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Koeneman, O.; Zeijlstra, H.

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Resurrecting the Rich Agreement Hypothesis: Weak isn't Strong Enough

Olaf Koeneman & Hedde Zeijlstra

University of Amsterdam

1 Introduction

One of the most prominent hypotheses in comparative syntactic theory has been the correlation between richness of verbal inflection and overt verbal (V-to-I) movement (Kosmeijer 1986, Rohrbacher 1994, Bobaljik & Thrainsson 1998). In its strong form, this Rich Agreement Hypothesis (RAH) states that overt V-to-I movement takes place if and only if the agreement paradigm of a language is in some sense rich (see Koeneman 2000; Bobaljik 2002 for an overview of different definitions of richness). Empirical evidence for the RAH comes from three different domains: synchronic macrovariation, synchronic microvariation and diachronic microvariation. Let us shortly look at each in turn.

First of all, the correlation can be illustrated by comparing standard languages. Icelandic and Yiddish have a rich agreement paradigm, whereas Norwegian and Danish have no person and number distinctions.

(1) a. Icelandic, inf. segja

	SG	PL
1st	seg-i	seg-jum
2nd	seg-ir	seg-ið
3rd	seg-ir	seg-ja

b. Yiddish, inf. loyfn

	SG	PL
1st	loyf-ø	loyf-n
2nd	loyf-st	loyf-t
3rd	loyf-t	loyf-n

(2) a. Danish, inf. kaste

	SG	PL
1st	kast-er	kast-er
2nd	kast-er	kast-er
3rd	kast-er	kast-er

b. Norwegian, inf. elska

	SG	PL
1st	elsk-er	elsk-er
2nd	elsk-er	elsk-er
3rd	elsk-er	elsk-er

The following data confirm the RAH. Only in Icelandic (3a) and Yiddish (3b) does the verb occur to the left of those elements (adverbs and negation)

that are standardly assumed to mark the left edge of the VP, signalling movement.[1]

(3) a. Ég veit ekki af hverju kýrin hefur **oft** staðið í herberginu (Icelandic)
I know not why the cow has often stood in the.room
b. Ikh veys nit ven di ku iz **oyfn** geshtanen in tsimer (Yiddish)
I know not when the cow has often stood in.the room

In Danish and Norwegian, on the other hand, the finite verb stays on the right side of adverbs and negation:

(4) a. at Peter **ofte** havde læst den (Danish)
that Peter often had read it
b. Vi tenkte ikke at han **aldri** ville ha penger (Norwegian)
we thought not that he never would have money

Second, similar contrasts show up if we look at varieties of the same language. Standard Swedish, for instance, has poor (or no) agreement, wheres the dialect of Ålvdalen is rich:

(5) a. Standard Swedish
inf. bita

	SG	PL
1st	bit-er	bit-er
2nd	bit-er	bit-er
3rd	bit-er	bit-er

b. Ålvdalen Swedish
inf. kasta

	SG	PL
1st	kast-ar	kast-um
2nd	kast-ar	kast-er
3rd	kast-ar	kast-a

As can be observed below, the finite verb only moves in Ålvdalen Swedish and not in the standard language.

(6) a. att Johan **inte** köpte boken (Standard Swedish)
that Johan not bought book-the
b. ba fo dye at uir uildum **int** fy om (Ålvdalen Swedish)
just because that we would not follow him

Thirdly, it can be observed that languages that lose inflectional endings over time also lose V-to-I movement. Wheras Modern Swedish and English have poor agreement, these languages used to be richer:

1 Since the languages under discussion all display another type of verb movement, V2, we must look at those contexts in which V2 does not occur. The context that if often used is embedded questions. This factor has been controlled for in the data.

(7) a. Old Swedish

	SG	PL
inf.	älska	
1st	älsk-ar	älsk-um
2nd	älsk-ar	älsk-in
3rd	älsk-ar	älsk-a

b. Middle English

	SG	PL
inf.	singen	
1st	sing-e	sing-en
2nd	sing-est	sing-en
3rd	sing-eð	sing-en

As can be observed in (8), verb movement still occurred at this time, as expected by the RAH.

(8) a. æn han sivngær **ægh** thigianda messu (Old Sw.)
if he sings not silent mass
b. By thy thanks I set **not** a straw (Middle English)

The enthusiasm that was stirred by the RAH can be easily understood. First of all, a correlation between morphology and syntax suggested that at least part of the variation among language varieties is not arbitrary. Second, the RAH immediately leads to the fomulation of new questions (such as "Why does the correlation exist at all?") which holds the promise of further deepening our understanding of language variation.

This enthusiasm, however, has been significantly tempered over the last two decades by the discovery of data that seem to refute the RAH. In this article, however, we argue that it is too early for such pessimism and that, contrary to claims in the literature, there is no reason to fully abandon the hypothesis. In sections 2 and 3, we will go over the problematic data and conclude that they are only apparent counterexamples. In section 4, we provide a full typology and argue that the RAH can only partly account for it. We propose (i) that the missing ingredient is a theory about how formal features are acquired and (ii) that the correlation between morphology and syntax is existent, but not direct. Together with the RAH, our proposal accounts for the full set of data. Abandoning the RAH, however, makes it hard to derive this typology.

2 Problems with the RAH

Two types of evidence against the RAH have been provided. First, there is evidence suggesting that the RAH is valid in one direction only: if the verbal paradigm exhibits rich agreement, it must display V-to-I movement (see 2.1). Second, data have been presented that suggest that even this uni-directional version of the RAH is wrong, witnessed by the existence of rich

agreement languages that display no V-to-I movement in certain syntactic environments (see 2.2). Let us look at each in turn.

As observed in Vikner (1995), the RAH appears to be untenable in its strong form, given the existence of languages that display verb movement in the absence of rich agreement. French (cf. 9a), for instance, must be classified as poor if one takes into consideration the phonological shape of the inflectional endings: *-e*, *-es* and *–ent* are all pronounced as a sjwa. Moreover, in spoken French 1st person plural *nous parlons* is replaced by *on parle*, even further reducing the number of distinctions. Nevertheless, French displays V-to-I movement (cf. 10). For Faroese, it has been claimed that there are two dialects (Jonas 1995). Although both have the same paradigm (cf. 9b), one dialect allows the finite verb to occur to the left of VP-adverbs (cf. 11b):

(9) a. Modern French

inf. parl-[e]	SG	PL
1st	parl-e	parl-ons
2nd	parl-es	parl-ez
3rd	parl-e	parl-ent

b. Faroese I & II

inf. kast-a	SG	PL
1st	kast-i	kast-a
2nd	kast-ir	kast-a
3rd	kast-ir	kast-a

(10) Jean mange souvent des pommes. (French)
Jean eats often apples

(11) a. Taþ var ovæntaþ at dreingirnir voru als
it was unexpected that boys-the were at-all
ikki ósamdir (Faroese I)
not disagreed

b. Taþ var ovæntaþ at dreingirnir als ikki
it was unexpected that boys-the at-all not
voru ósamdir (Faroese II)
were disagreed

Regional Northern Norwegian (ReNN) has the same agreement paradigm as Standard Norwegian, showing no person and number distinctions, but differs from it in allowing the finite verb to surface to the left of VP-adverbs, indicating that these varieties exhibit V-to-I movement. This is shown in (12):

(12) Æ vet koffer ho Hedda kjøpe **ofte** sko
I know why she Hedda buys often shoes

Data of this type has led scholars to abandon the strong, bi-directional version of the RAH in favor of a weak, unidirectional version:

(13) Rich Agreement → V-to-I movement

However, even the weakest version of the RAH has been the subject of debate. Wiklund et al (2009) present data exhibiting so-called V3 phenomena in Icelandic, where in certain syntactic environments the verb does not seem to have raised across adverbial elements. An example is given in (14):

(14) Mér fannst skrýtið þegar hann **oft** lék hróknum
I found strange when he often moved rook.the
'I thought it was strange when he often moved the rook'

If a V-in situ analysis for the finite verb in (18) is correct, this shows that the RAH does not apply in either direction and should therefore be abandoned.

To sum up, there appear to be language varieties that move the verb in the absence of rich agreement (calling into question the strong RAH) and varieties that do not move the verb despite having rich agreement (calling into question the weak RAH). In the next section, we will evaluate these counterexamples, arguing that the RAH is actually not falsified.

3 Evaluating the criticisms

3.1 Rich agreement but no verb movement

Let us start with (14), which is the most serious example, since it endangers *any* formulation of the RAH, even the weak one. If the finite verb in this example has not moved, it violates both the strong and weak formulation of the RAH. However, (14) only shows us that an adverb can precede the finite verb and not necessarily that the verb has not moved at all. Another logical possibility is that the verb underwent movement, accompanied by subsequent movement of the adverb(s).

(15) $[_{CP}\ [_{TP}\ SU\ ADV_i\ V_i\ \ t_j\ [_{VP}\ t_i\ ]]]$

Such an analysis is in fact proposed in Angantýsson (2007). One reason for adopting it is that this V3 order is (i) 'severely restricted and heavily marked'; (ii) requires the adverb to be stressed; and (iii) requires the subject to be an unstressed pronoun. These facts strongly point into the direction of

some semantic / information-structural motivation that further moves adverbs. They are not properties that are associated with V-to-I movement generally.

A second reason for adopting such an analysis is provided by examples like (16):

(17) Mér fannst skrýtið þegar hann oft lék hróknum ekki
I found strange when he often moved rook.the not
'I thought it was strange when he often didn't move the rook'

This example shows that verbs following adverbs can still precede objects that have moved to the left. Under the standard assumption that the object shifts out of *v*P (in the example indicated by the fact that it precedes the negation), the latter must have subsequently moved across the object, countering Wiklund et al's (2009) account. For further discussion, the reader is referred to Thráinsson (2009), where it is strongly argued that embedded post-adverbial finite verbs in Icelandic V3 construction have indeed undergone verbal movement.

To conclude, since the example of a language variety with rich agreement and no verb movement is likely to display verb movement after all, the weak, uni-directional RAH has not been falsified and therefore still stands.

3.2 Verb movement but no rich inflection

What, then, is the status of the strong RAH? To answer this, we must turn to the language varieties that display verb movement in the absence of rich verbal agreement. Although the evidence against the strong RAH appears compelling, more can be said about the type of languages that appear to violate it: French, Faroese and ReNN. Let us look at each in turn.

Although French appears to have poor agreement, scholars have argued that its pervasive subject doubling property indicates that subject clitics function as agreement markers, rendering the language's inventory of the formal pronominal features rich (see Rohrbacher 1994, Auger 1994, Legendre *et al* 2010 and references therein for additional theoretical and empirical evidence that French has a richer formal feature inventory than most mainland Germanic languages).

(18) a. (Moi,) je viens
I, I come
'I'm coming'

b. Hier, Jean (/) il est parti
Yesterday, John he is left
'Yesterday John left'

These data show that French subject clitics undergo doubling, indicating that French subject clitics, in contrast to Germanic pronominal subjects, stand in some agreement relation with a higher subject (which may be left abstract).[2]

(19) a. [Moi$_{[i1SG]}$ je$_{[u1SG]}$ viens]
b. [pro$_{[i1SG]}$ je$_{[u1SG]}$ viens]

So even though French does not display rich agreement in its verbal inflectional morphology, it arguably does exhibit a rich inventory of phi-features, albeit it in another syntactic domain.

For Faroese, it has been demonstrated by Heycock et al (to appear) that it actually does not display V-to-I movement but rather V-to-C movement. The latter movement is obligatory in Germanic main clauses (with the exception of English) but also restrictedly occurs in embedded contexts. Heycock et al convincingly show that Icelandic, Faroese and Mainland Scandinavian pattern alike in allowing embedded V2 in the same syntactic contexts, namely (i) under bridge verbs and (ii) under non-bridge verbs like *regret* and *admit*. Icelandic and Faroese contrast with Mainland Scandinavian, however, in also allowing embedded V2 under non-bridge verbs like *doubt*, *deny* and *be proud*. The conclusion they draw from the data is that Icelandic and Faroese simply have less restrictions on embedded V2. Verb movement in these embedded clauses should therefore not be mistaken for V to I movement. In fact, if one looks at contexts in which embedded V2 is not allowed in Faroese (i.e., in indirect questions) the order V-negation is as much degraded for Faroese speakers as it is for Danish speakers. Hence, if embedded V2 cannot take place, no verb movement occurs at all. This is expected by the RAH, as Faroese has poor agreement.

Let us finally turn to ReNN. For this variety, Bentzen et al. (2007: 208-10) show that verbs may optionally precede adverbs.

2 See Brandi & Cordin (1989) for similar observations about Northern Italian dialects.

(20) … ettersom nån studenta {sannsynligvis} leverte
… as some students probably handed.in
{sannsynligvis} oppgaven
probably assignment.the
'… as some students probably handed in the assignment'

This is taken to show that in these varieties the finite verb may, optionally, remain in situ or exhibit V-to-I movement. Since the agreement paradigm is constant, this movement cannot depend on its properties. The question, however, is whether ReNN truly displays V-to-I movement. Note in this respect that the finite verb is not allowed to precede the negative marker *ikke*, which should be possible if ReNN exhibits V-to-I movement.

(21) … ettersom nån studenta {ikke} leverte {*ikke}
… as some students not handed.in not
oppgaven
assignment.the
'… as some students {not handed in / didn't hand in} the assignment'

This cannot be due to the negative maker being some negative head that blocks verb movement, like in English, because finite verbs in ReNN may precede *ikke* in matrix clauses, where they undergo V2. Bentzen et al therefore propose the following syntactic template (at least for ReNN), where they assume that negation is externally merged above AgrP:

(22) NegP > AgrP > High ADV > TP > Low ADV

However, the idea that negation is base-generated higher than TP-adjoining adverbs is highly problematic and is strongly at odds with the basic characteristics of negation in Germanic languages. The general assumption is that it is merged in a lower position (assumably a vP adjunct, cf. Zeijlstra 2004). Moreover, under the analysis in (25), negation would even outscope speaker-oriented adverbs, many of them being PPIs (see Nilsen 2003), so adverbs such as *probably* or *unfortunately* universally precede negation, contrary to what (22) predicts. What appears to be the case, then, is that the finite verb in ReNN does not move to I, but at most to another vP-internal layer. It is not unexpected that such 'verb scrambling' has semantic effects concerning the informational-structural strength of the adverbs. The precise nature of these effects would have to be carefully investigated (see Bentzen et al 2007 for some remarks pertaining to the interpretation of indefinite

subjects), but one may speculate that vP-internal topicalization is somehow involved. That would give a handle on the fact that the observed reorderings may involve adverbs but not negation, as negative markers may never be topicalized (cf. Zeijlstra 2008).

3.3 Concluding remarks

The counterexample to the weak RAH turned out to be only apparent, since verb movement was hidden by subsequent adverb movement. The counterexamples to the strong version of the RAH either do not display V-to-I movement (Faroese), assign a semantic, information-structurally-driven effect to optional verbal movement (ReNN) or do actually display rich agreement, albeit not in the verbal inflectional morphology (French). This tells us that the strong RAH in its present form is indeed too strong, as it is hard to see how varieties with verb movement but no rich inflection could arise at all. The weak RAH, by contrast, is in its present form too weak, as it would predict that the options "V-to-I" and "no V-to-I" are freely distributed among the varieties that do not have rich inflection. It does not capture the fact that those varieties that still move the verb are special in some sense. In the next two sections, we develop a theory that derives the full typology.

4 Typological perspective

The view on the RAH that we will present has thus to capture the following typology (table 1), where the black cell indicates a set of impossible grammars and the grey cell a set of languages that are possible but not without additional rich agreement showing up elsewhere in the grammar.

Table 1: attested typology

	Poor verbal inflection	Rich verbal inflection
No V-to-I	Faroese, ReNN, Danish	
V-to-I	French	Icelandic

Note that this attested typology does not follow from previous versions of the RAH or its rejection: the strong version of the RAH predicts the grey cell to be black; the weak version of the RAH predicts the grey cell to be white; and rejecting the RAH (as Bentzen et al have proposed) expects four white cells.

The distribution in table 1 calls for two questions, displayed in (23) below:

(23) a. Why are there no languages in the black cell?
b. Why do the languages in the grey cell require rich phi agreement to be manifest elsewhere in the grammar?

The first question has been addressed numerous times in the literature and received explanation both in lexicalist (Rohrbacher 1994, Koeneman 2000) and in post-syntactic terms (cf. Bobaljik & Thráinsson 1998, Bobaljik 1995). The general idea is that some kind of inflectional richness acts as a trigger for verb movement. There are two pervasive notions of richness on offer. The first notion of richness capitalizes on morphological agreement contrasts within the present tense paradigm (Rohrbacher 1994, Koeneman 2000). Yiddish and Icelandic have five distinct agreement affixes and qualify as rich, whereas Faroese has only three and qualifies as poor.[3] The second notion of richness capitalizes on whether tense and person/number agreement morphology are in complementary distribution (Bobaljik 1995, Bobaljik & Thráinsson 1998, Vikner 1997). In Icelandic, tense and person agreement morphology are both visibly expressed on the verb if you look at the past tense paradigm. This is in contrast to Faroese, where person distinctions disappear in the past tense.

At this point, we would like to remain agnostic about what the correct notion of richness is. Our proposal does not depend on either of the two notions of richness that have been proposed. In this paper, we rather focus on the second question, which will shed new light on the acquisition of triggers of movement.

3 Of course, one would like to know why five distinctions means rich and three means poor. In addition, note that these notions of richness merely intend to make a typological generalization and do not provide explicit triggers yet. Whether richness is defined in terms of the number of agreement distinctions or in terms of co-occurrence restrictions of tense and agreement morphology, one would like to know why that would trigger verb movement. See the references for answers to these questions.

5 Analysis

The question thus arises as to why languages without any manifest instances of rich agreement are unable to acquire V-to-I movement.

Note that in current minimalist syntax, in principle nothing blocks the existence of such languages. If some head I° in some language carries an [EPP] feature, this could drive movement of V to I. Also, note that learnability considerations, again in principle, do not block such a language either since to the presence of (obligatory) V-to-I movement in the target language can form the cue for the language learner to presume an [EPP] feature to be present on I°. Still, such languages are not attested.

Thus, the preliminary conclusion must be that these facts can only be explained if verb movement cannot be acquired on the basis of distributional evidence only. However, this raises the question as to why V-to-I movement is not directly acquirable without support of overt manifestations of rich agreement elsewhere in the grammar. We argue that this question can be answered, once two well-established assumptions are adopted: (i) V-to-I movement is triggered by properties of uninterpretable formal features; and (ii) uninterpretable formal features must be acquirable. Let us look at each assumption in detail.

Ad (i): following standard assumptions concerning the trigger of verbal movement, we assume that some uninterpretable feature on a particular head triggers the verb to move it to that position. The following question, which has been addressed many times in the literature, then is what exact feature is responsible for the triggering of verb movement.

On the basis of the empirical validity of the weak version of the RAH and following up on Bobaljik 2002, Miyagawa 2010 (amongst others), this feature must be more specific than just some inflectional feature. As Bobaljik argues, it is feature distinctness that constitutes inflectional richness, in the sense that richness of the inflectional paradigm is caused by the fact that different inflectional morphemes correspond to different formal features.

While remaining agnostic about the exact kind of feature (be it a person, number or tense feature) that heads the host for verbal movement, we tentatively take it to be safe to conclude that it must be some particular phi or T feature that is ultimately responsible for the verb to move to a vP external position. Consequently, only if some particular uninterpretable formal feature of the proper type can be acquired, such a feature is able to attract verbal movement to the position that is hosted by that feature.

Ad (ii): as mentioned above, a necessary precondition for some particular uninterpretable feature to trigger verbal movement for feature

checking requirements is that the presence of such an uninterpretable feature is acquirable itself. Thus, the next question that arises is how uninterpretable features can be acquired.

The learnability of uninterpretable features has been addressed in Zeijlstra (2008), who argues that the only type of positive evidence for the existence of uninterpretable features lies in the overt existence of elements that mark the presence of some semantic operator but are semantically vacuous themselves. The reason for this is that if a particular lexical element carries some semantics, there is no reason for the language learner to assume that this semantic feature is also formally active (i.e. able to check uninterpretable features). For example, in a language that lacks any kind of verbal inflection (e.g. Afrikaans), there is no reason whatsoever for the language learner to hypothesize particular phi features to be present. In contrast, a feature that requires some other, semantically active, feature to be present in the structure as well must be an uninterpretabe feature (by definition).

Hence, according to Zeijlstra (2008) a learner of Afrikaans, confronted only with structures as in (24a) will never presume the presence of a formal feature [1SG], for the reason that the grammar can be acquired perfectly without such a feature (where *ek* only has the semantics of first person singular). By contrast, the Italian child, confronted with examples as in (24b) must assume that *-o* is not the carrier of the semantics of 1SG (only *io* and *pro* can have that), but at the same time knows that *-o* cannot survive in a sentence without either *io* or *pro* being present. Therefore the language learner assigns to *-o* the feature [u1SG] and consequently, it assigns *pro*/*io* the feature [i1SG]

(24) a. Ek sing
I sing
b. Io/pro$_{[i1SG]}$ cant-o$_{[u1SG]}$

Thus, without the existence of overt elements that do not directly contribute to some semantic category F, there can be no formal feature F that is interpretable on one element and uninterpretable on another element. Hence, postulation of a formal feature F essentially requires (morpho-)syntactic doubling. Zeijlstra formulates this as follows:

(25) *Flexible Formal Feature Hypothesis (FFFH,* after Zeijlstra 2008*):*
a. If and only if there are agree/doubling effects with respect to a semantic operator OP_F in the language input, all features of F are formal feature [i/uF].

b. If there are no doubling effects with respect to a semantic operator OP_F in the language input, all features of F are semantic features ([F]).

Now the question is how to determine what counts as a doubling effect with respect to the kind of features that could attract verbal movement. However, the reader will by now not be surprised to hear that the only type of evidence for the acquisition of formal phi/T features is the existence of agreement, so that the presence of some particular semantic property (person, number, tense) is manifested on some other lexical element as well.

Thus, without any evidence for rich agreement, there could not be a formal feature in the first place to attract the verb.

Note that verbal inflection counts as such evidence, but subject doubling (taken to be an instance of syntactic agreement) does so as well. Therefore, languages with rich inflection, but also languages like French, enable L1 learners to acquire a rich formal feature inventory. Languages, such as Faroese, ReNN or Danish do not.

This explains the distribution attested in Table 1: the only type of languages that allows V-to-I movement is a language in which rich agreement is present, albeit not necessarily within the verbal inflectional domain. Therefore, French, alongside with the canonical rich agreement languages (such as Icelandic), allow V-to-I-movement, whereas Faroese, ReNN or Danish do not.

6 Diachronic consequences

This analysis has a number of consequences. Most notably, it forms a filter on the type of possible languages, but also makes a number of diachronic predictions.

Diachronically, all Germanic languages counted as rich agreement languages. In that sense, they also nicely fitted in the RAH pattern: all these languages displayed V-to-I movement.

At the same time, many of these languages (English, most mainland Scandinavian languages) lost their verbal inflection, a process known as deflection (Roberts 1993, Platzack & Holmberg 1989; Holmberg & Platzack 1991, 1995; Rohrbacher 1994, and references therein).

Consequently, this meant that the language learners in this new stage of the language no longer could acquire the proper cues for V-to-I movement. Yet, at the same time, they still were confronted with a massive, distributional evidence of V-to-I movement in their language input, namely

the finite verb occurring to the left of adverbial elements. This paradoxical situation lead to a number of possible solutions for the language learner:

Lack of V-to-I movement: This is what is predominantly observed in most languages under discussion (e.g. Danish, Standard Norwegian/Swedish). The cue for V-to-I movement was gone. However, such a step is probably too big a step at once, and we may in fact witness a time gap between verbal deflection and loss of V-to-I movement. It is expected that children would no longer always move the finite verb, but also utter V in situ sentences. In a sense, such a stage of the language is reminiscent of those languages that optionally allow V movement.

V-to-I is reanalyzed as V-to-C: This is what we observe in Faroese. In the absence of featural richness that would support V-to-I movement, speakers reanalyze embedded V-neg orders as evidence for embedded V2. The result is that Faroese shows the same unrestricted embedded V2 as in Icelandic, as the results of Heycock et al. indicate.

V-to-I is retained: This is what we observe in French. Note, however, that the lack of richness expressed by verbal agreement must be compensated for elsewhere in the grammar. Otherwise learners would not be led to postulate a formal feature that triggers the verb movement. Learners take subject doubling to be the cue for postulation of a formal feature F. Hence, retention of V-to-I in French crucially correlates with the dominant pattern of subject doubling.[4]

V-to-I becomes optional V movement: In these languages (e.g. ReNN), V movement becomes optional, licensed by pragma-semantic effects (most likely information-structural effects such as topicality).

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4 Recall from section 4 that there are two notions of richness in the verb movement literature. Under the first notion (agreement distinctions within the present tense paradigm), French qualifies as poor, hence reference to subject doubling is required to explain why the language displays V-to-I. Under the second definition (co-occurrence of tense and agreement affixes), French qualifies as rich (witness, for example, *vous parl-i-ez*, where *–e* is a past tense morpheme and *–ez* the second person plural marker) and French is correctly predicted to display V-to-I. Under the first notion, we predict a correlation between deflection and the rise of subject doubling, whereas no such correlation is expected under the second notion. Research into this issue is thus one way of establishing which notion of richness is correct.

The analysis presented above, in which a formulation of the RAH is combined with a restriction on the learnability of formal features that trigger movement, predicts these types of changes. Note that under the classical weak version of the RAH these changes remain unexplained: no predictions are made for languages that lack a featural richness. We propose that losing verb movement is just one of the options. Retaining verb movement is possible but leads to the movement being optional, or of a different type. Or it requires that the lack of distinct affixes expressing featural richness is compensated for, as is the case in French. Hence, our analysis captures the fact, noted in section 3.3 that there is something special about languages displaying verb movement in the absence of rich verbal agreement.

7 Conclusions

To conclude, this paper aims at resurrecting the string RAH albeit in a different form: V-to-I movement takes place in some language iff that language exhibits overt evidence for the acquisition of a rich inventory of formal phi-features.

Originally, the central understanding of the RAH was that morphology drives syntax. However, we emphasize that our results do not restore that direct connection between syntax and morphology.

Morphology does not drive syntax; formal features do. The acquisition of formal features, on the other hand, is based on the presence of (overt) evidence of uninterpretable formal features. (Rich) morphology, therefore, at best 'indirectly drives' syntax: it makes the language learner acquire those features that drive syntactic operations.

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Correspondence address:
Department of Dutch Linguistics
Amsterdam Center for Language and Communication
University of Amsterdam

Spuistraat 134, 1012 VB Amsterdam
The Netherlands
email: o.n.c.j.koeneman@uva.nl, h.h.zeijlstra@uva.nl