Hayashi-Katsu, Norimasa. 2026. Case as a lower copy: Scrambling in Japanese based on a Form Copy and labeling framework. *Glossa: a journal of general linguistics* 11(1). pp. 1–39. DOI: https://doi.org/10.16995/glossa.23860

Open Library of Humanities

Case as a lower copy: Scrambling in Japanese based on a Form Copy and labeling framework

Norimasa Hayashi-Katsu, Nanzan University, Nagoya, Japan, nori@nanzan-u.ac.jp

Chomsky's (2013; 2015) labeling theory requires moved syntactic objects to agree at their landing sites in order to label the resulting structures. Although Japanese lacks agreement, it nevertheless allows free word order through scrambling, posing a theoretical problem for labeling theory. This study addresses the problem using Form Copy proposed by Chomsky (2021). We assume that a case particle is a lower copy of the case assigner and develop a novel method of labeling an XP–YP structure. The analysis explains i) why Japanese scrambling does not create a labeling problem in the absence of agreement, ii) why Japanese scrambling requires a case particle, and iii) why subject scrambling is disallowed. It also considers the role of discourse effects in labeling and identifies conditions under which caseless syntactic objects can move. The analysis also discusses more general spec–head configurations, explaining why spec–head agreement can label an XP–YP set. Finally, it also accounts for German partial *wh*-movement.

Glossa: a journal of general linguistics is a peer-reviewed open access journal published by the Open Library of Humanities. © 2026 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC-BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See http://creativecommons.org/licenses/by/4.0/. Articles published by the Open Library of Humanities may also contain other CC-licensed material, or material used or reproduced under an exception or limitation to copyright. Such material is not subject to the article's license. It is either marked with its own license, or marked that it has been reproduced with permission or under fair-use.
OPEN ACCESS

1 Introduction

The phenomenon of scrambling in Japanese has been a long-standing puzzle, and many researchers have attempted to capture its theoretical and empirical properties (Saito & Hoji 1983; Hoji 1985; Saito 1985; 1989; 1992; 2003; 2014; 2016; 2018; Miyagawa 1997; 2003; 2006; Bošković & Takahashi 1998; Ishii 1998; Saito & Fukui 1998; Miyagawa 2001; Sabel 2001; Kuno 2003; Takano 2015, among others). (1) and (2) show that case particles are crucial in Japanese scrambling.

(1) Kodomo*(-o) Ken-ga sikatta (koto)
child-ACC K.-NOM scolded Fact
'(the fact that) Ken scolded a child.'

(2) Ken-ga kodomo(-o) sikatta (koto)
K.-NOM child-ACC scolded Fact
'(the fact that) Ken scolded a child.'

As indicated in (1), objects can be scrambled only when they are accompanied by case particles. (2) demonstrates that a case particle can be omitted from the object theta-position.

Another restriction on scrambling is that subjects cannot be scrambled, even when marked with a case particle.

(3) a. *Sono okasi$_i$-ga John-ga [t_i oisii-to] omotteiru (koto)
that candy-NOM J.-NOM tasty-C think fact
'John thinks that that candy is tasty.' (Saito 1985: 210)

b.*?Syatyoo-no hoosin$_i$-ga John-ga [t_i syain-no urami-o katteiru-to
president-GEN policy-NOM J.-NOM employee-GEN hostility-ACC earn-C
omotteiru (koto)
think fact
'John thinks that the president's policy is making an enemy of the employees.'
(Agbayani et al. 2015: 59)

If scrambling were an instance of adjunction, these restrictions would remain puzzling, given that adjunction is free and does not affect the structure. The previous examples raise the three main issues addressed in this study: i) why scrambling is allowed in Japanese, ii) why scrambling requires a case marker, and iii) why subject scrambling is disallowed.

These issues become even more problematic under Chomsky's (2013; 2015) labeling theory. In this framework, an XP–YP configuration created by movement must be labeled either by agreement or by rendering one member invisible as a lower copy. Japanese, however, lacks the agreement system found in languages such as English or Italian, yet it allows phrasal dislocation more freely than these agreement languages. Japanese scrambling therefore raises a

labeling-theoretic puzzle: how can a moved phrase be licensed at the landing site in the absence of agreement? This paper addresses these questions within Chomsky's (2021) theory of Form Copy. We argue that Japanese case particles are realizations of an independent head K, which establishes a copy relation with a case assigner by Form Copy. Once K receives the relevant lower-copy status, it becomes invisible to Minimal Search, allowing a case-marked object to appear in a scrambled XP–YP configuration. Caseless objects can remain only where the structure is independently labeled, and ordinary subject scrambling is excluded because nominative K does not receive lower-copy status in the relevant configuration.

The remainder of this paper is organized as follows. Section 2.1 distinguishes Japanese argument scrambling from other types of free word order from a cross-linguistic perspective, and Section 2.2 explains why the Japanese restrictions require a syntactic account rather than a purely functional account of argument identification. Sections 2.3 and 2.4 introduce Chomsky's (2013; 2015) labeling theory and Chomsky's (2021) Form Copy, respectively. Section 3 develops the analysis. Section 3.1 analyzes object scrambling and the role of case particles and compares the proposal with recent labeling-based accounts of object scrambling. Section 3.2 turns to subjects, spec–head agreement, multiple subject constructions, and previous analyses of apparent subject scrambling. Section 3.3 discusses sentence-initial caseless objects and the role of discourse-related interpretation. Section 3.4 examines *wh*-interrogatives and *wh*-indeterminate pronouns. Section 3.5 extends the proposal to German partial *wh*-movement. Section 4 presents concluding remarks.

2 Background: Scrambling, case, and labeling

2.1 Scrambling, case, and cross-linguistic variation

Before introducing the theoretical assumptions, we delimit the empirical domain of the present study. Phenomena analyzed under the rubric of *scrambling* vary considerably across languages (Bošković 2004a). Among languages that allow free word order, Turkish is subject to the same restriction as Japanese: object scrambling requires a case particle, but dropping a case particle is allowed only in a theta position (Kornfilt 2003).[1]

German represents a different free-word-order system: unlike Japanese, it does not permit long-distance scrambling (Grewendorf and Sabel 1999). However, the scrambling of what Saito (1985: 175) calls *true* adjuncts shows similarities to German scrambling in that they cannot undergo long-distance scrambling. As scrambled true adjuncts move via adjunction as in German scrambling (Grewendorf and Sabel 1999), they resist long-distance scrambling. Anticipating the later discussion, in scrambling, case particles play a crucial role in providing a label to

[1] Gračanin-Yüksek and İşsever (2011) observe the apparent movement of caseless objects in Turkish, but they also argue that movement requires a case particle and that such apparent movement is due to remnant VP movement.

the XP–YP configuration at the landing site. If true adjuncts do not have case (unlike other scramblable adjuncts, which are assigned non-externalized case), they cannot undergo long-distance scrambling.

Although the scrambling of Japanese true adjuncts shows clause sensitivity, PPs can undergo long-distance scrambling in Japanese, as shown in (4).

(4) [$_{PP}$ Tana-no ue kara]$_i$ [Ken-wa [Mary-ga t_i hon-o totta-to] omotteiru].
shelf-GEN top from [K.-TOP [M.-NOM book-ACC took-C think
'From the top of the shelf, Ken thinks that Mary took a book.'

The sentence-initial PP in (4) undergoes long-distance scrambling, moving out of the embedded clause. On this issue, Saito (2016) argues that PPs in Japanese can be followed by case particles.

(5) [$_{PP}$ Koko kara]-ga huzisan-ni nobori-yasu-i
here from-NOM Mt.Fuji-DAT climb-easy-PRES
'It is from here that one can easily climb Mt. Fuji.' (Saito 2016: 133)

We follow Saito's (2016) assumption that a PP that can undergo long-distance scrambling has an abstract case that may not be externalized.[2]

Persian also has a free-word-order mechanism. Karimi (2005) suggests that Persian scrambling has discourse-related semantic effects, but whether Japanese scrambling can be analysed as a discourse-related movement is controversial (see Saito 1989; Miyagawa 1997, among others).[3] However, if Japanese scrambling were analyzed as discourse-related movement, the contrast between subjects and objects would remain puzzling, because the subject can be the topic like the object, as shown in (6).

(6) Ken-wa kodomo(-o) sikatta.
K.-TOP child-ACC scolded
'(the fact that) Ken scolded a child.'

Following Saito (1989), this study assumes that discourse effects do not motivate scrambling and provides an analysis of the subject–object asymmetry in scrambling.[4]

---

[2] An anonymous reviewer wonders how valid this assumption is, because case markers do not appear in scrambled PPs, as in (4). Case marking on PPs produces the sequence NP–P–K. On this issue, it is worth considering Japanese topicalization, in which the topic marker cannot follow case markers and the case markers obligatorily undergo deletion. Likewise, K in NP–P–K may be deleted in the SM system in scrambled PPs.

[3] The free word order in Latin is also explained by discourse-related factors (Devine and Stephens 2006). Relatedly, Latin allows word orders that Japanese does not, such as OVS or VOS. Japanese has a restriction on the word order in the phonological component, which requires a verb to be located in sentence-final position, except for some peripheral constructions. Some types of word order observed in Latin are not observed in Japanese because of this restriction. We thank an anonymous reviewer for bringing up this issue.

[4] Miyagawa (1997) and Ishihara (2000; 2001) observe that scrambling alters the main stress for focus. We assume that changes in syntactic hierarchies via scrambling yield interpretive effects on scope relations or stress rules as side

Thus far, we have introduced three types of movement: (i) semantically vacuous scrambling of arguments in Japanese, (ii) adjunction of true adjuncts in Japanese and of arguments in German, and (iii) topicalization and focalization in Persian "scrambling."[5] For scrambling and related phenomena in languages other than Japanese, see Mahajan (1990) (Hindi), Neeleman (1994), Grohmann (1998), Grewendorf and Sabel (1999) (German), Kornfilt (2003) (Turkish), Bailyn (2001; 2003; 2020), Bošković (2004a) (Russian), Polinsky and Potsdam (2001) (Tsez), Szczegielniak (2001) (Polish), Kiss (2003) (Hungarian), Karimi (2005), Karimi and Taleghani (2007) (Persian), Manetta (2012) (Hindi-Urdu).

2.2 Why a syntactic account is needed

Having delimited the empirical domain of the present study, we can now ask whether the Japanese restrictions introduced in Section 1 can be reduced to a purely functional account of argument identification. Bošković (2022: 13–14) proposes the following generalization based on a functional account.

(7) If a language has scrambling (informally, free word order), it has overt Case-marking.
(Bošković 2022: 13)

However, we suggest that the restrictions on scrambling must ultimately be accounted for syntactically, as Saito (1985: 193) discusses with (3a). In this example, there are no functional problems associated with the arguments. In (3a), *oisii* 'tasty' requires an edible subject, so the sentence-initial nominal must be the embedded subject rather than *John*. Likewise, in (1), *sikatta* 'scold' is a transitive predicate with a nominative agent, so the remaining sentence-initial argument is identifiable as the patient even without overt accusative marking. Nevertheless, these examples are ungrammatical, indicating that the ill-formedness arises from syntactic violations.

With these empirical distinctions in place, we now turn to the theoretical assumptions used in the analysis.

2.3 Labeling algorithm

This subsection introduces the aspects of Chomsky's (2013; 2015) labeling theory that are relevant to the present analysis. The central innovation of the theory is to separate structure building from projection: Merge freely forms syntactic objects, and the labeling algorithm determines which element provides the label. Lexical items (heads), but not phrases, can serve as labels; thus, in a structure such as [$_{\alpha}$ LI, XP], LI serves as label α and provides the instruction used by the

effects of scrambling. We thank anonymous reviewers for clarifying the difference between direct motivation and indirect outcomes concerning interpretive effects of scrambling.

[5] Japanese also exhibits this type of movement, as well as normal scrambling. See the discussion in Subsections 3.2 and 3.3.

interpretive systems. However, this simple algorithm cannot label exocentric structures such as [XP, YP], where Minimal Search does not locate a unique lexical item.

Chomsky argues that agreement features can provide labels to accommodate these structures. (8) shows a structure in which the two heads X and Y have agreement features.

(8) $[_{\gamma}\ [_{\alpha}\ X_{[F]}, ZP], [_{\beta}\ Y_{[uF]}, WP]]$ $(\alpha = X, \beta = Y, \gamma = <F, F>)$

When Minimal Search applies to set γ, it locates X and Y simultaneously. As the unvalued feature lacks value, Minimal Search can see only the valued feature, which can provide the structure with a unique label. Given that lexical items are bundles of features (Chomsky 1995), the labeling algorithm can be summarized as follows:

(9) Minimal Search is applied to a structure, and the first visible feature or bundle of features serves as the label.

Regarding "visibility" in (9), Chomsky (2013; 2015) notes that syntactic objects regarded as lower copies are invisible to Minimal Search. Let us consider (10), where YP is a lower copy.

(10) $[_{\alpha}$ XP, ~~YP~~$]$ $(\alpha = X)$

When Minimal Search applies to set α in (10), it locates X and Y. However, only X can serve as label α, because the lower-copy status of Y indicates that the inscription of YP is part of a discontinuous object (Chomsky 2013).

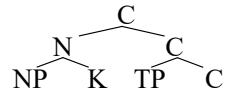
Although the labeling algorithm provides a simple way to explain projection, it is unclear how Japanese scrambling should be analyzed. Because Japanese lacks agreement, the labeling algorithm cannot straightforwardly explain why the scrambled object in (1) can stay in sentence-initial position. Given this challenge, one may be tempted to abandon the labeling theory. However, the labeling theory provides a deep understanding of the core structure-building property of human language by separating Merge and projection. Accordingly, this study analyzes scrambling within the labeling framework. Saito (2014; 2016; 2018) provides the groundwork. Saito treats the case particle as an independent head K and argues that it is a weak head in the sense of Chomsky (2013; 2015). Saito proposes the following labeling algorithm:

(11) Search {α, β} for a label. If α is a weak head or search into α yields a weak head, then search on the α side is suspended and it continues only on the β side. (Saito 2018: 6)

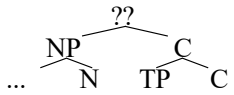
In Saito's analysis, the CP structure in (1) is as follows:[6]

[6] Saito assumes nominals to be DPs and scrambling structures to be TPs. These differences do not affect the present discussion.

(12) a. [$_{\gamma}$ [$_{\alpha}$ NP, K], [$_{\beta}$ TP, C]] (α=N, β=C, γ=C)



b. [$_{\beta}$ NP [$_{\alpha}$ TP, C]] (α=C, β=??)



When Minimal Search applies to set α in (12a), it locates N and K. As K is a weak head, N serves as the label. Similarly, C provides label γ because Minimal Search locates K and C, and K is too weak to serve as a label. Without the case particle, the structure becomes as in (12b). In this case, label β cannot be determined, because both N and C, which are located by Minimal Search, are strong heads. Thus, Saito captures the fact that case particles never project and explains why scrambling requires them.

He suggests that case markers enable the multiple subject construction as well as scrambling. Japanese allows sentences with multiple subjects, such as (13a), whose structure is shown in (13b).

(13) a. Bunmeikoku-ga dansei-ga heikin-zyumyoo-ga mizikai.
civilized.country-NOM men-NOM average.life-span-NOM short
'It is civilized countries that men—their average life-span is short in.'
(Kuno 1973: 71)

b. [$_{\delta}$ [NP, K] [$_{\gamma}$ [NP, K] [$_{\beta}$ [NP, K] [$_{\alpha}$ T... (α = T, β = T, γ = T, δ = T)

Because case markers are invisible for labeling, all searches locating K are suppressed, T always projects, and (13b) does not present a labeling problem.

The theoretical problem with Saito's analysis concerns the notion of a weak head in Japanese, which differs from that in Chomsky's proposal.[7] To see the original proposal, consider Chomsky's (2015) analysis of the derivation in (14), in which Chomsky attempts to deduce the EPP effect by assuming that T in English is a weak head.

(14) a. [C [$_{\gamma}$ T [$_{\beta}$ DP [$_{\alpha}$ *v**...]]]] (α = *v**, β = ??, γ = ??)
b. [C [$_{\delta}$ DP [$_{\gamma}$ T [$_{\beta}$ ~~DP~~ [$_{\alpha}$ *v**...]]]]] (α = *v**, β = *v**, γ = T, δ = <phi, phi>)

In (14a), without subject raising, two labeling problems arise. First, label β cannot be determined because of the XP–YP configuration: Minimal Search locates D and *v**, but they lack agreement. Second, label γ cannot be determined either, because English T is a weak head. To serve as a label, T must be strengthened by the agreement label <phi, phi> immediately above it,

[7] For problems regarding the notion of weak heads in English, see Hayashi (2020).

as shown in (14b). Note that merely merging the subject with the traditional T' structure is insufficient to strengthen T. According to Chomsky (2015), even if the subject is merged with T', T remains weak if the subject is moved when Minimal Search applies to the structure. Thus, it is plausible to assume that the agreement label immediately above weak T strengthens it. In other words, a weak T must participate in labeling <phi, phi> to be strengthened. If this reasoning is correct, Saito's labeling algorithm in (11) cannot accommodate the English cases. According to (11), if Minimal Search for labeling applies to set δ in (14b), it locates D and T. However, because T is weak at the point of labeling δ, the search for T is canceled immediately, and D serves as label δ, contrary to fact. What distinguishes Chomsky's and Saito's labeling algorithms is whether Minimal Search can locate a weak head. As Saito's labeling algorithm cannot involve a weak head in a shared-feature label, it prohibits a weak head from providing an agreement label, and weak heads can never be strengthened.[8] Therefore, Saito's proposal cannot be extended to English and accommodates only Japanese. However, if the notion of Japanese weak heads cannot be derived from English weak heads, the theory amounts to adding a descriptive device for Japanese scrambling, and a more principled explanation is required.

Empirically, Saito's analysis is also insufficient to explain the impossibility of subject scrambling. (3) shows that subject scrambling is impossible, even with a case particle. However, in Saito's analysis, a subject marked with nominative case does not induce a labeling problem at the landing site, and an additional assumption is required to account for this property.

Although Saito's labeling theory has certain limitations, we adopt his insight that case particles enable Japanese scrambling and the multiple subject construction. Based on this view, this study proposes a novel analysis of Japanese scrambling that is compatible with Chomsky's labeling algorithm. The next subsection introduces Form Copy, another theoretical foundation for the present proposal.

2.4 Form Copy

Based on third-factor principles, Chomsky (2021) focuses on how to distinguish copies and repetitions when a structure contains two structurally identical syntactic objects. In the minimalist framework thus far (Chomsky 2008; 2015), the phase level stores information about which operation relates two inscriptions. Phase-level memory can disambiguate copies and repetitions: if external Merge introduces them, they are repetitions, and if internal Merge connects them, they are copies. However, Chomsky (2021) revises this perspective to make the theory more minimal.

[8] If one assumes that Minimal Search cancels the search for a weak head X in the {X, YP} configuration but that X can participate in the {XP, YP} labeling, the status of X becomes ambiguous. To participate in {XP, YP} labeling (and to strengthen X), Minimal Search must not cancel the search for X. If it cancels the search for X owing to its weakness, it cannot access the features inside it. Minimal Search cannot directly access features without locating the head; otherwise, in an {X, YP} configuration, any feature of X, rather than X itself, could provide the label.

In his new framework, he argues that the derivation is strictly Markovian. According to this idea, information regarding the history of syntactic operations cannot be stored in the derivation, and syntax is ignorant of how an item is introduced in the derivation. As Merge and projection are dissociated in the labeling framework, this framework separates internal Merge and copy on the assumption that information about operations cannot be used to evaluate syntactic relations. This separation of copy formation from Internal Merge has an important conceptual consequence: it removes the remaining asymmetry between external and internal Merge. In Chomsky (2015), internal Merge, but not external Merge, automatically forms a copy relation. Thus, an asymmetry persists within the free Merge framework. By eliminating the notion of copy from internal Merge, Chomsky (2021) allows external and internal Merge to be understood as the same structure-building operation: both simply form a structure from two syntactic objects.

Instead of relying on the type of Merge and phase-based memory, Chomsky (2021) proposes a new operation, Form Copy, to introduce a copy relation. This operation assigns a copy relation between two inscriptions located through Minimal Search. Because internal Merge is no longer a prerequisite for a copy relation, Form Copy can apply to inscriptions introduced by external Merge. With this idea, Chomsky derives the control construction using Form Copy. (15a) involves the *v**P structure, illustrated in (15b), where the two inscriptions of *Ken* are located at theta positions.

(15) a. Ken tried to win.
b. [$_{v^*P}$ Ken [tried [Ken to win]]]

The two inscriptions of *Ken* are introduced independently by external Merge, and Form Copy assigns a copy relation between them. This analysis not only respects the duality of semantics but also captures the intuition behind Hornstein's (1999) movement theory of control.[9]

Chomsky's (2015) labeling framework and Chomsky's (2021) Form Copy have received both conceptual and empirical support and have contributed to the further development of the minimalist framework. Of particular interest in Chomsky's (2021) proposal is the idea that restricting the framework—by abandoning memory as a means of distinguishing External from Internal Merge—enhances its explanatory power by allowing PRO to be derived. Chomsky (2021: 14) refers to this as the enabling function of the strong minimalist thesis (SMT). In the next section, we first consider how labeling operates in a framework with Form Copy, thereby presenting its theoretical consequences. We then propose a novel analysis of the scrambling phenomenon within the labeling framework.

[9] See Chomsky (2021) for a detailed discussion on other constructions.

3 Analysis

3.1 Object scrambling

The labeling algorithm in Chomsky (2013; 2015) requires movement to render a syntactic object invisible for labeling. However, when the labeling algorithm is combined with Form Copy, there is another way to label an XP–YP configuration. Consider the following schema:

(16) $[...X_1...[_\gamma\ [_\alpha\ X_2, ZP], [_\beta\ Y, WP]]]]$ $(\alpha = Z, \beta = Y, \gamma = Y)$

In (16), a higher head X_1 is added to the XP–YP configuration. Assume that Form Copy applies to the two inscriptions of X. When Minimal Search for labeling applies to set γ, it locates X_2 and Y. However, X_2 is a lower copy, and Y can therefore serve as label γ. This discussion leads to the theoretical prediction in (17).

(17) For an XP–YP configuration, if the highest lexical item within a phrase has lower-copy status and is invisible to Minimal Search, the other syntactic object can serve as the label.

We propose that Japanese scrambling instantiates the case described in (17) and that case particles play a crucial role in labeling. The general assumptions of the proposed framework are summarized as follows:

(18) a. Phase-level operations are applied in the following order: Form Copy → labeling → activation of the PIC effect.
b. After the completion of a phase, the next lower phase becomes invisible. (Chomsky 2000; Saito 2017a)
c. A nominal with a case particle has the structure [NP, K]. (cf. Travis & Lamontagne 1992; Fukuda 1993; Saito 2018)
d. A case particle is the realization of the features of case assigners. (cf. Bošković 2007; Saito 2016)
e. Agree is an instance of Form Copy. (Roberts 2024)
f. Finite T serves as the case assigner for nominative case.
g. Transitive V/*v* serves as the case assigner for accusative case.

(18a) specifies the order of phase-level operations. Because the labeling algorithm depends on lower-copy status, labeling cannot precede Form Copy.[10]

Assumption (18b), adopted from Saito (2017a), derives cross-linguistic variation in the PIC domain in terms of feature inheritance. (19) illustrates the schema of the English CP phase, where [PH] represents phasehood.

(19) a. $[C_{[PH][u\text{phi}]}\ [...T...]]$
b. $[C_{[PH][u\text{phi}]}\ [...T_{[PH][u\text{phi}]}...]]$
c. $[C_{[PH][u\text{phi}]}\ [...T_{[PH][u\text{phi}]}...]]$

[10] However, we show that Form Copy can apply at the time of labeling; see the discussion below.

After the CP phase is formed, as in (19a), the unvalued features are copied to T, and phasehood is also inherited by T, piggybacking on [*u*phi].[11] Therefore, when the PIC effect is activated in the CP phase, the derived TP phase becomes invisible to subsequent operations. This analysis resolves the conceptual problem of why the traditional PIC effect renders the phase complement invisible rather than the entire phase. The phase complement lacks independent interpretive or syntactic significance, making its relevance at the phase level unclear. Under Saito's approach, the PIC applies to the entire phase, and this conceptual issue does not arise.

As Japanese lacks [*u*phi], feature inheritance does not occur. (20a) shows the CP phase in Japanese. In the absence of feature inheritance, the next lower phase is *v**P rather than TP.

(20) a. $[C_{[PH]}\ [...T\ [...v^*_{[PH]}...]]]$
b. $[C_{[PH]}\ [...T\ [...v^*_{[PH]}...]]]$

The following discussion adopts this version of the PIC.[12,13]

Assumptions (18c–g) pertain to case particles. We adopt the KP hypothesis in (18c), and (18d–g) specify how K interacts with case-licensing heads. Traditionally, Agree establishes the relationship between a case assigner and a case assignee. We follow Roberts (2024) and assume that Form Copy can apply to specific features, capturing the effect of Agree.[14] We also assume, following Bošković (2007) and Saito (2016), that case valuation is independent of [phi]-feature agreement. On this view, [*u*K] on K requires a case value from finite T or transitive V/*v*. We implement this dependency as feature-specific Form Copy. It establishes the formal dependency between T[Nom]/V[Acc] and K[*u*K]. The morphological realization of K as nominative or accusative is determined by the identity of the relevant case assigner.[15] This view is in the spirit of Pesetsky and Torrego's (2001; 2004; 2007) approach, in which case reflects a formal dependency with functional heads. Such applications of Form Copy appear to depart from Chomsky's (2021) original proposal, which argues that Form Copy applies to structurally identical inscriptions.

---

[11] Chomsky (2015) does not clarify how the remaining [*u*phi] on C is handled. See also Ouali (2006) and Hayashi (2020) for discussion of feature inheritance.

[12] For discussion of cross-linguistic differences in the domain of anaphors between English and Japanese, see Saito (2017a).

[13] A phase is completed only after the structure-building operations available within it, including IM to its edge, have applied. Form Copy and labeling then apply, followed by activation of the PIC. If the Merge of C immediately triggered phase-level operations, including activation of the PIC, objects could not move from their A-positions. This assumption is independently required for ordinary A′-movement, including English object *wh*-movement to the spec of CP. We therefore take it to be the null hypothesis that movement to an edge is available after the introduction of a phase head but before the completion of the corresponding phase-level computation.

[14] However, see also Ke (2024) for the view that Agree and labeling operate via distinct mechanisms.

[15] The assumption does not require us to posit that K has [*u*Nom] or [*u*Acc]. As the value of [*u*Q] in a *wh*-operator can vary according to interrogative, relative, or exclamative C, the phonological manifestation of a single [*u*K] varies according to the case-licensing head.

However, Chomsky (2021: 25) also proposes an analysis of anaphors, such as (21), via Form Copy.

(21) Ken likes himself.

In this analysis, Form Copy applies between two distinct items, *Ken* and *himself*, to ensure identity. We suggest that Form Copy can apply to syntactic objects that are nondistinct with respect to the relevant features (in this case, [phi] features). Likewise, K and T/V enter into an agreement-like relation and can therefore participate in Form Copy.[16] A Form Copy account of Agree is theoretically desirable. Agree involves both Search and feature copying. While previous work has extensively discussed the Search component (Chomsky 2000; 2001; 2015, among others), the copying component has seldom been discussed, despite the widespread tacit assumption that Agree involves the copying of feature values.[17] Treating Agree as Form Copy provides an account of this copying component.

(18f, g) follow Takezawa (1987), Koizumi (1994), and Saito (2016), among others. This assumption is supported by the Uniformity Principle (Chomsky 2001). Epstein et al. (2012) argue that, in English, (i) nominative case is assigned by a combination of [phi] features and tense and (ii) accusative case is assigned by [phi] features and transitivity. As noted above, Japanese lacks [phi] features. Thus, assuming that T and V assign nominative and accusative case in Japanese, English and Japanese employ essentially the same mechanism of case assignment, with only minimal differences. Let us examine how these assumptions apply to object scrambling. (23) presents the derivation of (22), and (23d) shows the resulting structure.[18]

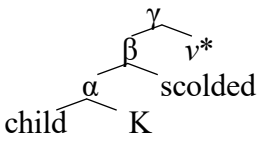
(22) Kodomo-o Ken-ga sikatta (koto)
child-ACC K.-NOM scolded (fact)
'Ken scolded his child.'

[16] Other cases, such as dative, can also be accommodated in this framework by means of an Applicative head, as an anonymous reviewer suggests. Another issue raised by the reviewer concerns the identity required by Form Copy. Based on Chomsky's analysis of anaphors, we do not assume that Form Copy requires the two syntactic objects to be strictly identical in their entirety prior to its application. Rather, Form Copy establishes identity with respect to the information relevant to the resulting Copy relation. The reviewer alternatively suggests that K may bear [Nom] or [Acc], with Form Copy applying to the identical case features on the case-licensing head and K. This alternative is reminiscent of Chomsky's (1995) checking theory. We adopt the [*u*K] hypothesis because it avoids lexically specifying distinct case values on K, such as K[Nom] and K[Acc]. However, the difference does not affect the analysis proposed here.

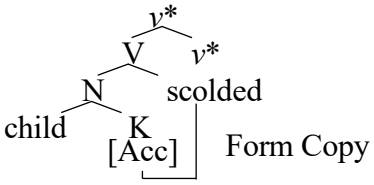
[17] Some research, such as Béjar and Rezac (2009), discusses how copying works, yet does not argue why copying is possible in the first place.

[18] We show simplified derivations omitting the subject, which will be discussed in the next subsection.

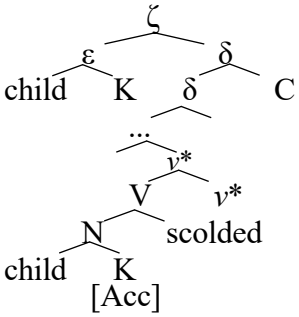
(23) a.



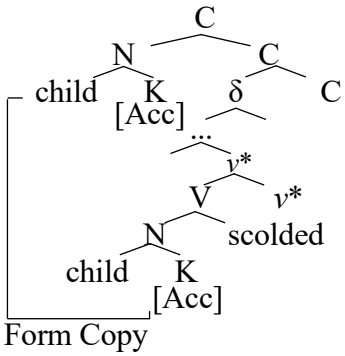
b.



c.



d.



(23a) represents the structure at the completion of the *v**P phase. Form Copy applies to V and K, as shown in (23b). V bears [Acc] and K bears [*u*K]. The two case features form a copy relation, and [*u*K], as the lower member of that relation, is interpreted and realized as an accusative case particle. Given its lower-copy status, K becomes invisible to Minimal Search for labeling, and N serves as label α. (23c) shows the structure after scrambling. The upper K has not yet been interpreted as [Acc]; simple Merge of [child, K] derives (23c). Form Copy applies in (23d), and the upper inscription inherits K's lower-copy status, because the two inscriptions must have the same status. Simultaneously, label ε is determined as N, because the two identical inscriptions must have the same label. When Minimal Search applies, it locates K and C, but ζ is labeled C owing to the lower-copy status of K. One might argue that allowing lower-copy status determined in the *v**P phase to be inherited in the CP phase violates the strictly Markovian nature of the

derivation. We propose that lower-copy status, like labels and theta roles, is a property of the structure as interpreted at the interface and can therefore be shared via Form Copy. By contrast, information about which operation applied cannot be treated as a structural property and is not retained in subsequent derivation.

A clarification is in order regarding the absence of an intermediate inscription of the object at the edge of *v**P in (23).[19] In the present system, object scrambling can target the CP domain without stopping at the edge of *v**P. Given the PIC defined in (18b), no lower phase is rendered inaccessible at the completion of *v**P, so the object remains accessible for movement to the CP level. This discussion suggests that an intermediate inscription is not necessary at the edge of *v**P, not that scrambling to the edge of *v**P is excluded. After phase-level operations apply at *v**P, the object receives lower-copy status but remains accessible to Merge. It may therefore also move to the edge of *v**P without creating a labeling problem.

Another issue raised by this derivation concerns the Proper Binding Condition. Consider (24):

(24) *[which picture of t_i]$_j$ do you wonder who$_i$ John likes t_j?
(Takano 1994: 229; see also Müller 1996: 373)

Epstein et al. (2021) and Saito (2021) explain the ill-formedness of (24) in terms of Minimal Yield (Chomsky 2021), according to which Merge may add only one accessible item. (24) involves the derivation in (25).

(25) a. [John likes [which picture of who$_3$]]
b. [who$_2$ [John likes [which picture of who$_3$]]]
c. [[which picture of who$_1$] [who$_2$ [John likes [which picture of who$_3$]]]]

In (25c), both *who*$_1$ and *who*$_2$ remain accessible, because neither c-commands the other. Thus, the derivation violates Minimal Yield. By contrast, the apparently similar case in (26) is well formed.

(26) [How likely t_i to win]$_j$ is John$_i$ t_j? (Takano 1994: 230)

Despite the similarity between (24) and (26), (26) is well formed. The PIC accounts for this difference. (26) has the derivation in (27).

(27) a. [how likely John$_3$ to win]
b. [John$_2$ is [how likely John$_1$ to win]]
c. [[how likely John$_1$ to win] C [John$_2$ is [how likely John$_3$ to win]]]

In (27c), the relevant lower occurrence is contained in the PIC domain, leaving only one accessible occurrence *John*$_1$ in the next phase. Thus, (27c) satisfies Minimal Yield.

This contrast is relevant to the present analysis because we assume that lower-copy status can be transmitted by Form Copy. If this transmission applied freely upward in (25c), *who*$_1$ could

[19] We thank an anonymous reviewer for pointing out this issue.

inherit the lower-copy status of who_3, incorrectly leaving who_2 as the only accessible item. If it did, however, Minimal Yield would no longer explain (24). The key distinction lies between (in)accessibility and copy relations. As in labeling, we posit that Form Copy applies from top to bottom. In (25c), Form Copy first applies to the inscriptions of *which picture of who*. At this point, who_3 does not receive lower-copy status from who_2, rendering who_1 accessible. Next, Form Copy applies to who_2 and who_3, leaving who_2 accessible as well. As both who_1 and who_2 are accessible at the end of phase-level operations, (25c) violates Minimal Yield. Therefore, the transmission of lower-copy status via Form Copy does not cause overgeneration with respect to proper binding effects.

Returning to scrambling, an object bearing an accusative case particle can undergo scrambling because the case particle is regarded as a lower copy. This resolves the XP–YP labeling problem at the landing site. By contrast, an object without a case marker remains an NP. Although it may remain in its theta-position, scrambling induces labeling failure. The relevant examples are (28) and (30), while (29) and (31) show their structures.

(28) Ken-ga kodomo sikatta (koto)
K.-NOM child scolded fact
'Ken scolded his child.'

(29) $[_{\alpha}$ NP, V] (α = V)

(30) *Kodomo Ken-ga sikatta (koto)
child K.-NOM scolded fact
'Ken scolded a child.'

(31) $[_{\beta}$ NP $[_{\alpha}$ TP, C]] (α = C, β = ??)

In (29), the label can be determined as V because V is a lexical item. However, if scrambled, the label cannot be determined in (31) because both N and C are visible in Minimal Search.[20]

A bare internal argument can remain in the base-generated position, because V provides the label, as in (29). This reasoning does not extend to subjects. As discussed in detail in Section 3.2, subjects are introduced in XP–YP configurations. A bare subject lacks K and therefore cannot participate in the case-related labeling mechanism developed here. An anonymous reviewer poses another question regarding the optionality in the derivation. We assume that Form Copy is optional, but if it is not applied, K remains unvalued. Thus, we have to explain why unvalued [*u*K] on the caseless nominal in (28) does not cause an interpretive problem. There are two possible answers. First, a caseless nominal such as the one in (28) may be an NP rather than a KP,

[20] If the moved NP receives a topic interpretation (by adding a definite interpretation to *kodomo* 'child'), (30) would be well formed. We will return to the topic construction in Section 3.3.

as in (29). The lack of K does not affect interpretation because case markers are independent of interpretation and facilitate labeling (Saito 2016). Second, [*u*K] may be ignored at the interfaces. For C-I, [*u*K] is ignored regardless of its valuation (cf. Epstein et al.'s (2017a, 2018) assumption of [±CI] as a subfeature for each feature). Unvalued [*u*K] is also uninterpretable by the SM system because it lacks a value. In this case, the SM system simply ignores the unvalued [*u*K]. This option is available precisely because Japanese K is independent of the nominal head: ignoring K does not prevent the nominal itself from being interpreted or externalized. We leave the choice between these two implementations open, because the main analysis does not depend on it. English cannot adopt these solutions, as shown below.

(32) *His child Ken scolded.

We assume that case information is contained in D in English. Even if the object receives accusative case via Form Copy with V, other features in D ([phi] features, the specificity feature, etc.) remain visible for labeling, and the XP–YP problem persists due to the visible features in D. This follows from a general property of feature-specific Form Copy: it identifies only the relevant features and does not render the entire nominal projection invisible.[21] Thus, case particles must be independent heads for Japanese-type scrambling to be possible.[22,23]

---

[21] This point also becomes relevant to cases in Japanese anaphors as shown in (i).

(i) Zibun-o Ken-ga hihansita.
self-ACC Ken-NOM criticized
'Ken criticized himself.'

The anaphoric dependency between *zibun* 'self' and Ken may involve feature-specific Form Copy, but this does not mean that the full KPs *zibun-o* 'self' and *Ken-ga* are treated as copies of one another. Only the features relevant to the anaphoric dependency are identified. Thus, the subject KP *Ken-ga* itself (and [*u*K] on K) is not rendered invisible, and it remains available for Form Copy with T. We thank an anonymous reviewer for pointing out this case.

[22] Bošković (2008; 2012) generalizes that scrambling is permitted in languages without articles. However, Russian, which lacks both articles and case particles, also allows scrambling. It is controversial whether Russian allows Japanese-style scrambling. Bailyn (2020) observes that Russian scrambling does not obey the same constraint on *wh*-movement and concludes that they are two different types of movement. Bošković (2004a) argues that Russian free word order is derived by topicalization or focalization. Bošković (2004a: 627, fn. 15) also observes that Japanese, but not Russian, allows the multiple subject construction, as in (13). If the same mechanism allows Japanese scrambling and the multiple subject construction, as Saito (2017c) argues, Japanese and Russian may involve different mechanisms. We pursue this approach to provide a unified account of scrambling and the multiple subject construction.

If Russian has the same scrambling system as Japanese, a possible way to accommodate Russian within the current analysis is to assume that Russian nominals take the form [NP, K] as in Japanese, and that the K head is amalgamated into the nominal head in externalization or deleted, as in the case of Japanese PP scrambling.

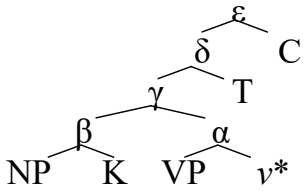
[23] This study does not analyze PP scrambling in detail and simply assumes that PP bears null case. An anonymous reviewer suggests an alternative analysis in which P bears a feature F that can undergo Form Copy with another head. The reviewer also notes, however, that other (syntactic and semantic) features on P would block such a possibility in the same way as D in English. This possibility is worth pursuing. Svenonius (2007) argues that PP can be decomposed into *p* and P, parallel to the decomposition of *v*P. If Japanese postpositions involve an outer layer like *p*, and if *p* becomes invisible after Form Copy, *p*P is expected to be able to move. This line of argument can explain PP scrambling in the same way as nominal scrambling.

This analysis differs from recent alternatives. First, Koizumi (2018) uses selectional properties to identify the label and proposes that an item with a selectional property serves as the projecting element. Assuming that object scrambling is motivated by the EPP, he suggests that the target head projects in scrambling and resolves the XP–YP problem. This is virtually the same as Chomsky's (2001) labeling algorithm. However, selection should be considered a semantic notion (see Pesetsky's 1982 idea that c-selection is deduced from s-selection), and it should not play any role in syntax. For example, we cannot posit "selectional features" in syntax that contribute to derivations, especially in the free Merge system (Chomsky 2015). Therefore, a labeling algorithm based on selection faces a look-ahead problem. As another related line of research, Miyagawa et al. (2019) extend Saito's idea and propose labeling-inducing and labeling-blocking heads. Labeling-inducing heads serve as the label in XP–YP structures, and labeling-blocking heads have the same effect as Saito's weak heads. However, postulating labeling-inducing and labeling-blocking heads amounts to stipulating projection rules about which head to project in XP–YP configurations, as in phrase structure grammar. Thus, the inducing–blocking status must be deduced in a principled way. Our framework does not assume the weakness of the K head but proposes that the weakness property can be accounted for by lower-copy status.

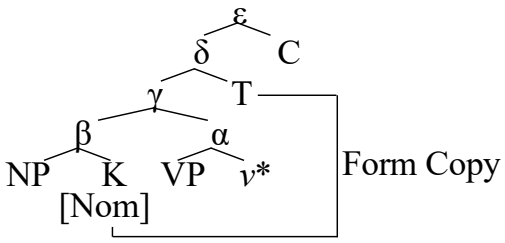
3.2 Subject

We next turn to nominative case assignment. Japanese has two nominative case positions: the spec of *v**P and the spec of TP (Kuroda 1988; Miyagawa 2001; Nishioka 2019). Thus, there are two possible structures for nominative case assignment. First, (33) shows the derivation in which the subject receives nominative case in the spec of *v**P.

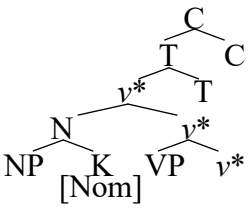
(33) a.



b.

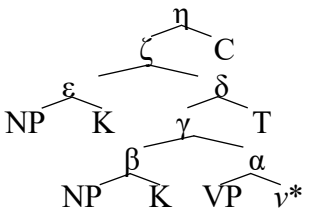


c.

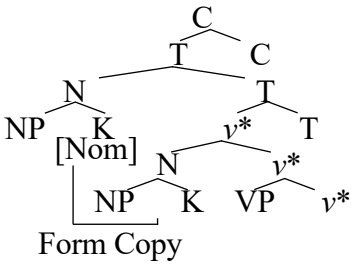


At the CP phase, Form Copy applies between [Nom] on T and [*u*K] on K in (33b), and K is realized as nominative. Subsequently, labels are assigned as in (33c), where the XP–YP problem is resolved because of the lower-copy status of K. Finally, the PIC effect is activated, and *v**P, including the subject, becomes inaccessible. Therefore, the subject cannot be scrambled in this derivation. If the subject moves to the spec of CP before Form Copy, K is located higher than T. Because K itself does not c-command T, Form Copy cannot apply from K to T. Therefore, K does not have lower-copy status and remains visible, causing an XP–YP problem at the landing site.[24] Next, (34) shows the structure in which the subject moves to the spec of TP.

(34) a.



b.



The phase-level operations are applied to the CP phase in (34a). Form Copy applies to the two inscriptions of the subject, and Minimal Search for labeling is applied. For set ζ, the traditional TP structure, Minimal Search locates K and T. We argue that Form Copy then applies between them and that K is realized as nominative.[25]

---

[24] Without K, the structure becomes NP and still induces labeling problems.

[25] A problem arises with the labeling of set β. As it is regarded as a lower copy of set ε, no element in the set qualifies as a label. We assume that set β is interpreted as a nominal owing to its copy relation with set ε. A similar problem concerning labels of trace positions is pervasive in Chomsky's (2015) labeling theory.

At first glance, (33) and (34) appear inconsistent in their mechanisms for nominative case assignment. (33) relies on Form Copy between T and K, whereas (spec–head) agreement assigns nominative case in (34). To unify these, we reformulate Form Copy as follows:

(35) Assign a copy relation to two syntactic objects located by Minimal Search.

Under this reformulation, Form Copy can apply when Minimal Search locates the relevant syntactic objects.[26] Since Form Copy is tied to Minimal Search, it follows the top-down order of Minimal Search. In (34b), when Minimal Search for labeling locates K and T, Form Copy also applies between T[Nom] and K[*u*K], and K is interpreted as nominative. This argument subsumes spec–head agreement under Form Copy. After Form Copy, the subject in the spec of TP remains accessible in the next phase because it is not included in the PIC domain (*v**P). However, in this case, K is not regarded as a lower copy of T because there is no c-command relation between them. Thus, if it moves, an XP–YP problem arises at the landing site because K is visible. Therefore, the subject in the spec of TP cannot be scrambled.[27,28] This analysis explains why spec–head agreement can provide a label with an XP–YP structure. According to this analysis, Form Copy applies between the specifier and the head, making at least some of their features identical. The X–YP structure can be labeled because labeling can locate a representative unique item X. Likewise, the XP–YP structure with agreement features can be labeled because labeling can find the identical features shared by X and Y as representative unique information, with uniqueness ensured by Form Copy.

---

[26] See also Chomsky (2008), Obata et al. (2015), and Epstein et al. (2017b) for the view that the order of syntactic operations may be altered as long as the derivation converges.

[27] Another possibility is that *v**, rather than T, assigns nominative Case (see Zushi 2016 for a similar proposal). In our analysis, this idea also accounts for the impossibility of subject scrambling. After the subject is merged in the spec of *v**P, Minimal Search locates K and *v**, assigning a copy relation between them. In this case, K becomes nominative if *v** is the case assigner. This corresponds to (34b), and K remains visible because it is not a lower copy of *v**. If so, however, the subject cannot move even to the spec of TP. Thus, this possibility incorrectly predicts that the subject in Japanese cannot move at all from its base position. Therefore, our analysis cannot adopt this proposal.

[28] (34) involves two applications of Form Copy. One is between the two inscriptions of nominals, and the other is between T and K. If the latter application of Form Copy precedes the former, subject scrambling would be allowed. That is, if Form Copy applies to T and K_1 in (i), K_1 becomes a lower copy. Next, the second Form Copy applies between NP_1 and NP_2, so that K_2 inherits K_1's lower-copy status. If so, however, NP_2 with invisible K_2 can move freely to a higher position.

(i) [C [[$_{NP2}$ NP, K_2] [T [$_{v^*}$ [$_{NP1}$ NP, K_1], *v**]]

This order is blocked by the top-down order of operations, which is the same restriction blocking (24). We assume that the third factor principle requires Form Copy to apply from the highest element. If so, K_2 participates in Form Copy with T. This issue differs from the one in Note 26, which concerns the ordering among different operations. What we discuss here is the direction in which a single operation applies. We thank an anonymous reviewer for pointing out this issue.

A brief comparison with English illustrates how the same mechanism works in an agreement language. In English subject raising, the subject DP moves to the spec of TP and agrees with T. Under the formulation in (35), this spec–head agreement can be understood as Form Copy between the relevant formal features located by Minimal Search as in (34). Unlike Japanese object scrambling, English does not involve an independent K-based mechanism to label this XP–YP configuration, as shown at the end of Section 3.1; rather, D and T heads have the relevant feature required for labeling.

The same reasoning applies to English object movement. Consider a simple *wh*-interrogative.

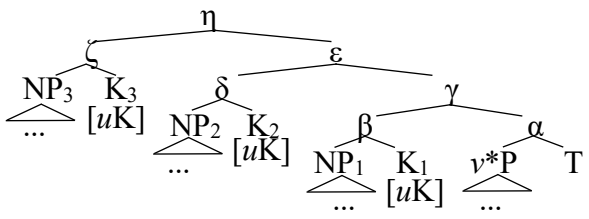
(36) a. What do you like?
b. $[_{\gamma}\ v^{*}\ [_{\beta}\ \text{what}_{1\,[uK][\text{phi}]}\ [_{\alpha}\ R_{[\text{Acc}][u\text{phi}]}\ \text{what}_{2}]]]$ (α = R, β = <phi, phi>, γ = v*)

Following Chomsky (2015), we assume that the object undergoes object shift in the v*P domain, yielding a configuration such as (36b). The shifted object enters into a spec–head relation with R, and this relation can also be understood as resulting from Form Copy as defined in (35). Consequently, Form Copy in set β applies between the shifted object *what*$_1$ and R. Based on the relation, [*u*K] of *what*$_1$ is interpreted as [Acc], and [*u*phi] of R is interpreted based on the [phi] features of *what*$_1$. Since *what*$_1$ and *what*$_2$ are copies, the lower occurrence *what*$_2$ is interpreted in the same way as *what*$_1$. The other features of the nominal, including [*u*Q], participate in a further spec–head relation in the same way.

This analysis also accommodates the multiple subject construction, as Saito (2017b) argues. The relevant example is repeated as (37a) with the structure in (37b).

(37) a. Bunmeikoku-ga dansei-ga heikin-zyumyoo-ga mizikai.
civilized.country-NOM men-NOM average.life-span-NOM short
'It is civilized countries that men—their average life-span is short in.' (=(13a))

b.



Kitahara (2020) argues that Minimal Search calculates minimality in terms of path (see also Pesetsky 1982; Kayne 1983). To search for K_1 in set β, for example, Minimal Search must refer to sets η, ε, γ, and β (path (K_1)). By contrast, to locate the head N_1 in set β, Minimal Search finds set NP_1 in addition to sets η, ε, γ, and β (path (N_1)). The members of path (K_1) form a proper subset of path (N_1), and Minimal Search locates K_1 before N_1. This notion of minimality is consistent with the idea that Merge is a set-forming operation. Applying this idea to set η in (37b), Minimal Search locates the following heads:

(38) a. path (T) = (η, ε, γ, $\underline{\alpha}$)
b. path (K_1) = (η, ε, γ, $\underline{\beta}$)
c. path (K_2) = (η, ε, $\underline{\delta}$)
d. path (K_3) = (η, ε, ζ)

The underlined heads prevent any path from having the proper subset relation with another. Thus, in the multiple subject construction, T, K_1, K_2, and K_3 are located simultaneously. (35) allows all the heads to agree and to assign the label <Nom, Nom>. Kitahara also discusses why English does not allow this construction. English employs the [phi]-feature agreement system, in which nominals bear valued [phi]. Thus, if we replace K with D in (37), Minimal Search locates multiple Ds and one T. If we assume that each D has [*v*phi], Minimal Search finds multiple [*v*phi] and one [*u*phi] on T simultaneously. However, there is no agreement between each D, and therefore, labeling fails. By contrast, Japanese K has [*u*K], and the valued counterpart lies on T. Thus, if Minimal Search locates multiple Ks, there is no clash in value because their values are null. In our terms, Form Copy can assign copy relations between multiple Ks and T, and labeling succeeds in this case. In this way, Kitahara's (2020) generalization that a multiple-specifier configuration is allowed only if Minimal Search locates one [*v*F] fits naturally within our framework.[29]

Although the labeling theory explains why subjects cannot undergo scrambling in Japanese, some researchers have argued that subject scrambling is possible. According to Kitagawa (1990), focus interpretation enables subject scrambling, and Miyagawa and Arikawa (2007) argue that intonational effects should be considered when discussing subject scrambling. They focus on floating quantifiers, as follows:

(39) a. Gakusei-ga sake-o san-bon non-da.
student-NOM sake-ACC three-CLF drink-PST
'Students drank three bottles of sake.'

b. Sake-o_i Gakusei-ga t_i san-bon non-da.
sake-ACC student-NOM three-CLF drink-PST
'Students drank three bottles of sake.'

c. Gakusei-ga san-nin sake-o non-da.
student-NOM three-CLF sake-ACC drink-PST
'Three students drank sake.'

d. *Gakusei-ga_i sake-o_j t_i san-nin t_j non-da.
student-NOM sake-ACC three-CLF drink-PST
'Three students drank sake.'

[29] Form Copy does not apply between multiple Ds in English multiple-specifier configurations, because each D has a different reference.

(39d) is ungrammatical because the locality requirement between the head nominal *gakusei* 'student' and the floated quantifier *sannin* 'three' is not satisfied. By contrast, (39b) is allowed because the restriction is satisfied before scrambling. However, (39d) would also be grammatical if *gakusei-ga* 'student' were scrambled after *sake-o* 'sake', with the locality condition satisfied in the in-situ position, as shown by the traces. Thus, Kuroda (1980) and Saito (1985) argue that subjects cannot be scrambled.[30] Kitagawa (1990), however, observes that ungrammatical sentences become acceptable when subjects are assigned a focus interpretation.

(40) SONO OKASI$_i$-GA // John-ga t_i oisii-to omotteiru (koto)
that candy-NOM J.-NOM tasty-C think fact
'John thinks that that candy is tasty.' (Kitagawa 1990: 88; cf. (3))

(41) (Kodomo-zyanakute) OTONA-GA // [biidama-o], hutari kaimasita-yo.
(Not.kids-but) adult-NOM mable-nom 2.CL bought
'Not two kids, but two adults bought marbles.' (Kitagawa 1990: 36; cf. (39d))

Miyagawa and Arikawa (2007) suggest that (39d) is unacceptable because the floating quantifier and the object are contained within the same intonational domain. Thus, inserting an adverb or a prosodic phrase break ameliorates these sentences.

(42) ?Gakusei-ga sake-o imamadeni san-nin nonda.
student-NOM sake-ACC so.far 3-CL drank
'Three students drank sake so far.' (Gunji & Hasida 1998: 57; cf. (39d))

(43) ?Gakusei-ga sake-o // san-nin nonda.
student-NOM sake-ACC 3-CL drank
'Three students drank sake so far.' (Miyagawa & Arikawa 2007: 651)

Based on these observations, we assume that subjects can move by focalization. Because subjects in the spec of TP can move after receiving nominative case, the sentences are grammatical if the moved subjects can provide labels by virtue of focus interpretation. A possible schema is as follows:

---

[30] Despite the original arguments, (39d) does not serve as evidence against subject scrambling under the predicate-internal subject hypothesis (Koopman and Sportiche 1991). Under this view, (39d) is derived by object scrambling to the spec of *v**P followed by subject raising to the spec of TP, resulting in the following structure.

(i) [$_{TP}$ SUBJ [$_{T'}$ [$_{v*P}$ OBJ [$_{v*P}$ ~~SUBJ~~-FQ [$_{v*'}$ [$_{VP}$ ~~OBJ~~ V] *v**]]] T]]

Thus, we assume that (39d) is excluded for reasons other than movement, such as the prosodic constraint at the SM interface proposed by Miyagawa and Arikawa (2007), which is independent of the syntactic derivation, or Bošković's (2004b) generalization that bans quantifier floating at the base position. Nevertheless, the examples in (3) suggest that subject scrambling needs to be banned syntactically.

(44) a. $[_{\beta}\ C_{[Foc]}\ [_{\alpha}\ SUBJ\ [T\ ...]]]$
b. $[_{\gamma}\ SUBJ_{[Foc]}\ [_{\beta}\ C_{[Foc]}\ [_{\alpha}\ \sout{SUBJ}\ [T\ ...]]]]$ ($\alpha = <Nom, Nom>$, $\beta = C$, $\gamma = <Foc, Foc>$)
c. $<_{\gamma}\ SUBJ_{[Foc]}\ [_{\beta}\ C_{[Foc]}\ [_{\alpha}\ \sout{SUBJ}\ [T\ ...]]]>$ (α = T, β = C, γ = C)

Starting with (44a), the phase-level operations at the CP phase provide the label <Nom, Nom>. Because the next lower *v**P becomes inaccessible by the PIC, the subject in the spec of TP remains accessible. In (44b), the subject moves to the spec of CP and gives the label <Foc, Foc> based on agreement with C. (44c) adjoins the subject to CP by pair-Merge. Both options resolve the XP–YP problem. At the SM interface, the structures are interpreted as carrying a prosodic break, which accounts for the apparent amelioration of subject scrambling. The same account is applicable to (45), in which the subject lacks a case particle but is accompanied by a focus particle.

(45) Ken-dake kodomo-o sikatta (koto)
K.-only child scolded fact
'Only Ken scolded a child.'

Although the subject lacks case marking, there is no labeling problem because focus interpretation can provide the label <Foc, Foc>. Further cases in which focus interpretation provides labels are found below.

(46) a. Kodomo-mo$_i$ Ken-ga t_i sikatta (koto)
child-FOC K.-NOM scolded fact
'Ken also scolded the child, too.'

b. Dare-mo$_i$ Ken-ga t_i sikara-nakatta (koto)
who-FOC K.-NOM scold-NEG.PST fact
'Ken does not scold anyone.'

Mo is a focus particle in Japanese (Kuroda 1965; Aoyagi 1998). Thus, in (46a), the preposed object can provide the label by virtue of focus interpretation, as in (44). In (46b), *dare* 'who' is an indeterminate pronoun whose interpretation is determined by the co-occurring particle (Saito 2017c). Within the scope of negation, *dare-mo* receives an NPI interpretation, in which *mo* is a focus particle and can contribute to labeling at the landing site, while the NPI interpretation is licensed in the reconstructed site.[31] If the syntactic role of case particles is labeling, as we propose, the fact that focused elements can move without case markers is readily expected.

An anonymous reviewer raised a related question about previous analyses of apparent subject scrambling. Agbayani et al. (2015) observe that subjects can be displaced together with another XP.

[31] I thank a reviewer for drawing my attention to these examples.

(47) a. *Sono ressya$_i$-ga, John-ga [t_i Tokyoo-ni tuita to] omotteiru (koto)
that train-NOM J.-NOM Tokyo-in arrived C think fact
'John thinks that that train has arrived in Tokyo.' (Agbayani et al. 2015: 59)

b. (Sono ressya-ga Tokyoo-ni)$_\Phi$ John-ga tuita to omotteiru (koto)
that train-NOM Tokyo-in J.-NOM arrived C think fact
'John thinks that that train has arrived in Tokyo.'

The first bracket in (47b) indicates phonological phrases. They argue that multiple elements in (47b) are moved via prosodic scrambling within the phonological component. As such, prosodic scrambling can evade the syntactic restrictions observed with syntactic scrambling of a single XP, as in (47a). Their framework is based on the distinction between syntactic scrambling targeting a single XP and prosodic scrambling that moves multiple XPs in the phonological component, and they observe that the former cannot displace the subject, as shown in the ill-formedness of (47a). Therefore, their system requires an explanation of why syntactic scrambling cannot move the subject. Our framework is compatible with theirs and can provide the syntactic explanation for (47a). Conversely, because we do not address scrambling in the phonological component, each framework can explain issues that the other cannot.

A further issue pointed out by a reviewer concerns Ko's (2005; 2007) cyclic-linearization analysis, which treats certain cases of subject displacement as subject scrambling. Ko argues that restrictions on scrambling follow from cyclic linearization (Fox & Pesetsky 2005a, b): the order determined in the *v**P phase cannot be modified in the CP phase. This account is not adopted here for several reasons. First, Ko treats subject movement across an adverb as a case of subject scrambling:

(48) [SUBJ [adverb [$_{v^*P}$ ~~SUBJ~~ *v**]]]

This type of movement is not the kind of scrambling at issue here, as it can be analyzed as normal subject raising to the spec of TP. Second, scrambling of multiple XPs, which she uses as another piece of evidence for subject scrambling, is irrelevant to syntax if the analysis of Agbayani et al. (2015) is correct. Scrambling involving multiple XPs is a case of prosodic scrambling, and the issue of the linear order she discusses can be dealt with in the same component as prosodic scrambling. Third, she adopts a framework in which movement is motivated by the EPP, which is a traditional stipulation and should be discarded. Finally, our analysis has an additional advantage: following Saito (2017b) and Kitahara (2020), our account of scrambling, which focuses on case particles, also explains why Japanese allows the multiple subject construction, whereas [phi]-based languages such as English do not.

This section has argued that ordinary subject scrambling is impossible. Although subjects cannot be scrambled because of labeling problems, they can move if they provide labels at the landing site. A focus interpretation provides a means of labeling, which explains why some

studies argue that subjects can also be scrambled. Such movement must be accompanied by an intonational break following the moved subject, which is unnecessary for object scrambling. Thus, we assume that subject movement is distinct from scrambling and argue that subject scrambling itself is precluded.[32]

3.3 Topic

In some cases, Japanese permits sentence-initial caseless arguments. (49a, b) show examples of a caseless object and a caseless subject, respectively.

(49) a. Sono kodomo, Ken-ga sikatte-i-ta-yo.
that child K.-NOM scold-PROG-PST-SFP
'That child, Ken scolded.'

b. Ken, kodomo-o sikatte-i-ta-yo.
K. child-ACC scolded-PROG-PST-SFP
'(As for) Ken, he scolded a child.'

However, the examples in (49) are not instances of scrambling but of topicalization, as shown in (50).[33]

(50) a. Sono kodomo-wa, Ken-ga sikatte-i-ta-yo.
that child-TOP K.-NOM scold-PROG-PST-SFP
'That child, Ken scolded.'

b. Ken-wa, kodomo-o sikatte-i-ta-yo.
K.-TOP child-ACC scold-PROG-PSTSFP
'(As for) Ken, he scolded a child.'

(49a) has one of the structures in (51a–c):

(51) a. $[_{\gamma}$ child $[_{\beta}$ $[_{\alpha}$ Ken-NOM child scolded] $C_{[Top]}]]$
$(\alpha = T, \beta = C[Top], \gamma = <Top, Top>)$

b. $[_{\gamma}$ child $[_{\beta}$ $[_{\alpha}$ Ken-NOM *pro* scolded] $C_{[Top]}]]$
$(\alpha = T, \beta = C[Top], \gamma = <Top, Top>)$

c. $<_{\gamma}$ child $[_{\beta}$ $[_{\alpha}$ Ken-NOM child scolded] C] > $(\alpha = T, \beta = C, \gamma = C)$

---

[32] Kitagawa (1990) distinguishes short- and long-distance scrambling, claiming that long-distance scrambled objects require a pause. If this observation is correct, long-distance scrambling does not exist as a syntactic operation, and such movement should be analyzed as focalization. We adopt a neutral stance on long-distance scrambling, but if Kitagawa's argument holds, the ungrammaticality of (3) results from a mismatch between focus interpretation and the absence of a prosodic marker such as stress or pause.

[33] We focus exclusively on aboutness topic interpretation, which is available only in sentence-initial positions. By contrast, contrastive topic interpretations can appear in any position in a sentence (see also Saito 1985). Aboutness topics are also degraded in embedded clauses, especially when they lack a case marker. To ensure naturalness and indicate matrix status, we add sentence-final particles in relevant examples.

(51a) involves C bearing a topic feature, with the topic child moving to the spec of CP to provide the label <Top, Top>. In (51b), the topic is base-generated in the sentence-initial position, and *pro* occupies the argument position. In (51c), no topic feature is assumed; instead, pair-Merge yields a topic interpretation (cf. Chomsky et al. 2019). All three structures resolve the labeling problem.

Before proceeding to the next section, we briefly discuss the externalization parameters. In Japanese, topic and case markers do not co-occur.

(52) Sono kodomo-(*o)-wa, Ken-ga sikatte-i-ta-yo.
that child-(ACC)-TOP K.-NOM scold-PROG-PST-SFP
'That child, Ken scolded.'

However, (52) does not necessarily show that a topicalized object fails to undergo Form Copy with the predicate. One possibility is that such an object syntactically receives accusative, but the case is not externalized. Some languages allow the co-occurrence of a topic marker and a case marker.

(53) $a^{33}bi^{33}$ ni^{31} $ʒo^{33}$ ma^{33} $tɛ^{55}$ $niɛ^{33}$ $ʒa^{55}ʒa^{31}$ ne^{33} $hiɛ^{33}$ go^{31} $niɛ^{35}$ lo^{33}
kid two CL DEF P TOP grandma AGT raise give PROG MOD
'The two kids are being raised by the grandma.' (Lisu; Zhang 2016: 27)

In (53), the topic marker '$niɛ^{33}$' attaches to the nominal already marked with the patient marker '$tɛ^{55}$'. Under the proposed system, the nominal meaning 'the two kids' first receives the patient marker in the *v**P domain via Form Copy, and it receives the topic marker at the landing site. The two markers are assigned in different positions, and the derivation is well-formed. The difference between (52) and (53) lies in the externalization rule. In Japanese, when a nominal has both a case marker and a topic marker, only the latter is externalized. By contrast, in Lisu, both markers can be externalized. Similar patterns are found in the case systems of other languages. In some languages, multiple case markers can be stacked on a single nominal (Suffixaufnahme, Plank 1995), whereas others allow only a single case marker to be externalized.

3.4 *Wh*-interrogatives

As shown above, topic interpretation can resolve labeling problems in Japanese. By contrast, an interrogative interpretation cannot. (54) demonstrates that wh-indeterminate pronouns cannot receive topic interpretation.

(54) *Nani-wa yonderu-no?
what-TOP reading-C
'What are you reading?' (Saito 1985: 209)

Moreover, an interrogative sentence containing a sentence-initial *wh*-indeterminate pronoun without a case marker is ill-formed, as shown in (55):[34]

(55) a. Dare?*(-o) John-ga nagutta-no?
who-ACC J.-NOM hit-Q
'Who did John hit?' (Saito 1985: 267)

b. Boku-wa [nani*(-o) Masao-ga katta-ka] tazuneta.
I-TOP what-ACC M.-NOM bought-Q asked
'I asked what Masao bought.' (adapted from Kuroda 1988: 15)

In English, moved *wh*-operators are licensed by the label <int, int>.[35]

(56) a. I wonder what John bought.
b. [$_{\beta}$ what[*u*Q] [$_{\alpha}$ C[int] John bought what]] (α = C[int], β = <int, int>)

If Japanese employed the same strategy as English, a moved *wh*-indeterminate pronoun could provide the appropriate label <int, int>. The ungrammaticality of (55) suggests that Japanese does not employ English-type *wh*-movement (Lasnik & Saito 1992; Toyoshima 1996; Sabel 2001).[36] We assume that the *wh*-indeterminate pronoun in (55) moves through scrambling, which explains why the absence of a case particle yields ungrammaticality.

However, this assumption contradicts Takahashi (1993), who argues that some instances of *wh*-movement cannot be reduced to scrambling. His first argument concerns the examples in (57).

(57) a. John-ga [$_{CP}$ Mary-ga nani-o tabeta-ka] sitritagatteiru-no?
J.-NOM M.-NOM what-ACC ate-Q want.to.know-Q
'Does John want to know what Mary ate? or What does John want to know whether Mary ate?' (Takahashi 1993: 657)

b. nani-o$_i$ John-wa [$_{CP}$ Mary-ga t_i tabeta-ka] sitritagatteiru-no?
what-ACC J.-TOP M.-NOM ate-Q want.to.know-Q
'What does John want to know whether Mary ate?' (Takahashi 1993: 657)

Takahashi claims that without *wh*-movement, the *wh*-indeterminate pronoun can take either the matrix or the embedded scope in (57a), whereas with *wh*-movement, the *wh*-indeterminate

[34] (55a) becomes well-formed if a pause is inserted after the *wh*-indeterminate pronoun. In this case, the *wh*-operator constitutes an interrogative sentence by itself, with *pro* occupying the object position in the second sentence. By contrast, the *wh*-indeterminate pronoun in (55b) cannot be interpreted as an independent clause owing to its embedded status. Thus, the prosodic effect does not rescue the example.

[35] Q stands for 'quantificational'. We assume that the interpretation of *wh*-indeterminate pronouns is not fixed in the lexicon. Rather, the type of C (interrogative, exclamative, or relative) determines how the *wh*-indeterminate pronoun is interpreted in the interpretive systems (see also Nishigauchi 1990; Chomsky 2015; Saito 2017c).

[36] Note that we do not exclude the possibility that *wh*-indeterminate pronouns move to a criterial position at LF (Watanabe 1992) or that in-situ *wh*-interrogatives in Japanese involve null operator movement (Saito 2017c; see also Tsai 1999).

pronoun must take the matrix scope. If this movement were an instance of scrambling, no contrast would arise between (57a) and (57b), as scrambling can be undone at LF (Saito 1989); the scrambled *wh*-indeterminate pronoun in (57b) could be reconstructed to take the embedded scope. However, Sabel (2001) and Ishihara (2002) argue against his observation. Ishihara shows that an embedded scope is available with the appropriate prosody. We adopt Ishihara's analysis and suggest that (57b) remains ambiguous in principle.

Takahashi's second argument concerns (58).

(58) a. ??Nani-o$_i$ John-ga dare-ni [Mary-ga t_i tabeta-to] itta-no?
what-ACC J.-NOM who-DAT M.-NOM ate-C said-Q
'What did John tell who that Mary ate?' (Takahashi 1993: 664)

b. Pizza-o$_i$ John-ga dare-ni [Mary-ga t_i tabeta-to] itta-no?
pizza-ACC J.-NOM who-DAT M.-NOM ate-C said-Q
'Pizza, did John tell who that Mary ate?' (Takahashi 1993: 664)

He argues that the degraded (58a) involves a superiority violation. As scrambling is not sensitive to this condition, he concludes that the movement must be wh-movement rather than scrambling.

Let us now consider the following *wh*-interrogatives:

(59) a. Itu John-wa [Mary-ga pizza-o tabeta-to] itta-no?
when J.-TOP M.-NOM pizza-ACC ate-C said-Q
'When did John say that Mary ate pizza?'

b. Itu John-wa Tom-ni [Mary-ga nani-o tabeta-to] itta-no?
when J.-TOP T.-DAT M.-NOM what-ACC ate-C said-Q
'When did John say to Tom that Mary ate what?'

c. Itu John-wa Tom-ni [Mary-ga pizza-o tabeta-to] itta-no?
when J.-TOP T.-DAT M.-NOM pizza-ACC ate-C said-Q
'When did John say to Tom that Mary ate a pizza?'

(59a) is ambiguous; *itu* 'when' can be associated with either the matrix verb or the embedded verb. By contrast, in (59b), the embedded reading of *itu* 'when' is difficult to obtain.[37] However, there should be no superiority violation between the v*P adjunct and the object.[38] Another relevant case is (59c), in which the *wh*-indeterminate pronoun fails to produce an embedded reading

[37] A possible explanation for the unambiguity in (59b) involves syntactic parsing preferences (Itsuki Minemi, p.c.). After the dative argument is processed, the parser encounters two arguments for the matrix verb. Because there is no overt cue for an embedded clause, the parser expects the matrix verb to follow and interprets *itu* 'when' as associated with the matrix clause.

[38] In English, the following examples are grammatical.

(i) a. What did Mary buy when?
b. When did Mary buy what?

without another *wh*-indeterminate pronoun. Therefore, we suggest that the ill-formedness of (58) is not due to a superiority violation.

In summary, we argue that Japanese does not employ syntactic *wh*-movement. Thus, when *wh*-indeterminate pronouns move without case markers, labeling problems arise, because such movements are analyzed as scrambling of caseless objects.

3.5 German partial *wh*-movement

The final issue concerns the German partial *wh*-movement construction. (60a) shows a standard *wh*-interrogative, in which the *wh*-operator moves to the sentence-initial position. In (60b), the *wh*-operator remains in the spec of CP of the embedded clause, and the scope marker *was* is located in Spec-CP of the matrix clause.[39]

(60) a. Mit wem glaubt Karl daß Maria gesprochen hat?
with whom thinks K. that M. spoken has
'Who does Karl think Maria has spoken to?' (Dayal 2000: 158)

b. Was glaubt Karl mit wem Maria gesprochen hat?
what thinks K. with whom M. spoken has
'Who does Karl think Maria has spoken to?' (Dayal 2000: 158)

This phenomenon raises two questions: i) what establishes the relationship between *was* and the *wh*-operator, and ii) what allows the *wh*-operator to remain in a non-criterial position. We argue that the proposed analysis can resolve these issues. The key assumptions are as follows:

(61) a. *Was* is a *wh*-expletive that contains only the operator component.
b. Form Copy connects the operator component of the partially moved *wh*-operator with *was*.
c. The highest feature in *wh*-operators is the [*u*Q] feature.

Following Chomsky (1964), Kuroda (1969), Tsai (1994), Di Sciullo (2005), and Cable (2010), we assume that *wh*-elements contain an operator component [*u*Q] and a variable component, as in (62).

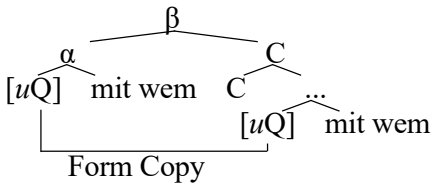
(62) a. who→op[*u*Q] + [person]
b. which→op[*u*Q] + [thing]

Was realizes only an operator component. (61b) explains why *was* can mark the scope of a partially moved *wh*-operator. (61c) is necessary even for standard *wh*-interrogatives. Because [*u*Q]

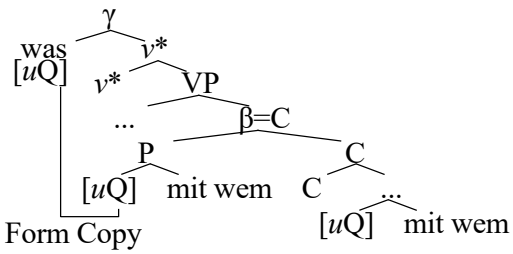
[39] There are two approaches to partial *wh*-movement. One approach assumes a relationship between the partially moved *wh*-operator and *was* in the matrix clause (McDaniel 1989; Müller 1997). The other denies such a relationship (Dayal 2000). We adopt the former approach.

is the highest feature, Minimal Search for labeling locates the [*u*Q] feature and the interrogative feature of C, enabling labeling. Based on these assumptions, (60b) can be derived as follows:

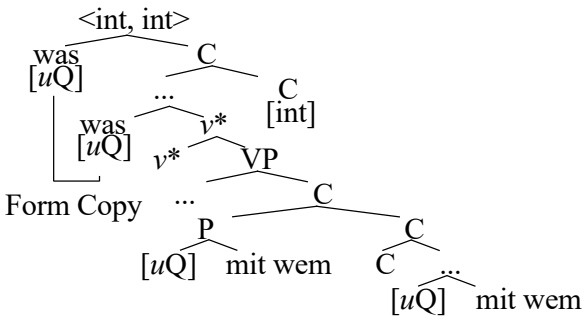
(63) a.



b.



c.



In (63a), the *wh*-operator moves to the spec of CP of the embedded clause. *Was* is introduced in the next *v**P phase, and Form Copy applies between *was* and the *wh*-operator in (63b). When Minimal Search applies to set β, it locates [*u*Q] on the *wh*-operator and a declarative C, but [*u*Q] is already regarded as a lower copy of *was*. Consequently, C can project, and the XP–YP problem is resolved. Finally, *was* moves to the spec of CP of the matrix clause, providing the label <int, int> in (63c).

4 Concluding remarks

This study has examined how Form Copy operates within the labeling framework, proposing that XP–YP configurations can be labeled if the highest lexical item in a structure has lower-copy status. We argued that Form Copy applies to both case particles and case assigners, rendering case particles invisible to Minimal Search. This explains why case-marked objects can be scrambled in Japanese: once K is rendered invisible, the other head in the XP–YP configuration can project. By contrast, the scrambling of caseless objects causes the derivation to crash because of labeling

failure. We then discussed the mechanism of nominative case assignment. To unify nominative and accusative case assignment, we proposed that agreement, whose conceptual and theoretical nature has been debated, is an instance of Form Copy. Japanese has two subject positions: the spec of *v**P and the spec of TP. Our proposal explains why subject scrambling is disallowed in Japanese in both cases. In the former, the PIC renders the subject inaccessible if it remains in the spec of *v**P. If it moves, the case particle remains visible, and the XP–YP problem persists. In the latter case, K remains visible because it stands in a Copy relation with T but is not a lower copy of T, since they are at the same depth. We also considered the effects of discourse interpretation on labeling; focus and topic interpretations can resolve the XP–YP problem. The apparent scrambling of caseless objects is explained as an instance of topicalization or focalization. Additionally, we showed that only topic interpretation, and not *wh*-interpretation, can resolve labeling problems, concluding that Japanese does not employ English-type *wh*-movement. Finally, we demonstrated that German partial *wh*-movement, which also allows movement without agreement, can be accounted for within the labeling framework by assuming Form Copy between partially moved *wh*-operators and the *wh*-expletive *was*. Whereas Obata (2016) leaves this construction unlabeled on the assumption that some structures do not require labels, our analysis derives it naturally through Form Copy, supporting the view that all syntactic structures must be assigned labels for interpretation (Chomsky 2013; 2015).

Abbreviations

ACC: accusative, AGT: agent, CLF: classifier, DAT: dative, DEF: definite, FOC: focus, GEN: genitive, NEG: negation, NOM: nominative, P: patient, PRES: present, PST: past, PROG: progressive, Q: question, SFP: sentence-final particle, TOP: topic

Funding information

This work was supported by JSPS KAKENHI Grant Number 26K16030 and the Nanzan University Pache Research Subsidy I-A-2 for the 2026 academic year.

Acknowledgements

An earlier version of this paper was presented at a meeting of the Fukuoka Linguistics Circle (FLC) in April 2023, at the IV Encuentro de Lingüística Formal en México in August 2023, and at the workshop "Factors in Natural Language Design (FIND): The Nominal Domain and Beyond" in December 2023. I am grateful to the participants at these events for their valuable comments. I also thank Nozomi Moritake, Nobuaki Nishioka, and Mamoru Saito for helpful discussions of this work. I am especially grateful to the two anonymous reviewers for their insightful feedback and constructive suggestions. Any remaining errors are my own.

Competing interests

The author has no competing interests to declare.

Authors' contributions

The author is solely responsible for the conception, analysis, and writing of this article.

References

Agbayani, Brian & Golston, Chris & Ishii, Toru. 2015. Syntactic and prosodic scrambling in Japanese. *Natural Language & Linguistic Theory* 33. 47–77. DOI: DOI: https://doi.org/10.1007/s11049-014-9252-x

Aoyagi, Hiroshi. 1998. *On the nature of particles in Japanese and its theoretical implications*. Los Angeles, CA: University of Southern California dissertation.

Bailyn, John Frederick. 2001. On scrambling: A reply to Bošković and Takahashi. *Linguistic Inquiry* 32. 635–658. DOI: https://doi.org/10.1162/002438901753373023

Bailyn, John Frederick. 2003. Does Russian scrambling exist? In Karimi, Simin (ed.), *Word order and scrambling*, 156–176. Oxford: Blackwell. DOI: https://doi.org/10.1002/9780470758403.ch7

Bailyn, John Frederick. 2020. The scrambling paradox. *Linguistic Inquiry* 51. 635–669. DOI: https://doi.org/10.1162/ling_a_00361

Béjar, Susana & Rezac, Milan. 2009. Cyclic Agree. *Linguistic Inquiry* 40. 35–73. DOI: https://doi.org/10.1162/ling.2009.40.1.35

Bošković, Željko. 2004a. Topicalization, focalization, lexical insertion, and scrambling. *Linguistic Inquiry* 35. 613–638. DOI: https://doi.org/10.1162/0024389042350514

Bošković, Željko. 2004b. Be careful where you float your quantifiers. *Natural Language & Linguistic Theory* 22. 681–742. DOI: https://doi.org/10.1007/s11049-004-2541-z

Bošković, Željko. 2007. On the locality and motivation of move and agree: An even more minimalist theory. *Linguistic Inquiry* 38. 589–644. DOI: https://doi.org/10.1162/ling.2007.38.4.589

Bošković, Željko. 2008. What will you have, DP or NP? In Elfner, Emily & Walkow, Martin (eds.), *Proceedings of NELS 37*, 101–114. Amherst, MA: GLSA.

Bošković, Željko. 2012. On NPs and clauses. In Grewendorf, Günther & Zimmermann, Thomas Ede (eds.), *Discourse and grammar: From sentence types to lexical categories*, 179–242. Berlin: De Gruyter Mouton. DOI: https://doi.org/10.1515/9781614511601.179

Bošković, Željko. 2022. *Formalism and, not vs., functionalism*. Ms. University of Connecticut. Available at https://boskovic-linguistics.media.uconn.edu/wp-content/uploads/sites/2801/2022/10/boskovic_22_Formalism-and.2.pdf

Bošković, Željko & Takahashi, Daiko. 1998. Scrambling and last resort. *Linguistic Inquiry* 29. 347–366. DOI: https://doi.org/10.1162/002438998553789

Cable, Seth. 2010. *The grammar of Q: Q-particles, wh-movement, and pied-piping*. New York: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780195392265.001.0001

Chomsky, Noam. 1964. *Current issues in linguistic theory*. The Hague: Mouton.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In Martin, Roger & Michaels, David & Uriagereka, Juan (eds.), *Step by step*, 89–155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In Kenstowicz, Michael (ed.), *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/4056.003.0004

Chomsky, Noam. 2008. On phases. In Freidin, Robert & Otero, Carlos P. & Zubizarreta, Maria Luisa (eds.), *Foundational issues in linguistic theory*, 133–166. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/9780262062787.003.0007

Chomsky, Noam. 2013. Problems of projection. *Lingua* 130. 33–49. DOI: https://doi.org/10.1016/j.lingua.2012.12.003

Chomsky, Noam. 2015. Problems of projection: Extensions. In Di Domenico, Elisa & Hamann Cornelia & Matteini, Simona (eds.), *Structures, strategies and beyond: Studies in honour of Adriana Belletti*, 3–16. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.223.01cho

Chomsky, Noam. 2021. Minimalism: Where are we now, and where can we hope to go? *Gengo Kenkyu* 160. 1–41. DOI: https://doi.org/10.11435/gengo.160.0_1

Chomsky, Noam & Gallego, Ángel J. & Ott, Dennis. 2019. Generative grammar and the faculty of language: Insights, questions, and challenges. *Catalan Journal of Linguistics Special Issue*, 229–261. DOI: https://doi.org/10.5565/rev/catjl.288

Dayal, Veneeta. 2000. Scope marking: Cross-linguistic variation in indirect dependency. In Lutz, Uli & Müller, Gereon & von Stechow, Arnim (eds.), *Wh-scope marking*, 157–193. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.37.07day

Devine, Andrew M. & Stephens, Laurence D. 2006. *Latin word order: Structured meaning and information*. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780195181685.001.0001

Di Sciullo, Anna Maria. 2005. *Asymmetry in morphology*. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/1465.001.0001

É. Kiss, Katalin. 2003. Argument scrambling, operator movement, and topic movement in Hungarian. In Karimi, Simin (ed.), *Word order and scrambling*, 22–43. Oxford: Blackwell. DOI: https://doi.org/10.1002/9780470758403.ch2

Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. 2012. Structure building that can't be. In Uribe-Etxebarria, Myriam & Valmala, Vidal (eds.), *Ways of structure building*, 253–270. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/acprof:oso/9780199644933.003.0011

Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. 2017a. Successive cyclic wh-movement without successive cyclic crashing. Paper presented at the *ELSJ 10th International Spring Forum*. Meiji Gakuin University, Tokyo, Japan, 23 April.

Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. 2017b. Is linguistic variation entirely linguistic? *Linguistic Analysis* 41. 481–516.

Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. 2018. A simpler solution to two problems revealed about the composite-operation Agree. Paper presented at the *Japanese Society for Language Sciences 20th Annual International Conference*. Bunkyo Gakuin University, Tokyo, Japan, 2 August.

Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. 2021. Some concepts and consequences of 3rd factor-compliant simplest MERGE. In Epstein, Samuel David & Kitahara, Hisatsugu & Seely, T. Daniel. (eds.), *A minimalist theory of simplest Merge*, 116–139. New York: Routledge. DOI: https://doi.org/10.4324/9780367343699-8

Fox, Danny & Pesetsky, David. 2005a. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31. 1–46. DOI: https://doi.org/10.1515/thli.2005.31.1-2.1

Fox, Danny & Pesetsky, David. 2005b. Cyclic linearization and its interaction with other aspects of grammar: A reply. *Theoretical Linguistics* 31. 235–262. DOI: https://doi.org/10.1515/thli.2005.31.1-2.235

Fukuda, Minoru. 1993. Head government and case marker drop in Japanese. *Linguistic Inquiry* 24. 168–172.

Gračanin-Yüksek, Martina & İşsever, Selçuk. 2011. Movement of bare objects in Turkish. *Dilbilim Arastirmalari* 22. 33–49.

Grewendorf, Günther & Sabel, Joachim. 1999. Scrambling in German and Japanese: Adjunction versus multiple specifiers. *Natural Language & Linguistic Theory* 17. 1–65. DOI: https://doi.org/10.1023/A:1006068326583

Grohmann, Kleanthes Kostas. 1998. Syntactic inquiries into discourse restrictions on multiple interrogatives. *Groninger Arbeiten zur Germanistischen Linguistik* 42. 1–60.

Gunji, Takao & Hasida, Kôiti. 1998. Measurement and quantification. In Takao Gunji & Kôiti Hasida (eds.), *Topics in constraint-based grammar of Japanese*, 39–79. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-011-5272-3_3

Hayashi, Norimasa. 2020. Labeling without weak heads. *Syntax* 23. 275–294. DOI: https://doi.org/10.1111/synt.12196

Hoji, Hajime. 1985. *Logical form constraints and configurational structures in Japanese*. Seattle, WA: University of Washington dissertation.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30. 69–96. DOI: https://doi.org/10.1162/002438999553968

Ishihara, Shinichiro. 2000. Scrambling and its interaction with stress and focus. *MIT Working Papers in Linguistics* 38. 95–110.

Ishihara, Shinichiro. 2001. Stress, focus, and scrambling in Japanese. *MIT Working Papers in Linguistics* 39. 151–185.

Ishihara, Shinichiro. 2002. Invisible but audible wh-scope marking: Wh-constructions and deaccenting in Japanese. In Mikkelsen, Line & Potts, Christopher (eds.), *WCCFL 21 proceedings*, 180–193. Somerville, MA: Cascadilla Press.

Ishii, Yasuo. 1998. Scrambling of weak NPs in Japanese. *Japanese/Korean Linguistics* 8. 431–444.

Karimi, Simin. 2005. *A minimalist approach to scrambling: Evidence from Persian*. Berlin: Mouton de Gruyter. DOI: https://doi.org/10.1515/9783110199796

Karimi, Simin & Taleghani, Azita. 2007. Wh-movement, interpretation, and optionality in Persian. In Karimi, Simin & Samiian, Vida & Wilkins, Wendy K. (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*, 167–187. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.101.09kar

Kayne, Richard. 1983. Connectedness. *Linguistic Inquiry* 14. 223–249.

Ke, Alan Hezao. 2024. Can Agree and labeling be reduced to Minimal Search? *Linguistic Inquiry* 55. 849–870. DOI: https://doi.org/10.1162/ling_a_00481

Kitagawa, Yoshihisa. 1990. *Anti-Scrambling*. Unpublished manuscript. University of Rochester.

Kitahara, Hisatsugu. 2020. "Multiple-specifier" constructions revisited. *Reports of the Keio Institute for Cultural and Linguistic Studies* 51. 207–216.

Ko, Heejeong. 2005. *Syntactic edges and linearization*. Cambridge, MA: MIT dissertation.

Ko, Heejeong. 2007. Asymmetries in scrambling and cyclic linearization. *Linguistic Inquiry* 38. 49–83. DOI: https://doi.org/10.1162/ling.2007.38.1.49

Koizumi, Masatoshi. 1994. Nominative objects: The role of TP in Japanese. *MIT Working Papers in Linguistics* 24. 211–230.

Koizumi, Masatoshi. 2018. Labeling by selection: A psychologically realistic procedure for determining labels. *Tohoku Psychologica Folia* 77. 11–18.

Koopman, Hilda & Sportiche, Dominique. 1991. The position of subjects. *Lingua* 85. 211–258. DOI: https://doi.org/10.1016/0024-3841(91)90022-W

Kornfilt, Jaklin. 2003. Scrambling, subscrambling, and case in Turkish. In Karimi, Simin (ed.), *Word order and scrambling*, 125–155. Oxford: Blackwell. DOI: https://doi.org/10.1002/9780470758403.ch6

Kuno, Masakazu. 2003. Scrambling in Japanese as pure Merge. *Linguistic Research* 19. 45–78. DOI: https://doi.org/10.15083/00039199

Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.

Kuroda, S.-Y. 1965. *Generative grammatical studies in the Japanese language*. Cambridge, MA: MIT dissertation.

Kuroda, S.-Y. 1969. English relativization and certain related problems. In Reibel, David. A & Schane, Sanford A. (eds.), *Modern studies in English: Readings in transformational grammar*, 264–287. Englewood Cliffs, NJ: Prentice-Hall.

Kuroda, S.-Y. 1980. Bunkoozoo-no hikaku [Comparison of sentence structures]. In Kunihiro, Tetsuya (ed.), *Nichieigo hikaku kooza 2: Bunpoo* [Japanese-English comparison seminar 2: Grammar]. Tokyo: Taishukan.

Kuroda, S.-Y. 1988. Whether agree or not. In William J. Poser (ed.), *Papers from the second international workshop on Japanese syntax*, 1–47. Stanford: CSLI.

Lasnik, Howard & Saito, Mamoru. 1992. *Move α: Conditions on its application and output*. Cambridge, MA: MIT Press.

Mahajan, Anoop Kumar. 1990. *The A/A-bar distinction and movement theory*. Cambridge, MA: MIT dissertation.

Manetta, Emily. 2012. Reconsidering rightward scrambling: Postverbal constituents in Hindi-Urdu. *Linguistic Inquiry* 43. 43–74. DOI: https://doi.org/10.1162/ling_a_00073

McDaniel, Dana. 1989. Partial and multiple wh-movement. *Natural Language & Linguistic Theory* 7. 565–604. DOI: https://doi.org/10.1007/BF00205158

Miyagawa, Shigeru. 1997. Against optional scrambling. *Linguistic Inquiry* 28. 1–25.

Miyagawa, Shigeru. 2001. The EPP, scrambling, and wh-in-situ. In Kenstowicz, Michael (ed.), *Ken Hale: A life in language*, 293–338. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/4056.003.0012

Miyagawa, Shigeru. 2003. A-Movement scrambling and options without optionality. In Karimi, Simin (ed.), *Word order and scrambling*, 177–200. Oxford/Berlin: Blackwell Publishers. DOI: https://doi.org/10.1002/9780470758403.ch8

Miyagawa, Shigeru. 2006. On the undoing property of scrambling: A response to Bošković. *Linguistic Inquiry* 37. 607–624. DOI: https://doi.org/10.1162/ling.2006.37.4.607

Miyagawa, Shigeru & Arikawa, Koji. 2007. Locality in syntax and floating numeral quantifiers. *Linguistic Inquiry* 38. 645–670. DOI: https://doi.org/10.1162/ling.2007.38.4.645

Miyagawa, Shigeru & Wu, Danfeng & Koizumi, Masatoshi. 2019. Inducing and blocking labeling. *Glossa: a journal of general linguistics* 4(1). 141. 1–26. DOI: https://doi.org/10.5334/gjgl.923

Müller, Gereon. 1996. A constraint on remnant movement. *Natural Language & Linguistic Theory* 14. 355–407. DOI: https://doi.org/10.1007/BF00133687

Müller, Gereon. 1997. Partial wh-movement and optimality theory. *The Linguistic Review* 14. 249–306. DOI: https://doi.org/10.1515/tlir.1997.14.3.249

Neeleman, Ad. 1994. Scrambling as a D-structure phenomenon. In Corver, Norbert & van Riemsdijk, Henk (eds.), *Studies on scrambling: Movement and non-movement approaches to free word-order phenomena*, 387–429. Berlin: Mouton de Gruyter. DOI: https://doi.org/10.1515/9783110857214.387

Nishigauchi, Taisuke. 1990. *Quantification in the theory of grammar*. Dordrecht: Kluwer. DOI: https://doi.org/10.1007/978-94-009-1972-3

Nishioka, Nobuaki. 2019. Discourse-configurationality and the scope of negation. *Nanzan Linguistics* 14. 25–55.

Obata, Miki. 2016. Unlabeled syntactic objects and their interpretation at the interfaces. In Hammerly, Christopher & Prickett, Brandon (eds.), *Proceedings of NELS 46,* 3. 63–70. Amherst, MA: GLSA.

Obata, Miki & Epstein, Samuel D. & Baptista, Marlyse. 2015. Can crosslinguistically variant grammars be formally identical? Third factor underspecification and the possible elimination of parameters of UG. *Lingua* 156. 1–16. DOI: https://doi.org/10.1016/j.lingua.2014.12.003

Ouali, Hamid. 2006. *Unifying agreement relations: A minimalist analysis of Berber*. Ann Arbor, MI: University of Michigan dissertation.

Pesetsky, David. 1982. *Paths and categories*. Cambridge, MA: MIT dissertation.

Pesetsky, David & Torrego, Esther. 2001. T-to-C movement: Causes and consequences. In Kenstowicz, Michael (ed.), *Ken Hale: A life in language*, 355–426. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/4056.003.0014

Pesetsky, David & Torrego, Esther. 2004. Tense, case, and the nature of syntactic categories. In Guéron, Jacqueline & Lecarme, Jacqueline (eds.), *The syntax of time*, 495–537. Cambridge, MA: MIT Press. DOI: https://doi.org/10.7551/mitpress/6598.003.0021

Pesetsky, David & Torrego, Esther. 2007. The syntax of valuation and the interpretability of features. In Karimi, Simin & Samiian, Vida & Wilkins, Wendy K. (eds.), *Phrasal and clausal architecture: Syntactic derivation and interpretation*, 262–294. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.101.14pes

Plank, Frans. 1995. (Re-)introducing Suffixaufnahme. In Plank, Frans (ed.), *Double case: Agreement by Suffixaufnahme*, 3–110. Oxford: Oxford University Press. DOI: https://doi.org/10.1093/oso/9780195087758.003.0001

Polinsky, Maia & Potsdam, Eric. 2001. Long-distance agreement and topic in Tsez. *Natural Language & Linguistic Theory* 19. 583–646. DOI: https://doi.org/10.1023/A:1010757806504

Roberts, Ian. 2024. Form Copy, Agree and clitics. *Probus* 36. 17–29. DOI: https://doi.org/10.1515/probus-2024-2003

Sabel, Joachim. 2001. Wh-questions in Japanese: Scrambling, reconstruction, and wh-movement. *Linguistic Analysis* 31. 1–41.

Saito, Mamoru. 1985. *Some asymmetries in Japanese and their theoretical implications*. Stanford, CA: Stanford University dissertation.

Saito, Mamoru. 1989. Scrambling as semantically vacuous A′-movement. In Baltin, Mark R. & Kroch, Anthony S. (eds.), *Alternative conceptions of phrase structure*, 182–200. Chicago: University of Chicago Press.

Saito, Mamoru. 1992. Long distance scrambling in Japanese. *Journal of East Asian Linguistics* 1. 69–118. DOI: https://doi.org/10.1007/BF00129574

Saito, Mamoru. 2003. A derivational approach to the interpretation of scrambling chains. *Lingua* 113. 481–518. DOI: https://doi.org/10.1016/S0024-3841(02)00083-9

Saito, Mamoru. 2014. Case and labeling in a language without φ-feature agreement. In Cardinaletti, Anna & Cinque, Guglielmo & Endo, Yoshio (eds.), *On peripheries: Exploring clause initial and clause final positions*, 269–297. Tokyo: Hituzi Syobo.

Saito, Mamoru. 2016. (A) case for labeling: Labeling in languages without φ-feature agreement. *The Linguistic Review* 33. 129–175. DOI: https://doi.org/10.1515/tlr-2015-0017

Saito, Mamoru. 2017a. A note on transfer domains. *Nanzan Linguistics* 12. 61–69.

Saito, Mamoru. 2017b. Labeling and argument doubling in Japanese. *Tsing Hua Journal of Chinese Studies* 47(2). 383–405. DOI: https://doi.org/10.6503/THJCS.2017.47(2).07

Saito, Mamoru. 2017c. Japanese wh-phrases as operators with unspecified quantificational force. *Language and Linguistics* 18. 1–25. DOI: https://doi.org/10.1075/lali.18.1.01sai

Saito, Mamoru. 2018. Kase as a weak head. *McGill Working Papers in Linguistics* 25. 382–391.

Saito, Mamoru. 2021. Two notes on copy relation. *Nanzan Linguistics* 17. 157–178.

Saito, Mamoru & Fukui, Naoki. 1998. Order in phrase structure and movement. *Linguistic Inquiry* 29. 439–474. DOI: https://doi.org/10.1162/002438998553815

Saito, Mamoru & Hoji, Hajime. 1983. Weak crossover and Move α in Japanese. *Natural Language & Linguistic Theory* 1. 245–259. DOI: https://doi.org/10.1007/BF00154832

Svenonius, Peter. 2007. Adpositions, particles and the arguments they introduce. In Reuland, Eric & Bhattacharya, Tanmoy & Spathas, Giorgos (eds.), *Argument structure*, 71–110. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/la.108.08sve

Szczegielniak, Adam. 2001. Polish optional movement. In Alexandrova, Galina & Arnaudova, Olga (eds.), *The minimalist parameter*, 125–148. Amsterdam: John Benjamins. DOI: https://doi.org/10.1075/cilt.192.11szc

Takahashi, Daiko. 1993. Movement of wh-phrases in Japanese. *Natural Language & Linguistic Theory* 11. 655–678. DOI: https://doi.org/10.1007/BF00993016

Takano, Yuji. 1994. Unbound traces and indeterminacy of derivation. In Nakamura, Masaru (ed.), *Current topics in English and Japanese*, 229–253. Tokyo: Hituzi Syobo.

Takano, Yuji. 2015. Minimality for Merge. In Grewendorf, Günther (ed.), *Remnant movement*, 35–51. Berlin: De Gruyter Mouton. DOI: https://doi.org/10.1515/9781614516330-003

Takezawa, Koichi. 1987. *A configurational approach to case-marking in Japanese*. Seattle, WA: University of Washington dissertation.

Toyoshima, Takashi. 1996. *LF subjacency and stationary wh-in-situ*. Ms. Cornell University.

Travis, Lisa & Lamontagne, Greg. 1992. The case filter and the licensing of empty K. *Canadian Journal of Linguistics* 37. 157–174. DOI: https://doi.org/10.1017/S0008413100021939

Tsai, Wei-Tien Dylan. 1994. On nominal islands and LF extraction in Chinese. *Natural Language & Linguistic Theory* 12. 121–175. DOI: https://doi.org/10.1007/BF00992747

Tsai, Wei-Tien Dylan. 1999. On lexical courtesy. *Journal of East Asian Linguistics* 8. 39–73. DOI: https://doi.org/10.1023/A:1008354312243

Watanabe, Akira. 1992. Subjacency and S-structure movement of wh-in-situ. *Journal of East Asian Linguistics* 1. 255–291. DOI: https://doi.org/10.1007/BF00130554

Zhang, Jun. 2016. The multifunction of ma33 and its grammaticalization in Lisu. *Minority Languages of China* 4. 26–37.

Zushi, Mihoko. 2016. Case and predicate-argument relations. In Fujita, Koji & Boeckx, Cedric (eds.), *Advances in biolinguistics: The human language faculty and its biological basis*, 46–66. New York: Routledge. DOI: https://doi.org/10.4324/9781315709529-5