PRO and Agree

Yoshihisa Goto

Abstract

In Chomsky and Lasnik (1993) and Martin (1996), it is argued that PRO has null Case. Though the arguments that PRO has Case and that the distribution of PRO depends on temporal properties of non-finite Tense are appealing, the analysis of PRO which relies on null Case is not convincing since there is some doubt as to the existence of null Case. In this paper, I argue against the theory of null Case based on Icelandic control infinitives. Arguing that PRO has nominative Case, I show that the distribution of PRO can be accounted for in terms of Agree, proposed in Chomsky (1998, 1999)

0. Introduction

A great deal of attention has been given on the distribution and interpretation of the empty category PRO. In Chomsky (1981) it is argued that the crucial factor determining the distribution of PRO is government, and it is proposed as a descriptive generalization that PRO must be ungoverned. The nongovernment requirement for PRO implies that PRO must not be Case-marked since Case-marking requires government.

Though this generalization is attractive and a wide range of distributional properties of PRO follows from it, some serious problems with it are pointed out in Chomsky and Lasnik (1993). One of the problems is related to PRO's visibility for θ-marking. How does PRO

ever become visible for θ-marking if it does not have Case? Arguing against the claim that PRO is ungoverned and Caseless, they conclude that PRO has null Case, which is checked by non-finite T (Tense). Martin (1996) refines the theory of null Case and argues that only one of two types of non-finite T can check the null Case of PRO.

The analysis of PRO under the theory of null Case is more attractive than the analysis in terms of government. However, it runs into a new problem that must be accounted for. Why does PRO have null Case, not the familiar Cases like nominative, accusative and so on? As far as I know, there is no other empirical evidence that proves the existence of null Case. On the contrary, the theory of null Case does not hold for Icelandic control infinitives, in which non-finite T checks nominative Case on PRO. An analysis of PRO without null Case seems much more attractive both conceptually and empirically.

The aim of this paper is to show that this problem can be solved under the modified version of Chomsky's (1998, 1999) Case-licensing system, (that is, Agree). This paper is organized as follows. Section 1 briefly reviews Martin's (1996) analysis of PRO and shows that the possibility of PRO depends on temporal properties of infinitival clauses. Section 2 shows Case-assigning properties in Icelandic control infinitives and proposes that PRO has nominative Case not only in Icelandic, but also universally. In Section 3, ϕ (phi)-features of PRO and non-finite T are closely examined, and it is shown that PRO with nominative Case is licensed under agreement with non-finite T.

1. PRO and Tense

In Martin (1996), it is pointed out that if non-finite T invariably checks the null Case of PRO, as assumed in Chomsky and Lasnik (1993), it is predicted that PRO can be the subject of any infinitival

clause. However, this prediction is not borne out, as illustrated by the contrast between control infinitives and raising (including ECM) infinitives.

(1) a. For Tulio, it is difficult [PRO to stay onside]
b. *For Tulio, it seems [PRO to have stayed onside]

While PRO is possible as the subject of control infinitives as in (1a), it is impossible as the subject of raising infinitives as in (1b).

To account for this contrast, he distinguishes between two different types of infinitival complements. He proposes that non-finite T in control infinitives checks null Case, whereas non-finite T in raising infinitives does not.

Furthermore, he argues that this distinction correlates with a difference in temporal properties between these two types of infinitival complements. The main point of his argument is that control infinitives have a [+Tense] feature, which is similar to the modal *would*, while raising infinitives do not have a [+Tense] feature. He shows as evidence that while control infinitives denote events, raising infinitives all denote states.[1] When event-denoting predicates occur in raising predicates, the resulting sentences turn out to be ungrammatical, as illustrated below.

(2) a. *Everyone believed [Rebecca to win the game right then]
b. *The doctor showed [Bill to take the wrong medicine at that exact time]
c. *The defendant seemed to the DA [t to conspire against the government at that exact time]

He argues, following Enç(1990), that event-denoting predicates

contain event variables that must be bound by T. Since control infinitives have [+Tense] which can bind event variables, event-denoting predicates are possible. In contrast, since raising infinitives lack [+Tense], event-denoting predicates are excluded and only state-denoting predicates are possible.

Since his argument that the distribution of PRO depends on temporal properties of non-finite T is convincing, in what follows I assume that PRO is possible when non-finite T has a [+Tense] feature, although I argue against his theory of null Case in the next section.

2. PRO in Icelandic Control Infinitives

In this section, let us examine Sigurðsson's (1991) argument that PRO can have nominative Case and non-finite T in control infinitives can check the nominative Case on PRO in Icelandic. Consider the contrast shown below (N=nominative, D=dative, dflt=default).

(3) a. Strákarnir voru aðstoðaðir/*aðstoðað.
the boys(N) were aided(m.pl.N)/(*dflt)
b. Strákunum var hjálpað/*hjálpaðir/*hljápuðum.
the boys(D) was helped(dflt)/(*m.pl.N)/(*m.pl.D)

Icelandic passive participles (and adjectival predicates) agree with a nominative NP in gender (m.,f.,n.), number (sg., pl.) and case as in (3a). On the other hand, if the subject NP is not assigned nominative Case, there is no agreement and passive participles show up in an invariable default form which is homophonous with the agreeing form for nominative/accusative neuter singular. Based on the contrast, he gives the following generalization concerning predicate agreement.

(4) a. Agreement of predicate adjectives and participles in finite clauses must be licensed by a nominative NP

b. In the absence of a nominative NP in a finite clause a predicative adjective or participle shows up in a nonagreeing default form

Given these generalization, let us consider predicate agreement in control infinitives shown in (5).[2]

(5) Strákarnir vonast til [að PRO verða aðstoðaðir/*aðstoðað].
the boys(N) hope for to PRO be aided(m.pl.N)/(*dflt)
The boys hope to be aided (by somebody).

Note that the predicate in (5) does not show up in a nonagreeing default form but shows the masculine, plural and nominative agreement. The fact that predicate agreement in control infinitives behaves in the same way as it does in finite clauses is predicted straightforwardly if it is assumed that PRO in Icelandic can be assigned nominative Case.

Accordingly, the fact that nominative agreement is licensed by nominative Case in control clauses shows that non-finite T in control infinitives can check nominative Case on PRO in Icelandic. If it can be shown that the distribution of PRO is properly predicted under the assumption that non-finite T can check nominative Case universally, the analysis is preferable to the analysis that depends on unfamiliar Cases like null Case. Section 3 pursues this line of argument within the Case-assignment system proposed in Chomsky (1998, 1999).

3. PRO and Agree

3.1 Agree and Case-licensing

In Chomsky (1998, 1999), it is argued that structural Case is a reflex of matching of ϕ-features between a Case-assigning head and a nominal. He assumes that ϕ-features are divided into LF-interpretable features and LF-uninterpretable features. The ϕ-features of T are uninterpretable at LF while the ϕ-features of a nominal are interpretable at LF. The ϕ-features of T must enter into an agreement relation with the ϕ-features of a nominal to be deleted. When a matching relation is satisfied, that is, when Agree is induced, the structural Case of a nominal is licensed.

Consider the following example.

(6) An unpopular candidate was elected

Suppose that the derivation has reached the stage (7), having merged T with the copula-headed phrase.

(7) T be elected an unpopular candidate

I assume that the ϕ-features of T and the nominal "*candidate*" have the following properties.[3]

(8)

T:	[third] Person	N:	[+third] Person
	[singular] Number		[+singular] Number
	[+nominative] Case		[nominative] Case

The ϕ-features of T (a probe) seek the interpretable ϕ-features of N

(a goal) to establish agreement.[4] Since ϕ-features of the probe and the goal are identical in the case of (8), Agree is induced and the uninterpretable ϕ-features of T are deleted. As a result of Agree, the case feature of the nominal, [nominative] Case, is licnesed by T and deleted.

3.2 ϕ-features of PRO and non-finite T

Let us turn to control infinitives. Here, I propose that non-finite T and PRO have the following properties.

(9)

	Non-finite T:	PRO:
	[–] Person	[ ] Person
	[–] Number	[ ] Number
	[nominative] Case	[nominative] Case

It is usually assumed that non-finite T does not have any ϕ-features since it does not show inflection. By contrast, I assume that non-finite T is specified as having ϕ-features which mark that it does not inflect, that is, [– "minus"]. The [–] ϕ-features are uninterpretable. On the other hand, the values of PRO's ϕ-features are not specified, which is illustrated by the empty brackets.[5]

When non-finite T and PRO enter into an agreement relation, the ϕ-features of them are compared in the same way as those of finite T and a lexical nominal. Here, I assume that the minus value [–] and the null value [ ] are not identical but non-distinct since they both indicate that there are no features to be pronounced at PF. Given that "non-distinct" features as well as identical features agree with each other, the compared ϕ-features in (9) agree with each other. So, the uninterpretable ϕ-features of the non-finite T are deleted and nominative Case of PRO is licensed.

If non-finite T can check nominative Case, then it would be

predicted that lexical subjects are allowed to occur in control infinitives, contra fact, as shown in (10).[6]

(10) a. Bill tried [PRO to be here]
b.*Bill tried [Mary to be here]

However, the impossibility of lexical subjects in control infinitives is properly accounted for in terms of Agree. The values of the ϕ-features of the lexical subject (*Mary*) are specified as follows.

(11) *Mary*: [third] Person
[singular] Number
[nominative] Case

The values of the ϕ-features of *Mary* and non-finite T are distinct. Since Agree is not induced, both the uninterpretable ϕ-features of T and the Case feature of the lexical subject remain without being deleted and, hence, the derivation crashes.

The fact that PRO is impossible as the subject of finite clauses is also accounted for in the same way. Since the ϕ-features of PRO and finite T have distinct values, Agree fails and the derivation crashes.

In what follows, I discuss two apparent problems with my analysis. First, it is argued in Sigurðsson (1991) that Icelandic has quirky PROs as well as nominative PRO. As illustrated in (12), many verbs and predicates in Icelandic take quirky subjects (A=accusative, G=genitive).

(12) a. Hana/*Hún vantaði vinnu
her(A)/(*N) lacked job
She lacked a job
b. Henni/*Hún leiddist
her(D)/*she bored
She was bored
c. Hennar/*Hún var getið
her(G)/*she was mentioned
She was mentioned (by someone)

He claims that when these constructions, which are referred to as Quirky Constructions, appear in control infinitives, PRO is assigned exactly the same quirky Case as a lexical subject of a finite Quirky Construction.

(13) a. Hún vonast til [að PRO vanta ekki vinnu].
she hopes for to PRO(A) lack not job
She hopes not to lack a job.
b. Hana langar ekki til [að PRO leiðast].
her(A) wants not for to PRO(D) bore
She does not want to be bored.
c. Það væri gaman [að PRO verða getið].
It were nice to PRO(G) be mentioned
It would be nice to be mentioned.

In order to make my analysis compatible with his claim, I assume that PRO may have quirky Case feature, as in (14), instead of the nominative Case feature indicated in (9).

(14) PRO: [ ] Person
[ ] Number
[quirky] Case

Given that quirky Case is licensed by a θ-role assigning predicate, it might be argued that there is no uninterpretable feature which makes PRO active in order to enter into an agreement relation with non-finite T. This problem could be solved if we assume following Chomsky (1998) and Jónsson (1996) that inherently Case-marked NPs need structural Case in addition. Then, PRO in (13) could be activated by the uninterpretable nominative Case feature.

The second problem, which is pointed out by Howard Lasnik (personal communication), is concerned with predicate agreement. Given that the values of PRO's ϕ-features are not specified, how is agreement of predicates, as in (5), (repeated below), licensed by PRO?

(15) Strákarnir vonast til [að PRO verða aðstoðaðir/*aðstoðað].
the boys(N) hope for to PRO be aided(m.pl.N)/(*dflt)
The boys hope to be aided (by somebody).

I assume that after PRO and non-finite T enter into an agreement relation, PRO's unvalued ϕ-features are assigned values by a controller in finite clauses according to the theory of Control. In (15), for instance, PRO receives values (masculine and plural) from the matrix subject and it, in turn, gives the passive participle the values including the nominative Case feature which is licensed by non-finite T.

4. Conclusions

In this paper I have argued that PRO has nominative Case and the

values of its ϕ-features are null, as repeated below.

(16) PRO: [ ] Person
[ ] Number
[nominative] Case

Given that Case-licensing requires Agree as proposed in Chomsky (1998, 1999), it is shown that PRO is possible as the subject of non-finite T in control infinitives since non-finite T in control infinitives has a nominative Case-assigning feature [+Tense] and its ϕ-features ([–] Person and [–] Number) agree with PRO's ϕ-features. The proposed analysis of PRO in terms of Agree seems appealing since it dispenses with null Case.

Notes

*I am grateful to Howard Lasnik for very helpful suggestions. This research was supported in part by a Sapporo University overseas research grant.

1. He also argues, following Stowell (1982), that two different types of infinitival complements can be distinguished in terms of future orientation.

2. If predicates which take quirky subjects as in (3b) appear in control infinitives, they show up in default forms as indicated below.

(i) Strákarnir vonast til [að PRO verða hjálpað/*hjálpaðir/*hljálpuðum.
the boys(N) hope for to PRO(D) be helped(dflt)/(*m.pl.N)/(*m.pl.D)
The boys hope to be helped (by somebody).

I assume that Icelandic has quirky PROs as well as nominative PRO, which will be argued in section 3.

3. Note that my assumptions are different from Chomsky's (1999) in the following way. According to his assumptions, uninterpretable features are

considered to be unvalued, receiving their values under Agree. On the other hand, I assume, as illustrated in (8), that values of uninterpretable features, such as the ϕ-features of T (a probe) and Case feature of N (a goal), are specified. Although the Case feature is contained in T for expository purposes in (8), it could be omitted or replaced by [+Tense] according to the argument in Section 1.

4. Probe and goal must both be active for Agree to apply. In (8), the uninterpretable ϕ-features and the uninterpretable structural Case activate the probe and the goal, respectively.

5. According to my proposal, we have four different types of features with respect to number, that is, [singular], [plural], [–](=minus) and [ ](=null).

6. Sigurðsson (1991) argues that non-occurrence of lexical subjects in infinitive clauses in Icelandic can be accounted for in terms of the proper government condition, which I do not adopt since the notion of government is not readily available within minimalist programs.

References

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Foris, Dordrecht.

Chomsky, Noam. 1998. Minimalist inquiries: the framework. *MIT Working Papers in Linguistics* 15.

Chomsky, Noam. 1999. Derivation by phase. *MIT Occasional Papers in Linguistics* 18.

Chomsky, Noam and Howard Lasnik. 1993. The theory of principles and parameters. In J. Jacobs, A. von Stechow, W. Sternefeld and T. Vennemann, eds., *Syntax: An international handbook of contemporary research*. Walter de Gruyter, Berlin.

Enç Mürvet. 1990. On the absence of the present tense morpheme in English. Ms., University of Wisconsin.

Jónsson, Jóhannes G. 1996. *Clausal Architecture and Case in Icelandic*. Doctoral dissertation, University of Massachusetts, Amherst.

Martin, Roger Andrew. 1996. *A Minimalist Theory of PRO and Control*. Doctoral dissertation, University of Connecticut, Storrs.

Sigurðsson, Halldór Ármann. 1991. Icelandic case-marked PRO and the licensing of lexical arguments, *Natural Language & Linguistic Theory* 9, 327-363.

Stowell, Tim. 1982. The tense of infinitives. *Linguistics Inquiry* 13, 561-570.