ON 'ACCUSATIVE' ADVERBS IN JAPANESE: A NOTE ON ADVERB LICENSING[*]

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1.0 Introduction

The tenet of theories of adverb licensing in recent literature can be characterized as assuming the significance of certain features of functional categories that 'license' the adverbs under certain structural configurations (see Travis 1988 and Cinque 1996, among others). For the sake of discussion, I call such a view the 'pure-featural licensing' view. The pure-featural licensing view is immediately in question if adverbs in a language possess properties that are quite similar to arguments, since arguments are, as their fundamental property, licensed by being a recipient of a θ-role without having recourse to any functional heads. The aim of this paper is to discuss basic properties of a class of adverbs in Japanese in order to point out the inadequacies of the pure-featural licensing view. The class of adverbs in question is what I call 'accusative' adverbs, those which appear with the accusative case-marker and thus have the same morphological form as arguments. The organization of this paper is as follows. In section 2, a brief overview of the pure-featural licensing view is given, along with its inadequacies. Section 3 discusses basic properties of 'accusative' adverbs in Japanese. Various syntactic tests reveal that accusative adverbs in Japanese have a status that is quite similar to that of arguments. Based on this observation, in section 4 a proposal is made which integrates such an extraordinary class of adverbs into a universal theory of adverb licensing. It is argued that adverbs can be licensed by direct merger to a verb. Section 5 discusses some implications of the proposed approach. Section 6 concludes the discussion.

2.0 Theories of adverb licensing in the literature

Let us start with a brief overview of the issue of adverb licensing. Within the current framework (Chomsky and Lasnik 1993, Chomsky 1993, and Chomsky 1995, among others), it has been assumed that a linguistic expression must be a legitimate object at LF (logical form) in order to have an appropriate interpretation. For example, arguments are 'legitimate' by virtue of their bearing a θ-role. Otherwise, a syntactic object will violate the principle of Full Interpretation (henceforth FI), which essentially bans any occurrence of superfluous symbols at the interpretive level (see Chomsky 1995 for discussion). Under such a view, adverb licensing poses an interesting question, since adverbs are, by definition, not arguments and do not bear any θ-role. Thus, they must have recourse to some way other than being a θ-role recipient to be 'licensed' at the relevant level without violating the FI.

The main feature of recent proposals regarding adverb licensing is that adverbs are licensed by *certain heads*. Two major proposals along these lines are summarized below in (1)–(2).[1]

(1)   Travis (1988): 'Head feature licensing'

    (a)   Adverbs are 'defective' categories.

    (b)   A feature of the licensing head (N or V) licenses the modifying head (A or N).

    (c)   V: V (Manner); Infl: E(vent), Agr(eement); C: Illocutionary force

[1] See Ernst (1998) and Rochette (1990) for another type of theory of licensing adverbs. Ernst (1998) specifically argues against Cinque (1996) and proposes a theory where adverbs are licensed if their "scope-requirements" are satisfied. Note here that such a scope-based theory as Ernst's brings back the problem of globality into the theory of grammar since, under such an approach, it is not possible to determine if a derivation converges before LF. Thus we need to compare derivations, which increases computational complexity (see Chomsky 1995 for discussion).

(2)   Cinque (1996)

Adverbial phrases are the unique specifiers of distinct maximal projections.

Travis (1988) assumes that adverbs are 'defective' categories and that they require a feature of a certain head to be licensed; (1c) lists the relevant features that Travis postulates. Another theory of adverb licensing is proposed by Cinque (1996), who follows Kayne's (1994) theory and assumes that specifiers are adjuncts. In Cinque's theory, an adverb is licensed by being in the specifier position of a unique functional category. To account for the distribution of various adverbs, he proposes the fully-articulated structure of functional categories shown below in (3), which consists of innumerable functional projections. The assumption in this theory is that each head licenses a distinct adverb in its specifier.

(3)   The universal hierarchy of clausal functional projections:

[*frankly* Mood$_{Speech\ act}$ [*fortunately* Mood$_{evaluative}$ [*allegedly* Mood$_{evidential}$ [*probably* Mood$_{epistemic}$ [*once* T(Past)
[*then* T(Future) [*perhaps* Mod$_{irrealis}$ [*(not) necessarily* Mood$_{alethic}$ [*willingly* Mood$_{volitional}$
[*inevitably* Mood$_{obligation}$ [*cleverly* Mood$_{permission/ability}$ [*usually* Asp$_{habitual}$ [*again* Asp$_{repetitive(I)}$
[*often* Asp$_{frequentative(I)}$ [*quickly* Asp$_{celerative(I)}$ [*already* T(Anterior) [*no longer* Asp$_{terminative}$ [*still* Asp$_{continuative}$
[*always* Asp [*just* Asp$_{retrospective}$ [*completely* Asp$_{SgCompletive(I)}$ [*tutto* Asp$_{PlCompletive}$ [*well* Voice
[*fast* Asp$_{celerative(II)}$ [*completely* Asp$_{SgCompletive(II)}$ [*again* Asp$_{repetitive(II)}$ [*often* Asp$_{frequentative(II)}$

Both of the theories mentioned above are based on rich cross-linguistic data and have certain consequences. However, they also pose some difficulties. First, within the current syntactic theory (Chomsky 1993, 1995), theoretical devices are limited to those that are necessary at the two interface levels PF (phonological form) and LF, and thus any technical device will require sufficient empirical justification. However, the status of the majority of functional heads proposed in Cinque's theory raises the question of whether they are well-justified on empirical grounds. In order to see this point, let us consider the licensing of the adverb *evidently*. In Cinque's theory, this adverb is assumed to be licensed by being in the specifier position of the functional head called 'Evaluative'. The following data from agglutinative languages such as Korean and Japanese, given in (4) and (5) respectively, raises a question with regard to the status of the 'evaluative' functional heads Cinque proposes.[2]

(4)   *Korean*

(a)   Ku   say-ka   cwuk-ess-keyss-**kwun**-a
       That   bird-NOM   die-PAST-may-EVALUATE-DECL

       'That bird must have died!'

(b)   Minea-nun   ttena-ss-te-**kwun**-yo
       Minea-TOP   leave-PAST-EVID-EVALUATE-POLITE

       'I noticed that Minea had left!'   (Cinque 1996)

(5)   *Japanese*[3]

(a)   Sono   tori-ga   sin-de-simat-ta-ni   **tigai-na-i** ...   (koto)
       That   bird-NOM   die-GER-end.up-PAST-P   may-EVALUATE-PRES

       'That bird must have died.'

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[2] The abbreviations used in this paper are as follows:

ACC:	Accusative Case marker	CAUS:	Causative		
CED:	Constraint on Extraction Domain	Comp:	Complementizer	DAT:	Dative Case marker
DECL:	Declarative	DP:	Determiner Phrase	EVALUATE:	Evaluative
EVID:	Evidential	GEN:	Genitive	GER:	Gerundive
NOM:	Nominative Case-marker	P:	Pre-/Post-position	PAST:	Past tense marker
PP:	Adjunct phrase	POLITE:	Politeness marker	PRES:	Present tense marker
Q:	Question morpheme	TOP:	Topic marker	V, VP:	Verb (Phrase)

[3] To avoid awkwardness resulting from a topicless sentence in Japanese, the example in (5a) is followed by *koto* 'the fact', which is omitted in the gloss.

(b) Mary-wa   syuppatusi-ta-ni   **tigai-na**-i.
     Mary-TOP   leave-PAST-P   may.<u>EVALUATE</u>-PRES
     'I noticed that Mary had left.'

In both languages, the functional head 'evaluative' is realized as a verbal suffix. In particular, in the case of Japanese, this 'evaluative' head is a fixed phrasal expression which consists of a noun (*tigai* 'different') followed by an adjective functioning as negation (*na-i* 'not'). In other words, this expression consists exclusively of lexical categories.[4] Hence, it would be too *ad hoc* to claim that it was an instance of a functional head.

(6)   He has evidently gone home.

   Even in an English sentence, such as in (6), there is apparently no overt realization of the functional head. Of course, Cinque himself is aware of this point and states that "... if each adverb class indeed corresponds to a different functional head, then, we have evidence that the entire array of functional heads (and projections) is available even where there is no overt morphology corresponding to the heads, as the respective specifiers are available" (Cinque 1996:§4.28). He further claims that, if one were to reject this conclusion, most adverbs would not be systematically related to a functional head and that UG would then have to countenance two distinct conditions—one ruling over the hierarchy of heads, the other over the hierarchy of AdvPs. He then concludes that his theory is superior to the alternative in that it does not require these two seemingly unrelated conditions. However, note that under the framework that we assume here (i.e., that of Chomsky 1995), postulating a phonetically null element requires ample justification. At this point I have not found any strong empirical evidence for postulating a null evaluative head in example (6).[5] Hence, a strong dependence on the existence of null functional categories should be avoided. The following example in (7) illustrates the same point. As the example and its translation show, the adverb *cleverly* can be licensed without any presence of a modal-like element in both English and Japanese.

(7)   John-ga   kenmeinimo   tenkiyohoo-de   asu-no   tenki-o   sirabe-ta.
       -NOM   cleverly   weather.forecast-with   tomorrow-GEN   weather-ACC   check-PAST
       'John cleverly checked the weather forecast for the weather tomorrow.'

If postulating a phonetically-null functional head is not a desirable option, it is not clear how in Cinque's theory the majority of adverbs such as *cleverly* or *evidently* in English can be licensed, when there is no clear realization of a relevant licensing functional head. In summary, the majority of the functional heads proposed in Cinque's theory either (i) have the status of a lexical category rather than that of a functional category, or (ii) are null elements without sufficient empirical justification.

   Another inadequacy with the pure-featural licensing approach is the existence of languages where adverbs have the syntactic properties of an argument. Before looking at actual examples, I would like to clarify some terminology. I essentially follow Perlmutter's (1978) Unaccusative Hypothesis, which assumes that the initial unergativity vs. unaccusativity dichotomy cannot vary from language to language. I also adopt Tsujimura's (1990) observation that the unergative-unaccusative distinction found in English exists in Japanese as well. In other words, it is basically assumed that an instance of an unergative in English is realized as an unergative *in Japanese as well*. Bearing this assumption in mind, let us observe the following data.

(8) (a)   Taroo-ga   **hon-o**   <u>yon-da</u>.   (transitive)
           -NOM   **book-ACC**   read-PAST
           'Taro read a book/books.'

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[4] *Na-i* can be identified as an adjective due to its inflectional ending. In Japanese, adjectives, but not verbs, take -*i* as the present tense morpheme, and adjectives cannot take -*ru*, the present tense marker for verbs.

(i) (a)   utukusi-i   'beautiful + PRES [for A]'   *utukusi-ru   'beautiful + PRES [for V]'
     (b)   aka-i   'red + PRES [for A]'   *aka-ru   'red + PRES [for V]'

The following data show that the negative element *na-* patterns with adjectives, and not with verbs, with regard to tense inflection.

(ii)   na-i   *na-ru

[5] I thank Kazue Takeda for relevant discussion on this issue.

	(b)	Hanako-ga	**ringo-o**	<u>tabe-ta</u>.		(transitive)
		-NOM	**apple-ACC**	eat-PAST		
		'Hanako ate an apple/apples.'				

(9)	(a)	Yumi-ga	**Taroo-o**	<u>warat-ta</u>.		(unergative)
		-NOM	**-ACC**	laugh-PAST		
		'Yumi laughed at Taro.'				

	(b)	Yuuko-ga	**undoozyoo-o**	<u>hasit-ta</u>.		(unergative)
		-NOM	**playground-ACC**	run-PAST		
		'Yuko ran on/in the playground.'				

As shown in the Japanese examples in (8), an internal argument of a transitive verb is usually marked by the accusative marker *-o*. In contrast, the verbs in the examples in (9) are intransitive verbs which, in English, take only the agent/external argument. In this sense, they can be classified as unergatives and are not supposed to take any *o*-marked phrase (i.e., the canonical morphological shape of an internal argument). However, in addition to the agent marked by the particle *ga*, there *is* another phrase marked by the accusative marker *o* in the examples in (9). As the English translation shows, the *o*-marked phrases are PP adjuncts in English and are usually *not* regarded as arguments of the verb. Hence the *o*-phrases in (9) can be regarded as adjuncts as well. The existence of an adverb marked by *o* of the sort in (9b), occurring with a verb of motion, has already been noted in the literature (see S.-I. Harada 1973 and Kuroda 1978, among others), while that of (9a) has never been discussed in the literature. For the sake of discussion, I will refer to adjuncts such as those in (9), which are marked by the accusative marker *o*, as 'accusative adverbs'. The point here is that <u>the adverbs in (9)</u> are marked by *o*, just like the internal argument of a transitive verb is; in other words, they <u>behave as if they were arguments</u>, which clearly shows that Japanese uses a completely different mechanism from the one that is proposed in Travis's or Cinque's theory.[6]

Note further that the existence of accusative adverbs highlights a further inadequacy in Travis's assumption that adverbs are "defective". The "adverbs" in (9) are all full-fledged nominal phrases followed by a case-particle, and it is not clear in what sense they are "defective". The point is that examples such as (9) with accusative adverbs suggest that we need a theory of licensing adverbs as a 'full category', rather than as a 'defective' category.

In this section, we saw the major licensing theories of adverbs and their problems. In the next section, I examine the data to study the properties of accusative adverbs in Japanese.[7]

3.0 Properties of 'accusative adverbs' in Japanese[8]

3.1 The position of accusative adverbs

First, let us look at the word-order properties of accusative adverbs. Due to the strict head-final word order of the language, adverbs in Japanese can never occur after a verb. As shown in (10), the adverb *undoozyoo-de* 'in the playground' can occur in any position, but it never occurs in sentence-final position, as the ungrammaticality of (10d) demonstrates.

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[6] According to Lin and Wu (1999), Chinese also allows certain types of adjuncts, e.g., an instrumental phrase, to be realized as "objects." See Lin and Wu (1999) for the data and discussion.

[7] In addition to the accusative adverbs discussed in this paper, there are (at least) three more types of adverbs in Japanese, shown below in (i–iii).

(i)	NP + P	e.g.,	naihu-de knife-P	'with a knife'
(ii)	A + an inflectional ending	e.g.	haya-ku early-inflectional.ending.for.the.adverbial.form.of.A	'early; quickly'
(iii)	NP alone	e.g.	kyonen	'last year'

Though the approach taken here may cover (i–ii) with a slight modification of the proposal to be given in section 4, in this paper, I focus on accusative adverbs alone, leaving discussion of other types of adverbs for future research.

[8] Throughout this paper, I focus on the case pattern of mono-clausal structures.

(10) (a) John-ga   kinoo   **undoozyoo-o**   hasit-ta.   'John ran on the playground.'
         -NOM   yesterday   playground-ACC   run-PAST

(b) **Undoozyoo-o** John-ga kinoo hasit-ta.

(c) John-ga **undoozyoo-o** kinoo hasit-ta.

(d) *John-ga kinoo hasit-ta **undoozyoo-o**.

3.2 Co-occurrence restriction on "accusative" adverbs

Next, let us consider the types of verbs with which accusative adverbs cooccur. The examples in (11) through (16) show that <u>accusative adverbs can never appear with verb types other than unergatives</u>.[9]

The examples in (11) show that unergative verbs such as *waraw-* 'laugh', *okor-* 'get angry', or *hasir-* 'run' can take an adverb with the accusative marker *o*.

(11)   *Unergatives*[10]   (an adjunct appears with *-o*)

     (a) Makiko-ga   Taroo-no   sippai-o   warat-ta.
             -NOM   -GEN   mistake-ACC   laugh-PAST
         'Makiko laughed at Taro's mistake.'

     (b) Taroo-ga   Ziroo-no   hutyuui-o   okot-ta.
             -NOM   -GEN   careless-ACC   mad-PAST
         'Taro got mad at Jiro's carelessness.'

     (c) Yuuko-ga   undoozyoo-o   hasit-ta.
             -nom   playground-acc   run-past
         'Yuko ran on/in the playground.'

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[9] There are a few exceptions to this generalization. A certain class of unaccusative verbs seems to host an accusative adverb, as shown below.

    (i)   miti-o   ik-u   'go on a street'   (ii)   ie-o   de-ru   'leave home'
        street-ACC   go-PRES   home-ACC   leave-PRES

It seems that verbs of motion can generally accommodate accusative adverbs, crossing the two verb classes. I leave for future research a unified account of the distribution of accusative adverbs, including these examples. I thank K. I. Harada for helpful discussion on this issue.

[10] Kazue Takeda (personal communication) has brought to my attention that example (11a) sounds degenerate if the *o*-marked phrase is *Taroo* instead of *Taroo no sippai* 'Taro's mistake', as shown in (i) below.

    (i)   ?~??~?*Makiko-ga   Taroo-o   warat-ta.
                -NOM   -ACC   laugh-PAST
           'Makiko laughed at Taro.'

Judgments vary among native speakers, the reasons for which I leave aside here. Kazue Takeda has also observed, interestingly, that (i) contrasts with (ii) if the verb *okot-* (< *okor-*) is interpreted as 'to scold', while (ii) is ungrammatical and thus patterns with (i) if *okot-* is interpreted as 'to get mad at'.

    (ii)   Taroo-ga   Ziroo-o   okot-ta.
            -NOM   -ACC   mad-PAST
         'Taro scolded Jiro for his carelessness.'   vs.   *'Taro got mad at Jiro for his carelessness.'

This has to do, as Kazue Takeda suggests, with the fact that the inherent meaning of the verb 'scold' presupposes the presence of the theme of the action following the 'scolder', but there is no such presupposition in the case of the verb 'laugh'. Assuming that an *o*-marked phrase bears some holistic interpretation, the contrast between (i) and (ii) is expected only with a verb that presupposes the presence of the patient following the agent (i.e., 'scold') where the *o*-phrase—inherently carrying a notion of *total affectedness*—is most easily construed. Otherwise, the example is ungrammatical. This is consistent with the ungrammmaticality of (ii), where the verb *okor-* is interpreted as 'get mad': the action of getting mad can take place without the presence of the theme of the action.

However, not all 'intransitive' verbs behave in the same way. As shown in (12), unaccusative verbs are not compatible with accusative adverbs, and any occurrence of an adverb must be marked by a postposition or a particle other than *o*.

(12)   *Unaccusatives*   (an *o*-phrase cannot co-occur with other particles)

    (a) Hanako-ga   gakkoo-e / -ni / *-o   it-ta.
           -NOM   school-to / -DAT / *-ACC   go-PAST
        'Hanako went to school.'

    (b) Satosi-ga   watasi-no   ie-ni / ?-e / *-o   ki-ta.
           -NOM   I-GEN   house-DAT / ?-to / *-ACC   come-PAST
        'Satosi came to my house.'

    (c) Sohu-ga   ni-nen-mae-ni / *-o   gan-de / *-o   nakunat-ta.
        grandfather-NOM   two-years-ago-DAT / *-ACC   cancer-by / *-ACC   pass.away-PAST
           '(My) grandfather passed away from cancer two years ago.'

When a verb is transitive, all occurrences of *o*-phrases are true arguments, as shown in (13) and (14).

(13)   *Transitives*   (*o*-phrases = theme/patient)

    (a) Taroo-ga   hon-o   yon-da.
           -NOM   book-ACC   read-PAST
        'Taro read a book/books.'

    (b) Satosi-ga   ringo-o   tabe-ta.
           -NOM   apple-ACC   eat-PAST
        'Satosi ate an apple/apples.'

    (c) Ziroo-ga   hon-o   kat-ta.
            -NOM   book-ACC   buy-PAST
        'Jiro bought a book/books.'

(14)   *Causative-Transitives*   (*o*-phrases = theme/patient)

    (a) Taroo-ga   kabin-o   kowasi-ta.
           -NOM   vase-ACC   break-PAST
        'Taro broke the vase.'

    (b) Ziroo-ga   mondai-o   gutaika-sase-ta.
            -NOM   problem-ACC   crystalize-CAUS-PAST
        'Jiro crystalized the problem.'

If an adverb appears with the accusative marker *o* in a clause involving a transitive verb, the examples become ungrammatical, as shown in (15) and (16) below.

(15)   *Transitives*

    (a) Taroo-ga   zibun-no heya-de / *-o   (hon-o)   yon-da.
           -NOM   self-GEN room-in / *-ACC   (book-ACC)   read-PAST
        'Taro read a book/books in his room.'

    (b) Satosi-ga   daidokoro-de / *-o   (ringo-o)   tabe-ta.
           -NOM   kitchen-in / *-ACC   (apple-ACC)   eat-PAST
        'Satosi ate an apple/apples in the kitchen.'

    (c) Ziroo-ga   Kinokuniya-de / *-o   (hon-o)   kat-ta.
            -NOM   -at / *-ACC   (book-ACC)   buy-PAST
        'Jiro bought a book/books at Kinokuniya.'

(16)   *Causative-Transitives*

    (a) Taroo-ga   ima-de / *-o   (kabin-o)   kowasi-ta.
          -NOM   living.room-in / *-ACC   (vase-ACC)   break-PAST
      'Taro broke the vase.'

    (b) Ziroo-ga   kenkyuusitu-de / *-o   (mondai-o)   gutaika-sase-ta.
          -NOM   office-in / *-ACC   (problem-ACC) crystalize-CAUS-PAST
      'Jiro crystalized the problem in the office.'

3.3 Constituency[11]

    The following examples in (17) and (18) show that a verb and an accusative adverb can form a constituent, illustrating that the accusative adverb is the element closest to the verb.[12]

(17)   [Bill-o   wara-i]-sae   Mary-ga   si-ta.
       -ACC   laugh -even   -NOM   do-PAST
    'Mary even laughed at Bill.'

(18)   [Taiheiyoo -o   oyog-i]-sae   John-ga   si-ta.
       Pacific.Ocean-ACC swim -even   -NOM   do-PAST
    'John even swam in the Pacific Ocean.'

In both (17) and (18), the fronted phrase contains an *o*-marked adverb and a verb. The grammaticality of these examples patterns with the case of fronting of an argument *o*-phrase with a verb, shown below in (19).

(19)   [hon-o   yom-i]-sae   Mary-ga   si-ta.
       book-ACC   read -even   -NOM   do-PAST
    'Mary even read a book.'

    In Japanese, it is not possible to prepose a (transitive) verb alone, leaving an internal argument marked by *o in situ*. This is illustrated by the following example.

(20)   *[yom-i]-sae   Mary-ga   hon-o   si-ta.
       read -even   -NOM   book-ACC do-PAST
    Lit.: 'Mary even read a book.'

Interestingly, accusative adverbs pattern with an argument *o*-phrase in this respect. If a verb alone is preposed and an *o*-marked adverb is left *in situ*, the resulting structure is ungrammatical.

(21)   *[wara-i]-sae   Mary-ga   Bill-o   si-ta.
       laugh -even   -NOM   -ACC   do-PAST
    Lit.: 'Mary even laughed at Bill.'

(22)   *[oyog-i]-sae   John-ga   Taiheiyoo-o   si-ta.
       swim -even   -NOM   Pacific.Ocean-ACC do-PAST
    Lit.: 'John even swam in the Pacific Ocean.'

In contrast, a canonical adverb marked by a postposition *de* can be left *in situ* in an example where a verb is fronted, as shown below in (23).

(23) (a) [yom-i]-sae   Mary-ga   syokuinsitu-**de**   si-ta.
         read -even   -NOM   teachers'. room-in do-PAST
       'Mary even read (something) in the teachers' room.'

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[11] I thank Sze-Wing Tang for helpful discussion related to this section.

[12] The *-i* after the verb stem in examples (17) and (18) is the inflectional ending of *renyoo-kei*, 'adverbial form', which is ignored in the gloss.

(b) [wara-i]-sae   Mary-ga   syokuinsitu-**de**   si-ta.
     laugh -even   -NOM   teachers'. room-in   do-PAST
     'Mary even laughed in the teachers' room.'

(c) [oyog-i]-sae   John-ga   Taiheiyoo-**de**   si-ta.
     swim -even   -NOM   Pacific.Ocean-in   do-PAST
     'John even swam in the Pacific Ocean.'

In (23a), the internal argument of the verb *yom-* 'read' can be understood to be realized as a null pronominal, since Japanese freely allows *pro* in both subject and object positions of a tensed clause. In all the examples in (23), fronting a verb with a *de*-marked adjunct *in situ* does not lead to ungrammaticality. If we assume the following structure in (24) for a verbal phrase in Japanese, the grammaticality of the examples in (23), in contrast to the ungrammatical examples (20–22), can be accounted for.[13]

(24)   ... $[_{VP_1}$ NP-*de* $[_{VP_2}$ object DP   V]] ...   [only the relevant portion is shown]

If the fronted part in (23) is VP_2 (with the object DP realized as a *pro*), then the grammaticality of the examples in (23) is expected, since VP-fronting can involve either VP_1 or VP_2. On the other hand, the ungrammatical examples in (20–22) involve the fronting of V alone, which is only a part of VP_2. Since the moved element is not a phrase, in these cases the resulting structure is ungrammatical. The ungrammaticality of (21) and (22) patterns with the ungrammaticality of the example in (20) with an argument *o*-phrase left *in situ*. Furthermore, (21) and (22) contrast with the grammatical examples in (23), where an adverb phrase is left *in situ*. These characteristics of the examples in (21) and (22) suggest that an *o*-marked adverb parallels arguments in this respect.

        To summarize, in this section we have shown that (i) an *o*-marked adverb forms a constituent with a verb, and (ii) *o*-adverbs pattern with arguments and do not behave as canonical adverbs (marked by a postposition) in structures involving VP-fronting.

3.4 The absence of CED (Constraint on Extraction Domain) effects

        The next set of examples positively shows the "argumenthood" of accusative adverbs. As example (25), taken from Saito and Fukui 1998, shows, in general, scrambling out of an adjunct phrase yields a weak CED effect.

(25)   ?Nani$_i$-o [John-ga $[_{PP}$ Mary-ga   t$_i$ kat-ta   kara] okotteru] no.
     what-ACC   -NOM   -NOM   buy-PAST   since   angry   Q
     'What$_i$ is John angry because Mary bought t$_i$ (about)?'   (Saito and Fukui 1998:463)

Bearing this point in mind, let us examine the cases where a phrase is scrambled out of an accusative adverbial clause. The examples in (26) through (28) have a clause marked by *o* occurring with an unergative verb.

(26) (a) Mary-ga   [[Bill-ga   banana-o   nodo-ni   tumarase-ta]   no]-o   warat-ta.
         -NOM   -NOM   -ACC   throat-at   stuck-PAST   Comp-ACC laugh-PAST
         'Mary laughed at Bill('s) choking [his throat] on bananas.'

  (b) ??Bill$_i$-ga   Mary-ga   [[t$_i$ banana-o   nodo-ni   tumarase-ta]   no]-o   warat-ta.

  (c) Banana$_i$-o   Mary-ga   [[Bill-ga   t$_i$ nodo-ni   tumarase-ta]   no]-o   warat-ta.

  (d) Nodo$_i$-ni   Mary-ga   [[Bill-ga   banana-o   t$_i$ tumarase-ta]   no]-o   warat-ta.

(27) (a) Sion-ga   [[kokyoo-ga   sensoo-de   metuboosi-ta]   no]-o   nai-ta.
         -NOM   homeland-NOM   war-by   ruin-PAST   Comp-ACC   cried-PAST
         'Sion cried over/lamented the fact that his homeland was ruined.'

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[13] I leave it open whether VP_1 and VP_2 in (24) are two projections each headed by a distinct category or a projection of a single category consisting of two segments.

(b) ??Kokyoo$_i$-ga Sion-ga [[t$_i$ sensoo-de metuboo-si-ta] no]-o nai-ta.

(c) Sensoo$_i$-de Sion-ga [[kokyoo$_i$-ga t$_i$ metuboo-si-ta] no]-o nai-ta.

(28) (a) Yuuko-ga [[Taroo-ga kinoo okane-o mituke-ta] undoozyoo]-o hasit-ta.
           -NOM   -NOM yesterday money-ACC find-PAST playground-ACC run-PAST
         'Yuko ran on/in the playground where Taro found some money yesterday.'

(b) ??Taroo$_i$-ga Yuuko-ga [[kinoo t$_i$ okane-o mituke-ta] undoozyoo]-o hasit-ta.

(c) (?)Okane$_i$-o Yuuko-ga [[Taroo-ga kinoo t$_i$ mituke-ta] undoozyoo]-o hasit-ta.

(d) (?)Kinoo$_i$ Yuuko-ga [[Taroo-ga t$_i$ okane-o mituke-ta] undoozyoo]-o hasit-ta.

If we scramble a phrase out of this accusative-marked adverbial clause, except for the case of subject-phrase extraction (the *b* examples of (26–28)) which is not acceptable on independent grounds, there is no CED effect comparable to the one observed in (25).[14] Crucially, if we replace *o* with the postposition *de* and have a 'true' adverbial clause in the examples in (26–28), extracting a non-subject phrase out of the adverbial clause becomes harder.[15] This clearly shows that the accusative phrase occurring with an unergative verb has the status of argument rather than adjunct.

3.5 The structural position of accusative adverbs

The last set of examples shows that the accusative-marked phrases are less adverbial if there is an additional adverb in the same clause, which suggests a lower position for such phrases in base generation. If a locative PP appears in addition to an accusative adverb in an example with an unergative verb, as in (29), when the locative phrase is an R-expression, it can bind a genitive pronominal in the accusative-marked adverbial phrase.[16]

(29) (a) Yuuko-ga Tokyo Doomu$_i$-de sono$_i$ niwa-o arui-ta.
         -NOM   -at   its   garden-ACC walk-PAST
         'Yuko walked the garden at Tokyo Dome.'

(b) Hirosi-ga Taroo$_i$-no ie-de kare$_i$-no ie-no niwa-no ike-o oyoi-da.
         -NOM   -GEN house-at his-GEN house-GEN garden-GEN pond-ACC swim-PAST
         'Horoshi swam in a pond in the garden of Taro$_i$'s house at his$_i$ house.'

However, when a pronominal is in the locative phrase, it cannot be bound by an accusative adverb, as the ungrammaticality of the examples in (30) shows.

(30) (a) *Yuuko-ga soko$_i$-de Tokyo Doomu$_i$-no niwa-o arui-ta.
         -NOM there-at   -GEN garden-ACC walk-PAST
     Intended meaning: 'Yuko walked the garden of Tokyo Dome$_i$ there$_i$.'

(b) *Hirosi-ga kare$_i$-no ie-de Taroo$_i$-no ie-no niwa-no ike-o oyoi-da.
         -NOM his-GEN house-at   -GEN house-GEN garden-GEN pond-ACC swim-PAST
     Intended meaning: 'Horoshi swam in a pond in the garden of Taro's house at Taro's house.'

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[14] See Saito 1985 for a detailed discussion on the unacceptability of examples involving scrambling of subject phrases.

[15] I thank Jim Huang and Sze-Wing Tang for drawing my attention to the contrast between extraction out of an *o*-marked phrase and extraction out of a *de*-marked phrase.

[16] As Kazue Takeda has pointed out to me (personal communication), for some speakers, certain combinations of an accusative adverb and an unergative verb are not acceptable. For example, for some speakers, *puuru-o oyog-u* 'swim (in a) pool' is not acceptable. However, even for such speakers, *ike-o oyog-u* 'swim (in the) pond' or *kawa-o oyog-u* 'swim (in the) river' is perfectly acceptable. I leave open for future research why there is such ideo-dialectal variation as to the acceptability of a combination of an *o*-adverb and an unergative verb, suggesting that degrees of grammaticality may be relevant.

The contrast between (29) and (30) indicates that a locative PP is base-generated in a position higher than an accusative adverb.

3.6 Summary

To summarize, in this section we examined the properties of accusative adverbs in Japanese, which only occur with unergatives (cf. §3.2). They are followed by the accusative case-marker; they are an immediate sister of a verb and thus lower than any other adverbs in the clause (cf. §3.3, §3.5); the absence of CED effects shows that they have an argument status rather than that of an adjunct (cf. §3.4). In the next section, a claim regarding how they are licensed will be introduced.[17]

4.0 Proposal

In section 2, we saw some inadequacies in the pure-featural licensing approach. One of the problems mentioned was that such a view presupposes the existence of a number of phonetically null elements, for which sufficient empirical justification is lacking. This was a problem for both English-type languages and agglutinative languages such as Japanese and Korean. Thus the theory must eventually be modified so as to accommodate the facts in both types of languages without having recourse to any *ad hoc* mechanisms and unjustified assumptions. However, proposing such a comprehensive theory is an immense task, beyond the scope of this paper. Rather than undertake this task, in this paper I show a way to accommodate the observed facts of Japanese into a theory of grammar—a way that goes beyond current theories of adverb licensing.[18]

Based on the facts discussed in section 3, I claim that accusative adverbs are simply *licensed by merger to V*. In other words, an adverb can be licensed by the configuration shown below in (31).

(31)
$$V^{max}$$

Adverb $V_{unergative}$

↑
o
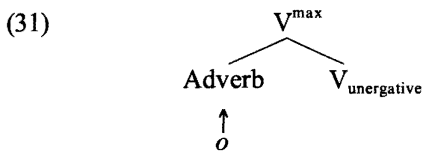
The basic assumption is that the particle o is attached to the immediate sister of a verb. If a verb is transitive and can assign an internal θ-role, o is attached to the internal argument, assuming that the merger of arguments takes place prior to that of non-arguments (cf. Lebeaux 1988). If a verb lacks an internal θ-role, like the unergatives, then a non-argument can be merged to the verb as its immediate sister, so an adverb can be marked by o. Since an o-marked phrase is usually an argument, the o-marked adverb in a clause containing an unergative verb shows properties of an argument.[19]

This proposal is free from the difficulties of the existing theories of adverb licensing reviewed in section 2. Since our claim is that adverbs can be licensed by being merged to a lexical category, there is no need to introduce a host of inadequately justified functional categories in the theory of grammar. As for the existence of 'accusative

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[17] As for semantic properties of accusative adverbs, as pointed out to me by Jim Huang, examples involving an accusative adverb typically bear a generic reading. Also, the difference between (i) and (ii) below can be attributed to the fact that an accusative adverb tends to be understood as a "patient" or "the object" of the action denoted by the verb, even if the verb does not have the internal theme/patient θ-role to assign.

(i)   John-ga   umi-de   oyoi-da.   'John swam in the sea.'
       -NOM   sea-at   swim-PAST

(ii)   John-ga   umi-o   oyoi-da.   'John swam (in) the sea [with the interpretation that
       -NOM   sea-ACC   swim-PAST   the sea was the object of John's swimming].'

Though the contrast is subtle, there is a difference in the meaning of the two examples. To put this in a different way, (i) can be interpreted as 'John did swimming in the sea', while the meaning of (ii) is 'John did sea-swimming'. I will leave these interesting semantic aspects of accusative adverbs for future investigation.

[18] I thank Kazue Takeda for discussion that helped clarify this issue.

[19] Kurafuji (1997) argues that the accusative *wh*-adjunct phrase *nani-o* 'what-ACC' is licensed by feature-checking. However, such a view is problematic, since, as convincingly argued in Fukui and Takano (1998), Japanese *V* does not have the property to trigger feature-checking.

adverbs' in Japanese, I suggest that this is due to the following factors. First, it has been claimed (Fukui 1986, among others) that Japanese lacks functional categories (for detailed discussion, see Fukui 1986 *et seqq.*). Following Fukui's view on the non-existence of functional categories, since the language does not have functional categories, it cannot use functional categories to license adverbs in the first place. However, in order to be appropriately interpreted at the relevant level, adverbs do need to be licensed in some way. For independent reasons, the language uses particles for case-marking, and the language makes use of this already available device for licensing adverbs as a 'last-resort', the licensing of adverbs being achieved simply by merging an adverb with a verb, just as in the case of ordinary arguments.[20]

5.0 Implications

Having made my principal claim, I would like to turn to some implications of the approach taken here; one relating to the case system in Japanese, and the other to a restrictive theory of parameters.

5.1 The case system in Japanese

In addition to the fact that our theory enables us to account for the occurrence of accusative adverbs in Japanese, it also lends support to one of the three major existing theories concerning the case system in Japanese. There are three main approaches to case in Japanese. One theory, exemplified by Kuroda (1965), among others, claims that a noun phrase is case-marked configurationally. For example, a noun phrase in the domain of V is attached by *o*; the first noun phrase in a clause is attached by *ga*, and so on. Another group (Saito 1982 and Fukui and Takano 1998, among others) has claimed that Japanese case is an instance of Inherent Case. Under this hypothesis, accusative case, for example, is assigned to a noun phrase with a specific θ-role, such as theme or patient. The third claim states that case-licensing in Japanese takes place in the same way as in English and European languages, via feature-checking by a functional head; such a view is extensively advocated in Watanabe (1993) and in Koizumi (1995), among others.

If we assume the absence of functional categories in Japanese, we can discard the third view immediately. The existence of *o*-marked adverbs clearly suggests the inadequacy of the second view, so given the data that we have looked at, the first view (i.e., à la Kuroda 1965) seems to be the most viable option.

5.2 Toward a restrictive theory of parameters

Secondly, given our theory, the difference in adverb licensing can be attributed to the existence or non-existence of functional categories, which may be subject to parametric variations; Japanese turns an adverb into an argument since it lacks relevant functional categories that can license one. In this sense, our proposal is in conformity with the Functional Parametrization Hypothesis (cf. Borer 1984, Fukui 1988, 1995), which restricts the number of possible parameters, thereby contributing to a restrictive theory of parameters.

6.0 Concluding Remarks

In this paper, basic properties of accusative adverbs in Japanese which occur on the periphery of existing theory were discussed. With a view to achieving a comprehensive theory of adverb licensing, it was suggested that an alternate means was necessary for adverb licensing in Japanese, which lacks certain functional categories existing in the lexicon of English. I have argued that adverbs in a language can be licensed by simply being merged to a verb, without having recourse to any functional head.

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[20] For a claim that the particle case system is the alternative to the case mechanism and thus a 'last-resort' strategy, see Fukui and Takano (1998).

To be more precise, this way of licensing is only necessary for adverbs that consist of a nominal phrase (see footnote 7 for a rough classification of adverbs in Japanese), since adverbs consisting of an adjective do not require case-checking/licensing. An account for adverbs involving an adjective requires investigation of the syntactic and semantic properties of modifiers, which is beyond the scope of this paper.

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