

Particles, V2 and the ungrammaticality of verb-initial structures^{*}

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Abstract

In V2 languages subject-verb inversion is followed by obligatory topicalisation, in VSO languages it is not. I propose that verb movement in V2 languages is self-attachment, while in VSO languages it is adjunction to a VP-external head. This analysis makes predictions on typology, language acquisition and change. Evidence comes mainly from Welsh, Breton, and Early Swedish.

1 Introduction

Verb-second (V2) languages and VSO languages form a syntactic minimal pair. In both types there is obligatory inversion of the finite verb and the subject but only in V2 languages this inversion is obligatorily followed by topicalisation of a phrasal constituent (possibly the subject itself). Given the substantial body of work on V2 phenomena in generative syntax, surprisingly little attention has been paid to the comparative study of V2 and VSO languages.¹ This is the more surprising as this comparison might provide some clues to the proper analysis of topicalisation in V2 languages, a challenge for any account of V2.

The Celtic languages provide an ideal background for this issue. It is well known that most Celtic languages are VSO languages. The Welsh examples in (1) illustrate this.

* This is an expanded version of a talk given at the Third Celtic Linguistics Conference in Dublin in May 2000. It is based on a manuscript called 'A structural trigger for topicalisation in V2' from September 1999, other parts of which are developed in Bury (2000a,c). Many thanks go to Ad Neeleman for many discussions and good advice. Thanks also to the Dublin organisers and audience, and to Michael Brody, Hans van de Koot, Anna Roussou, and Neil Smith for helpful comments and questions at various stages.

¹ But see Koenenman (2000), Roberts (2000), Roberts & Roussou (to appear).

- (1) a. Mi welais i Megan. **Welsh**
 PRT saw I Megan
 ‘I saw Megan.’
 (Roberts 2000:5)
- b. Mae Aled yn credu [y darllenith Elen y llyfr]
 is Aled PROG believe PRT read-FUT Elen the book
 ‘Aled believes that Elen will read the book.’
 (Tallerman 1998:(1))

However, Breton, the closest relative of Welsh, is an exception among the Celtic languages. While Breton is VSO in embedded clauses (2d-e) (from Schafer 1995), it is V2 in main clauses (2a-c) (from King 1982).

- (2) a. Me a re al levr dezhi breman. **Breton**
 I PRT give the book to-her now
 ‘I am giving the book to her now.’
- b. Al levr a rein dezhi breman.
 the book PRT give-1SG to-her now
 ‘The book I give to her now.’
- c. Breman e rein al levr dezhi.
 now PRT give-1SG the book to-her
 ‘Now I am giving the book to her.’
- d. Kredin ran [en deus aret Yann e bark]
 believe do-1S PRT have-3m plowed Yann his field
 ‘I believe that Yann plowed his field.’
- e. Mona a lavar [e oar Yann ar
 Mona PRT say-3S PRT know-3S Yann the
 respont]
 answer
 ‘Mona says that Yann knows the answer.’

In this paper I argue for a theory in which the properties of V2 follow from general well-formedness conditions on clause structure. In particular, no stipulation will be necessary to account for the obligatory occurrence of topicalisation. In turn this theory imposes powerful restrictions on the availability of VSO structures, which leads to a number of interesting predictions for typology, language acquisition, and language change.

The paper is structured as follows. Section 2 contains some reflections on the treatment of V2 phenomena with a view to language variation, and formulates a number of properties that a successful theory of V2 should have. In Section 3, a theory of V2 is introduced that has these properties. Section 4 looks at the acquisition of a V2 language in the light of this theory. In Section 5 it is shown how this theory can account for the existence of VSO languages and some predictions are spelled out. In Section 6 Breton word order is discussed, and it will become clear what distinguishes Breton from Welsh (and the other Celtic languages). Section 7 concludes the paper.

2 Demands on a theory of V2

While there is some agreement on the meaning of *V2 structures* – I will assume that V2 structures are those in which a verb in a derived position is obligatorily preceded by a constituent of arbitrary category – the syntactic mechanism underlying these structures is often not clearly spelled out. In the literature it is often assumed that there is one or more V2 parameters but it is not always made explicit what the content of the assumed parameter(s) is (or are). While a detailed discussion of previous proposals would in any case go beyond the scope of this paper, there is room to raise some general points.

Assume that there is a single binary parameter. This parameter would in some form have to state two requirements, (i) the finite verb occurs in the highest head position, (ii) some (phrasal) constituent occurs in the specifier of the moved verb. A binary parameter cannot be partially switched on. This entails that a language either is or is not a V2 language. Presumably, a language like English would then have a negative setting of this parameter. Consequently, the residual V2 phenomena found in English are beyond the explanatory reach of such an account of V2. A similar problem for a mono-parametric account of V2 is the variation found within the languages that are generally assumed to be V2 languages, say the modern Germanic languages minus English. As is well known, V2 is limited to main clauses only in some of these languages (e.g. German), while others have V2 also in embedded clauses (e.g. Yiddish). If we take into account other languages that show V2 patterns (e.g. Old French, Old English, Middle

Welsh), further variation is found with regards to whether the language allows material before or after the usually unique preverbal XP. Thus, a single parameter appears to be too rigid to account for the various types of V2 phenomena found within the V2 languages. It also has, by definition, nothing to say about phenomena that are descriptively very similar to V2 structures, but which occur in languages with a negative setting of the V2 parameter (e.g. the *galdegaia* position in Basque (Ortiz de Urbina 1989), residual V2 in English (Rizzi 1991), certain inversion structures in Hebrew (Shlonsky 1997)).

If on the other hand a range of parameters is invoked upon to explain V2 effects, the notion of V2 itself would no longer be theoretically meaningful. The coherent surface pattern referred to as "V2" would be a mere epiphenomenon of a complex set of underlying rules. Whether such a step is necessary is ultimately an empirical question. However, a theory that can account for the cross-linguistic variation of V2 effects, and at the same time relate their occurrence to a shared grammatical property of the relevant languages (or to principles of UG), would seem to come closer to an actual explanation of the phenomenon.

To conclude, a successful theory of V2 should have two features. It should be rigid enough to provide a principled account of the co-occurrence of verb movement and the obligatoriness of an initial constituent. In doing so it should not make recourse to such an *ad hoc* condition as "The specifier of a head with the feature +X must be filled." On the other hand, the theory should be flexible enough to allow for a unified treatment of the various flavours of V2 found across different V2 languages and the minor V2 patterns found in non- or residual V2 languages.

3 A unified analysis of V2 without a V2 parameter

Koenenman (1995) proposes an analysis of V2 that meets the demands set out in the previous section. A version of this proposal is introduced here. Following Ackema et al (1993) and Neeleman & Weerman (1999) verb movement to an empty position is analysed as *self-attachment* (Chomsky 1995a), that is the verb moves and projects an additional phrase.² Furthermore, clause structure is not universal but depends on the occurrence of verb movement.

² Chomsky's (1995b) stipulation that it is always the target that projects after movement is rejected. The projection of moved material is constrained by the Generalised Projection Principle (Brody 1998):

In this view a clause consists essentially of recursive verbal projections (plus projections headed by functional items inserted from the lexicon such as complementizers).³ Consequently the formulation of a V2 parameter in terms of the features of an abstract functional head is not possible in this theory.

In line with proposals by Muysken (1982) and Chomsky (1995a), bar-levels indicating whether a node is a head, a phrase, or an intermediate projection have no theoretical status. Instead nodes are interpreted relationally by the interpretive system in terms of the features [+/-maximal] and [+/-projected] (see also van Riemsdijk 1998). Clause structure is interpreted in terms of *projection lines*. A projection line is the maximal set of nodes, in which each node is a (partial) copy of the node it immediately dominates (except for the lowest node, which is copied from the lexicon) (see Brody 1998). (3) spells out some well-formedness conditions on projection lines.

- (3) a. The highest node in a projection line is [+maximal].
- b. The head of the projection line is [-projected].
- c. Within a projection line, no [-maximal] node can dominate a [+maximal] node, and no [-projected] node can dominate a [+projected] node (see also the No Value Reversal condition in van Riemsdijk 1998).

For expository purposes I will use the traditional bar notation to indicate the interpretation a node receives at the interface, where XP is an abbreviation for [+maximal, +projected], X' for [-maximal, +projected], and X for [+/-maximal, -projected].

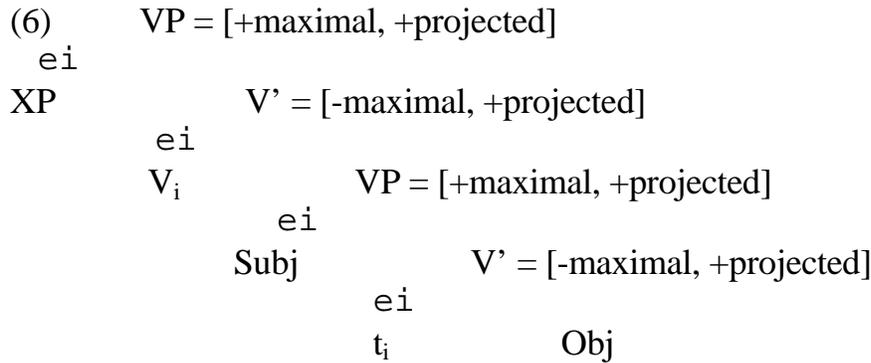
V2 configurations involve a verb in a derived position. (4) is the (minimal) structure containing a verb in a derived position.

- (4) [V_i [Subj t_i Obj]]

Projectional (categorial, thematic, selectional) features that link a member of a chain C to its C-external environment must hold in and be satisfied by the root position of C.

³ Epstein (1998) proposes that the principle of Full Interpretation and X-bar theory force the labels of functional categories such as T, Agr, C to delete at LF. This gives rise to what he calls 'category-neutral LF representations', structures consisting of recursive VPs (see also Ouhalla 2000). Since Epstein's proposal and the present theory have very different premises this is a remarkable convergence.

moved verb can be interpreted as V' since it is dominated by a node with the same categorial features.⁴



In (6) every phrase has a uniquely defined head. The projection line of the copy of V is interrupted by the higher V'. The lower VP is [+maximal], and the higher V' is [-maximal]. This means that the two cannot be in the same projection line, since domination of a [+maximal] node by a [-maximal] node is excluded by (3c).

It was demonstrated that a structure created through self-attachment violates Endocentricity, and that this problem can be repaired through the projection of an additional specifier.⁵ From this we can derive the following theorem:

(7) Self-attachment triggers the creation of a specifier.

The derivation of V2 structures follows straightforwardly. In V2 structures the verb moves and projects again. Consequently a single phrase must move into (or be generated in) the specifier of the fronted verb. The freedom with respect to category or function of the initial phrase that is characteristic of V2 phenomena is expected because

⁴ If the node immediately dominating the subject is interpreted as V', the structure will again violate Endocentricity because both the moved verb and the trace are related to VP through a projection line:

(i) *[_{VP} XP [_{V'} V_i [_{V'} Subj [_{V'} t_i Obj]]]]

⁵ The same reasoning applies to fixed clause structure theories if Epstein's (1998) arguments are accepted (see footnote 3). This then implies that no functional projection targeted by the verb can lack a specifier (see Bury 2000b).

the phrase occurs in the specifier of the moved verb purely to satisfy a structural requirement.⁶

The ungrammaticality of verb-third structures also follows. V3 in other languages may involve the subject and a constituent fronted for semantic/pragmatic reasons such as a Topic or a Focus. The same triggers may apply in a V2 language. However a single fronted phrase will already suffice to repair a self-attachment structure, regardless of the trigger of its movement. This means that if a phrase occupies the derived specifier position for independent, non-structural reasons, there will be no trigger for further topicalisation.^{7,8}

In this theory no reference is made to a particular functional head as the locus of the V2 property. The variation found across different languages can so be explained more naturally than in standard accounts. Since clause structure is flexible the occurrence of V2 in embedded contexts causes no problems. The core V2 pattern, the obligatory occurrence of an arbitrary phrase in front of a moved verb, follows from general conditions on clause structure. The properties of the verbal projection involved are irrelevant. The differences among V2 phenomena can then be explained in terms of the triggers of verb movement. For example, if verb movement in a language is triggered by the need to assign case to the subject it is expected that verb movement also takes place in embedded clauses. This may be the case, for example, in Yiddish (see Santorini 1994). If on the other hand in a language the verb moves to mark a clause as a matrix clause, it is predicted that the verb will not move in embedded clauses (see Bury 2000c, Kayne 1982 for a related proposal).

4 Topicalisation and language acquisition

⁶ The verb-initial structures found e.g. in German are only apparently problematic. These constructions have a particular semantics (e.g. *yes/no*-questions) or are restricted to particular discourse situations (e.g. topic-drop). In these cases it is plausible to assume that an empty element, such as a covert counterpart of the *wh*-operators, or a discourse-licensed empty category, occupies the derived specifier position. See Bury 2000c for further discussion. Willis (1998, Chapter 4) addresses similar issues concerning Middle Welsh.

⁷ Thanks to Ad Neeleman for suggesting this line of argument.

⁸ It is possible to argue that in SVO languages with so-called ‘V-to-I’ movement the effects of self-attachment are always overcome through independently motivated movement of the subject. However it is not clear that this kind of verb movement exists (see Williams 1994a,b).

In this theory whenever verb movement is self-attachment a specifier must be projected. Such verb movement always triggers topicalisation. On the other hand, topicalisation can take place independently of verb movement. It is then expected that, in principle, there may be structures involving a pre-subject constituent but lacking subject-verb inversion such as (8).

(8) XP - Subj - Verb - ...

Indeed such structures are found in numerous languages. (9) illustrates that it is a possible structure in English, Finnish and French:

- (9) a. Ribot you ought to know through all his scary guitar work for Tom Waits.
Time Out 1554 (2000:117)
- b. Aina sinä olet myöhässä. **Finnish**
 always you are late
 ‘You are always late.’
 Holmberg et al. (1993)
- c. Aux enfants je pardonne tout. **French**
 To children I forgive everything.
 Cadiot (1992: (1a))

If the theorem in (7) holds, it should have some implications for language acquisition. Assume that a language has the following surface order. The verb is in a derived position and it is preceded by a single phrasal constituent as in (10).

- (10) a. XP V_i [VP ... t_i ...
 b. *YP Subj V_i [VP ... t_i ...

A theory in which verb movement and topicalisation are not related makes no claims about which of the two movements should be acquired first. On the other hand, in the present theory, verb movement triggers the fronting of a phrase; verb movement cannot take place without topicalisation, but topicalisation can without verb movement. Thus the theory predicts that it will be impossible to acquire verb movement before topicalisation. Consider Swedish, a V2 language with the properties in (10). A structure like (10b) involving two preverbal phrases is ungrammatical:

- (11) a. Idag köpte hon en ny bil. **Swedish**
 today bought she a new car
 ‘She bought a new car today.’
 b. *Idag hon köpte en ny bil.
 c. *En ny bil hon köpte idag
 Wechsler (1991:(1a,c,d))

In her study of the acquisition of V2 in Swedish, Santelmann (1999) provides data that confirm the prediction made by this theory. Santelmann observes that verb movement only occurs together with a filled specifier position:

- (12) Nu ska jag gå. **Early Swedish**
 now shall I go
 ‘Now I’ll go.’

Structures involving movement of the verb across the subject with no other element preceding the verb, are not found in Santelmann’s study:⁹

- (13) * V_i [_{VP} Subj t_i ...

This is the pattern predicted by (7): Verb movement triggers topicalisation. Furthermore, the children in Santelmann’s study produce sentences which involve topicalisation without verb movement, parallel to (10b)), which are ungrammatical in the adult language, but which, unlike (10b), are sanctioned by UG:

- (14) a. Nu han kör. **Early Swedish**
 now he drives
 ‘Now he drives.’

⁹ In fact, there are some cases of apparent verb-initial orders. However, Santelmann (1999:286ff) points out that these cases can be analysed on a par with verb-initial structures in the adult language, namely as involving an empty constituent in the highest specifier position. (i), for example, contains an empty object in the initial position:

- (i) Läger vi på den bil.
 Set we on this car
 ‘[That] we set on this car.’

- b. Det pappa gjort.
 That papa made-PARTICIPLE
 ‘That papa (has) made.’
- c. Var han bor?
 Where he lives
 ‘Where he lives?’

In this theory, the absence of sentences involving verb movement without topicalisation from Early Swedish and the availability of topicalisation without verb movement, which is ungrammatical in the adult language, are expected.

5 The derivation of VSO languages

The theory developed in Section 2 allows for an elegant account of V2 phenomena and of related patterns in language acquisition. However, the existence of VSO languages seems to pose a serious problem. If verb movement is always self-attachment and self-attachment triggers topicalisation, such languages should not exist. This problem was not recognised in Koenenman (1995), but we will now see that rather than being too rigid to allow for the existence of VSO languages, the theory makes an interesting prediction about their structure.

Consider Welsh. The examples in (1) showed that the verb is not always in absolute initial position. It is often preceded by a preverbal particle.¹⁰ An appealing analysis of this would be to assume that the particle is a functional head. VSO order could then be derived by movement of the verb as in (4), followed by insertion of the particle, resulting in (15).

- (15) *_{[PrtP Prt [VP V_i [VP Subj [V' t_i Obj]]]]}

This derives the right order (Prt-V-Subj-...). However (15) involves self-attachment, so it suffers from the same structural problem as the structures in (5). The higher VP has

¹⁰ The preverbal particles in the Celtic languages very often delete. However, there is evidence that they are underlyingly present. In some contexts, the particles trigger a phonological process, *mutation*, on following consonants, and as Jones & Thomas (1977:362) note with reference to the use of the *fe*, *mi* and *i* in spoken Welsh “The mutation effects of these particles are still present whether or not the particles themselves occur.”

two potential heads. Unlike the creation of a specifier position in (6), the insertion of a particle in (15) does not interrupt the projection line containing the higher VP and the trace of the moved verb. Since the particle is inserted on top of an ungrammatical structure, there is no way to salvage (15). Thus (15) is not a possible derivation.

A notable property of Welsh is that the verb and the preverbal particle are always adjacent:

- (16) a. Mi wnaeth y ceffyl fwyta'r moron I gyd. **Welsh**
 PRT did the horse eat the carrots all
 'The horse ate all the carrots.'
 (Jones & Thomas 1977:7)
- b. *Mi heno wnaeth y ceffyl fwyta'r moron i gyd.
 PRT tonight did the horse eat the carrots all

This suggests that rather than being an independent functional head, the particle in Welsh may be part of a complex verb consisting of a particle and a stem. This complex head could then raise to initial position:

- (17) a. $V \rightarrow [_V \text{Prt}+V]$
 b. $*[_{VP} [_V \text{Prt}+V]_i [_{V'/VP} \text{Subj} [_V' t_i \text{Obj}]]]$

The structure in (17b) is isomorphic to those in (5). As in (5), there is self-attachment creating a structure that violates Endocentricity. Thus, (17) cannot be the right derivation for VSO structures. However, unlike for (15), there is a way in which (17) can be rescued. Since (17) is equivalent to (5), it can also be fixed through the creation of a specifier position, resulting in a structure isomorphic to (6):

- (18) $[_{VP} \text{XP} [_V [_V \text{Prt}+V]_i [_{VP} \text{Subj} [_V' t_i \text{Obj}]]]]]$

Since it leads to the wrong word order (XP-Prt-V-Subj-...), (18) is not a possible derivation for Welsh VSO structures, but it is not ruled out in principle, and indeed it will become clear in Section 6 that it may be the right derivation for Breton.

A different way to derive the adjacency of particle and verb in Welsh is to assume that preverbal particles are independent heads after all, but that the moved verb adjoins to this head:

- (19) a. [_{PrtP} Prt [_{VP} Subj [_{V'} V Obj]]]
 b. [_{PrtP} [_{Prt} Prt+V_i] [_{VP} Subj [_{V'} t_i Obj]]]

While insertion of the particle in (15) is preceded by movement of the verb, in (19) the particle is inserted before the verb moves. Hence, there is no self-attachment. The projection of the particle, PrtP, and the projection of the verb, VP, do not have identical features, and both have unique heads. Consequently (7) is irrelevant to (19b) and no topicalisation is forced. This derivation predicts VSO order and adjacency of the particle and the verb, the right result for Welsh. The example in (1a) then has the following structure:¹¹

- (20) [_{PrtP} [_{Prt} mi+welais_i] [_{VP} i [_{V'} t_i Megan]]]

This discussion showed under which conditions VSO languages can be accommodated within the restrictive analysis of V2 initially suggested in Koenenman 1995. VSO languages are possible only if clause structure provides a VP-external head, to which the verb can adjoin. Recall that clause structure is not assumed to be fixed. This means that the structure of the functional domain of a particular language must be acquired. As Koenenman & Neeleman (to appear) point out, it then follows from general conditions on language acquisition that there will be no consistently empty heads. This argument, together with the preceding discussion implies the following typological prediction:

- (21) VSO languages have preverbal particles.

Indeed this generalisation has been noted in the literature (see e.g. the introduction of Carnie & Guilfoyle 2000, Carstairs-McCarthy 1999; Bury 2000c for more discussion).

A further prediction can be derived from the discussion of V2. It was argued that the V2 pattern is a result of the occurrence of self-attachment. If there is self-attachment, there is V2 (if there are no further constraints on the structure). If the V2 pattern is taken to be a diagnostic of self-attachment, it follows that in a V2 structure there can be no VP-external head position that the verb movement could target. If there were a possible adjunction site for the verb, there would be no self-attachment, and

¹¹ It is often assumed that Welsh subjects move out of VP (see e.g. Roberts 2000). This is not incompatible with the present analysis. It is conceivable that verb movement creates successive VP-layers, and that only the final verb movement targets the preverbal particle:

(i) [_{PrtP} [_{Prt} Prt+V_i]_j [_{VP} Subj_j t_i [_{VP} t_j t_i...]]]
 The implications for subject-verb inversion remain.

consequently there would be no V2 pattern. Thus, the theory of clause structure assumed here implies that

(22) In V2 structures there is no (projecting) preverbal particle.

Typologically this means that a language with dominant V2 order cannot have preverbal particles in its unmarked constructions. This prediction holds for all the V2 languages I could check, namely the Germanic V2 languages, Kashmiri, Middle Welsh, for Breton (see below), and the cases of residual V2 in English.

A final prediction results from the combination of (21) and (22). If V2 languages lack a VP-external head, and all VSO languages have a VP external head, the change from V2 to VSO can only take place if a language develops a VP-external head. Interestingly, Welsh changed from V2 to VSO, and at the same time unmarked VSO order became available the language did develop a VP-external head, namely a main clause complementizer (see Bury 2000a, Willis 1998 for detailed discussion).

6 The derivation of V2 and VSO in Breton

The examples in (2a-c) show that in Breton the finite verb in second position is typically preceded by a particle. At first sight, this fact appears to contradict the prediction that V2 languages lack a VP-external head. However compare the content and the structural status of these particles in Breton and Welsh. Examples from Welsh are given here:

(23) a. Mi oedd John yn chwerthin. **Welsh**
 PRT was John in laugh
 'John was laughing.'

b. Mae Mair yn gwybod [yr oedd John yn chwerthin]
 is Mair in know PRT was John in laugh
 'Mair knows that John was laughing.'
 (Jones & Thomas 1977:358)

(24) a. Ni chiciodd yr bachgen y pel.
 NEGkicked the boy the ball
 'The boy didn't kick the ball.'

- b. Gwyddwn na chiciodd yr bachgen y pel.
 I-know NEG kicked the boy the ball
 ‘I know that the boy didn’t kick the ball.’
 (Louise Stanley, personal communication)

Observe that both main and embedded clauses are VSO. These clause types are distinguished only through appropriate choice of particle. The particles *yr* and *mi* in (23) introduce embedded and main clause declaratives, respectively. The particle *ni(d)* is used in main clause negatives, as in (24a), while its embedded clause counterpart is *na(d)*, as in (24b). Thus the particles indicate whether a clause is a main clause or an embedded clause. This is a property typically associated with complementizers (Bresnan 1970). Thus an analysis of the Welsh particles as complementizers (see Hendrick 1988, Willis 1998) is well motivated, and the claim that these particles head their own projection seems plausible.

What about the particles in Breton? While these particles have also been analysed as complementizers (see Hendrick 1988), it is not obvious that this is the right analysis. Consider the following (from Stephens 1982:10):

- (25) a. Annaig a gerc’ho bara evit koan. **Breton**
 Annaig PRT fetch-FUT bread for dinner
 ‘Annaig will fetch bread for dinner.’
- b. Bara a gerc’ho Annaig evit koan.
 Bread PRT fetch-FUT Annaig for dinner
 ‘Annaig will fetch bread for dinner.’
- c. Evit koan e kerc’ho Annaig bara.
 For dinner PRT fetch-FUT Annaig bread
 ‘Annaig will fetch bread for dinner.’
- d. Lenn al levr a ra Anna.
 Read the book PRT do-PRES Anna
 ‘Anna reads the book.’
 (Stephens 1982:24)

These examples are representative of the distribution of the particles *a* and *e* in main clauses. Roughly, the particle *a* occurs whenever an argumental NP, a non-finite verb

form, or a VP precedes the inflected verb, while the particle *e* occurs in all other cases (Stephens 1982). Unlike the particle *mi* that appears in Welsh main clause declaratives, the particles *a* and *e* also appear in embedded clauses. *E* can introduce embedded declarative clauses:

- | | | | | | | | | |
|------|---|-----|------|--------|-----|---------------|------|------------|
| | | | | | | Breton | | |
| (26) | Gouzout | a | ra | Lenaig | [e | lennas | Yann | al lizher] |
| | know | PRT | does | Lenaig | PRT | read-PAST | Yann | the letter |
| | 'Lenaig knows that Yann read the letter.' | | | | | | | |
| | Stephens (1990:(3)) | | | | | | | |

The particle *a* can introduce relative clauses. As observed by Timm (1988), use of *a* gives rise to ambiguity in this environment:

- | | | | | | | |
|------|-----------|---------|-----|---------|-----------|---------------|
| (27) | Ar plac'h | yaouank | a | weles | dec'h | Breton |
| | the girl | young | PRT | you-saw | yesterday | |

In isolation (27) can be interpreted as a simple matrix clause ('You saw the girl yesterday'), or as a relativised noun phrase ('the girl who you saw yesterday'). These data suggest that the Breton particles *a* and *e* do not distinguish main and embedded clauses. Their sole function seems to be to mark agreement with the constituent preceding the verb (see Stephens 1982, Stump 1989, Willis 1998). Therefore an analysis of *a* and *e* as complementizers is rejected.

Chomsky argues that agreement "is basically nominal in character" (1981:52). Following this claim, I will assume that as agreement markers *a* and *e* can be represented by (at least) the feature [+N]. As discussed in Section 5, the theory provides two alternative derivations for the particle-verb sequence; (i) the particle may head an independent projection and the verb adjoin to the particle via head movement, or (ii) the particle and the verb may form a complex head. Take the first option. The resulting structure is parallel to that in (19b) but it is headed by a [+N] category:

- (28) $[_{[+N]P} [_{[+N]} a/e+V_i] [_{VP} \text{Subj} [_V t_i \text{Obj}]]]$

This structure (abstracting away from verb movement) also resembles that of an English embedded clause introduced by the complementizer *that*, which presumably is also [+N]:

(29) [_{CP} [_C that] [_{VP} Chad [_{V'} plays the drums]]]

Note also that across languages complementizers typically derive from [+N] categories such as determiners, pronouns, and adpositions (see Noonan 1985). I will assume that this tendency reflects an interface strategy according to which a structure headed by a [+N] category is interpreted as syntactically dependent (see Kayne 1982, Williams 1994b for related ideas). This may explain the fact that, like nominal expressions, clauses introduced by [+N] complementizers usually occur in selected positions.^{12,13}

These considerations suggest that in Breton matrix clauses the particles *a* and *e* do not project independently, and that verb movement cannot be adjunction to a VP-external head. Instead I propose that the verb and the particle form a complex head as discussed in (17-18). Self-attachment of the moved complex head leads to a violation of Endocentricity, and makes necessary the creation of a specifier position. Thus, verb movement triggers topicalisation in Breton main clauses:

(30) a. [_V *a welas*] -->[_[+N] *a*] + [_V *welas*]

b. [_{VP} [_{DP} ar mab]_j [_{V'}[_V a+welas]_i [_{VP} t_j [_{V'} t_i [_{DP} ar plac'h yaouank]]]]]]]
 the boy PRT saw the woman young
 ‘The boy saw the girl.’

It was just argued that the particles *a* and *e* cannot head a projection in matrix clauses because they are [+N], and it was noted that the structure headed by *a/e* in (28) resembles that of an embedded clause in English. This suggests that it should be possible for an embedded clause to be headed by *a/e*. Unlike in main clauses, verb movement could then be adjunction to a VP-external head rather than self-attachment,

¹² Adjunct clauses are often introduced by a different set of complementizers.

¹³ There are clauses headed by a complementizer that do occur independently:

(i) Dass er auch immer seine Hausaufgaben vergessen muss!
 That he too always his homework forget must
 ‘That he always forgets his homework!’

However, such examples receive an interpretation different from their syntactically embedded counterparts, and their dependence on particular contexts makes it possible to argue that they are pragmatically embedded.

and VSO order is predicted. As (2d-e) showed, Breton embedded clauses are indeed VSO. (2e) then has the structure in (31).¹⁴

- (31) (Mona *a* lavar) [_{[+N]P} [_[+N] *e* + lavar]_i] [_{VP} Yann [_v t_i ar respont]]]]
 Mona PRT say-3S PRT know-3S Yann the answer

7 Conclusion

There is an asymmetry between two groups of languages that display generalised subject-verb inversion. In V2 languages movement of the verb is obligatorily followed by the fronting of a constituent to (or merger in) the specifier of the moved verb. In VSO languages no further operation is necessary after verb movement. In Section 3 it was argued, following Koenenman (1995), that verb movement in V2 languages is self-attachment, and that self-attachment triggers obligatory topicalisation. This was related to the theorem repeated here:

- (7) Self-attachment triggers the creation of a specifier.

In Section 4 it was shown how this theorem correctly predicts a relative order in the acquisition of verb movement and topicalisation in Early Swedish. Swedish children produce sentences involving topicalisation without verb movement, but no sentences involving verb movement without topicalisation. In Section 5 it was argued that the theory can be extended to account for the existence of VSO languages. Unlike in V2 languages, verb movement in VSO languages targets a VP-external head. This means that topicalisation is not obligatory, and it derives the typological generalisation that VSO languages typically have preverbal particles, while in turn V2 structures lack a VP-external head. In Section 6 a difference in their particle systems was argued to be the reason for the contrast between the Celtic VSO language Welsh and the Celtic V2 language Breton. In Welsh preverbal particles are complementizers that head a VP-external projection, and verb movement can target these particles. In Breton preverbal

¹⁴ The declarative agreement markers *a* and *e* are in complementary distribution with the negative particle *ne*. *Ne* heads a VP-external NegP, and as expected negatives are VSO (Stephens 1990:(6)):

- (i) [_{NegP} [_{Neg} *ne+lenni*]_i][_{VP} ket Lenaig t_i al lizher]]
 NEG read NEG Lenaig the letter
 ‘Lenaig didn’t read the letter.’

particles are agreement marker with the feature [+N]. This means that in root clauses the particles cannot project independently, and instead form a complex head with the verb. This gives rise to V2 order. In embedded clauses the particles can project independently. Consequently verb movement is head adjunction, not self-attachment. This gives rise to VSO order. Along the way it was argued that the flexible theory of clause structure assumed here is particularly well suited to deal with verb-second because it is rigid enough to provide a principled account of the phenomenon while still being able to account for the cross-linguistic variation in a natural way.

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