

The 1AEX and the Nature of External Arguments*

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1. Introduction

The 1-Advancement Exclusiveness Law, which is originally proposed under the framework of Relational Grammar, can be informally stated as follows:

- (1) The set of advancements to 1 in a single clause contains at most one member. (Perlmutter and Postal (1984:84))

The empirical coverage of the 1AEX that this paper is concerned with includes unaccusative sentences, the setting subject construction,¹ and the instrument subject construction, each of which is exemplified in (2):

- (2) a. The guests arrived at the house by 5 o'clock.
 b. Five dollars bought a lot of heroin.
 c. A huge hammer broke the window.

As we will see shortly, they can all be assumed to involve one instance of advancement to 1. If so, the 1AEX prohibits these examples from undergoing another instance of the same advancement. It is predicted then that they invariantly resist passivization. Nevertheless, as the following examples show, this prediction is not borne out:

- (3) a. * The house was arrived at by 5 o'clock.
 b. * A lot of heroin was bought by five dollars.
 c. The window was broken by a huge hammer.

Of the three, only the instrument subject construction seems to go against the 1AEX, and one might suppose at first glance that a two-fold division should be made between unaccusative sentences and the setting subject construction, on the one hand, and the instrument subject construction, on the other. Yet, what I would like to argue is that the unpassivizability of the setting subject construction should not be explained by the 1AEX, on the grounds that if properly interpreted, the construction does not fall within the scope of minimalists' counterpart of the 1AEX. By this statement, however, I do not mean to make theory comparison. All I can say is that the result is also of great significance to RG's original conception of the 1AEX; for the setting subject construction's resistance of passivization should be reduced to independently motivated lexical semantic properties of its predicate, viz. that which concerns Binding. In what follow, I argue that the setting subject construction and the instrument subject construction are given essentially the

same configurational analysis, and they are opposed to unaccusative sentences with respect to the applicability of the 1AEX.

2. Morita (2002, 2003)

It is argued in Morita (2002, 2003) that the setting subject construction should be analyzed as involving the oblique advancement, in contrast to the 2→1 advancement analysis generally assumed for unaccusative sentences. Thus, it is convenient to begin by summarizing the analysis given there for both types of sentences. In the first place, consider the unaccusative sentence like (2a) and its unpassivizability, shown in (3a). The 1AEX states that once some element moves to the subject position (“1” in (1) designates the grammatical relation of subject), another cannot move to the very same position. Now, if passivization applies to (2a), the resulting structure in (3a) is ruled out by the 1AEX, as schematically shown in (4):

- (4) a. [] arrive the guests at the house by 5 o'clock (2→1)
 b. the guests arrive ___ at the house by 5 o'clock (1→Cho, Loc→1)
 c. * the house be arrived ___ at ___ by 5 o'clock

(4b) is derived from (4a) by raising to the subject position the NP that bears the grammatical relation of direct object (represented by “2”): one instance of advancement to 1. The process of passivization to be applied to (4b) consists of two components, the latter of which in actual fact is banned by the 1AEX: 1) it either puts the subject *en chômage*, which is marked by the *by* phrase, or makes it unexpressed; 2) and then would induce another advancement to 1, in this case, of the NP that appeared in the locative phrase headed by *at*. Now if a similar analysis were to be given to setting subject constructions like (2b), the process would proceed as follows:

- (5) a. [] buy a lot of heroin (for) 5 dollars (Obl→1)
 b. 5 dollars buy a lot of heroin ___ (1→Cho, 2→1)
 c. * a lot of heroin be bought ___ ___ by 5 dollars

In that way, it might be concluded that the ungrammaticality of (3b) would be reduced to the 1AEX.

It should be noted, however, that the two types of constructions differ in the order of the two instances of advancement to 1. In the case of unaccusative sentences, a 2→1 advancement takes place first, and a Location→1 advancement follows. On the other hand, with the setting subject construction, the order is reversed, namely, first Oblique→1, and then 2→1 advancements.

In minimalists' terms, the advancement to 1, or *the raising to the subject position*, is induced by the defectivization of the complete light verb v_{acc} , which is schematically shown in:

$$(6) \quad v_{acc} \quad \rightarrow \quad v_{def}$$

Alternatively, with unaccusative predicates, a defective light verb is included into the numeration to start with, and the defectivization of a complete light verb need not apply at this stage. Anyway, when the second instance of advancement/raising takes place, the light verb that is to undergo (6) is already defective. Now the tenet of the 1AEX is reducible to the impossibility of double applications of defectivization: a defective light verb cannot be further made inert, which is reasonably the case. What is problematic with this (re)conception of the 1AEX is the analysis of the setting subject construction I have proposed in Morita (2002, 2003): it is not the defectivization of a complete light verb that induce the first instance of advancement, but rather the operation is better conceived of as a replacement between types of complete light verbs. Thus, the setting subject construction is given the analysis shown in (7b), which has the lower VP in common with its agentive subject counterpart in (7a), with their differences mainly reduced to which type of complete light verb emerges:

- (7) a. Melvin $T^0 v_{acc}$ buy a lot of heroin for 5 dollars
 b. 5 dollars $T^0 v_{part}$ buy a lot of heroin _____

Now that the setting subject construction is analyzed in that way, it is impossible to account for the absence of its passive counterpart in terms of the 1AEX; v_{part} is also a complete light verb, and is able to license the object DP. Nothing seems to prevent this light verb from undergoing (6). In the place of the 1AEX, then, I have proposed in Morita (2002, 2003) that the unpassivizability of the setting subject construction should be reduced to a certain property of v_{part} . In short, for v_{part} to have a *whole* DP in its spec position, the *whole* DP has to be in a whole-part relation with the complement of the verb. Moreover, it is proposed that the whole-part relation in question must be warranted by Binding Condition A, since the *part* DP has the same behavior as reflexives, and can be regarded as one of them.² So the unpassivizability of the setting subject construction is accounted for along these lines: since the object DP plays the role of reflexive, it has to be c-commanded by the subject, and if passivization applies, the c-command configuration required for binding is broken, hence a Binding Condition A violation:

- (8) a. 5 dollars T^0 v_{part} buy a lot of heroin
 (whole) c-command for binding ↑ (part)
- b. a lot of heroin T^0 be v_{def} bought by 5 dollars
 *(part) (whole)

It should be noted that one of the important consequences of this analysis of the setting subject construction and the one which is proposed in Perlmutter and Postal (1984) is that the raising of the oblique phrase is not by itself identical to "an advancement to 1," since by that operation, the oblique phrase does not move to the subject position (i.e. [spec,TP]), but to [spec, $v_{part}P$], and thus, for a more detailed representation, (7b) should be replaced by (7b'), which indicates that intermediate landing site, which the surface subject has dropped in:

- (7) b'. 5 dollars T^0 ___ v_{part} buy a lot of heroin ___

Of course, the raising from that site is not distinct from the one which is involved in other sentences with a complete light verb (i.e., v_{acc}).

3. An Analysis of the Instrument Subject Construction

Now, I posit for the instrumental subject construction an analysis in virtually the same configurational terms as that is given to the setting subject construction. They differ, however, with respect to the role that the light verb involved plays. As I have just assumed, the setting subject construction results from a certain complete light verb, namely v_{part} , taking the place of the light verb that would appear in its run-of-the-mill transitive counterpart. There seems to be little reason, however, to assume a similar alternation between types of light verbs with the instrument subject construction, and I assume that the same complete light verb, viz. v_{acc} is involved both in the instrumental subject construction and its agentive subject counterpart. To make the point clearer, consider the following schematic analysis of the construction, which can be assumed for a first approximation:

- (9) a. [] break the window (with) a huge hammer (Obl→1)
 b. a huge hammer break the window ___ (1→Cho, 2→1)
 c. the window be broken ___ ___ by a huge hammer

One of the questions that immediately arise is what kind of light verb emerges in (9b). Obviously, it is not v_{part} (that is, the one that appears in the setting subject construction), since there is no analogous whole-part relation between the subject and the object that is responsible for licensing the setting subject

construction. Also it is impossible to suppose that the process of defectivization, as in (5), can apply; if the light verb would have been made inert, it should also have lost its ability of licensing the accusative case, and thus the sentence would have been ruled out in a Case-filter violation, contrary to fact. The question is then whether another complete light verb take the place of the original light verb, viz. v_{acc} . Positively or negatively, however, there seem to be little empirical arguments to give a clear answer. Thus, it is not unreasonable to assume that no such alternation occurs. Conceptually, this assumption is more desirable because it would not call for otherwise unmotivated mechanisms.

Then the question to be answered is what is the difference between the instrument subject construction and its agentive subject counterpart that makes each construction appear as such. I assume that their difference is minimal, or more precisely, so minimal that no new mechanism should be added. In this respect, I propose that the difference between the two construction should be reduced simply to the presence or absence of the DP (or the elements that would merge together so as to yield the DP through derivation) that would directly projected into [spec, νP] in the numeration. If such a DP is included in the numeration, the derivation proceeds as in (10a), whereas if absent, the DP that emerges as the instrumental phrase will raise to [spec, νP], as shown in (10b):

- (10) a. these boys v_{acc} break the window with a huge hammer
 b. a huge hammer v_{acc} break the window ___

Then, some functional categories including T^0 are merged into the structure, and (10a,b) will be derived into the (11a,b) respectively:

- (11) a. these boys T^0 ___ v_{acc} break the window with a huge hammer
 b. a huge hammer T^0 ___ v_{acc} break the window ___

Now that I have shown that the instrument subject construction is derived essentially in the same configurational terms as the setting subject construction and they differ in the type of light verb involved, I conclude that the difference in passivizability of the two construction is reducible to this respect. Since the instrumental subject construction has the light verb v_{acc} , as its run-of-the-mill agentive subject counterpart does, it is no wonder that this type of sentences can undergo passivization.

Before proceeding to the next section, however, it is worthwhile to reproduce some of the arguments that Farrell (1994) makes against the Obl→I

analysis of the instrument subject construction. One of them is based on the fact that the construction is not subject to the 1AEX, as we have just observe. I should point out, however, that the same author seeks to show elsewhere (Farrell (1993)) the implausibility of the 1AEX, and thus if that result is valid, one of the grounds on which to argue against the Obl→1 analysis is lost. In other words, Farrell himself would be making this kind of argument weaker. I do not go into this issue in any detail in this paper,³ but another argument Farrell (1994:139) makes against the Obl→1 analysis comes from the observation that the instrument behaves like an initial 1 with respect to *-er* nominalization. Based on the analysis by Di Sciullo and Williams (1987:41), Farrell assumes *-er* as a morpheme that satisfies the external argument so that the latter cannot be syntactically expressed. In a phrase like *the designer of this house* the object of *design* is expressed in the *of*-phrase and the agent is syntactically suppressed and understood as being the entity to which the noun phrase headed by *designer* refers. Putting aside the technical details, the generalization in the present framework is (12):

- (12) Condition on *-er* Nominalization
-er satisfies the initial 1 of a verbal base.

Examples of well-formed *-er* nominalizations based on predicates that initialize a 1 are given in (13a). The ill-formed examples in (13b) show that the argument of an unaccusative verb that is originally projected as the internal argument (or analyzed as assuming an initial grammatical relation of “2” in RG’s terms) cannot be satisfied by *-er*, thus motivating the restriction to initial 1s.

- (13) a. beer drinker / murderer / brick layer / singer / homeowner /
believer / story teller / bed wetter / bartender, etc.
b. * party arriver / emerger / ground faller / exister / collapser / sleep
dier / melter / sun fader / remainder, etc.

Now the following examples show that *-er* can “satisfy” the instrumental argument of verbs such as *open* and *clean* (cf. also, Rappaport Hovav and Levin (1992)):

- (14) a. This ammonia mixture sure cleans windows well.
b. This is a great window cleaner.
(15) a. This tool opens cans.
b. What I need is a can opener.
(16) dustbuster / cherry pitter / wire stripper / incinerator / amplifier /
heater / dishwasher / parser, etc.

Observing these, Farrell concludes that if argument satisfaction by *-er* is restricted to initial Is, as appears to be the case, it follows that instrument subjects must be initial Is.

Importantly, the conclusion that has just been arrived at does not necessarily mean that the DP that will emerge as the surface subject of the instrumental subject construction does not merge into the structure as the complement of the verb. To the contrary, it would suggest the dual nature of the instrument subject that partly results from it being a derived subject. In other words, it seems that to the extent that the two roles assigned as the external and the internal argument are not in conflict to each other, one argument can assume both. Notice also that this idea is in affinity with the conception of θ -roles made in Hale and Keyser (1993), in which it is proposed that they are reduced to structural configurations. Thus, 'Agent' is the interpretation given to arguments of the light verb v_{acc} , and if this interpretation is not in conflict with the one that is given in another position, say, Instrument, it is very likely that that combination is allowed.⁴

4. Whole-Part Extension of Obliques

Finally, I would like to show another property which the instrument subject construction and the setting subject construction have in common. It has been argued since Fillmore (1968) that technical details aside, the instrument subject is originally assigned the instrument θ -role within VP. One of the arguments that the instrument subject is raised from there is that the instrument subject construction cannot have another instrument phrase at the end, as shown in (17):

(17) * A hammer broke the glass with a chisel.

Nevertheless, there is a certain exception: as shown in (18), if what emerges in the *with* phrase is in a whole-part relation with the subject, the sentence is allowed (cf. also, Schlesinger (1995)):

(18) The car broke the window with its fender.

This fact can be another argument for the parallelism between the instrument subject construction and the setting subject construction; as I have shown in Morita (2003), the setting subject construction displays a similar pattern. Compare (18) and (19):

(19) *E. coli* contains a lot of genes in its genome.

Their parallelism suggests that even seemingly unmarked agentive transitive constructions, on which the instrument subject construction is based, can

allow for a whole-part extension, which requires (or is licensed by) the replacement of v_{acc} with v_{part} . If such an extension is not involved, the subject position is occupied by the item either independently picked out from the numeration, or merged into the structure as the instrument oblique. Notice also that as I have pointed out in Morita (2002), there are some verbs that are mainly used in the setting subject construction, but can have an agentive subject. One such verb is *include*:

(20) John included these words in the document.

Thus, if we compare agentive verbs with them, the parallelism of the two constructions would become clearer, which can be summarized as follows:

- (21) a. [] break the window with the fender
 b. John broke the window with the fender.
 c. The fender broke the window.
 d. The car broke the window with its fender.
- (22) a. [] include these words on page 5
 b. John included these words on page 5.
 c. Page 5 includes these words.
 d. The document includes these words on page 5.

Each of (21a) and (22a) represents a common underlying form from which the superficial sentences (b)-(d) are derived: the (b) sentences are agentive one, whose subject is assigned the Agent role, and the (d) sentences are derived by a whole-part extension, through which the subject is licensed and introduced into the structure. I assume that in the former case the light verb that emerges is v_{acc} , while it is v_{part} that takes care of the *whole* subject in the latter case. In these respects, the two types of verbs are not distinct. As I have proposed in the previous sections, however, they differ when no such whole-part extension takes place and the element merged into the structure as the oblique argument is raised to the subject position, as shown in (21c) and (22d). Although the superficial order and the way in which it is generated are similar in both cases, (21c) has the light verb v_{acc} , and (22c) has v_{par} .

NOTES

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¹ It is Langacker (1991) that the term *setting subject construction* is originally used. I adopt this terminology in Morita (2002) for the type of sentences that is derived by "the

more sporadic advancements to I found in English” (Perlmutter and Postal (1984:91)) in comparison with analogous highly productive phenomena in Cebuano, Malagasy, and so on. My adoption of this terminology is motivated by the idea that that type of advancement is licensed by the whole-part relation between the subject and the object.

² For related issues, see Bresnan (1982) and Helke (1979) among others.

³ I would rather be reluctant to agree with Farrell (1993) and consider that the IAEX cannot be done away with completely, since the tenet of it is still valid enough. Specifically, I assume with Perlmutter and Postal (1984) that the unpassivizability of unaccusative sentences should be explained that way.

⁴ In this respect, the insight of Cognitive Grammar is also worth taking into consideration. Langacker (1991:324), for example, assumes that the action chain of agentive verbs represents an energy flow from Agent to Instrument, and ultimately to Patient. In addition to that, while Instrument and Patient are characterized as passive participants in that they are downstream of the energy flow from some other participant, Instrument as well as Agent can be upstream of such a flow, and thus both of them are characterized as “participants in the source domain.”

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