Labeling Roots: Indeterminates and Particles*

Ken Hiraiwa

Meiji Gakuin University & Massachusetts Institute of Technology

1. Introduction: Two Gaps

In this paper, I focus on just one puzzle in the Japanese indeterminate system—the presence of two "lexical" gaps in the paradigm. They have been consistently ignored or put aside as a merely morphological accident that does not call for any further explanation.[1]

Japanese, like many other languages, has a very productive system called *indeterminate system* (Kuroda 1965, Nishigauchi 1990, Watanabe 1991, Takahashi 2002, among many others; also Haspelmath 1997 for a cross-linguistic survey). Indeterminate pronouns lack quantificational force. As shown in table (1), different indefinite pronouns are composed by combining indeterminate pronouns and various quantificational particles (∅, *mo*, *ka*).[2]

(1)

	Indet.	Wh	Universal	Existential	NPI	Free Choice
'who'	dare	dáre-∅	dáre-mo	dáre-ka	dare-mo	dare-demo
'what'	nani	náni-∅	[*1]	náni-ka	nani-mo	nan(i)-demo
'where'	doko	dóko-∅	dóko-mo	dóko-ka	doko-mo	doko-demo
'which'	dore	dóre-∅	dóre-mo	dóre-ka	dore-mo	dore-demo
'which'	dotti	dótti-∅	dótti-mo	dótti-ka	dotti-mo	dotti-demo
'which'	dotira	dótira-∅	dótira-mo	dótira-ka	dotira-mo	dotira-demo

Even though the Japanese indeterminate system looks very productive and systematic and

*I am very grateful to Noam Chomsky, Chris Collins, Nobu Goto, Shin Ishihara, Richie Kayne, Satoshi Kinsui, Shigeru Miyagawa, Yohei Oseki, Anna Szabolcsi, Koji Sugisaki, and the audience at NELS 47 (October 14, 2016) and the NYU Brown Bag (November 4, 2016) for helpful comments. This research has been funded by the Fulbright Research Grant 2016–2015 and the JSPS Grant-in-Aid for Scientific Research (C) (No. 16K02645).

[1]For example, Kuroda (2013, 66 & footnote 8) notices the ungrammaticality of **náni-mo*, but does not offer an explanation.

[2]In what follows, I do not treat *demo* as a particle, as it should be better analyzed as a copula *de* and the particle *mo*. If so, *dare-demo* may actually have a clausal structure *whoever it is*, which should be distinguished from the other indefinite pronouns. See footnote 10.

has been thought to be so, there is a striking gap in the paradigm in (1), namely, the absence of the universal quantifier *náni-mo* 'everything'. Let us call it Gap [*1].

Pursuing Kuroda's (1965) original insight and building on parallels between indeterminate systems and noun class systems in Bantu/Gur, Hiraiwa (2015) argues that indeterminate pronouns can be syntactically decomposed into an indeterminate demonstrative root ($\sqrt{}$Dem) *da*/*do* etc. and a noun class (NC) element *-re*/*-ko*/*-(t)ti*/*-tira*, etc., as shown in table (2). Such a decomposition is supported by two Gur languages, Buli and Kabiyé as shown in (3). In Japanese, demonstrative pronouns are composed of demonstrative roots (*ko*, *so*, *a*, and *do*) and an NC element (*-re*). In Buli and Kabiyé, demonstratives are also decomposed into demonstrative roots (*de*, *la*, *na*, *nɛ*, and *ŋ*) and noun class pronouns (*wa*, *ga*, etc.).

(2)

	Indet.	
	$\sqrt{}$Dem	NC
'who'	da	re
'what'	nani	[*2]
'where'	do	ko
'which'	do	re
'which'	do	tti
'which'	do	tira

(3)

	Proximal	Medial	Distal	Wh
Japanese	ko-re	so-re	a-re	do-re
Buli	wa-de	—	wa-la	wa-na
Kabiyé	gá-nɛ́	—	ŋ́-gá	ǹŋ-gá

Here we find another gap. The inanimate indeterminate pronoun *nani* 'what' in (2) is not decomposable into a $\sqrt{}$Dem and an NC, unlike the other indeterminate pronouns. Let us call it Gap [*2].

Furthermore, Hiraiwa (2015) demonstrates that wh-pronouns, universal quantifiers, and existential quantifiers in (1) are syntactically +nominal ("DP"), whereas NPIs and free choice pronouns in (1) are syntactically –nominal ("QP"), despite their surface identity. Takahashi (2002) and Kuroda (2013) observe that NPIs and universal quantifiers show different pitch accent patterns between indeterminate pronouns and particles. I use an acute accent to indicate a pitch accent throughout the paper (*dáre-mo* (HLL) vs. *dare-mo* (LHH) for indefinite pronouns). Unifying Hiraiwa's and Takahashi-Kuroda's observations further, we obtain the following generalization in (4).[3]

(4)

	Category	Phonology
Wh/Universal/Existential	+nominal	+accented
NPI/Free Choice	–nominal	–accented

[3]It should be noted that quite a number of NPIs that are not based on indeterminates in Japanese are also unaccented/flat (e.g. *zenzen*, *mattaku*, *amari*, *kessite*, *ikkooni*, *sukosimo*, *hitotumo*; the only exception X-*sika*).

Gap [*1] is illustrated in (5)–(6). The expected form **náni-mo* in (5b) cannot take a case-marker nor function as a universal quantifier. This contrasts with the NPI *nani-mo* 'anything' in (6b).

(5) a. [**Dá-re-mo**]-ga ayasikatta. 'Everyone was suspicious.' (Universal)
b. *[**Náni-∅-mo**]-ga ayasikatta. 'Everything was suspicious.' (Universal)
c. [**Dó-ko-mo**]-ga ayasikatta. 'Everywhere was suspicious.' (Universal)
d. [**Dó-re-mo**]-ga ayasikatta. 'Everything was suspicious.' (Universal)
e. [**Dó-tti-mo**]-ga ayasikatta. 'Either of them was suspicious.' (Universal)

(6) a. [**Da-re-mo**](*-ga) ayasikunakatta. 'Nobody was suspicious.' (NPI)
b. [**Nani-∅-mo**](*-ga) ayasikunakatta. 'Nothing was suspicious.' (NPI)
c. [**Do-re-mo**](*-ga) ayasikunakatta. 'Nobody was suspicious.' (NPI)
d. [**Do-re-mo**](*-ga) ayasikunakatta. 'Nothing was suspicious.' (NPI)
e. [**Do-tti-mo**](*-ga) ayasikunakatta. 'Neither of them was suspicious.' (NPI)

I argue that the two gaps are linked to each other and have significant consequences for grammar. The absence of the universal quantifier (**náni-mo*) in (5b) follows from internal composition of pronouns and the Labeling Algorithm (LA) in Chomsky (2013, 2015). Thus, I will show that what looks like an accidental and trivial gap provides a crucial window into the nature of the structure-building architecture.[4]

2. Proposal: Projection and Labeling

Chomsky (2013, 2015) propose the Labeling Algorithm (LA) and argue that every syntactic object (SO) must be labeled. Consider the indeterminate pronoun *dare* 'who' in Japanese. The indeterminate demonstrative root *da* is merged with an NC *-re*, forming $\{_{\alpha}\ \sqrt{\text{Dem}_{da}}, \text{NC}_{re}\}$. The former being category-neutral, the latter determines the label α=NCP (Chomsky 2013, 2015). The category-neutral status of indeterminate demonstrative roots *do* is shown by (7). Notice that *ko*, *-o* and *-nna* turn the indeterminate root into a locative, an adverb, and adjective, respectively (Marantz 1997, Embick & Marantz 2008).[5]

(7)

Noun	Locative	Adverb	Adjective
do-re	do-ko	do-o	do-nna
'which'	'where'	'how'	'what'

Now, this SO=$\{_{\text{NCP}}\ \sqrt{\text{Dem}_{da}}, \text{NC}_{re}\}$ is further merged with the Q-particle *mo*, $\{_{\alpha}\ \text{NCP}_{dare}, \text{Q}_{mo}\}$. I propose that labeling ambiguity comes in here. Building on Aoyagi's (2006) insight, this is formulated in (8) (cf. Donati & Cecchetto 2015).

[4] A possibly third irregularity would be the fact that *nani* is the only demonstrative root that begins with an alveolar nasal consonant *n-* and that participates in an indeterminate system. There is another indeterminate root *i(ku)*, which combines NC elements *-tu* and *-ra* to express 'when' and 'how much', respectively.

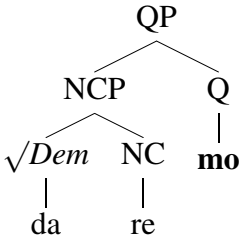
[5] See Hiraiwa (2017) for the existence of the category "pronoun" in Japanese.

(8) In Merge (X, YP):
(i) label α=XP, if X is Set-Merged with YP $\{_{\alpha}$ X, YP$\}$.
(ii) label α=YP, if X is Pair-Merged with YP $<_{\alpha}$ X, YP$>$.

If the Q-particle *mo* is Set-Merged, LA gives the label α=QP (–nominal, NPI), as shown in (9a). QP, being –nominal, cannot be merged with Case and D, subsequently. In contrast, if it is Pair-Merged, LA gives the label α=NCP (+nominal, universal quantifier) as shown in (9b). Note that the pitch accent patterns correlate with labeling: the indeterminate demonstrative root bears no pitch accent if Q "projects", while it bears an initial pitch accent if NC "projects" (we will come back to this next section). [6]

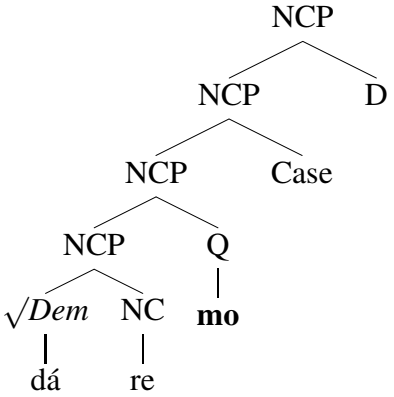
(9) *NPI 'anyone'*

a.



Universal Quantifier 'everyone'

b.

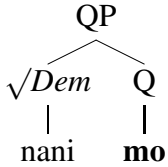


The situation is different in the head-head structure $\{$X, Y$\}$, however. Chomsky (2015) hypothesizes that the $\{$X, Y$\}$ structure should be only possible when X is a root category. In such a configuration, X, being category-neutral, cannot be a candidate for labeling (Chomsky 2013, 47). Thus, Y is necessarily a category-determining element. This is indeed correct, as we have already seen in (7). When an indeterminate demonstrative root is merged with an NC element, it is always the latter that determines the label of the whole syntactic object.

(10) In Merge (X, Y):
label α=YP, where X is a category-neutral root.

Now, consider what happens with an indeterminate demonstrative root *nani* 'what'.

(11)



[6] I assume that higher functional heads are Pair-Merged and do not "project", deriving the effect that what has been called a "DP" is actually a projection of a nominalizing head. See Chomsky (2007), Bruening (2009), and Oishi (2015) for relevant discussions.

As it lacks an NC element (Gap [*2]), it is directly merged with *mo*, leading to $\{_{\alpha}\ \sqrt{\text{Dem}}_{nani}, \text{Q}_{mo}\}$. This is necessarily Set-Merge and α is labeled as QP according to the LA in (10), because Pair-Merge results in an unlabeled syntactic object (see also Chomsky 2013, 2015). Thus, it follows that *nani-mo* is unambiguously a bare QP—an NPI. Therefore, *nani-mo* cannot behave as a nominal, as seen in (5b), because a QP is syntactically –nominal. Thus, Gap [*1] is not accidental, but rather an inevitable consequence of Gap [*2].

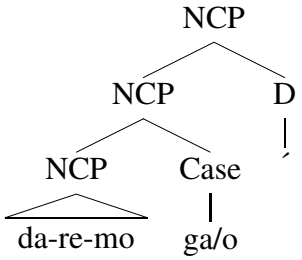
3. Pitch Accent Meets Syntax

As we have observed, indefinite pronouns in Japanese split into two classes: +nominal indefinite pronouns with an initial pitch accent (e.g. *dáre-mo*) and –nominal indefinite pronouns without a pitch accent (e.g. *dare-mo*). One might wonder, then, if there are two distinct indeterminate roots—*dá* vs. *da* and *dó* vs. *do*.

Rather, I argue that indeterminate demonstrative roots have no pitch accent underlyingly. A difference lies in how a pitch accent is merged in syntax. It is proposed that the pitch accent is located on D in the indeterminate system in Japanese, which is, then, necessarily associated with (the initial mora of) an indeterminate root. It follows that its presence requires a noun phrase to be merged with D eventually.[7]

(12) A floating pitch accent is carried by D in the Japanese indeterminate system.

(13)



On the other hand, in the absence of a pitch accent, the structure only builds up to QP, as I have argued in Section 2.[8]

In fact, it is interesting to note that definiteness (or a definite determiner) is associated with a high tone on determiners across five Gur languages that I have investigated (Hiraiwa et al. 2017, Sulemana 2016 fro Buli; see also Ahn 2016 for Tongan). Illuminating examples are drawn from Kabiyé. Relativizers express indefiniteness in Gur languages. The relativizer in (15a) minimally contrasts with the distal demonstrative in (15b) in the presence of a high tone on the homorganic nasal consonant (*ǹ-gá* vs. *ń-gá*).

(14) A high tone (definiteness) is carried by D in Gur languages.

[7] Another possible exponent for D is an augment vowel in Bantu languages. In Hiraiwa (2015), I analyzed an augment vowel as a Case head (e.g. *mu-ntu* 'anyone' vs. *u-mu-ntu* 'everyone' in Zulu).

[8] A question remains how the presence/absence of D relates to the semantic difference between wh-pronouns/quantifiers and NPIs/free choice pronouns. It will be a task of a fine-grained semantics of *mo*, which goes beyond the scope of this paper.

(15) *Kabiyé*

a. Mən-zole [ɛ-na ha **ǹ-gá** tede yɔ].
1SG-like 3SG-see.PAST dog N-NC yesterday D
' I like the dog that he saw yesterday.' (Relativizer)

b. Ma-na ha **ń-gá** yɔ.
1SG-see.PAST dog N-NC D
'I saw that dog over there.' (Demonstrative)

If so, it is not unreasonable to think that D is associated with a particular phonological exponent and semantic import, as I have proposed in (12).

4. Selection and Labeling Ambiguity

The proposed theory offers a principled explanation for further gaps. In indefinite pronouns, the order between P and the Q-particle *mo* can vary. I will illustrate this below with a verb phrase *monku-o iu* (complaint-ACC say) 'say a complaint', which takes a dative object and an accusative object.

First, it is possible for a dative postposition *ni* to follow the Q-particle *mo*, as shown in (16). But this ordering only allows for a universal quantifier interpretation.

(16) a. [**Dáre**-**mo**]-ni monku-o itta. 'I complained to everyone.' (Universal)
b. *[**Dare**-**mo**]-ni monku-o iwanakatta. 'I did not complain to anyone.' (NPI)

Assuming that postpositions have a selectional restriction that their complement, if already specified for category, must be +nominal, example (16a) is grammatical because the universal quantifier *dáre-mo* is an NCP (="DP") and hence $\{_{\text{PP}}\ \text{NCP}_{daremo}, \text{P}_{ni}\}$ (see (9b) and (13)). In contrast, the ungrammaticality of (16b) is accounted for, because the NPI *dare-mo* is a QP and hence cannot satisfy the selectional restriction of P in $*\{\text{QP}_{daremo}, \text{P}_{ni}\}$ (see (9a)).

In contrast, it is predicated that *nani-mo* cannot appear as the complement of a postposition on either interpretation, because it is necessarily a bare QP in Japanese, as I have shown in (11). This is indeed borne out. *nani-mo* $\{_{\text{QP}}\ \sqrt{\text{Dem}}_{nani}, \text{Q}_{mo}\}$ is ungrammatical as the complement of the postposition in (17).

(17) a. *[**Náni**-**mo**]-ni monku-o itta. 'I complained about everything.' (Universal)
b. *[**Nani**-**mo**]-ni monku-o iwanakata. 'I did not complain about anything.' (NPI)

On the other hand, it is also possible for the Q-particle *mo* to follow the postposition *ni*, as shown in (18). In this case, both universal quantifier and NPI interpretations are licit with *dare*. In (18a), *dáre* is $<_{\text{NCP}}\ \text{NCP}_{dare}, \text{D}>$ and hence a universal quantifier interpretation obtains. In (18b), on the other hand, *dare* is $\{_{\text{NCP}}\ \sqrt{\text{Dem}}_{da}, \text{NC}_{re}\}$ without a D layer and hence an NPI interpretation obtains.

(18) a. [**Dáre**-ni]-**mo** monku-o itta. 'I complained to everyone.' (Universal)
b. [**Dare**-ni]-**mo** monku-o iwanakatta. 'I did not complain to anyone.' (NPI)

Then as expected, example (19a), in contrast with (18a), is ungrammatical. In order to obtain a universal quantifier in (19a), D with a floating high tone is required, but this is impossible, as *nani-ni* $\{_{\rm PP}\ \sqrt{\rm Dem}_{nani}, {\rm P}_{ni}\}$ and lacks a D layer.[9,10] In contrast, the same syntactic object in (19b) is grammatical with an NPI interpretation.

(19) a. *[**Náni**-ni]-**mo** monku-o itta. 'I complained about everything.' (Universal)
b. [**Nani**-ni]-**mo** monku-o iwanakatta. 'I did not complain about anything.' (NPI)

5. Particle Stacking

The account given above predicts that a *nani*-based universal quantifier could still be built if the NPI *nani-mo* is further merged with a nominalizing head to form a nominal category. An ingenious solution that Japanese came up with is to "nominalize" the QP *nani-mo* with the particle *ka* (see also Kuroda 2013 for the observation; we depart from a deluding explanation seen in the traditional grammar). Contra Hiraiwa (2015), I propose *ka* is an n (light noun) head n.

(20) [**Náni**-**mo**-**ka**-**mo**]-ga ayasikatta. 'Everything was suspicious.' (Universal)

Let us consider the derivation of (20) in detail. First, the QP *nani-mo* in (11) is merged with the particle *ka*. The merger, *ka* being an n head, results in $\{_{\rm nP}\ {\rm QP}_{nanimo}, {\rm n}_{ka}\}$. Then, another *mo* is Pair-Merged to give $<_{\alpha}$ nP, $Q_{mo}>$, which labels α as nP (which will be Pair-Merged with Case and D subsequently). Hence the end result becomes +nominal universal quantifier as in (20). This is shown in (21).

---

[9] Note that example (19a) is clearly worse than a grammatical example of free choice. The indeterminate demonstrative root *nani* 'what', lacking an NC, is directly merged with P and this leads to $\{_{\rm PP}\ \sqrt{\rm Dem}_{nani}, {\rm P}_{ni}\}$. This is further merged with *mo* and the entire phrase becomes a bare QP $\{_{\rm QP}$ PP, $Q_{mo}\}$ (i.e. NPI), as shown in (19b). I Thus, example (19a) must be carefully judgement so as not to be confused with (i).

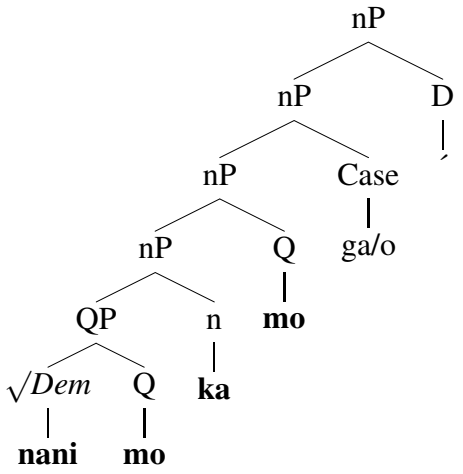
(i) [**Nan(i)**]-ni-**demo** monku-o itta. 'I complained about anything.' (Free Choice)

[10] The Q-particle can even be separated by a clause-boundary (Nishigauchi 1990, Shimoyama 2001, Kishimoto 2001, Takahashi 2002, Hiraiwa 2005, and especially, Kuroda 2013, among others).

(i) Boku-wa [$_{\rm CP}$ **dáre/dare**-ga iku to]-**mo** omowanai.
1Sg-Top who-Nom go C-MO think.Neg
'I don't think that anyone is going there.' (NPI)

At this point, I do not have an explanation for why both accented and unaccented versions become possible when *mo* is syntactically separated. The same holds with free choice pronouns in general, which gives credence to my claim in footnote 2 that they have a clausal structure: $[[{\rm NCP}_{dare}]\text{-}{\rm Cop}_{de}]\text{-}{\rm Q}_{mo}$ 'whoever'.

(21)



That *ka* has a nominalizing property, unlike *mo*, is clearly shown in (22). The indeterminate demonstrative root *nani*, when combined with *ka*, forms a +nominal existential quantifier $\{_{\text{nP}}\ \sqrt{\text{Dem}}_{nani}, \text{n}_{ka}\}$.

(22) [**Náni**-**ka**]-ga ayasikatta. 'Something was suspicious.' (Existential)

Furthermore, *ka*, when used as a Q-complementizer, clearly has an ability to nominalize a clause, as shown by the fact that it becomes possible to case-mark the entire CP.

(23) Ken-wa [$_{\text{CP}}$ Naomi-ga **náni**-o katta **ka**](-o) siranai.
Ken-Top Naomi-Nom what-Acc bought Q-Acc know.not
'Ken doesn't know what Naomi bought.'

It is also worth pointing out that many of the "complementizers" in Japanese have grown out of n elements (*light nouns* in Hiraiwa 2012, 2015, 2016).

(24)

	thing$_{\text{concrete}}$	*thing*$_{\text{concrete}}$	*thing*$_{\text{abstract}}$	*place*	
LN	no	mono	koto	tokoro	ka
C	no	mono	koto	tokoro	ka$_{\text{Q}}$

It follows, then, that the Q-complementizer *ka* also followed the same path, deriving from the light noun *ka* in *dáre-ka* 'someone' and *náni-ka* 'something'.

6. Ways of Labeling

As I have argued above, there is more than one way to label a root as "nominal" in Japanese. An NC head serves as a category-setter. An n head is another. I have argued that a particle *ka* is one of the n elements in Japanese. We should wonder, then, why *nani* can be used as a wh-pronoun and behave as a nominal, without an NC or n head.

(25) [**Náni**]-ga arimasita ka?
what-Nom happened Q
'What happened?'

I propose that this is because case particles *ga* and *o*, which usually attach to +nominal categories, have an ability to label a root category as +nominal (cf. Saito 2016).[11]

7. Conclusion

In this paper, I have argued that what looks like an accidental lexical gap in the indeterminate system in Japanese has a significant syntactic root. Thus, it is demonstrated that the fact that *nani* 'what' is the only indeterminate pronoun that lacks a universal quantifier use (Gap [*1]) is rooted in the fact that *nani* lacks an NC head (Gap [*2]). Categorial determination of a root is heavily dependent on the next head that it is merged with.

References

Ahn, Bryon. 2016. Syntax-phonology mapping and the Tongan dp. *Glossa* 1(1):1–36.

Aoyagi, Hiroshi. 2006. *Nihongo-no zyosi-to kinoohantyuu [particles and functional categories in Japanese]*. Tokyo: Hituzi Shobo.

Bruening, Benjamin. 2009. Selectional asymmetries between CP and DP suggest that the DP hypothesis is wrong. In *The proceedings of PLC 32*, 27–35. Philadelphia, PA: University of Pennsylvania Working Papers in Linguistics.

Chomsky, Noam. 2007. Approaching UG from below. In *Interfaces + recursion = language?*, ed. Uli Sauerland & Hans-Martin Gärtner, 1–29. Mouton de Gruyter.

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

Chomsky, Noam. 2015. Problems of projection: Extensions. In *Structures, strategies and beyond: Studies in honour of Adriana Belletti*, ed. Elisa Di Domenico, Cornelia Hamann, & Simona Matteini, 1–16. Amsterdam/Philadelphia: John Benjamins.

Donati, Caterina, & Carlo Cecchetto. 2015. *(Re)labeling*. Cambridge, MA: MIT Press.

Embick, David, & Alec Marantz. 2008. Architecture and blocking. *Linguistic Inquiry* 39(1):1–53.

Haspelmath, Martin. 1997. *Indefinite pronouns*. Oxford: Oxford University Press.

Hiraiwa, Ken. 2005. *Dimensions of Symmetry in Syntax: Agreement and Clausal Architecture*. Doctoral dissertation, MIT, Cambridge, MA.

[11] Somewhat similar to this is the fact that a PP can be case-marked and become a subject or an object (Kuno 1973, Saito 2016).

(i) [Asita-kara]-ga omosiroi.
tomorrow-from-Nom interesting
'It will be interesting from tomorrow.'

Hiraiwa, Ken. 2012. The mechanism of inverted relativization in Japanese: A silent linker and inversion. *Journal of Linguistics* 48(2):345–388. [DOI: 10.1017/S0022226712000126].

Hiraiwa, Ken. 2015. The QP syntax: Noun class, case, and augment. In *The proceedings of NELS 45*, ed. Thuy Bui & Deniz Özidiz, 1–11. Amherst, MA: GLSA.

Hiraiwa, Ken. 2016. NP-ellipsis: A comparative syntax of Japanese and Okinawan. *Natural Language & Linguistic Theory* 34(4):1345–1387 [DOI: 10.1007/s11049–015–9324–6].

Hiraiwa, Ken. 2017. On the so called "so called "so called pronouns"". In *A pesky set: Papers for David Pesetsky*, ed. Claire Halpert, Hadas Kotek, & Coppe van Urk, 233–242. Cambridge, MA: MITWPL.

Hiraiwa, Ken, George Akanlig-Pare, Samuel Awinkene Atintono, Adams Bodomo, Komlan Essowe Essizewa, & Fusheini Hudu. 2017. A comparative syntax of internally-headed relative clauses in Gur. In *Glossa special collection on internally-headed relative clauses*, ed. Ken Hiraiwa, 2910(27). [DOI: http://doi.org/10.5334/gjgl.40].

Kishimoto, Hideki. 2001. Binding of indeterminate pronouns and clause structure in Japanese. *Linguistic Inquiry* 32(4):597–633.

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

Kuroda, S.-Y. 1965. *Generative Grammatical Studies in the Japanese Language*. Doctoral dissertation, MIT, Cambridge, MA.

Kuroda, S.-Y. 2013. Prosody and the syntax of indeterminates. *Lingua* 124:64–95.

Marantz, Alec. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. *UPenn Working Papers in Linguistics* 4(2):201–225.

Nishigauchi, Taisuke. 1990. *Quantification in the theory of grammar*. Dordrecht: Kluwer Academic Publishers.

Oishi, Masayuki. 2015. The hunt for a label. In *Untiring pursuit of better alternatives*, ed. Hiroki Egashira et al., 322–234. Tokyo: Kaitakusha.

Saito, Mamoru. 2016. (A) case for labeling: labeling in languages without ϕ-feature agreement. *The Linguistic Review* 33(1):129–175.

Shimoyama, Junko. 2001. WH-constructions in Japanese. Doctoral dissertation, University of Massachusetts, Amherst, Amherst, MA.

Sulemana, Abdul-Razak. 2016. The definite morpheme in Bùlì. Ms., MIT.

Takahashi, Daiko. 2002. Determiner raising and scope shift. *Linguistic Inquiry* 33(4):575–615.

Watanabe, Akira. 1991. *Wh-in-situ, subjacency, and chain formation*. (MIT Occasional Papers in Linguistics 2). Cambridge, MA: MITWPL.

Ken Hiraiwa
hiraiwa@ltr.meijigakuin.ac.jp