

On the Structure of the Existential Construction: A Hybrid Analysis

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Kim, Jong-Bok. 2013. On the Structure of the Existential Construction: A Hybrid Analysis. *Studies in Modern Grammar* 72, 17-39. There have been three main proposals regarding to the structure of the English existential construction: small clause, bare-NP, and ternary analysis. Each has some merits in accounting for its syntactic properties, but at the same time leaves out certain empirical issues unaccounted for. This paper critically reviews these three previous analyses and offers a hybrid analysis that allows both the bare NP as well as small clause structure for the construction. We sketch this hybrid analysis within a Construction Grammar perspective.

[Key words: expletive, existential, small clause, ternary, bare NP]

1. Introduction

The ‘existential construction’ refers to a construction expressing a proposition about the existence or presence of someone or something as exemplified by the following naturally occurring examples:

- (1) a. There is a door.
- b. There is a house to the north.
- c. There is a delay or obstruction in the pathway.
- d. There were four studies conducted in the classroom.
- e. There are a lot of folks looking at the race.

For example, (1b) expresses the existence of one house to the north while (1c) describes the existence of a delay in the pathway. The

construction constitutes the expletive *there*, a copula verb *be* and a 'pivot' NP at least. The copula can be replaced by unaccusative verbs like *come*, *exist*, *remain*, and so forth, but such sentences have more than the existential meaning due to the verbs in question (Quirk et al. 1985, Hoekstra and Mulder 1990):

- (2) a. There comes a sudden rush of wind.
- b. There existed a public language that did not exist.
- c. There remains a gap in funding.
- d. There occurred a postscript to this event.

The verbs here are all unaccusatives, not accepting unergatives as in **There ran a student into the room*. In this paper, we focus on the existential construction with the copula verb only.

The existential construction brings about several theoretical challenges. What is the role of the expletive *there* and what licenses the expletive. An ensuing question arises with respect to the status of the copula and the postcopular pivot NP. The NP appears not to be selected by the matrix copula. The NP does not function as its semantic argument. Its syntactic status is also a puzzle too. It behaves like a subject with respect to agreement:

- (3) a. There is/*are a strong correlation between the two.
- b. There *is/are negative correlations between the two scores.

It is the pivot NP that determines the verb agreement. In addition, the postcopular NP is also different from the typical NP as also pointed out by Hazout (2004):

- (4) a. There are people for whom dignity is important.
- b. *[People for whom dignity is important] are.

The contrast here indicates that the postcopular NP cannot occur in the

typical NP position. The role of the ‘coda’ expression following the pivot NP is also questionable. As seen from (1), its presence is optional, though it appears to function as a predicate to the pivot NP.

In this paper, we first look into some main grammatical properties of the existential construction and discuss pros and cons of the three previous analyses, small clause, bare-NP, and ternary analysis. Considering each analysis has advantages as well as empirical and analytical issues, we offer a hybrid analysis incorporating the advantages of the previous analyses with some welcoming consequences.

2. Grammatical Properties

As noted earlier, the existential construction includes a ‘pivot’ postcopular NP whose existence is under discussion (Quirk et al. 1985):

- (5) a. There were [many students] [fond of Pat].
- b. There are [people] [looking through the window].
- c. There was [a felon] [elected to the city council].

The ‘coda’ expression specifies the domain of existence of the individual denoted by the pivot. For example, in (5b), the expression *fond of Pat* is predicate of the NP *many students*. The category of the coda expression can vary but it needs to function as a predicate type:

- (6) a. *There are many books [to people].
- b. *There are many students [happily].

It has traditionally been noted that the existential construction is truth-conditionally identical to copular constructions. For example, sentences in (5) seem to be truth-conditionally identical to the following:

- (7) a. A fly is in my soup.

- b. Many students are fond of Pat.
- c. People are looking through the window.
- d. A felon is elected to the city council.

The semantic equivalence has led literature to derive the existential construction from the copular one through transformation rules like the ‘There-insertion’ (see, among others, Milsark 1974, Stowell 1978, Hoekstra and Mulder 1990).

However, issues arise from examples with no derivational sources (Milsark 1974, Kuno 1971):

- (8) a. A man is bound to arrive soon.
b. *There is a man bound to arrive soon.
- (9) a. A lot was being accomplished.
b. *There was being a lot accomplished.
- (10) a. *Some room is still in the house.
b. There is still some room in the house.
- (11) a. ??A bird is in the tree.
b. There is a bird in the tree.

Examples in (8) and (9) indicate that copular sentences cannot be linked to putative *there* existential ones. Meanwhile, (10) and (11) imply that the existential sentences do not have corresponding copular ones.

In terms of the semantic and pragmatic properties of the construction, the postcopular pivot NP has a definiteness effect. That is, the NP cannot be definite. It must be indefinite (Milsark 1974, Ward and Birner 1995, Abbott 1997, McNally 2011, Moro 2006):

- (12) a. There are several manuscripts in the desk.
b. There are termites in the foundation.
- (13) a. *There is the neighbor’s dog barking.
b. *There was John on the committee.
c. *There is that carpet under the table.
d. *There are most first-year students in the class.}

As illustrated here, the definite, demonstrative, and quantificational NP or personal pronoun cannot occur in the postcopular position. The definiteness effect has to do with the construction's main discourse function: it introduces a novel referent into the discourse, blocking an expression describing the pre-existing referent.

Note that the definite constraint can be waived when mentioning one or more alternatives or when the definite NP conveys new information (in answers to existential questions) (see Quirk et al. 1985):

- (14) A: Have we any loose cash in the house?
 B: Well, there's the money in the box over there.
- (15) A: Is there anyone coming to dinner?
 B: Yes, there's Harry and there is also Mrs. Jones.

In (14), the pivot NP offers new information as an answer to the given question whereas the NP in (15) provides the list use of existentials (Milsark 1974, Aniya 1992). This does not mean that the pivot NP can be predicative:

- (16) a. She is professor of linguistics at Stanford.
 b. *There is professor of linguistics at Stanford.

This implies that the pivot NP is not a predicative argument of the copula.

The coda expression following the pivot NP also has a semantic constraint. As noted by Milsark (1974) and Hoekstra and Mulder (1990), it needs to be a stage-level predicate, not an individual-level predicate:

- (17) a. There are many people in line already.
 b. There were a few people waiting for hours.
 c. There was a live pig roasted.
- (18) a. *There were many students anarchists.
 b. *There were lots of donors generous.

c. *There were inmates psychotic.

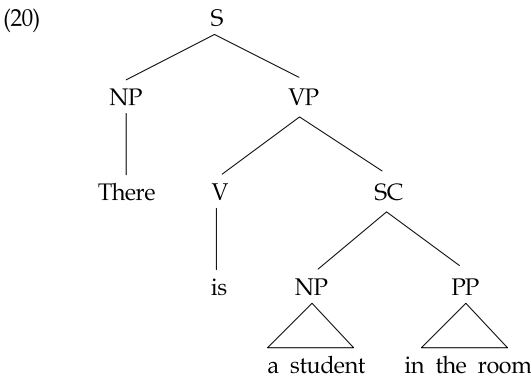
3. Previous Analyses

3.1 Small Clause Analysis

As noted earlier, the traditional analysis including Milsark (1974), Stowell (1978), and Chomsky (1981, 1991) assumes that the existential construction (19a) is synonymous with copular sentences like (19b):

- (19) a. There are children in the garden.
- b. Children are in the garden.

Such a linkage assumes that *there* is an expletive expression serving as a place holder for the subject. The motivation comes from the Extended Projection Principle that requires all sentences to have a subject of the predicate at LF (Chomsky 1981). Together with this assumption, the supposition of *be* as a raising verb leads to posit a small clause like the following (Radford 1997):



This SC analysis assumes that the core meaning comes from the clause

consisting of an indefinite NP and the following predicate while giving the status of syntactic subjecthood to *there*. This then accounts for why the construction licenses the following tag question and SAI (Subject-Aux Inversion):

- (21) a. There is a student in the room, isn't there?
 b. Is there a student in the room?

The SC analysis is appealing, considering the synonymous relation between the existential and copular construction, but it also raises several empirical and analytical questions. For example, within the SC, the pivot NP and the coda expression are taken to be a constituent, but there are cases where they do not behave as a unit (Gazdar and Pullum 1980):

- (22) a. There is a seat available.
 b. *A seat available was in the last row.
 c. *Pat took a seat available.
 d. I looked for a seat available.

Another issue of the SC analysis comes from examples like the following:

- (23) a. There was space in the room.
 b. There was a fire in the school.
 (24) a. ??Space was in the room.
 b. ??A fire was in the school.

If the pivot NP and the coda are in a predication relation, we would expect they can appear in a finite clause. However, this seems to be not always the case.

A further issue arises from extraction (see Gazdar and Pullum 1980). Semantically the coda may function as the predicate, but syntactically it

behaves like a modifier as noted by Williams (1984):

- (25) a. How sick were the children?
 b. *How sick were there the children?

As seen in (25a), the main predicate can be wh-questioned. If the coda in the existential construction is a main predicate, there is no reason not to wh-question the coda, but this is not possible as seen in (25b). Also consider the following:

- (26) a. There are many girls in the garden.
 b. *Which girls do you think that there are ___ in the garden?
 c. In which garden do you think that there are many girls ___?
 d. *Which girls in the garden did Bill say there are?

The examples here show us that the pivot NP cannot be wh-questioned unlike the coda expression. The assumed SC cannot be questioned either as shown in (26d).

Observing the behavior of the inverse copular sentence while solving the issues arising from the simple SC analysis, Moro (1997, 2006) takes *there* not as the subject holder but as the place holder for the predicate. Moro's (1997, 2006) position is that *there* is a dummy predicate originating in a small clause with the postverbal NP being as the subject:

- (27) [There_i be [_{sc} NP t_i]]

This alternative SC analysis where the existential construction is a type of inverse copula constructions offers some merits.¹

For example, it can explain agreement facts:

¹ Compare the following:

- (i) a. Some pictures of the wall are the cause of the riot. (canonical)
 b. The cause of the riot is some pictures of the wall. (inverse)

- (28) a. There are obstructions that block sunlight.
 b. There seems/*seem to be a man in the room.

Since the expletive *there* is the predicate of the pivot NP, we would expect the agreement between the two and then between the expletive and the copula verb. When *there* moves to the subject position, it can take the agreement features and establish an agreement relation with the verb (Groat 1995, Hartmann 2005).

One strong obstacle for such an inverse-based is to parallel the existential construction with the inverse copula construction. As noted by Hartmann (2005), there is evidence that the two are different. For example, the two behave differently with respect to extraction (Moro 2006):

- (29) a. *What do you think the cause of the riot was ___?
 b. *Which picture do you think the cause of the riot was ___?
 (30) a. What is there in the refrigerator? (Aissen 1975: 7)
 b. How many men do you think that there were ___ in the room? (Moro 1997: 126)

Such non-parallelism implies that we may not derive the existential from the inverse copula construction.

3.2 Bare NP Analysis

The SC analysis appeals to intuition that its semantics is similar to the copula sentence, but an immediate issue arises with the treatment of examples like the following:

- (31) a. There is a strong association between the two.
 b. There is a website that will help you.

As pointed out by Williams (1984), another issue with the SC analysis

comes from the fact concerning the constituenthood:

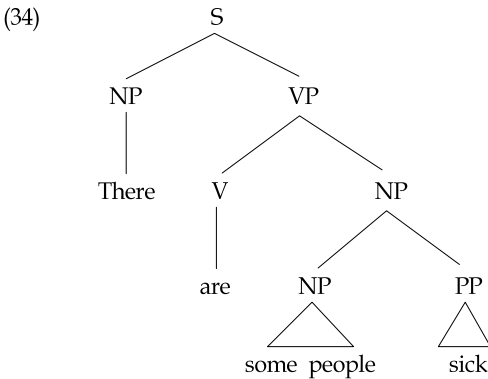
- (32) a. *The man is with a green coat.
- b. The man with a green coat is here.
- c. There is [a man with a green coat].

The examples show us that the NP *the man* and the PP *with a green coat* do not form a subject-predicate relation, but can occur in the postcopular position. A similar situation can be observed from the following:

- (33) a. *There was a friend of mine an imposter.
- b. *A friend of mind an imposter is in the next room.
- c. A friend of mine is an imposter.
- d. I consider a friend of mine an imposter.

Not all the assumed SC can thus occur in the existential construction.

Based on such data, Williams (1984) adopts a bare NP analysis for the existential construction, as represented in the following:



According to this structure, there is no subject-predicate relation after the copular verb: there is just an NP functioning as the subject denoting the referent of existence. This analysis requires nothing to be said for the simple postcopular NP case. The bare NP analysis can offer us with an

immediate account for the data in (32) and (33). Since *a friend of mine an imposter* does not form an NP, this cannot occur as the postcopular NP. A similar point holds for the sequence *a man with a green coat*. This can form an NP and thus can occur in the existential construction.

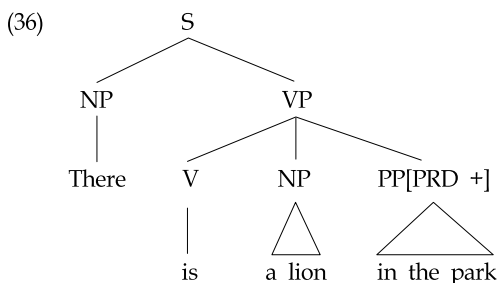
We have noted that the coda expression cannot undergo extraction. As in the bare NP analysis, if the coda is a modifier then this behavior is expected within the analysis.

- (35) a. *How happy was there someone?
 b. *How happy did you meet someone ___?
 c. How happy do you consider Bill ___?

One of the reservations for this bare NP analysis comes from the synonymous relations between the existential and the copular construction. In addition, this analysis implies that the copular verb *be* has the meaning of 'exist', which seems to be not always the case.

3.3 Ternary Analysis

Observing issues in the SC analysis, Gazdar and Pullum (1980) and Pollard and Sag (1994) adopt a ternary structure for the existential construction, as represented in the following:



With this ternary structure, the predication relation between the pivot

NP and the coda expression is expressed in the lexical information of the copula. The assumption is that the copula *be* in such a case selects three syntactic arguments: *there*, the postcopular NP, and a predicate expression whose subject is conindexd with the postcopular NP (Sag et al. 2003 and Kim and Sells 2008).

This ternary analysis allows the copula verb to directly access the pivot NP and the coda. This enables us to assign the subject-predicate relation between the two, as represented in the following:

$$(37) \left[\text{COMPS} \left\langle \left[\text{NP}, \text{XP} \left[\text{SUBJ} \left\langle \left[\text{NP} \right] \right] \right] \right] \right\rangle \right]$$

This means the copula *be* selects two complements (COMPS) while the coda's SUBJ value is identical with its first complement. The analysis thus assigns a special property to the copula *be*. The copula *be* syntactically requires not two but three elements. This is quite a peculiar property, considering the typical uses of the copula. For example, just like the other uses of *be*, the copula in the existential construction displays the typical properties of the auxiliary copula. For example, there is no difference at all between the usual copula verb and the one in the existential construction:

- (38) a. John is not a racist person.
 b. Is John eager to find the connection between the two?
 c. John wasn't sad.
 d. John was not a shoplifter, but Bill was.
- (39) a. There was not a racist person anywhere in sight.
 b. Is there a natural connection between the two?
 c. There wasn't a dry eye in the house.
 d. I heard there was a shoplifter last night. Yes, yes, there was ____.

As seen from here, the typical copula uses in (38) as well as its use in

the existential construction all are sensitive to the NICE (Negation, Inversion, Contraction, and Ellipsis) constructions. There seems to be no strong evidence supporting another treatment of the copulas in the two constructions.

4. A Construction-based View

We have so far discussed the three main syntactic analyses of the existential construction and have seen that each has pros and cons. In what follows, I sketch a new perspective on the structure that can accommodate the advantages of the three analyses while minimizing the idiosyncrasies of the construction.

Within the philosophy of Construction Grammar (CxG), all levels of description (including morpheme, word, phrase, and clause) are understood to involve pairings of form with semantic or discourse functions. Constructions vary in size and complexity and form and function are specified if not readily transparent as seen in the following:

Constructions	Examples
Morpheme	<i>pre-, -ing</i>
Word	<i>avocado, anaconda, and</i>
Complex word	<i>daredevil, shoo-in</i>
Complex word (partially filled)	[N-s] (for regular plurals)
Idiom (filled)	<i>going great guns, give the Devil his due</i>
Idiom (partially filled)	<i>jog (someone's) memory, send (someone) to the cleaners</i>
Convariational conditional	The X-er the Y-er (<i>The more you have, the better you are</i>)
Ditransitive	Subj V Obj1 Obj2 (<i>He gave her a fish taco</i>)
Passive	Subj Aux VP (PP[by]) (<i>The armadillo was hit by a car.</i>)

Table 1. Examples of constructions, varying in size and complexity (Goldberg 2006)

As seen from the table here, there is no principled distinction between words, phrases, and even rules: a lexical entry is more word-like to the extent that it is fully specified, and more rule-like to the extent that it can also have variables that have to be filled by other items in the sentence. In addition, one important tenant of the CxG is that language-specific generalizations across constructions are captured via inheritance networks, reflecting commonalities or differences among constructions. In what follows, we will see how this notion of inheritance hierarchy of constructions plays an important role in capturing the fact that the existential construction inherits properties from its supertypes.

The copula construction, headed by the copula verb, selects two syntactic arguments as represented in the following lexical information:

$$(40) \quad \text{copula-cx} \Rightarrow \left[\begin{array}{l} \langle \text{be} \rangle \\ \text{SPR} \langle \text{XP} \rangle \\ \text{COMPS} \langle \text{YP} \rangle \end{array} \right]$$

All the copula constructions will inherit this general property, though in each use, its semantic contribution may be different, as illustrated by the following:

- (41) a. John is happy.
 b. John is singing a song.
 c. John is arrested by the police.
 d. What John wanted to do is sing a song.
 e. It is John that proposed the hybrid analysis.

The existential construction is a subtype of this copula construction with its own constructional constraints:

$$(42) \quad \text{existential-cx} \Rightarrow \left[\begin{array}{l} \langle \text{be} \rangle \\ \text{SUBJ} \left\langle \text{NP} \left[\begin{array}{l} \text{NFORM } \textit{there} \\ \text{AGR } \boxed{2} \end{array} \right] \right\rangle \\ \text{COMPS} \left\langle \text{YP} \left[\begin{array}{l} \text{DEF } - \\ \text{IND } \boxed{1} \\ \text{AGR } \boxed{2} \end{array} \right] \right\rangle \\ \text{SEM} \left[\begin{array}{l} \text{IND } s0 \\ \text{RELN} \left\langle \left[\begin{array}{l} \textit{exist_rel} \\ \text{ARG } \boxed{1} \end{array} \right] \right\rangle \end{array} \right] \end{array} \right]$$

This use of the copula lexical construction is not different from the others in requiring a subject NP and one complement. But it is different in specifications. This assigns the existential meaning to the copula verb *be*. The subject is an expletive as specified by its NFORM value. This means *there* here has no referential potential and no referential index, ruling out examples like the following:

- (43) a. *There loved Sandy.
 b. *There is singing the song.

Note that the complement can be an YP, implying that any constituent can appear here, including a clausal expression. But the YP can be only an NP or a SC since only these two can be involved in the existence relation. This would mean that we have the following hybrid structures:

The present analysis then gives us hybrid trees:

- (44) a. There is [_{NP} [a crop] [developed 13 years ago]].
 b. There is [_{SC} [a crop] [developed 13 years ago]].

Within the present system, (44a) describes the existence of a crop which was developed 13 years ago, while (44b) describes the existence of a situation where a crop was developed 13 years ago. The second reading

is similar to the locative reading as in *There is a book on the table*. Examples like (44a) are typical, expressing the existence of the NP in question. The sentential property of (44b) can be found from the following too:

- (45) a. There is (probably) a storm (probably) coming in tonight.
 b. There is (*quickly) a man (quickly) stacking chairs.

The sentential adverb can occur in the either position unlike the VP adverb.

Consider the differences between these two types — basic existential vs. presentational (Aissen 1975, Newmeyer 1987):

- (46) a. There is a solution to this problem.
 b. There are five residents sick.

The basic existential one simply asserts the existence or non-existence of the individual that the pivot NP denotes while the SC selecting existential one is called ‘presentational there’ in the sense that the sentences in question not only assert the existence of the individual involved but also provide information about the state of affairs in which the entities are described (Kearns 2005: 84). One main difference, as discussed earlier, is that only the latter can have the corresponding copular paraphrase (e.g., *Five residents are sick*). This also has to do with the following contrast:

- (47) a. There are fireman singing the song.
 b. *There are firemen honest.

The individual-level predicates typically do not appear in the existential construction since they may not offer new information about the state of affairs. A similar reason may also explain the following contrast (Chomsky 1991, Hoekstra and Mulder 1990):

- (48) a. There seem to be people in the house.
 b. *There seem people to be in the house.

(48b) cannot occur as the SC complement, describing new information as well as introducing a new individual in the discourse.

Also consider the following contrast (data from Williams 1984):

- (49) a. *There was [_{SC} someone sick] but there wasn't [_{SC} ___ dead].
 b. There was [_{NP} someone in the parlor], but there wasn't [_{NP} ___ in the garden].

The present analysis can offer us with an analysis. (49a) is out since the subject of the SC is dropped while in (49b) the NP is just elided.

In addition, note the use of *not*-XP (Williams 1984):

- (50) a. Not a single person came.
 b. *John saw not a single person.
 c. There was not a single person sick.

The data indicate that the expression *not NP* can occur only in the subject position. If this is true, the ternary analysis would predict (50c) ungrammatical while the SC analysis licenses such a case.

The coordination examples also support the SC structure (data from Williams 1984):

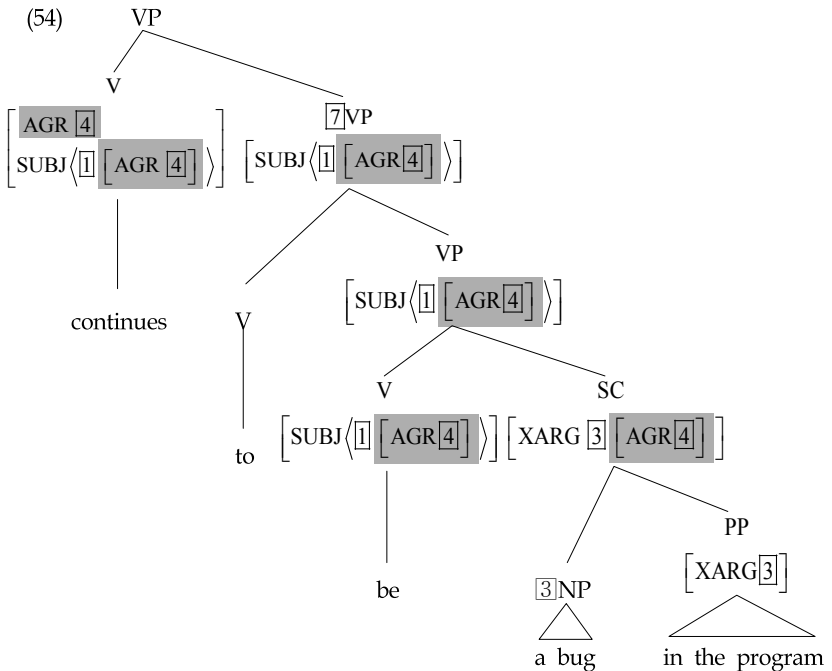
- (51) a. There are [_{SC} some people sick] and [_{SC} some people healthy].
 b. *There are [_{SC} some people sick] and [_{NP} some healthy people].

Examples like (51a) are the coordination of SCs while (51b) is ruled out simply because of the mismatch in the coordinated conjuncts.

One important issue in the existential construction is to capture the seemingly long distance agreement (see, among others, McClosky 1991, Lasnik 1992, 1995, Hazout 2004):

- (52) a. There continues to be a bug.
- b. There is likely to be an explosion.
- (53) a. There continues/*continue to be a bug in my program.
- b. There is/*are likely to be an explosion on the boat.

The examples in (52) here can have a straightforward account since we can take the postcopular NP agrees with the expletive *there*. What we see here is that the agreement features of the pivot NP determine the verb agreement. That is, the agreement features are passed on to the grammatical subject *there*. As for the examples in (53), we have the same account if the postcopular NP is an NP as the bare NP analysis assumes. The issue comes with the SC analysis. The copula needs to have an access to the subject of the SC in a sense. The solution comes from the XARG (external argument) information. Consider the structure of (54):²



² As for the role of the XARG, see Sag et al. (2003) and Kim and Sells (2008).

As represented here, the XARG value of the SC is the subject *a bug*. This information is visible at the SC level. The only thing we need to refer to is that the subject of the copula verb has the agreement features identical to those of this XARG value, which can be informally stated as following:

(55) Lexical Property of *be*

The expletive subject of the existential copula verb *be* agrees with its NP complement or with the XARG.

The agreement with the XARG happens when the postcopular expression is an SC and hence it has no individual IND value available. Note that the verb *to* as well as the verb *continue* are raising predicates, implying that its subject is identical with the subject of its VP complement:

$$(56) \left[\begin{array}{l} \langle \text{continue} \rangle \\ \text{HEAD}[\textit{verb}] \\ \text{ARG-ST} \langle \boxed{1}\text{NP}, \text{VP} \left[\begin{array}{l} \textit{inf} \\ \text{SUBJ} \langle \boxed{1}\text{NP} \rangle \end{array} \right] \rangle \end{array} \right]$$

The VP *to be a bug in my program* requires its subject to be singular, as required by the copula *be*. This information is thus passed up to the expletive *there*, requiring the matrix verb to be singular too.

The present analysis would not generate examples like the following with the intended meaning:

- (57) a. *There was everyone in the room.
 b. *There were all viewpoints considered.
 c. *There is the wolf at the door.

With the definite postcopular NP, there would not be an existential reading. If there is a list reading, we would get grammatical sentences (Breivik 1981, Quirk et al. 1985, Pollard and Sag 1994):

- (58) A: Who's free to work on Sunday?
 B: There's John, Larry, and Paula? Is three enough?

It has been often noted that there is a definite restriction on the pivot NP. Naturally occurring data includes prevalent cases with the bare NP:

- (59) a. There is little evidence for the case.
 b. There is nothing shameful about it.
 c. There is also support for the move.

Now consider how the present analysis can account for the following examples which have been issues in the movement analysis (Laznik 1992, Hazout 2004):

- (60) a. *There seems a man to be in the room.
 b. *It seems there to be a man here.
 c. *There is likely someone to be here.

The present analysis offers a clean analysis for such examples with no additional mechanisms. For example, in (60a), the raising verb *seems* simply do not license the expletive subject with an indefinite NP as its complement. In a similar manner, there is no way for *seem* (60b) to select *it* as the subject while the following as a SC: the SC excludes the infinitival S.

Note that the present analysis may give us a hint at variations in the judgements of extraction data. For example, consider the following:

- (61) a. *Which girls do you think that there are ___ in the garden? (Moro 2006)
 b. How many men do you think that there were ___ in the room? (Moro 1997: 126)

We can contribute the difference to the fact that the trace in (61a) is the subject of the SC whereas the one in (61b) is simply the head NP.

5. Conclusion

There have been three main syntactic analyses of the existential constructions: small clause, bare NP, and ternary analysis. We have seen that each appeals to certain properties of the construction, but at the same time suffers from empirical as well as analytical problems.

In this paper, we have sketched a hybrid analysis within the Construction Grammar view that allows both a bare NP structure and a SC structure for the construction. This hybrid analysis can offer us certain welcoming consequences, such as long distance agreement as well as variations in the extraction.

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Received: March 15, 2013

Revised version: April 9, 2013

Accepted: May 7, 2013

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