Prosody and the syntax of shika-NPIs in Tokyo Japanese and its implications for the theory of grammar

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A number of recent works have argued for the existence of the items bearing Focus Intonation Prosody (FIP) in Tokyo Japanese (e.g., Wh-phrases), which obligatorily exhibit distinctive prosodic properties. Prosodic properties play an important role in the interpretation of FIP bearing items (FBIs) that there is a correspondence between prosody and scope of FBIs (prosody-scope correspondence (PSC)). These works show that prosody must be taken into consideration in conducting syntactic analyses of FBIs, rather than restricting only to the syntactic factors. Through the investigation of shika-NPIs in Tokyo Japanese, I will give further credence to such an interdisciplinary approach to syntactic analyses, by showing that this construction also exhibits FIP and PSC.

1. Introduction: An interdisciplinary approach to the theory of human language grammar


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It is argued that the licensing and interpretation of Wh-phrases are closely tied to the Focus Intonation Prosody (FIP) that Wh-questions exhibit, and there is a close correlation between FIP and the interpretation/scopes of Wh-phrases, which is referred to here as the Prosody-Scope Correspondence (PSC) (see Sec.2). This paper argues that the same is true with the licensing and interpretation of shika-NPIs in Tokyo Japanese, which require not only syntactic but also prosodic conditioning (i.e., FIP; Ishihara 2005a, b, 2007a, b), and demonstrate the PSC (see Sec.3). Our conclusions provide further credence to the interdisciplinary approach to the theory of grammar, in particular along the line of Kitagawa’s (2005) research guidelines (1), casting doubt on “syntax-only” approach(es) (such as Hasegawa’s 1994 syntax-only analysis of shika-NPIs). For concreteness, I will concentrate on the “syntax-prosody” interface, but other factors such as processing and pragmatics should also be taken into consideration (which I will leave for future investigation).{\textsuperscript{1, 2}}

(1) **Kitagawa’s 2005 Research Guidelines**

“The study of formal aspects of grammar should be conducted with much more careful attention to a larger context of language such as prosody, processing, and pragmatics than usually done.”

(Kitagawa 2005: p.303)

2. Prosody and the syntax of Wh-questions in Tokyo Japanese

In this section, I will very briefly summarize how prosody plays a pivotal role in understanding the nature of Wh-questions in (Tokyo) Japanese, in an aim to show what FIP is, and how it is indispensable in analyzing Wh-questions in Japanese.

2.1. The syntax of Wh-questions in Japanese (without prosody){\textsuperscript{3}}

The study of Wh-questions in Japanese has always accompanied with conflicting judgments. For example, it is well-known that Wh-island and Wh-movement effects are subject to judgment variations and fluctuations.{\textsuperscript{4}} In an example like (2), while Harada (1972: (12b)), Nishigauchi (1990: Ch.2, (35)) and others reported a Wh-island effect (not allowing the matrix scope reading (2)b), Takahashi (1993: (4a)), Maki and Ochi (1997: (4a)/(18a), Fn.1, p.496) and others (e.g., Lasnik and Saito 1984: Fn.13) did not.{\textsuperscript{5, 6}}

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\{Kitagawa (2005) argues that not only prosody, but also other factors (such as pragmatics and processing) must be taken into considerations in investigating Wh-questions in Japanese. See also the series of works he is involved with, some of which are listed in the references of this paper.

\{Throughout the paper, I only deal with Tokyo Japanese (in a broad sense, which includes the surrounding areas of Tokyo). But see Fn.12 and 18 for some possible issues concerning other dialects.

\{I would like to thank Hideki Maki and Masao Ochi for discussing these issues.

\{Only the representative literature is referred here. But see also Watanabe 1992a, b.

\{All the Japanese examples are transcribed in the modified Hepburn(‘Hebon’) system Romanization. Most of the examples cited in this paper are modified, but in a way that does not distort the intention of the original data. I use the mark ‘~’ when the cited data are not exactly the same (even if it is a slight modification). The translations are provided to illustrate the rough structures of the examples and are not meant to be ‘correct’ English translations.

\{Throughout the paper, I will gloss -ka as ‘Q’ even when it is interpreted as whether. For example, the embedded Q -ka functions as whether under the matrix scope interpretation (2)b.
Although Takahashi found the scope of the in-situ Wh-phrase in (2) ambiguous, he reported that when it undergoes long-distance scrambling, as in (3) (Takahashi 1993: (4b)), it becomes unambiguous and only the matrix scope reading is available, further arguing that such scope-fixing effects indicate that such scrambling counts as Wh-movement. Maki and Ochi (1997: (4b)/(18b), Fn.1, pp.496–497), however, observed that there is no such scope-fixing effect, allowing the embedded scope reading.

(2) Naoya-ga [CP Mari-ga nani-o nomiya-de non-da ka] N.-NOM M.-NOM Wh-ACC bar-LOC drink-TNS Q

Yumi-ni tsutae-ta no?
Y.-DAT tell-TNS Q
a. ‘Did Naoya tell Yumi [what Mari drank t at the bar]?’
   (Embedded Scope)
b. ‘What did Naoya tell Yumi [whether Mari drank t at the bar]?’
   (Matrix Scope)
   (~Ishihara 2002a: (12))

(3) Nani-o, Naoya-ga [CP Mari-ga nomiya-de t, non-da kā]
Wh-ACC N.-NOM M.-NOM bar-LOC drink-TNS Q

Yumi-ni tsutae-ta no?
Y.-DAT tell-TNS Q
a. ‘Did Naoya tell Yumi [what Mari drank t at the bar]?’
   (Embedded Scope)
b. ‘What did Naoya tell Yumi [whether Mari drank t at the bar]?’
   (Matrix Scope)
   (~Ishihara 2002a: (20))
2.2. Focus Intonation Prosody (FIP) and prosody-scope correspondence (PSC) in Wh-questions in Tokyo Japanese

2.2.1. Focus Intonation Prosody (FIP)

Deguchi and Kitagawa (2002) and Ishihara (2002a, b) have shown that Wh-questions in Tokyo Japanese exhibits what I refer to as Focus Intonation Prosody (FIP) (4) (see also Kitagawa and Deguchi 2002 and Ishihara 2003, 2004, 2007c).9

(4) **Focus Intonation Prosody in Wh-questions (FIP\textsubscript{Wh})**

Wh-questions require
(i) **F\textsubscript{0}-boosting of Wh-phrases** (F\textsubscript{0} = fundamental frequency),
(ii) followed by F\textsubscript{0}-compression until its licensing Q, and
(iii) **F\textsubscript{0}-reset** on the material after the licensing Q, if there is one.10

(\textemdash Iiichihara 2002a: (2), “Focus Intonation Pattern”)

Thus, the Wh-question in (5), in contrast to the corresponding “normal/non-focus” sentence in (6), exhibits FIP\textsubscript{Wh}.

(5) FIP\textsubscript{Wh} (i) **F\textsubscript{0}-boosting** on nani, and
FIP\textsubscript{Wh} (ii) **F\textsubscript{0}-compression** until the licensing Q.

Mari-ga **nani-o** nomiya-de *noN-da* no?  
M.-NOM Wh-ACC bar-LOC *drink-TNS Q*  
‘What did Mari drink at the bar?’

(\textemdash Iiichihara 2002a: (3b); Kitagawa 2005: (2a))

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8 Unfortunately, there is (still) no consensus on the terminologies regarding the prosody/FIP in Japanese. Followings are the partial list of the terminologies used in the recent literature.
   (i) FIP = Emphatic Prosody (EPD; Deguchi and Kitagawa 2002, Kitagawa 2005), Focus Intonation (FI; Ishihara 2002a, b, et seq.).
   (ii) F\textsubscript{0}-boosting = emphatic accent (Deguchi and Kitagawa 2002, Kitagawa 2005), P(rosodic)-focalization (Iiichihara 2002a, b, 2003, 2004), F\textsubscript{0}-boosting (Iiichihara 2005a, b), F\textsubscript{0}-rise (Iiichihara 2007b).
   (iii) F\textsubscript{0}-compression = eradication (Deguchi and Kitagawa 2002), deaccenting (Iiichihara 2002a, b), post-focus/FOCUS/focal reduction (PFR; Iiichihara 2003, 2004, 2005a, b, Kitagawa 2005), F\textsubscript{0}-reduction (Iiichihara 2005a, b), post-focal downtrends (Iiichihara 2007b).
   (iv) F\textsubscript{0}-reset = pitch/F\textsubscript{0}-reset (Iiichihara 2005a, b, 2007b). 

The terminologies I used in this paper (and Yamashita 2005, et seq.) are mostly based on Iiichihara’s.
9 I will use the following notations in indicating the prosody. **Bold** for F\textsubscript{0}-boosting, **underline** for F\textsubscript{0}-compression, and **box** for F\textsubscript{0}-reset. I will also **italicize** and **shade** the relevant licensing head (e.g., *-ka/no-‘Q’ and *-na-‘NEG’).
10 E.g., the F\textsubscript{0}-peak on Yumi-ni in (7), which follows the embedded Q that licensed Wh-phrase, is retained, whereas that of Yumi-ni in (8), which is inside the domain of F\textsubscript{0}-compression, is not.
(6) \(FIP_{Wh} (i)\) NO \(F_0\)-boosting on \textit{ramu}, and
\(FIP_{Wh} (ii)\) NO \(F_0\)-compression.

Mari-ga ramu-o nomiya-de non-da no/yō.
M.-NOM rum-ACC bar-LOC drink-TNS SFP
‘Mari drank rum at the bar.’

2.2.2. Prosody-scope correspondence (PSC)

Deguchi and Kitagawa (2002) and Ishihara (2002a, b, 2003) have shown that, once prosodic factors (\(FIP_{Wh}\)) are properly controlled for, there are no “real” Wh-island/movement effects (at least in Tokyo Japanese; see Fn.12 below for related discussion), and the alleged syntactic effects are due to the inappropriate control of \(FIP_{Wh}\).

“Wh-island” effects noted in Harada 1972, Nishigauchi 1990, and Watanabe 1992a, b, for example, will diminish when \(FIP_{Wh}\) is properly taken into consideration, and the example (2) can be prosodically disambiguated, as indicated in (7) and (8).

\(FIP_{Wh} (i)\) \(F_0\)-boosting on \textit{nani}, and
\(FIP_{Wh} (ii)\) \(F_0\)-compression until the embedded Q. cf. (8-ii)
\(FIP_{Wh} (iii)\) \underline{\(F_0\)-reset} on \textit{Yumi-ni}. cf. (8-iii)

\(FIP_{Wh} (i)\) \(F_0\)-boosting on \textit{nani}, and
\(FIP_{Wh} (ii)\) \(F_0\)-compression until the matrix Q. cf. (8-ii)
\(FIP_{Wh} (iii)\) NO \underline{\(F_0\)-reset} on \textit{Yumi-ni}. cf. (8-iii)

\(FIP_{Wh} (i)\) \(F_0\)-boosting on \textit{nani}, and
\(FIP_{Wh} (ii)\) \(F_0\)-compression until the matrix Q. cf. (8-ii)
\(FIP_{Wh} (iii)\) NO \underline{\(F_0\)-reset} on \textit{Yumi-ni}. cf. (8-iii)

\(FIP_{Wh} (i)\) \(F_0\)-boosting on \textit{nani}, and
\(FIP_{Wh} (ii)\) \(F_0\)-compression until the matrix Q. cf. (8-ii)
\(FIP_{Wh} (iii)\) NO \underline{\(F_0\)-reset} on \textit{Yumi-ni}. cf. (8-iii)

\(FIP_{Wh} (i)\) \(F_0\)-boosting on \textit{nani}, and
\(FIP_{Wh} (ii)\) \(F_0\)-compression until the matrix Q. cf. (8-ii)
\(FIP_{Wh} (iii)\) NO \underline{\(F_0\)-reset} on \textit{Yumi-ni}. cf. (8-iii)

Naoya-ga \[ CP Mari-ga \textit{nani-o nomiya-de noN-da ka] \]
N.-NOM M.-NOM Wh-ACC bar-LOC drink-TNS Q
\textit{Yumi-ni} tsutae-ta no?
Y.-DAT tell-TNS Q
‘Did Naoya tell Yumi [what Mari drank at the bar]?’

(~Ishihara 2002a: (13a); D&K 2002: (20a), Kitagawa 2005: (6a))

Naoya-ga \[ CP Mari-ga \textit{nani-o nomiya-de noN-da ka] \]
N.-NOM M.-NOM Wh-ACC bar-LOC drink-TNS Q
\textit{Yumi-ni} tsutae-ta no?
Y.-DAT tell-TNS Q
‘What did Naoya tell Yumi [whether Mari drank at the bar]?’

(~Ishihara 2002a: (13b); D&K 2002: (21), Kitagawa 2005: (6b))
Similarly, Takahashi’s (1993) alleged “Wh-movement” effects of long-distance scrambling of Wh-phrases in Japanese in (3) (observed to allow only the matrix scope interpretation) are in fact illusionary; (3)b is in fact ambiguous (allowing both the matrix and embedded scope interpretation) and is prosodically disambiguated, as shown in (9) and (10).

(9) = (3)a; Embedded Scope; \( \text{FIP}_{\text{Wh}} (i)+(ii)+(iii) = \text{PSC}_{\text{Wh}} \)
FIP\(_{\text{Wh}}\) (i) \( F_0\)-boosting on nani, and = (10-i)
FIP\(_{\text{Wh}}\) (ii) \( F_0\)-compression until the embedded Q. cf. (10-ii)
FIP\(_{\text{Wh}}\) (iii) \( F_0\)-reset on Yumi-ni. cf. (10-iii)

\[ \text{Nani-o-i}_i \quad \text{Naoya-ga} \quad \left[ \text{CP Mari-ga nomiya-de t_i non-da} \quad \text{ka} \right] \]
Wh-ACC N.-NOM M.-NOM bar-LOC drink-TNS Q

Yumi-ni tsutae-ta no?
Y.-DAT tell-TNS Q
‘Did Naoya tell Yumi [whati Mari drank ti at the bar]?’

(10) = (3)b; Matrix Scope; \( \text{FIP}_{\text{Wh}} (i)+(ii)+(iii) = \text{PSC}_{\text{Wh}} \)
FIP\(_{\text{Wh}}\) (i) \( F_0\)-boosting on nani, and = (9-i)
FIP\(_{\text{Wh}}\) (ii) \( F_0\)-compression until the matrix Q. cf. (9-ii)
FIP\(_{\text{Wh}}\) (iii) NO \( F_0\)-reset on Yumi-ni. cf. (9-iii)

\[ \text{Nani-o-i}_i \quad \text{Naoya-ga} \quad \left[ \text{CP Mari-ga nomiya-de t_i non-da ka} \right] \]
Wh-ACC N.-NOM M.-NOM bar-LOC drink-TNS Q

Yumi-ni tsutae-ta no?
Y.-DAT tell-TNS Q
‘Whati did Naoya tell Yumi [whether Mari drank ti at the bar]?’

In sum, what Deguchi and Kitagawa (2002) and Ishihara (2002a, b) showed is that there is a close correlation between Focus Intonation Prosody (FIP\(_{\text{Wh}}\)) and the interpretation of Wh-phrase, which I call the Prosody-Scope Correspondence (PSC\(_{\text{Wh}}\)).

(11) **Prosody-Scope Correspondence in Wh-questions (PSC\(_{\text{Wh}}\))**
The scope of Wh-phrases is determined and indicated by the (post-focus) \( F_0\)-compression between Wh-phrases and the Q-particle (that licensed Wh-phrases).

(11)

\[ \text{(~D&K 2002: pp.86–87; Ishihara 2002a: (11))} \]

11 The term “Prosody-Scope Correspondence” should be distinguished from Hirotani’s (2003, et. seq.) “Scope-Prosody Correspondence,” which is a processing principle. Hirotani argues that, based on the experimental studies, although FIP as indicated in (8) is necessary for a Wh-phrase inside a Wh-island to take a matrix scope, such FIP does not force such reading, and the embedded scope is also available. Note also that “prosody” Hirotani refers to is different from FIP in that it involves the prosodic phrasing of Major Phrase (MaP). See Ishihara (2003, 2004, 2007a) for argument that FIP and MaP involve different operations.
To conclude this section, the above discussion succinctly, but convincingly shows that the prosodic factors (i.e., FIP) are necessary and indispensable for the proper understanding of Wh-questions in Tokyo Japanese.12

3. Prosody and the syntax of shika-NPI constructions in Tokyo Japanese

I argue that what has been noted for Wh-questions in Tokyo Japanese is also observed with the shika-NPI constructions in Tokyo Japanese, which provides additional evidence for the interdisciplinary approach to the theory of grammar, along the line of Kitagawa’s research guidelines in (1).

3.1. The syntax of shika-NPI constructions in Japanese (without prosody)13

Hasegawa (1994) observes that otherwise ambiguous (12) becomes unambiguous when shika-NPI is scrambled to the vicinity of matrix Neg as in (13) (allowing only the matrix scope interpretation), akin to Takahashi’s (1993) observation regarding the Wh-movement effect of long-distance scrambling of Wh-phrase, and argues that A’-movement of an NPI to NegP-Spec fixes scope (Hasegawa 1994: (18)).14, 15, 16 (N.B. CC = control complement)

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12 Keiko Yoshimura (p.c. Oct., 2006, Jan., 2007) informed me that even with the prosody indicated, she still detects a Wh-island effect. What is of interest to note is that those (Taisuke Nishigauchi, Akira Watanabe, and Keiko Yoshimura) who report the Wh-island effect are native speakers of Kansai Japanese (in a broad sense, which includes areas such as Kobe, Kyoto, Nara, Osaka), and those who do not are native speakers of non-Kansai Japanese (with the exception of Kazuko I. Harada, a native speaker of Nagoya Japanese, who first noted the Wh-island effect in Japanese (Harada 1972)). It may be possible that the prosody of Kansai Japanese may be involved in making the matrix scope impossible, even though Tokyo Japanese is used as data (e.g., in Nishigauchi 1990, Watanabe 1992a, b). In fact, Nishigauchi 1990: Ch.2, Fn.14 notes the similar distinction between Kansai and Tokyo dialect (see also Nishigauchi 1999: Ch.6, Fn.2); Mamoru Saito (p.c., 1997) acknowledges that two of the speakers Nishigauchi (1990) consulted is him and Yasuaki Abe, who are native speakers of Tokyo Japanese. Although this possible dialectal distinction is interesting issue, I leave it for a future investigation. I would also like to acknowledge here that although it is true that Wh-questions in Japanese exhibit distinctive prosody not found in “non-FBI” constructions, the actual FIP, especially the prosodic realization of post-focus materials is subject to considerable dialectal variations (see e.g., Fn.18). See the series of works by Yosuke Igarashi for the dialectology of FIP Wh in Japanese (Igarashi 2007a, b, and references cited therein).

13 Since the main purpose of this paper is to show that prosody plays an important role in understanding shika-NPI constructions, I will relegate the discussion on the syntactic licensing conditions of shika-NPIs in the Appendix, except for Fn.14, 15. The shika-NPI examples used in this paper (except those discussed in the Appendix) satisfy all syntactic conditions, e.g., the shika-NPI must be c-commanded by a clause-mate negation. All the shika-NPIs used in this paper are ‘bare’ in the sense that there is no Case-marker/postposition on the XP-shika attaches to, but the same effect obtains with the shika-NPIs with Case-marker/postposition (e.g., XP-ni-shika ‘XP-DAT-SHIKA’).

14 Although shika-NPIs are subject to the clause-mate condition (but see Yamashita 2003a, b, and Fn.31), shika-NPIs in the embedded clause can be licensed by the matrix negation when the embedded clause is a control complement (Muraki 1978, Nemoto 1993). See also Yamashita 2006, 2007b for related discussions.

15 Hasegawa’s (1994) shika-NPI examples (ibid.: (4c), (16)) and Takahashi’s (1993) Wh-question examples (ibid.: (4)) are not completely parallel in that the former involves CC. This is because cross-clausal licensing of shika-NPIs is not possible with finite complement (see Appendix; but see Yamashita 2003a, b) and Wh-island (Tanaka 1997). It is however possible to make more structurally parallel examples using non-control type subjunctive complement (with overt embedded subject) discussed in Uchibori (2000: Ch.5). See Yamashita (2006).
Naoya-wa Mari-ni [cc PRO sono ramu-shika nomiya-de
N.-TOP M.-DAT that rum-SHIKA bar-LOC

drink-NEG-TNS-C tell-NEG-TNS
a. ‘Naoya did not tell Mari [that she should (Neg) drink [NPI only that rum] at the bar].’
   (Embedded Scope)

b. ‘It (Neg) was [NPI only that rum] [that Naoya told Mari [not to drink
   at the bar]].’
   (Matrix Scope)

(~Hasegawa 1994: (4c/16a), with her judgment)

Sono ramu-shika; Naoya-wa Mari-ni [cc PRO t; nomiya-de
that rum-SHIKA N.-TOP M.-DAT bar-LOC

drink-NEG-TNS-C tell-NEG-TNS
a. * (Embedded Scope) = (12)a
b. (Matrix Scope) = (12)b

(~Hasegawa 1994: (16b), with her judgment)

The judgment in (12) and (13), especially the crucial contrast regarding the unavailability of the embedded scope reading in (13), however, may not be as crystal clear as Hasegawa observes, especially once FIP is taken into consideration.

3.2. Focus Intonation Prosody (FIP) and prosody-scope correspondence (PSC) in shika-NPI constructions in Tokyo Japanese

3.2.1. Focus Intonation Prosody (FIP)

Ishihara (2005a, b, 2007b) has shown (see also Hirota ni 2004), by conducting an experimental study, that essentially the same FIP found in Wh-questions is also found in shika-NPI constructions, as stated in (14) (but recall the caveat noted in Fn.13).17, 18

16 I assume here that shika-NPI in (12) stays in-situ inside the embedded clause. ‘In-situ’ is used here in a broad sense in that shika-NPIs are not scrambled out of the clause it is base-generated in. Note that it may be possible to scramble string-vacuously out of the embedded clause to some position in the matrix clause below the matrix indirect object. Such an option may plausibly be blocked by placing an appropriate adverb that modifies only the embedded verb. I won’t place any such adverb, so as not to make the sentence complex, but I note here that placing such adverb does not interfere with the interpretation of shika-NPIs in any significant way. See also Appendix for related discussions.

17 I note here that FIP and PSC in shika-NPI construction in Tokyo Japanese are more subtle when compared to that of Wh-questions (see Yamashita 2006; Ishihara 2007b also reports the same effect with respect to FIP).

18 Although shika-NPI constructions and Wh-questions in Tokyo Japanese exhibit essentially the same FIP, it does not necessarily mean that this holds for other dialects as well. As Tomoyuki Kubo (p.c., Oct., 2006) pointed out to me, shika-NPI constructions in Fukuoka Japanese does not exhibit the same FIP observed for

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(14) **Focus Intonation Prosody in shika-NPI constructions (FIP\textsubscript{shika})**

Shika-NPI constructions require

(i) \( F_0 \)-boosting of XP \(-shika\) attaches to,

(ii) followed by \( F_0 \)-compression until its licensing Neg, and

(iii) \( F_0 \)-reset on the material after the licensing Neg, if there is one.\(^{19}\)

\( (~\text{Ishihara 2005b: (2), 2007a: (3), “NPI-FI Hypothesis”} \)

In this construction, an XP marked with \(-shika\) gets \( F_0 \)-boosted and the following sequence up until the licensing negation is \( F_0 \)-compressed, as indicated in (15). This should be contrasted with (16) where the corresponding XP is not marked by \(-shika\). No FIP is detected in this “normal” declarative sentence with negation, which exhibits “Normal” Intonation Prosody.

(15)  
\begin{align*}
\text{FIP} & \text{shika (i) } \text{\( F_0 \)-boosting on } sono \text{ rum}, \text{ and} \\
\text{FIP} & \text{shika (ii) } \text{\( F_0 \)-compression} \text{ until the licensing Neg.} \\
\text{Mari-ga} & \text{ ramu-shika nomiya-de noma-nakat-ta.} \\
M.-NOM & \text{ rum-SHIKA bar-LOC drink-NEG-TNS} \\
\text{‘Mari ([Neg]) drank [NPI only rum] at the bar.’} \\
\end{align*}

\( (~\text{Ishihara 2005b: (5B)} \)

(16)  
\begin{align*}
\text{FIP} & \text{shika (i) } \text{NO } \text{\( F_0 \)-boosting on } sono \text{ rum}, \text{ and} \\
\text{FIP} & \text{shika (ii) } \text{NO } \text{\( F_0 \)-compression} \text{ until the Neg.} \\
\text{Mari-ga} & \text{ ramu-o nomiya-de noma-nakat-ta.} \\
M.-NOM & \text{ rum-ACC bar-LOC drink-NEG-TNS} \\
\text{‘Mari didn’t drink rum at the bar.’} \\
\end{align*}

\( (~\text{Ishihara 2005b: (5A), 2007a: (8A)} \)

3.2.2. Prosody-scope correspondence (PSC)

I argue that, once FIP\textsubscript{shika} is taken into consideration, (13) is in fact ambiguous and is prosodically disambiguated and such ambiguity shows that PSC is at work for shika-NPI construction as well, as stated in (17),\(^{20}\) making Hasegawa’s original observation that (13) lacks the embedded scope reading and “syntax-only” analysis (that depends on it)

\(^{19}\) Since the \( F_0 \)-peak on the verbal predicate is in principle subject to a pitch-lowering process (Downstep), (see Poser 1984, Selkirk and Tateishi 1991, Kubozono 1993, among others), this effect may not be easily detected. See Ishihara 2005b: Sec.7.2 for related discussions, as well as Yamashita 2006, 2007b. For the sake of exposition, I assume here that \( F_0 \)-compression in FIP\textsubscript{shika} terminates at the Neg.

\(^{20}\) Recall (see Fn.11) that the difference between “Prosody-Scope Correspondence” and Hirotani’s “Scope-Prosody Correspondence,” which is a processing principle. This does not mean, however, that PSC plays no role in the processing of shika-NPI constructions. Experimental investigations should verify this, which I leave for future research.
quite dubious. Thus, it is not the type of movement (and/or movement to a particular landing site, e.g., NegP-Spec) but the prosody that determines and indicates the scope of shika-NPIs.

(17) **Prosody-Scope Correspondence in shika-NPI constructions (PSC\textsubscript{shika})**  
The scope of shika-NPIs is determined and indicated by the (post-focus) F\textsub{0}-compression between shika-NPIs and the sentential negation morpheme (that licensed shika-NPIs).

(18) and (19) indicate how the FIP\textsub{shika} disambiguates the embedded and matrix scope reading associated with (12), where shika-NPI stays in-situ.

(18) $= (12)a$; Embedded Scope; \quad $\text{FIP}_{\text{shika}}(i)+(ii) = \text{PSC}_{\text{shika}}$

Naoya-wa Mari-ni \textsub{[cc PRO} sono ramu-shika nomiya-de \textsub{noma-na-i-yooni]} iwa-nakat-ta.  
drink-NEG-TNS-C tell-NEG-TNS  
‘Naoya did not tell Mari [that she should (Neg) drink (NPI only that rum) at the bar].’

(19) $= (12)b$; Matrix Scope; \quad $\text{FIP}_{\text{shika}}(i)+(ii) = \text{PSC}_{\text{shika}}$

Naoya-wa Mari-ni \textsub{[cc PRO} sono ramu-shika nomiya-de \textsub{noma-na-i-yooni]} iwa-nakat-ta.  
drink-NEG-TNS-C tell-NEG-TNS  
‘It (Neg) was [NPI only that rum] [that Naoya told Mari [not to drink at the bar]].’

Crucially, the disambiguation strategy by FIP\textsub{shika} is at work for the scrambling example as well, as shown in (20) and (21).
What is crucial in the present discussion is that, the availability of embedded scope in (13)a, as indicated by the FIP_{shika} in (20), shows that Hasegawa’s (1994) analysis, which is based on the absence of such a reading, cannot be maintained. The scope possibilities of shika-NPI constructions thus exemplify that the prosodic factors (FIP and PSC) are necessary and indispensable for the proper understanding of shika-NPIs, on a par with Wh-questions in Japanese.21

There are, however, some complications in the “in-situ” examples (18) and (19), and the same holds for the “scrambled” variants in (20) and (21). The judgment in (18)–(21) (especially the contrast between (20) and (21)) is not as clear as the FIP and PSC predicts (or as Hasegawa (1994) observes).22 The embedded scope is the preferred reading for (18)–(19), whereas the matrix scope is the preferred reading for (20)–(21). This is due to the independent factor involving the phonological phrasing in Japanese. The phonological phrasing of the verbal predicates are subject to “downstep,” which always induces prosodic effect involving F0-lowering, that is akin to F0-compression (Deguchi and Kitagawa 2002: p.74; Ishihara 2002a: Fn.2). Thus to the extent that the

21 Tips I used when soliciting the judgments using FIP is (i) to put the extra stress on the shika-NPIs, and (ii) read/pronounce the underlined part quicker than usual. For example, I pronounced (or I asked my consultants to pronounce) the examples (18) and (20) faster than (19) and (21). When these strategies were employed, my consultants were able to make a distinction between the matrix and embedded scope.

22 At least, it is less clear when compared with Wh-questions (recall Fn.17 above), where a proper attention to FIP clearly dissolves the alleged Wh-movement/island effects. Despite the complication, it is nonetheless true that when I asked the linguists for the judgment by paying attention to FIP (using the methods mentioned in Fn.21), they were able to disambiguate the interpretations.
embedded and matrix predicates are string-adjacent, it is hard to distinguish whether “F₀-compression/F₀-lowering” is due to FIP or downstep. Hence, the prosody of (18) and (19), and (20) and (21), respectively, are in essence indistinguishable. But the contrast between (20) and (21) (both in terms of FIP and PSC) can be distinguished by, e.g., switching the control complement (CC) and Mari-ni. The presence/absence of the F₀-reset on Mari-ni (FIP_{shika} (iii) in (14)) enables to distinguish the two.

(22) Sono ramu-shika Naoya-wa [CC PRO tį nomiya-de cf. (13) that rum-SHIKA N.-TOP bar-LOC

drink-NEG-TNS-C M.-DAT tell-NEG-TNS

a. ‘Naoya did not tell Mari [that she should \_{\text{Neg]} \text{drink[NPI only that rum] at the bar}].’

(Embedded Scope)

b. ‘It (\_{\text{Neg]} was [NPI only that rum] [that Naoya told Mari [not to drink at the bar]].’

(Matrix Scope)

(23) = (22)a; Embedded Scope; FIP_{shika} (i)+(ii)+(iii) = PSC_{shika}

FIP_{shika} (i) F₀-boosting on sono ramu, and

FIP_{shika} (ii) F₀-compression until the embedded Neg, and

FIP_{shika} (iii) \underline{F₀-reset} on Mari-ni.

cf. (24-i)

cf. (24-ii)

cf. (24-iii); (20)

Sono ramu-shika Naoya-wa [CC PRO tį nomiya-de that rum-SHIKA N.-TOP bar-LOC

drink-NEG-TNS-C M.-DAT tell-NEG-TNS

‘Naoya did not tell Mari [that she should \_{\text{Neg]} \text{drink[NPI only that rum] at the bar}].’

(24) = (22)b; Matrix Scope; FIP_{shika} (i)+(ii)+(iii) = PSC_{shika}

FIP_{shika} (i) F₀-boosting on sono ramu, and

FIP_{shika} (ii) F₀-compression until the matrix Neg, and

FIP_{shika} (iii) NO \underline{F₀-reset} on Mari-ni.

cf. (23-i)

cf. (23-ii)

cf. (23-iii), (21)

Sono ramu-shika Naoya-wa [CC PRO tį nomiya-de that rum-SHIKA N.-TOP bar-LOC

drink-NEG-TNS-C M.-DAT tell-NEG-TNS

‘It (\_{\text{Neg]} was [NPI only that rum] [that Naoya told Mari [not to drink at the bar]].’

\footnote{23 I will use the dashed underline to indicate the downstep/F₀-lowering on the verbal predicate, to differentiate it from F₀-compression.}
The crucial point here, again, is that the availability of embedded scope in (22)a as indicated by the FIP\textsubscript{shika} in (23) shows that Hasegawa’s (1994) analysis (i.e., ibid.: (18), A’-movement of shika-NPI to the NegP-Spec fixes its scope), which depends on the now alleged argument on the lack thereof, cannot be maintained. More importantly, the disambiguation strategies for the scope possibilities of shika-NPI constructions in Tokyo Japanese exemplify that the prosodic factors (FIP\textsubscript{shika} and PSC\textsubscript{shika}) are necessary and indispensable for the proper understanding of shika-NPIs, on a par with Wh-questions in Japanese as discussed in Deguchi and Kitagawa 2002, Ishihara 2002a, b, 2003, 2004, 2007c, Kitagawa 2005, Kitagawa and Deguchi 2002, among others.

To sum up, I have shown that the shika-NPI constructions in Tokyo Japanese not only exhibits FIP (Ishihara 2005a, b, 2007a, b, Yamashita 2006; see also Hirotani 2004), but also PSC (Yamashita 2006, 2007a, b).

4. Concluding remarks

A number of recent works (such as Deguchi and Kitagawa 2002, Ishihara 2002a, b, and Kitagawa 2005, among many others) which paid attention to the prosodic properties of Wh-questions (in Tokyo Japanese) revealed that certain apparently syntactic effects observed for this construction are actually prosodic in nature. I have shown in this paper that essentially the same holds for the shika-NPI constructions in Tokyo Japanese in that it exhibits Focus Intonation Prosody (FIP) and Prosody-Scope Correspondence (PSC), akin to what is found in Wh-questions in Tokyo Japanese. I hope to have shown that the prosodic factors (FIP and PSC) are necessary and indispensable for the proper understanding of not only Wh-questions but also shika-NPIs construction, calling for the necessity of an interdisciplinary approach to the theory of grammar, which is couched under Kitagawa’s 2005 research guidelines in (1) (repeated here).

(1) **Kitagawa’s 2005 Research Guidelines**

“The study of formal aspects of grammar should be conducted with much more careful attention to a larger context of language such as prosody, processing, and pragmatics than usually done.”

(Kitagawa 2005: p.303)

As I see it, we must pay serious attention to the prosodic properties when conducting the syntactic analyses, especially of those phenomena involving the so-called “FIP bearing

\[24\] Unfortunately, the strategy employed to disambiguate the FIP of the scrambled shika-NPI is not applicable to the in-situ shika-NPI (i.e., the contrast between (18) and (19)). The placement of Mari-ni (or any XPs that serves to indicate the F0-reset) between the two predicate forces the embedded scope reading, and prevents the matrix scope reading which is due to an independent syntactic requirement (see Appendix for related discussions).

\[25\] Shika-NPIs (but not Wh-phrases) can also be right-dislocated. What is interesting is that contrary to scrambling cases in (13) (see also the discussions concerning cases in (20)–(24)), when shika-NPIs are right-dislocated, it can only be interpreted as matrix scope reading. It is also of interest to note that when shika-NPIs are right-dislocated, although shika-NPIs are F0-boosted, no other FIP is observed, especially F0-compression, which prosodically marks the scope, is absent. However, at the present point, I have no concrete explanation why the embedded scope reading is not available.
Appendix: Syntactic licensing conditions on shika-NPIs

In this appendix, I will very succinctly go over the necessary syntactic licensing conditions on shika-NPIs, making reference to the FIP.\(^{27}\)

(25) is the top-most priority syntactic conditions that shika-NPIs are subject to, which is noted and accepted in the literature (e.g., Fn.26).\(^{28}\)

(25) Syntactic Licensing Conditions on shika-NPI:

(i) \(\text{cd}(\text{Neg})\): Shika-NPIs must once be in the c-command domain of the sentential negation morpheme, and

(ii) **Clause-mate Condition (CMC)**: Neg and shika-NPIs must be clause-mates.

(based on Muraki 1978, see also Yamashita 2003a, b)

NPI-licensing is illicit in (26) because it violates cd(Neg). Note here that (26) is still ungrammatical even if the “correct” FIP is assigned/forced.\(^{29}\)

(26) * Naoya-wa \(\text{Mari-ni-shika } [\text{CC PRO (sono) ramu-o nomiya-de}\text{ N.-TOP M.-DAT-SHIKA (that) rum-ACC bar-LOC noma-na-i-yooni] it-ta.}\)

drink-NEG-TNS-C tell-TNS

‘Naoya told [NPI only Mari] [not[Neg] to drink (that) rum at the bar].’

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\(^{26}\) See Yamashita 2005c/in progress, 2007c, d where it is shown that prosody plays a pivotal role in accounting the nature of “split” indeterminate NPI pronouns in (Tokyo) Japanese (e.g., … dare … V-mo-si-Neg, … dare … mo … V-Neg; see Kuroda 1965: Ch.3, sec.5, pp.93–95, 2005), arguing against the “syntax-only” analyses of Kishimoto 2001, as well as Hiraiwa 2001a, et. seq.

\(^{27}\) See Oyakawa 1975, Muraki 1978, Kato 1985, Aoyagi and Ishii 1994, and references cited therein, for the basics of the syntax of shika-NPIs in Japanese. I also note here that I won’t make any commitment regarding the distinction between ‘Negative Polarity Item’ and ‘Negative Concord Item’ (Watanabe 2004). In addition, I won’t be concerned with the semantics of shika-NPIs (see e.g., Yoshimura 2007, and references cited therein).

\(^{28}\) I assume the relation between Neg and a shika-NPI to be an instance of Agree (Chomsky 2000, 2001), and thus cd(Neg) serves as a prerequisite for Agree; see Yamashita 2003a, b for arguments for this assumption. Once the Agree relation is established between Neg and shika-NPI, it is reflected as FIP as stated in (14), and it must be preserved throughout the rest of derivation (the only exception I am I aware of is the right-dislocation of shika-NPIs (Fn.24)). Note that whether Neg acts as a probe or not is optional since Neg does not require shika-NPI in its search domain; rather it is the shika-NPI that must be licensed by Neg. Furthermore, Neg can apparently probe bypassing another Neg which is closer to shika-NPI, as shown by the availability of the matrix scope interpretation of the in-situ shika-NPI in (12).

\(^{29}\) Note that it is not possible to assign FIP\(_{\text{shika}}\) in (26), since Agree between Neg and a shika-NPI is not established due to the violation of cd(Neg).
Although *shika*-NPIs are (in general) subject to the CMC,30 *shika*-NPIs contained in the embedded clause can be licensed by the matrix negation when (i) the embedded clause is a ‘non-finite’ complement (e.g., control complement (CC)), and (ii) the embedded and matrix predicates are string-adjacent, as stated in (27) (see Muraki 1978, Kato 1985, Nemoto 1993, Uchibori 2000, Yamashita 2003a, b, among others).31

(27) Syntactic Conditions on Cross-clausal Licensing of *shika*-NPIs:

(i) **Non-finiteness Condition (NFC):**
   The embedded clause must not be “finite,” and

(ii) **Predicate Restructuring Condition (PRC):**
   The embedded and matrix predicates must be string-adjacent to render predicate restructuring, which makes the bi-clause into a mono-clause.

(based on Muraki 1978, see also Yamashita 2003a, b)

For example, cross-clausal NPI-licensing is possible with the ‘basic’ word order in (28), but not with the ‘scrambled’ word order in (29) because only the former complies NFC and PRC.32, 33 Because of the intervening XP (*Mari-ni*), (29) violates PRC and, as a consequence, CMC as well.34

(28) Naoya-wa  Mari-ni  [CC PRO sono ramu-shika nomiya-de nom-u-yooni]  
N.-TOP       M.-DAT     that rum-SHIKA  bar-LOC   drink-TNS-C  

iwa-nakat-ta.  
tell-NEG-TNS

‘Naoya ([Neg]) told Mari [that she should drink [NPI only that rum] at the bar].’  
(~Nemoto 1993: Ch.4, (79), Yamashita 2003b: Part II, (3a))

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30 This is an over-simplification; see the works cited for a fuller description.
31 See Yamashita 2003a, b for arguments that CMC on NPI-licensing should be eliminated in favor of “phase-mate condition.” See also Fn.33.
32 Note here that the *shika*-NPI inside the embedded clause and Neg in the matrix clause are able to become clause-mates by virtue of predicate restructuring and thus can satisfy the CMC.
33 Note that (29) in fact satisfies cd(Neg). Given the discussion in Fn.27 that the relation between Neg and a *shika*-NPI is established via Agree, it seems reasonable to conclude that Agree fails to be established in this example, despite the fact that Neg does c-command *shika*-NPI. See Yamashita 2003b: Part II for an account that does not utilize PRC.
34 The ungrammaticality of (26) in fact shows that the priority of cd(Neg) (which is a prerequisite for Agree to take place; see Fn.27) as a licensing condition of *shika*-NPIs. Since the embedded and matrix predicates are string-adjacent, they can undergo predicate restructuring, making the *shika*-NPI and Neg clause-mates. Thus, (26) satisfies CMC, NFC, and PRC. The only condition (26) does not meet is cd(Neg), and hence it should be responsible for the deviance. In fact, cd(Neg) (feeding Agree) is the only syntactic licensing condition on *shika*-NPIs; see Yamashita 2003a, b. (It should be noted here that Muraki (1978) did not take c-command into consideration.)
(29)  * Naoya-wa [cc PRO sono rumu-shika nomiya-de nom-u-yooni].
      N.-TOP that rum-SHIKA bar-LOC drink-TNS-C
      Mari-ni t_j iwa-nakat-ta.
      M.-DAT tell-NEG-TNS
      ‘Naoya [Neg] told [that she should drink [NPI only that rum] at the bar] Mari t_j.’

(~Yamashita 2003b: Part II, (9a), see also Yoshida 2001: (12b))

Note here that (29) is still ungrammatical even if the “correct” FIP is assigned/forced, just like the case with (26).\(^{35}\)

The ungrammatical (29) can be saved by scrambling of shika-NPIs out of the embedded complement to some position in the matrix clause. (30) illustrates this with scrambling to the sentence-initial position.

(30)  Sono rumu-shika\_ Naoya-wa [cc PRO t_j nomiya-de nom-u-yooni].
      that rum-SHIKA N.-TOP bar-LOC drink-TNS-C
      Mari-ni t_j iwa-nakat-ta.
      M.-DAT tell-NEG-TNS
      ‘[NPI Only that rum], Naoya [Neg] told [that she should drink ti at the bar] Mari t_j.’

(30) becomes grammatical, since as a result of scrambling into the matrix clause, the CMC is satisfied.\(^{36}\)

Finally, consider (31) and (32).

(31)  Naoya-wa Mari-ni [cc PRO sono rumu-shika nomiya-de.
      N.-TOP M.-DAT that rum-SHIKA bar-LOC
      noma-na-i-yooni] it-ta.
      drink-NEG-TNS-C tell-TNS
      ‘Naoya told Mari [that she should ([Neg]) drink [NPI only that rum] at the bar].’

\(^{35}\) Few people informed me that (29) is not ungrammatical. It seems to me that they employ string-vacuous scrambling of shika-NPI out of the embedded clause to some position in the matrix clause below the matrix indirect object, and as a result of it, meets the CMC. However, even for these type of speakers, (29) becomes ungrammatical once some XP that counts as a base-generated phrase of the embedded complement is placed on top of the shika-NPIs.

\(^{36}\) Given the discussion in Fn.32 where the deviance of (29) is attributed to the failure to establish Agree relation between Neg and an in-situ shika-NPI, the grammaticality of (30) suggests that Agree can be established between Neg and the shika-NPI scrambled out of the control complement. This can be made possible if we assume that, following Yamashita 2003b: Part II, scrambling in (30) from the in-situ to the surface position passes through intermediate positions such as the Spec of control complement and matrix VP, and Agree takes place between Neg and the shika-NPI at the point where shika-NPI is scrambled to the matrix VP and Neg is externally merged.
(32)  **Sono ramu-shika**i-Naoya-waMari-ni _CC PRO t_j.nomiya-de
that rum-SHIKA N.-TOP M.-DAT bar-LOC

noma-na-i-yooni it-ta.
drink-NEG-TNS-C tell-TNS
‘[NPI Only that rum], Naoya told Mari [that she should ([Neg]) drink t at the bar].’

In (31) and (32), Neg is attached to the embedded predicate, and shika-NPI is base-generated in the embedded clause. The only difference between the two is that shika-NPI is scrambled out of the control complement (CC) in (32). Although shika-NPI in this example is not overtly c-commanded by the Neg, it can be radically reconstructed to the c-command domain of Neg (Saito 1989, 2007), thus it satisfies cd(Neg).

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