Squibs and Discussion

Wh-Scope Marking in Japanese: Evidence for the Indirect-Dependency Approach

Yoshiki Fujiwara

Abstract: The goal of this squib is to tease apart two competing approaches to *wh*-scope marking, the direct-dependency approach and the indirect-dependency approach, by introducing Japanese *wh*-scope marking. The two approaches make different predictions regarding the type of the embedded clause in *wh*-scope-marking constructions. The embedded clause is regarded as declarative under the direct-dependency approach but as interrogative under the indirect-dependency approach. What is especially interesting in this respect is that Japanese *wh*-scope marking requires the embedded clause to be marked by the interrogative complementizer *ka*. Japanese *wh*-scope marking thus provides clear morphological evidence for the indirect-dependency approach.

Keywords: *wh*-scope marking, indirect-dependency approach, embedded clauses, Japanese

1 Introduction

The goal of this squib is to tease apart two approaches to *wh*-scope marking by introducing Japanese *wh*-scope marking. German and Hindi are well-investigated languages in the literature on *wh*-scope marking. (1) and (2) illustrate the basic examples for German and Hindi *wh*-scope marking, respectively.

(1) *German*
Was glaubst du [**wo** Maria getanzt hatte]?
what think you where Maria danced had
'Where do you think Maria danced?'
(Dayal 2000:166)

For helpful feedback and discussion, I would like to thank the audiences at the 25th Japanese/Korean Linguistics Conference, as well as three anonymous reviewers and the Squibs and Discussion editors. I am also very grateful to Magdalena Kaufmann, Stefan Kaufmann, Veneeta Dayal, and especially Željko Bošković for their insightful comments. All errors and omissions are my own.

Linguistic Inquiry, Volume 52, Number 3, Summer 2021
627–639

https://doi.org/10.1162/ling_a_00379

(2) *Hindi*
siitaa-ne *kyaa* socaa [ki ravii-ne **kis-ko** dekhaa]?
Sita-ERG what thought that Ravi-ERG who-ACC saw
'Who did Sita think that Ravi saw?'
(Mahajan 2000:317)

(1) and (2) have two *wh*-phrases, one in the matrix and one in the embedded clause. In German the *wh*-phrase occupies Spec,CP, whereas in Hindi it stays in situ. It is the lower *wh*-phrase that provides the relevant semantic content, as the translations show. Thus, the questions in (1) and (2) are answered by giving values for the embedded *wh*-phrases. The function of the matrix *wh*-item appears to be merely to extend the scope of the lower *wh*-item to the matrix. In fact, the embedded *wh*-phrase cannot take matrix scope when the matrix *wh*-phrase is dropped (Mahajan 2000).

(3) a. *German*
*Du glaubst [**wo** Maria getanzt hatte]?
you think where Maria danced had
Intended: 'Where do you think Maria danced?'
b. *Hindi*
*siitaa-ne socaa [ki ravii-ne **kis-ko** dekhaa]?
Sita-ERG thought that Ravi-ERG who-ACC saw
Intended: 'Who did Sita think that Ravi saw?'
(Mahajan 2000:319)

In this sense, the matrix *wh*-phrase is called a scope marker.

Wh-scope-marking constructions are attested in a wide variety of languages: for example, Bengali (Bayer 1990), Frisian (Hiemstra 1986), Hungarian (Horvath 1997), Iraqi Arabic (Wahba 1991), Kashmiri (Manetta 2010), Polish (Stepanov 2001), Romani (McDaniel 1989), Russian (Stepanov 2001), and Warlpiri (Legate 2011). Several analyses have been proposed for this kind of scope-marking question. They are roughly divided into two types (see Dayal 1994): the direct-dependency approach (e.g., Cheng 2000, Hiemstra 1986, Manetta 2010, McDaniel 1989, Sabel 2000) and the indirect-dependency approach (e.g., Dayal 1994, 2000, Fanselow and Mahajan 2000, Legate 2011, Mahajan 2000, Stepanov 2001).

The direct-dependency approach attempts to capture *wh*-scope-marking constructions and long-distance *wh*-movement constructions in structurally similar ways. This appears to be reasonable since the two allow the same kinds of answers. A feature movement version of this approach is given in (4) (Cheng 2000, Hiemstra 1986, Sabel 2000).

(4) $[_{CP1}\ [_{WH}] \ldots V\ [_{CP2}\ \boldsymbol{wh} \ldots t_{\boldsymbol{wh}} \ldots]]$

Under this approach, the scope marker is regarded as the *wh*-feature of the embedded *wh*-phrase. Thus, in (4) the *wh*-phrase first moves to the embedded Spec,CP and then its *wh*-feature is extracted out of the *wh*-word to the matrix Spec,CP, where it is spelled out as a default or

unmarked *wh*-word, 'what'. The difference between *wh*-scope marking and long-distance *wh*-movement concerns the item moved from the embedded Spec,CP: in long-distance *wh*-movement, the whole *wh*-phrase moves, whereas only partial features of the *wh*-phrase move in *wh*-scope marking. Manetta (2010) proposes another version of the direct-dependency approach, in which the embedded *wh*-word enters an Agree relation with the matrix C to form a long-distance *wh*-dependency, assuming that the scope marker is a *wh*-expletive.[1] The scope marker is also regarded as a *wh*-expletive in another version of the direct-dependency approach, where it is linked with the embedded *wh*-word by coindexation or LF expletive replacement (e.g., Horvath 1997, McDaniel 1989).

On the other hand, the indirect-dependency approach attempts to relate the scope marker with the *whole* embedded interrogative clause, not just with the embedded *wh*-phrase itself. In this sense, the embedded *wh*-word has an indirect association with the scope marker. Dayal's (1994, 1996) version of this approach is given in (5).

(5) $[_{CP1}\ [_{CP1}\ wh_i \ldots t_{wh} \ldots V]\ [_{CP2}\ \boldsymbol{wh} \ldots t_{\boldsymbol{wh}} \ldots]_i]$

According to Dayal, each clause in *wh*-scope marking forms a separate question, and the scope marker is not an expletive but a true *wh*-phrase that questions propositions (see also Legate 2011, Stepanov 2001). Dayal also suggests that the embedded question functions as a restriction on the matrix question. Thus, (1) asks the question of what you think, whose answers are limited to the set of answers to the question of where Maria danced. Hence, the rough translation of (1) is something like 'What do you think? Where did Maria dance?' In another version of the indirect-dependency approach, proposed by Fanselow and Mahajan (2000) and Mahajan (2000), the scope marker is treated as a *wh*-expletive, which undergoes expletive replacement with the whole embedded question at LF.

Crucially, the two different approaches make different predictions regarding the clause type of the embedded clause in *wh*-scope marking. Under the direct-dependency approach, *wh*-scope marking is analyzed as involving a long-distance *wh*-question. Thus, this approach assumes that the embedded clause is declarative, so that the embedded *wh*-phrase takes matrix scope. In contrast, under the indirect-dependency approach the embedded clause is regarded as an interrogative clause, which relates to the scope marker.

Until now, the literature has not identified a language that provides clear morphological evidence regarding whether the embedded clause is declarative or interrogative. For example, the Hindi complementizer *ki* optionally appears regardless of the type of the embedded clause, as shown in (6).

[1] See Dayal 2017 for arguments against Manetta's (2010) approach, including data from Japanese.

(6) a. *Embedded declarative*
raam jaantaa hai (ki) ramaa ravi-se baat
Ram know be.PRES that Ramaa Ravi-with talk
kare-gii.
do-FUT
'Ram knows that Ramaa will talk to Ravi.'

b. *Embedded interrogative*
raam jaantaa hai (ki) ramaa kis-se baat
Ram know be.PRES that Ramaa who-with talk
kare-gii.
do-FUT
'Ram knows who Ramaa will talk to.'

c. Wh-*scope marking*
raam *kyaa* jaantaa hai (ki) ramaa **kis-se** baat
Ram what know be.PRES that Ramaa who-with talk
kare-gii?
do-FUT
'Who does Ram know that Ramaa will talk to?'

d. Wh-*extraction*
raam kis-se jaantaa hai (ki) ramaa t baat
Ram who-with know be.PRES that Ramaa talk
kare-gii?
do-FUT
'Who does Ram know that Ramaa will talk to?'
(Veneeta Dayal, pers. comm.)

This suggests that the Hindi complementizer *ki*, whether it is overt or covert, does not contribute to clause typing. Also, the complementizer in German does not relate to clause typing. Although the German complementizer *dass* 'that' is absent in the embedded clause of *wh*-scope-marking cases like (1), its absence relates to overt movement of *wh*-words, not to the interrogativity of the embedded clause.[2] For example, *wh*-movement is involved in free relatives in German, which are not questions, but they disallow the overt complementizer, as in (7).[3]

[2] It should be noted that there are varieties of German where *dass* is quite generally tolerated in embedded questions.

[3] According to Ott (2011), a true embedded question appearing in the middle field of a sentence like (7) degrades the grammaticality of the sentence, as shown in (i).

(i) ??Mir hat sie [$_Q$ wer es gesagt hat] ja nicht gesagt.
me has she who it said has PRT not said
'She didn't tell me who said it.'

The asymmetry between (7) and (i) indicates that the clause labeled as FR in (7) should not be analyzed as an embedded question.

(7) Ich werde [$_{FR}$ was$_i$ (*dass) ich t$_i$ gefunden habe]
I will what that I found have
niemandem zeigen.
nobody show
'I won't show to anybody what I found.'
(Ott 2011:184, slightly modified)

In other words, we are dealing here with the traditional doubly filled Comp effect. At any rate, German cannot tell us whether the embedded clause in *wh*-scope marking is declarative or interrogative.

This squib introduces *wh*-scope marking in Japanese, where morphology quite clearly shows whether an embedded clause is declarative or interrogative.

2 Claim

Japanese differentiates types of embedded clauses morphologically. Embedded clauses ending with *to* must be interpreted as declarative, while the ones with *ka* must be interpreted as interrogative, as shown in (8).

(8) a. John-wa [Mary-ga ki-ta to] hanasi-ta.
John-TOP Mary-NOM come-PAST COMP tell-PAST
'John told us that Mary came.'/*'John told us whether Mary came.'

b. John-wa [Mary-ga ki-ta ka] hanasi-ta.
John-TOP Mary-NOM come-PAST Q tell-PAST
'John told us whether Mary came.'/*'John told us that Mary came.'

These morphological items also determine the scope of *wh*-phrases in embedded clauses. A *wh*-phrase embedded under a *to*-clause takes matrix scope and establishes a long-distance dependency, whereas a *wh*-element embedded under a *ka*-clause cannot take matrix scope, as illustrated in (9) (see, e.g., Nishigauchi 1990).

(9) a. John-wa [dare-ga ki-ta to] ii-masi-ta ka?
John-TOP who-NOM come-PAST COMP say-POL-PAST Q
'Who did John say came?'/*'Did John say who came?'

b. John-wa [dare-ga ki-ta ka] ii-masi-ta ka?
John-TOP who-NOM come-PAST Q say-POL-PAST Q
'Did John say who came?'/*'Who did John say came?'

Keeping this in mind, consider the Japanese examples in (10). There are two *wh*-phrases, one in the matrix and one in the embedded clause, and it is the embedded *wh*-phrase that provides the "real" question content, just as in German and Hindi *wh*-scope marking.[4] I argue that (10a–b) are instances of *wh*-scope marking.

[4] As shown in section 3, languages differ regarding whether they use 'what' or 'how' as the scope marker in *wh*-scope-marking questions.

(10) a. Ano-hito-wa [**dare-ga** senkyo-ni tousensi-soo ka]
that-person-TOP who-NOM election-to win-EVID Q
nante[5] itte-ta kke?
what$_{prop}$ say-PAST Q
'What did that person say: who would win the election?'
b. [John-ga **nani-o** site tukama-tta no ka]
John-NOM what-ACC do be.arrested-PAST COMP Q
doo omow-are-mas-u ka?
how think-HON-POL-PRES Q
'What do you think: what did John get arrested for?'

In fact, the *wh*-phrase in the embedded clause cannot take matrix scope without the matrix *wh*-phrase, just as in German and Hindi *wh*-scope marking in (3) (see section 3 for more diagnostic tests).

(11) a. Ano-hito-wa [**dare-ga** senkyo-ni tousensi-soo ka]
that-person-TOP who-NOM election-to win-EVID Q
itte-ta kke?
say-PAST Q
'Did that person say who would win the election?'/
*'Who did that person say would win the election?'
b. *[John-ga **nani-o** site tukama-tta no ka]
John-NOM what-ACC do be.arrested-PAST COMP Q
omow-are-mas-u ka?
think-HON-POL-PRES Q
Lit. 'Do you think what John got arrested for?'

What is especially interesting here is that Japanese *wh*-scope marking requires the embedded clause to be interrogative (i.e., requires it to be marked with *ka*). (12) shows that it cannot be marked with *to*.

(12) a. *Ano-hito-wa [**dare-ga** senkyo-ni tousensi-soo
that-person-TOP who-NOM election-to win-EVID
to *nante* itte-ta kke?
COMP what$_{prop}$ say-PAST Q
'What did that person say: who would win the election?'
b. *[John-ga **nani-o** site tukama-tta to] *doo*
John-NOM what-ACC do be.arrested-PAST COMP how
omow-are-mas-u ka?
think-HON-POL-PRES Q
'What do you think: what did John get arrested for?'

This provides evidence for the indirect-dependency approach to *wh*-scope marking. Recall that this approach analyzes the embedded clause, which relates to the scope marker, as interrogative. Thus, it

[5] *Nante* 'what$_{prop}$' consists of *nani* 'what' and *-te* (complementizer), and it behaves only as a propositional *wh*-phrase. Thus, *nante* 'what$_{prop}$' has a different distribution than *nani* 'what', which can be an individual *wh*-phrase like German *was* and Hindi *kyaa.*

predicts that the embedded clause is interrogative. On the other hand, the direct-dependency approach assumes that the embedded clause is declarative since *wh*-scope marking is a long-distance *wh*-question under this approach. The interrogativity of the embedded clause in Japanese *wh*-scope marking is unexpected under this approach since long-distance *wh*-questions in Japanese require the embedded clause to be declarative, not interrogative, as shown in (9). Therefore, Japanese provides morphological evidence for the indirect-dependency approach.

3 *Wh*-Scope Marking in Japanese

In this section, I discuss additional properties of the Japanese constructions in question, which also confirm that we are indeed dealing here with *wh*-scope marking.

First of all, in contrast to other languages, which have only one item for the scope marker, Japanese has two: the propositional *wh*-phrase *nante* 'what' as in German and Hindi and *doo* 'how' as in Polish (Stepanov 2001) and Warlpiri (Dayal 1994, Legate 2011).

(13) Mary-wa [John-ga **dare-ni** hanasikake-ru ka]
Mary-TOP John-NOM who-DAT talk-PRES Q
nante/doo omo-tta no?
what$_{prop}$/how think-PAST Q
'What did Mary think: who would John talk to?'

According to Dayal's (1994) version of the indirect-dependency approach, the scope marker is a regular propositional *wh*-phrase (see also Legate 2011, Stepanov 2001), while other approaches regard it as a *wh*-expletive or a default *wh*-phrase. What is relevant here is that *nante* 'what' and *doo* 'how' are in fact propositional *wh*-phrases in Japanese, as seen in (14).

(14) Nante/Doo omo-tta no?
what$_{prop}$/how think-PAST Q
'What did you think?'

Dayal's indirect-dependency approach seems to provide a better (i.e., more natural) explanation for the correspondence between the scope marker and the propositional *wh*-phrases, although this does not conclusively show that other approaches are incorrect.

Japanese *wh*-scope marking is unique in the sense that the scope marker has two variants, but it also exhibits general properties of *wh*-scope marking attested in other languages, as illustrated here in points A–G. The relevant points are illustrated first with German and Hindi, and then with Japanese.

A. Any *wh*-phrase can be associated with the scope marker.

(15) a. *German*
Was glaubst du [**wo/wann/warum/wie** Maria
what think you where/when/why/how Maria

getanzt hatte]?
danced had
'What do you think: where/when/why/how did Maria dance?'
(Beck and Berman 2000:19)

b. *Hindi*
jaun *kyaa* soctaa hai [meri **kahaaN** jaaye-gii]?
John what think be.PRES Mary where go-FUT
'What does John think: where will Mary go?'
(Dayal 1994:140)

c. *Hindi*
tum *kyaa* socte ho [ki **kyaa** vo aaye-gaa]?[6]
you what think be.PRES that whether he come-FUT
'What do you think: will he come?'
(Fanselow and Mahajan 2000:214)

(16) *Japanese*

a. John-wa [Mary-ga **doko-ni** ik-u ka] *nante*
John-TOP Mary-NOM where-DAT go-PRES Q $what_{prop}$
yosoosite-ta kke?
predict-PAST Q
'What did John predict: where would Mary go?'

b. Ano-hito-wa [**itu** amerika-no daitooryoo-ga
that-person-TOP when America-GEN president-NOM
rainiti sur-u ka] *nante* itte-ta kke?
coming.Japan do-PAST Q $what_{prop}$ say-PAST Q
'What did he say: when would the president of the United States come to Japan?'

c. Soonansya-wa [yukiyama-kara **doo** yatte
victim-TOP snow.mountain-from how do
seikan si-ta ka] *nante* kotaete-masi-ta ka?
coming.back do-PAST Q $what_{prop}$ answer-POL-PAST Q
'What did the victim answer: how did he return from a snow mountain?'

d. Anata-wa [kono-seitoo-ga **naze**
you-TOP this-political.party-NOM why
ooku-no-kata-kara sizi-o atumete-i-ru
many-GEN-person-from support-ACC collect-be-PRES
no ka] *doo* omow-are-mas-u ka?
COMP Q how think-HON-POL-PRES Q
'What do you think: why does this party gain support from many people?'

[6] Hindi and German differ with respect to the possibility of yes/no questions occurring with *wh*-scope marking, German (i) being unacceptable.

(i) **Was* glaubst du [**ob** sie kommt]?
what think you whether she comes
'What do you think: will she come?'
(Fanselow and Mahajan 2000:215)

e. Kimi-wa [Sintakkusutuu-o tor-u-beki **kadooka**]
you-TOP Syntax.2-ACC take-PRES-should whether
doo omo-u?
how think-PRES
'What do you think: should we take Syntax 2?'

B. More than one *wh*-phrase can be associated with the scope marker.

(17) a. *German*
Was glaubst du [**wann** Hans an **welcher** Universität
what think you when Hans at which university
studiert hat]?
studied has
'What do you think: when did Hans study at which university?'
(Dayal 1994:140)

b. *Hindi*
raam-ne *kyaa* kahaa thaa [ki mohan-ne **kab**
Ram-ERG what said be.PAST that Mohan-ERG when
kis-ko **kEse** maaraa]?
who-ACC how hit
'What did Ram say: how did Mohan hit who when?'
(Mahajan 1990:170)

(18) *Japanese*
Anata-wa [John-ga ima **doko-de** **nani-o** site-ru
you-TOP John-NOM now where-in what-ACC do-PRES
no ka] *doo* omo-u?
COMP Q how think-PRES
'What do you think: what is John doing now where?'

C. An embedded *wh*-phrase can take matrix scope across multiple clauses if each intermediate clause also has a *wh*-scope marker.

(19) a. *German*
Was meinst du [*was*/%dass sie glaubt [**wen** Fritz
what think you what/that she believes who Fritz
liebt]]?
loves
'What do you think: what does she believe: who does Fritz love?'

b. *Hindi*
tum *kyaa* socte ho [ki us-ne *(*kyaa*) kahaa [ki
you what think be that he-ERG what said that
kɔOn aaye-gaa]]?
who come-FUT
'What do you think: who did he say: who would come?'
(Fanselow and Mahajan 2000:212)

(20) *Japanese*
[[*pro* Sintakkusutuu-o tor-u-beki **kadooka**]
we Syntax.2-ACC take-PRES-should whether

sensei-ga *(*doo*) omotte-ta ka] kimi-wa *nante*
teacher-NOM how think-PAST COMP] you-TOP what$_{prop}$
it-ta n da kke?
say-PAST COMP COP Q
'What did you say: what did the teacher think: should we take Syntax 2?'

D. The *wh*-scope marker cannot be associated with an embedded declarative.

(21) a. *German*
**Was* glaubst du [dass Maria mit Hans gesprochen
what think you that Maria with Hans spoken
hat]?
has
b. *Hindi*
*jaun *kyaa* jaantaa hai [meri ravi-se baat
John what know be-PRES Mary Ravi-with talk
kare-gii]?
do-FUT
(Dayal 1994:141)

(22) *Japanese*
*Kimi-wa [John-ga Mary-ni hanasikake-ta to] *doo*
you-TOP John-NOM Mary-DAT speak-PAST COMP how
omo-u?
think-PRES

As Dayal (1994) notes, German and Hindi have declarative counterparts of *wh*-scope marking, where the scope marker is an optional pronoun/demonstrative associated with an embedded declarative. Japanese also has a declarative version of *wh*-scope marking.

(23) a. *German*
Ich habe (*es*) bedauert [dass Hans Maria eingeladen
I have it regretted that Hans Maria invited
hat].
has
'I regretted that Hans invited Maria.'
(Fanselow 2017:2902, slightly modified)
b. *Hindi*
siitaa (*yeh*) jaantii hai [ki ravi-ne anu-ko
Sita this know be.PRES that Ravi-ERG Anu-ACC
dekhaa].
saw
'Sita knows that Ravi saw Anu.'
(Dayal 2017:160)

(24) *Japanese*
Boku-wa [John-ga Mary-ni hanasikake-ta to]
I-TOP John-NOM Mary-DAT talk-PAST COMP
(*koo*) omot-ta.
this.way think-PAST
'I thought that John talked to Mary.'

E. The predicate of the clause containing the *wh*-scope marker must be able to take a [−Q] clausal complement.[7]

(25) a. *German*
Was* fragst du [mit wem** Maria gesprochen hat]?
what ask you with whom Maria spoken has
b. *Hindi*
*jaun *kyaa* puuchtaa hai [meri **kis-se** baat
John what ask be.PRES Mary who-with talk
kare-gii]?
do-FUT
(Dayal 1994:141)

(26) *Japanese*
*Kimi-wa [John-ga **dare-ni** hanasikake-ta ka] *nante*
you-TOP John-NOM who-DAT speak-PAST Q $what_{prop}$
tazune-ta?
ask-PAST

F. The *wh*-scope marker cannot be associated with a clausemate *wh*-phrase.

(27) a. *German*
Was* ist sie **warum gekommen?
what is she why come
(Müller 1997:255)
b. *Hindi*
*meri *kyaa* **kyuuN** aaye-gii?
Mary what why come-FUT

(28) *Japanese*
*John-wa **naze** *doo*/*nante* ki-ta no?
John-TOP why how/$what_{prop}$ come-PAST COMP

G. *Wh*-scope marking across sentential negation is ungrammatical.

(29) a. *German*
Was* glaubst du <u>nicht</u> [mit wem** Maria gesprochen
what think you not with whom Maria talked
hat]?
has
(Dayal 1994:145)

[7] There is some crosslinguistic variation regarding what kind of verb can cooccur with the scope marker. In Japanese and German, a factive verb cannot be the predicate of the clause containing the scope marker, as in (i), but this is possible in Hindi (Dayal 1994).

(i) *Anata-wa [John-ga **dare-ni** hanasikake-ru ka] nante
you-TOP John-NOM who-DAT talk-PRES Q $what_{prop}$
siri-masi-ta ka?
know-POL-PAST Q

b. *Hindi*
*jaun *kyaa* nahiiN soctaa hai [meri **kis-se** baat
John what not think be.PRES Mary who-with talk
kare-gii]?
do-FUT
(Dayal 1996:57)

(30) *Japanese*
*Kimi-wa [John-ga **dare-ni** hanasikake-ru ka] *doo*
you-TOP John-NOM who-DAT talk-PRES Q how
omow-anak-atta?
think-NEG-PAST

The above data confirm that Japanese has *wh*-scope marking. In the appendix, I discuss a similar construction where the embedded interrogative appears with the postposition *-nituite* 'about', but I ultimately argue that it is not an instance of *wh*-scope marking (https://doi.org/10.1162/ling_a_00379).

4 Conclusion

This squib has shown that Japanese has *wh*-scope marking, just like German and Hindi, and that Japanese scope-marking constructions can help us tease apart two competing approaches to *wh*-scope marking, the direct-dependency approach and the indirect-dependency approach. Crucially, the two approaches make different predictions regarding the type of the embedded clause in *wh*-scope-marking constructions. The embedded clause is regarded as declarative under the direct-dependency approach but as interrogative under the indirect-dependency approach. What is particularly interesting in this respect is that the embedded clause in Japanese *wh*-scope-marking constructions is marked by the interrogative complementizer *ka.* Japanese *wh*-scope marking thus provides clear morphological evidence for the indirect-dependency approach.

References

Bayer, Josef. 1990. Directionality of government and Logical Form: A study of focusing particles and WH-scope. Habilitation thesis, University of Konstanz.

Beck, Sigrid, and Stephen Berman. 2000. *Wh*-scope marking: Direct vs. indirect dependency. In Lutz, Müller, and von Stechow, 17–44.

Cheng, Lisa Lai-Shen. 2000. Moving just the feature. In Lutz, Müller, and von Stechow, 79–99.

Dayal, Veneeta. 1994. Scope marking as indirect *wh*-dependency. *Natural Language Semantics* 2:137–170.

Dayal, Veneeta. 1996. *Locality in WH quantification: Questions and relative clauses.* Dordrecht: Kluwer.

Dayal, Veneeta. 2000. Scope marking: Cross-linguistic variation in indirect dependency. In Lutz, Müller, and von Stechow, 157–193.

Dayal, Veneeta. 2017. Does Hindi-Urdu have feature-driven *wh*-movement to Spec,VP? *Linguistic Inquiry* 48:159–172.
Fanselow, Gisbert. 2017. Partial *wh*-movement. In *The Wiley Blackwell companion to syntax*, ed. by Martin Everaert and Henk C. van Riemsdijk, 2885–2941. 2nd ed. Somerset, NJ: John Wiley.
Fanselow, Gisbert, and Anoop Mahajan. 2000. Towards a Minimalist theory of *wh*-expletives, *wh*-copying, and successive cyclicity. In Lutz, Müller, and von Stechow 195–230.
Hiemstra, Inge. 1986. Some aspects of *wh*-questions in Frisian. *NOWELE: North Western European Language Evolution* 8: 97–110.
Horvath, Julia. 1997. The status of '*wh*-expletives' and the partial *wh*-movement construction of Hungarian. *Natural Language and Linguistic Theory* 15:509–572.
Legate, Julie Anne. 2011. Warlpiri *wh*-scope marking. *Syntax* 14: 97–121.
Lutz, Uli, Gereon Müller, and Arnim von Stechow, eds. 2000. Wh-*scope marking*. Amsterdam: John Benjamins.
Mahajan, Anoop. 1990. The A/A-bar distinction and movement theory. Doctoral dissertation, MIT.
Mahajan, Anoop. 2000. Towards a unified treatment of *wh*-expletives in Hindi and German. In Lutz, Müller, and von Stechow, 317–332.
Manetta, Emily. 2010. *Wh*-expletives in Hindi-Urdu: The vP phase. *Linguistic Inquiry* 41:1–34.
McDaniel, Dana. 1989. Partial and multiple *wh*-movement. *Natural Language and Linguistic Theory* 7:565–604.
Müller, Gereon. 1997. Partial *wh*-movement and Optimality Theory. *The Linguistic Review* 14:249–306.
Nishigauchi, Taisuke. 1990. *Quantification in the theory of grammar*. Dordrecht: Springer.
Ott, Dennis. 2011. A note on free relative clauses in the theory of phases. *Linguistic Inquiry* 42:183–192.
Sabel, Joachim. 2000. Partial *wh*-movement and the typology of *wh*-questions. In Lutz, Müller, and von Stechow, 409–446.
Stepanov, Arthur. 2001. Cyclic domains in syntactic theory. Doctoral dissertation, University of Connecticut.
Wahba, Wafaa Abdel-Faheem Batran. 1991. LF movement in Iraqi Arabic. In *Logical structure and linguistic structure: Cross-linguistic perspectives*, ed. by C.-T. James Huang and Robert May, 253–276. Dordrecht: Springer.

Yoshiki Fujiwara
Department of Linguistics
University of Connecticut

sonyoshiki@gmail.com