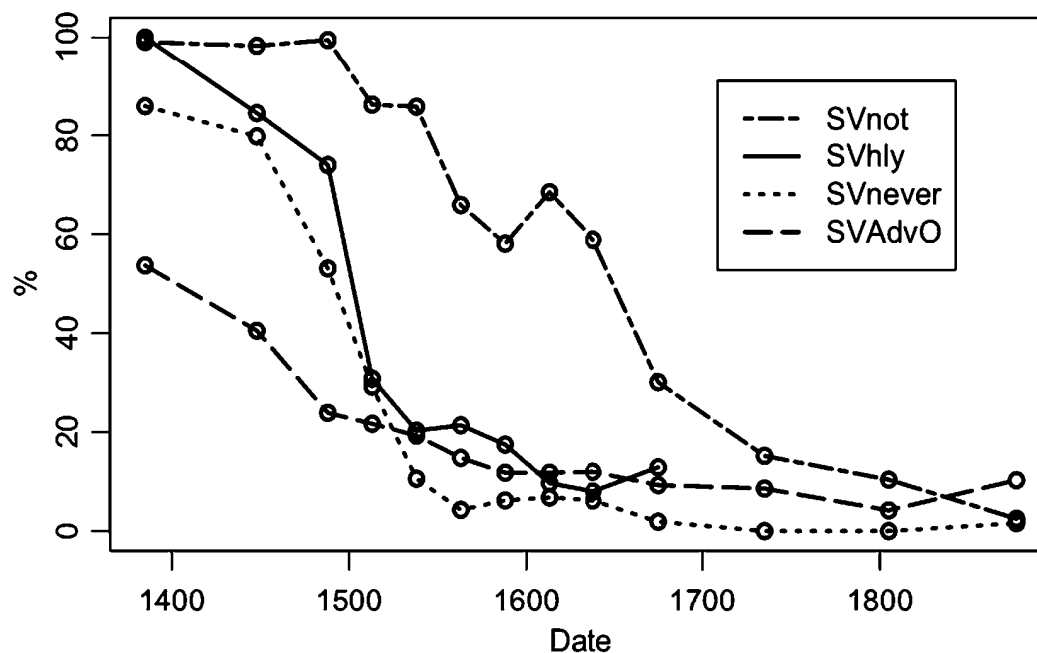

Figure 1: The placement of adverbs and negation in the Penn Corpora and PCEEC (Haeberli & Ihsane 2015's figure 2)

- Verbal agreement morphology: Paradigm counts as 'rich' (in K&Z's sense) until the 17th century (the 2sg ending -(e)st continues to be robustly used in connection with *thou*):[11]

	Strong verbs: *binden* 'to bind'	Weak verbs: *love(n)* 'to love'
Present indicative		
1sg	binde	love
2sg	bindest	lovest
3sg	bindeth	loveth
pl	binde(n)	love(n)
Past		
1sg	bounde	lovede
2sg	bounde	lovedest
3sg	bounde	lovede
pl	bounde(n)	lovede(n)

Table 4: Verbal agreement, Middle English (Ellesmere ms. of *The Canterbury Tales*, late 14th/early 15th century, London)

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[11] Note that Northern varieties exhibit less rich agreement (merger of 2sg and 3sg), while Southern varieties are more conservative than the London or Midland varieties (plural ≠ infinitive).

- The loss of a distinctive 2sg ending results from the replacement of the 2sg pronoun *thou* by *you* (cf. e.g. Mitchell 1971, Hope 1993, Busse 2002):

  "The replacement of *thou* by *you* starts very slowly in the 13th century, reaches its peak in the 16th and 17th centuries, and then slowly recedes from the 18th century onwards, except in special genres and registers." (Busse 2002: 10)

- Development from 1580-1780, based on Mitchell (1971), who collected 57.580 occurrences of 2nd person pronouns from 62 plays written between 1580 and 1780:
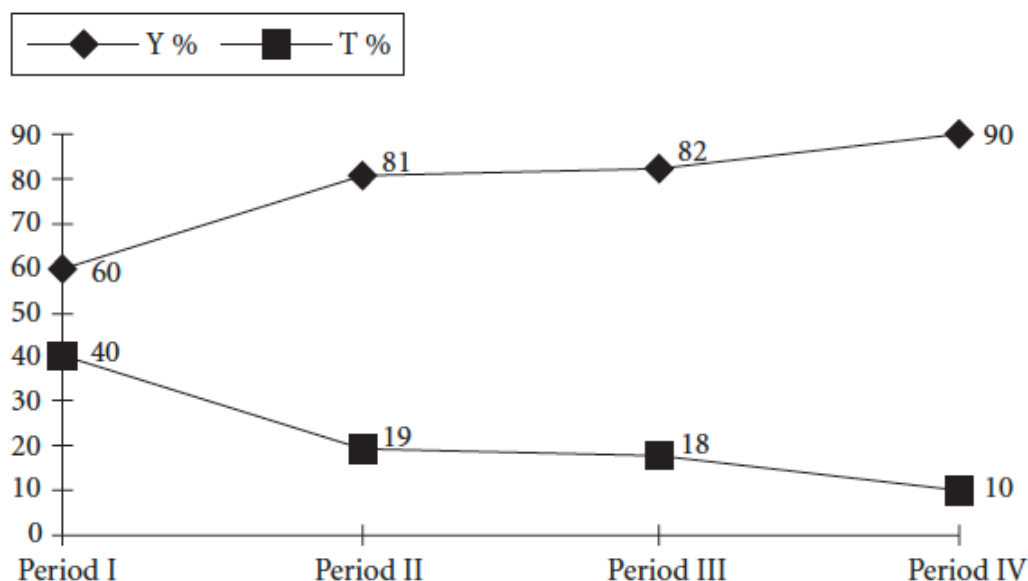
Figure 2: The percentage of *thou* and *you* in 62 plays from 1580 to 1780 (Busse 2002: 51)

- It is fairly clear that the early loss of V-Adv orders cannot be attributed to the loss of verbal agreement (2sg agreement remains relatively robust till the 17th century).
- Problem for both the strong and the weak version of the RAH: The loss of verb movement in the history of English cannot be attributed to the loss of verbal agreement morphology ⇒ **syntactic change precedes the loss of rich agreement**.[12]

2.3 Preliminary summary

- At least a subset of known problems remains unsolved: An account in terms of 'forced' reanalysis does not seem to be readily available for the changes in (colloquial) French and English.
- Particularly problematic (for all versions of the RAH): Cases where syntactic change precedes morphological change.
- Next:
  i.   Further cases where syntax seems to lead the charge for change
  ii. Rise of agreement without rise of verb movement
  iii. Syntactic change despite morphological counterevidence

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[12] Note that frequent verbs such as *know* (not considered by Ellegård 1953; cf. Hale 2007 for critical discussion) resisted do-support much longer and continued to undergo verb movement: If V-to-T is a syntactic parameter, then lexical exceptions (not triggered by morphology) must be possible (similar to *have/be* raising in present-day English, cf. e.g. Roberts 1998).

3. Additional problems: Syntax leading the charge, rise of (prefixal) agreement

3.1 Syntactic change without morphological change: The rise of SVO in Lithuanian

- Traditional hypothesis: Basic OV is linked to rich case morphology; loss of case distinctions gives rise to OV >>> VO (cf. e.g. Sapir 1921, Vennemann 1975, Roberts 1997)

- Well-known exceptions: SVO/rich case morphology (Icelandic), SOV/poor case morphology (Dutch and Afrikaans provide additional examples of morphological change (loss of case morphology) without or with delayed syntactic change).

- Diachronic case study: Lithuanian

- Lithuanian is one of the most conservative (European) IE languages and has preserved a rich array of nominal and verbal inflections.

- Standard Lithuanian: 5 declension classes, 7 morphologically distinct cases (nominative, genitive, dative, accusative, instrumental, locative, vocative)[13], and fully distinct verbal agreement morphology (Ambrazas 1997):

brólis 'brother'	Singular	Plural
Nom.	brólis	bróliai
Gen.	brólio	brólių
Dat.	bróliui	bróliams
Acc.	brólį	brólius
Instr.	bróliu	bróliais
Loc.	brólyje	bróliuose
Voc.	bróli	bróliai

Table 5: Case in Stand. Lithuanian (*(i)a*-declension, 3rd paradigm; Ambrazas 1997: 111)

- Still, the language has been undergoing a major word order change in its recent recorded history (basic SOV → basic SVO, cf. e.g. Reklaitis 1980, Hock 1991: 374).

- At least until the early 20th century, Lithuanian was commonly described as a basic SOV language (with a number of additional word order options linked to information-structural distinctions, emphasis etc.):[14]

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[13] Note that the paradigm in table 3 exhibits only a single syncretism (voc. pl. = nom.pl.). In other paradigms of the *(i)a*-declension (e.g., *vyras* 'man'), the vocative singular falls together with the locative. Certain dialects of Lithuanian display even richer case systems with additional forms for inessive ('in') and illative ('into') (Eastern High Lithuanian), or adessive ('at') and allative ('toward') (Belorus dialects), cf. Ambrazas (2007: 106).

[14] Lithuanian provides an interesting case for the investigation of word order change in progress. The reasons for the (ongoing) change in basic word order remain unclear. Reklaitis (1980) claims that the transition from SOV to SVO already began in Old Lithuanian, where according to her counts SVO is already twice as frequent as SOV (while in present-day texts SVO is more than five times more frequent). However, as her observations are based on a very small sample (less than 100 clauses for modern Lithuanian, and even smaller numbers for Old Lithuanian), it is not clear whether any firm conclusions can be drawn on the basis of her observations. There are reasons to believe that the rise of basic SVO syntax was 'a change from above' guided by the work of normative grammarians such as Jonas Jablonskis (1860-1930) who played an influential role in the standardization of the language (for which the Aukštaitian dialect spoken in the region Suvalkija provided the basis) in the 19th and 20th century.

"Die ESt [Endstellung] des Verbums im Lit. ist bei weitem die häufigste, sie läßt die beiden anderen Stellungsarten an Häufigkeit weit hinter sich. Sie muß daher als die habituelle bezeichnet werden." (Schwentner 1922: 20)

'In Lithuanian, final position of the verb is by far the most common option. It is much more frequent than other word order options and should therefore be identified as the habitual one.'

(9)   bet   vyrs   su   didżu nerimasczu pëtu czëos **laukė**   **SOV**
      but   the-man with great uneasiness lunch this   awaited-PERF-3SG
      'but the man awaited lunchtime with great uneasiness'
      (Schwentner 1922: 20)

"Das Verbum steht im Nebensätze am Ende, wenn habituelle Wortstellung vorliegt. [...] Viel seltener tritt im Nebensatze MSt [Mittelstellung] des Verbums auf, und zwar nur okkasionell, wenn das Objekt betont ist und hinter das Verb tritt:" (Schwentner 1922: 22f.)

'In the embedded clause, the verb occurs in final position if habitual word order obtains. [...] A medial position of the verb is much rarer in the embedded clause; it occurs occasionally when the object is stressed and placed to the right of the verb.'

(10)   kad nëkados ir   nëkados nei kokį piktą żodėlį   prësz   **SOV**
      that never   and never   not   any   bad   word-little to
      kits kitą **nepasisakydavo**
      each other NEG-said-FREQ-3PL
      'that they never said a mean word to each other'
      (Schwentner 1922: 22)

(11)   kad laumė **prigavo** ju   sescri   **SVO**
      that the-elf caught   her   sister
      'that the elf caught her sister [lying]'
      (Schwentner 1922: 23)

- Present-day (Standard) Lithuanian: Standard descriptive works identify SVO as the basic word order (with multiple additional orders dependent on the information-structural status of the constituents of the clause), cf. e.g. Ambrazas (1997: ch. 5):[15]

"Under these circumstances [thematic subject and rhematic object/VP] the neutral word order is SVO which is also the basic word order in Standard Lithuanian [...] The SVO sequence is prevalent in the official styles of Standard Lithuanian. If the object is placed before the verb (SOV) it sometimes receives more emphasis [...]"(Ambrazas 1997: 695)

(12) a. Vaikai   **suvalgė**   [visus   obuolius].
          the-children-NOM eat-PERF-3PL all   apples-ACC
          'The children have eaten all the apples.'
      b. Vaikai [visus obuolius] **suvalgė**.
          'The children have eaten all the apples.'

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[15] In the unmarked/neutral order, the theme typically precedes the rheme (which preferably occupies the sentence-final position) in Lithuanian. Marked information structure (e.g. rhematic subjects and/or thematic objects) typically leads to permutations of word order (VSO, OVS etc.).

"However, the (S)OV sequence is not always stylistically marked: in many cases SVO and SOV alternate without any marked difference. Moreover, SOV is neutral and more common in a number of cases, especially if the object is a pronoun [...]" (Ambrazas 1997: 695)

- SOV order is triggered by certain grammatical and extra-grammatical factors (cf. Ambrazas 1997: 695). Especially contexts ii. and iii. suggest that SOV is the more ancient word order option.

  i.   Object pronouns usually precede the (finite) verb (similar to French)

(13)   Visas   miẽstas   manè   **ger̃bė**.
       the-whole   town   me   respected
       'The whole town respected me.'

  ii. SOV is the dominant order in certain constructions (set phrases, in particular; see also Franks & Lavine 2007 on infinitival constructions)

(14)   a.   Pirmì   gaidžiaĩ   vélnią   **baĩdo**.
            the-first   roosters   the-devil scare
            'Early roosters scare away the devil.'
       b.   Dárbas   dárbą   **vẽja**.
            work-NOM   work-ACC   chase
            'Work chases work.' (i.e., 'There is too much work.')

  iii. In (certain) dialects and spoken/colloquial varieties, SOV is still more common than SVO.

The rise of SVO and the RAH
- Given the rich verbal inflection of Lithuanian, we should perhaps expect the verb to occur to the left of negation and adverbs in SVO patterns. As will be shown shortly, this expectation is not borne out by the facts.
- <u>Verbal inflection</u>: three conjugations (marked by thematic vowels *-a*, *-i*, *-o*), rich person and number agreement, four different synthetic tenses (present, past, frequentative past ('used to V'), future), four moods, rich system of participles (13 different forms) conveying aspectual differences.

dìrbti 'to work'	Present	Past	Past freq.	Future
1sg	dìrb-u	dìrb-a-u	dìrb-dav-a-u	dìrb-s-i-u
2sg	dìrb-i	dìrb-a-i	dìrb-dav-a-i	dìrb-s-i
3sg	dìrb-a	dìrb-o	dìrb-dav-o	dìrb-s
1pl	dìrb-a-me	dìrb-o-me	dìrb-dav-o-me	dìrb-s-i-me
2pl	dìrb-a-te	dìrb-o-te	dìrb-dav-o-te	dìrb-s-i-te
3pl	dìrb-a	dìrb-o	dìrb-dav-o	dìrb-s

Table 6: Tense and agreement marking on verbs in Lithuanian (1st conjugation)

Position of the verb relative to negation

- At first sight, negation does not seem to be a good indicator of verb position in Lithuanian: Sentences are negated by adding the prefix/particle *ne* to the verb (*ne* accompanies verb movement, e.g. to clause-initial position in inversion contexts).

- However, to intensify negation, the particle *nẽ/neĩ* can be added. *nẽ/neĩ* can be placed either before the verb, cf. (15a) or before any other constituent, cf. (15b) (Ambrazas 1997: 671f.).

(15) a. Mókytoja **nė/nei** nepàžvelgė į   są̃siuvinį.
          the-teacher NEG   NEG-glanced at the-copybook
          'The teacher did not even glance at the copybook.'
       b. Jìs nepàjėgė daugiaū **nė/nei** žõdžio ištařti.
          he NEG-can more   NEG   word   utter
          'He could not utter a single word.' (lit. 'He could not utter not a word more.')

- If the added negator in cases like (15a) signals the position of NegP, then this might taken to suggest that the verb does not move further than Neg^0 in Lithuanian.

- Negative adverbs such as *niekadà* 'never' also precede the verb in the unmarked order (Ambrazas 1997: 673):

(16) Táu   niẽkas **niekadà** nedãrė   jokių̃ príekaištų.
      you.DAT.SG nobody never   NEG-make any   reproaches
      'No one has ever reproached you for anything.' (lit. 'No one never did not make you no reproaches.').

Position of the verb relative to adverbs

- "the neutral position of an adverbial of manner or an adjectival modifier is before a verb" (Ambrazas 1997: 690)

- "The *neutral* position of adverbs is immediately in front of the verb they qualify. This is above all the case with adverbs of manner" (Mathiassen 1996: 240)

(17) a. Jie **gerai** dìrba.
          he   well   works
          'He works well'
          (Mathiassen 1996: 240)
       b. Jìs **áiškiai** pasãkė
          he   clearly   said
          'He clearly said.'
          (Ambrazas 1997: 690)

- As a marked option, adverbs can also occur postverbally; however, "inverted" adverbs are typically interpreted as the rheme and receive stress/emphasis (Ambrazas 1997: 690, 699).

- In a similar vein, adverbial particles (typically rendered by adverbs in English) precede the verb (Ambrazas 1997: 701):

(18) a. **dár** nemiẽga
          yet NEG-sleep-3PL
          '(They) are not aleep yet.'
      b. **jaũ** atéjo
          already came-3SG
          '(He) has already come.'
      c. **bevéik** suprataũ
          almost understood-1SG
          '(I) almost understood.'
      d. **nèt** nežinaũ
          even NEG-know-1SG
          '(I) don't even know.'
      e. **võs** jùda-3SG
          hardly moves
          '(He) hardly moves.'

- If the verb is modified by more than a single adverb, the verb is typically directly preceded by a manner adverb with other adverbs further to the left:

(19) Jìs **visadà** **ramiaĩ** miẽga.
      he always quietly sleeps
      'He always sleeps quietly.'
      (Ambrazas 1997: 700)

- Conclusions/Lithuanian:
    i. Basic word order change may be triggered without any changes affecting verbal or nominal morphology.
    ii. The position of the verb in SVO orders does not seem to be in line with the RAH.

3.2 Morphological change without syntactic change: On the rise of preverbal agreement

- Various Aslian languages spoken in Malaysia (i.e., Austroasiatic/Mon-Khmer SVO languages spoken by the Orang Asli, the indigenous people of the Malay Peninsula: Temiar (Benjamin 2016), Jah Hut (Diffloth 1976), Semelai (Kruspe 2004), Jahai (Burenhult 2002)) have developed or have been developing pre-verbal bound person markers, exhibiting various stages of proclitical subject pronouns turning into agreement markers.
- The personal prefixes/proclitics are usually obligatory and cannot receive stress. They may co-occur with full NP subjects and independent personal pronouns (but cannot be replaced by these).
- However, the development of preverbal bound person marking does not seem to give rise to V-Neg/Adv orders.
- Semelai (Kruspe 2004: 171): Bound person markers for agents (also used with a couple of intransitive verbs that imply agentivity of the sole argument):

		Minimal familiar	minimal	augmented	sg	pl
Personal pronouns	1	ʔəɲ	yɛ	yɛ=ʔen		
	2	kɒ	ji	je=ʔen		
	1& 2		hɛ	hɛ=ʔen		
	3				kəh	deh
	3S[16]				kəhn	dehn
Person proclitics (A)	1	ʔəɲ=	yɛ=	hɛ=		
	2	kɒ=	ji=			
	3				ki=	de=
	3UA[17]				ko=	

Table 7: Personal pronouns and bound person forms in Semelai (Kruspe 2004: 171)

(20) a. **daʔ** ki=jʔɔy sŋkalan
     NEG 3A=make grinding.board
     'He didn't make a grinding board.'
     (Semelai; Kruspe 2004: 316)

    b. kmpən, **daʔ** ki=goŋ swak
     wife NEG 3A=take walk
     '(His) wife, he didn't take walking.'
     (Semelai; Kruspe 2004: 317)

    c. sarɛk, **daʔ** ki=kʰɛʔ wɔʔ cɒkɒp smlay
     future neg 3A=know longer talk Semelai
     'In the future, she won't know the Semelai language anymore.'

- If the subject is expressed overtly in preverbal position, it always precedes the negation:[18]

(21) kəhn **daʔ** ga=dɔs
     he NEG IMM=come
     'He won't be coming.'
     (Semelai; Kruspe 2004: 317)

- Jah-Hut (Diffloth 1976): Separate series of bound person forms obviously derived from free pronouns. Similar to Semelai, bound person markers are confined to verbs with an agentive argument.

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[16] "3S": A special form of the 3sg pronoun that is used with intransitive verbs.

[17] "3UA": 'unidentified agent(s)' (note that there are no free pronominal forms available to express this concept)

[18] Similar to other Aslian languages (cf. e.g. Burenhult 2002 on Jahai), the preverbal bound person markers are left out when certain other inflectional prefixes/proclitics are attached to the verb (e.g. Semelai *ga-* 'imminent aspect, indicating that an event is just about to begin', *ma-* 'irrealis'). However, note that in Temiar (Benjamin 2016: 30), the person markers have fused with the irrealis proclitic, giving rise to two sets of bound person markers (indicative vs. irrealis).

	Personal pronouns	Personal prefixes
1sg	ʔihãh	hãh=
1pl excl.	ʔibɔʔ	bɔʔ=
1pl incl.	ʔihɛʔ	hɛʔ=
2sg (familiar)	ʔimãh	mãh=
2sg (respectful)	ʔihiʔ	hiʔ=
2pl	yɔn	yɔn=
3sg	yəh	yəh=
3pl	ʔigən	gən=

Table 8: Personal pronouns and bound person forms in Jah-Hut (Diffloth 1976: 86f.)

- Similar to Semelai, the bound forms co-occur with overt subjects/agents; crucially, verbs occupy a position to the right of the negation *hət*:

(22)   a. cweʔ   yəh=mʔmus
            dog   3SG=growl
            'The dog growls.'
      b. ʔiwãʔ nin **hət**   yəh=srəʔ
            child this NEG 3SG=know
            'The child does not know.'
      c. ʔihãh   **hət**   hãh=srəʔ
            I   NEG 1SG=know
            'The child does not know.'
            (Temiar; Diffloth 1976: 86)

- <u>Summing up</u>: Various Aslian SVO languages seem to have developed bound prefixal/proclitic person marking on the verb. Despite the fact that the resulting agreement systems count as rich, the languages in question do not display verb movement to the left of negation.

- <u>Unclear</u>: Is there a major syntactic difference between prefixal agreement and suffixal agreement? (cf. e.g. Julien 2002 who assumes (basically following Kayne 1994) that only suffixes involve movement of the verb to a functional head, whereas prefixes do not form a syntactic constituent with the element they attach to (prefix and host are merely linearly adjacent in the syntax, but are treated as a word by the phonological component)).

3.3 Syntactic change despite morphological counterevidence

- There are cases where syntactic change seems to have taken place despite apparent morphological counterevidence, necessitating a reinterpretation of the morphological marking, which typically leads to complications in the morphology of a language, or mismatches between syntax and morphology (cf. e.g. Anderson 1980, Cole 1980, Disterheft 1987):

3.3.1 Passive → Ergative

- The development of ergative alignment via a reanalysis of former passive structures is a well-known example of syntactic change leading to a reinterpretation of morphological marking and an apparent mismatch between syntax and morphology (cf. e.g. Anderson 1977, Chung 1978, Anderson 1980).

- Proto-Polynesian (nominative/accusative, Chung 1978):
  i.   subjects of transitives and intransitives were unmarked;
  ii.   (direct) objects of transitives were marked with 'i 'ACC'
  iii. thematic objects could be promoted to grammatical subjects (passive); demoted subjects were marked with (oblique) 'e, the passive morpheme on the verb was (C)*ia*

- Modern Tongan (ergative/absolutive):
  i.   intransitive subjects are marked with *'a*, transitive subjects are marked with *'e*.
  ii.   objects of transitive verbs are marked with *'a*.[19]
  iii. no passive/active distinction; many transitive verbs end in (C)*ia*.

(23) a. na'e fana'i 'e   Sione   'a   Mele
          PAST shoot ERG John   ABS Mary
          'John shot Mary.'
      b. na'e 'alu 'a   Sione ki he   ako
          PAST go ABS John to DEF school
          'John went to school.'
          (Otsuka 2000:16)

- Chung (1978), Anderson (1980): The Tongan system of ergative alignment has arisen by a major reanalysis and generalization of the former passive at the expense of the active:[20]
  i.   The former demoted agent has been reinterpreted as the subject of an active transitive clause.
  ii.   The former grammatical subject has been interpreted as the object.
  iii. The morphology has been reinterpreted accordingly (as the mark of a transitive construction).

- Result – morphological ergativity: The ergative NP displays the syntactic properties of a grammatical subject (control, raising, subject deletion in coordination structures etc., cf. Chung 1978); however, the morphology does not reflect the syntactic organization of a clause in modern Tongan, but rather the syntax of the former passive construction.[21]

  "the reinterpretation of a syntactic structure as a more 'basic' one, and of the morphological marks of the original construction as simply formal baggage, is motivated [...] by the development of opacity in the syntactic structure involved. [...] whatever morphological peculiarities the surface construction exhibits will be associated with the meanings or range of meanings that it conveys, rather than with the (unmotivated) non-basic character of the structure" (Anderson 1980: 59f.)

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[19] The origin of the absolutive marker *'a* is not entirely clear. Clark (1976) speculates that it developed from an earlier personal/pronominal article *a.

[20] It is usually assumed that the reanalysis came about when due to its frequent use, the derived status of the passive became opaque to the learner.

[21] Cases where the reanalysis of passive structures has affected only a part of the transitive structures, giving rise to split ergativity (as e.g. Hindi or Georgian) are even more striking examples, since they involve less opacity on the morphological side (since case markers retain their original functions in other contexts). So Anderson (1980: 60) is perhaps right when he speculates that transitive surface structures in which the agent is not the grammatical subject and the theme/patient is not the grammatical object "must have a motivation in the syntax of the language." If this motivation is obscured by other changes, the derived structure in question becomes opaque and is in turn reanalyzed in terms of a more basic transitive structure, with existing morphology being reinterpreted as mark of the new meaning/structure.

3.3.3 The rise of quirky subjects in North Germanic

- Cole et al. (1980) argue that syntactic subject properties (e.g. control, raising, reflexivization) are acquired historically prior to the morphological encoding of subjecthood (via case and agreement).

- Rise and loss of (morphological) ergativity as a case in point: Former oblique agents acquire syntactic subject properties, but retain the case and/or agreement marking of oblique forms. At a later stage, the morphology may undergo further changes that eventually lead to nominative/accusative alignment (cf. e.g. Bynon 1980 on Kurdish, Cysouw 2003 on languages of Sulawesi, Schulze 1998 on Caucasian languages, see also below)

- Further example: Quirky subjects in (North) Germanic (Cole et al. 1980: 721ff.)

- Based on evidence from Gothic, Cole et al. argue that Early Germanic did not display dative subjects; they consider it to be an innovation of the North Germanic branch (but see e.g. Fischer 2010 for further discussion).

- Old Icelandic exhibits quirky subjects, non-nominative arguments which have acquired syntactic subject properties (despite dative case marking).[22]

(24) honum$_i$ þóttir   þú   hafa   haft   við sik$_i$ fjǫrrað.
      him   seemed-2sg you   have   had   with self   death-plot
      'He thought you to have had a death plot against him.'
      (Cole et al. 1980: 722)

- Cole et al.: In subsequent historical stages of Icelandic, the contexts in which quirky subjects are possible have been extended; in contrast, quirky subjects have been lost in other Scandinavian languages (apart from Faroese).[23]

- Interpretation (Cole et al. 1980: 730):

  "A clear trend toward the extension of behavioral properties – and later, toward the acquisition of coding properties – appears in North Germanic. The only hypothesis consistent with the full range of Germanic data presented above is one which holds that, in the parent language, the NP's in question had no subject properties. Subsequently, first behavioral and then coding properties were acquired by these NP's in some of the daughter languages."

3.3.3 Possession in Chickasaw

- Expression of possession in Chickasaw (Muskogean, Anderson 1980):

(25) [Hattuk at]   [ofi'   at] imaya'sha
      man   SBJ   dog   SBJ him-it-be there, have
      'The man has a dog.'
      (Anderson 1980: 54)

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[22] See Sigurðsson (1983), Rögnvaldsson (1991), and Fischer (2010) for a fuller discussion of relevant tests and the status of quirky subjects in Old Icelandic.

[23] However, in the present-day language, there seems to be an ongoing change leading to the decline of quirky subjects (cf. e.g. Eythórsson 2000).

- Special properties of the construction:
  i.   In contrast to other sentence types, both subject ('man') and object ('dog') carry the subject marker *at*.
  ii. The agreement marker used to cross-reference the subject ('man') on the verb (*im-*) belongs to the 'oblique' set of agreement markers, used to mark indirect objects, benefactives, and the oblique objects of a few verbs such as 'love'.
  iii. Special verb meaning and form: *aya'sha* 'to have' stems from the paradigm of a verb meaning 'to be at some place, to exist'. Furthermore, it is clearly a plural form, although neither *hattuk* nor *ofi'* are plural in (25).
- Anderson's Analysis: The present-day possession construction in Chickasaw developed from a construction in which the possessor was an oblique NP, whereas the possessed element was the formal subject. The verb was a copula or existential, literally 'a dog exists for the man' (cf. coll. German *Der Hund ist mir* 'the dog is me-DAT').
- At some point, the oblique construction was reanalyzed as a transitive construction with the possessor as subject and the possessee as object; the plural form of the locative/existential verb (*aya'sha*) became specialized in the sense of possession.
- In the present-day language the possessor is accordingly marked as the subject, but in addition, the possessee still carries the subject marker reflecting the source construction.
- Although the former oblique construction was still indicated by the morphology, this was not sufficient to block the reanalysis. Instead, the morphology formerly associated with the oblique construction was reinterpreted as a special feature of the possessive sense of *aya'sha* without any connection to the syntax of the construction.
- Anderson speculates that this change became possible when the plural verb form *aya'sha* became linked to possession; this semantic shift dissociated the verb form from the locative/existential paradigm and rendered the former oblique structure opaque to the learner.[24]
- Summing up:
  "The cases we have been discussing present an interesting situation: they are precisely those in which a grammar-constructor has a free choice between a strictly morphological and a strictly syntactic account of the same data. The fact that reanalysis seems to favour the rationalization of the syntax at the expense of complicating the morphology should probably be taken to have some importance for the construction of an evaluation procedure for grammars." (Anderson 1980: 67)

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[24] Another pathway leading to multiple subjects is discussed in Bynon (1980: 156). In the southern Kurdish language Mukri, both the agent and the patient are marked by nominative with transitive verbs in the past tense:
(i)   kuräkä   añgustīläkä=i   hałgirt
      son-the.NOM   ring-the.NOM=he   took.3SG
      'The son took the ring.'
According to Bynon, structures like (i) came into existence via a reanalysis of passive sentences in which another element had been topicalized: The patient carries nominative in virtue of being the subject of the former passive structure, while the nominative agent developed from a (hanging) topic (in the unmarked citation form) that was reanalyzed as the subject of the clause (along the lines proposed by Givón 1976). Again, it seems that conflicting morphological evidence did not prevent the syntactic reanalysis in question.

4. Grammaticalization, reanalysis and 'direct' morpho-syntactic change

4.1 The rise of (partial) pro-drop

- Pro-drop and the Rich Agreement Hypothesis: Correlation between the availability of referential null subjects and properties of the verbal agreement paradigm (cf. e.g. Rizzi 1982, Jaeggli & Safir 1989, Roberts 1993, Rohrbacher 1999):

	+null subjects			−null subjects		
	Italian	Spanish	Greek	English	German	Icelandic
1sg	-o	-o	-o	-∅	-e	-i
2sg	-i	-as	-is	-∅	-st	-ir
3sg	-a	-a	-i	-s	-t	-ir
1pl	-ate	-amos	-ume	-∅	-en	-um
2pl	-amo	-áis	-ete	-∅	-t	-ið
3pl	-ano	-an	-un	-∅	-en	-a

Table 9: Verbal agreement endings (pres., indic.) and null subjects

- Müller (2006), Koeneman (2006), Roberts (2010a): Rich agreement = a fully distinctive paradigm (i.e., a single systematic syncretism blocks the availability of referential null subjects).

- Diachronic predictions:

(26)   a. Pro-drop develops historically when the richness of verbal inflection crosses a certain threshold;
        b. the rise of pro-drop proceeds in a wholsale fashion, affecting all persons and numbers at once (due to the binary nature of the Null Subject Parameter).

- Observations:
  - (i) The historical development of (referential) null subjects typically involves an intermediate stage of partial pro-drop (null subjects are confined to certain slots of the paradigm).
  - (ii) Referential null subjects may develop as a side-effect of the transition from pronouns to agreement markers in cases where the latter change gives rise to gaps in the paradigm of (overt) weak pronominal forms (cf. Fuß 2008, 2011).

- Relevant example: Bavarian

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

Table 10: Verbal agreement/Bavarian

- Referential null subjects in Bavarian: 2sg, 2pl (plus 1pl in some dialects), cf. Bayer (1984), Weiß (1998):

(27) a. ob-st   (du)   noch Minga   kumm-st
        whether-2SG you.SG to   Munich come-2SG
        '...whether you come to Munich'
    b. ob-ts   (ees/ihr) noch Minga   kumm-ts
        whether-2PL you.PL to   Munich come-2PL
      '...whether you(PL) come to Munich'

(28) dass-ma (mia) koã   geid   ned hã-ma
     that-1PL we   no   money not have-1PL
     '...that we have no money'
     (Kollmer 1987: I, 362)

- Note: The person/number markers that attach to C^0 are inflections, not clitics (cf. e.g. Bayer 1984, Weiß 1998, 2005, Fuß 2005; see appendix I for relevant arguments).

- Historical connection between the rise of referential null subjects and the reanalysis of enclitic subject pronouns as (verbal) agreement morphology (Weiß 2002, Fuß 2005, Axel & Weiß 2011):[25]

(29) $[_{CP}$ XP $[_{C'}$ C+V$_{fin}$ $[_{IP}$ clitic$_{subj}$ ...]]] $\rightarrow$ $[_{CP}$ XP $[_{C'}$ C+V$_{fin}$+AGR $[_{IP}$ *pro*...]]]
    a. 2sg: /-s/ + /t/   (< clit. 2sg *t(hu)*, 8th/9th century)
    b. 2pl: /-t/ + /s/   (< clit. 2pl *(ee)s*, 13th century)
    c. 1pl: /-an/ → /ma/ (< clit. 1pl *ma*, 18th century; e.g., in some Lower Bavarian
                          and Carinthian varieties)

- Results of the reanalysis of subject enclitics (Bavarian):
    (i) **partial pro-drop** (reanalysis is confined to certain slots of the paradigm)[26]
    (ii) **gaps in the paradigm of weak pronominal forms** (2sg, 2pl, and 1pl; cf. Altmann 1984, Bayer 1984):

	Verbal agreement suffixes	Subject clitics
1sg	-∅	=e
2sg	-st	–
3sg	-t	=a (mask)/=s (fem)
1pl	-an(t)	=ma
	-ma (in some varieties)	–
2pl	-ts	–
3pl	-an(t)	=s

Table 11: Verbal agreement (pres.indic.) and subject clitics in Bavarian

(30) *Generalization: Partial pro-drop in Bavarian*
    Null subjects are available in contexts where the paradigm of weak pronominal forms exhibits gaps.

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[25] The evidence available to us suggests that the change proceeded as follows (cf. Fuß 2005):
  (i) a. V + enclitic (inversion contexts) → V+Agr + *pro*
      b. Extension to other C-related elements such as complementizers, relative pronouns etc.
      c. Extension of the new ending to verbs in clause-final positions
[26] See Fuß (2005) for an explanation of the fact that the reanalysis of subject clitics was limited to certain slots of the paradigm (based on the observation that the change was confined to cases where the new ending was more specified than the original agreement marker).

- In Bavarian, (partial) pro-drop resulted from the reanalysis of subject pronouns as verbal agreement markers (similar developments can be observed in various Swiss Rhaeto-Romance varieties and Övdalian, see Appendix II for details).

- The rise of null subjects seems to be linked to gaps in the paradigm of weak pronominal forms.

- There is a diachronic link between syntax and morphology, but it seems to be more local/superficial than usually assumed: It does not involve any 'deep' properties of syntax (in the sense of parameters), but rather concerns the inventory of Vocabulary Items that can be used to spell-out weak subject pronouns.

- Analysis: Null spell-out of weak pronominal heads ($D^{min/max}$) becomes available in the absence of more specified candidates/exponents (due to some form of the Elsewhere Condition, Kiparsky 1973, 1982): The loss of overt forms paves the way to partial pro-drop ('deblocking', cf. Fuß 2008, 2011 for details).

4.2 The rise of person agreement and accusative alignment

- Observation: Cross-linguistic preference for accusative alignment in connection with bound person markers (=person agreement markers):

Alignment type	Independent/free forms		Dependent/bound forms	
	N=386	%	N=402	%
Neutral	164	42.5	78	19.4
Accusative	165	42.7	231	57.5
Ergative	44	11.4	17	4.2
Active	3	0.8	26	6.5
Tripartite	2	0.5	0	0
Hierarchical	0	0	9	2.2
Split	8	2.1	41	10.2

Table 12: Alignment of independent and dependent person forms (Siewierska 2004: 53)

- Diachronic explanation: Bound person markers commonly develop in connection with highly topical/accessible discourse referents (cf. e.g. Ariel 2000), which in most languages are primarily associated with subjects (i.e., S and A arguments), Siewierska (1999, 2004: 56f.).

- There are languages such Tauya (Madang, Papua New Guinea) which have delevoped a 'mixed' system of alignment: Case marking works in an ergative/absolutive fashion, while (person) agreement cross-references subjects (S & A, via suffixes) and (direct) objects (P, via prefixes):

(31)   a. Ne-ni   **na**-yau-**a**-ʔa
          he-ERG   **2SG**-see-**3SG**-IND
          'He saw you.'
     b. Ne   momune-**a**-ʔa
          he:ABS   sit-**3SG**-IND
          'He sat.'
     c. Ne   ∅-aʔate-**I**-ʔa
          he:ABS   **3SG**-hit-**3PL**-IND
          'They hit him.'
          (Tauya, Siewierska 2004: 53)

- Thus, it seems that nominative/accusative person agreement can develop despite an overall ergative organisation of argument encoding (another case of syntactic reanalysis in the face of morphological counterevidence).

- The reanalysis of pronouns as agreement markers may directly effect the type of alignment (argument encoding via agreement/head marking): the grammaticalization of new inflections is intimately linked to the reanalysis of a syntactic structure.

- A related example comes from Lezgic (Northeast Caucasian) language Tabasaran (Harris 1994, Babaliyeva 2013). Tabasaran exhibits ergative alignment (via case marking) with nominal arguments and neutral alignment with pronominal arguments (A=S=P).

- However, Tabasaran has innovated 1st and 2nd person marking on the verb via a system of enclitics/suffixes (basically reduced forms of the full pronouns):[27]

	1sg		2sg		1pl.excl.		1pl.incl.		2pl	
Abs	uzu	-zu/ -za	uvu	-vu/ -va	uču	-ču/ -ča	uxhu	-xhu/ -xha	učvu	-čvu/ -čva
Erg	uzu	-za	uvu	-va	uču	-ča	uxhu	-xha	učvu	-čva
Gen	yiz	-yiz/ -iz	yav	-yav/ -av	ič	-yič/ -ič	ixh	-yixh/ -ixh	ičv	-yičv/ -ičv
Dat	uzuz	-zuz	uvuz	-vuz	učuz	-čuz	uxhuz	-xhuz	učvuz	-čvuz
Loc	uzuxh	-zuxh	uvuxh	-vuxh	učuxh	-čuxh	uxhuxh	-xhuxh	učvuxh	-čvuxh

Table 13: Personal pronouns and clitics in Tabasaran (Babaliyeva 2013: 199f.)

- The person enclitics display nominative/accusative alignment:

	1sg	2sg	1pl.excl.	1pl.incl.	2pl
A	-za	-va	-ča	-xha	-čva
S, +agentive	-za	-va	-ča	-xha	-čva
S, –agentive	-zu	-vu	-ču	-xhu	-čvu
P	-zu	-vu	-ču	-xhu	-čvu

Table 14: Nominative/accusative alignment with person enclitics in Tabasaran (Babaliyeva 2013: 200)

(32) uzu   yiz   räq   davam   ap'-ur-**za**.
      1SG(A) 1SG.GEN way   continuation do-EVT-**1SG.A**
      'I will continue my way.'
      (Babaliyeva 2013: 200)

(33) hamus   äxü   bab.a-xhna   ğäğ-ür-**za**.
      now   grand grandmother-ADLAT go-EVT-**1SG.S (=A)**
      'Now, I will go to my grandmother.'
      (Babaliyeva 2013: 203)

- As shown by (33), the agreement markers license pro-drop; overt pronouns may be added for emphasis.

- Only 1st and 2nd person arguments are cross-referenced on the verb; bound person markers are obligatory with subjects (S and A); with experiencer datives they are used frequently, with all other grammatical functions they are optional (Babaliyeva 2014: 214).

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[27] Tabasaran has additional pronouns/clitics for a large number of 'prepositional' cases expressing direction, comitative etc. (see Babaliyeva 2013 for details).

- Patient marking occurs with 3rd person agents as in (34), or in combination with 1sg agent marking as in (35) (see Babaliyeva 2013 for restrictions on combined marking of agent+object/oblique object).

(34) saban uzu   adaš-di   ča-qhdi   Mahačğala.yi-z
      once   1SG(P) father-ERG self.OBL-POSTCOM Makhachkala-DAT
      qhadi ğu-x-**zu**.
      with   AOR-carry.AOR-**1SG.P**
      'Once, my father took me to Makhachkala.'
      (Babaliyeva 2013: 201)

(35) uzu   uvu   yik'-ur-**za-vu**.
      1SG(A) 2SG(P) kill-EVT-**1SG.A-2SG.P**
      'I will kill you.'
      (Babaliyeva 2013: 210)

- Agreement marking for subjects of intransitive verbs shows some sensitivity to thematic properties: the sole argument of a small number of [–agentive] verbs such as 'to fall (down)', 'to be tired', or 'to tremble' is cross-referenced by the same marker that is used for patients:

(36) uzu   aqh-ra-**zu**.
      1SG(S) fall-PRS-**1SG.S (=P)**
      'I fall down.'
      (Babaliyeva 2013: 204)

- However, the majority of intransitive verbs (including the copula) take the same person marker that is used for A, i.e., subjects of transitive verbs, cf. (33) above.
- Upshot: Development of person agreement via reanalysis of S/A clitics as a pathway to a general change from ergative to accusative alignment (see also Schulze 1998 on the Caucasian languages more generally, Bynon 1980 on Southern Kurdish languages, and Cysouw 2003 on a set of Austronesian languages spoken in Sulawesi).

5. Concluding summary

- In many cases, morphological change and syntactic change do not go hand in hand (at least no directly)
- While the presence of a temporal gap between a morphological change and a related syntactic change can be accounted for (e.g., weak RAH: no problem; strong RAH: reanalysis?), other types of change prove to be more problematic:
  - ❖ Syntactic change without or with delayed morphological change (English, Lithuanian)
  - ❖ Rise of inflectional morphology without or with delayed syntactic change (rise of preverbal agreement in Aslian languages)
  - ❖ Syntactic change despite conflicting morphological evidence (morphology as "formal baggage": reanalysis of passives as ergative structures, rise of quirky subjects, reanalysis of possessor constructions in Chickasaw)
- Cases where morphological change does go hand in hand with syntactic change typically involve grammaticalization processes where the emergence of new inflections is based on syntactic reanalysis (rise of partial pro-drop and nominative/accusative alignment).

- At least some of the relevant examples have a more 'local'/superficial character, affecting e.g. the inventory of Vocabulary Items used to realize weak pronouns.

- There must be triggers of syntactic change independent of morphology (e.g., syntactic opacity leading to reanalysis).

- <u>Unclear</u>: Impact of the rise of inflectional morphology due to grammaticalization processes (Roberts & Roussou 2003: grammaticalization typically involves the loss of movement operations...).

- Still, it seems to be clear that there *is* a tradeoff relation between syntax and morphology – languages with rich inflectional morphology typically exhibit syntactic properties not shared by languages with poor inflectional morphology; over time, a change in one component typically leads to changes in the other etc.

- However, this does not necessarily entail a direct connection between morphology and syntax; the observed correlations may also be the reflex of historical developments:[28]

  - ❖ Morphological change may reduce the evidence for (or practical functionality of) a certain kind of syntactic system (i.e., a combination of parameter settings), which in the long run may lead to a bias against the acquisition of certain syntactic properties (either because adult speakers tend to avoid syntactic strings that express the older setting (e.g. scrambling after the loss of case morphology), or because the loss of inflections opens up the possibility of a new grammar that parses the input more successfully than the older competitor and gradually spreads in a speaker community.

  - ❖ The loss of a certain encoding option may exert a functional pressure that over time may lead to the emergence of alternative coding options (e.g., fixed SVO word order instead of case marking).

- This state of affairs seems to sit more comfortably with approaches that posit a less tight relation between syntax and morphology, and allow more "wiggle room" in the diachronic transition from one grammar to another.

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[28] Under the assumption that the learner is conservative it is actually quite unlikely that the loss of a certain trait is immediately compensated by another change that leads to an output that further deviates from the target grammar (though there may exceptions, reanalysis, in particular).

Appendix I: On the status of complementizer agreement in Bavarian

- Person/number markers that attach to the complementizers in (2)-(3) are inflections, not pronominal clitics:
  (i) <u>2nd person -*st/-ts* are obligatorily present</u>: (a) they cannot be replaced by a strong pronoun; (b) 2nd person strong pronouns must co-occur with -*st/-ts* (cf. (2) above):[29]

(37) a. *ob   du   noch Minga   kumm-st
         whether you.SG to   Munich come-2SG
         'whether you come to Munich'
     b. *ob   ees/ihr noch Minga   kumm-ts
         whether   you.PL   to   Munich   come-2PL
         'whether you come to Munich'

- This contrasts with the behavior of 'real' subject clitics (1sg/3rd person):

(38) 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'

  (ii) <u>Inversion contexts</u>: alleged 'clitics' -*st/-ts* cannot attach to the inflected verb:[30]

(39) a. *Kumm-st=st noch Minga?
     b. *Kumm-ts=ts noch Minga?

  (iii) 2nd person -*st/-ts* cannot be derived from the relevant full pronouns via phonological reduction; rather, they are identical with the relevant verbal agreement suffixes:

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[29] The same goes for 1pl /-ma/ in a couple of Lower Bavarian and Carinthian varieties:
  (i) 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)
[30] Evidence against an analysis of (39) in purely phonotactic terms comes from comparatives. In comparatives, complementizer agreement becomes unavailable if the finite verb is deleted (Bayer 1984):
  (i) a.   D'Resl is gresser [als wia-st du bist].
      b. *D'Resl is gresser [als wia-st du ~~bist~~].
      c.   D'Resl is gresser [als wia du ~~bist~~].
  Under the assumption that there exists a separate subject clitic =*st*, which is homophonous with the relevant agreement ending, we would expect that the clitic can show up in contexts where the agreement ending on C has been deleted for independent reasons. However, this expectation is not borne out by the facts:
  (ii) *D'Resl is gresser [als wia=st (du)].

	Full pronoun	C-Agreement	Verbal agreement
2sg	du	-st	-st
2pl	ees/ihr	-ts	-ts

Table 15: 2nd person tonic pronouns and agreement formatives in Bavarian

- Conclusions:
  (i) The 2nd person forms *-st*, *-ts* are inflections, not clitics.
  (ii) Bavarian lacks 2nd person (and 1pl) subject clitics (i.e., the reanalysis of pronouns gave rise to gaps in the paradigm of weak pronominal forms).

Appendix II: From pronoun to agreement & partial pro-drop: further examples

II.1 Swiss Rhaeto-Romance varieties

- Swiss Rhaeto-Romance dialects (spoken in the canton Graubünden) exhibit a rich inventory of agreement markers (cf. e.g. Linder 1987):

	Puter	Vallader	Surmeiran	Surselvan	Sutselvan
1sg	-∅	-∅	-∅	-əl	-∅
2sg	-ast	-ast	-as	-as	-(a)s
3sg	-a	-a	-a, -e	-a	-a
1pl	-ains	-ain(a)	-(g)n	-in, -ein	-(g)n
2pl	-ais	-aivat	-es, -as	-is, -eis	-(e)s, -(a)s
3pl	-an	-an	-an	-an	-an

Table 16: Verbal agreement (present indicative) in five Swiss RR dialects.

- (Systematic) pro-drop is limited to 2nd person contexts, where the inventory of clitic forms exhibits gaps (Haiman 1971, Linder 1987, Hack & Gaglia 2009):

	Full pronoun	Proclitic	Enclitic
1sg	eau	a-	-i, a
2sg	tü	t(ü-)	∅
3sg.masc	el	(e)l-	-l
3sg.fem	ella	(el)la-	-la
3sg.neut	ad	a-	-a
1pl	nus	a-	-a
2pl	vus	a-	∅
3pl.masc	els	a-	-e
3pl.fem	ellas	a-	-e

Table 17. Subject pronouns in Puter (Linder 1987)

(40) Hoz   est vaira nervus, Paul.
      today are really nervous Paul
      'Today, (you) are really nervous, Paul.'
      (Vallader, Linder 1987: 35)

(41) Cu   fais   que?
      how   make-2PL   that
      'How do (you) make that?'
      (Puter, Linder 1987: 35)

- Gaps in the paradigm - reanalysis of enclitic pronouns in inversion contexts:
  (i) 2sg /-s/ → /-st/ via a reanalysis of the 2sg enclitic *-t(i)* (Puter, Vallader, Surmeiran; Widmer 1959, Linder 1987, Haiman and Benincà 1992).[31]

  (ii) 2pl /-(a)i/ → /-(a)is/ via a reanalysis of the 2pl enclitic *(vo)s* (Meyer-Lübke 1894, Linder 1987: 58).[32]

- Conclusion: Similar to Bavarian, there is a correlation between the availability of null subjects and the conversion of former enclitics into verbal agreement suffixes (leading to gaps in the paradigm of weak pronouns; cf. Linder 1987: 53ff. for a related idea).

II.2 Övdalian

- Language spoken in the north-western part of Dalecarlia/Sweden (3000-4000 speakers).

1sg	-∅
2sg	-∅
3sg	-∅
1pl	-um(t)
2pl	-ið
3pl	-a (=infinitive)

Table 18: Verbal agreement/Övdalian (Rosenkvist 2010: 237)

- Partial pro-drop: 1pl and 2pl pronouns are in general omitted (overt forms used for emphasis), cf. Rosenkvist (2010):[33]

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[31] Surselvan and Sutselvan exhibit 2sg /-s/. However, it is not entirely clear whether these dialects have retained the original ending or whether they underwent a similar historical process as Puter, Vallader, and Surmeiran (reanalysis of enclitic *-t(i)*), followed by loss final /-t/.

[32] Vallader exhibits the 2pl ending *-aivat,* which is unique among the Swiss RR dialects. However, it has been argued that this form also developed via a reanalysis of a clitic form (cf. Gartner 1883, Widmer 1959, Linder 1987): First, a reduced form of the 2pl pronoun *vos* (clitic *va* without final *-s*; a similar form *vo* still exists in present-day Puter) was reanalyzed as an enlargement of the existing 2pl ending *-ai*, cf. the following example from early Vallader (Chiampel, Ps. 58) cited in Widmer (1959: 99):
(i) Pud-**aiw** wuo foars'ilg   uaira dyr?
     can-2PL you perhaps=the truth say
     'Can you perhaps tell the truth?'
In a second step, the ending /-t/ was added on analogy with other tenses where 2pl is signaled by the agreement suffix /-t/.

[33] Rosenkvist (2010) shows that 1pl and 2pl null subjects have different properties. While 2pl null subjects may occur in all syntactic contexts, null 1pl forms are confined to preverbal position in both main and embedded clauses:
(i) *Nų   irum   iema.
     now are.1pl home
     'Now we are home.'
(ii) a. Bo saggd at   irum   tungner djärå ittað i morgų.
        Bo said   that are.1PL forced to.do this tomorrow
        'Bo said that we have to do this tomorrow.'
     b. *Bo saggd at   i morgų irum   tungner djärå ittað.
        Bo said   that tomorrow are.1PL forced to.do this
        'Bo said that we have to do this tomorrow.'
     c. Bo saggd at   i morgų irum   wįð tungner djärå ittað.
        Bo said   that tomorrow are.1PL we forced to.do this
        'Bo said that we have to do this tomorrow.'
Rosenkvist analyzes the null 1pl forms as context-linked elements which are not licensed in cases where access to the discourse context is blocked by an intervening topicalized element. In contrast, null 2pl forms are considered to be agreement-related empty categories, which are not sensitive to the discourse-semantic context.

(42)   a. Byddjum   i   Övdalim.
             live.1PL   in Älvdalen
             'We live in Älvdalen.'
        b. Ulið   fårå   nų.
             shall.2PL   leave now
             'You ought to leave now.'
          (Rosenkvist 2010: 231)

- Rosenkvist (2010):
    - (i) Null 1pl subjects developed via a reanalysis of subjectless 1pl imperatives/exhortatives as indicatives.
    - (ii) Null 2pl subjects developed via a reanalysis of weak subject pronouns as verbal agreement formatives (replacing the original ending 2pl -/in/), quite similar to the changes that took place in Bavarian (Rosenkvist 2010: 250):

(43)   farin ið > fari ið > far ið > farið

- Conclusions/Övdalian:
    - (i) The development of null subjects did not take place in a wholesale fashion (⇒ **partial pro-drop**);
    - (ii) At least the 2pl null forms evolved via a reanalysis of (weak) pronouns as agreement markers.

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