

English focus inversion constructions¹

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1. INTRODUCTION

In addition to the canonical NP-I⁰-VP structure, English has a number of constructions in which the subject follows the inflected verb. These are called ‘inversion constructions’. Some examples are given in (1) and (2).

- (1) a. $\left\{ \begin{array}{l} \text{What are you} \\ * \text{What you are} \end{array} \right\}$ looking at? [Subject Aux Inversion]
- b. $\left\{ \begin{array}{l} \text{Are you} \\ \text{You are} \end{array} \right\}$ going to just stand there and stare? [Subject Aux inversion]
- (2) a. Sandy is much smarter than $\left\{ \begin{array}{l} \text{is the professor} \\ \text{the professor is} \end{array} \right\}$. [Comparative inversion]
- b. “It’s cold in here,” $\left\{ \begin{array}{l} \text{complained Sandy} \\ \text{Sandy complained} \end{array} \right\}$. [Quotative inversion]
- c. There are on the table a diverse selection of imported delicacies.
[Stylistic *there* insertion]
- d. Into the room oozed the syrup. [Locative inversion]

A central goal of contemporary derivational approaches in generative grammar has been to provide accounts of such apparently non-canonical constructions within the framework of general principles. For instance, the inversion in (1), Subject-Aux inversion (SAI), is typically analyzed as raising of I⁰, the head of IP, to C⁰, the head of CP, across the subject, which is in Spec of IP. Such movement is local, structure-preserving, conforms to X’ theory, and can presumably be licensed through a mechanism such as obligatory feature discharge.² Hence SAI can be seen as an instance of ‘core’ grammar. The fact that such an analysis can be formulated supports the view

that the properties of particular grammatical constructions are a consequence of the interaction of various independent principles,³ as contrasted with a more traditional approach in which constructions have some idiosyncratic properties that cannot be reduced to general principles.⁴

The inversion constructions in (2), loosely referred to as ‘stylistic inversion’ (SI) present a greater challenge for such a derivational approach. In some of these cases, the subject follows the main verb V^0 , not an auxiliary verb. There is no natural way to account for SI in terms of movement of V^0 , given the independently motivated and widely accepted analysis of the English verbal cluster in which a non-auxiliary V^0 never leaves VP^5 ; the only V^0 that moves to the position before the subject, C^0 , is an auxiliary.

Nevertheless, it is often held that the syntax of these constructions, even the more exotic ones, is relatively straightforward. For example, Culicover & Levine 2001 argue that in the case of the particular type of SI exemplified in (2d), the subject is VP internal, and does not move to Spec of IP. Rather, the PP does. The ordering V^0 -NP is either an underlying order, or V^0 moves to the left of the subject NP but not into I^0 . Merchant 2003 and Collins & Branigan 1997 argue that the cases of SI exemplified in (2a,b) respectively, like SAI, involve movement of the verb to the left.⁷

SI constructions are different from SAI in that they are in general optional, do not fall straightforwardly under raising of I^0 to C^0 (although we might analyze them as movements of the verb to the left, as noted), and appear to be tied to focus and other discourse related functions; see Birner 1996, Birner & Ward 1998, Rochemont & Culicover 1990, Winkler 2005, among many others. While the idea that the various types of inversion have particular discourse functions is not at issue, it is not trivial to give a precise accounting of what these functions are; see for example Chen 2003.

Moreover, it is not immediately clear why it is that standard SAI of the sort found in questions does not have the same kind of focus and discourse properties as SI does, in spite of their superficial similarities.

In this paper we argue that the SI constructions pose a particular challenge for a syntactic approach that tries to account for superficial structural properties in terms of uniform underlying structure and movement. We show that while such an approach may be technically feasible, the SI constructions show special idiosyncrasies that must be explicitly represented in the grammatical analysis. These idiosyncrasies fall into two categories: (i) the subject is in the VP and not in the canonical subject position, and (ii) the focus interpretation possibilities are restricted.

These idiosyncrasies may be encoded into abstract structure and features, or stated explicitly in the description of the construction (as in Construction Grammar), but they do not appear to be reducible to general principles and the canonical properties of the language. On the other hand, SI constructions are not completely unprincipled. In fact, we show that the idiosyncrasy is systematically constrained, and that other properties follow straightforwardly.

In order to keep the discussion to manageable proportions, we restrict our preliminary analysis in §2 to comparative inversion (CI). CI has a number of properties that make it appear to be a special case of SAI. Yet it has very special discourse properties, and its syntactic structure is constrained in ways that normal SAI is not. We review Merchant's (2003) analysis of CI and show that it does not account for the full range of attested CI possibilities. In particular, the subject can follow more than one verb, as in *than would have any of the men who* We consider a number of alternative syntactic analyses of CI, and conclude that it is indeed a construction with a special

syntactic property: the subject NP is in a VP-internal position. We explore several alternatives for accounting for this fact, and suggest that the simplest approach is to assume that the subject is in fact in situ. For convenience, we characterize this syntactic idiosyncrasy of CI as ‘suspension of the EPP’, by which we mean that the subject is not in its canonical position. But the subject in situ property of this and related constructions raises some challenging theoretical issues that may not be best captured in terms of the EPP *per se*.

The analysis of CI requires that we be explicit about the relationship between constituent order and focus structure. This topic is taken up in §3. We argue that CI is licensed as a consequence of the general English strategy of putting a constituent in focus at the right edge of a clause. What is special about CI is that it is a focus construction that positions the accented subject immediately after the auxiliaries. Beyond this idiosyncrasy, CI is completely unexceptional in the way that it articulates with focus and givenness-marking.

In §4 we situate our analysis of CI within the broader context of stylistic inversion constructions. As suggested, CI itself is compatible with a number of possible syntactic analyses, including those in which it is derived from an abstract structure through movement, and those in which it is a relatively superficial construction with its idiosyncrasy stipulated in surface terms. But analysis of the broader set of constructions shows that each has somewhat different syntactic and semantic properties, and each shows some variability as well in how it articulates with focus. This additional complexity renders the derivational approach that much more problematic, since on such an approach the individual idiosyncrasies all have to be encoded in the syntax, e.g. as features of functional heads. Again, while this may be technically feasible, the

phenomena that we look at here suggest that a constructional approach may be more straightforward.

2. COMPARATIVE INVERSION

2.1. *A puzzle*

The first question that we consider is whether comparative inversion (CI) as exemplified in (2a) is an instance of SAI. SAI is conventionally analyzed as raising of the verb in I^0 (or some appropriate functional head) to C^0 . This movement puts the inflected auxiliary to the left of the subject. If CI cannot be analyzed in this way, the obvious alternative is movement of the subject to the right or the equivalent, depending on assumptions about the underlying structure.

Merchant 2003 crucially relies on an SAI analysis of CI in order to account for the fact that the main verb cannot appear when the auxiliary verb appears to the left of the subject NP.

- (3) a. Sandy will run faster than Kim will (run).
 b. Sandy will run faster than will Kim (*run).

Merchant's crucial observation is that in (3b), where there is inversion, VP ellipsis appears to be obligatory. This is a puzzle, since in general VP ellipsis is not required when there is inversion; cf. the yes-no question *Will Kim run?* However, the data would have a very different status if (3b) was not a case of SAI. If it was not, we would still have to explain why the main verb cannot appear. But we would not be faced with the puzzle of why *Will Kim run?* is grammatical when it lacks ellipsis.

The evidence that CI is not a special case of SAI is that the subject NP can be preceded by a verb cluster under appropriate circumstances. That is, the actual structure of these constructions is of the form in (4a), not (4b), which is the SAI structure. V_{AUX} stands for Modal, *have* and *be*, and V^* for any number of auxiliary verbs (including none) that may follow the tensed form.

- (4) a. $X V_{AUX}+Tense V^* NP_i \dots$
 b. $X V_{AUX}+Tense_i NP t_i \dots$

We leave open for now the question of whether there is any movement in the derivation of (4a), so we don't show any traces or bracketing.

We searched the Web for sequences of the form *than-V_{AUX}-V*-NP*. There are numerous legitimate examples, a small sample of which are reproduced here. There are two categories of example. One category shows VP ellipsis; these have sequences of the form *than-Modal-have-NP*. The other category shows predicate ellipsis; these have sequences of the form *than-have-been-NP*, *than-Modal-be-NP*, and *than-Modal-have-been-NP*.⁸ Both categories are distinguished by the fact that they contain verb clusters that precede the subject NP. (In these examples the CI construction is marked by square brackets and the focused material is capitalized.)

A. *than-Modal-have-NP*

- (5) a. Interesting that his positioning, facing out of the frame but looking back into it, seems to make the portrait at once more candid and more dignified [than would have any of the alternative 'CONVENTIONAL' compositions].

- b. They argue that they produced more readable and better researched reviews and editorials [than could have the ACADEMICS under whose NAMES the papers appeared].
- B. predicate ellipsis
- i. *than-have-been-NP*
- (6) a. But Mokotów was much further from the City Center [than had been the OLD town] and the evacuation under the German lines all the more perilous.
- b. Some ranchers still permitted the military to use their property, though the vehicles were far more destructive to the land [than had been the soldiers on HORSEBACK].
- ii. *than-Modal-be-NP*
- ii.a *than-might-be-NP*
- (7) a. Today's air travel is unquestionably a much worse experience [than might be the proverbial ROOT canal].
- b. Do you think your polemical stance is more effective in convincing people of your ideas [than might be a more MAINSTREAM and POLITE approach]?
- ii.b. *than-would-be-NP*
- (8) a. It strikes me that might be a more appropriate way to think about what we are up against here, [than would be any [OTHER] major conflict].
- b. Who was responsible for keeping the records would be a more reliable witness as to their accuracy as a whole [than would be any of the ORIGINAL makers].

- c. All copies were expensive and the author/publisher, having produced one copy of the work, was no better situated to make another copy of the work [than would be ANY HOLDER of the work].
- iii. *than-Modal-have-been-NP*
- iii.a. *than-would-have-been-NP*
- (9) a. The Prussian army would have been very much surprised to see their king without his hat; but no more so [than would have been the PEOPLE of those days to find Mrs. MADISON without her turban].
- b. In other words, once a storm has destroyed a residential area, the repair costs are higher [than would have been the cost of preventing the release of GREENHOUSE gases, which would have prevented the storm from happening].
- iii.b. *than-might-have-been-NP*
- (10) a. As a pageant, "Cammina Cammina" is far less colorful and even provocative [than might have been the PAGEANT put on by the PEASANTS seen in the precredit sequence].
- b. To her, thinking, as she ever was thinking, about Johnny Eames, Siph was much more agreeable [than might have been a YOUNGER man who would have endeavoured to make her think about HIMSELF].

Examples such as these constitute *prima facie* counterevidence to the claim that comparative inversion has the structure of SAI. At the same time, only the following examples of apparent SAI were found for actual CI with an overt V^0 following the subject.

- (11) a. National treasures should not be available for local groups that are often funded and affiliated with national groups with much deeper pockets for their vested interests [than do I have as an INDIVIDUAL sending in one LETTER].
- b. Over the years I find that I have a lot more patience [than do I have MONEY].

The following constructed example is also acceptable under the appropriate intonation (deaccentuation of the second occurrence of *read*):

- (12) MARY reads FRENCH much better than does JOHN read GERMAN.

While these cases might at first sight be taken to be either errors or conflation of this type of SI with SAI, we argue in §3.4 that they are actually instances of CI with multiple foci.

2.2. *The subject is 'low'*

Consider now how to derive (4a). Logically there are four possibilities:

1. the subject is in canonical subject position (e.g. Spec,IP) and all of the verbs move to the left;
2. the subject is in canonical subject position and moves to the right;
3. the subject is in canonical subject position, and everything in I' moves to the left of it.
4. the subject is in situ in VP, and remains in situ.

We rule out without further discussion option 1 – although technically workable, it would require far too many ad hoc stipulations to be credible. Option 2 is more plausible, but involves movement of the subject to the right and adjunction to IP, on standard assumptions. Option 3 conforms more closely to standard assumptions about

the direction of movement, although it stipulates an ad hoc movement of I' (or some XP that contains some empty material along with I').

Option 4 is the least complex in terms of derivation and stipulations (although it is not without problems, as we will see in §2.4). Crucially, it differs from the others in that the subject is 'low', in the sense that it is in VP. In this section and the next we present some empirical evidence that suggests that this is the correct analysis. This allows us to simplify the discussion, in that we do not have to weigh the pros and cons of 1 - 4.

The trick is to show that the subject NP does not pattern with Spec,IP or with a heavy NP that is moved to the right. Since CI is a very rigid construction, there can be no extraction from the subject, or extraction of the subject in the comparative clause. But its configuration can be inferred from its behavior with respect to multiple wh-questions and parasitic gaps, and from its ordering relative to other constituents of VP in somewhat complex but acceptable 'pseudogapping' constructions.

i. multiple wh-questions

It is possible to have a multiple wh-question in a comparative when the comparative lacks a verb.

- (13) a. Which (of the) girls run faster than which (of the) boys?
 b. Which (of the) girls did Sandy praise more than which (of the) boys?
 c. Who runs faster than who?
 d. Who did Sandy praise more than who(m)?

But only a subject in a full comparative clause may participate in a multiple wh-question, as seen in (14b). Examples (15b,c) shows that the direct object in a full comparative clause cannot participate in a multiple wh-construction, and (16b,c) show

the same for the object of a preposition. (We show the same structures with quantifiers to rule out the possibility that the ungrammaticality has something to do with quantifier scoping into a comparative.)

- (14) a. Some (of the) girls praised Leslie more than some (of the) boys did.
 b. Which (of the) girls praised Leslie more than which (of the) boys did?
 c. Who praised Leslie more than who did?
- (15) a. Sandy praised some (of the) girls more than she did some (of the) boys.
 b. *Which (of the) girls did Sandy praise more than she did which (of the) boys?
 c. *Who did Sandy praise more than she did who?
- (16) a. Sandy gave more money to some (of the) girls than she did to some (of the) boys.
 b. *Which (of the) girls did Sandy give more money to than she did to which (of the) boys?
 c. *Who did Sandy give more money to than she did to whom?

But when there is a verb in the comparative clause, only the uninverted order (17a) is grammatical. A plausible conclusion is that the *wh*-phrase in (17b), where there is CI, is in VP and not a syntactic subject.

- (17) a. Which (of the) girls run faster than which (of the) boys do?
 b. *Which (of the) girls run faster than do which (of the) boys?
 c. *Who runs faster than does who?

ii. parasitic gaps

On option 4, the subject is a constituent of VP, similar to the subject in *there*-insertion. On the other options, it is either in Spec,IP, or moved out of Spec,IP by a rule similar to Heavy NP Shift (HNPS).

We consider the interaction between HNPS and parasitic gaps. Parasitic gaps are often problematic and difficult to judge. To the extent that they can be judged accurately, they suggest a pattern that more closely conforms to option 4 than the others. It is possible to have a parasitic gap in the subject of a comparative, with or without CI.

- (18) a. a person that Sandy gave more money to t than even good friends of pg would have
- b. a person that Sandy gave more money to t than would have even good friends of pg

But, parasitic gaps do not appear in heavy-shifted NPs, which argues against the movement analysis. Second, parasitic gaps do not appear in subjects when there is SAI, which argues against the Spec,IP alternatives. Finally, parasitic gaps do appear in VP-internal subjects, which is consistent with the in situ analysis.

(a) A parasitic gap may appear in a direct object, but not if it is located ‘high’ in the VP through HNPS.

- (19) a. a person that Sandy gave money to t after talking to friends of pg
- b. *a person that Sandy gave money to t after introducing to Otto [some friends of pg]
- c. a person that Sandy gave money to t after introducing some friends of pg to Otto

The counterpart to HNPS for subjects is Stylistic *there* insertion.

(20) There was on the table a picture of Sandy.

This postposed NP cannot contain a gap (21b), not even a parasitic gap (22b).

(21) a. a person that there was [a picture of t] on the table

b. *a person that there was on the table [a picture of t]

(22) a. ?a person that I didn't recognize t even though there was [a picture of pg]
on the table

b. *person that I didn't recognize t even though there was on the table [a
picture of pg]

This suggests that the post-verbal subject is not shifted to the right by HNPS, but is in situ in VP.

(b) Evidence that a parasitic gap is incompatible with a subject when there is SAI is the following.

(23) a. ?a person that Sandy criticized t because [some good friends of pg]
refused to contribute to the proceedings

b. *a person that Sandy criticized t because to none of the proceedings did
[any good friends of pg] contribute

(c) Finally, a parasitic gap in the subject of *there*-insertion is unproblematic.

(24) a. Who do you distrust t because there are [some pictures of pg] hanging on
the post office wall?

b. a person that we distrusted t because there were [some pictures of pg]
hanging in the post office

Thus, to the extent that the parasitic gap judgments are stable, the evidence suggests that the subject in the CI clause is neither in Spec,IP or heavy-shifted to the end of VP.

iii. pseudogapping

In some cases, the postverbal subject may precede other VP material (but not the verb), but it may never follow such material.

- (25) a. Sandy made more money in 2001 than did $\left\{ \begin{array}{l} \text{Leslie} \\ \text{any of the other students} \end{array} \right\}$ in 2002.
- b. *Sandy made more money in 2001 than did in 2002 $\left\{ \begin{array}{l} \text{Leslie} \\ \text{any of the other students} \end{array} \right\}$.
- c. *In 2001 Sandy made more money than did in 2002 $\left\{ \begin{array}{l} \text{Leslie} \\ \text{any of the other students} \end{array} \right\}$.
- (26) a. Sandy ate more cookies at the party than did $\left\{ \begin{array}{l} \text{Leslie} \\ \text{any of the other students} \end{array} \right\}$, slices of cake.
- b. *Sandy ate more cookies at the party than did slices of cake, $\left\{ \begin{array}{l} \text{Leslie} \\ \text{any of the other students} \end{array} \right\}$.
- (27) When my son was younger and played soccer, I found that the parents got more pleasure from watching the games than did the kids from playing them, or the coaches from coaching them.

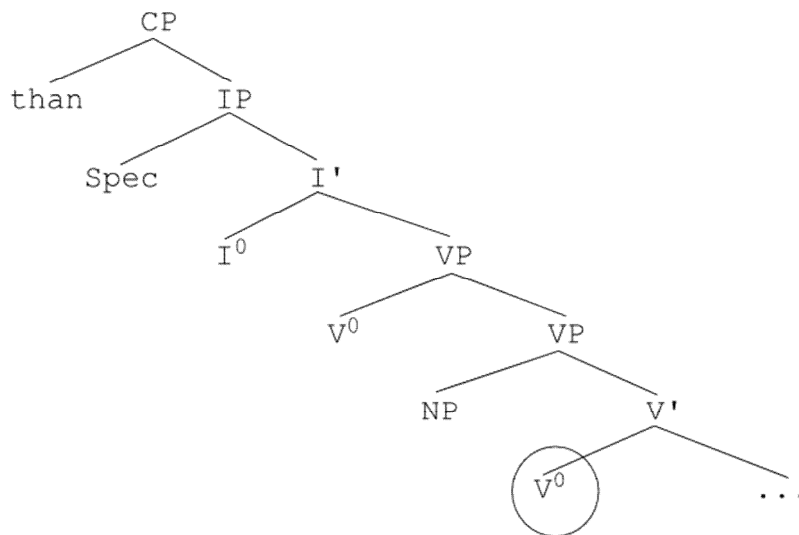
This constituent ordering follows if the subject is assumed to be at the left edge of the VP, following the auxiliaries and tense and preceding the other constituents of VP. In fact, the observed ordering is what we would expect if the verb were simply omitted, with or without other constituents of VP, although this idea runs afoul of standard assumptions about how ellipsis works. The data are also compatible with the

view that the two focus constituents undergo various movements to the left into focus positions, leaving behind a VP-shell that can be deleted; for such an analysis of pseudogapping see Lasnik 1999 and for a critique, Culicover & Jackendoff 2005.

2.3. *British CI*

Given the observations of the preceding section, it appears that CI may have the following structure.

(28)



The first V^0 is a possible auxiliary verb. To get the observed surface orders, either the circled V^0 is deleted, or it moves to the left of NP and is then deleted. In order to license a leftward movement of V^0 , we would have to posit an empty head, call it v , immediately above the subject, as in (29).

(29) ... [_{VP} V^0 [_{VP} v [_{VP} NP [V^0 ...]]]] → [_{VP} V^0 [_{VP} V^0+v [_{VP} NP [t ...]]]]

The analysis must also take into account the interaction between CI and the British type of ellipsis. This type of ellipsis uses a form of *do* where American English would have an empty VP.

(30) Sandy will read the book, and Kim will do, too.

Interestingly, *do* appears before the subject NP in the British variant of CI.

- (31) a. This was an eternal source of misery to my father, and broke the neck, at the first setting out, of more good dialogues between them, [than could have done the most petulant CONTRADICTION] -- the few which survived were the better for the cuvetts -- ... [The Life and Opinions of Tristan Shandy]
- b. The Wong Kar Wai's style is between European and Chinese cinema. For years, he has intended to open the HK cinema to artsy and author genres more [than could have done NEW WAVE directors].
- c. "Course I have!" Which left the twins more dazzled [than would have done the animal's ARRIVAL].
- d. Pausing there, although that was the applicant's perception, there was no finding that her walking the longer distance to the disabled toilet exposed her in fact to more prejudicial comments or actual notice [than would have done the SHORTER WALK to the female (or male) toilet closest to the loading bay], nor, of course, is there anything unfeminine about use of a disabled toilet, which in any event is fairly open to others than those who are ostensibly and physically disabled.

At first glance this data might appear to confirm the analysis sketched in (29). But there are complications, because *do* is not a pro-V but a pro-VP. In order to get the two dialects to look the same on a derivational analysis, we could extract the subject to the left, then move the entire remnant VP to the left, including the V^0 and the trace of the subject, and then either delete it or replace it with *do*.⁹ I.e.,

- (32) ... [VP V^0 [VP v [VP NP [V^0 ...]]_j]] → ... [VP V^0 [VP v [NP_i [VP t_i [V^0 ...]]_j]]]

subject must correlate with a particular syntactic position. In either case, the subject is ‘low’.

The most controversial aspect of this analysis is that the subject does not raise to Spec,IP. This is a striking fact, when viewed from the perspective of any theory in which a condition equivalent to the EPP is assumed, that is, a theory that requires that Spec,IP be filled in English. In the *Minimalist Program*, [EPP] is a feature of I^0 that must be discharged prior to Spell Out. In OT, EPP is a constraint that ranks higher than STAY (NO TRACES). In order to derive the observed facts regarding this construction, it is necessary to state somewhere in the grammar that EPP is weak or that STAY ranks higher than EPP. But this is true only for this construction, and so the special stipulation has to be tied to some special syntactic properties.

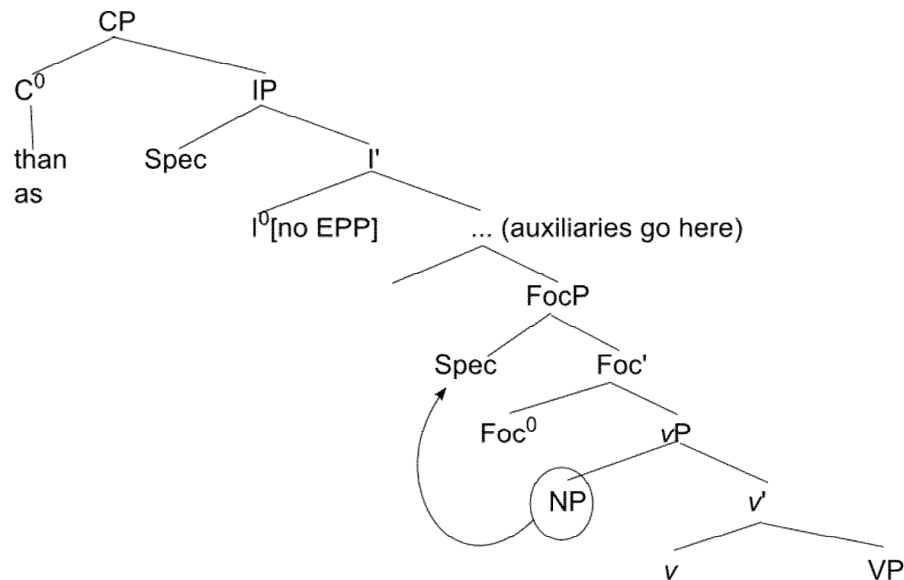
Clearly, these special properties have to do with the comparative. Thus, it is natural to say that they are associated with the elements *than* and *as*, or the equivalent. On the plausible assumption that the features of a head and a projection are the same, one way to do this would be to say that *than* and *as* are complementizers that select $IP_{[EPP]}$.

But since the construction is optional, this selection must be optional. However, it is not entirely optional, because there are focus differences associated with the construction that must be taken into account. That is, it is not sufficient to say that EPP is optional in comparatives. It is also necessary to relate the non-application of EPP to the assignment of focus to the subject in these comparatives (see §3).

Thus, it is necessary to state things in such a way that non-application of EPP and the focus property go together. Suppose, for the sake of illustration, that we adopt

the idea that is entertained in the derivation in (32) that there is a focus position above vP .¹⁰

(33)



It is then necessary to stipulate not only that *than/as* select an IP whose head is I⁰[no EPP], which in turn selects FocP. While the derivation is no doubt mechanically feasible, it does have a ‘just so’ quality that reflects the special properties of the construction. Needless to say, there are also some technical questions that would have to be resolved as well.

Most importantly, we show in the next section that the focus property of the subject in this construction is not actually a matter of stipulation, but is a consequence of the way that accent is assigned and interpreted in English on the basis of the syntax, semantics and pragmatics of comparative constructions. Thus the CI construction is not an accidental product of a chain of selection, along the lines just sketched out. Rather, it is the consequence of fixing the subject position postverbally. In effect, the construction links particular syntactic, semantic, phonological and pragmatic properties. It suspends

the general EPP property in much the same way that an irregular form in morphology blocks a regular form (Culicover & Jackendoff 2005:chapter 1).

3. THE INFORMATION STRUCTURE OF EFI-CONSTRUCTIONS

A central component of our account is that CI has the function of focus-marking the subject. It accomplishes this by positioning the subject postverbally, where it receives a high pitch accent. In this section, we will establish that it is information structure and focus that suspend the EPP in CI. We show that the non-application of the EPP is tied to highly regular interactions of syntax with semantics and phonology and syntax with discourse and pragmatics. On this analysis (i) the subject must be interpreted as a contrastive focus (ii) the focused constituent must be prosodically highlighted and occur at the right edge of the intonational phrase and (iii) the contrastive focus effect on the subject is strengthened by ellipsis of the noncontrastive material. Only if these three conditions are fulfilled, can the EPP be suspended. If not, the subject appears in Spec,IP, as in the canonical comparative construction (CC).

In §3.1 we show how positioning the subject postverbally produces the intonational contour that is characteristic of obligatory focus in English. We also consider the intonational pattern that arises when there are multiple foci in postverbal position. In §3.2 we show how the semantic analysis of contrastive focus applies to comparatives and in particular to CI. In §3.3 we provide evidence that the subject in CI indeed functions as a focus, and that it must be interpreted as a contrastive focus in this position. Finally, in §3.4 we show that the focus properties of the construction and the semantics of the comparative conspire to give the impression that VP ellipsis is obligatory. Contrary to Merchant's (2003) claim, ellipsis is not a necessary syntactic

property of the construction, but occurs systematically as a consequence of its interpretation.

3.1. *Intonation of contrastive focus in CI*

Consider the examples in (34).

- (34) a. ANNA ran much faster than could have any of her FRIENDS.
 b. ANNA ran much faster than any of her FRIENDS could have.

In (34a,b), the contrastive subject is prosodically marked as focus. In CI in (34a), a strong falling pitch accent is realized on *friends* at the right edge of the intonational phrase. The auxiliaries are defocussed and integrated in the intonational phrase corresponding to the comparative clause. Example (34b) shows the comparative construction with the subject in the canonical sentence initial position. The noun *friends* receives a high pitch accent falling to a low and remaining low on the deaccented auxiliaries.

The British CI in (35) shows an intonational pattern similar to that of (34a).

- (35) ANNA ran much faster than could have done any of her FRIENDS.

The overt proform *done* is deaccented and a contrastive accent is realized on the sentence final subject. In both CI examples the variable under comparison is prosodically highlighted. An additional rising accent is realized on the negative polarity item *any*, an accent which typically marks the scope of the negative operator over the subject. That is, both variants of CI are focus constructions which prosodically mark their subjects, place them at the right edge, and require a contrastive focus reading.

Prosodic highlighting operates at the syntax-phonology interface in the derivation of (34a) and (35). It leaves the subject in a low postverbal position thereby creating the impression that SAI had taken place, as discussed in §2.1. One major

difference between CI and CC is phonological, as seen in a slightly simplified version of (34a,b) as in (36a,b):

- (36) a. Anna ran much faster than could have MANNY.
 b. Anna ran much faster than MANNY could have.

Above, we observed that contrastive focus could be realized in the canonical subject position as well as in the post-auxiliary position. Previous accounts of these constructions (Gergel et al. 2007 and Niinuma & Park 2004) are vague about the difference between these constructions, in particular with respect to the triggers for SAI. Here we propose that the interaction of syntactic and phonological constraints on intonational phrasing in English provide an additional motivation for the non-application of the EPP in CI.

We base our analysis on Selkirk 2005, who argues for the existence of two related interface conditions. First, there is a direct connection between clausal syntactic constituents and intonational phrases (*ip*), and second, there is an indirect effect of marking a constituent as contrastive focus (CF) and phonological phrasing. More precisely, the first interface constraint specifies that root sentences, which are also called comma-phrases, are right-aligned with *ips* in English, as stated by the *Align R (CommP, ip)* constraint in (37) (slightly adapted, from Selkirk 2005:7):

- (37) *Align R (Comma, ip)*

Align the right edge of a constituent type Comma Phrase in syntactic representation with the right edge of an *ip* in phonological representation.

The second interface constraint requires that a contrastively focused constituent contains a designated terminal element of the *ip*, here notated as Δip , as specified in (38) (Selkirk 2005: 18):

(38) *Contrastive Focus-dominates- Δ ip (FOC/ Δ ip)*

The terminal string of a contrastive FOCUS constituent in syntactic representation corresponds to a string containing the metrical prominence of an Intonational Phrase in phonological representation.

In addition to these constraints, there is a prosodic markedness constraint in English calling for the alignment of the head of Δ ip with the right edge of ip (cf. Truckenbrodt 1995, Selkirk 2004), as in (39).

(39) *Right Edge Alignment of Focus (Markedness Constraint)*

Each focused constituent is right-aligned in ip.

This prosodic markedness constraint is generally referred to as *right edge alignment constraint of focus* (REAF) and expresses the fact that focus occurs to the right in syntactic constituents and in the corresponding prosodic constituent types. These three constraints taken together can explain why contrastive foci in English are usually followed by an intonational break, or pause. Constraint (38) claims that there is a one to one correspondence between syntactic and phonological constituents. The constraint in (38) requires that a CF is assigned major stress in the ip. The REAF in (39) is the reason for the CF to occur at the right edge of the ip. Since ips are characterized by the fact that they are set off by a pause at either boundary, the constraints create the impression that CFs in general are followed by an intonational break.

The interaction of these constraints also leads to the effect that the contrastive subject and the contrastive object in comparative gapping constructions in English occur in separate ips – often even realized with a long break between them (cf. Winkler 2005), as marked by the slash in (40).

(40) a. A: Who ate more of what?

Spec of a functional head, but the question is a complex one and we will not pursue it here.)

Consider next the pseudogapping cases in (42a,b).

- (42) a. SANDY made more money in 2001 (than did LESLIE)_{ip} / (in 2002)_{ip}
 b. SANDY ate more cookies at the party (than did LESLIE)_{ip} / (pieces of CAKE)_{ip}.

In (42a,b) the contrastively focused subject precedes other *vP*-internal material, such as a prepositional adverb in (42a) or the object of a transitive verb in (42b). The information structural requirement of two-variable comparisons is that both variables must be contrastively focused. The syntax-phonology interface conditions (37)-(39) predict that in constructions with two contrastive foci, as in CI, the contrastive foci are right aligned in their own intonational phrase.

The examples in (43) below show that the requirement of CF marking of the subject and a second remnant (here the object of a ditransitive verb) is sensitive to the discourse context. Contrastive Focus is realized on the element which is not givenness-marked by the comparative context, as we discuss in §3.2 (see also Rooth 1992, Schwarzschild 1999). The requirement in (38) integrates deaccented and anaphoric material.

- (43) a. SANDY sent her relatives more electronic BUSINESS cards
 (than did MANNY)_{ip} / (electronic CHRISTMAS cards)_{ip}.
 b. SANDY sent her relatives more ELECTRONIC business cards
 (than did any OTHER family member)_{ip} / (PRINTED ones)_{ip}

The contrastivity requirement on the remnants in CI cannot be loosened, as seen by the ungrammatical continuations in (44a) and (44b).

(44) SANDY sent her relatives more electronic BUSINESS cards

- a. *(than did she)_{ip} (electronic CHRISTMAS cards)_{ip}
- b. *(than did MANNY)_{ip} (them)_{ip}

The final phonological factor which must be controlled for in pseudogapping examples is a phenomenon known as *stress clash*.

- (45) a. BILL studied MATH a lot longer than did JOHN GERMAN.
 b. BILL studied MATH a lot longer than did any of his FRIENDS classical CHINESE.

If two contrastive accents are realized in two adjacent constituents, such as *John* and *German* in (45a), this causes a stress clash. In (45b) however, the two CF exponents are separated by the intervening prenominal adjective, which avoids a stress clash on the two adjacent nouns. A stress clash can also be remedied by a longer pause between the adjacent foci, or by repeating the complete VP as in (46).

(46) BILL reads LATIN much better (than does JOHN)_{ip} (read GERMAN)_{ip}.

We return to examples like (46) in our discussion of VP ellipsis in CI in §3.4.

3.2. *Semantics of contrastive focus and CI*

Let us turn to the semantics of the comparative and of contrastive focus. The term contrastive focus is informally defined as evoking a suitable set of alternatives from which a subset is chosen (see e.g., Rooth 1992, Molnár 2002, Molnár 2006). The basic idea behind Rooth's (1992) proposal is that the focused expression within a constituent is used in constructing a set of alternatives, which are also referred to as the focus semantic values of a sentence ($[[\alpha]]^f$). These alternatives consist of the maximal set of ordinary semantic values ($[[\beta]]^0$) that can be generated from the relevant

constituent by replacing each focus in that constituent with an expression of identical semantic type.

Rooth's proposal can be directly applied to the examples in (34), since the semantics of comparison is entirely compatible with the semantics associated with the alternative semantics of CF. Focusing *Anna* in the antecedent clause in (34) presupposes the existence of another proposition of the form $\lambda x [x \text{ ran } y\text{-much fast}]$. In this sense the focus expression triggers the construction of a set of alternatives. The comparative *than*-clause introduces in its unreduced version a proposition of just this form, where x equals the set of Anna's friends.

In terms of the focus semantics of the comparative constructions, there seems to be no difference between the examples in (34). In both comparatives, the type of contrast expressed is a strong one, since the constructions explicitly specify the members of the alternative set, and state that Anna ran faster than any member of the set (cf. Molnár 2006). Furthermore, the parallelism requirement is observed in both examples in (34). The compared subjects are contrasted because the main clause and the *than*-clause are parallel, in the sense that they only differ with respect to the highlighted contrastive foci *Anna* and *any of her friends*.

Note, however, that the focus parallelism between the antecedent clause and the *than*-clause does not extend to syntactic parallelism in (34a). If it is true that the CI-construction is a focus construction which can override the EPP, then we expect an information structural difference between the focused subjects in (34a) and (34b). We argue below that the subjects in CI and CC differ not only with respect to their syntactic position but also with respect to exhaustivity effects (§3.3).

3.3. *Contrastive focus requirement on subject in CI*

Next we show that CI is a contrastive focus construction by comparing the behavior of the subject in CI with the behavior of the subject in CC.

Pronominalization test. A focus construction requires that the designated focus position actually contains a phonologically accented element, which is interpreted as focus, whereas other configurations may show relative freedom of focus marking. Consider the following examples. The a-examples show CC and the b-examples, CI.

- (47) a. Anna ran much faster than MANNY could have.
 b. Anna ran much faster than could've MANNY.
- (48) a. Anna_i ran much faster than she_i SHOULD have.
 b. Anna_i ran much faster than SHOULD have *she_i/*SHE_j/*someone.

Example (48a) shows that CC allows a range of focus-marking. The uninverted CC in (48a) has a coreferential and deaccented subject pronoun in the comparative clause. The focus is realized on the modal *should*.¹¹ However, the ungrammaticality of (48b) shows that in CI contrastive focus cannot be realized on the modal and the subject cannot be coreferential with the subject of the correlate clause. This difference between the two constructions is accounted for if CI is restricted to a CF interpretation of the subject, while in CC a contrastive interpretation of the subject is possible, but other contrasts (modality, tense, etc.) are possible as well as the product of the interpretation of the two clauses and the semantics of the comparative.

Wh-question answer-test. The regular *wh*-question answer-test shows the context-sensitivity of the CC in (50b) and the more constrained discourse-function of the CI in (51). As discussed in §2.2, in multiple *wh*-questions only the uninverted order is

grammatical (cf. (17)). Therefore, it is not surprising that the CC examples in (50) constitute grammatical answers to the multiple wh-questions in (49)

- (49) a. who is taller than who?
 b. what's new about Manny?
 c. what's new about Anna and Manny?
 d. who is taller than who in relation to time?
- (50) a. ANNA is taller than MANNY.
 b. Manny is taller than he WAS.
 c. Anna is taller NOW than Manny ever WAS.
 d. ANNA is taller NOW than MANNY ever WAS.

The examples in (50) are all comparative constructions without inversion. Example (50a) is a case of bare argument ellipsis where the subject remnant *Manny* is contrastively focused.¹² (50b) shows that the subject of the *than*-clause can be pronominalized. The contrastive accent is realized on the tense-bearing predicate *was*. (50c) and (50d) are two alternative realizations depending on the specific discourse properties. (50c) is a single-variable comparison, the subjects are given and pronominalized and the contrasts are realized on the temporal adverb and the tensed auxiliary. Example (50d) compares two variables and is frequently referred to as an instance of multiple contrastive foci.

The examples in (50) contrast with the set of CI examples in (51). Only (51a) is grammatical, since the subject of the *than*-clause is contrastively focused as required by the REAF in (39). If the structure of the answer violates the CF requirement the sentence is ungrammatical, as seen in (51b) and (51c).

- (51) a. ANNA is taller than will be any of her FRIENDS.

b. *Anna_i is taller than WAS she_i.

c. *Anna_i is taller than was SHE_j.

(51b) is ungrammatical because the subject is not contrastively focused. Example (51c), which fulfils the contrastivity requirement of the REAF, is still marked, because it violates the requirement that CI tends to improve with respect to grammaticality if the contrastive subject is heavy. Thus, the wh-question answer test shows that CI is a contrastive focus construction, whereas the CC is not.

3.4. *Ellipsis in CI*

We conclude our discussion of contrastive focus in CI by looking at ellipsis in CI. The foregoing suggests that the superficial pattern of foci in CI is the following.

(52) V* NP (XP)

CF (CF)

This pattern produces the appearance of pseudogapping when there is a second focus XP that is an argument or adjunct. However, if our account is on the right track, then it should be possible in principle for XP to be VP just in case it stands in proper contrast to a VP in the antecedent. That is, VP ellipsis should not be obligatory in CI (contrary to Merchant 2003). At the same time our analysis should explain why VP ellipsis appears to be obligatory in CI.

With this in mind, consider the following examples. ((53) was noted above as (11).)

(53) a. National treasures should not be available for local groups that are often funded and affiliated with national groups with much deeper pockets for their vested interests [than do I have as an INDIVIDUAL sending in one LETTER]

- b. Over the years I find that I have a lot more patience [than do I have MONEY].

In (53a) we see a contrast between *national groups with (much) deep(er) pockets* and *have (deep pockets) as an individual* The contrast is interesting because it lacks syntactic parallelism. In (53b) the contrast is more transparent – *have (a lot more) patience* and *have money*. Strikingly, the subject in the comparative clause is not a contrastive focus, but the VP is.¹³ In each case, the analysis conforms to the pattern in (52), where XP=VP.

The following constructed examples show the pattern more clearly. In (54a) the VP *speak German* in the comparative contrasts with *read French* in the antecedent. Since VPs are contrasted, the REAF in (39) applies and predicts the focus accent at the right edge of the ip, here the VP. The contrast is difficult to get, but not impossible. In particular in a context where you expect term answers, such as "Who does what better than who else?". When only one term contrasts, as in (54b), the contrastive interpretation is more readily available. In both cases we get the appearance of SAI, because the auxiliary necessarily precedes the subject NP followed by the VP, in order to satisfy the requirements of the construction. A similar pattern is seen in (54c), where the auxiliary is *be*.

- (54) a. MARY reads FRENCH much better than does JOHN [speak GERMAN].
 b. MARY reads FRENCH much better than does JOHN [read GERMAN].
 c. MARY is speaking FRENCH (these days) much better than is JOHN [speaking GERMAN].

Even when two auxiliaries precede the NP and VP, the contrast is possible, although difficult to get. The fact that both (55a) and (55b) are possible shows not only that VP ellipsis is not necessary in CI, but also that CI is not a special case of SAI.

- (55) a. MARY would have translated the FRENCH much better than would have JOHN [translated the GERMAN].
- b. ?MARY would have translated the FRENCH much better than would JOHN have [translated the GERMAN].

Finally, it is possible to have an adjectival predicate in the comparative clause that contrasts with one in the antecedent, which yields an apparent SAI pattern but also falls under the analysis in terms of (52).

- (56) a. MARY was ANGRY much longer than was JOHN HAPPY.
- b. MARY will be ANGRY much longer than will JOHN be HAPPY.

The generalization about obligatory ellipsis in CI then holds just when the verb phrases are the same, that is, when the XP fails to display the required focus properties. In the canonical CC, on the other hand, there is no obligatory contrast in this position, and VP ellipsis is therefore not required.

- (57) SANDY sent her relatives more electronic BUSINESS cards
- a. than will MANNY (*send)
- b. than MANNY will (send).

The difference between the two cases follows directly from two general information-structural hypotheses, given here in (58) and (59):

- (58) Phonological Reduction Hypothesis (PRH):

Given or redundant material is deaccented or deleted at Phonological Form.

- (59) Contrastive Focus on Remnant(s) Hypothesis (CFR):

Given or redundant information licenses CF on the remnant(s).

(58) states that there is an interface condition which requires given or redundant material to be either deaccented or deleted in phonology (see, e.g., Chomsky & Lasnik 1993, Tancredi 1992, Klein 1993, Hartmann 2000, Hartmann 2003). The term *given material* in its original definition by Halliday 1967 refers to ‘recoverable information’ in general. The term *redundancy* refers to syntactically identical material. The PRH applied to (57) leaves the material in the *vP* unpronounced since it contains only redundant material by virtue of the parallelism of the *than*-clause to the antecedent clause.

The complementary hypothesis in (59) captures an information structural regularity.¹⁴ It states that the discourse-function of given or redundant material is to license CF, because it is typically deaccented or unpronounced. (58) and (59) follow from the general theory of focus and account for the semantics of comparative constructions. The deletion or phonologically reduction of the given material licenses CF on the subject in (57a,b).

The only construction specific condition which does not follow from the general theory of focus is that the subject is in Spec,IP in CC and is low in CI. This difference follows from the markedness constraint in (39), which applies mandatorily in CI, as stated in (60):

(60) *Right Edge Alignment Constraint of Contrastive Focus in CI*

Each contrastively focused constituent is right-aligned in ip.

In contrast to the hypotheses in (58) and (59), which are general information structural constraints, (60) is a construction-specific rule which imposes the additional requirement that the subject be contrastively focused and occur at the right edge of the

intonational phrase. It can thus escape the EPP and stay low in CI in English, as discussed above.

4. MORE FOCUS INVERSION CONSTRUCTIONS

We return now to the syntactic issues. In §2 we discussed a number of derivational accounts of CI and concluded that such an account is possible, but must incorporate a number of stipulations. In what appears to be the most satisfactory option, it must be stipulated that *than* and *as* have variants that select an IP that lacks the EPP feature, and this IP in turn must contain at least one FocP. It is not clear that such a derivational approach is in any way superior to one that simply specifies that in CI the subject follows the auxiliaries, as in a constructional approach.

If the issue was simply about the right technical apparatus to use to characterize CI, one might argue that the issue is simply a notational one. To broaden the empirical basis somewhat, we summarize here the main characteristics of a number of other focus inversion constructions. These demonstrate a range of complexities that are related to, but not identical to, those of CI. There are different syntactic properties that must be stipulated for each construction. Moreover, the focus interpretation properties are not identical, and these must also be specified for each construction.

On a derivational account, each construction would have to be formulated in terms of a slightly different set of stipulations about the distribution and interpretation of the features that are implicated in movement, in order to get things to work out correctly. As in the case of CI, there is certainly no obstacle in principle to such an analysis, but the high degree of idiosyncrasy suggests that it may be more natural to treat it directly, as for example in a constructional account along the lines of Culicover & Jackendoff 2005.

4.1. *So-goes*

One construction in English that shows optional inversion with obligatory focus on the low subject is one that we call ‘so-goes’. To our knowledge it has not been discussed in the literature.

(61) As Iowa goes, so goes the NATION.

Inversion is preferred in the second (the *so-*)clause, but is not necessary. However, when there is no inversion the construction lacks its special rhetorical and information structural force. Note also that there can be inversion in the first (the *as-*)clause. But then there must be inversion in the *so*-clause. That is, the so-goes construction is subject to a parallelism constraint requiring the word orders of the antecedent and the so-goes clause to match, and only differ with respect to the focused NPs.

- (62) a. As Iowa goes, so the nation goes.
 b. As goes IOWA, so goes the NATION.
 c. *As goes Iowa, so the nation goes.

This construction is well represented in naturally occurring text. Focus marking is added.

- (63) a. As goes the STATUE, [so goes the WAR: the emergence of the victory frame in television coverage of the Iraq war]
 b. “As goes the SBC [so goes the larger CHURCH in the USA] and, as goes the CHURCH, [so goes the NATION.]” --(E. Ray Moore, Jr, USAR Ret CH(Lt.Col.)
- (64) a. Habitat for Humanity uses SIPs on many projects now, [as go many of the new Rural Housing Consortiums which operate in a similar

manner...]

- b. My complaint - as go many of our complaints so far discussed here on inconsistencies and poorly explained aspects within the plot - has to do with why the

It is most natural to say that the canonical form in (62a) and the inverted realization in (62b) are forms of a special *so-goes* construction. At first sight it appears that this construction is of the form, as in (69) with the focus accent realized on the low subject.

(65) $\left\{ \begin{array}{l} \text{As X goes} \\ \text{As goes X} \end{array} \right\}, \text{ so goes Y (FOCUS).}$

However, we see from the following examples that there is some flexibility. First, it is possible to use verbs other than *go(es)*.

(66) As runs the FOX [so flies the BIRD.]

It is also possible to have an auxiliary verb preceding *go*. Note *how goes* in (67a) as an alternative to *as goes*.

- (67) a. But he is watching the case with interest. "How goes 'Oprah,' [so will go the LAW," he said, adding that 14 more states are considering similar bills.]
- b. As Maine goes against global warming, [so might go the NATION.]
- c. Where real estate goes, [so could go the ECONOMY — and probably your PORTFOLIOS.]

As in CI, the information structural requirement of the so-goes construction is that the subject in the so-goes clause receives a strong pitch accent and is interpreted as focus, as required by (37)-(39). The interpretation of the focus, however, differs. The semantics of the so-goes construction requires a strong focus which is interpreted as an addition to the set and not as an exclusion, as in the CI cases. The data suggest that the construction has roughly the following superficial description.

$$(68) \quad \left(\begin{array}{l} \{ \text{As X goes} \} \\ \{ \text{As goes X} \} \end{array} \right) \text{ so } \left\{ \begin{array}{l} \text{Tns} \\ \text{AuxV} \end{array} \right\} \text{ GO NP(FOCUS)}$$

4.2. *Inversion after so*

So-goes is not completely *sui generis*. Inversion after *so* and after *as* are independently possible in English, although they do not have the same interpretation as they do in So-goes. We look at *so* first.

- (69) a. I was there, and so was SANDY.
 b. Leslie eats pretzels, and so does SANDY.
 c. The Yankees will make a bid for Beckham, and so will the RED SOX.
 d. Sandy was there, and so was I.

In this case, inversion is obligatory.

- (70) a. *I was there, and so Sandy was.
 b. *Leslie eats pretzels, and so Sandy does.
 c. *The Yankees will make a bid for Beckham, and so the Red Sox will.
 d. *Sandy was there, and so I was.

It is marginal to have more than one verb in the *so*-clause, but when there is more than one, there appears to be SAI. But when the subject is ‘heavy’, inversion around the entire verbal cluster appears to be possible as well, and perhaps even preferable.

- (71) a. Leslie had been there, and so $\left\{ \begin{array}{l} \text{had I} \\ * \text{ had been I} \end{array} \right\}$.
- b. Leslie had been there, and so $\left\{ \begin{array}{l} \text{had Sandy} \\ \text{had been Sandy} \end{array} \right\}$

So-inversion is typically possible with a pronominal subject, but as (71) suggests, as the verbal cluster becomes more complex, a pronominal subject is less acceptable.¹⁵

Examples of *so*-inversion with complex verbal clusters can be found through a Google search.

- (72) a. As the pyramid rose, the working space would have diminished, of course, and [so would have the number of TEAMS that could simultaneously work ATOP it...]
- b. [Yet so would have been the chances of entrapping and destroying large Hezbollah forces on the GROUND instead of letting them slip away in the end as...]
- c. His hair was light, and [so would have been his COMPLEXION, had it not been burned red by exposure to the hot sun of the tropics...]
- d. ... would have taken his place - the chain of command - and that person's tasks would have been the same and [so would have been his positional LIMITATIONS...]

4.3. *Inversion after as*

Turning next to *as*, simple constructed examples appear to be quite well-formed, with pronominal and non-pronominal subjects.

- (73) a. Sandy is very forgetful, as is LESLIE.
- b. Sandy likes baseball, as do I.
- c. Sandy would have refused to do that, as would ISABELLA.

But when the verbal cluster is more complex, a heavier subject NP is preferred.¹⁶

- (74) a. Sandy has been very angry, as $\left\{ \begin{array}{l} \text{has } \left\{ \begin{array}{l} \text{Leslie} \\ \text{HE} \end{array} \right\} \\ \text{has been } \left\{ \begin{array}{l} \text{Leslie} \\ * \text{HE} \end{array} \right\} \end{array} \right\}.$
- b. Sandy would have been very angry, as $\left\{ \begin{array}{l} \text{would } \left\{ \begin{array}{l} \text{Leslie} \\ \text{HE} \end{array} \right\} \\ \text{would have } \left\{ \begin{array}{l} \text{Leslie} \\ * \text{HE} \end{array} \right\} \\ \text{would have been } \left\{ \begin{array}{l} \text{Leslie} \\ * \text{HE} \end{array} \right\} \end{array} \right\}.$
- c. Sandy would have been very angry, as $\left\{ \begin{array}{l} \text{would all of the people who invested in the project} \\ \text{would have all of the people who invested in the project} \\ \text{would have been all of the people who invested in the project} \end{array} \right\}.$

These examples of *so*- and *as*-inversion are characterized by the fact that they involve inversion around auxiliary verbs, including *be*. The *So-Goes* construction shows that there can be inversion at least around the verb *go*. Examples found through a Google search show that other verbs may also show *so*- and *as*-inversion.

- (75) a. I got lost in the maze of narrow, twisting alleys of the Bazaar quarter—
Smyrna's only district to have conserved a picturesque air, [as had noted
the WRITER...]
- b. [As had noted the Chairman of Board of Tsesnabank JSC DAUREN
ZHAKSYBEK], the initial sum of the deal was planning in size of \$25
m., but was increased...
www.cbonds.info/eng/news/index.phtml/params/id/357892
- c. Dante has it, i.e. of the armorial device of the Visconti, [as runs the note
to the passage by Shelley HIMSELF].

4.4. *Locative inversion*

Two related constructions that involve inversion are locative inversion (LI) (76) and inversion around *be* (I*A**be*) (77) (the terminology is due originally to Emonds 1970).

- (76) a. Into the room hopped an extremely angry KANGAROO.
 b. Near Robin on the bench sat several half-empty boxes of Chinese TAKEOUT.
 c. In walked ROBIN, and scared the living daylights out of the rest of the CLASS.
- (77) a. Angriest of all was ROBIN.
 b. Less interesting is the fact that the verb is UNINFLECTED.
 c. Sitting on the bench near Robin were several half-empty boxes of Chinese TAKEOUT.

The salient property of these constructions from our perspective is that they permit verb clusters.

- (78) a. Into the room was hopping an extremely angry KANGAROO.
 b. Near Robin on the bench were sitting several half-empty boxes of Chinese TAKEOUT.
 c. Then, in will walk ROBIN, and scare the living daylights out of the CLASS.
- (79) a. Angriest of all will be ROBIN.
 b. Less interesting has been the fact that the verb is UNINFLECTED.

- c. Sitting on the bench near Robin had been several half-empty boxes of Chinese TAKEOUT.

The LI construction shares with the other focus inversion construction the property that the postverbal subject must be focused. However, it differs from the previously discussed constructions with respect to the discourse-semantic interpretation of the focused constituent, which is presentational, not contrastive or additive

As in the other cases, there is a question about how to formally represent the idiosyncratic character of such constructions. Here we follow Culicover & Levine 2001 in assuming that the subject NP remains *in situ* in VP. LI appears to occur only with the locational or directional interpretation; in this respect it shares some semantic properties with the constructions *V one's way* and *V PP_{path}* discussed by Jackendoff 2002. Unlike CI, LI and *IA_{be}* require that Spec,IP be filled, although in these cases it may be filled by a non-subject PP, which is not generally true for English.

- (80) a. *Into the room_i pushed Sandy the baby carriage t_i.
 b. *Next Tuesday_i are driving my parents to California t_i.
 c. *Very angry_i made Sandy Leslie t_i.

The LI cases differ from the focus inversion constructions that we have discussed in this paper in two respects. First, in LI, the EPP is satisfied by a non-PP, which is not generally possible in English. Second, the focus in LI is typically presentational, not contrastive. We take the pairing of syntactic and focus properties to be irreducible characteristics of the individual constructions.,

4.5. *Quotative Inversion*

Finally, we consider Quotative inversion (QI). Like the other focus inversion constructions, QI is subject to the syntax-phonology interface constraints (37)-(39). But it differs from them in that it apparently can only be used with a main verb.

- (81) “I lost my key,” $\left. \begin{array}{l} \text{says} \\ \text{said} \\ * \text{ is saying} \\ * \text{ will say} \\ * \text{ might say} \\ (*)\text{might have said} \end{array} \right\}$ the usually reliable concierge.

This is not surprising, since on pragmatic grounds it is odd to pair a direct quote with an irrealis or future event. Thus the same verb forms without inversion are also odd in the reportive mode reserved for clause-initial quotation.

- (82) “I lost my key,” the usually reliable concierge $\left. \begin{array}{l} \text{says} \\ \text{said} \\ * \text{ is saying} \\ * \text{ will say} \\ * \text{ might say} \\ (*)\text{might have said} \end{array} \right\}$.

To the extent that a scenario can be envisioned in which the starred cases in (82) are more or less acceptable, that acceptability carries over to QI. E.g., suppose that we are describing the ongoing sequence of events in a film that we can see but not hear. Then the following are marginally possible,

- (83) a. “I lost my key,” the usually reliable concierge is (now) saying.
 b. “I lost my key,” is (now) saying the usually reliable concierge.

It is also noteworthy that QI with pronouns may occur only with the verb *say*, suggesting further that it is either a partially lexically restricted construction, not freely generated by the normal derivational mechanisms, or a result of the focus requirements. The interesting difference between (84) and (85) is that (84) forms one intonational phase whereas (85) forms two, with the sequence *said she* forming it's own domain.

(84) ["I lost my KEY," she said]_{ip}.

(85) ["I lost my KEY,"]_{ip} / [said SHE]_{ip}.

Since the postverbal subject in QI needs to be focused, a semantically rich and phonologically heavy verb like those in (86) or (87) would attract the accent away from the pronoun.

- (86) "I lost my key," {
 declared
 stated
 affirmed
 alleged
 argued
 asserted
 claimed
 contended
 maintained
 proclaimed
 admitted
 allowed
 conceded
 confessed
 granted
 acknowledged
- { *she
 Mary
 the woman in the green hat }.
- (87) "I lost my key," {
 bellowed
 blustered
 called
 cried
 hollered
 roared
- { *she
 Mary
 the woman in the green hat }.

The pronoun may not appear inverted with any verb that is related to *say*, such as verbs of communication and verbs of speaking, unless it is made heavier, as in continuations, such as ...*whispered SHE of EARTH* or *declared SHE who RULES*. We will provide a further argument that the inverted subject in QI must be a focus below.

Another distinctive property of QI (and quotative non-inversion), which it shares to some extent with locative inversion, is illustrated by the following examples.

(88) "I don't love you anymore," she said, and turned away from me.

"Hmmm...that's a good point," I acknowledged, and said no more.

“I won’t,” promised Henry, and got back into the car.

The clause with initial quotation can be coordinated with a VP whose subject is the same as that of the preceding clause. These examples are problematic on the view that the quote is moved to initial position, since such movement violates ATB restrictions on movement in coordinate structure (e.g. Ross’ Coordinate Structure Constraint). Compare with the SI examples.

- (89) a. Into the room he walked and sat down.
 b. Into the room walked the president and immediately sat down.

Such examples raise some doubt about the reality of the posited syntactic structure in a derivational analysis. If QI is a construction, however, and furthermore if its subject is explicitly assigned the SUBJECT grammatical function (GF) (in the sense of Culicover & Jackendoff 2005), the coordination can be accounted for at the level of the shared GF.

It appears that QI is a root construction. Therefore it is possible for the quote to be in a designated constructional location that is completely outside of the canonical structure (perhaps following Banfield’s 1973 analysis of the English sentence). The following examples show that the clause-initial quote cannot be embedded; that is, it is really sentence-initial.

- (90) a. John said that Susan announced “it’s raining”.
 b. *John said that “it’s raining,” Susan announced.
 c. *John said that “it’s raining,” announced Susan.

Moreover, it is impossible to question any part of the QI sentence, unless what is questioned is the subject of a quiz question ((91c) and (92c,d)).

- (91) a. $\left\{ \begin{array}{l} \text{Who} \\ \text{Which President} \end{array} \right\}$ said “The buck stops here.” (in 1948)

- b. *"The buck stops here," {who
which President} said (in 1948)?
- c. "The buck stops here," said {who
which President} (in 1948)?
- (92) a. When did Harry Truman say "The buck stops here"?
- b. *"The buck stops here," when did Harry Truman say?
- c. "The buck stops here," Harry Truman said when?
- d. "The buck stops here," said Harry Truman when?

The fact that *wh in situ* is a signature of the quiz question suggests that we may have *wh in situ* in (91c), which is consistent with the claim that QI is a focus construction. This claim is also supported by the contrast in grammaticality between (91c d) and (91c b). As is generally assumed, *wh*-constituents constitute instances of operator foci irrespective of whether they carry an accent or not. In QI the postverbal element must be a focus under (39) and may not be one in the uninverted case. Thus, (91c d) conforms to the focus requirement of focus inversion constructions. (91c), on the other hand, violates the rule that the sequence *which president said* cannot be integrated in the same ip as the quote.

5. SUMMARY: CONSTRUCTIONAL IDIOSYNCRASY AND FOCUS

We argued in §2 that CI has a key idiosyncratic property, which is that its subject is post-verbal. As we showed, the syntactic idiosyncrasy of CI can in principle be captured in terms of the EPP. By manipulating the EPP feature, we can block movement of the subject into Spec,IP, which produces the effect that it is *situ* in VP. Such a derivational analysis requires that the manipulation of the feature be linked to the fact that it is a comparative, that is, to *than/as*, and must also guarantee the proper focus interpretation. We suggested that capturing the idiosyncrasy of this construction in

derivational terms does not appear to be any more explanatory than simply characterizing the construction in terms of the superficial constituent ordering. The two approaches are of course quite different in their broader theoretical consequences, which we are unable to explore here.

The articulation with focus in CI is fully regular, as we showed in §3 – it follows the general pattern of English, in which final constituents are in focus. Our analysis suggests, then, that it is sufficient to say of this construction that the subject is post-verbal. The fact that it expresses focus follows from the way in which the syntactic structure articulates with the phonological phrasing and the focus interpretation mechanism. The fact that it expresses CF follows from the fact that it is explicitly a construction that is associated with the comparative, where contrast is an essential semantic property.

The discussion in §4 introduces additional data that makes a general constructional approach plausible. All of these constructions share the property that the subject is a post-verbal focus. In each case, it appears that the subject is in situ in VP. On a derivational account, there would have to be a suspension of EPP in each case. However, the conditions under which EPP is suspended differ from construction to construction. It appears that literal use of the EPP to capture the subject in situ property of these constructions would require ad hoc stipulations that correspond to the idiosyncratic characteristics of each construction. On a derivational approach, these idiosyncrasies are in effect encoded in the distribution of the EPP feature. On a constructional approach, they are the properties that are connected to the focus requirement of the postverbal subject which distinguish the focus inversion constructions from the canonical structure.

As shown in §3, a consequence of positioning the subject post-verbally is that it functions as a focus. But each construction has very particular idiosyncratic restrictions and uses that distinguish it from the others. The idiosyncrasies of form of each of these constructions must be individually stated somewhere in the grammar.¹⁷ There is no obvious sense in which they all follow from general principles or even from the canonical patterns of English grammar. For example, locative inversion must be used with a locative or directional in initial position, and conveys movement along a path, QI is used in a very special narrative style with verbs of saying, *so goes* generally is matched with *as goes* and is restricted to a small set of verbs, and so on. What is essential here is to account for the ways in which certain properties of these constructions are clearly related to or the consequence of general properties of the language, such as the focus requirement, while others are *sui generis* and require explicit stipulations.

Finally, our results point to a more general issue, which is how best to characterize the tension between generality and idiosyncrasy in grammar. The fact that a construction such as CI effectively suspends the EPP points to an architecture in which specialized focus constructions explicitly license deviations from the fully general canonical structures and principles of a language (Culicover and Jackendoff 2005: chapter 1). They thus function analogously to morphological irregularity: an irregular form in a paradigm explicitly licenses a deviation from the rule. Licensing deviation from the fully general appears to be a primary function of constructions. This function needs to be recognized and accommodated in grammatical theory, regardless of the technical descriptive mechanisms that one assumes.

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FOOTNOTES

¹ [Acknowledgments hidden to preserve anonymity.]

² See, for example, Pesetsky & Torrego 2000.

³ For an early articulation of this view, see Jaeggli 1986.

⁴ As has been argued by, among others, Fillmore et al. 1988, Goldberg 1995, Culicover 1999 and Culicover & Jackendoff 2005.

⁵ We include in this category analyses in which V^0 raises to an empty v -head that is lower than I^0 ; see e.g. Johnson 1991.

⁷ We note also that there have also been proposals in the literature that SI, at least in cases such as (2c,d), involves not movement of the verb to the left but positioning of the subject NP to the right; see Rochemont & Culicover 1990, Chen 2003.

⁸ These searches were formulated in terms of particular verbal sequences followed by the definite or indefinite article, e.g. *than might be the/a/any*. Searches with other determiners produced no useful hits, nor did searches with proper names (e.g. *George Bush*).

⁹ The derivation of the pseudogapping cases would require additional complexities on this approach, which we leave aside.

¹⁰ See López & Winkler 2003, Winkler 2005.

¹¹ Note that the perfect *have* is deaccented and integrated in the ip.

¹² We leave open the question of whether the string *than Manny* is a reduced sentential constituent.

¹³ There are factors governing the acceptability of such cases that we do not fully understand. It is not always possible to focus just the VP, as shown by (i).

-
- (i) a. *Ted can swim faster than can he walk.
 b. *Susan has seen more movies than has she read books.

To our ears, the best exemplars seem to contain *than do I*, but the judgments are far from secure. We leave the analysis of these cases for future research.

¹⁴ This hypothesis uses an insight first stated in Culicover & Rochemont 1983 and reformulated in Rochemont 1986 where contrastive focus is not defined in set-theoretic terms, but in discourse-functional terms. The utterance without the contrastive focus must be given.

An expression P is a Contrastive Focus in a discourse δ , $\delta = \{\{\varphi_1, \dots, \varphi_n\}\}$, if, and only if,

- (i) P is an expression in φ_i , and
 (ii) if P/φ_i is the result of extracting P from φ_i , then P/φ_i is directly c-construable, and φ_i is not c-construable. (Rochemont 1986: 66).

¹⁵ We suspect that the differences in acceptability here have to do with the relative weight of the pronoun and the auxiliary verbs. It in fact appears to be possible to account for a range sequences by assuming that the weight of what precedes the pronoun must be less than that of the inverted subject NP. Since the pronoun is relatively light, very little can precede it before unacceptability emerges. A heavier NP can appear after a longer sequence of verbs, and only the heaviest of NPs can appear after the longest sequence of verbs, e.g. *would have been*. We do not try to provide the details of this demonstration here because of space limitations.

¹⁶ It appears, moreover, that reducing *have* to *'ve* may render the examples with pronominal subjects somewhat more acceptable.

- (i) Sandy would have been very angry, as would've been HE.

The judgments are complex, however, and we will not explore this phenomenon further here.

¹⁷ For some proposals on how to approach such idiosyncrasy, see Fillmore 1988, Fillmore, et al. 1988, Kay & Fillmore 1999, Goldberg 1995}, Culicover 1999, Culicover & Jackendoff 2005.