

JAPANESE SUBJECTS AND OBJECTS ARE EQUALLY OPEN TO SUBEXTRACTION. WHY?*

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1 Introduction

Subject-object asymmetry has played a particularly prominent role in studies of long-distance dependencies. In the great majority of languages, objects are found to be transparent to subextraction, while subjects are opaque to this operation. Subextraction is an operation under which a constituent is displaced out of the larger phrase in which it is embedded, leaving a gap at the base position (Corver to appear, and references therein):

(1) [_{YP} ... α_i ... [_{XP} ... X t_i ...]]

Within this context, Japanese has long been touted as an unusual instance of a language in which subjects and objects are equally open to subextraction (e.g. Ross 1967; Kuno 1973; Saito 1985, 1992; Kikuchi 1987; Nishigauchi 1990; Lasnik and Saito 1992; Watanabe 1992; Takahashi 1994; Ishii 1997; Richards 1997, 2000; Stepanov 2007). In this paper, we build on the Japanese data to tackle a question that has formed the core of numerous debates: assuming that subject transparency in some languages is real, what is the deciding factor in such transparency? We suggest that the question of transparency is correlated with the role of clausal subjects in

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satisfying the EPP: in languages with where the EPP must be satisfied by a D feature supplied by the subject, subjects will be opaque to subextraction, while in languages with a more flexible (“inclusive”) EPP, subject transparency is more likely.

Before presenting our discussion of transparency on the basis of the Japanese data, however, it is first necessary that we address certain recent scholarship that has cast new light on the subject of Japanese subextraction. Jurka (2010) and Jurka et al. (2011) challenge the long-standing assumption of Japanese subject transparency, using experimental data to argue that Japanese complex NPs (henceforth CNP) subjects are more opaque to subextraction than Japanese CNP objects. If these findings are proven out, they will have significant implications for our understanding of subextraction, suggesting that Japanese subjects are islands after all and that subject opacity to subextraction may in fact be universal.

In an earlier paper (Fukuda et al. to appear), the authors of the present paper presented novel empirical evidence that argued against the claims made in Jurka (2010) and Jurka et al. (2011). We described there the results of an acceptability judgment experiment, which suggested that Jurka and colleagues’ results are best explained by the effects of a well-known “long-before-short preference” in Japanese (Hawkins 1994, Yamashita and Chang 2001, Yamashita 2002), rather than an actual subject-object asymmetry. In the present paper, in order to lay the groundwork for our main proposal and provide a strong foundation for the reinstatement of Japanese as a language without a subject-object asymmetry, we first briefly review the results of that experimental work before turning to our theoretical discussion.

The rest of the paper is structured as follows. Section 2 presents a synopsis of the argumentation and experimentation discussed in Fukuda et al. to appear: we summarize both the experimental evidence presented by Jurka (2010) and Jurka et al. (2011) and the results of our own experiment, showing that once the relative weight and order of constituents in sentences with a complex NP (CNP) is properly controlled, the alleged subject-object asymmetry reported in Jurka (2010) and Jurka et al. (2011) no longer persists. Then, in Section 3, having reestablished the validity of Japanese subject transparency, we turn to an in-depth discussion of the implication of these findings for the analysis of subject-object asymmetries in subextraction phenomena cross-linguistically, suggesting that transparency to subextraction is associated with the presence of an “inclusive” EPP.

2 Japanese Subjects are not Islands

2.1 Jurka and Colleagues on Japanese Subject Transparency to Subextraction

The work of Jurka (2010) and Jurka et al. (2011) drew into question decades of research suggesting that Japanese lacks a subject-object asymmetry in subextraction. Their studies responded in particular to the work of Lasnik and Saito (1992), who argued that there is “no clear contrast” between Japanese subextraction from CNP subjects and CNP objects, based on evidence from sentences like (2) and (3):¹

¹ Abbreviations: ABL = ablative, ABS = absolutive, ACC = accusative, ASP = aspect, CAUS = causative, CNP = complex noun phrase, COMP = complementizer, COP = copula, DAT = dative, EVID = evidential, GEN = genitive, , LOC = locative, NOM = nominative, NPST = non-past, PASS = passive, PL = plural, PST = past, Q = question particle, SUB = subjunctive, TOP = topic, TRAN = transitive.

- (2) ??*Dono hon-o_i Mary-ga [[John-ga t_i katta koto]-ga*
 which book-ACC_i M-NOM [[J-NOM t_i bought fact]-NOM
mondai da to] omotteru no?
 problem be COMP] think Q
 Lit. ‘Which book is it that Mary thinks that the fact that John bought it is a problem?’
- (3) ??*Dono hon-o_i Mary-ga [John-ga t_i katta koto]-o*
 which book-ACC_i M-NOM [J-NOM t_i bought fact]-ACC
mondai-ni shiteru no?
 problem-to making Q
 Lit. ‘Which book is it that Mary is calling the fact that John bought it into question?’
 (Lasnik and Saito 1992: 124-125; (93), (92))

Arguing that there are non-trivial structural differences between (2) and (3) (involving, for instance, degree of embedding), Jurka and colleagues conducted their own acceptability judgment experiment to investigate subextraction in Japanese, using a 2 x 3 experiment design with argument (subject vs. object) and subextraction (no subextraction, scrambling or clefting). Although this experiment found no significant difference between the two argument conditions under scrambling (4a and b) — thus confirming the intuition reported by Lasnik and Saito — the authors did identify a significant difference between the two argument conditions without subextraction: the mean of the CNP subject sentences (4c) was significantly higher than that of the CNP object sentences (4d).

- (4) a. CNP SUBJECT + SUBEXTRACTION
 $\boxed{\text{NP}_i\text{-ACC}}$ NP-TOP [[_{CNP} NP-NOM $\boxed{t_i}$ V_{TRAN}]-NOM V_{COP}] V_{MATRIX}
- b. CNP OBJECT + SUBEXTRACTION
 $\boxed{\text{NP}_i\text{-ACC}}$ NP-TOP [NP_k-NOM [_{CNP} PRO_k $\boxed{t_i}$ V_{TRAN}]-ACC V_{TRAN}] V_{MATRIX}
- c. CNP SUBJECT + NO SUBEXTRACTION (meaning = 4a)
 NP-TOP [[_{CNP} NP-NOM NP-ACC V_{TRAN}]-NOM V_{COP}] V_{MATRIX}
- d. CNP OBJECT + NO SUBEXTRACTION (meaning = 4b)
 NP-TOP [NP_k-NOM [_{CNP} PRO_k NP-ACC V_{TRAN}]-ACC V_{TRAN}] V_{MATRIX}

Based on this evidence, Jurka and colleagues concluded that subextraction disproportionately affects subjects in Japanese, yielding the striking end result that subjects are islands in Japanese.

2.2 Fukuda et al. (to appear): Response to Jurka (2010) and Jurka et al. (2011)

In Fukuda et al. (to appear), we presented data from recent experimental work that draws into question the validity of the results reported by Jurka and colleagues. We argued that the judgments provided by Jurka et al.’s participants could have been influenced by a well-known preference among Japanese speakers to place longer/heavier constituents before shorter/lighter constituents (Hawkins 1994, Yamashita and Chang 2001, Yamashita 2002). The subject-condition example in (4c), for instance, is consistent with the long-before-short preference within the embedded clause, while the object-condition example (4b) violates this preference. Under the

subextraction conditions in (4a) and (4b), on the other hand, this difference in the weight of the relevant constituents is effectively neutralized by scrambling out of CNPs that these examples involve. For a more in-depth critique of Jurka and colleagues' work, see Fukuda et al. (to appear); in short, our prediction was that the significant difference between the CNP subject and object sentences in the no-subextraction condition observed by Jurka et al. (2011) would disappear if the relative weight and order of the constituents were properly controlled for.

To test this prediction, Fukuda et al. (to appear) conducted an acceptability-judgment experiment that examined the effect of the long-before-short preference on the alleged difference between subextraction out of CNP subjects and objects reported in Jurka (2010) and Jurka et al. (2011). In order to make a precise comparison between sentences with subextraction out of CNP-subjects and CNP-objects, we constructed sentence pairs using psychological verbs that select a subject experiencer in inchoative contexts and an object experiencer in causative contexts (Akatsuka 1976; Pesetsky 1995; Iwata 1995; Matsumura 1996). For instance, the psychological verb *okor-u* 'become angry' selects for a nominative-marked experiencer and a dative- or accusative-marked CNP denoting stimulus, while its object-experiencer counterpart, *okor-ase-ru* 'anger', selects for a nominative-marked CNP and an accusative-marked experiencer.

To control for the long-before-short preference, all the experimental sentences were constructed with the CNP as close to the initial position as possible (including the fronting of CNP objects). Finally, to make it clear to our participants that subextraction out of a CNP was taking place, we began all our test sentences with the same type of PP adjunct ("according to X").² Using this structure ensured that the subextracted constituent could move to a clause-initial position only across this PP, thus making it clear that subextraction was taking place across a single clausal boundary. For further discussion of our experimental stimuli, see Fukuda et al. (to appear). The resulting four conditions are schematically represented below.

(5) a. CNP SUBJECT + LONG-BEFORE-SHORT + NO SUBEXTRACTION:

Shuzai-ni itta kisha-ni yoruto
cover-LOC went reporter-DAT according_to
[*ooyasan-ga jiken-no atta apaarto-no doa-o subete torikaeta*
[landlord-NOM incident-GEN occurred apartment-GEN door-ACC all changed
koto-ga] [*juumin-tachi-o*] *anshins-ase-ta yooda.*
fact-NOM] [resident-PL-ACC] relieve-CAUS-PST seem
'According to the investigative reporter, the fact that the landlord changed all the doors of the apartment where the incident had occurred seemed to have relieved the residents.'

b. CNP SUBJECT + LONG-BEFORE-SHORT + SUBEXTRACTION (meaning = (5a))

<i>Jiken-no</i>	<i>atta</i>	<i>apaarto-no</i>	<i>doa-o_i</i>	<i>shuzai-ni</i>	<i>itta</i>	<i>kisha-ni</i>
incident-GEN	occurred	apartment-GEN	door-ACC _i	cover-LOC	went	reporter-DAT

yoruto [*ooyasan-ga* *t_i* *subete torikaeta koto-ga*]
according_to [landlord-NOM *t_i* all changed fact-NOM]
[*juumin-tachi-o*] *anshins-ase-ta yooda*
[resident-PL-ACC] relieve-CAUS-PST seem
'According to the investigative reporter, the fact that the landlord changed all the doors of the apartment where the incident had occurred seemed to have relieved the residents.'

² The translation of this adjunct may be somewhat misleading, suggesting that the relevant PP is a parenthetical; however, these constituents in our stimuli are bona fide PPs and can be used as a sign post for short scrambling.

c. CNP OBJECT + LONG-BEFORE-SHORT + NO SUBEXTRACTION

Shuzai-ni itta kisha-ni yoruto
 cover-LOC went reporter-DAT according_to
[ooyasan-ga jiken-no atta apaarto-no doa-o subete torikaeta
 [landlord-NOM incident-GEN occurred apartment-GEN door-ACC all changed
koto-ni] [juumin-tati-ga] anshinshi-ta yooda
 fact-DAT] [resident-PL-NOM] relieve-PST seem
 ‘According to the investigative reporter, the residents seemed relieved by the fact that the landlord changed all the doors of the apartment where the incident had occurred.’

d. CNP OBJECT + LONG-BEFORE-SHORT + SUBEXTRACTION (meaning = (5c))

*Jiken-no atta apaarto-no doa-o*_i *shuzai-ni itta kisha-ni*
 incident-GEN occurred apartment-GEN door-ACC_i cover-LOC went reporter-DAT
yoruto [ooyasan-ga t_i subete torikaeta koto-ni]
 according_to [landlord-NOM t_i all changed fact-DAT]
[juumin-tati-ga] anshinshi-ta yooda
 [resident-PL-NOM] relieve-PST seem
 ‘According to the investigative reporter, the residents seemed relieved by the fact that the landlord changed all the doors of the apartment where the incident had occurred.’

We predicted that, if Japanese transitive subjects are islands, the acceptability of the object sentences under the subextraction condition should be significantly higher than that of the subject sentences under the same condition. On the other hand, if Japanese subjects are not islands, then the mean acceptability judgments of the subject and object sentences should not be significantly different under either the no-subextraction or the subextraction conditions.

Table 1: Predictions for subextraction out of CNP-subjects and CNP-objects

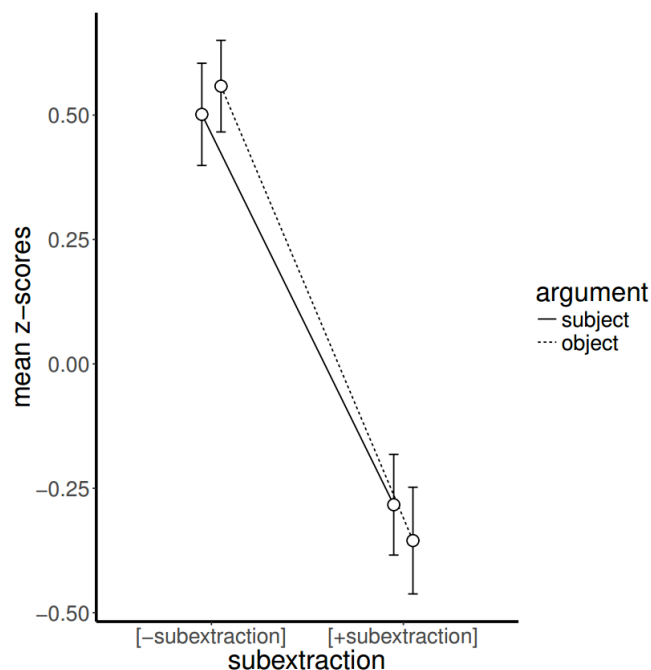
	Japanese subjects are islands	Japanese subjects are not islands
[-subextraction]	(5a) \approx (5c)	(5a) \approx (5c)
[+subextraction]	(5b) > (5d)	(5b) \approx (5d)

Our experiment used an acceptability judgment task with a 7-point scale, with 7 being “completely natural” and 1 being “completely unnatural”. For details of the methods, materials, and procedure used, see Fukuda et al. (to appear). The results were analyzed using linear mixed-effects models, with ARGUMENT and SUBEXTRACTION encoded as fixed effects and PARTICIPANTS and ITEMS as random effects. Two planned pairwise comparisons were also conducted to isolate the effect of SUBEXTRACTION within each of the argument types and the effect of ARGUMENT within the two subextraction conditions. Table 2 below summarizes the mean z-scores and standard deviations for the four sentence types from our experiment.

Table 2: Mean z-scores and standard deviations for the four sentence types

	CNP-subjects	CNP-objects
	Mean(SD)	Mean(SD)
[-subextraction]	0.56(0.66)	0.50(0.74)
[+subextraction]	-0.36(0.77)	-0.28(0.73)

Figure 1 gives an interaction plot for ARGUMENT and SUBEXTRACTION:

**Figure 1: Interaction plot, ARGUMENT and SUBEXTRACTION**

The results of our overall analysis show that SUBEXTRACTION was a significant factor in predicting the acceptability of the experimental sentences ($F(1, 60.18) = 154.05, p < .01$), while ARGUMENT was not ($F(1, 60.18) = .01, p < .92$). The interaction between the two factors was not significant ($F(1, 60.18) = 0.81, p = .37$). Pairwise comparisons show that SUBEXTRACTION was significant within both the subject condition ($F(1, 29.8) = 107.28, p < .01$) and the object condition ($F(1, 30.24) = 56.69, p < .01$), while ARGUMENT was not a significant factor in either the NO SUBEXTRACTION condition ($F(1, 28.96) = 0.27, p = .61$) or the SUBEXTRACTION condition ($F(1, 28.72) = 0.62, p = .44$).

Based on these results, Fukuda et al. (to appear) conclude that, once relative weight and order of constituents are properly controlled for, no significant difference remains between subextraction out of CNP-subjects and CNP-objects in Japanese. These results provide strong evidence that the findings in Jurka (2010) and Jurka et al. (2011) are due to the effect of the long-

before-short preference independently attested in Japanese. Thus, we can conclude that, in fact, subjects and objects are equally accessible to subextraction in Japanese.

3 Subject Transparency and Its Motivation

3.1 Japanese Subjects in the Context of Cross-Linguistic Variation

Although Fukuda et al. (to appear) only considered overt subextraction, in more recent work we extend this result to covert subextraction as well (Fukuda et al., submitted). Based on these results, we can definitively conclude that Japanese subjects and object are indeed equally transparent to subextraction, and that the alleged subject-island effect reported in Jurka (2010) and Jurka et al. (2011) can be explained by the independently motivated long-before-short preference in Japanese. Having (re)-established the subject-object symmetry of Japanese subextraction, we now turn to a discussion of the potential reasons behind this symmetry: what allows Japanese, but not other languages, to host transparent subjects?

A number of approaches to variation in subject transparency rely on the concept of *freezing*, which holds that a constituent, once moved, is no longer transparent to extraction (e.g., Wexler and Culicover 1981, Takahashi 1994, Stepanov 2007, Rizzi 2010). A subset of such accounts, following Chomsky (2001), restrict freezing to movement for case and/or agreement, on the assumption that criterial properties such as [focus] and [topic] do not influence minimality considerations (cf. Gallego and Uriagereka 2008). On this latter, narrower, approach to freezing, the transparency of Japanese subjects follows from their non-participation in phi-feature agreement (Kuroda 1988; Fukui 1986, 1995, 2006).

An alternative approach relates subject opacity/transparency to the EPP on T. Quite a number of variations on this approach have been proposed: the EPP may be considered universal (Jurka 2010)³ or not (McCloskey 1996); the TP layer may be considered universal (as is often the case), or not (Haider 2013); and, assuming the universality of the EPP, it may be satisfied by a number of means. In the ensuing discussion, we will argue that the many ways of satisfying the EPP on T (Alexiadou and Anagnostopoulou 1998, Landau 2007; Richards 2016) are the main source of cross-linguistic variation in subject transparency.

The Japanese facts can be accounted for equally well under the assumption that subject transparency arises through lack of phi-feature agreement or the conjecture that Japanese does not have the “traditional EPP” (to borrow McFadden and Sundaesan’s (2015) term) seen in languages like English, where the EPP has to be satisfied by a DP or expletive in the subject position. Among scholars who take an EPP-based approach to explaining Japanese subject transparency, some argue that the EPP in Japanese is not limited to subjects, and that any constituent may move to the highest specifier position (Miyagawa 2001; cf. Saito 2009, 2011; Takano 2011), while others claim that Japanese has no EPP whatsoever. Although the majority of researchers assume that the EPP is present (cf. Kitagawa 1986, Kuroda 1988, Fukui 1986, 1995, 2006), this position is by no means universal. For the purposes of the discussion below, it actually does not matter whether Japanese has an EPP requirement on T or not; what matters is

³ We would like to underscore that in Jurka’s model, the subject condition (which cannot be reduced to freezing effects) is universal. That’s why the results obtained by Jurka and colleagues for Japanese were of such importance.

that its EPP, if it does exist, is not as restrictive as the classic EPP. We will refer to this (putative) Japanese EPP as “inclusive EPP.”

Although the difference between inclusive EPP (any constituent can satisfy the requirement) and traditional EPP (only an agreeing subject can satisfy the requirement) goes some way to explaining the Japanese facts, it does not account for the cross-linguistic distribution of subject islands. For instance, while Russian displays an “inclusive” EPP just like Japanese (Bailyn 2004; 2012: 317-319),⁴ the subextraction facts in the two languages are different: only unaccusative subjects are transparent to subextraction in Russian (Polinsky et al. 2013). Likewise, German is variously analyzed as lacking EPP (Wurmbrand 2006) or having the “inclusive EPP” (Richards 2016: 141), yet subextraction from subjects in German is even more restrictive than in Russian, as unaccusative subjects lose their transparency when fronted (cf. Jurka 2011).

In the remainder of this paper, we will present a possible account for cross-linguistic variation in subject transparency based on the behavior of the EPP. Before we proceed, however, it’s important that we pause and address the nature of three concepts that will be crucial to this analysis: the EPP itself, the operation Agree, and morphological agreement. Clarifying these concepts is not just a terminological issue, but is necessary so that we can be maximally clear as to what we are trying to explain.

3.2 The EPP, Agree and Morphological Agreement

The EPP is probably the most difficult concept of the three that need to be defined here. Its original conception, driven by the Projection Principle, held simply that the need for a subject must be satisfied by the presence of overt material in the finite subject position. More recently, a more inclusive and wide-open understanding of the EPP has been put forward, according to which the EPP is a formal abstract feature needed to guarantee that a head projects a specifier (Chomsky 2001, McFadden and Sundaesan 2015).

We will abide in our discussion here by the more classic understanding of the EPP, according to which the need for a subject must be met. Following a number of researchers, we consider the EPP a selectional feature (Landau 2007; McFadden and Sundaesan 2015) in the sense that the EPP on finite predicates is always parasitic on some other feature.

The EPP on a finite head (T or C) is needed to create a syntactically saturated predication. Such saturation can be achieved directly (by moving a saturated constituent to the subject position) or indirectly, via predication (Rothstein 2001). The D feature is the feature that provides syntactic saturation, since it bears a referential property; the EPP on T or C is parasitic on this D feature. Cross-linguistic differences arise concerning which clausal constituent provides the D feature: the EPP can be satisfied directly, by a non-pleonastic subject (either moved or base-generated); by an expletive (as in English); or indirectly, by a constituent that bears the necessary D feature on it, as, for example, in verb raising (Alexiadou and Anagnostopoulou 1998). In sum, the EPP is a selectional requirement, and the EPP on finite heads has a direct bearing on predication—without being a predication requirement itself.

As a selectional requirement, the EPP is different from feature valuation and other processes in narrow syntax, although these processes are often conflated. Separating the EPP from

⁴ There are two main proposals concerning the EPP on T in Russian. According to Bailyn (2004, 2012), a designated A-position in Spec,T can host a variety of arguments. According to Slioussar (2011) and Krejci et al. (2016), only agreed-with arguments appear in that position, and all other arguments are in a different, higher, A-bar position.

agreement relations is important, since, “to the extent that we acknowledge a set of real differences between selectional relations and agreement relations, we are more justified in keeping them apart” (Landau 2007: 519). One of the crucial characteristics of the EPP is its status as a necessary but not sufficient condition for movement (Adger 2003; Landau 2007).

Agree is a relation between a probe and a goal under which a syntactic dependency is constructed. The construction of such a dependency may or may not involve syntactic movement, and it may or may not involve phi-feature agreement (cf. Pesetsky and Torrego’s (2007) system of Agree where phi-features do not play any role).

To be more specific, the following differences between the EPP (as a selectional requirement) and Agree (as a syntactic process) are critical (based on Landau 2007):⁵

- (6) a. Locality: Selection is strictly local, satisfied only under sisterhood; Agree is moderately local, constrained by c-command and intervention
- b. Valuation: In selection, no valuation takes place (both members are originally valued); in Agree, one member values the features of the other member, which are originally unvalued
- c. Merge: selection may pair a node in the syntactic tree and an external element; Agree can only apply between connected nodes.

Finally, **(morphological) agreement** is the sharing of specific phi-features (gender, number, person) between a constituent that bears these features in a semantically meaningful way (the *goal*) and a constituent that requires its features to be valued by an external entity (the *probe*). Agreement can be viewed as a very restricted type of relationship under Agree; it is a proper subset of Agree, limited to particular features (number, gender, person) and constrained by directionality. It has been rather broadly accepted that the goal under agreement must be located lower, structurally speaking, than the probe (cf. Polinsky and Preminger 2016).

Now that we have disentangled the main notions on which our discussion will rely, let’s see what these notions can contribute to our understanding of the variability of subject transparency across languages.

3.3 Cross-Linguistic Variation in Subject Transparency

Let’s assume that the EPP on T/C is a selectional feature anchored to D. The first obvious question is: where does this feature come from? There are several possibilities: a subject that appears as the sister of T/C (“the traditional EPP”, as in English); a pleonastic subject, or an indirect predication-bearing element.

With respect to Japanese, there seems to be consensus that the EPP on T/C is either absent (Kuroda 1988, Fukui 1986) or is provided by a modal element (via indirect predication), cf., Ueda (2008, 2009), Miyagawa (2010), Saito (2011). As noted above, for our purposes, it does not matter whether or not Japanese has the EPP; what matters is that its subjects are not associated with the feature D to which this EPP is anchored. We will argue in this section that this disassociation between D and Japanese subjects is the source of those subjects’ transparency:

⁵ Landau (2007) actually refers to Agree as “agreement,” but his discussion makes it clear that he means Agree. Since the distinction between Agree and agreement is important for our discussion, we take special care to separate these two terms.

cross-linguistically, a subject is an island only when it provides the D feature that anchors the EPP.

If this initial claim holds, we can also predict that, all factors being equal, languages that rely on non-nominal expressions to anchor the D feature and satisfy EPP should have transparent subjects. The association between the EPP and verb (or verb-phrase) movement has been explored particularly extensively with respect to verb-initial (V1) languages. In an early instantiation of this idea, Alexiadou and Anagnostopoulou (1998) proposed that EPP-[D] can be satisfied by the verb in languages where the D-features of sentential arguments are reflected in agreement on the verb. If this is on the right track, we should expect subjects in V1 languages to be transparent. Some V1 languages corroborate this prediction; in particular, subjects are transparent in Halkomelem (Salish; Gerdts 1988), in Tzotzil (Mayan; Aissen 1996), Chol (Mayan; Coon 2009), and in Chamorro (Austronesian; Chung 1991, 1998). In quite a few V1 languages, however, all arguments (regardless of their structural position) are opaque; this pattern may arise for independent reasons.

The anchoring feature D itself may have more specific content; a number of researchers have proposed that it can either be reduced to the feature [person] (Longobardi 1994, 2005, 2008) or at least includes this feature (Benmamoun 2000; Roberts 2010; Miyagawa 2010). The connection between finiteness, which is linked to [tense], and [person] is well known and has solid semantic underpinnings. Tenses and participant denotations (say, pronouns) share indexical, anaphoric, and bound variable uses, and neither semantic type can denote or name its referents (Partee 1973). Just like [person] turns property denotations to individual denotations (i.e. denotations that can be referred to by pronouns) (Longobardi 2005), [tense] turns predications into propositions; in each case, the end result is a functionally complete entity (Harder 1996; Rothstein 2001).

Assuming such a connection, we can expect that, if morphological agreement in person serves to satisfy the EPP on T/C, the noun phrase bearing the [person] feature should be frozen to subextraction. This is a refinement of the freezing principle according to which agreement makes a given expression ϕ -complete (Boeckx 2008; Lohndal 2011). Crucially for our argument, there is no one-to-one correlation between agreement in person and opacity. For example, in English, the D feature on T can be supplied by an expletive (yielding an existential reading), in which case, agreement with the associate does not render that nominal opaque. This pattern gives rise to a contrast between regular English subjects, which are islands (7)a, and associates in existential constructions, which are transparent (7)b (Lasnik and Park 2003):

- (7) a. *What_i were [protests against t_i] at the rally?
 b. What_i were there [protests against t_i] at the rally?

Since the D feature is explicitly associated with the [person] feature, but not with the other ϕ -features standardly checked during morphological agreement, we predict that agreement in gender and number alone should not render a subject an island. This prediction is supported by data from languages where subject-verb agreement does not include [person]. Here, we return to Japanese, where some researchers have proposed that honorific marking on the verb, as in (8)a below, is a form of agreement (Suzuki 1989; Toribio 1990; Niinuma 2003; Boeckx and Niinuma 2004; but see Bobaljik and Yatsuhiko 2006 for arguments against this analysis). However, the presence of subject honorification does not render that subject an island.

(8) a. SUBEXTRACTION OUT OF A CNP-SUBJECT WITH NO SUBJECT HONORIFICATION

?[Okinawa-no ikema too-de hanas-are-teiru Ikema go-o]
 Okinawa-GEN ikema_island-LOC speak-PASS-ASP Ikema_language-ACC_i
 daigaku_shinbun niyoruto [CNP t_i kenkyuu shi-teiru gakusei]-ga_k
 campus_newspaper according_to [CNP t_i research do-ASP student]-NOM_k
 konotabi shoo-o jushoo shi-ta soda
 this_time award-ACC receive do-PST EVID

‘According to the campus newspaper, the student who is researching Ikema, the language spoken on the Ikema Island in Okinawa, received an award.’

b. SUBEXTRACTION OUT OF A CNP-SUBJECT WITH SUBJECT HONORIFICATION

?[Okinawa-no ikema too-de hanas-are-teiru Ikema go-o]
 Okinawa-GEN ikema_island-LOC speak-PASS-ASP Ikema_language-ACC_i
 daigaku_shinbun niyoruto
 campus_newspaper according_to
 [CNP t_i kenkyuu s-are-teiru sensei]-ga_k
 [CNP t_i research do-HON-ASP professor]-NOM_k
 konotabi shoo-o jushoo s-are-ta soda
 this_time award-ACC receive do-HON-PST EVID

‘According to the campus newspaper, the professor who is researching Ikema, the language spoken on the Ikema Island in Okinawa, received an award.’

Thus, even if honorific marking is indeed evidence of agreement, it does not contribute to the opacity of the subject with the relevant feature.

Let us next consider evidence from the Nakh-Dagestanian language family. Most members of this family have agreement in gender and number only, and their subjects are transparent. For example, in Tsez, a morphologically ergative language, the verb agrees in gender and number with the absolutive argument.⁶ In (9)a, the verb agrees with the absolutive subject, which can appear in different position on the surface (we do not show the data on objects, but they are very similar).

- (9) a. sis k’et’u γ^{ws}aya-λ-äy b-ok’el-si. Tsez
 one cat.ABS.III dog-SUB-ABL III-set.out-PST.EVID
 b. γ^{ws}aya-λ-äy b-ok’el-si sis k’et’u.
 dog-SUB-ABL III-set.out-PST.EVID one cat.ABS.III
 ‘A certain cat escaped from the dog.’

Regardless of the surface position of the subject, that subject can host subextraction:

- (10) a. k’et’u_i γ^{ws}aya-λ-äy b-ok’el-si [sis t_i]. Tsez
 cat.ABS.III dog-SUB-ABL III-set.out-PST.EVID one
 b. sis_i γ^{ws}aya-λ-äy [t_i k’et’u] b-ok’el-si.
 one dog-SUB-ABL cat.ABS.III III-set.out-PST.EVID
 ‘A certain cat escaped from the dog.’

⁶ There are four genders in the singular and two in the plural (indicated as (n)IPL in the glosses below). The verbal exponent of agreement is always a prefix, although agreement is marked only on a subset of vowel-initial verbs (Polinsky and Potsdam 2001; Polinsky 2003).

At least two diagnostics show that Tsez NP-splits arise through subextraction: case connectivity and sensitivity to negative islands (Polinsky to appear).

Hindi is another language where unmarked subjects (and objects) determine agreement in number and gender only, and again, these agreed-with subjects are transparent to subextraction (Alok 2016).⁷

As a first pass, it may seem that the observed cross-linguistic variation in subject transparency correlates with the DP/NP distinction: perhaps transparent-subject languages are a subset of NP-type languages (Corver 1990, 1992; Bošković 2005, 2008, 2009). If this hypothesis were to hold, we would find ourselves back to the familiar correlation between the absence of determiners and the possibility of left-branch extraction. Indeed, Tsez, Hindi, and the two Mayan transparent-subject languages (Chol and Tzotzil; see above) all lack determiners and thus appear to be instances of the NP-type. On the other hand, Halkomelem, another transparent-subject language, possesses clear determiners, and even for Japanese, Watanabe (2006) makes a strong argument for the existence of DP structure, further weakening the putative correlation between subject transparency and the NP-type (but see Saito et al. 2008 for arguments against Watanabe's extended nominal projections). More generally, the DP/NP parametric division, as proposed by Bošković, is associated with a cluster of properties of which several are empirically problematic; for example, polysynthetic languages are predicted to be of the NP-type, but Adyghe has clear determiners (Smeets 1984; Testelets 2009), while only DP-languages are predicted to have clitic doubling, yet such doubling is found in determinerless Slovenian (Marušič and Žaucer 2010).

The problematic connection between subject transparency and the NP language type aside, in this section, we have argued that cross-linguistic variation with respect to the satisfaction of EPP on T/C is related to the way the D feature (which anchors the EPP) is supplied. The selection of a subject — whether via movement (as in English) or base-generation (as in Arabic preverbal subjects; cf. Soltan 2007, 2011) — is just one of many ways of providing this feature. Subjects that provide a D feature for the anchoring of the EPP are islands; conversely, subjects that do not provide such a D feature (i.e. subjects in “inclusive EPP” languages where the D feature may be provided by other sources), are *potentially* transparent. Thus, on our approach, the opacity of subjects to subextraction is just a side effect of their being the source of the D feature. Morphological agreement in person is a good surface indication that the subject may have provided the D feature on T/C, but there is no one-to-one correlation between agreement and opacity. There may, furthermore, be other factors inducing subject opacity, such as movement for a criterial feature.

Finally, note that the status of subject positions cross-linguistically can vary. Nevertheless, based on the discussion in this paper, we expect that, all factors being equal, A-positions should be transparent to subextraction while A-bar positions should be opaque.

⁷ With respect to non-agreeing subjects in Hindi, it has been claimed that they satisfy the EPP on T but that their movement to T is EPP-driven, not Agree-driven (Anand and Nevins 2006); evidence for this claim comes from the lack of reconstruction for scope, along the lines of the arguments developed by Miyagawa (2001) for Japanese. Hindi ergative expressions are islands (Alok 2016), but their island status may be independently motivated by their status as PPs, not DPs, with the ergative exponent *ne* being a postposition (see Mahajan 1997 for arguments supporting this analysis).

4 Conclusions

The first sections of this paper reviewed an acceptability judgment experiment, presented in detail in Fukuda et al. (to appear), which demonstrated (contra Jurka 2010; Jurka et al 2011) that Japanese subjects are indeed transparent to subextraction. The validity of Japanese subject transparency thus upheld, we then presented some considerations as to why languages differ with respect to subject transparency. With respect to Japanese, our conclusions echo those of a number of other researchers: Japanese subjects do not satisfy the EPP on T/C. However, our proposal departs from earlier work in viewing the connection between the EPP and subjects as less direct. We treat the EPP as a selectional feature (cf. Landau 2007; McFadden and Sundaresan 2015), parasitic on the feature D. On this approach, parametric variation in subject transparency follows from whether or not the feature D is contributed by the subject or through some other mechanism. To capture this contrast, we expanded on a distinction between “traditional” EPP and “inclusive” EPP. If a clausal subject is the source of the feature D to which the EPP is anchored, that subject is an island; otherwise, if that subject remains in an A-position, we expect it to be transparent to subextraction.

References

- Adger, D. 2003. *Core syntax*. Oxford: Oxford University Press.
- Aissen, J. 1996. Pied-piping, abstract agreement, and functional projections in Tzotzil. *Natural Language & Linguistic Theory* 14: 447-491.
- Akatsuka, N. 1976. Reflexivization: a transformational approach. In M. Shibatani (ed.), *Syntax and Semantics 6: Japanese Generative Grammar*. 51-116, New York: Academic Press
- Alexiadou, A. and E. Anagnostopoulou. 1998. Parametrizing AGR: word Order, v-movement and EPP-checking. *Natural Language & Linguistic Theory* 16: 491-539.
- Alok, D. 2016. The syntax of a split: The case of Hindi and Magahi. Paper presented at RULingXI, Rutgers University, April 2016.
- Anand, P. and A. Nevins. 2006. The locus of ergative case assignment: Evidence from scope. In A. Johns, D. Massam, and J. Ndayiragije (eds.) *Ergativity: Emerging issues*, 3-26. Dordrecht: Springer.
- Bailyn, J. 2004. Generalized Inversion. *Natural Language & Linguistic Theory* 22: 1-49.
- Bailyn, J. 2012. *The syntax of Russian*. Cambridge: Cambridge University Press.
- Benmamoun, E. 2000. The feature structure of functional categories: A comparative study of Arabic dialects. Oxford: Oxford University Press.
- Bobaljik, J. D. & K. Yatsushiro. 2006. Problems with honorification-as-agreement in Japanese: A reply to Boeckx & Niinuma. *Natural Language & Linguistic Theory* 24: 355-384.
- Boeckx, C. 2008. *Understanding minimalist syntax: Lessons from locality in long-distance dependencies*. Oxford: Blackwell.
- Boeckx, C. & F. Niinuma. 2004. Conditions on agreement in Japanese. *Natural Language & Linguistic Theory* 22: 453-480.
- Bošković, Ž. 2005. On the locality of left branch extraction and the structure of NP. *Studia linguistica* 59: 1-45.
- Bošković, Ž. 2008. What will you have, DP or NP? *Proceedings of the North East Linguistic Society* 37, 101-114, Amherst: University of Massachusetts.

- Bošković, Ž. 2009. More on the No-DP analysis of article-less languages. *Studia Linguistica* 63: 187–203.
- Chomsky, N. 2001. Derivation by phase. In M. Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52, Cambridge, MA: MIT Press.
- Chung, S. 1991. Sentential subjects and proper binding in Chamorro. In C. Georgopoulos and R. Ishihara (eds.), *Interdisciplinary approaches to language: Essays in honor of S.-Y. Kuroda*, 75–99, Dordrecht: Kluwer.
- Chung, S. 1998. *The design of agreement*. Chicago: University of Chicago Press.
- Coon, J. 2009. Interrogative possessors and the problem with pied-piping in Chol. *Linguistic Inquiry* 40, 165–175.
- Corver, N. 1990. The syntax of left branch extractions. Ph.D. Dissertation, Tilburg university.
- Corver, N. 1992. On deriving certain left branch extraction asymmetries: A case study in parametric syntax. *Proceedings of the Northeast Linguistic Society* 22, 67–84, GLSA: Amherst.
- Corver, N. to appear. Subextraction. *Blackwell companion to syntax*, 2 ed.
- Fukuda, S., Nakao, C., Omaki, A., and Polinsky, M. to appear. Revisiting subject-object asymmetry: Subextraction in Japanese. In R. Masuda & T. Levin (eds.), *The Proceedings of the 10th Workshop on Altaic Formal Linguistics (WAFL 10)*, . Cambridge, MA: MITWPL
- Fukuda, S., Nakao, C., Omaki, A., and Polinsky, M. submitted. Subject-object symmetry in Japanese.
- Fukui, N. 1986. A theory of category projection and its applications. Ph.D. dissertation, MIT.
- Fukui, N. 1995. *Theory of Projection in Syntax*. Stanford, CA & Tokyo: CLSI & Kuroshio.
- Fukui, N. 2006. *Theoretical comparative syntax: Studies in macroparameters*. New York: Routledge.
- Gallego, A. and Uriagereka, J. 2008. Freezing effects. *XVIII Colloquium on Generative Grammar*, 17–19. Lisbon: Universidade de Lisboa.
- Gerdts, D. 1988. *Object and absolutive in Halkomelem Salish*. New York: Garland.
- Haider, H. 2013. *Symmetry breaking in syntax*. Cambridge-New York: Cambridge University Press.
- Harder, P. 1996. *Functional semantics: A theory of meaning, structure, and tense in English*. Berlin: Mouton de Gruyter.
- Hawkins, J.A. 1994. *A performance theory of order and constituency*. Cambridge: Cambridge University Press.
- Ishii, T. 1997. An asymmetry in the composition of phrase structure and its consequences. Ph.D. dissertation, University of California, Irvine.
- Iwata, S. 1995. The distinctive character of psych-verbs as causatives. *Linguistic Analysis* 1–2, 95–120.
- Jurka, J. 2010. The importance of being a complement: the CED effects revisited. Ph.D. dissertation, University of Maryland.
- Jurka, J., C. Nakao, and A. Omaki. 2011. It's not the end of the CED as we know it: Revisiting German and Japanese subject islands. *Proceedings of the West Coast Conference on Formal Linguistics* 28, 124–132. Somerville, Mass.: Cascadilla Press.
- Kikuchi, A. 1987. Comparative deletion in Japanese. Ms., Yamagata University.
- Kitagawa, Y. 1986. Subjects in Japanese and English. Ph.D. dissertation, University of Massachusetts.
- Krejci, B., V. Gribanova, and B. Harizanov. 2016. AGREE-dependent A-movement and low

- copy pronunciation in Russian. Paper presented at *Formal Approaches to Slavic Linguistics (FASL)* 25, Cornell University, 14 May 2016.
- Kuno, S. 1973. *The structure of the Japanese language*. Cambridge, Mass.: MIT Press.
- Kuroda, S.-Y. 1988. Whether we agree or not: a comparative syntax of English and Japanese. *Linguisticae Investigationes* 12, 1-47.
- Landau, I. 2007. EPP extensions. *Linguistic Inquiry* 38: 485–523
- Lasnik, H. and M.-Y. Park. 2003. The EPP and the subject condition under sluicing. *Linguistic Inquiry* 34: 649-660.
- Lasnik, H., and M. Saito. 1992. *Move α : Conditions on its application and output*. Cambridge, Mass.: MIT Press.
- Lohndal, T. 2011. Freezing effects and objects. *Journal of Linguistics* 47, 163-199.
- Longobardi, G. 1994. Reference and proper names. *Linguistic Inquiry* 25, 609-665.
- Longobardi, G. 2005. Toward a unified grammar of reference. *Zeitschrift für Sprachwissenschaft* 24, 5-44.
- Longobardi, G. 2008. Reference to individuals, person, and the variety of mapping parameters. In H. H. Müller and A. Klinge (eds.) *Essays on nominal determination: From morphology to discourse management*, 189-211. Amsterdam: John Benjamins.
- Mahajan, A. 1997. Universal grammar and the typology of ergative languages. In A. Alexiadou & T. A. Hall (eds.) *Studies on universal grammar and typological variation*, 35–57. Amsterdam: John Benjamins.
- Marušič, F. and R. Žaucer. 2010. Clitic doubling in a determinerless language with second position clitics. In G. Zybatow, P. Dudchuk, S. Minor, & E. Pshehotskaya (eds.) *Formal Studies in Slavic Linguistics, Proceedings of FDSL 7.5*, 101-115. Frankfurt am Main: Peter Lang.
- Matsumura, H. 1996. On Japanese psych-verbs. In P. Koskinen & C. Smallwood (eds.), *Toronto Working Papers in Linguistics* 15, 123-140, University of Toronto.
- McFadden, T. and S. Sundaresan. 2015. Towards resolving the countercyclicity of the EPP. Ms., <http://ling.auf.net/lingbuzz/002698>
- McCloskey, J. 1996. Subjects and subject positions in Irish. In R. Borsley and I. Roberts (eds.), *The syntax of Celtic languages: A comparative perspective*, , 241-283, Cambridge: Cambridge University Press.
- Miyagawa, S. 2001. The EPP, scrambling and wh-in-situ. In M. Kenstowicz (ed.), *Ken Hale: A life in language*, 293-331, Cambridge, MA: MIT Press.
- Miyagawa, S. 2010. *Why agree? Why move?: Unifying agreement-based and discourse-configurational languages*. Cambridge, MA: MIT Press
- Müller, G. 2010. On deriving CED effects from the PIC. *Linguistic Inquiry* 41: 35–82.
- Nakayama, M. and M. Koizumi. 1991. Remarks on Japanese subjects. *Lingua* 85: 303-319.
- Niinuma, F. 2003. The Syntax of Honorification. P.hD. dissertation, University of Connecticut.
- Nishigauchi, T. 1990. *Quantification in the theory of grammar*. Dordrecht: Kluwer.
- Partee, B. H. 1973. Some structural analogies between tenses and pronouns in English. *The Journal of Philosophy* 70. 601-609.
- Pesetsky, D. 1995. *Zero Syntax: Experiencers and cascades*. Cambridge, Mass: MIT Press.
- Pesetsky, D., and Torrego, E. 2007. The syntax of valuation and the interpretability of features. In S. Karimi, V. Samiian, and W. Wilkins (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*, , 262-294. Amsterdam: John Benjamins.

- Polinsky, M. 2003. Non-canonical agreement is canonical. *Transactions of the Philological Society* 101: 279–312.
- Polinsky, M. to appear. Tsez syntax: a description. lingbuzz/002315
- Polinsky, M., C. Gómez Gallo, P. Graff, E. Kravtchenko, A. M. Morgan, and A. Sturgeon. 2013. Subject islands are different. In J. Sprouse and N. Hornstein (eds.), *Experimental syntax and island effects*, 286–309. Cambridge: Cambridge University Press.
- Polinsky, M. and E. Potsdam. 2001. Long-distance agreement and topic in Tsez. *Natural Language & Linguistic Theory* 19: 583–646.
- Polinsky, M & O. Preminger. 2014. Case and grammatical relations. In A. Carnie, D. Siddiqi and Y. Sato (eds.), *The Routledge handbook of syntax*, 150–166. London: Routledge.
- Richards, N. 1997. *What moves where when in which languages?* Ph.D. dissertation, MIT.
- Richards, N. 2000. An island effect in Japanese. *Journal of East Asian Linguistics* 9, 187–205.
- Richards, N. 2016. *Contiguity theory*. Cambridge: MIT Press
- Rizzi, L. 2010. On some properties of criterial freezing. In *The Complementizer phase: Subjects and operators*, ed. by Phoevos Panagiotidis, 17–32. Oxford: Oxford University Press.
- Roberts, I. 2010. *Agreement and head movement: Clitics, incorporation, and defective goals*. Cambridge, MA: MIT Press.
- Ross, J. R. 1967. Constraints on variables in syntax. Ph.D. dissertation, MIT.
- Rothstein, S. 2001. *Predicates and their subjects*. Dordrecht: Kluwer.
- Saito, M. 1985. Some asymmetries in Japanese and their theoretical implications. Ph.D. dissertation, MIT.
- Saito, M. 1992. Long distance scrambling in Japanese. *Journal of East Asian Linguistics* 1: 69–118.
- Saito, M. 2009. Optional A-scrambling. In Y. Takubo, T. Kinuhata, S. Grzelak, and K. Nagai (eds.), *Japanese Korean Linguistics* 16, 44–63. Stanford, CA: CSLI.
- Saito, M. 2011. Two notes on feature inheritance: A parametric variation in the distribution of the EPP. *Nanzan Linguistics* 7: 43–61.
- Saito, M., T.-H. Jonah Lin and K. Murasugi. 2008. N'-ellipsis and the structure of noun phrases in Chinese and Japanese. *Journal of East Asian Linguistics* 17:247–271.
- Slioussar, N. 2011. Russian and the EPP requirement in the Tense domain. *Lingua* 121: 2048–2068.
- Smeets, R. 1984. *Studies in West Circassian phonology and morphology*. Leiden: Hakuchi Press.
- Soltan, U. 2007. On postcyclic Merge and Agree in syntactic derivations: First conjunct agreement in Standard Arabic revisited. In E. Benmamoun (ed.) *Perspectives on Arabic linguistics, Volume 19*. Amsterdam: John Benjamins.
- Soltan, U. 2011. On issues of Arabic syntax: An essay in syntactic argumentation. *Brill's Annual of Afroasiatic Languages and Linguistics* 3, 236–280.
- Stepanov, A. 2007. The end of the CED? Minimalism and extraction domains. *Syntax* 10,80–126.
- Suzuki, T. 1989. A syntactic analysis of an honorific construction o-ni naru under the DP hypothesis: Towards a unified theory of honorification. *Proceedings of the West Coast Conference on Formal Linguistics* 8, 384–398. Stanford, CA: CSLI.
- Takahashi, D. 1994. Minimality of movement. Ph.D. dissertation, University of Connecticut.
- Takano, Y. 2011. Double complement unaccusatives in Japanese: Puzzles and implications. *Journal of East Asian Linguistics* 20: 229–254.
- Testelefs, Ja., ed. 2009. *Aspekty polisintetizma. Očerki po grammatike adygejskogo jazyka* Moscow: RGGU.

- Toribio, A. J. 1990. Specifier-head agreement in Japanese. In Aaron Halpern (ed.), *Proceedings of the West Coast Conference on Formal Linguistics* 9, 535–548. Stanford: CSLI.
- Ueda, Y. 2008. Person restrictions and syntactic structure of Japanese modals. *Scientific Approaches to Language* 7, 123–150, Center for Language Sciences, Kanda University of International Studies.
- Ueda, Y. 2009. The right periphery in the Japanese CP. *Scientific Approaches to Language* 8, 95–118, Center for Language Sciences, Kanda University of International Studies.
- Uriagereka, J. 1999. Multiple Spell-Out. In S. D. Epstein and N. Hornstein (eds.), *Working minimalism*, 251–282. Cambridge, Mass.: MIT Press.
- Watanabe, A. 1992. Subjacency and s-structure movement of wh-in-situ. *Journal of East Asian Linguistics* 1: 255–291.
- Watanabe, A. 2006. Functional projections of nominals in Japanese: Syntax of classifiers. *Natural Language & Linguistic Theory* 24: 241–306.
- Wexler, K., and P. Culicover. 1981. *Formal principles of language acquisition*. Cambridge, Mass.: MIT Press.
- Wurmbrand, S. 2006. Licensing case. *Journal of Germanic Linguistics* 18, 175–236.
- Yamashita, H., and F. Chang. 2001. Long-before-short preference in the production of a head final language. *Cognition* 81: B45–B55.
- Yamashita, H. 2002. Scrambled sentences in Japanese: Linguistic properties and motivations for production. *Text* 22: 597–633.