

O WHEN ARE YOU RISING? HOW STRONG IS YOUR AGR?
THE ISSUE OF SUBJECT-AGREEMENT AND V-AGR MERGER*

Steven Schäufele

1. Preliminary (and Provisional) Theoretical Assumptions

1.1. Exploded INFL

During much of the '80's the literature in the theoretical framework variously known as 'Government & Binding' (GB), the 'Revised Extended Standard Theory' (REST), or the 'Principles & Parameters Approach' (PPA or P&P) assumed the cross-linguistic existence of a functional head of S typically referred to as INFL, which was supposed to incorporate all the features necessary for the licensing of verbal inflexion, including Tense and Agreement. In the later part of the decade, especially with work published in Pollock 1989, this view began to appear an oversimplification. While the label INFL continues in use as a handy abbreviation, many REST researchers favour the hypothesis that between S and VP are not one but a series of functional heads. Under this hypothesis, the true head of S is commonly identified either as AGR_S or TNS, depending either on one's version of the theory or on the language under discussion.

Arguments have been presented by, e.g., van Gelderen 1993 that this menagerie of functional categories is not universal; rather, the set of functional heads may be fixed and defined by UG as a set of options from which individual languages may select, but no given language should be expected to exhibit all of them. In particular, van Gelderen argues that English has not now and never has had a distinct functional head AGR_S. Van Gelderen's arguments are cogent and, I believe, convincing. Nevertheless, for the purpose of simplicity I will in this paper speak of AGR as universally the head of S, much as a decade ago we spoke of INFL, mainly because I am concerned here primarily with Subject-Agreement Marking (SAM) and its relevance, or lack thereof, for the ordering of constituents base-generated within the complement of AGR so defined.

1.2. Diagnostics for V-AGR Merger Timing

Within the REST framework, it is generally assumed that while in any given clause in any language the main verb is base-generated as head of VP the features which license its morphological inflexion are associated with a functional head c-commanding VP. Given this assumption,¹ it is necessary for the verb and this functional head to get together somehow at some point in the derivation, a phenomenon I shall refer to as 'V-AGR Merger'. *A priori* there are two options: either the verb may rise to AGR via head-to-head movement, or AGR may lower to the verb.

Lowering transformations are often looked at askance in syntactic theoretical research, and in the 'Minimalist Program' (cf. Chomsky 1992) the details of these options are viewed somewhat

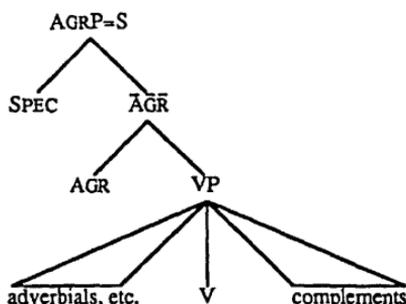
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¹This assumption is, of course, not shared by other generative frameworks, most of which (e.g., LFG, HPSG, RRG) posit a fundamental distinction between 'functional' categories and analyses on the one hand and constituent structure on the other.

differently. In this approach, it is assumed that verbs, nouns, etc. appear in their DS positions with all their inflexional features already on them, which need to be 'checked' with respect to appropriate functional heads and eliminated before reaching the interface levels, PF and LF. The dichotomy outlined in the previous paragraph is viewed as one between 'strong' features, which are visible at PF and therefore must be eliminated at SS, and 'weak' features, which are invisible and therefore tolerable at PF and which can be eliminated at LF. Obviously, the Minimalist Program's 'Procrastination' Principle would favour the latter option, which means that both the child learning a language and the linguist seeking to describe it need explicit motivation to posit what in relation to Pollock's view would be called 'V-Rising' as opposed to 'Agr-Lowering', or in more contemporary terms V-Rising at SS as opposed to LF (cf. also Lightfoot & Hornstein 1994:8-9).

What sort of evidence would be relevant? Ideally, we want to be able to say from looking at the superficial structure of a clause whether the finite verb is still in its base-generated position as head of VP (in which case it doesn't rise until LF) or has moved out of VP (in which case we assume it has risen at SS). If we can identify diagnostics for the margin of the complement of AGR that are independent of the verb itself, in theory we will have a means of identifying the surface position of the verb vis-à-vis its base position. If we accept the 'Internal Subject' Hypothesis the base position of the subject, i.e. SPEC of VP, could serve as such a diagnostic and in some cases is in fact so used. Another possibility is some set of VP-adverbials. In much of what follows I will be referring to this possibility, diagrammed in (1).

(1)



1.3. Pollock's Hypothesis

Pollock 1989 assumes three types of constituents as VP-boundary diagnostics. One is negative markers, another is manner and frequency adverbials; in both cases, we are limiting ourselves to VP- or sentential modifiers, not, e.g., negations of lesser constituents as in (2). The third type of constituent Pollock treats as a VP-boundary diagnostic is subject-quantifiers which may be left behind in the SPEC-VP position after the subject itself has moved to SPEC-AGRP.

- (2) a. Ralph is the enemy, not Floyd.
 b. Not now, it's not yet 10 o'clock.

As Pollock (and before him Emonds 1978) notes, a comparison of typical sentences in Modern English and Modern French manifests an intriguing difference in the ordering behaviour of precisely these constituents. As reflected in (3), in English VP-/sentential manner and frequency adverbials precede the finite verb while in French the equivalent elements follow it. In English subject quantifiers must precede the verb while in French they may follow it; cf. (4).

2.2. Serbo-Croatian

According to Bošković 1991, in Serbo-Croatian a fully-inflected, finite main verb behaves differently from an auxiliary. Most importantly, in questions and other constructions in which verb-fronting is common cross-linguistically, while auxiliaries are obligatorily fronted in Serbo-Croatian the fronting of finite main verbs is only optional; an alternative, in the form of a 'dummy' auxiliary exists; cf. (9).

- (9) a. Spava li on?
'sleeps' Q-cl. 'he'
'Is he asleep?'
- b. Da li on spava?
Aux Q-cl. 'he' 'sleeps'
'idem.'

In other words, Serbo-Croatian auxiliaries behave like English auxiliaries in being obligatorily fronted in constructions inviting verb-fronting. But while in Serbo-Croatian, unlike Modern Standard English, main verbs are frontable in such constructions their fronting is optional, unlike that of auxiliaries. Bošković' conclusion is that since in Serbo-Croatian auxiliaries and main verbs are syntactically distinct at SS they cannot be occupying the same position in constituent structure. In particular, he concludes that in Serbo-Croatian as in English auxiliaries occupy INFL (or AGR) at SS, while again as in English main verbs remain within VP throughout the derivation.

2.3. Vedic Sanskrit

In work reported in Schäufele 1991a,b, 1992 I discussed a phenomenon, partly grammatical in nature, in usage of Sanskrit in the Vedic period, which I called the 'Multiple-Extrapolation Constraint' (MEC). It concerns the ordering of constituents when they appear to the right of the main, finite verb in the clause when there is no evidence that the verb itself has been fronted. I argued that, if as a result of 'extrapolation' (viewed for the purpose as movement to a right-peripheral position) there were gaps in both an object position and a subject position, the constituents corresponding to those gaps would be overwhelmingly more likely to line up such that the object remains nearer to the verb, which in all examples in this section is highlighted by italics; cf. (10).

- (10) a. ví əj əj śr̥ṅgīṇam *abhinat* śúṣṇamj īndraḥj.
Pfx. 'horned'-A 'annihilate'-3s.impf. 'S.'-A 'I.'-N
'Indra annihilated Suṣṇa the Horned.'
- b. *??ví əj əj śr̥ṅgīṇam *abhinat* īndraḥj śúṣṇamj.
Pfx. 'horned'-A 'annihilate'-3s.impf. 'I.'-N 'S.'-A
'idem.'

In earlier work I argued on this evidence that there was a distinct VP constituent in the typical Vedic clause and that the verb normally remained inside it throughout the derivation. This argument is based crucially on clauses like those in (11), in which the verb is surrounded in surface structure by constituents belonging to the VP and, if my hypothesis is valid, still dominated by it. This being the case the verb itself must be within the VP in surface structure and therefore at SS.

- (11) a. átha átra yathāyathām devāḥ [əḷi chāndaṃsi akalpayan
'then' 'here' 'in proper order' 'gods'-N 'meters'-A 'arrange'-3p.impf.
anuyājēṣuḷ]VP.
'after-offerings'-L
'The gods then arranged the meters here, at the after-offerings, in proper order.'
- b. vṛjānena eḷi [vṛjinān eḷi sām-pipeṣa māyābhiḥ dāsyuṅ]VP
'strenght'-I 'wicked'-Ap. 'crush'-3s.perf. 'wondrous acts'-I 'D.'-Ap.
abhfbhūtyojāḷi.
'surpassing prowess'-N
'With strength (his) surpassing prowess crushed the wicked Dasyus by means of (his)
wondrous acts.'

2.4. Counteranalyses

Earlier I presented Hyams' reasons for believing that in Italian auxiliaries and participles form a constituent that retains its integrity throughout the derivation, and therefore that V-AGR Merger in Italian must be delayed to LF. Belletti 1990 does not address precisely the issues raised by Hyams, but does present, in the course of an analysis that assumes syntactic V-Rising, data that definitely seem to contradict Hyams' claim. She notes that while the simple negative *non* precedes the entire verbal complex as in (7-8), if that negative is augmented by a negative-polarity adverb the latter may either follow the entire verbal complex as in (12) or come between the auxiliary and the participle as in (13).

- (12) a. Gianni non ha parlato *più*. 'Gianni has not spoken anymore.'
b. Maria non è uscita *mai*. 'Maria has never left.'
c. I ragazzi non hanno incontrato 'The children have not yet met their friends.'
ancora i loro amici.
- (13) a. Gianni non ha *più* parlato. 'Gianni has not spoken anymore.'
b. Maria non è *mai* uscita. 'Maria has never left.'
c. I ragazzi non hanno *ancora* 'The children have not yet met their friends.'
incontrato i loro amici.

The sentences in (13) on the face of it falsify Hyams' claim that the verbal complex cannot be divided. More significantly, Belletti indicates that certain adverbs do not have the option of following the verbal complex directly but may intervene between auxiliary and participle. Cf. (14).

- (14) *Probabilmente* ha sbagliato /Ha *probabilmente* sbagliato /*Ha sbagliato *probabilmente*.
'S/He has probably erred.'

Belletti does not address the variety of constituency tests that Hyams brings to bear, and I do not know how she would handle the deletion and copying tests reflected in (9-11). But her data clearly undermine at least some of the evidence used above to argue that Italian has AGR-Lowering.

Bošković' analysis is the only one I have so far seen with regard to the issue of V-AGR Merger timing in Serbo-Croatian. While this issue is not the primary concern of his paper, I will admit

that, as it stands, I do not find his argument on V-AGR Merger wholly convincing. The argument outlined above depends crucially on the possibility of main verbs remaining within VP even under circumstances that invite verb-fronting. But judging from his data it is precisely in such situations, in which whatever is in AGR is fronted but the main verb remains *in situ*, that a 'dummy' auxiliary is generated in order to bear AGR, obviating the need for V-Rising. In the absence of this auxiliary, the main verb in (9a) could very well be said to have risen to AGR at SS as it would in French, and been fronted from there. Bošković presents no conclusive evidence of a main verb remaining within VP until LF, as is clearly the case in English (cf. (3-4)). I am thus not convinced that the last word has been said on Serbo-Croatian with regard to this issue.

With regard to the discussion of Vedic Sanskrit in §2.3, Klein 1992 has challenged critical elements of the basis of my argument, suggesting that the MEC is not in fact a characteristic of Vedic usage or grammar. There is no question that my analysis stands or falls on the validity of this hypothesis. Unfortunately, that issue depends on a laborious and careful examination of a vast corpus. The overwhelming majority of the few apparent counterexamples such as those brought forth by Klein seem amenable to alternative analyses involving plausible, independently-motivated characteristics of UG and of Vedic grammar; my continued examination of the corpus has so far not impaired my own confidence in the MEC. But I have to admit that the jury is still out.

2.5. Conclusions

Thus there is evidence that some languages with rich SAM delay V-Rising.² Granted, some of the arguments are doubtful. Belletti has demonstrated that the Italian verbal complex is not the indivisible unit Hyams claims it is, and therefore Hyams' principal argument for LF-Merger in Italian is flawed. There seems to be circumstantial evidence for LF-Merger in Serbo-Croatian and Vedic Sanskrit, though as yet the arguments anent these languages remain inconclusive.

3. Languages with Poor SAM

So far I have discussed languages with rich SAM which nevertheless unlike French show evidence of delayed V-Rising. Another aspect of this investigation concerns languages whose SAM is poor or non-existent but which unlike English show evidence of syntactic V-Rising.

This part of the discussion concerns languages with at least a certain amount of obligatory verb-fronting. Indeed, every language discussed in this section has a V2 constraint. The standard analysis of most such languages in the REST literature is that in the relevant clauses the verb surfaces in COMP, with the preceding constituent in SPEC of COMP. In the following discussion I will be assuming the validity of this analysis.

3.1. Kru

Koopman 1984 reports that like German and Dutch the Kru languages, which have no SAM, generate verbs in clause-final position but have a V2 constraint. The difference between these languages and the Germanic ones is that the Kru languages are much stricter about the ordering of other constituents; in particular, the subject is obligatorily clause-initial. So the surface order of a

²While these results contradict the original version of Pollock's hypothesis, they are in fact consistent with the approach in the Minimalist Program, in which as noted earlier delayed V-Rising is to be preferred cross-linguistically.

Kru clause is basically as outlined in (15). Cf. (16) for examples of clauses with simple verbs and (17) for examples of clauses with distinct verbs and tense/aspect markers, which latter are treated by the syntax as finite verbs for the purposes of the V2 constraint.

(15) Subject — finite verb — verb-complements, etc. — non-finite verb

- (16) a. \bar{n} lé bi sáká.
'I' 'eat'(impf.) 'now' 'rice'
'I am eating rice right now.'
- b. \bar{n} ñ sáká.
'I' 'eat'(perf.) 'rice'
'I ate rice.'
- c. \bar{n} gbli na ô lé sáká.
'I' 'know'(impf.) 'that' 3s.pro. 'eat'(impf.) 'rice'
'I know that s/he is eating rice.'
- (17) a: wá la mó dlá.
'they' aux.perf. 'him' 'kill'
'They have killed him.'
- b. \bar{n} ká ná gòlí mlí pùtù sà.
'I' aux.fut. 'my' 'mounds' 'in' 'grass' 'remove'
'I will clear the weeds from my mounds.'

Sentential negative markers in Kru always immediately follow the subject, sometimes, as in (18a-b), preceding the verbal element that belongs in the second position. But in cases like these the negative marker can easily be regarded as a proclitic. In (18c), we see an example of a negative auxiliary. Koopman argues that this negative marker, whatever form it takes, is part of the INFL complex that occupies clause-second position and which may include also, among other things, a tense/aspect marker or a finite verb.

- (18) a. ô ó gba vatàwì.
3s.pro. neg. 'speak'(impf.) 'Vata'
'S/he doesn't speak Vata.'
- b. wá ná-le-ka sáká.
3p.pro. neg.+ 'eat'+fut. 'rice'
'They will not eat rice.'
- c. ô ní vatàwì gbà.
3s.pro. neg.aux. 'Vata' 'speak'(perf.)
'S/he has not spoken Vata.'

The upshot of this is that in the Kru languages some verbal element must rise to a functional head out of VP at SS, unless that functional head is already occupied by a suitable lexical element — and as is evident from (18a-b) the negative marker itself does not qualify.

3.2. Mainland Scandinavian

As is generally known, all Germanic languages other than Modern Standard English have a V2 constraint. The Mainland Scandinavian languages have at best moribund SAM, and most re-

searchers in this area accept and, in the case of Vikner 1991, argue for the claim that they do not have syntactic V-Rising.³

3.2.1. VP-Negation and other VP-Adverbials

The argument that in these languages the verb remains within VP throughout the derivation is based on the adaptation of Pollock's diagnostics. *A priori*, if the finite verb typically surfaces to the left of any of these diagnostic items, then it has risen out of VP; if it appears to their right, then it has not.

The issue is, of course, complicated by the V2 constraint. As Vikner notes, the Danish sentence in (19a) appears to parallel the French equivalent in (19b) in terms of constituent order. But the fact that the same verb can follow after other constituents besides the subject strongly suggests that it has risen not to the functional head of S ('AGR') but the head of CP (COMP). Cf. (20) and the unacceptability of the literal French equivalents in (21).

- (19) a. Marie tager ofte til Paris.
'M.' 'goes' 'often' 'to P.'
- b. Marie va souvent à Paris.
'M.' 'goes' 'often' 'to P.'
'Marie goes often to Paris.'
- (20) a. Til Paris tager Marie ofte.
'to P.' 'goes' 'M.' 'often'
'Marie goes often to Paris.'
- b. Heldigvis tager Marie ofte til Paris.
'fortunately' 'goes' 'M.' 'often' 'to P.'
'Fortunately Marie goes often to Paris.'
- (21) a. *À Paris va Marie souvent.
b. *Heureusement va Marie souvent à Paris.

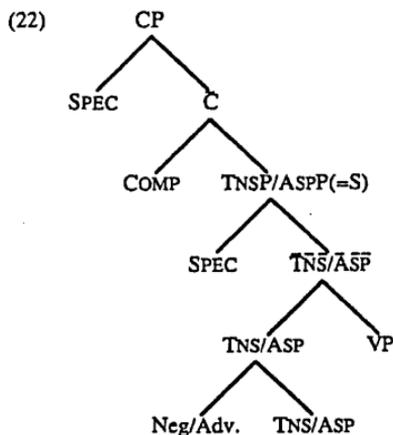
If V2 is evidence for V-COMP Ascent then these languages obviously have that, but if negatives and manner adverbials and so on are diagnostics for VP boundary they don't seem to have syntactic V-Rising. But how can a language have V-COMP Ascent without V-Rising? If the verb is going to ascend to COMP at SS surely it must do so by way of AGR via head-to-head movement?

3.3. Another Look at V-AGR Merger Timing Diagnostics

The issue then becomes, How reliable crosslinguistically are the Pollockian diagnostics for VP boundary? As Lightfoot & Hornstein (1994:6) note, 'adverbs are the category which linguists know least about, and therefore it is a bold move to take them to indicate the sequence of functional categories.' These ambiguities, and the above-mentioned conflict between V-Rising and V-Ascent, strongly suggest that we need to take a closer look at the kind of evidence we make use of in deter-

³Platzack & Holmberg 1989 report, however, on Kronoby Swedish, a dialect that by the Pollockian diagnostics exhibits syntactic V-Rising, although like most Mainland Scandinavian languages it has no overt SAM.

mining where the finite verb is at SS and PF.⁴ As Lightfoot & Hornstein (1994:16, n.2) note, all that has really been demonstrated by the arguments that Mainland Scandinavian verbs stay within VP unless fronted to COMP is that in these languages the negative markers and adverbials that are being treated as VP-boundary diagnostics surface to the left of wherever inside S the verbs end up. If, as seems plausible in the Kru languages, either the DS position or the adjunction-site of these 'diagnostics' is actually above and/or to the left of TNS or ASP or whatever functional head the verb might rise to as in (22), then these languages might still have syntactic V-Rising, but only the presence or absence of the V-2 constraint would provide real evidence one way or the other.⁵



4. Diachronic Evidence

A third perspective on this issue comes from the diachronic evidence. If V-AGR Merger timing is parametrically linked to strength of AGR or richness of SAM, then presumably a change in one feature should result in a consequent change in the other. One question raised by this assertion is, How quickly should we expect the consequent change to follow upon the antecedent?

The history of English is very relevant here. Old English had fairly rich SAM, and it presumably also had V-Rising; of course, at that time English like all other Germanic languages had a V2 constraint. It is equally self-evident that Modern English has very poor SAM, and as can be seen from (3-4, 6) English verbs nowadays are very much stay-at-homes. So obviously during its history English has experienced change in both these features. The question is, When did it experience these changes?

⁴Note also the ordering of finite verb and frequency adverbial in my English glosses of (19-20), which is quite acceptable to me although Pollock's analysis would imply its ungrammaticality.

⁵Note also that Belletti explains the inability of the Italian VP-negator *non* to follow either main verbs or auxiliaries (cf. (7-8)) on the basis of the fact that it is a clitic, in which case its surface position may in fact be due entirely to phonological, not syntactic, considerations.

The fact of the matter is that English had lost almost all its SAM by early in the 15th century. But, as argued in Schäufele 1994, the ability of main verbs to rise past VP-adverbials, including negatives, survived well into the 17th century. Cf. (23).⁶

- (23) a. Sir, it needeth not you to put me to no more pain, for it seemith not you to speed
thereas all these other knights have failed. (mid. 15)
- b. That she, beloved, knows naught that knows not this (late 16)
- c. Sir, we sit not here to answer your questions. (mid. 17)
- d. Though in your hands he hazard not his life. (late 17)

Particularly significant is the fact that during this 300-year period this 'archaic' construction, apparently involving overt syntactic V-Rising, existed side-by-side with the more modern pattern, in which the presence of a VP-negator requires 'Do-Support', the generation under AGR of the 'dummy' auxiliary *do* to bear the inflexional marking thereby denied to the main verb. Cf. (24) for some examples of Do-Support in negative clauses from this period, including (24d-e) some examples of both constructions adjacent to each other, in the same context.

- (24) a. A man that with him did not fight (early 15)
- b. They do not love that do not show their love (late 16)
- c. If on your head my fury does not turn (late 17)
- d. Nay, yet depart not so. Though this be all, do not so quickly go. (late 16)
- e. Ask but all the young fellows of the town if they do not lose more time ... in starting of game, then in running it down. One knows not where to find 'em. (late 17)

Thus, as documented in Schäufele 1994, the 'archaic' pattern with syntactic V-Rising survived in English alongside the 'default', procrastinative pattern for approximately 300 years after the demise of most SAM in English. And at least marginally in some registers it survives even today, witness (25) from a 1967 short story by the contemporary science-fiction author Larry Niven.

- (25) Bluff me not. You'd lose your only hostage.

5. Theoretical Issues Reprise

5.1. The Problem

Pollock's hypothesis, and the work following upon it, is motivated by a desire to find a typological correlation between V-AGR Merger and details of inflexional morphology. Setting aside the problem of V-AGR Merger diagnostics discussed in §3.3, such a correlation would certainly be interesting and desirable if it could be found, though there is plenty of evidence that it is *a priori* implausible (cf. e.g. Joseph & Smirniotopoulos 1993 for further discussion).

⁶One should not be misled into thinking that the examples in (23) merely reflect the survival in a formal register of an archaic usage. Similar constructions turn up not only in elevated prose and verse but in popular literature and informal usage throughout this nearly 300-year-long period. Cf. Schäufele 1994 for details and further discussion.

The empirical problem discussed in this paper (cf. also Schäufele 1991b) is that a simple bi-valent correlation, 'rich SAM \Leftrightarrow syntactic V-Rising, poor SAM \Leftrightarrow delayed V-Rising', is counter-indicated by the data. The data suggest rather that attested languages may very well be organized into a quadra-valent typology with every logical option attested. As it stands, this is not a very informative arrangement, since it doesn't give us any way of saying on the basis of one feature, whether morphological or syntactic, what the other is even likely to be.

A further problem with Pollock's hypothesis, as noted in §4 and discussed at length in Schäufele 1994, is that a change in one feature does not necessarily correlate in any obvious way with a change in the other. Worse, the diachronic evidence indicates further that a language is quite capable of maintaining both options in the syntactic feature for an extended period of time.

5.2. Overt and Covert AGR Features

Some of the more recent work in this area (e.g. Chomsky 1992 and some of the papers in Lightfoot & Hornstein 1994) has tried to replace the overt SAM feature with a more abstract feature of 'AGR-strength'. According to this approach, the fact that Modern Standard English has poor SAM is in fact only indirectly linked to the fact that at an abstract level it has weak AGR; likewise, the relative richness of SAM in Modern French (not all that rich, as pointed out in Schäufele 1991b) is only indirectly linked to that language's strong AGR. And theoretically languages might exist, such as Serbo-Croatian, Vedic Sanskrit, and possibly Italian, whose SAM is overtly rich but whose AGR is weak and therefore unable to force V-Rising before LF. And the opposite might also be the case; the Kru languages, with no SAM, might nevertheless have strong AGR.

Of course, this proposal merely serves to drive the problem outlined in the previous section back one step. Instead of a failure to match relative richness of overt SAM with V-AGR Merger timing, we have a failure to match relative richness of overt SAM with abstract strength of AGR, which in turn is supposed to be directly reflected in V-AGR Merger direction/timing. In order for this version of the hypothesis to be of any value, we still need some observable correlate of relative strength of AGR, other than what we are able to deduce (on the basis of occasionally controversial diagnostics) about the details of V-AGR Merger.

5.3. Falk's Typology

An attempt to solve these problems while maintaining the fundamental typological goals of Pollock's hypothesis is presented in Falk 1994. This hypothesis assumes that the dichotomy between 'strong' and 'weak' features is a characteristic only of functional heads; lexical categories carry only weak features. It further assumes, along with Chomsky 1992, that a given functional head has both spec-features, relating to the relationship between that head and its specifier, and head-features, relating to the relationship between the functional head and a lexical head that has moved to it.⁷ The principal innovations of Falk's hypothesis are given in (26).

- (26) a. The checking of features can lead to either ratification or elimination, depending on whether the relevant lexical item manifests the relevant feature overtly or not.
- b. Feature-ratification is adequate to make features acceptable at PF.

⁷Falk's 'Spec-features' and 'head-features' correspond to what Chomsky calls 'NP-features' and 'V-features' respectively. This terminological distinction need not concern us.

- c. Strong features must be eliminated, unless the lexical element involved contains visible features.
- d. A given functional head has both spec-features and head-features which are not independent; rather, a feature has both a spec-part and a head-part; if one is eliminated, the entire feature is eliminated.
- e. However, weak spec-features need to be checked independently at LF to license the spec-position.

(26a) means that richness of overt morphology as such may not be directly relevant, since a 'strong' AGR can be checked by appropriate movement of an appropriate constituent having either overt morphology (leading to ratification) or not (leading to elimination). (26b) means that either method of checking is sufficient to render a 'strong' feature — the kind that needs to be checked before PF — acceptable. (26c) means that 'strong' features may be ratified, as opposed to eliminated, on condition that they be represented by overt lexical (e.g., an overt subject NP) or morphological (e.g., overt SAM) material. (26d) means that an entire AGR-feature can be eliminated either by a verb without overt SAM or by a null subject. (26e) means that a weak spec-feature (which does not require an overt spec to satisfy it) must be checked specifically at LF, otherwise the spec-position will not be licensed at that level and the derivation will crash. This means, of course, that a weak spec-feature must be allowed to survive (i.e., not eliminated) to LF, although as noted in (26d) if the head-feature is eliminated the spec-feature will be eliminated along with it.

Falk assumes along with Chomsky that the grammar of a given language may independently define head- and spec-features as strong or weak. With regard to AGR, strong and weak head-features are reflected empirically in the presence or absence, respectively, of syntactic V-Rising, while strong and weak spec-features are manifested in obligatoriness vs. optionality of overt subjects (i.e., -/+ pro-drop) respectively. Adding in rich vs. poor SAM as a third empirical feature (relevant for the distinction between elimination and ratification of head-features), Falk's hypothesis motivates an octo-valent typology of languages represented in Table 1 on the next page. Of these eight logically possible combinations all but one are attested; that one is in fact impossible according to Falk's hypothesis since it involves the elimination at SS of a spec-feature which, being weak, nevertheless needs to be independently checked at LF.⁸

As is evident from Table 1, Falk's hypothesis provides a much better fit with the data than stronger versions of Pollock's hypothesis. It also represents a heuristic improvement on the various revisions mentioned in §5.2, in that the three distinct features it invokes are all at least to some extent directly observable on the surface (assuming the validity of Pollock's diagnostics for V-AGR Merger timing). Its weakness is in substituting for a bivalent typology one with three distinct features resulting in eight logically possible combinations, only one of which is impossible.

5.4. Theoretical Status of Synchronic Variation

Falk 1994 argues that her hypothesis accounts for the optionality of V-Rising in Old Swedish in the presence of pronominal subjects. If we regard such pronominal subjects as clitics that tend to incorporate into the relevant functional head, then they have the option of eliminating AGR's

⁸This detail raises the question, Would a language with poor SAM, syntactic V-Rising, and obligatory null subjects (which would never need a licensed SPEC-AGRP position) be possible? Such a language would presumably not be able to serve all of a natural human language's communicative purposes, therefore would be excluded for general cognitive reasons.

	AGR feature constellation	empirical manifestation	checking procedure	representative languages
a.	strong head-feature weak spec-feature	rich SAM +pro-drop syntactic V-Rising	head-feature ratified by SAM; spec-feature checked at LF	Old English Old Swedish
b.	weak head-feature weak spec-feature	rich SAM +pro-drop delayed V-Rising	all checking delayed until LF	Vedic Sanskrit Hungarian Serbo-Croatian
c.	strong head-feature strong spec-feature	rich SAM -pro-drop syntactic V-Rising	head-feature ratified by SAM; spec-feature by overt subject	Middle English Modern German Modern French
d.	weak head-feature strong spec-feature	rich SAM -pro-drop delayed V-Rising	spec-feature ratified by overt subject; head-feature checked at LF	Hallingdalen Norwegian
e.	strong head-feature weak spec-feature	poor SAM +pro-drop syntactic V-Rising	head-feature eliminated, weak spec-feature unchecked	UNATTESTED; HYPOTHETICALLY IMPOSSIBLE
f.	weak head-feature weak spec-feature	poor SAM +pro-drop delayed V-Rising	all checking delayed until LF	Chinese 16th-century Swedish
g.	strong head-feature strong spec-feature	poor SAM -pro-drop syntactic V-Rising	head-feature eliminated, strong spec-feature unchecked	Kru, Kronoby Swedish Early Modern English (1400-1700)
h.	weak head-feature strong spec-feature	poor SAM -pro-drop delayed V-Rising	spec-feature ratified by overt subject; head-feature checked at LF	Modern English Modern Standard Swedish

Table 1
Falk Octo-valent Typology

spec-feature. Since this elimination has the consequence of also eliminating the head-feature, syntactic V-Rising would not be necessary.

A similar account can account for the variation between syntactic V-Rising and Do-Support in negative clauses in Early Modern English noted in (24). Assuming that at this stage both head- and spec-features are strong, syntactic V-Rising in the absence of overt SAM would result in the elimination of the head-feature and the consequent elimination also of the spec-feature. But if the spec-feature could also be independently eliminated at SS that would lead to the elimination of the head-feature, in which case the verb wouldn't need to rise to check it. We would need to account for the elimination of a strong spec-feature in the presence of an overt Spec, but Falk's wording (cf. (26c)) does not assert that the presence of overt lexical material prevents the incorporation and elimination of the relevant feature, only makes it unnecessary. So this analysis would account for the variation noted in (24). It would further predict that all languages with both strong head- and spec-features in AGR but with poor SAM would exhibit similar variation, since the same option of eliminating the spec-feature independently of the head-feature would apply to all of them.

6. Conclusion

Of all the versions known to me of Pollock's hypothesis, Falk's described above seems the most promising. She has an empirically impressive typology and a plausible stab at an adequate theoretical account of synchronic variation within one grammar. The one obvious disappointment in her hypothesis is that it defines an octo-valent typology only one option of which is neither attested nor theoretically possible. Where one might prefer a typology that says that all possible languages can be classified into two types, she offers seven. But if that's what the data force on us there's not much we can do about it.

All of this, of course, assumes that V-AGR Merger timing can be identified on the basis of Pollockian diagnostics involving adverbials, etc., whose reliability, as noted in §3.3, there is good reason for doubting. This being the case, much of the work that has been done in this area, including Falk's, is very possibly methodologically flawed. Note furthermore that the very notion of linking verbal syntax (i.e., the details of the movement of verbs) to verbal morphology is highly suspect, as argued by e.g. Joseph & Smirniotopoulos 1993. Ultimately, the question rests upon the legitimacy of 'functional heads' and the representation in constituent structure of syntactic information which in other viable frameworks of syntactic theory (e.g., Lexical-Functional Grammar, Role & Reference Grammar) is represented in ways completely independent of constituent structure. This consideration raises a serious question as to the value of this whole research program.

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