

There as an Existential Operator*

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Han, Hak-Sung. (2004). *There* as an existential operator. *Language Research* 40(2), 451-464.

In this paper I attempt to show that by analyzing *there* as an existential operator we can have principled accounts for most of the fundamental questions about *there* constructions. This amounts to saying that *there* is equivalent to \exists in symbolic logic. In other words, \exists is lexicalized as *there* in English. Given this, we can interpret the close relation between *there* and the associate basically to be a reflex of the operator property of *there*. Thus *there* requires a variable, and the associate nominal serves as its variable. This enables us to treat many *there*-related ill-formed sentences as instances of vacuous quantification, hence the ungrammaticality. Based on this, I suggest that *there* should not be treated as a semantically superfluous element and that *there* constructions have nothing to do with representational economy. In the course of the discussion, I suggest that *there* is a D^o element and is minimally different from other D elements that appear in subject position. To be more specific, it lacks only the number feature while bearing a Case feature as well as other agreement features. I also suggest that English grammar leaves open the possibility of existential *there* having the complete set of \emptyset -features and that at least when this option is taken, *there* should not be treated as a predicate contra Dikken (1995) and Moro (1997).

Key words: *there*, existential operator, associate NP, vacuous quantification

1. Raising the Issue

All the LF movement analyses of *there* constructions assume some form of association between *there* and the associate nominal (i.e. *a strange man* in (1a) and *some strange men* in (1b)).

*I would like to thank Peter Sells and three anonymous reviewers for many useful suggestions. The usual disclaimers obtain. This work was supported by a research grant from Kyung Hee University in 2003.

- (1) a. There is a strange man here.
 b. There are some strange men here.

This is to explain the chain-like property of the relation between the two and the agreement features that show up on the finite verb. But it has not been all that clear why there should be such a close relationship between *there* and the associate, or rather why *there* requires an associate.

LF movement of the associate to *there* has been posited to capture the close relationship between the two, and to motivate the necessary LF movement, Chomsky (1991, 1993) and Lasnik (1995) crucially stipulate that *there* is an LF affix. Thus the reason why *there* requires an associate is essentially accounted for in Chomsky (1991, 1993) and Lasnik (1995) by the stipulation that *there* is an LF affix.

The stipulation that morphologically independent *there* is an LF affix, however, is problematic, as Groat (1995) explains. According to him, an XP (i.e. a maximal projection) affix of any kind is unprecedented, and positing a new class of morphosyntactic objects (i.e. LF phrasal affixes) on the basis of a single English morpheme (i.e. *there*) is undesirable and should be avoided, if possible.

In Chomsky (1995), he drops the problematic LF affix idea, but the reason for the close relationship between *there* and the associate has become even vaguer. According to him, covert movement is restricted to movement of the formal features (instead of the entire syntactic category) via adjunction to a functional head whose features they check. Thus in (1) the associate nominals do not move to *there*. Rather, only their formal features (i.e. Case and agreement features) move to a corresponding functional head.¹⁾ In such a theory, the affixal account of *there* is not even statable, as Lasnik (1999) observes.

To capture the close relationship between *there* and the associate, Chomsky (1995) simply speculates that *there* is a DP and the associate must be an NP (as opposed to DP). Considering that not every DP requires an associate nominal, it does not provide any principled account as to why *there* should be associated with an NP or what the nature of their relation is. It simply states that there must be such a relationship. Such an account is far from an explanatorily adequate account, and thus a

1) Later Chomsky rejects feature movement (cf. Chomsky 1998).

better theory is naturally called for.

Chomsky continues to discuss *there* constructions in more recent papers (Chomsky, 1998, 1999). In these papers, however, he does not even address the question of why *there* requires an associate nominal. He simply takes it for granted and tries to tinker with his system of technical obfuscation.²⁾ Consequently, we are still at square one as far as the very basic question is concerned.

2. Some Fundamental Questions

In spite of the technical sophistication found in the recent minimalist analyses of *there*, we have no better answers to the following fundamental questions about *there* constructions. They are mostly ignored or buried under stipulations.

- (2) a. Why does *there* require an associate nominal?
- b. Why can't a clause be an associate of *there*?
- c. Why do *there* constructions exhibit the definiteness effect?
- d. Why should there be a one-to-one correspondence between *there* and the associate?
- e. Why should the order be *there*-associate rather than the associate-*there*?

2) Chomsky's system basically presupposes that sentences are generated from the most deeply embedded constituents (by Merge). Let us call this "bottom-up generation." This inevitably causes "look-ahead" problems Chomsky (1998) attempts to resolve. Furthermore, it is not clear how to make an infinitely long sentence get started in this approach. Considering that an infinitely long sentence is a sentence that does not end (instead of the one that does not begin), any version of bottom-up generation has a serious flaw in explaining our capability to produce infinitely long sentences. So I think that sentences should be generated top down (= top-down generation). This way we will be able to at least begin to utter an infinitely long sentence (and also to prevent look-ahead problems). In this approach, Merge should no longer be available. Instead, something like "Branch" (as opposed to Merge) should be introduced to generate structures.

Another problem with Chomsky's system arises from the assumption that derivations can access the lexicon only once. This is, according to him, to reduce operative complexity in a way that might well matter for optimal design. If this is the case, it would be impossible to change a lexical item in the middle of computation. Consequently, we will not be able to say anything different from what we originally intend to say without making a new selection of a lexical array. It would mean, contrary to fact, that we have to start the whole sentence over if we decide to change part of the sentence while talking. It would also make it impossible to first start a sentence and then think how to complete it. These suggest that it should be allowed to access the lexicon even in the middle of computation.

As far as I can see, a series of recent discussions of *there* constructions within the minimalist framework still fail to provide any principled explanation for the above questions. In a way, most of them are sheer technical drudgery based on the misguided conception that *there* is a semantically vacuous expletive, while most of the fundamental questions remain unanswered.

3. *There* as an Existential Operator

To explain the questions in (2), I propose the following.

(3) *There* is an existential operator.³⁾

This amounts to saying that *there* is equivalent to \exists in symbolic logic. In other words, \exists is lexicalized as *there* in English.⁴⁾

Given (3) we can interpret the close relation between *there* and the associate basically to be a reflex of the operator property of *there*. Thus *there* requires a variable, and the associate nominal serves as its variable. This answers the question of (2a). In other words, *there* requires an associate to form an operator-binding-variable configuration.

Thus the following sentence is ill-formed because the operator does not bind an appropriate variable (i.e. an instance of vacuous quantification).

(4) **There* is in the room.⁵⁾

In this analysis, *there* is a semantically operative lexical item, and thus cannot be a pure expletive (contra Chomsky, 1993, 1995, 1999), and should be visible to LF operations (contra Chomsky, 1986, 1991, 1993, 1995).⁶⁾ Most

3) This does not apply to locative *there*. I assume that existential *there* must be licensed by a semantically compatible verb (i.e. a verb that is compatible with the semantic feature [\pm existence]). At this point, (3) is nothing but a hypothesis. My main concern here is to show that this hypothesis provides better explanations for the questions in (2).

4) The same can be said of *il* in French and *es* in German.

5) One might argue that (4) is ruled out because of the unchecked agreement features of T. See Section 5.

6) This differs from the generally held view that *some strange men* in (1b) is an operator. In the analysis I propose here *some strange men* is a variable bound by the operator *there*.

importantly, *there* constructions have nothing to do with representational economy (contra Chomsky, 1991), since *there* is no longer a semantically superfluous element that economy (or the principle of Full Interpretation) dictates to be eliminated.

The questions of (2b) and (2c) appear as the following constraints in Lasnik (1995).

- (5) a. The associate of *there* must be an NP, not a clause. (cf. 2b)
- b. The NP associate of *there* must bear partitive Case. (cf. 2c)

In Lasnik's analysis, the above constraints remain as pure stipulations. They at least do not follow from his central assumption about *there*: *there* is an LF affix. In our analysis, however, the reason for (5a) becomes clear: A clause cannot be a variable of an existential operator, but an NP can. So the following sentence is ill-formed, since *there* cannot take an appropriate variable (i.e. an instance of vacuous quantification).

- (6) *There seems [that John is tall].⁷

(5b) is basically to capture the following familiar paradigm.

- (7) a. There is a man here.
- b. *There is every man here.
- c. *There is the man here.

Again Lasnik's account is nothing but a mere restatement of the problem that needs to be explained. In our analysis, it can be accounted for in the following way. As *there* is an existential operator, it is incompatible with universal quantification (hence the ungrammaticality of 7b) or definiteness (hence the ungrammaticality of 7c). Only nonspecific nominals can be its variable. Thus (5b) is a natural consequence of *there* being an existential operator in our analysis.⁸

7) According to Chomsky's earlier analyses (1991, 1993), even if *there* remains unaffixed at LF, it is still a legitimate object, and the derivation converges. However, if unaffixed, *there* receives no interpretation at LF, so the derivation "converges, as semigibberish." Thus Chomsky considers (6) to be legitimate but uninterpretable. In our analysis, (6) is simply illegitimate, since it contains an operator that fails to bind an appropriate variable.

8) Lasnik argues that the following sentence is ungrammatical because *to* does not license partitive Case violating his condition that the associate NP of *there* must bear partitive Case.

The following sentence Chomsky (1995, p. 372) refers to as the “perennial troublemaker” (basically the question of 2d) can also be straightforwardly ruled out in our analysis.

(8) *There seems [there to be a man in the room].

In (8) there are two existential operators (one in the matrix clause and the other in the embedded clause), but there is only one nominal. Thus only one operator can have an appropriate operator-binding-variable configuration. This means that the other existential operator will not be able to bind a variable (another instance of vacuous quantification). So (6) and (8) can be ruled out by a general constraint against vacuous quantification in our analysis.

In Chomsky’s (1995, p. 372) system, however, (8) again is ruled out by the assumption that *there* is a DP and the associate must be an NP (as opposed to DP). Thus in (8) *there* in the embedded clause can have an appropriate associate, whereas *there* in the matrix clause cannot. Chomsky in principle allows the possibility of raising the embedded *there* to the matrix *there* (or rather the possibility of raising the formal features of the embedded *there* to the matrix T). But according to him, it will not help because *there* by hypothesis is a DP, so it cannot be an appropriate associate of another *there*.

Chomsky’s account crucially relies on the implicit assumption that *there* must be associated with an indefinite NP, without explaining why. (Notice that not every DP requires an associate NP.) Again it is a mere restatement of the problem that needs to be explained. Thus our analysis is clearly superior to Chomsky’s (1995) in explaining the ungrammaticality of sentences like (8).⁹⁾

(i) *There seems [_o to a strange man] [that it is raining outside].

Lasnik’s analysis, however, excludes “to + indefinite NP” altogether. This cannot be true as the following sentence shows.

(ii) Nothing seems hard [to a willing mind].

(ii) suggests that *to* can at least take an indefinite NP as its complement. So it is too strong a claim that *to* does not license an indefinite NP.

9) Potentially problematic for my (as well as Chomsky’s) account, as Peter Sells and one anonymous reviewer point out, is the fact that *there* is copied in copy-raising:

(i) John seems like he’s been working too hard.

(ii) There seems like * (there) ought to be a solution to this.

I will leave this open for future research.

The question of (2e) is noted by Chomsky (1995, p. 350): “the observed order is Exp-nominal rather than nominal-Exp, a fact yet to be explained.” In our analysis, it can also be attributed to the fact that *there* is an existential operator. *There* should be hierarchically higher than the associate to constitute a proper operator-binding-variable configuration (i.e. to satisfy the Proper Binding Condition). So the order must be *there*-associate in English, not the other way around.¹⁰⁾ Again our analysis provides a principled account for another interesting problem that Chomsky leaves unresolved.

4. The Semantic Status of *There*

I have argued that *there* should be treated as a semantically full-fledged element, but the view that *there* lacks semantic features is so widely spread that more discussion on this matter seems to be necessary. In this connection, I would first like to note that Chomsky (1993) attributes the ungrammaticality of (9) to the uninterpretability of *there*, allegedly a semantically vacuous element.

(9) *There seems that a man is in the room.

Chomsky assumes that *there* must have an associate NP to be interpretable. In (9), *a man* cannot be associated with *there* (by the ECP or the constraint against Case conflict in earlier analyses, by Greed¹¹⁾ in Chomsky 1993/1995). So the unassociated *there* in (9) receives no semantic interpretation; hence the ungrammaticality of (9). In other words, (9) is ungrammatical because the semantically vacuous element cannot be interpreted.

Here questions arise as to the nature of the condition that requires a semantically vacuous element be interpreted. What does it mean to interpret a semantically vacuous element?¹²⁾ Why should grammar require the

10) For example, the following sentence (from Chomsky 1999, p. 15) can be ruled out this way.

(i) *A man is expected there to arrive.

In (i) *there* does not have an appropriate variable in its c-command domain.

11) Chomsky (1998) drops Greed in favor of Suicidal Greed, but it is irrelevant to our discussion here.

12) Groat (1995, p. 359) argues that *there* is interpreted as “null.” This simply raises the question,

interpretability of a lexical item that does not mean anything? It simply sounds contradictory to require a semantically vacuous element to receive semantic interpretation. Such a condition obviously does not meet the general considerations of conceptual naturalness, let alone the criterion of conceptual necessity. If language is surprisingly “perfect” and the computational system for human language is “optimal” as Chomsky suggests, it is not clear why language generates expressions whose LF representations include such a semantically vacuous element to begin with. Such an unnatural condition clearly goes against the spirit of the minimalist program, and the grammar that crucially relies on such an unnatural condition should be conceptually less preferable.

There is also some theory-internal reason to believe that *there* should not be treated as a semantically vacuous expletive. Unlike English main verbs, English auxiliary verbs do raise overtly. According to Chomsky, this happens because English auxiliary verbs are semantically vacuous, hence not visible to LF operations. Thus, if they have not raised overtly (i.e. before Spell-Out), they will not be able to raise at all. This will cause their LF representations to crash due to the unchecked features (cf. Lasnik, 1999).

If we apply the same line of reasoning to *there*, it should also be invisible to LF operations if it is semantically vacuous. Consequently, LF movement involving *there* (i.e. LF movement to the invisible target position) should become impossible. This will render untenable all the LF movement analyses of *there* constructions. Thus Chomsky’s claim about the motivation for overt raising of English auxiliary verbs in turn blocks the possibility of LF movement in *there* constructions and wrongly predicts that the associates should move overtly before Spell-Out.¹³⁾

Thus *there* should not be treated as a semantically vacuous element. It should be a semantically full-fledged item and should be visible to LF operations.¹⁴⁾

as he himself notes, of why lexical items that receive a null interpretation should exist in natural language. And it is not clear why the associate NP should adjoin to *there* at LF to make it interpretable as “null.”

13) One might wonder whether English auxiliary verbs should also be eliminated for Full Interpretation if they are semantically vacuous as Chomsky assumes.

14) Moro (1997) also takes *there* to be a meaningful element. On his analysis, *there* starts life as a small clause predicate and raises to subject position via Locative Inversion.

5. Some Elaboration

So far I have not been explicit about how the relation between *there* and the associate nominal is formed. One crucial question is whether the associate itself undergoes LF movement. Concerning this question, I will assume that there is no such movement (cf. Chomsky, 1999) and that the relevant operator-binding-variable configuration is formed *in situ*. The relation should be local as all the LF movement analyses of *there* constructions tacitly assume (probably attributable to the Minimal Link Condition).

Thus in the following sentence, the existential operator *there* binds the variable *in situ*.

(10) There is a man in the room.

I assume that *there* is a D° element and is minimally different from other D elements that appear in subject position (personal pronouns, for instance, cf. Postal, 1969). The only difference is that it lacks the number feature. So it bears a Case feature¹⁵ and other agreement features (unlike Chomsky, 1995, who assumes that *there* bears only the categorial feature, i.e. neither Case nor agreement; or Chomsky, 1999, who assumes that *there* bears only the person feature).¹⁶ Under such an assumption, *there* checks all the features of T except [number], and the number feature of T is checked by the associate.

One interesting fact is that even the number feature can be checked by

15) The following examples (from Jespersen 1940) show that *there* can appear in any Case-marked position.

- (i) Let there be light.
- (ii) I don't want there to be any misunderstanding.
- (iii) You would expect there to be discussions at the table.
- (iv) You'd like there to be a revolution in this country.
- (v) It was impossible for there to be no connection.
- (vi) No one would have dreamed of there being such a place.

16) The following examples (of presentational *there*) show that the verb does not agree in person with the associate.

- (i) There is you—and there is the rest of the universe. (Jespersen, 1914)
- (ii) There is but we two. (Jespersen, 1940)

These suggest that *there* has its own person feature.

there as the following sentences (from Schütze, 1999) show.¹⁷⁾

- (11) a. There's two things I want you to consider.
 b. There's often problems at the South Precinct.

Schütze (1999) provides the following examples to illustrate that a singular verb with a plural associate is *not* restricted to frozen forms containing contracted 's, contra Chomsky (1995, p. 384).

- (12) a. There was 50 people at the party last night.¹⁸⁾
 b. On the top line there is three stick people.

Thus in these cases *there* behaves exactly like ordinary subjects as far as feature checking is concerned. It checks all the Case and agreement features of T.

It is not unusual in natural language that an existential operator directly agrees with Infl. French and German are such languages (cf. Schütze, 1999).

- (13) French
 a. Il y a/*ont deux hommes dans l'auto.
 it CL has/*have two men in the-car
 'There are two men in the car.'
 b. Il est/*sont arrivé deux hommes.
 it is/*are arrived two men
 'There arrived two men.'

- (14) German
 Es gibt/*geben zwei Männer im Auto.
 it gives/*give two men in-the car
 'There are two men in the car.'¹⁹⁾

17) This observation goes as far back as Jespersen (1914).

18) According to Schütze, this possibility has been attested on the basis of production data, by counting the proportion of expletive constructions with plural associates and singular versus plural verbs, as a function of tense. Meechan and Foley (1994), among others, report a rate of 58% singular past tense with plural NPs in interview transcripts of Canadian English speakers.

19) Considering that French *il* and German *es* are personal pronouns, it is not too far-fetched to assume that English *there* behaves exactly like personal pronouns at least in sentences

Thus I take it that English grammar also leaves open the possibility of existential *there* having the complete set of \emptyset -features. Those who allow sentences like (11) and (12) use this option. At least when this option is taken, *there* cannot be analyzed as a predicate (cf. Dikken, 1995; Moro, 1997) since in English the verb is not forced to agree with the predicate.

- (15) a. Parents are a big part of the education process.
 pl. pl. sg.
 b. No matter how you look at it, it's small potatoes.
 sg.-sg. pl.

(15) a and b show that when the subject and the predicate are different in number, the verb agrees with the subject instead of the predicate. This shows that existential *there* should not be treated as a predicate at least in sentences like (11) and (12).²⁰⁾

One might argue that if such an option is taken, the following sentence should be grammatical.

- (16) *There is in the room. (=4)

In (16) all the relevant features of T are checked directly by *there*. So it cannot be said that the number feature of T is uninterpretable. And as *there* cannot be a predicate, the ungrammaticality of (16) cannot be attributed to the lack of the subject. Then why is it ungrammatical? In our analysis, (16) is ruled out because *there* fails to bind an appropriate variable as we already explained.²¹⁾

like (11) and (12). *There* can even be replaced with a personal pronoun in African-American English as shown below.

- (i) It's a boy in my class name Joey. (= There's a boy in my class named Joey.)
 (ii) It ain't no heaven for you to go to. (= There is no heaven for you to go to.)
 (iii) Doesn't nobody know that it's a God. (= Nobody knows that there's a God.)

20) In African-American English, the verb does not agree in number with the associate NP when it is plural. Hence the following is impossible.

- (i) *It are two men in the car. (cf. It's two men in the car.)

This also suggests that in African-American English existential *it* should not be treated as a predicate.

21) One thing that needs to be explained is why *there* cannot appear in the subject position of a small clause.

6. Summary

In this paper I have attempted to show that by analyzing *there* as an existential operator we can have principled accounts for several fundamental questions about *there* constructions. This suggests that *there* should not be treated as a semantically superfluous element (as generally has been assumed) and that *there* constructions have nothing to do with representational economy. In the course of the discussion, I have suggested that *there* is a D° element and is minimally different from other D elements that appear in subject position. To be more specific, it lacks only the number feature while bearing a Case feature as well as other agreement features. I have also suggested that English grammar leaves open the possibility of existential *there* having the complete set of \emptyset -features and that at least when this option is taken, *there* should not be treated as a predicate.

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(i) a. John believes there to be a man in the room. (cf. John believes the president to be a liar.)

b. *John believes there a man in the room. (cf. John believes the president a liar.)

As for the ungrammaticality of (ib), I speculate that the existential operator *there* must be licensed by a verbal element that is compatible with the semantic feature [\pm existence] (see footnote 3). Thus in (ib) a proper operator-binding-variable configuration cannot be licensed due to the lack of such a verb. The following sentence shows that *seem* cannot license *there*.

(ii) *There seems a man in the garden.

The ungrammaticality of (iii) can also be attributed to the same reason.

(iii) *There seems a man to be in the room. (cf. There seems to be a man in the room.)

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Received: Mar. 1, 2004

Revised version received: May 7, 2004

Accepted: May 19, 2004