

# Rethinking ‘residual’ verb second

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## Abstract

The term “residual verb second” is a misnomer for English, because V2 is in fact still productive in the language. Evidence for this comes from a previously undescribed negative inversion phenomenon innovated very recently in varieties of English. I propose an analysis for how such a restrictive V2 system could nevertheless be productive, appealing to learner-driven models of language change in which novel structures can arise as artifacts of the acquisition procedure. Specifically, I argue that innovative V2 arises when acquirers postulate a novel clause type characterized by a left-edge operator, which they analyze as a V2 environment by analogy with other non-declarative clause types involving such structures (e.g. interrogatives). This finds support from other cases of innovative V2 in English, Scots, and Afrikaans. Overall, we are left with a clearer picture of the status of V2 in English, and what it takes to innovate new V2 environments crosslinguistically.

**Keywords:** residual verb second, negative inversion, hyponegation, operator movement, learner-driven change

## 1 Introduction

English is something of a black sheep in the Germanic subfamily, its syntax departing from the familiar typological properties of that group in several non-trivial ways. The Verb Second (V2) phenomenon is a case in point: a quintessential part of the syntax of Germanic, English is nevertheless said to have lost this trait around the 15<sup>th</sup> century (Fischer et al. 2000: ch. 4). Despite this, a subset of clause types (non-declaratives: interrogatives, emphatic negatives, etc.) are characterized by subject-auxiliary inversion in the context of some clause-initial XP (“XP1”), a state of affairs clearly reminiscent of classic V2:

- (1) a. [Which fake news channel]<sub>XP1</sub> **are**<sub>V2</sub> you watching? *wh-question*  
b. [Under no circumstances]<sub>XP1</sub> **will**<sub>V2</sub> I believe your alternative facts. *negative inversion*

Rizzi (1990, 1996) labels this pattern *Residual Verb Second*, a choice of terminology implying that this restricted type of V2 is vestigial, persisting from some earlier (fully V2) stage of the language.<sup>1</sup>

In this paper, I argue that not all English V2 phenomena are vestigial—in fact, some are recent innovations, meaning the “residual” appellation is a misnomer. In other words, I claim that V2 is still productive in English, despite its restricted nature. This is an interesting result from the perspective of learner-driven models of language change (e.g. Lightfoot 1979, 1999, Westergaard 2007, 2009), as it tells us something about how acquirers postulate natural classes of clause types on the basis of their underlying syntactic properties (e.g. their left-edge operators), and not, as we will see, strictly on their surface properties.

The empirical foundation for this argument comes primarily from a detailed case study involving a novel type of negative inversion in English. Importantly, this phenomenon is superficially V1, but exhibits an array of properties consistent with the presence of a non-overt scope-bearing element in XP1 position; i.e., it is underlyingly V2, akin to what has been argued for e.g. polar questions (Klima 1964). This overt vs. non-overt distinction in the XP1 component arises throughout the broader typology of V2, but is apparently irrelevant to the learner, given that both types have been innovated quite recently in English, as we will see.

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<sup>1</sup>Residual (*adj.*) | /ɪˈzɪdʒəl/

(*New Oxford American Dictionary, 3rd ed.*)

1. Remaining after the greater part or quantity has gone; left after other things have been subtracted.

Before concluding, I comment briefly on three other examples of innovative V2, from English, Scots, and Afrikaans. These cases are quite different – Scots is like English in having a highly restricted V2 system, while Afrikaans has the most liberal V2 system in all of Germanic – so they represent empirical book-ends to a theory of how learners can extend an existing syntactic system to novel environments.

## 2 Background on present-day English V2

V2 in present-day English is quite restricted, in that it is only licensed in a particular set of clause types,<sup>2</sup> namely those involving subject-auxiliary inversion. Along with subject clitic inversion in French (which I do not discuss), this is the phenomenon that Rizzi (1990, 1996) dubs “residual” V2 :<sup>3</sup>

- (2) a. [Which pictures of herself]<sub>XP1</sub> **will**<sub>V2</sub> Mary<sub>i</sub> buy?  
 b. [At none of her<sub>i</sub> own parties]<sub>XP1</sub> **did**<sub>V2</sub> Kim<sub>i</sub> actually show up.  
 c. [Only on her<sub>i</sub> own terms]<sub>XP1</sub> **would**<sub>V2</sub> Sue<sub>i</sub> agree to the proposal.  
 d. [So pleased with herself<sub>i</sub>]<sub>XP1</sub> **was**<sub>V2</sub> Louise<sub>i</sub> that she forgot to say goodbye.

Following Klima’s (1964:253) seminal analysis of various surface-V1 clauses as underlyingly V2 (see further below), with a covert OP(erator) serving as XP1, we find the V2 property arising in several other non-declarative clause types beyond those in (1) and (2) (as we do elsewhere in Germanic):

- (3) a. [OP]<sub>XP1</sub> **Is**<sub>V2</sub> Twitter a good platform for creating foreign policy? *polar question*  
 b. [OP]<sub>XP1</sub> **Had**<sub>V2</sub> I known, I would have vetted him even more extremely. *conditional*

Sentences such as (1)-(3) stand out in present-day English, which famously lacks the V2 property in typical declarative clauses:

- (4) a. \*[Tomorrow]<sub>XP1</sub> **should**<sub>V2</sub> they go punting.  
 b. [Tomorrow]<sub>XP1</sub> they **should** go punting.  
 c. \*[To Louise]<sub>XP1</sub> **will**<sub>V2</sub> Kirsten give a large sum of money.  
 d. [To Louise]<sub>XP1</sub> Kirsten **will** give a large sum of money.

Historical varieties of English did have a robust V2 system; however, this trait is said to have been lost around the 15<sup>th</sup> century (Fischer et al. 2000: ch. 4).<sup>4</sup> This diachronic change seems to have served as the inspiration for Rizzi’s choice of the term “residual” to refer to the marked V2 patterns above.

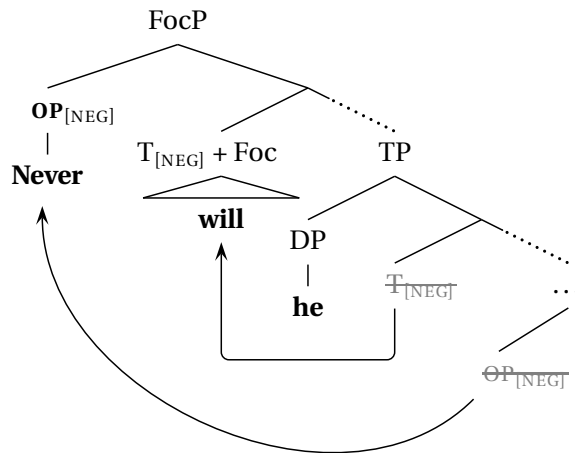
Building on proposals in Klima (1964) and May (1985), Rizzi argues that V2 phenomena in present-day English have both quantificational and affective (e.g. evaluative) properties, properly understood as the workings of an operator that has moved to the left periphery to take scope. This operator also triggers inversion – T-to-C movement – as a by-product of its  *criterial* property, which must be satisfied in a Spec-Head configuration with a head bearing the relevant feature (in this case, T): see e.g. the WH-criterion (May 1985, Rizzi 1990, 1996), the FOCUS-criterion (Brody 1990, Aboh 1993), and the NEG-criterion (Haegeman and Zanuttini 1991), all of which were later subsumed under a generalized AFFECT-criterion (see Haegeman 1995: ch. 2 for detailed summary). I illustrate the NEG-criterion below, followed by a sketch of its syntax based on Haegeman (2000:§5.4):

<sup>2</sup>“Residual” V2 in English is more restrictive than typical Germanic V2 in at least two other ways. First, only auxiliary and modal verbs can move to C, a function of their ability to occupy T in present-day English (unlike main verbs); i.e., V2 in English now involves T-to-C, not V-to-C (Roberts 1993: ch. 3). Second, the set of XPs that can appear in XP1 position is always dictated by independent properties of the clause types that license V2 (e.g. that a left-edge interrogative operator is required to build the semantics of questions), and never by purely information-structural properties arising from the discourse context (cf. focus/topic XPs in Germanic declarative clauses). I leave the first property aside, and return to the second further below.

<sup>3</sup>I exploit reconstruction effects in these examples to illustrate that the XP1 requirement in English “residual” V2 is satisfied via movement, as it is in typical V2 systems. For recent discussion on movement into XP1, and on whether the XP1 requirement can be satisfied by External Merge, see Holmberg (2015).

<sup>4</sup>There is an extensive literature on the factors responsible for the loss of V2 in English, a matter well outside the scope of this article. See van Kemenade (1987), Lightfoot (1999), and Haeberli (2002) for discussion and references.

- (5) **The NEG-criterion** (Haegeman and Zanuttini 1991)
- A NEG-operator must be in a Spec-Head configuration with an  $X_{[NEG]}$  (a head bearing a negative feature)<sup>5</sup>
  - An  $X_{[NEG]}$  must be in a Spec-Head configuration with a NEG-operator.
- (6) [Never]<sub>XP1</sub> **will**<sub>V2</sub> he vote for independence.



Recent analyses of prototypical V2 in Germanic and elsewhere – for example, that of Holmberg (2015) – assume that V2 involves the coincidence of two distinct features in the left periphery: one triggering XP movement, and one triggering movement of a verbal element.

Whether one adopts this type of approach or a Rizzian criterial approach, we must also ask: to what extent are inversion (V2) phenomena in English actually residual (that is: vestigial; persisting from an earlier variety)? Certainly some of them are. For example, from Old English onwards, matrix *wh*-questions have always involved an initial *wh*-phrase immediately followed by a tensed verbal element, just as matrix polar questions have always been surface-V1, etc. (see van Kemenade 1987 and Trips 2002, among others, and Walkden 2014: ch. 3 on deviations from strict V2 in Old English). Thus, some present-day inversion phenomena do in fact persist from much earlier stages of the language when V2 was widespread in the grammar.<sup>6</sup> The question we are faced with now is this: does the same necessarily hold for all English inversion phenomena? Or, are some of them more recent innovations, contrary to the conventional wisdom that “residual” V2 in English is fossilized and unproductive?

### 3 Innovative V2: *fuck*-inversion

In this section, I argue that English exhibits a V2 phenomenon that is not a relic from an earlier, fully-V2 variety of the language; rather, it is a very recent innovation—a case of *Innovative V2*. The existence of any newly-innovated V2 phenomenon erodes the utility of the term “residual V2” to describe the system of English.<sup>7</sup> In its place, I offer the term *Partial V2* (henceforth “PV2”), to remain agnostic as to the historical status of the inversion phenomena in question, while acknowledging the distributional restrictions that characterize this sort of V2 system.<sup>8</sup>

<sup>5</sup>See e.g. Laka (1990), Haegeman (1995, 2000), and Sailor (2017:97) a.o. on the distribution of [NEG], which is inherently related to tense (and thus T).

<sup>6</sup>Another vestigial V2 phenomenon in English is conditional inversion: see Biberauer and Roberts (2016). The diachronic status of what I have been calling CNI is somewhat disputed, but see Wallage (2012) for evidence that it emerged as early as the 12<sup>th</sup> or 13<sup>th</sup> century. Since this predates the stage when V2 is said to have been lost in English (the 15<sup>th</sup> century: Fischer et al. 2000: ch. 4), I regard CNI as vestigial for our purposes.

<sup>7</sup>Roberts (1996) also takes issue with this term, but for a different reason: he argues that full V2 in Germanic is innovative, while the “residual” pattern is historically prior (and thus a misnomer).

<sup>8</sup>The choice of terminology here is meant to reflect that of e.g. *partial null subject* systems, in which the syntactic licensing conditions on null subjects are more restrictive than in the typical systems of e.g. Italian; see Roberts and Holmberg (2010:§1.2.4) and D’Alessandro (2015:§9.1.1.3) for recent surveys. Note that the term *Partial V2* should not be confused with what is sometimes called “relaxed V2”, namely those V2 systems that tolerate V>2 (e.g. V3) orders (see Cognola 2015 and Hsu 2017 for overview discussion and references). Thanks to a reviewer for pointing out the potential confusion here.

This case study in Innovative V2 comes from a novel negative inversion phenomenon I refer to as *fuck*-inversion (FI). As it has not been described previously,<sup>9</sup> most of the discussion below is dedicated to laying out its basic empirical properties, and justifying its inclusion as an Innovative V2 phenomenon, despite its surface-V1 profile. To do this, I must first identify the source of its negative semantics, whose scope is sentence-wide (and thus not metalinguistic): this, I argue, is the work of a non-overt operator in the left edge of FI clauses—one that is associated with inversion of the PV2 sort. I then turn to the matter of its innovative status, and its consequences for the theory and typology of V2 in English and beyond.

### 3.1 Overview of FI

In colloquial registers of English from all across the British Isles, a particular utterance type expresses emphatic negation despite lacking overt negative morphology. What such utterances have instead is inversion of the tensed auxiliary or modal across the subject, and a conspicuous taboo phrase – *fuck*, for example – in post-subject position:

- (7) A: John is a nice guy.  
 B: Is he fuck (a nice guy) – he stabbed my cousin!  
 = *No he isn't (a nice guy)!*
- (8) They're all wearing kilts, but will I fuck be wearing one of them.  
 = *I definitely won't be wearing one of those.*

I refer to this phenomenon as *fuck*-inversion (FI). First, I lay out the major properties of FI in detail below; then, I explore its implications for the status of V2 in English.

In the varieties of English that have FI (to be made clear), there is some variation in the possible and/or preferred taboo elements. A non-exhaustive list is below:<sup>10</sup>

- (9) A: Apparently Alice has a new girlfriend.

B: Does she {  
 fuck  
 hell  
 'eck  
 ever  
 bugger  
 bollocks  
 balls  
 ... } !

Speakers report no difference in meaning among the taboo elements in (9), though the choice is no doubt influenced at least in part by register. In general, the taboo element in an FI clause must appear immediately after the subject;<sup>11</sup> no adverbs, auxiliaries, or other material can intervene:

- (10) a. \*Has he clearly {fuck/'eck/etc.} (done that).  
 b. \*Should they have {fuck/'eck/etc.} (been doing that).

FI is reminiscent of canonical negative inversion (CNI)<sup>12</sup> in Standard English (Lasnik 1972, Rudanko 1982, Haegeman 1995, Collins and Postal 2014, a.o.), but with a different surface profile:

<sup>9</sup>Except in an earlier version of this work (Sailor 2017).

<sup>10</sup>The use of *ever* in FI produces strings that are surface-identical to a type of English exclamative involving emphatic affirmative polarity. For example, the affirmative exclamative with *ever* is licensed in contexts where the speaker emphatically agrees with or confirms a preceding assertion:

- (i) A: These cheese grits are outstanding.  
 B: (Boy,) Are they ever!  
 = *Yes, they really are!*

Also note that a proper subset of the varieties with FI also allow a variant involving a continuation with *as like*, typically with *'eck* as the taboo element, e.g. *Is he 'eck as like!*; see Sailor (2017:91).

<sup>11</sup>In certain contexts, some speakers allow the taboo element to surface after the predicate; see Sailor (2017:106).

<sup>12</sup>I leave aside instances of CNI-like inversion with non-negative XPs, as in (2c)-(2d); see Collins and Postal (2014: ch. 14).

- (11) They're all wearing kilts, but under no circumstances will I be wearing one of those.

CNI is a prototypical example of PV2, involving a fronted operator accompanied by T-to-C in a special clausal environment, namely one involving emphatic negation.

Next, we will see that CNI and FI share deep syntactic and semantic similarities, indicating the presence of a non-overt negative OP in the left edge of FI clauses. In other words, FI involves an underlying V2 configuration, despite surface appearances. Later, I turn to FI's status as a newly-innovated feature of English, showing that it is in no way "residual".

### 3.2 The (hypo)negative status of *fuck*-inversion

FI is an instance of what Horn (2009) calls *hyponegation*, in which a negative interpretation arises from an utterance lacking overt standard negative morphology. Perhaps the most well-known example in English is the following:

- (12) I could care less.  
= *I couldn't care less.*

Despite lacking overt negative morphology, such hyponegative clauses behave in many ways like standard negative (SN) clauses, i.e. clauses containing the marker of sentential (proposition level) negation *not*/*n't*. As we will see below, FI behaves similarly.

At the same time, clauses involving canonical negative inversion (CNI) also behave in many ways like SN clauses. Below, I systematically compare SN clauses to both CNI and FI clauses, showing that they all pattern together with respect to standard tests for negativity in the literature (Klima 1964, Horn 1989:246, Haegeman 2012:43, a.o.).

First, like SN, both CNI and FI are downward entailing:

- (13) John claims to be a nationalist, but...
- |    |                                      |   |   |     |
|----|--------------------------------------|---|---|-----|
| a. | He will not vote for independence.   | ⇒ | He will not vote for <u>radical</u> independence.   | SN  |
| b. | Never will he vote for independence. | ⇒ | Never will he vote for <u>radical</u> independence. | CNI |
| c. | Will he fuck vote for independence.  | ⇒ | Will he fuck vote for <u>radical</u> independence.  | FI  |

Second, FI also licenses so-called strong NPIs, e.g. *punctual-until* (Horn 1989, Gajewski 2011):

- (14) My flight is tomorrow, but...
- |    |  |     |
|----|--|-----|
| a. | I will not be leaving until they pay me my money.    | SN  |
| b. | No way will I be leaving until they pay me my money. | CNI |
| c. | Will I fuck be leaving until they pay me my money.   | FI  |

Third, like SN and CNI clauses, FI can take *neither* tags, but it is incompatible with *so* tags (Klima 1964):

- (15) Q: Are you voting 'no' in the referendum?
- |    |  |     |
|----|--|-----|
| a. | A: I am not, and {neither / #so} are my friends.                               | SN  |
| b. | A: Under no circumstances am I doing that, and {neither / #so} are my friends. | CNI |
| c. | A: Am I fuck, and {neither / #so} are my friends.                              | FI  |

Fourth, Klima (1964) also notes that only negative clauses are compatible with *not even* continuations—again, CNI and FI both pattern like SN in this respect:

- (16) Q: Did Laura bring any gear?
- |    |   |     |
|----|---|-----|
| a. | A: She didn't bring any, not even any jellies.        | SN  |
| b. | A: No chance did she bring any, not even any jellies. | CNI |
| c. | A: Did she fuck bring any, not even any jellies.      | FI  |

Fifth, the ability to combine with a final *I don't think* parenthetical clause is another diagnostic for sentence-level negation (Postal 2004:§2.6); CNI clauses have this property, and, for at least some speakers, FI clauses

do as well:<sup>13</sup>

- (17) It's Ryan's birthday tomorrow, but...
- a. He's not gonna let anyone give him presents I don't think. SN
  - b. At no point is he gonna let anyone give him presents I don't think. CNI
  - c. %Is he fuck gonna let anyone give him presents I don't think. FI

Sixth, and finally, FI can associate with focus like both SN and CNI can (focal stress represented with SMALL CAPS). This is by no means a property unique to negation, but it is nevertheless a property associated with it:

- (18) You may have some luck getting Mary to vote for the Tories, but...
- a. You won't be convincing ME. SN
  - b. No chance will you be convincing ME. CNI
  - c. Will you fuck be convincing ME. FI

Thus, FI clearly bears a negative interpretation and patterns like SN clauses with respect to the relevant tests, just as CNI does.

Before concluding the discussion in this subsection, it bears mentioning that while FI, CNI, and SN clauses share the above behavioral characteristics, they are not interchangeable. In particular, FI and CNI have a narrower distribution than SN clauses, by way of (at least) their emphatic character (see Culicover 1991 and Haegeman 2012:§1.5.4 on this property of CNI, and Green 2014 on another type of emphatic negative inversion). For example, while an SN clause can be used as a partial answer to a wh-question (Simons 2007:1042), both CNI and FI are unacceptable there:<sup>14</sup>

- (19) Q: Who ate all the Jaffa Cakes?
- a. A: Siobhan didn't. SN
  - b. A: #In no way did Siobhan. CNI
  - c. A: #Did Siobhan fuck! FI

That CNI and FI are unacceptable as answers to wh-questions follows if their main contribution is emphatic polarity: this would mean that the portion of the utterance that would otherwise answer the question (e.g. *Siobhan*) lacks the necessary "main point status" (in the sense of Simons 2007) that felicitous answers to wh-questions require.

Finally, a sentential negation marker cannot co-occur with CNI or FI, even when negation is present in its antecedent:<sup>15</sup>

- (20) A: Catherine didn't have a drop to drink last night.
- a. B: \*No way didn't she (drink)! CNI
  - b. B: \*Didn't she fuck (drink)! FI  
(Intended meaning: it is not the case that she didn't)

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<sup>13</sup>Consultants report varying degrees of acceptability for (17c), which could be due to two different factors. First, these final parenthetical clauses convey some degree of epistemic uncertainty, making their use following an FI clause (and to a lesser extent a CNI clause), which carries strong epistemic certainty, slightly unnatural. Second, as Larry Horn (p.c.) points out, this test otherwise seems to require overt negation, perhaps to an even greater degree than the other tests considered, making it particularly surprising that anyone should accept (17c). Perhaps speakers vary in their sensitivity to these constraints.

<sup>14</sup>A possible additional problem with (19c) is that responses to wh- questions require the informative content of the answer to be focused (in this case, the subject), but FI is at least slightly degraded with subject focus:

[Context: a child is trying to talk his (foul-mouthed) parent into let him to go a party because his friend John is.]

- (i) ?John can jump off a bridge for all I care, but are YOU fuck going to that party tonight!

It is not immediately clear why FI should be allergic to subject focus, though trained consultants have speculated that it might be due to a stress clash with the adjacent taboo element, which itself requires a pitch accent. (The prosody of FI warrants study, but must remain for future work.) It should also be noted that the nature of the focus in wh- answers is different than that in (i) above (i.e. presentation/information focus vs. contrastive/identificational focus: É. Kiss 1998).

<sup>15</sup>I distinguish standard negation here from constituent negation, the latter being fully compatible with FI:

- (i) A: Carrie says she's able to not drink at parties.  
B: Can she fuck (not drink)!

An explanation of these similarities between FI and CNI is therefore warranted. First, though, I show that FI is not an instance of metalinguistic negation, despite superficial similarities to such expressions. Later, we will see that FI in fact involves sentence-level scope (a property not exhibited by metalinguistic negation).

### 3.3 FI does not involve metalinguistic negation or squatives

FI commonly arises in contexts where it takes another speaker's assertion as an antecedent and emphatically asserts its polar opposite (repeated from (7)):

- (21) A: John is a nice guy.  
B: Is he fuck (a nice guy) – he stabbed my cousin!

In this capacity, FI resembles a *total denial / reversing move* of Farkas and Bruce (2010:§4.1) (cf. *retorts* in Sailor 2014: ch. 3), and appears to behave along the lines of *like hell* (and *bullshit, the hell*, etc.: see Drozd 2001 on “exclamative sentence negation”), a similarly colloquial denial strategy, though with a wider dialectal distribution:

- (22) A: John is a nice guy.  
B: Like hell he is (a nice guy) – he stabbed my cousin!  
= *No he isn't (a nice guy)!*

However, FI exhibits several properties that distinguish it from *like hell* and other reversing strategies.

First, *like hell* (et al.) involves metalinguistic negation: it “focuses not on the truth or falsity of a proposition, but on the assertability of an utterance” (Horn 1989:363; see also Drozd 2001 and Martins 2014). FI can appear to behave this way, as we saw in (7)/(21), but, crucially, it need not. FI naturally occurs without an explicit linguistic antecedent, and may be used to cancel an implicature, even one introduced by the speaker's own utterance (see also (13) and (14)):

- (23) It's St. Patrick's day tomorrow...  
[*Implicature: people wear green on St. Patrick's day*]  
a. ...but will I fuck be wearing green.  
b. \*...but like hell I will be wearing green.<sup>16</sup>

Second, and relatedly, Drozd (2001) notes that as a type of metalinguistic negation, *like hell* is insensitive to the polarity of its antecedent, meaning it can take a negative clause:

- (24) A: You didn't wash the dishes.  
B: Like hell I didn't!  
= *It is not the case that I didn't*

However, we saw above in (20) that FI cannot take a negative antecedent: it seems to require affirmative content, whether implied or asserted, to pick up on. (See Wood 2014 for different emphatic polarity phenomenon involving a similar restriction.)

Third, in an FI clause, the negative context *fuck* appears in requires inversion, whereas many speakers who freely use FI with *fuck*, *'eck*, etc. reject inversion with *like hell* (see also Drozd 2001:57):

- (25) A: John is a nice guy.  
a. B: Is he fuck (a nice guy)!  
b. B: \*He is fuck (a nice guy)!  
c. B:%Like hell is he (a nice guy)!  
d. B: Like hell he is (a nice guy)!

This again suggests that FI has a different status than *like hell* (et al.). However, as the judgment mark on (25c)

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<sup>16</sup>Example (23b) may be bad for more than one reason. In particular, many speakers find *like hell* degraded when the clause it appears in does not contain VP ellipsis. VPE famously prefers a linguistic antecedent, making it difficult to test *like hell* in the above way.

indicates, some speakers do accept inversion with expressions such as *like hell*, including these naturally-occurring examples:

- (26) a. My left bollock is that a relevant issue!  
 b. My god is that an issue that affects THEM!

Speakers who allow such expressions to be accompanied by inversion have evidently swapped the metalinguistic character of these initial expressions for true negative XP status (see §3.4), meaning such examples are in fact instances of canonical negative inversion.

As evidence of this, and as further evidence that the *like hell* without inversion is in fact metalinguistic in nature (unlike FI), consider their behavior as responses to neutral polar questions. As (27) shows, both CNI and FI make suitable (albeit emphatically negative) answers to such questions. Similarly, in (28a), we see that a *like hell* clause involving inversion is also a licit response to a neutral polar question; however, the uninverted form in (28b) is infelicitous:

- (27) Q: Is it sunny outside?  
 a. A: In no way is it (sunny outside)! CNI  
 b. A: Is it fuck (sunny outside)! FI
- (28) Q: Is it sunny outside?  
 a. A: {Like hell / My left bollock / etc. } is it (sunny outside)!  
 b. A: #Like hell it is (sunny outside)!

Given the discussion of metalinguistic negation above, the source of the infelicity of (28b) is clear: it objects to the assertability of content that was not actually asserted in the first place, namely the question.<sup>17</sup> Given that (28a) is acceptable in the same context, I conclude that it is not metalinguistic in nature, but rather patterns exactly like a regular CNI clause, suggesting expressions such as *like hell*, *my left bollock*, etc., are, for at least some speakers, negative XPs of the same sort as those triggering inversion in CNI clauses like (27a).

It appears, then, that inversion is associated with such initial XPs, not with metalinguistic negation. Of course, this immediately raises questions about the nature of the inversion in FI clauses, in particular whether it is affiliated with a silent left-peripheral negative XP. I present clear evidence for this non-overt operator in §3.4.

At this point one might wonder whether *fuck* in FI belongs to the class of so-called *squatitives* of Horn (2001) (see also Postal 2004, de Clercq 2011), namely those “expressions of scatological origin” – *jack shit*, *(diddly) squat*, *fuck-all*, and the like – which have acquired negative force by means of the Jespersen Cycle (i.e. undergoing reanalysis as a negative; cf. French *ne...pas*) (Hoeksema et al. 2001). However, typical *squatitives* are thought to be undergoing the process currently, and thus can appear both in the absence of and alongside the standard negative marker with no difference in meaning (see Postal 2004):

- (29) John didn't do jack shit to help us. ⇔ John did jack shit to help us.

On the other hand, overt standard negation is impossible with FI (and I am not aware of evidence that it was ever possible), as we saw in (20).

More conspicuously, canonical *squatitives* look and distribute like bare nominals of category DP, occur in argument positions, and can be paraphrased as either *anything* or *nothing* (see Postal 2004 for extensive discussion).<sup>18</sup> The category of the taboo element in FI is not obvious (see §3.5), but many of those in (9) – e.g. *fuck*, *ever*, *'eck*, etc. – are clearly not DPs. Regardless, even if these taboo elements were DPs, there is no reason to believe that they occupy an argument position in FI clauses. While e.g. *fuck*, *bugger*, etc. occur as subparts of known *squatitives* (*fuck-all*, *bugger-all*), many of the taboo elements in (9) do not (e.g. *ever*, *'eck*, etc.). Finally, the taboo element in FI cannot be paraphrased as *anything/nothing*, presumably for one

<sup>17</sup>To that end, note that upon receiving the unexpected response in (28b), the questioner might follow up by saying *I didn't say it was sunny, I asked if it was sunny!* An anonymous reviewer notes that (28b) is felicitous if it serves as a response to a biased question expecting an affirmative answer (e.g. *So it's sunny outside, is it?*). This follows under a theory such as the one proposed in Reese (2007), in which biased questions are complex speech acts comprising both a question and an assertion (the latter being the content denied by (28b)).

<sup>18</sup>As de Clercq (2011) notes, certain *squatitives* can also be used in determiner position, e.g. *fuck-all* (as in *John has got fuck-all money*). The arguments against a DP analysis for the taboo element in FI extend to a determiner analysis as well.



or more of the above reasons. Thus, although FI is an instance of hyponegation, it does not appear to involve a squattive of the sort discussed in Horn (2001), Postal (2004), and elsewhere.

In the next subsection, I show that negation in FI scopes over its whole clause (another property inconsistent with metalinguistic negation), owing to the presence of a non-overt negative operator in the left periphery of FI clauses.

### 3.4 FI involves a silent negative operator in XP1 position

In both CNI and FI clauses, negation scopes very high—higher than in normal SN clauses. This is illustrated below on the basis of several different diagnostics.

First, in declaratives involving standard sentential negation, there is a well-known ambiguity between negation and *because*-clauses:

- (30) Chris didn't cry because he feared violence. SN
- a. NEG > B/C: If Chris cried, it's not because he feared violence.
  - b. B/C > NEG: Chris didn't cry, and that's because he feared violence.

Let us assume that this scope ambiguity reflects an attachment ambiguity: the attachment site for *because*-clauses is either construed higher in the clause than sentential negation, or lower. Importantly, this scope ambiguity disappears in the context of CNI—only the high reading for negation is possible:<sup>19</sup>

- (31) At no time did Chris cry because he feared violence. CNI
- a. NEG > B/C
  - b. #B/C > NEG

This disambiguating effect is not surprising: it follows from the left-edge status of the negative scope-taking operator *at no time*. From its high surface position, this fronted negative operator unambiguously scopes over the attachment site for *because*-clauses (and see Horn 2014 for a review of other scopal properties of negation in CNI).

Importantly, negation in FI exhibits this same disambiguating effect, i.e. it takes highest scope:

- (32) Chris is a sensitive guy, but did he fuck cry because he feared violence. FI
- a. NEG > B/C
  - b. #B/C > NEG

By parity of reasoning with the CNI data in (31), we might conclude from the data in (32) that FI also involves a left-edge negative operator, albeit one which is not pronounced.

As further support of this conclusion, note that NPIs in subject position are licensed in both canonical negative inversion and FI, but are impossible in standard negative clauses:

- (33) We might have gotten a bit lairy at the football match, but...
- a. #...any of us didn't throw flares onto the field. SN
  - b. ...at no time did any of us throw flares onto the field. CNI
  - c. ...did any of us fuck throw flares onto the field. FI

Again, this follows from the especially high scope of negation in these inversion phenomena: the subject position falls within the scopal domain of the negative operator in both CNI and FI, but not within the domain of the negative marker in SN clauses.

<sup>19</sup>Unsurprisingly, the (b) reading becomes available with a strong intonational break between the CNI clause and the *because*-clause, indicating highest (clause-level) attachment for the latter (see e.g. Haegeman 2012:\$4.4 on the central vs. peripheral distinction in adverbial clauses). In most cases, this break is orthographically represented with a comma; though, as Jack Hoeksema (p.c.) informs me, naturally-occurring examples lacking commas can be found on the internet that nevertheless have the B/C > NEG reading:

(i) At no time did we underestimate the opponent because we never underestimate anyone.  
(<http://www.sportinglife.com/football/news/article/256/7995694/del-bosque-pleased-with-display/>)

However, I find this example infelicitous without an intonational break between the CNI clause and the *because*-clause.

Likewise, in both CNI and FI, disjoined subjects are interpreted conjunctively. That is, the negative proposition expressed by the CNI and FI clauses holds for each member of the disjunction. English disjunction only behaves this way under the scope of negation, and disjoined subjects in SN clauses do not receive a conjunctive reading. This indicates that subject position in both CNI and FI falls within the scopal domain of the negative operator in these clause types, a domain whose upper bound is higher than that of SN clauses:

- (34) It's St. Patrick's day tomorrow, but...
- a. ...John or Mary won't be wearing anything green. SN  
*=John won't wear green or Mary won't wear green*  
*#John won't wear green and Mary won't wear green*
  - b. ...no way will John or Mary be wearing anything green. CNI  
*=John won't wear green and Mary won't wear green*
  - c. ...will John or Mary fuck be wearing anything green. FI  
*=John won't wear green and Mary won't wear green*

CNI and FI continue to pattern alike in their special negative properties: the negative operators in these phenomena, whether overt or non-overt, take higher scope than the negative marker in SN clauses.

As further evidence that the negative operators in both CNI and FI clauses take scope over the subject position (unlike in SN clauses), consider examples involving quantified subjects.<sup>20</sup> In the context of both CNI and FI, the interpretation is uniformly NEG > QP; the quantified subject evidently cannot outscope negation. This is in contrast to SN clauses with quantified subjects, which generally only yield a QP > NEG interpretation (Hornstein 1984:51):<sup>21</sup>

- (35) a. Everybody didn't wear green. SN  
*=Everybody is such that they didn't wear green*  
*#It is not the case that everybody wore green*
- b. No way did everybody wear green. CNI  
*#Everybody is such that they didn't wear green*  
*=It is not the case that everybody wore green*
  - c. Did everybody fuck wear green. FI  
*#Everybody is such that they didn't wear green*  
*=It is not the case that everybody wore green*

Negation in both CNI and FI is once again seen to take scope over the subject position. We must conclude that FI involves a non-overt negative operator in the same position as the negative XP in the left periphery of CNI clauses.

Finally, the inability of both CNI and FI to co-occur with a standard negative marker (see (20)) now follows: either there is positional competition between the base position of the negative OP and that of standard negation, or the operator's movement creates an intervention effect with standard negation. Either way, the pattern in (20) falls out (see also Rett 2008, Biberauer 2010 for similar proposals regarding the co-occurrence restriction between negation and Exclamative V2).

The above observations reflect the high (pre-subject) position of the negative operator in CNI clauses. The fact that FI clauses behave exactly the same way with respect to these diagnostics indicates that they involve a high negative operator as well, only one which happens to be non-overt (see Haegeman 1995:185 on other non-overt negative operators).<sup>22</sup>

<sup>20</sup>See Potsdam (2013:679) for related observations about the high scope of contracted negation in inversion contexts.

<sup>21</sup>Exceptions are attested, however:

- (i) Everybody can't rap, so most hustle and shoot. *(Jeru the Damaja, "Return of the Crooklyn Dodgers")*  
*=Not everyone can rap*

Regardless, QP > NEG is also possible in such SN sentences, whereas it is evidently never possible in CNI and FI clauses.

<sup>22</sup>Note that whereas CNI is widely thought to be a main clause phenomenon (Hooper and Thompson 1973), there are environments in which embedding is possible (Culicover 1991:13). In earlier versions of this work, I reported that FI was unembeddable; however, Woods (2016:\$6.3.1; see also Woods *this volume*) subsequently showed that FI clauses can be embedded in just those varieties of English that independently allow embedding of inverted polar questions. Note, though, that operator movement in FI is clause-bound: the it cannot move out of the clause containing the taboo element (perhaps due to a strict licensing condition on the latter). While this is unlike the behavior of some A'-operators, there are others that seem to exhibit this same restriction (see e.g.

Regardless of their overt/non-overt status, these negative operators both trigger inversion. This straightforwardly captures the similarities between CNI and FI that we saw above: they are two phonological sides of the same syntactic coin, by overtly or non-overtly instantiating a single negative operator with an emphatic interpretation requiring a left-edge surface syntactic position. The overt vs. non-overt status of the negative operator determines the verb-second vs. verb-initial surface profile of the inversion phenomenon (see Horn 2014 on this distinction).

In the next subsection, I comment on the nature of the taboo element in FI, and sketch a structure of FI clauses based on prior analyses of CNI.

### 3.5 The taboo element in FI: on the absence of covert V2

Above, I argue that inversion in FI is associated with a non-overt negative operator; however, a simpler alternative presents itself as well.<sup>23</sup> perhaps the taboo element in FI, e.g. *fuck*, is itself the operator in such clauses, raising covertly to the left edge and triggering inversion. Under this story, the high unpronounced copy of the taboo element would be responsible for FI's negative properties, inversion, etc. This would do away with the need for an independent position for the taboo element; it would simply be generated in [Spec, NegP]. This would be consistent with the negative semantics often associated with taboo elements (but cf. §3.3). Most importantly, this alternative does not require postulation of a non-overt operator, so it is simpler. In spite of this simplicity, though, there are at least two reasons for rejecting this approach.

First, it forces us to give up what is otherwise a straightforward analogy to the non-overt operator widely believed to be present in polar questions, as well as that of other emphatic V1 contexts; see §3.7 on the typology of such operators.

Second, and more interestingly, it seems that covert movement never satisfies the XP1 requirement in V2. That is, covert movement evidently does not co-occur with V2-style head movement (inc. V-to-C in full V2 languages). For example, I am aware of no V2 languages in which e.g. object QR (or wh-in-situ, etc.) can lead to a surface V1 profile. Put differently, there are no V2 languages that feature V1 just in case e.g. a quantified object is present. Schematically, the following V2 language apparently does not exist:

- (36) *A nonexistent V2 language*  
 a. Mary bought the book.  
 b. Bought Mary every book.
- (37) ~~every book~~<sub>j</sub> bought<sub>i</sub> Mary *t*<sub>i</sub> every book<sub>j</sub>.

It is not at all obvious why this should be ruled out. If it is true that (i) V2 is the coincidence of two independent movement features (one for verbs and one for XPs: Roberts 2004, Holmberg 2015), and (ii) covert movement is simply normal movement plus non-pronunciation of the higher copy at PF, then why is the higher copy of the quantified object apparently unable to satisfy the XP1 condition of V2?

One possibility is that V2 simply does not obey (i). For example, perhaps a deleted copy fails to satisfy some PF requirement that there be material pronounced before the verb (assuming copy deletion precedes the point at which V2 is assessed). This seems incorrect, though, given that null operators frequently satisfy the XP1 requirement, yielding surface-V1 configurations (see above). Note, though, that such operators are “born” null, in the sense that their lexical entry contains no PF specification; this contrasts with an unpronounced copy of movement, which has presumably undergone copy deletion (or was not subject to Vocabulary Insertion in the first place). This distinction could be crucial somehow; see Thoms and Sailor (2018).

Another possibility is that covert movement does not obey (ii). If it really is raising at LF, rather than lower copy spell-out, then it does not matter whether V2 is effected/assessed in the narrow syntax or at PF: QR will never satisfy it.

I leave these very interesting questions open for future research. For now, it seems undesirable to assume that covert raising of the taboo element is responsible for triggering inversion in FI, given that such an assumption would make inversion in FI look entirely unique among V2 phenomena. What, then, is the status of the taboo element in FI?

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Rett 2008:616 on exclamatives).

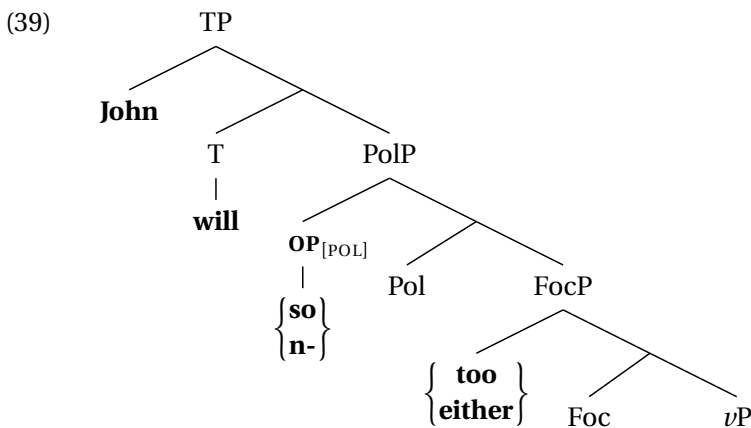
<sup>23</sup>Thanks to both Amy Rose Deal and Anders Holmberg for raising this possibility.

I claim that it is a low focus-related element that is sensitive to polarity, of the sort described in Wood's (2008, 2014) approach to another PV2 phenomenon, namely *so/neither*-inversion:

- (38) a. John is planning to buy an SP-1200, and so (too) is Mary.  
 b. Mary can't stand trap music, and neither can John.

Like CNI, the inversion phenomena in (38) also involve a fronted polarity operator in the left edge of the clause,<sup>24</sup> moving from the specifier of the clause-internal polarity projection PolP, which, following Laka (1990), Zanuttini (1991), and many others, is located just below TP in English.

Further, building on the logic of Kayne (1998), Wood argues that such sentences are also characterized by the presence of a focus particle particular to the polarity of the clause it appears in. These focus particles are generated local to polarity, in the specifier of a low Foc(us) projection selected by Pol<sup>0</sup> at the left edge of the verbal domain (see Jayaseelan 2001 and Belletti 2004). Thus, in the affirmative case – i.e. *so*-inversion – the polarity operator is *so*, and its accompanying focus particle is *too* (which can be non-overt: see Wood 2014:102). For its negative counterpart, Wood takes a decompositional approach to *neither*, arguing that *either* is the negative focus particle analogue of *too*, leaving *n-* as the polarity operator, analogous to *so*. A rough sketch of the underlying structure for *so/neither*-inversion sentences is below (leaving aside certain details of Wood's analysis that will not be critical to the present discussion):



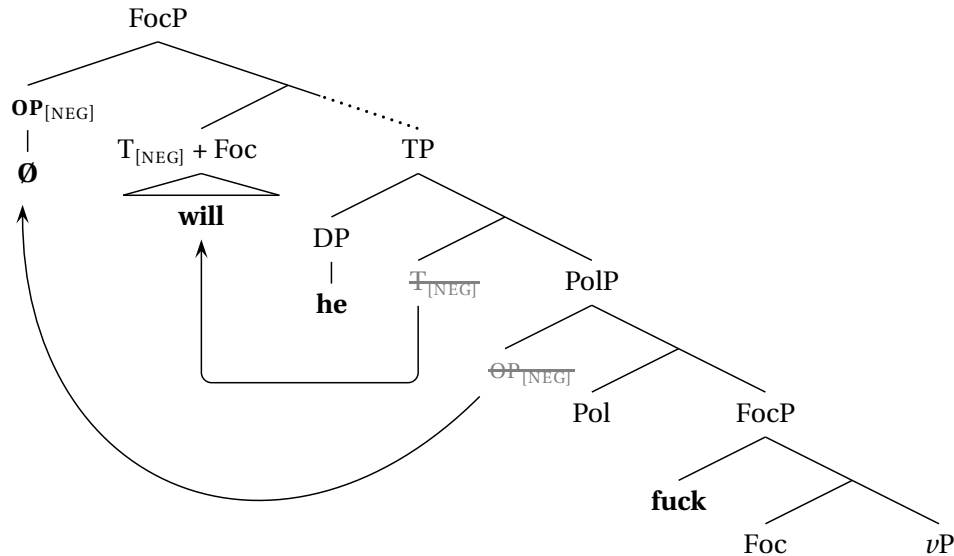
For Wood (2008, 2014), the polarity operator and the focus particle together drive the syntax and emphatic interpretation of *so/neither*-inversion clauses. I propose that the same may be true of FI, and assign the taboo element the status of a low polarity-sensitive focus particle.<sup>25</sup>

I provide a structure for FI below, integrating components of Haegeman's (2000) analysis for CNI (see (6)) and Wood's (2008, 2014) conception of polarity-sensitive focus particles:

<sup>24</sup>In Wood's account, the relevant Spec-Head configuration is established in a left-edge polarity projection rather than a focus projection. As this will not be important for us, I leave it (and several other details from his analysis) aside.

<sup>25</sup>See Sailor (2017) for some independent support of this analysis, on the basis of short predicate fronting across the taboo element in FI.

(40) Will he fuck (vote for independence).



We turn now to the innovative status of FI, based on its dialectal distribution.

### 3.6 FI is a recent innovation: on the dialectal distribution of FI

A broad informal survey of native English speakers reveals that FI is ubiquitous throughout the British Isles: it is widely attested all across England, Scotland, Wales, Northern Ireland, and the Republic of Ireland. In all cases, FI is regarded as belonging to a colloquial, informal register, and thus not necessarily produced by all speakers; but, all speakers I have consulted from across the British Isles recognizes it as a local feature.

Outside the British Isles, however, the picture changes dramatically: FI appears to be completely unattested. I have found no evidence of it in any of the varieties of English spoken in the United States, Canada, South Africa, Australia, New Zealand, India, or Singapore, informal or otherwise. While this is by no means an exhaustive survey of World Englishes, it seems safe to conclude that FI is restricted to the varieties spoken in the British Isles, and unattested elsewhere. How can we interpret this narrow dialectal distribution?

One possibility is that FI has been present in English ever since it was a true V2 language, and that the present-day dialects that lack it now simply lost it somehow. We can dismiss this possibility outright: it would be an incredible coincidence if all and only the varieties spoken in the British Isles were those that preserved FI, while those other varieties not in direct contact (e.g. Canadian English and New Zealand English) all simultaneously lost it.

The alternative is much more appealing: FI was not yet present in the grammar of English when these colonial varieties crystallized. Rather, it was innovated in the British Isles after colonialism, probably quite recently. This would straightforwardly explain its absence outside the British Isles.<sup>26</sup> Thus, on the basis of dialectal distribution alone, we can conclude that FI is a recent innovation, and thus not “residual”, akin to V2 in polar exclamatives (Biberauer 2010). As mentioned above, this underscores the need for a new term, i.e. Partial V2 (see fn. 8).

### 3.7 The typology of operator-driven inversion

The operator involved in the derivation of FI is consistent with existing assumptions in the literature regarding question operators. Following Klima (1964), Haegeman (1995:§2.2.4) argues that the inversion seen in matrix polar questions in English is triggered by the presence of a silent *wh*-operator in the left periphery, in satisfaction of the *WH*-criterion (Rizzi 1996, a.o.). The existence of such an operator is more or less uncontroversial (though cf. Brandner 2010), as it grants non-exceptional status to surface-V1 polar questions (and imperatives, exclamatives, etc.) in languages that are otherwise strictly V2.

<sup>26</sup>While this hypothesis would ideally be tested with a spoken corpus study (as opposed to a written corpus, given the colloquial nature of the phenomenon), I am unaware of any such corpus with sufficient historical breadth.

Thus, canonical negative inversion is simply the negative analogue of a non-subject wh-question (overt OP + inversion), while FI is the negative analogue of a polar question (non-overt OP + inversion)—a state of affairs directly predicted by Haegeman (1995, 2000, 2012) and Rizzi’s (1996) analysis of CNI. This is represented below in (41), with the grey cell reflecting a previously-unattested prediction in the typology (where Neg<sub>[FOC]</sub> here indicates a clause with emphatic negative polarity):

(41)

	Question clause	Neg <sub>[FOC]</sub> clause
Overt OP	wh- question	canonical negative inversion
Non-overt OP	polar question	<i>fuck</i> -inversion

This operator-based approach to inversion in FI is also consistent with the emphatic interpretation of negation there. Operator movement in both negative inversion and FI is plausibly focus movement, associated with emphatic interpretations. Indeed, polar exclamatives in English represent a non-negative, non-interrogative inversion phenomenon involving just such an emphatic interpretation, along with an overt degree operator (Rett 2008, McCready 2009, Biberauer 2010 a.o.; see §4.1 below):

- (42) MAN is it hot today!  
 = *It is surprisingly hot today.*

The fronted degree operator *man* yields the emphatic (exclamative) interpretation of such sentences, and requires inversion to satisfy the FOCUS-criterion (Brody 1990, Aboh 1993). We now have an account for many of the properties of FI described earlier, and for its similarity to CNI in particular.

Interestingly, polar exclamatives in other V2 languages, e.g. Dutch and Afrikaans,<sup>27</sup> can appear without an overt left-peripheral operator:

- (43) Heeft JAN een dikke buik!  
 has Jan a thick belly  
 ‘MAN John has a big belly!’
- (44) Het JY (nou) ’n uitstekende opstel geskryf!  
 Have you now an excellent essay written  
 ‘MAN have you written an amazing essay!’

By parity of reasoning, we can speculate that these structures also involve a non-overt, inversion-triggering operator in the left periphery. Thus, we can continue to expand the above typology to include not just inversion phenomena associated with emphatic negation, but with what might be considered emphatic affirmative clauses as well:

(45)

	Question clause	Neg <sub>[FOC]</sub> clause	Aff <sub>[FOC]</sub> clause
Overt OP	wh- question	CNI	Polar exclamatives (Eng)
Non-overt OP	polar question	FI	Polar exclamatives (Dut)

Further work is needed to pin down the semantics of these operators: for example, what (sub)types there are (e.g. degree, polarity, evaluative, etc.), and whether these can be distinguished on empirical grounds (e.g. in embedding). What we can say is that the general pattern is conditioned by operators under focus at the left edge, arguably in the context of a particular clause type (see §4).<sup>28</sup>

<sup>27</sup>Note that the pitch accent in (44) can also be realized on either the finite V (*het* ‘have’) or the degree-denoting element (*uitstekende* ‘excellent’) rather than on the initial verb, without an apparent change in meaning (p.c. Theresa Biberauer). See Ahn and Sailor (2018) for discussion.

<sup>28</sup>An anonymous reviewer asks why focus-fronted XPs do not count as the relevant sort of operator to be associated with inversion (cf. CNI). I have little to say on the matter, except that perhaps focus alone is never sufficient to qualify as inversion-inducing operator in English; rather, an additional type of meaning is apparently always involved (e.g. polarity, interrogativity, etc.). This possibly arises due to the clause type (*qua* Force<sup>0</sup>) involved in each PV2 environment, under the standard assumption that focus-fronting does not require a particular clause type. See §4 for more on the relevance of clause type to PV2.

### 3.8 Summary

The foregoing discussion introduces a novel surface-V1 phenomenon, *fuck*-inversion (FI), and shows that it is underlyingly V2, with XP1 position occupied by a null negative operator. Given its narrow dialectal distribution, I conclude that FI must be a very recent innovation, rather than a vestige from a stage of English in which V2 was still widespread. More generally, this reveals that V2 is still productive in the grammar of English, albeit only in particular environments. This might at first seem puzzling: why would a language extend a system it began losing a few centuries earlier? In the next section, I argue that the answer to this question lies in the behavior of acquirers, in particular their sensitivity to fine-grained distinctions in clause type when generalizing over and extending V2.

## 4 Learner-driven change and the innovation of V2 environments

In this section, I would like to tentatively propose a means by which FI could have been recently innovated in the grammar of English, adopting the basic ideas from Lightfoot (1979, 1999, 2006) that language change is an epiphenomenon of the acquisition process, arising from the sorts of analyses that learners impose in the input.<sup>29</sup> Our jumping-off point will be the distinction between innovating a novel V2 system vs. extending an existing one.

V2 is typologically quite rare, especially outside Germanic (but see Holmberg 2015 for qualifications), meaning it must be difficult to innovate from scratch. Why should this be? Following an emerging trend in the literature, Holmberg (2015: §5) proposes that V2 is a compound phenomenon, comprising two independent movement features (one attracting the finite verb, and one attracting the XP1). Holmberg notes that, if this view of V2 is correct, it might account for the apparent scarcity of the pattern in the world's languages: innovating it from scratch would require the emergence of two independent features, rather than just a single feature.

Thus, we must draw a distinction between innovation of a V2 system from scratch, which is quite rare, and extension of an existing (if restricted/partial) system, which evidently is not (see further below for additional examples). As mentioned above (§2), a V2 system has been present in English in some form since the Old English period; i.e., V2 was never completely lost, but became restricted to a narrow set of clausal environments (e.g. questions, etc.). Thus, for an PV2 phenomenon like FI to have been innovated, acquirers would not have started from scratch in the above sense; they needed only to extend an existing (if constrained) pattern to a novel environment.

Indeed, learners are evidently quite conservative in their acquisition of V2. As Westergaard (2007, 2009) notes, production evidence shows that English learners typically do not overgeneralize V2 into e.g. declarative clauses, as they receive ample evidence in the input that such environments are not V2 in the adult grammar.<sup>30</sup> Under Westergaard's approach, V2 is not a uniform phenomenon (even within a language), but rather a potentially diverse set of structural configurations that the learner attributes to specific clausal environments on the basis of the input. As a consequence, children must be highly sensitive to clause type in their acquisition of word order, given its central role in distinguishing the diverse set of Germanic V2 systems (see especially Westergaard 2009: ch. 3). This would seem to pose a challenge for a theory of innovative V2: how could a novel V2 environment emerge if learners resist overgeneralizing the pattern?

I argue that learners' sensitivity to clause type – or “flavors of Force<sup>0</sup>”, in Westergaard's terms – in fact facilitates extension of V2 here. I claim that FI involves not only a novel instance of V2, but foremost a novel clause type—one associated with an emphatic (perhaps focused) negative operator. Whereas the learner is unlikely to extend a V2 analysis to a non-V2 clause type encountered in the input (e.g. declarative), the same does not hold for a clause type not encountered in the input, i.e. one that the learner has innovated

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<sup>29</sup>Marit Westergaard (p.c.) asks whether the innovation of FI might have originated with teenagers rather than children, given the phenomenon's colloquial and often vulgar nature. In the absence of a model of change driven by post-critical period speakers, I leave this interesting question open. A related question concerns the frequency of FI in the input; work on this is ongoing.

<sup>30</sup>This would seem to be a point of differentiation between the micro-cue approach of Westergaard (2009, *inter alia*) and the *Maximize Minimal Means* approach of Biberauer (2017, *inter alia*), as the latter arguably predicts a stage in which learners are prone to overgeneralize V2 (i.e. the ALL stage of the NONE > ALL > SOME learning procedure described in that work). It is possible that learners do entertain this sort of overgeneralized V2 system, *pace* Westergaard (*ibid.*), but at such an early stage (e.g. pre-telegraphic) that its effects are undetectable in typical production data. Data from especially early talkers, if available, may provide crucial evidence on this point. Thanks to Robyn Orfitelli for helpful discussion.

herself. In other words, the key development with FI lies in its clause type; once the learner has decided that it is a distinct clausal environment from e.g. regular declaratives – namely, one involving an operator (non-overt in this case) – then it is a candidate for receiving a V2 analysis, by analogy with other non-declarative clause types involving left-edge operators (e.g. CNI).<sup>31</sup> Such an analysis will never be contradicted by the input, since the child will not encounter any non-V2 clauses expressing the FI clause type (i.e., headed by the FI-related Force<sup>0</sup>) that they have posited.

If this reasoning is sound, we might expect to see other cases of innovative V2 in languages with a preexisting V2 system, but especially in contexts where a novel clause type is plausibly involved. I briefly describe a few more potential cases in the remainder of this section.

#### 4.1 Innovative V2: polar exclamatives

The first additional case of innovative V2 comes yet again from English, namely in its *polar exclamatives* (McCawley 1973, Elliott 1974, Rett 2008, Brandner 2010):<sup>32</sup>

- (46) a. MAN do I need a drink!  
 b. MY GOD is it hot in here!  
 c. BOY would that be nice!

Rett (2008) argues that these exclamatives involve an operator that moves to its clause's left edge.<sup>33</sup> This operator carries a degree interpretation, an essential component of the semantics of exclamatives (which are expressions of speaker surprise at the degree to which some gradable property exceeds a contextually-relevant standard). The degree OP in inversion exclamatives is like other operators in that it can trigger inversion (see above): it is an PV2 environment.

Taking a cue from our investigation of FI, we must ask: is this English V2 environment vestigial, or is it innovative? There are reasons to doubt the former option, as earlier stages of English did not use V2 to form exclamatives. For example, Walkden (2013) argues convincingly that Old English exclamatives (with *wh*-operators) pattern like subordinate clauses: that is, they are V-final/V-late, not V2. Furthermore, the study of various corpora in Schröder (2014) seems to indicate that polar exclamatives did not clearly emerge until the Modern English period, perhaps as late as the 18<sup>th</sup> century. If exclamatives were not V2 environments in the stage at which V2 began to disappear (the Late Middle English period), then V2 exclamatives in present-day English are not vestigial, but innovative.

If this reasoning is correct, then polar exclamatives provide additional evidence for the extension of V2 to novel environments in the recent history of English. Note that clause type here is clearly relevant: there are several different types of exclamatives in English (Elliott 1974, Rett 2008), each involving an evaluative or mirative dimension of meaning; these are just the sort of discourse-level properties that might lead the learner to posit a novel clause type, opening the door for extension of the V2 pattern. Polar exclamatives, then, stand as potential confirmation of the basic proposal above.

#### 4.2 Scots

Another candidate for Innovative V2 in the context of an existing system comes from Scots, specifically West Central Belt varieties. Sailor and Thoms (2019) describe a class of imperative-like clauses involving the initial elements *gonnae* and *wantae*, which differ only in their exhortative strength (*gonnae* > *wantae*). They argue that *gonnae/wantae* are grammaticalized elements (historically a non-finite periphrasis, i.e. *going/want to*)

<sup>31</sup>It may be that the innovation of FI simply reflects extension of the CNI clause type to environments where the operator happens to be non-overt, in consonance with the data in §3.2 above, in which case innovation of FI would require the presence of CNI in the input. To the extent that FI and CNI have distinct properties apart from the PF status of their operators, these would not follow from a distinction in clause type. Here, then, the parallel to *wh*-questions vs. polar questions would break down, as those phenomena are generally thought to involve distinct clause types (in addition to the overt vs. non-overt status of their operators). This strikes me as an undesirable consequence, so I assume that FI involves a novel clause type; though, the matter ultimately ought to be resolved on empirical grounds.

<sup>32</sup>This phenomenon is also referred to as an *inversion exclamative* (Rett 2008).

<sup>33</sup>Rett assumes this operator is silent; I assume this operator is instantiated by the expressive element present in each (MAN, MY GOD, etc.), given that, to my ear at least, polar exclamatives without such an initial expressive element are degraded. However, whether the operator in such exclamatives is overt or non-overt has no deep consequences for the present discussion; see §3.7 on the typology of inversion-inducing operators.



whose clauses have different properties than typical Scots imperatives, which are otherwise English-like, as in (47c):

- (47) a. {Gonnae / Wantae} drop it right now.  
 b. {Gonnae / Wantae} you no dae that.  
 c. Don't dae that.

Sailor and Thoms note that the absence of *do*-support in negative examples such as (47b) is unusual, as Scots is like English in that negation can disrupt the expression of tense on the main verb (even in imperatives: see (47c)). On this basis, and on the availability of predicate ellipsis in such clauses (which requires an auxiliary or modal in T<sup>0</sup>, as in English), they argue that *gonnae/wantae* are generated in T<sup>0</sup> as modals expressing different degrees of exhortative strength, and that the syntax of such exhortative clauses requires these elements to move from T-to-C (inverting across subjects when they are overt: see (47b)).

Such clauses therefore fit the PV2 profile: they involve inversion, plausibly in the context of a non-overt imperative-like operator in XP1 position. The relevant question for us to ask is whether this pattern is innovative. Sailor and Thoms argue that it is, on the basis of distributional evidence from the *Scots Syntax Atlas* (Smith 2015-2019) suggesting that the phenomenon has emerged quite recently (especially with *wantae*), and that it is spreading, being taken up by younger speakers beyond the phenomenon's original area of origin around Glasgow.

Thus, innovation of this phenomenon seems quite similar to that of FI: simultaneously with the grammaticalization of *gonnae/wantae*, acquirers likely posited a novel clause type characterized by a left-edge exhortative operator, leading to extension of the PV2 system already present in Scots to this new clausal environment. As before, children would encounter no evidence in the input that would conflict with this innovation, making it possible for the pattern to stabilize. These clear similarities between the emergence of Scots exhortatives on the one hand, and English FI and polar exclamatives on the other, lends further plausibility to the proposal I develop above.

### 4.3 Afrikaans

As a final example of language extending V2 into novel environments, I turn to Afrikaans. The comparison to English and FI is less obvious than the other cases described in this section, as Afrikaans has a full V2 system (and OV order otherwise), and not simply PV2. In fact, Biberauer (2016; see also references cited therein) argues that Afrikaans has the most robust V2 system in all of Germanic, as it allows V2 in various environments that even its closest relatives do not. For example, Afrikaans allows V2 in *wh*-complement clauses, a property not found elsewhere in Germanic (examples adapted from Biberauer 2016:6):

- (48) a. Ek sal uitvind hoe **kom** ons by die gebou in.  
 I shall out.find how come us by the building in  
 'I will find out how we (can) get into the building.'  
 b. Ek wonder wat **eet** hulle saans.  
 I wonder what eat they evenings  
 'I wonder what they eat in the evenings.'

Biberauer argues that this is a straightforward case of Innovative V2, and goes on to provide a theory of how this extension of V2 into novel environments might have taken place. Specifically, she argues that Afrikaans embedded clauses of the above sort comprise more structure than those found in other Germanic languages, owing to the recent grammaticalization of a discourse-related particle into a high polarity projection that now dominates all such complement clauses. This extra layer of functional structure licenses V2 in environments where it would otherwise be blocked (see Biberauer 2016:§3.2 for detailed discussion).

As before, once the learner imposed this initial change at the level of the clause, then such environments became candidates for receiving a V2 analysis, by analogy with the numerous other V2 environments in the language. We must assume that learners at this stage had sufficient evidence for treating their clausal complements as fundamentally different than those they encounter in the input (recalling the above discussion of novel clause types in English), as the input would otherwise contradict the Innovative V2 analysis of such environments. See Biberauer (2016, 2017, *inter alia*) for a compatible theory of learner-induced change that addresses this problem (*Maximize Minimal Means*; see also fn. 30).

The relevance of Afrikaans to the present discussion should nevertheless be clear: Innovative V2 is attested even in languages with robust V2 systems, and arises when acquirers are forced to analyze novel clausal environments that they have posited for reasons principally independent of V2. This lends further support to the proposal above, in which the extension of V2 to FI clauses (and see the other cases in this subsection) was licensed by the innovation of a novel clausal environment.

## 5 Conclusion

The foregoing discussion should lead us to rethink the status of “residual” V2. I have argued that Partial V2 is a more apt label for this kind of restricted V2, given that English – the prototypical example of such a system – shows clear evidence of recently-innovated V2 environments. The main evidence for this claim came from a detailed case study of a novel type of emphatic negative inversion in British English. I showed that this surface-V1 phenomenon is underlyingly V2: it involves a non-overt clause-initial operator of the sort that is associated with inversion in other Partial V2 environments in English. On the basis of its restricted dialectal distribution, it must be that this phenomenon is a very recent innovation in the grammar, meaning that even a Partial V2 system can be productive.

To account for this productivity, I appealed to models of learner-induced language change in which innovations can arise from the types of analyses that acquirers impose in the input. Specifically, I argued that extension of Partial V2 is found in just those environments in which acquirers have plausibly innovated a novel clause type characterized by a left-edge operator, by analogy with other non-declarative clause types involving such operators (e.g. wh-questions, polar questions, canonical negative inversion, etc.). This accords with the fact that children are highly sensitive to clause type in their acquisition of word order, despite also being conservative in their extension of V2. A novel clausal environment is therefore a necessary ingredient for extension of Partial V2, a claim I supported with additional instances of Innovative V2 from English, Scots, and Afrikaans. This leaves us with a clearer picture of the status of V2 in English, and what it takes to innovate new V2 environments crosslinguistically.

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