Abstract

This paper presents an HPSG formalisation of how the ellipsis of case-marking affects the focus of the clause in Japanese. We restrict our attention to the nominative and accusative markers *ga* and *o*, and in view of the fact that the ellipsis effects on focushood vary between 1) *ga* and *o* and 2) different argument structures of the head verb, develop an essentially lexicalist account that combines both aspects, in which the *implicit focus* argument position is specified in the predicate. We argue that if a constituent is an implicit focus it does not, while if one is not it does, require a case-marker to be focused.

1 Introduction

Postpositions are crucial building blocks of a clause in Japanese. They attach mainly to nominals, indicating their semantic, syntactic or pragmatic properties, and are projected to postpositional phrases (PostPs). Since PostPs become dependents of a verb in a clause, postpositions crucially participate in argument structure realisation. Yet some postpositions, case-marking ones among others, are frequetly dropped, giving rise to the situation where some arguments in a clause are headed by phonologically empty items. In this paper we ask under what conditions such an ellipsis occurs, in relation to the *information structure*. More specifically we argue that overt marking is required in a focal environment, although the *implicit focus* specified in the head verb is exempt from this requirement. We show an HPSG formalisation for this mechanism.

Our account is distinct from the existing accounts in that it is in essense lexicalist but still ensures the interaction with information structure. It relies on the argument structure of a lexical predicate (mainly a verb), which, coupled with its implicit focus, determines the positions where ellipsis is felicitous. In short, we write into a (type of) verb where the normal focus position is, where the case-marking is optional.

We restrict our target to case-marking postpositions (case-marker in short) in informal discourse, particularly *ga* (nominative, normally subject marker as well) and *o* (accusative, normally direct object marker), where ellipsis frequently occurs. We will *not* consider the topic marker *wa*, though it also tends to be elided. Given the background that there is little consensus on the relationship between topic and focus, let alone the notion of topic itself, we think we would be better off confining ourselves in this paper to focushood, although we will say a word or two at the end about how our analysis may be extended to cover topic as well. In order to avoid the topical influence as much as possible, we will use examples of embedded clauses, where the topic marking is normally suppressed. In practice, this is to avoid the knotty question of what an ellipsis is the ellipsis of, case-marker or *wa*, since in an embedded sentence *wa* is not expected, and an ellipsis can be regarded as that of a case-marker.

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2 Background

In this section we consider three types of existing accounts. A first type, the intuitive 'recoverability' account says that a case-marker may be dropped if the thematic role is uniquely identifiable, or, recoverable (Hinds, 1982). According to this account, in the following example, it is felicitous to drop *o* in (1a) because thanks to the argument structure of the transitive verb ijimeru coupled with the presence of the subject-marker *ga*, the objecthood of the case-dropped nominal, *Jirô*, can be recovered (the bracketed variant demonstrates that the word order swap doesn't affect the omissibility). The infelicity of (1b), then, can be attributed to the impossibility to uniquely identify subject or object (either Tarô or Jirô can be subject or object). In (2), though the thematic roles are not recoverable syntactically, they can be argued to be recovered pragmatically, because alcohol cannot be plausibly interpreted to drink Tarô.

(1) Tarô-ga Jirô-o ijimeten-no michatta.
-NOM -ACC bully-COMP saw
lit: (I) saw that Tarô was bullying Jirô. ('I saw Tarô bullying Jirô')

a. Tarô-ga Jirô-ϕ ijimeten-no michatta. (Jirô-ϕ Tarô-ga ijimeten-no michatta.)

b. ? Tarô-ϕ Jirô-ϕ ijimeten-no michatta.

(2) Tarô-ϕ sake-ϕ nonden-no michatta. ('(I) saw that Tarô was drinking alcohol')

However, recoverability cannot account for a curious asymmetry: *ga* is comparatively harder to elide than *o*, which makes most transitive cases sound bad where only *ga* is elided leaving *o* intact. Consider the following example:

(3) a. ?? Tarô-ϕ Jirô-o ijimeten-no michatta.

b. ?? Tarô-ϕ sake-o nonden-no michatta.

Notice that the first of the following set contrasts with (1a). The second example is meant to show that this is not due to pragmatic plausibility either.

Based on such examples Kageyama (1993) offers a structural constraint: that an internal argument does, while an external argument does not, allow for ellipsis. This structural account may work for most of our examples, but apart from the fact that we already have an exception, (2), where both internal and external arguments are without markers, it is the fact that the subject-marker drop is often acceptable with an intransitive verb, as in the following, that would first need to be accommodated.

(4) Tarô-ga/ϕ hashitteru-no michatta. ('(I) saw that Tarô was running')

Kageyama invokes the unergative/unaccusative distinction to address this issue, pointing out that it is difficult to elide *ga* for unergatives:

(5) Tarô-ga/??ϕ abareru-no michatta. ('(I) saw that Tarô was vandalising')

explaining that it is acceptable to elide *ga* in (4) as it really is the external argument of an unaccusative verb.

While we grant that there is an acceptability difference *in degree* between unaccusative and unergative cases, the main problem with such a binary criterion is that it makes the situation seem black-and-white, where the reality isn't. We have already seen (2) represents a counterexample. Further, under the context where the subject is de-focused, the acceptability of (3) also improves.

(6) Tarô-ga nani shiten-no mitatte? ('What did you say you saw Tarô doing?')
Tarô-ϕ Jirô-o ijimeten-no michatta.

The last example suggests the likelihood of the involvement of information structure, and in fact so does (4), because the intransitive subject tends to be focused than the transitive one. The last account to consider is indeed information-structure oriented: that a case-marking postposition cannot be elided if the nominal that it attaches to receives a narrow, argument focus interpretation Yatabe (1999).

(7) Dare-ga sake-o nonden-no mitano? ('Who did you see drinking alcohol?')
Tarô-{ga/??ϕ} sake-{o/ϕ} nonden-no michatta.

We believe Yatabe's account is on the right track, but there are some outstanding issues left unresolved. First, there does not seem to be a problem eliding marking with the focused object [(8a)].

(8) a. Tarô-ga nani-o nonden-no mitano? ('What did you see Tarô drinking?')
Tarô-{?ga/ϕ} sake-{o/ϕ} nonden-no michatta.

b. Nani-o mitano? ('What did you see?')
Tarô-{ga/??ϕ} sake-{o/ϕ} nonden-no michatta.

In fact, there is no difference between narrow focus (8a) and sentence focus (8b) contexts on *o*-marking either. Although Yatabe does not even consider the case of object marking, the question of why the same account cannot be extended to objects certainly warrants investigation. Also, the contrast in the acceptability in (non-)marking of the subject is also a curious one.

We believe that it still is possible to combine the valid insights of both accounts, ones based on argument structure and information-structure. In what follows we develop an account that says some arguments require case-marking to be focused

while others may be focused regardless of it, or put differently, case-marking determines focus for some arguments while it is inert for others. We then relate this difference —what arguments require and does not require case-marking— to information structure. Recall the dictum "*Subject is the unmarked topic*" by Li and Thompson (1976): even without context, the implicit information structure can be conventionalised in a way related to argument structure. We say *Object is the implicit focus*, while providing an analysis that accounts for all the data including the object-marker drop.

3 Focus and case-marker elidability

3.1 Overview

Our overall strategy is to specify one[1] of the arguments of a verb as the 'implicit focus,' and say it does not require a case-marker to be realised as a focus. As we shall see, we define it such that not only is a case-marker is optional, but one is not capable of making it a focus. In short, for an implicit focus, a case-marker is inert in terms of focushood.

The collorary of this is that an argument which is not the implicit focus requires a case-marker to be a focus. From the ellipsis perspective, the claim amounts to this: to be able to elide a case-marker, a PostP needs to be either a non-focus or the implicit focus.

Before proceeding to the formal analysis, it would be necessary to refer to the existing proposals on focus in general, so as to clarify what we share and do not share with them. First to be noted is the fact that, since the seminal work by Selkirk (1995), most work on focus centres around *prosody*, i.e. focus-marking ('F-marking') by accentual or intonational means. We certainly accept that focus can be influenced by these means in Japanese too (see e.g. Ohshima (2006)), but since our subject matter is case-marker ellipsis we will only discuss the syntactic aspect of focus in this connection. Furthremore, whereas the prosodic F-marking is usually considered to identify focus unambiguously (the F-marked constituent automatically gets the focus status), this does not apply to our syntactic analysis. In fact, our analysis will not include 'focus-marking' as such, that is, there is no single feature that uniquely determines focus (reflecting the absence of dedicated syntactic focus marker in Japanese). Instead it is a combination of argument structure and case-marking that does the work.

Another important issue is what 'projecion' schema we adopt for focus. On this point, what is common among differing proposals is a rule or schema that lets a mother inherit (at least) some of the daughters' focus values. We use a straightforward variant of classical 'vertical' projection rule of Selkirk (1995), which states that the focus values of the head daughter is inherited to its mother, and add our

[1]There is no theoretical reason why it should always be one, although we will discuss the data where there is only one, if any, implicit focus element.

own mechanism where focus is contributed from non-head daughters.

Furthermore, the notion of focus itself has long been a matter of contention. We will not delve deeply into this foundational issue, but confine ourselves to briefly stating the outline of our position. If we dare summarise the debate in one sentence, it concerns which domain of linguistics should be taken to be the primary determiner of focus, surface string (phonological or syntactic), semantics or pragmatics. Selkirk's position represents the first, while, for example, Rooth's (1992) position represents the second. Along with Lambrecht (1994),Breul (2004) and Erteschik-Shir (2007), our position belongs to the third stream, in taking pragmatics as the primary determiner. Thus along with these authors, we use the question-answer pair as our main diagnostic for the locus of focus. If the sentence in question is discourse-initial or answers a general 'what's happened' type of query, it is the sentence-focus articulation, while we call all of the more local articulations 'narrow focus,' where part of a sentence is focused —argument focus, predicate focus etc. We hasten to add, however, along with all those concerned with information structure to our knowledge, that focushood has effects on the other two areas —in our case, semantics and syntax. In fact, the question we address here is precisely of how focus, while it is taken as a primarily pragmatic phenomenon, affects syntax.

3.2 HPSG formalization

We start with specifying the implicit focus in the arguments of a verb. This is meant to represent the 'conventionalised' nature of the information structure of a clause onto which a verb is projected: for each verb, we way which argument position, if any, is focused by default. This setup allows for flexibility as to which argument position is normally focused, on the lexical basis, although given a limited number of argument positions in general, we proceed to the formalisation on the basis of its subtypes. For our discussion, we assume the *trans(itive)-verb* subtype to behave uniformly with respect to implicit focus: the object is the implicit focus. Along with the past HPSG literature (e.g. De Kuthy (2002)), the focus feature is a list ranging over the semantic content values, but the backslash ('\') notation points to the implicit focus.

$$\left[\begin{array}{l} \textit{trans-verb} \\ \text{FOCUS}\left\langle \backslash \boxed{1} \right\rangle \\ \\ \text{ARG-ST}\left\langle \left[\begin{array}{l} \textit{post-phr} \\ \text{PHON}\left\langle \textit{ga} \right\rangle \\ \text{SS}\,|\,\text{HD}\,|\,\text{CASE}\ \textit{nom} \end{array}\right], \left[\begin{array}{l} \textit{post-phr} \\ \text{PHON}\left\langle \textit{o} \right\rangle \\ \text{SS}\left[\begin{array}{l} \text{HD}\,|\,\text{CASE}\ \textit{acc} \\ \text{CONT}\,|\,\text{RELS}\ \boxed{1} \end{array}\right] \end{array}\right] \right\rangle \end{array}\right]$$

The meaning of this list containing an element with slash requires some explanation, because it is somewhat different from the standard use for the 'defeasible'

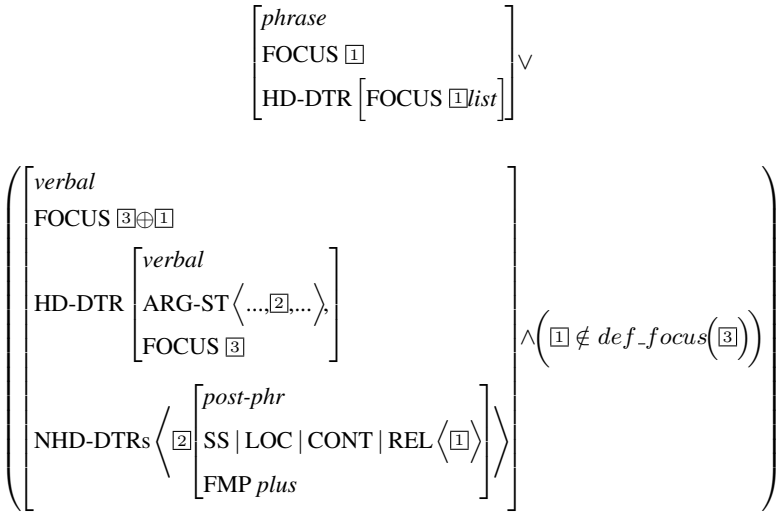

Figure 1: Focus Projection Schema

constraint. The implicit focus is by default a focus, but is not forced, at least by a syntactic means, to be a focus either. Thus the following is the meaning of the list:

$$\boxed{3}\langle \ldots, \backslash\boxed{2}, \ldots\rangle := \boxed{3} \ominus \boxed{2} \vee \langle \ldots, \boxed{2}, \ldots \rangle$$

Simply put, it represents a disjunction of lists, which says the implicit element may be either realised as a focus or not.

Now, to incorporate the effect of the presence/absence of the overt case-marker, we introduce the binary *focus-marking potential* (FMP) head feature for case-marking postpositions.[2] We simply say that any overt case-markers have this potential (value *plus*) and phonologically empty ones (zero-markers) do not.

$$\begin{bmatrix} \textit{post-case-overt} \\ \text{PHON } \textit{nelist} \\ \text{SS | LOC | HD} \begin{bmatrix} \text{CASE } \textit{case} \\ \text{FMP } \textit{plus} \end{bmatrix} \end{bmatrix} \begin{bmatrix} \textit{post-case-zero} \\ \text{PHON } \langle\rangle \\ \text{SS | LOC | HD} \begin{bmatrix} \text{CASE } \textit{case} \\ \text{FMP } \textit{minus} \end{bmatrix} \end{bmatrix}$$

Our focus projection schema is shown in Figure 1. We first adopt a simple schema where the head daughter's focus value is passed up to the mother (base case, the first disjunct in the Figure). The crucial step, then, is to add a provision for the interaction of implicit focus with FMP. The bottom AVM (second disjunct) represents this.

Generally there are three cases to consider (or more precisely two subcases with one having further two subcases), depending on (a) whether the PostP in question

[2]The term is deliberately reminiscent of De Kuthy and Meurers (2003)'s *focus projection potential*. The role it plays is rather similar, but as we shall see, our 'potential' is exerted 'vertically' to influence its mother, while DeKuthy and Meurers's is 'horizontally' to its head sister.

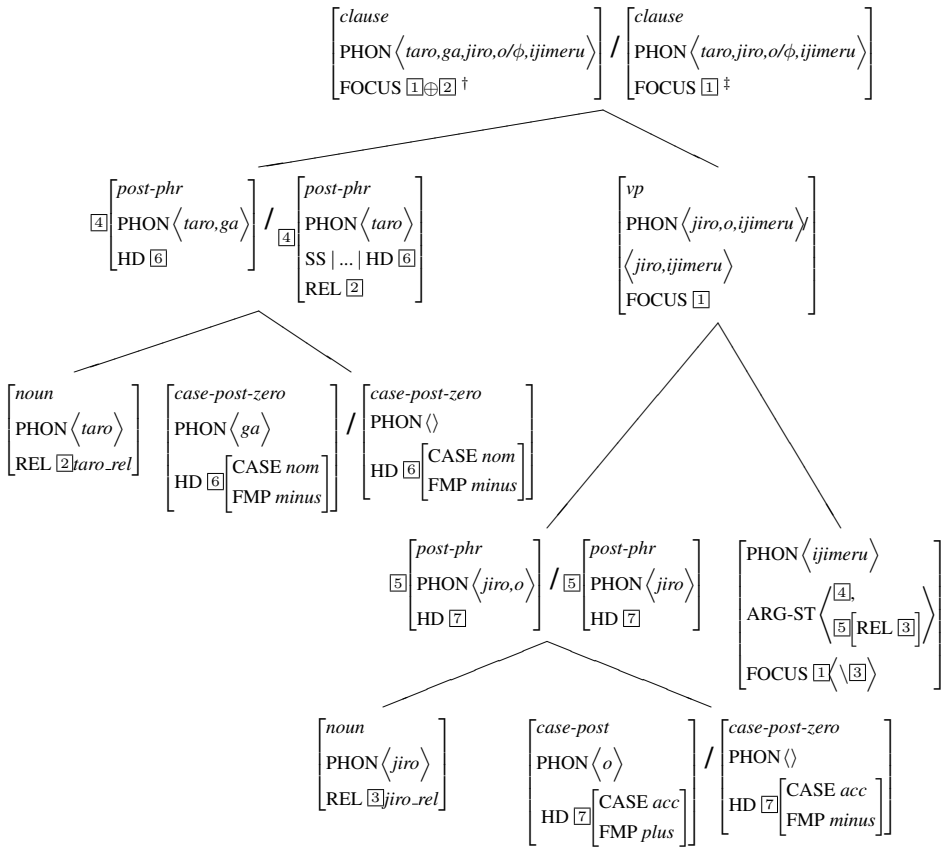

Figure 2: Focus projections for *Taro-ga/ϕ Jiro-o/ϕ ijimeru*

is an implicit focus or not, and (b) if it is not, whether it has a positive FMP (b1) or not (b2). In fact, it is only the case (b1) that is handled by our additional provision, where the focus value is contributed from the non-head daughter. This is because in (a) the implicit focus is already specified in the head, and in (b2) no focus is contributed from the daughers (*def_focus* simply extracts the implicit focus from the FOCUS list). These cases are thus handled by our base case.

Example projections are shown in Figure 2, using the 'Tarô bullies Jirô' example. In the interest of space, the reader will find both overt and ellipsis cases at some nodes: the AVM left to '/' represents the overt case, and the one on the right the elided case. The main point is the contrast between the process combining the overtly marked object PostP (*Jirô-o*) with the verb, and the process combining the overtly marked subject (*Tarô-ga*) with the VP. In the former, because it is the implicit focus, the PostP, though with its positive FMP, does not contribute a focus,

leaving the work for the base projection schema. In the latter, in contrast, because it is not the implicit focus, does contribute its REL value as the additional focus of the clause. Thus there are two possible outcomes for the focus of the clause, shown underneath the tree with their values spelt out. The first one is what obtains for the case of the overtly marked subject, where the focushood of the subject is registered unambiguously, while the second the case of the subject without an overt case-marker. For both cases, the focushood of the object is left ambiguous.

It is straightforward to extend the account to intransitive verbs, including the unaccusative/unergative contrast. All that is required is simply to set the subject to the implicit focus, at least for the unaccusative subtype, which annuls the case-marker's potential to contribute focushood, just as in the object in the previous example. If one chooses not to do so, the focusing effect of a case-marker will remain, as in the energative cases.

The mechanism proposed should be taken to generally apply to any constituent, although only PostPs have been looked at. It specifies whether any constituent, including the head predicate itself, should be an implicit. In fact for the cases considered so far, the predicate itself should be added as an implicit focus, while we will briefly mention a possible case where it should not be in the last section. If all the constituents of a sentence are then focused, the sentence focus articulation ensues. If on the other hand only some of the constituents are focused a narrow focus articulation is obtained.

4 Raminifications and possible extensions

We said that a PostP must be a focus if and only if it is not an implicit focus and is marked with a case-marker. An interesting prediction this analysis makes is that an overtly marked PostP in such a case would be infelicitous in a context in which it should be de-focused context. We contend it is the case, as shown in (8a), where overt marking is observed to be less felicitous than the null-marking case. This will lead to the view that the absence of case-marking is in some contexts obligatory and hence is not exactly 'ellipsis' but a contextually-driven decision to 'zero-mark' a nominal, as argued by Shimojo (2006).

A further issue arises when a language is equipped with explicit and unambiguous syntactic focus-marking just like the accentual F-marking. In Ryukuan, the only language known to historically related to Japanese, has the focus-marker *du*. An analysis of such a focus-marker would perhaps revert us back to the traditional focus-projection debate, but the fact that the language also has case-markers in parallel invites us to the interesting investigation as to whether a case-marker, and its ellipsis, also makes any contribution focus articulation at all. Such a contribution from case-marking would be essentially redundant but still is possible, and if one is found, it would strengthen the position that case-marking usually is involved in focus articulation.

Furthermore, and perhaps most importantly, the matrix environment needs to

be accommodated if the proposal was to be complete. In this work we have imposed on ourselves the restriction to embedded clauses for practical reasons, but obviously it is not satisfactory as it is as a general theory of focus. A particularly relevant fact is that in a matrix sentence with a stative / copula head predicate, the subject, if case-marked, becomes obligatorily narrowly focused in Japanese.

(9) a. Tarô-ga Jirô-no otooto nanda.
Tarô-NOM Jirô-GEN brother be
'It is Tarô who is the brother of Jirô'

b. Tarô-ga Jirô-no otooto dat-te shitteru
Tarô-NOM Jirô-GEN brother be-COMP know
'I know Tarô is the brother of Jirô '

There are two interesting facts about the narrow focus articulation for statives. One is the fact that no such articulation is observed if this sentence is embedded, as shown in (9b). Thus the proposed lexical account needs to be modified to somehow adapt to these two different renditions. As mentioned earlier, this may well have to do with the influence of topic, and this aspect makes the situation more complicated. This is a challenging and important task ahead for the extension of our account.

The other interesting fact, however, is one that is amenable to our lexically oriented account: a cross-linguistic variation. It seems as if the Korean counterpart of the subject case-marker, *i/ga*, does not have a narrow focus effect in statives, as in the following equivalent to the above Japanese example:

(10) Hyeonsu-ga Cheolsu-ui tongsaeng ieyo.
Hyeonsu-NOM Cheolsu-GEN brother be
'Hyeonsu is the brother of Cheolsu.'

Our account could readily accommodate this variation, by giving different specifications to the stative subtype in the two respective languages (at least in the matrix clause). Putting the predicate itself to the implicit focus list in Japanese, while not listing up anything in Korean, would do the work. We remain cautious nevertheless in view of the aforementioned complication with the topical influence in the matrix clause, but such a cross-linguistic extension could open up rich possibilities and certainly warrants a further study.

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