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A Clockwork THERE Construction

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1. Introduction

Much attention has been paid to existential *there* in the history of generative linguistics. The properties of this construction are quite remarkable in comparison to those of other transitive or intransitive sentences. The subject position is filled by a special proform (*there*) instead of a normal NP, while a PP (sometimes covert) occurs elsewhere in the sentence. The real subject NP appears *after* the copula (or unaccusative verb), as evidenced by agreement. At the same time this NP is obligatorily indefinite. Finally, main verbs in copular constructions tend to be intransitive. These properties are listed below:

(1) Properties of the existential THERE construction

    a. There is a man standing on the corner   [PP-overt]

      ?There is a man standing (OK: implied 'over there')[PP-covert]

    b. There were three men walking through the park [−sing]

      *There was three men walking through the park [+sing]

    c. There was a spider hanging from the ceiling   [−DEF]

      *There was the spider handing from the ceiling [+DEF]

    d. There appeared a star in the East   [−TR]

      *There found three men a child in the desert   [+TR]

Various proposals have been advanced to account for the properties of the existential *there* construction. None of them accommodates everything. In early generative frameworks, a postposing transformation derived the eventul order of constituents, leaving definiteness for semantics. Belletti (1988) claimed that an inherent, 'partitive' Case was responsible for the Definiteness Effect, but downplayed the

agreement facts. Chomsky (1981, 1995) consistently maintains that the 'associate' (=subject) NP is linked to the sentential subject position, but sidesteps the near obligatory presence of a co-occuring PP. Freeze (1992) takes the co-occuring PP into consideration, linking it to *there* : still, the syntactic and semantic properties of the NP subject go largely unexplained. None of these authors addresses the transitivity issue, although Levin (1993) mentions it in passing.

In this paper, I will attempt to resolve the questions surrounding the existential *there* construction. For the most part, the account is based on various principles and assumptions that have been discussed before. Perhaps only this particular combination is unique. Most of these principles are quite simple, of a binary nature. The effect of one principle on another is automatic, like clockwork (hence the title). In my opinion, this is how a grammar should be.

2. Theoretical assumptions

In this section I review certain aspects of theory that play a role here. These include underlying structure, feature-checking, locality restrictions and a modified version of the Binding Theory developed by Huang (1984).

2.1 Underlying structure

In the Minimalist Program (Chomsky 1995), words are first selected from the lexicon, or Numerated. In accordance with their lexical properties, they are then built into phrases by an operation known as Merge. In some cases, feature-checking--a prerequisite to Full Interpretation--begins at this stage in a derivation (Sanz, pc). Propositional structures are binary-branching, and their principle arguments (e.g.Actor, Theme) appear in extended specifier positions:

(2) Structure of the VP

[$_{VP}$ NP1 (Actor) [$_{v'}$ (v) [$_{VP}$ NP2 (Theme) [$_{v'}$ (v)...]]]]

Above the VP are functional categories which may be informationally pertinent (e.g. Tense, Aspect), but which are also

responsible for licensing (checking) Case and *phi*-features (Person, Number, Gender). For convenience, we refer to the agreement phrases AGR.S and AGR.O, even though these may not represent separate projections. The former is responsible for licensing canonical subject NP's (e.g. Actors) in a language such as English, whereas the latter is responsible for licensing canonical objects (Themes).

2.2 Feature-checking

Even though NP's may be marked for Case at the point of Numeration, Case and *phi*-features must be checked prior to or at LF. In the Minimalist Program, this is done through movement to the appropriate functional categories AGR.O and AGR.S:

(3) Feature-checking (standand, accusative language)

a. $[_{AGR.S}\text{---} [_{AGR.S'} \textbf{nom} [_{TP} \text{tns} [_{AGR.O}\text{---} [_{AGR.O'} \textbf{acc} [_{VP} \text{NP1 V NP2}]]]]]] \Rightarrow$

b. $[_{AGR.S'} \text{NP1}_i [_{AGR.S} \textbf{nom} [_{TP} \text{tns} [_{AGR.O'} \text{NP2}_j [_{AGR.O'} \textbf{acc} [_{VP} \text{t}_i \text{ V t}_j]]]]]]$

The representation above shows how NP1--a canonical Actor subject--moves to SPEC, AGR.S. In English, this occurs prior to Spell-out--the point at which the sentence is pronounced. Canonical Theme objects move to SPEC, AGR.O at LF. Verbal and inflectional heads also carry certain features responsible for checking arguments; consequently, they too must ultimately move to AGR.S and AGR.O.

The pattern of movement shown above represents Case-checking in a nominative-accusative system, such as English or Japanese. Intransitive, as well as transitive subjects move to AGR.S, whereas transitive objects move to AGR.O. In the Minimalist Program, this is the only pattern allowed. Another logical possibility is one in which transitive objects move to AGR.S and subjects move to AGR.O:

(4) Feature-checking (non-standand, ergative language)

a. $[_{AGR.S}\text{---} [_{AGR.S'} \textbf{abs} [_{TP} \text{tns} [_{AGR.O}\text{---} [_{AGR.O'} \textbf{erg} [_{VP} \text{NP1 V NP2}]]]]]] \Rightarrow$

b. $[_{AGR.S'} \text{NP2}_j [_{AGR.S} \textbf{abs} [_{TP} \text{tns} [_{AGR.O'} \text{NP1}_i [_{AGR.O'} \textbf{erg} [_{VP} \text{t}_i \text{ V t}_j]]]]]]$

The pattern shown in (4) has been claimed to represent Case-checking in an ergative-absolutive system, such as that which underlies Dyirbal or Inuit (cf. Campana 1992, Murasugi 1992).

Strictly speaking, (4) is ruled out by the Shortest Path Condition (SPC), which essentially prohibits movement across more than one specifier position. In the example above, movement of NP2 crosses the specifier of vP, as well as that of AGR.O. One of the claims of this paper is that the SPC can be accommodated while still allowing such 'long' movement. There are various ways of approaching this. For example, the SPC assumes that movement of both arguments to their checking positions is of the same *kind*. If long movement of NP2 to AGR.S produced chains of *different* kinds, however, the SPC would not be violated. The SPC might be further relativized by the *type* of feature undergoing movement, e.g. formal or referential. In this paper we argue that both strategies are available, and that (4) reflects the basic underlying structure of the English existential *there* construction.

It is now necessary to elaborate on what is meant by 'different kinds of chains'. From the time of GB theory (Chomsky 1981), there has always been a distinction between argument vs non-argument positions. The former referred to those in which arguments could be generated, the latter essentially everything else. Movement to either type of position derived an A- or A-bar chain, respectively. Mahajan (1990) developed a further distinction in terms of the notion 'L (exically)-related'. An L-position is one in which an argument can either appear initially (i.e.at D-structure) or be checked for Case. All other positions are L-bar. According to these definitions, the specifiers of AGR.S and AGR.O are L-positions, although in the older (GB) framework they would be considered A-bar positions.

We can further refine the system here, basing it on two distinctions instead of one. For convenience, we cast these in terms of features:$[\pm\text{SPEC}]$ (specifier) and $[\pm\text{LEX}]$ (lexically-related). Initial argument positions within VP are obviously $[+\text{SPEC}, +\text{LEX}]$, as are the specifier positions of AGR.S and AGR.O. Such positions may not always be projected, however, if agreement isn't 'strong enough'--in a way to be determined later--or if movement within the clause would otherwise violate the SPC. In such cases an argument (or just its

formal features--cf. below) must adjoin to an agreement phrase. This position would then be specified as [−SPEC, +LEX], still lexically-related because it checks an argument for Case. To complete the grid, COMP is [+SPEC, −LEX], and all other adjunction sites are [−SPEC, −LEX]. The interplay of category movement within this system will be elaborated as we go along. Suffice to say, the SPC is sensitive to the feature [±SPEC].

2.3 Feature-separation & movement

Chomsky (1995) suggests that in certain cases formal features--those relating strictly to grammatical information--can be separated from referential ones for checking purposes. Although this compounds the number of possible underlying representations, we accept his proposal here. Still, the conditions which force, permit, or disallow feature separation need to be explored. The relative cost of separation vs "free-ridership" (non-separation) also remains to be determined. This in turn may depend on the strength of matching features in AGR.S or AGR.O, or the level at which movement takes place (LF or before). Conceivably, languages may simply choose whether formal features separate from referential ones or not.

When applied to heads, feature-separation entails transmission, such as from a lexical head position to a functional one. With regard to phrasal categories, the situation is not as simple. First, suitable checking positions do not always exist in underlying structure prior to movement. According to minimalist assumptions, specifier positions only arise when an NP moves to a functional category in the first place. More importantly, Case and *phi*-features are shared by determiners and adjectives within the NP, making the dissolution of this category unlikely. Given these restrictions, feature-separation could not proceed via transmission from an argument position in VP to a functional head. We propose instead that when formal features of NP separate from referential ones, they take the form of *pro*, a null pronominal:

(5) Feature-separation: $NP_{[+F, +R]} \Rightarrow pro_{[+F]}...NP_{[+R]}$

Of course these two elements are linked, so that when *pro* moves to AGR.S or AGR.O, checking will be satisfied. In keeping with the distinctions implied by [±SPEC] and [±LEX], we further assume that *pro* may either occupy a specifier position or adjoin to its checking category:

(6) Formal features in checking position
    a. [$_{AGR''}$ *pro*$_i$ [$_{AGR'}$ **agr**...NP_i]]   Separated features in [+SPEC, +LEX] position
    b. [$_{AGR''}$ *pro*$_i$ [$_{AGR''}$ **agr**...NP_i]]   Separated features in [−SPEC, +LEX] position

The mechanics of feature separation do not pose any major theoretical problems. Structure-preservation is respected on the understanding that *pro* is not a new addition on the grammar. Similarly, Principle C of the Binding Theory is not violated, given that the linking of formal and referential features does not affect interpretation. On the other hand, the introduction of an empty category to the derivation does invoke the Binding Theory in another way. This will be taken up below.

2. 4 Identification of empty categories

If indeed feature-separation results in the creation of null pronominals, Binding-theoretic principles will inevitably come into play. We adopt here a modified version developed by Huang (1984), who suggests that the contents of an EC may be identified sentence-internally or through the discourse.

As a pronoun, *pro* must be free in its relevant domain, generally taken to be the smallest clause or NP in which it occurs (Principle B). This is not at issue here. For our purposes, the important question has to do with how--or if--the contents of *pro* are identified. For sentence-internal pronouns, Huang proposes automatic co-indexation with the 'nearest c-commanding nominal element', i.e. NP or agreement:

(7) Identification Theory (Huang 1984)

a. Generalized Control Rule (GCR): Co-index an empty category with the closest nominal element (NP or AGR).
b. Disjoint reference Rule (DJR): A pronoum must be free in its governing category
c. Closest nominal elements: A is closer to B than C if A c-commands B but C does not, or (where both A and C c-command B)

    -A but not C occurs within the same clause as B, or
    -A is separated from B by fewer clause boundaries than C
    (where 'clause' = VP, or any maximal projection of INFL)

Given recent advances in syntactic theory, certain caveats naturally apply to this system. Especially relevant is the notion of c-command, and how it applies to structures arising from adjunction. We assume that a head does c-command (technically, m-command) an NP adjoined to its maximal projection, hence will be determined as the closest nominal element. This effectively prevents any other category from identifying *pro*. At the same time, such a head is clearly weaker than one which projects its own specifier position. Our claim will be that weak agreement (or more specifically, agreement to which an NP has adjoined for the purposes of feature-checking) does not count as potential identifer. This represents a significant departure from Huang's theory, one that is grounded in the concept 'strength of agreement'. Essentially, this means that *pro* adjoined to AGR.S or AGR.O cannot be identified by any sentence-internal category.

2.4.1 Strength of agreement

What determines the strength of agreement? Generally speaking, this is a consequence of the number and type of binary distinctions made by each language, often apparent in the agreement paradigms themselves. In Spanish, for example, unique subject forms exist for three different persons and two different numbers. Subject agreement is therefore strong and projects a specifier position. Seperated features

in the form of *pro* can be identified there, which explains why Spanish is a pro-drop language. Subject agreement is somewhat weaker in English, but still strong enough to project a specifier position. This alone ensures that checking will take place prior to LF. On the other hand, English subject agreement is not so strong that it can identify separated formal features. Note that in both Spanish and English, strong subject agreement correlates with weak object agreement: otherwise checking would violate the SPC.

2.4.2 Discourse antecedents

Languages like Japanese show no evidence of agreement at all, yet freely tolerate empty categories in both subject *and* object position:

(8) Pro-drop in Japanese ('Taro ate rice')

    a. Taro-wa gohan-o tabeta.　　　[full NP]

    b. Taro-wa [e] tabeta.　　　　　 [*pro*-object]

    c. [e] gohan-o tabeta.　　　　　　[*pro*-subject]

    d. [e] [e] tabeta.　　　　　　　　[all-*pro*]

According to Huang (1984), the empty categories in (8) represent variables instead of pronouns, bound by operators in the discourse. Certain problems have arisen from this view, such as the existence (and unpredictability) of multiple wh-chains. Given the construct of feature separation, however, we may entertain the possibility that the empty categories in (8) do indeed represent pronouns of a sort, i.e. null pronominals (*pro*) that have adjoined to the Japanese equivalent of AGR.O or AGR.S for checking purposes. As such they will *not* be identified by any sentence-internal category, but rather depend on discourse antecedents.

What exactly is the nature of the chain between a discourse antecedent and *pro*? If an NP has already been established in some prior context, we can assume that its features have been checked in an L-position. Since *pro* adjoined to AGR.S or AGR.O is also [+LEX], it follows also that the chain will be an L-chain. The following diagram represents this state of affairs (NP* = discourse antecedent):

(112)

(9) Identification by a discourse antecedent

    a. NP_i^* ([+LEX])...[$_{AGR.S}$ pro_i ([+LEX]) [$_{AGR.S}$ **agr.s**...]]

                                                         [pro-subject]

    b. NP_i^* ([+LEX])...[$_{AGR.S}$ NP1...[$_{AGR.O}$ pro_i ([+LEX]) [$_{AGR.O}$ **agr.o**

    ...]]]   [pro-object]

(9a) shows the erstwhile identification of a *pro*-subject by a discourse antecedent, (9b) that of a *pro*-object. There is a problem with (9b), however: if the position marked NP1 is also [+LEX]--and we must assume it is--it represents a violation of the SPC. It seems then that a *pro* adjoined to AGR.O (or its equivalent) cannot be identified by a discourse antecedent if the subject [+LEX]. Still, this doesn't necessarily lead to ungrammaticality:in the following section we claim it merely results in indefiniteness.

3. The existential *there* construction

English is clearly an accusative language, where transitive and intransitive subjects are treated uniformly. Nevertheless, the *there* construction behaves differently. We propose that canonical subjects (NP1) check their features in AGR.O instead of AGR.S. In this repect, existential *there* represents a kind of ergative construction.

3.1 Prepositional phrases

Let us begin with the assumption that *there* represents a PP. This is fairly obvious, given that the same word regularly substitutes for prepositional phrases and can serve as a locational deictic (boldface):

(10) Non-existential there

    a. Bill said he'd meet Monica **in his office**, but she didn't see

       him **there**.   [substitution]

    b. **There** goes the bus!   [deitic]

Turning next to the spatial or temporal PP (sometimes covert), let us assume that it is linked to *there* (in SPEC, AGR.S), and that it may even replace the proform at LF. This is consistent with the analysis of Freeze (1992).

(11) PP-indexing (LF)

[$_\text{AGR.S''}$ There$_i$ [$_\text{AGR.S,}$ was [$_\text{TP}$ a spider hanging [$_\text{PP}$ from the ceiling$_i$]]]]

PP-indexing represents a departure from Chomsky (1995), who holds that *there* is replaced by the agreeing (associate) NP. Nevertheless, the ability of SPEC, AGR.S to host a PP can be easily seen in sentences involving locative inversion:

(12) Locative inversion (Levin 1993)

    a. [$_\text{AGR.S''}$ There [$_\text{AGR.S'}$ arose a storm in the desert last night]]

    b. [$_\text{AGR.S''}$ In the desert [$_\text{AGR.S'}$ arose a storm last night]]

Crucially, if a prepositional phase (*there* or its PP 'associate') occupies the syntactic subject position throughout a derivation, no features of any NP can be checked there; instead some other category must be invoked for this purpose.

3. 2 Feature-checking & agreement

Consider now the possibility that features of the NP associate are checked in AGR.O. This does not entail that AGR.O is the checking category--rather only that it is available in underlying structure. (This is not inconsistent with standard Minimalist assumptions, where purely unnecessary categories are not projected). Now the features of subject agreement are strong in English, and must be satisfied before phonetic Spell-out (Greed). On the other hand, NP associates do not appear to undergo any movement of their own. This can only mean that checking takes place through formal feature movement (FFM) prior to LF:

(13) Feature-separation (English)

    a. [$_\text{AGR.S''}$ There$_i$ [$_\text{AGR.S'}$ was [$_\text{TP}$ tns [$_\text{AGR.O''}$-- [$_\text{VP}$ NP$_j$ V…PP$_i$]]]]] $\Rightarrow$

    b. [$_\text{AGR.S''}$ There$_i$ [$_\text{AGR.S'}$ was [$_\text{TP}$ tns [$_\text{AGR.O''}$ *pro*$_j$ [$_\text{AGR.O''}$-- [$_\text{VP}$ NP$_j$ V… PP$_i$]]]]]]

Being strong, subject agreement (represented by *was*) projects a specifier position filled by the proform *there*. This means that any movement to AGR.O will result in an adjunction structure. Despite the intervention of Tense, AGR.O is 'close enough' to subject

agreement for its strong checking feature to be discharged.

3.3 The Definiteness Effect

What are the consequences of adjoining *pro* to AGR.O? As we saw in Section two, a null pronoun in this position cannot be identified by a sentence-internal nominal element: AGR.O is 'close enough' to prevent any other c-commanding element from identifying it, but too weak to do the job itself. *pro* cannot be identified by a discourse antecedent either: AGR.S is [+LEX], hence will disrupt any erstwhile chain that could be formed from outside the sentence proper. In short, the formal NP features adjoined to AGR.O cannot be identified at all. We suggest that under these conditions, they are interpreted as indefinite.

The account given here relies crucially on the assumption that the [+LEX] subject position rules out identification by a discourse antecedent. We then expect that if the subject *there* underwent extraction, identification would be licit, as the subject position itself would become part of a [−LEX] chain. This is exemplified by the following, with emphatic stress on *there*:

(14) Extraction of the proform (NP= [+DEF])

    a. *There* is the man standing on the corner!

    b. [$_{CP}$ *There*$_i$ is [$_{AGR.S'}$ t_i [$_{AGR.S'}$ t_V the man standing on the corner]]]

In this sentence, the NP associate can be definite, exactly as predicted. The syntactic subject position (SPEC, AGR.S) is filled with a trace, rather than a lexical PP. The null pronominal adjoined to AGR.O (not shown) thus becomes accessible to identification by a discourse antecedent. Note also that *there* acquires a deictic function when moved to COMP.

To sum up, semantic subjects (NP1) move to SPEC, AGR.S before Spell-out in regular transitive sentences, driven by the strong features of subject agreement. Objects, on the other hand, are checked by AGR.O in LF. Since transitive objects are not obligatorily indefinite, we must assume that FFM does not occur. In the *there* construction,

a conflict arises between the needs of strong agreement (Greed) and the principle of Last Resort, which delays object feature-checking until LF. This comes about because SPEC, AGR.S is occupied by *there*, hence is unavailable as a landing site for the NP associate (a semantic subject). English chooses to resolve this conflict through the separation and movement of formal features, leaving referential ones *in situ*. The separated features of NP1 (in the form of *pro*) enter into a local relationship with AGR.S, accounting for the agreement facts. The Definiteness Effect is a consequence of the inability of anything in the sentence or discourse to identify this empty category. Finally, we may speculate on the general absence of transitive verbs in the *there* construction: since both AGR.S and AGR.O are taken up, there is no other functional category that could accommodate NP2.

4. Further consequences

The set of principles and assumptions that underlie the analysis above has consequences for other languages and constructions. In this section we look at one of each, and conclude with some speculative remarks.

4.1 Indefinite objects in Tagalog

If association with AGR.O leads to obligatory indefiniteness in *there* constructions, we might expect it does the same with transitive objects in other languages. Tagalog represents just such a case. As the following sentences show, objects may be definite only when the infix-*in*-appears on the verb:

(15) Specific & non-specific NP's (Maclachlan & Nakamura 1997)

    a. Bumili   ng isda   ang lalaki
        bought (UM) UNM-fish TOP-man
        'The man bought (*the) fish' (M&N:308) AF:NP2=[−spec]

    b. Binili   ng lalaki ang isda
        bought (IN) UNM-man TOP-fish
        'A/the man bought the fish' (M&N:308)

OF:NP1, NP2＝[±spec]

In previous work, it has been shown that (15a) reflects a NOM /ACC Case-marking pattern, while (15b) is ergative:

(16) Case-marking in Tagalog

    a. [$_{AGR.S}$ *pro*$_i$ [$_{AGR.S}$-**um**- [$_{TP}$ [$_T$ tns [$_{AGR.O}$ *pro*$_j$ [$_{AGR.O}$-- [$_{VP}$ NP1$_i$ V NP2$_j$]]]]]]]]

    b. [$_{AGR.S}$ *pro*$_j$ [$_{AGR.S}$-**in**- [$_{TP}$ [$_T$ tns [$_{AGR.O}$ *pro*$_i$ [$_{AGR.O}$-- [$_{VP}$ NP1$_i$ V NP2$_j$]]]]]]]]

Tagalog is a VSO language, so feature-checking (FFM) must occur prior to phonetic Spell-out (in theory it could also take place at LF, but the facts do not bear this out). As (16b) shows, NP1 is in the SPEC, AGR.O and NP2 is adjoined to AGR.S. While no nominal element appears to be close enough to identify the latter, it can be identified by a discourse antecedent. In (16a), NP1 is in SPEC, AGR.S and NP2 is adjoined to AGR.O. This is essentially the same configuration that underlies existential *there* sentences, and again the NP is indefinite.

As before the crucial evidence for this account will come from cases where the syntactic subject--in SPEC, AGR.S--undergoes movement of its own. In so doing, it opens the sentence up to a possible discourse antecedent which can identify the features (*pro*) adjoined to AGR.O. The following seems to bear this out:

(17) Specific object NP's (-*um*-)

    Siya ang **bu**mili ng kotse.

    He CMP bought (AT) UNM car

    'He is the one who bought a/ the car' AF/ WH:NP2＝[±spec]

From this we gather that our analysis is on the right track, and that the properties of the existential *there* construction do not constitute some kind of aberration.

5. Conclusion

In this paper we have suggested that the properties of the English existential *there* construction follow from a set of independently-

motivated principles that interact in a specifc way--like 'clockwork'. First the PP in subject position 'blocks' NP1 from moving there to check its features. Since agreement in English is strong, however, checking must take place early anyway, forcing the separation of formal features from referential ones. A null pronominal thus adjoins to AGR.O, a position in which it cannot be identified. Moreover, no other functional category is available for the second argument of a transitive verb to check its features. Consequently, verbs in the existential *there* construction tend to be intransitive.

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