Definiteness of *Koto* in Japanese and Its Nullification*

Takeo Kurafuji

The semantics of a Japanese nominal element *koto* 'fact', 'thing', etc. is discussed. Two basic observations are made about *koto*. One is that common nouns followed by *koto* are interpreted as definite. The other is that when it follows other types of nominals such as referential NPs and quantified NPs, *koto* has no semantic contribution, and it behaves like a pleonastic element. It will be claimed that the nullification of the definiteness can be derived by semantic principles such as type-lifting.

1 Introduction

This paper discusses the semantics of a Japanese nominal element *koto*. *Koto* literally means 'thing', 'fact', 'matter', and so on, but if it is used in complement position of emotion predicates or intensional predicates, then apparently it means nothing.[1]

(1) John-wa [Mary-no **koto**]-ga suki-da.
-Top -Gen -Nom like-Pres
'John likes Mary.' NOT 'John likes the thing of Mary.'

For example, (1) does not mean that John likes the thing of Mary or John likes Mary's fact. (1) just means that John likes Mary, where *koto* means nothing. Based on this fact, traditional Japanese grammarians such as Tokieda 1950 regard *koto* in (1) as pleonastic element. Contrary to this traditional view, I will claim that *koto* functions as a definite marker when used in complement of emotion predicates or intensional predicates

Koto can follow any types of nominal expressions as schematized in (2).

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[1] Some predicates are given here.
emotion predicates:
ais '(v) love', *keebetus* '(v) scorn', *kirai* '(adj) hate', *kiraw* '(v) hate',
nikum '(v) hate', *sonkees* '(v) respect', *suki* '(adj) like' etc.
intensional predicates:
motome '(v) want', *sagas* '(v) seek', *suuhais*'(v) worship', etc.

RuLing Papers 1, 169–184.
Working Papers from Rutgers University.

(2) [___ -no koto]
   a. common nouns — *Koto* functions as definite marker
   b. referential NPs — *Koto* has no semantic contribution
   c. quantified NPs — *Koto* has no semantic contribution

When *koto* follows common nouns, it behaves like a definite marker, while when it follows referential NPs or quantified NPs, it seems to have no semantic contribution. I will claim that *koto* is uniformly a definite marker in all cases of (2), and I will argue that the definiteness effect of *koto* is nullified if it is used with referential NPs or quantificational NPs. I will show that the nullification of definiteness can be derived from independently motivated semantic principles such as type lifting.

2 Definiteness of *Koto*

In this section, I will show that *koto* functions as a definite marker when it is used with common nouns.

(3) a. John-wa kyooju-ga suki-da.
-Top professor-Nom like-Pres
'John likes professors', 'John likes a (certain) professor',
'John likes the professor.'

b. John-wa [kyooju-no **koto**]-ga suki-da.
-Top professor-Gen -Nom like-Pres
'John likes the professor.'

Since Japanese doesn't have articles like *a* or *the*, interpretations of the bare NP object in (3a) are context-sensitive. The most salient interpretation of (3a) is that John likes any person who is a professor, or that generally speaking John likes professors. Other interpretations are that John likes a certain (specific) professor, and that John likes the professor. (3b) is, on the other hand, unambiguous and it has only a definite reading: John likes the professor who both the speaker and the hearer know. In what follows, I will give three pieces of evidence that common nouns followed by *koto* are not indefinites but they are interpreted as definite.

2.1 Non-interaction with Other Operators

Indefinite NPs show scope ambiguity with other operators, depending on whether they are interpreted as specific or as non-specific. For example, (4) has two readings as shown in (4i) and (4ii).

(4) Every woman talked to a child in fifth grade.
(i) For every woman there is some child or other in fifth grade, such that the woman talked to the child.
(ii) There is a child in fifth grade such that every woman talked to him.

Now if common nouns + *koto* were indefinite, then it would be predicted that it should be under the scope of the other operator, showing scope ambiguity. But this prediction is not borne out. First let's see (5), in which *koto* is not used. In this case, the scope of the bare NP object is ambiguous with respect to the subject quantifier, as shown in (5i) and (5ii), just like what we observed in (4) (although (5ii) is very weak).

(5) Dare-mo-ga kyooju-o kirat-tei-ru.
who-∀-Nom professor-Acc hate-Prog-Pre
(i) 'For everyone, there is at least one professor he hates.'
(ii) 'There is a (specific) professor such that everyone hates him.'

On the other hand, as shown in (6), when *koto* is used, the sentence is not ambiguous. (6) is interpreted only as: Everyone hates the unique professor.

(6) Dare-mo-ga [kyooju-no **koto**]-o kirat-tei-ru.
who-∀-Nom professor-Gen -Acc hate-Prog-Pre
(i) *'For everyone, there is at least one professor he hates.'
(ii) 'Everyone hates the professor.'

The same thing is observed in negative sentences. As in (7), when *koto* is not used, the bare NP object can have either wide scope over or narrow scope under the negation. If *koto* is used, on the other hand, the common noun + *koto* is never under the scope of negation, as shown in (8).

(7) John-wa kyooju-o kirat-tei-na-i.
-Top professor-Acc hate-Prog-Neg-Pre
(i) 'John hates no professor.'
(ii) 'There is a (specific) professor such that John does not hate him.'

(8) John-wa [kyooju-no **koto**]-o kirat-tei-na-i.
-Top professor-Gen -Acc hate-Prog-Neg-Pre
(i) *'John hates no professor.'
(ii) 'John does not hate the professor.'

2.2 Anti-Partitivity

A second piece of evidence comes from the anti-partitivity effect. As argued by Enç 1991, indefinite NPs can be interpreted as partitive.[2] Enç introduces a definition of specificity as in (9).

(9) Specificity
An NP is specific iff its referent is a subset of a referent which has already been introduced in the domain of discourse.

According to the definition given in (9), specific NPs require pre-established supersets which contain their referents and are typically expressed as partitive such as *some of the girls*. The supersets do not have to be overt. As shown in (10), if the superset is recoverable from the context, it can be covert.

(10) Several children entered the museum.
I saw two boys at the movies.

Two boys in the second sentence of (10) is ambiguous between specific and non-specific. If the referent of *two boys* are not included in the referent of *several children*, it is interpreted as non-specific. In contrast, if (10) is uttered in a situation where two boys among the children who entered the museum went to the movies later, and the speaker saw them, then *two boys* is interpreted as specific, although the superset which makes the indefinite NP partitive is covert in the second sentence.

Let us consider interpretations of a bare NP with or without *koto* with respect to partitivity

(11) Iroirona syokugyoo-no hito-ga oozee heya-ni
various occupation-Gen person-Nom many room-Loc
hait-te-ki-ta. Sono naka-ni kyooju-ga
enter-inf.-come-Past that inside-Loc professor-Nom
suu-nin fukum-are-tei-ru.
several-CL include-Pass-Prog-Pre
'Many people of various occupations have entered the room. And several professors are included in them.'

a. John-wa kyooju-o kirat-tei-ru.
-Top professor-Acc hate-Prog-Pres
(sikasi watashi-wa sore-ga dare da ka shir-ana-i.)
but I-Top it-Nom who Cop Q know-Neg-Pres
'John hates a professor (but I don't know who the person is).'

[2] See also Abbott 1995, Fodor and Sag 1982, Heim 1982, Kadmon 1987 for relevant discussions.

b. *?John-wa [kyooju-no-**koto**]-o kirat-tei-ru.
-Top professor-Gen -Acc hate-Prog-Pres
(sikasi watashi-wa sore-ga dare da ka shir-ana-i.)
but I-Top it-Nom who Cop Q know-Neg-Pres
'John hates the professor (but I don't who the person is).'

The bare NP object in (11a) can be interpreted either as specific or non-specific. If it is linked to a member of the people who have entered the room, the specific reading obtains. On the other hand if the referent of the bare NP object is not a member of the pre-established set, it is interpreted as non-specific, just like the English example in (10).

Unlike (11a), (11b) is very marginal in this context. We cannot link the referent of the object NP to a member of the people who entered the room. So, (11b) suggests that common nouns + *koto* are not interpreted as specific, which in turn suggests that they are not indefinites.

2.3 Counterfactual Contexts

A third piece of evidence is concerned with interpretation of indefinite NPs in counterfactual contexts. As Cormack and Kempson 1991 point out, indefinite NPs behave differently from definite ones in counterfactual contexts. Let us take a look at (12).

(12) a. If John had drowned, I would have been appalled.
b. If a student in my group had cheated, I would have lost my job, but if Bill, who is also a student in my group, had cheated, it wouldn't have affected me.

Cormack and Kempson's point is as follows. The referents of *John* and *I* in (12a) are fixed even in the counterfactual context. If indefinite NPs like *a student* were interpreted as referential, (12b) could be consistent because the speaker could have some different referent than Bill in mind. But the sentence is inconsistent. Therefore indefinite NPs cannot be referential in counterfactual circumstances. Let us consider Japanese counterfactual contexts in (13a) and (13b).

(13) a. (pro) Kyooju-o kirat-tei-ta-nara,
professor-Acc hate-Prog-Past-if
shigoto-o ushinat-tei-ta daroo.
job-Acc lose-Prog-Past would
Shikasi pro Bill-o kirat-tei-ta-toshitemo
but -Acc hate-Prog-Past-even.if
nan-no-eekyoo-mo na-katta daroo.
any-Gen-effect-∀ Neg-Past would
'If I had hated a professor, I would have lost my job. But even if I had hated Bill, there wouldn't have been any effect (on me).'

b. (pro) [Kyooju-no **koto**]-o kirat-tei-ta-nara,
professor-Gen -Acc hate-Prog-Past-if
shigoto-o ushinat-tei-ta daroo.
job-Acc lose-Prog-Past would
Shikasi pro Bill-o kirat-tei-ta-toshitemo
but -Acc hate-Prog-Past-even.if
nan-no-eekyoo-mo na-katta daroo.
any-Gen-effect-∀ Neg-Past would
'If I had hated the professor, I would have lost my job. But even if I had hated Bill, there wouldn't have been any effect (on me).'

Suppose Bill is a professor, and both the speaker and the hearer know the fact. The first sentence in (13a) says that in the real world there were no professor that the speaker hated and this fact caused the other fact that she has her job now. However, the second sentence in (13a) says that hating Bill, a professor, gives no effect to the speaker's job, which makes (13) as a whole inconsistent. This suggests that Japanese bare NPs are interpreted as indefinite in counterfactual circumstances as well as English indefinite NPs like *a student*. On the other hand, (13b) does not have an inconsistent reading. We can easily interpret the referent of *kyooju-no koto* as different from the referent of *Bill*. This fact strongly suggests that the bare NP + *koto* is definite.

To sum up: In this section, I have argued that common nouns followed by *koto* are interpreted only as definite NPs.

3 Referential Expressions + *koto*

Koto can take names and NPs with demonstratives, as shown in (14b) and (15b), respectively.

(14) a. John-wa Mary-ga suki-da
-Top -Nom like-Pres
'John loves Mary.'

b. John-wa [Mary-no **koto**]-ga suki-da
-Top -Gen -Nom like-Pres
'John loves Mary.'

(15) a. John-wa **sono** kyooju-o kirat-tei-ru
-Top that professor-Acc hate-Prog-Pres
'John hates that professor.'

b. John-wa [**sono** kyooju-no **koto**]-o kirat-tei-ru
-Top that professor-Gen -Acc hate-Prog-Pres
'John hates professor.'

And there is no salient difference between the a-examples and the b-examples. That is, if the a-examples are felicitous in some context, then so are the b-examples in the same context, and vice versa. So, we can get observation as in (16).

(16) *Koto* has no semantic effect when it follows referential expressions.

Under a special situation, however, *koto* does affect the interpretation of proper names. Consider the following scenario. John's girlfriend is Mary Hamilton. His ex-girlfriend was Mary Smith. His ex-ex-girlfriend was Mary Johnson. His ex-ex-ex-girlfriend was Mary Lee. Under this context we can say (17) ironically.

(17) John-wa Mary-ga suki-da ne.
-Top -Nom like-Pres particle
'John likes anyone whose name is Mary.'
'John likes Maries.'

This suggests that Japanese names can be used as predicative. Interestingly enough, if we use *koto*, the possible interpretation is only that *Mary* refers to the unique individual. In other words, (14b) is not felicitous in this context.

4 Quantified NPs + *koto*

The most peculiar fact concerning *koto* is that it can cooccur with quantified expressions, and it seems that *koto* has no effect on the preceding quantified NP. First I give a summary of the description as to quantified NPs + *koto* in (18). Note that in Japanese Quantifier Phrases consist of wh-part and quantifier-part.

(18) QP + *koto*

a.	at least three N + *koto*	→	at least three N
b.	at most three N + *koto*	→	at most three N
c.	most N + *koto*	→	most N
d.	who-∃ + *koto*	→	someone
e.	who-∀ + *koto*	→	(ungrammatical)[3]

Except for (18e) all of the cases show that *koto* has no semantic contribution when it follows a QP. So, I conclude that (19) holds,

(19) *Koto* has no semantic effect when it follows a quantified NP.

Now I will give actual examples. (20)–(22) are examples of (18a)–(18c).

(20) *sukumakutomo* 'at least'

a. John-wa sukunakutomo san-nin-no kyooju-o kirat-tei-ru
-Top at.least three-CL-Gen professor-Acc
kirat-tei-ru
hate-Prog-Pres
'John hates at least three professors.'

b. John-wa [sukunakutomo san-nin-no kyooju-no
-Top at.least three-CL-Gen professor-Gen
koto]-o kirat-tei-ru
-Acc hate-Prog-Pres
'John hates at least three professors.'

(21) *seezee* 'at most'

a. ?John-wa seezee san-nin-no kyooju-o kirat-tei-ru
-Top at.most three-CL-Gen professor-Acc hate-Prog-Pres
'John hates at most three professors.'

[3] An example of (18e) is given in (i).

(i) *John-wa [dare-mo-no **koto**]-o kirat-tei-ru.
-Top who-∀-Gen -Acc hate-Prog-Pres
'John hates every professor.'

The ungrammaticality of (18e) does not follow from my account presented below. I assume that it is due to the restricted distribution of the universal quantificational particle *-mo* followed by the genitive marker *-no*. See Kurafuji (1996) for the relevant discussion.

b. ?John-wa [seezee san-nin-no kyooju-no **koto**]-o
-Top at.most three-CL-Gen professor-Gen -Acc
kirat-tei-ru
hate-Prog-Pres
'John hates at most three professors.'

(22) *taitee* 'most'
a. John-wa taitee-no kyooju-o kirat-tei-ru
-Top most-Gen professor-Acc hate-Prog-Pres
'John hates most professors.'

b. John-wa [taitee-no kyooju-no **koto**]-o kirat-tei-ru
-Top most-Gen professor-Gen -Acc hate-Prog-Pres
'John hates most professors.'

As shown in the translations given in (20)–(22), there is no salient difference between the a-examples and the b-example. For some unknown reason, *seezee* 'at most' is not suitable in sentences like (21). But the important point is that (21b) is as questionable as (21a).

Let us see the case of (18d) where QPs consist of wh-phrase and existential quantifier. As shown in (23), in Japanese, sentences where both subject and object are quantifiers do not show scope ambiguities. The subject takes wide scope over the object unambiguously. As in (23b), if the object is scrambled over the subject, then the sentence becomes ambiguous (see Aoun and Li 1987, Hoji 1985 and Huang 1982 among others for relevant discussion from syntactic view points).

(23) a. Dare-mo-ga dare-ka-o ais-itei-ru
who-∀-Nom who-∃-Acc love-Prog-Pres
(i) 'For everyone, there is at least a person who he loves.'
(ii) *'There is a person such that everyone loves him.'

b. Dare-ka-o_i dare-mo-ga t_i ais-itei-ru
who-∃-Acc who-∀-Nom love-Prog-Pres
(i) 'For everyone, there is at least a person who he loves.'
(ii) 'There is a person such that everyone loves him.'

The same observation is obtained when an existential quantifier in an object position is followed by *koto*.

(24) a. Dare-mo-ga [dare-ka-no-**koto**]-o ais-itei-ru
who-∀-Nom who-∃-Gen -Acc love-Prog-Pres
(i) 'For everyone, there is at least a person who he loves.'
(ii) *'There is a person such that everyone loves him.'

b. [Dare-ka-no-**koto**]-o$_i$ dare-mo-ga t$_i$ ais-itei-ru
who-∃-Gen -Acc who-∀-Nom love-Prog-Pres
(i) 'For everyone, there is at least a person who he loves.'
(ii) 'There is a person such that everyone loves him.'

In (24a), the subject takes wide scope over the object unambiguously, and in (24b), where the object is scrambled over the subject, the sentence becomes ambiguous. The point is that adding *koto* does not affect the meaning.

The description of nominal expressions + *koto* is summarized in (25).

(25) a. common noun + *koto* — *koto* functions as definite marker
b. referential NP + *koto* — *koto* has no semantic contribution
c. quantified NP + *koto* — *koto* has no semantic contribution

5 Semantics of *Koto*

In this section I will propose a uniform analysis of the behavior of *koto* summarized in (25). First of all, I assume that a nominal expression + *koto* has the structure as in (26), which seems to be very standard.

(26) [$_{NP}$ [$_{PP}$ NP/QP [$_P$ -no]] [$_N$ koto]]

It is obvious that the syntactic category of *koto* is N, since genitive marker *-no* shows up between the preceding NP/QP and *koto*. The crucial assumption for the following discussion is that *-no* projects PP just like English *of*.

Theoretical assumptions I adopt in this paper are the following.

(27) a. Type mismatch triggers LF-movement. (cf. Portner 1992)
b. A type of an XP-trace is determined by its X^0-sister. (Bittner 1994)
c. Type-Lifting (28) (Partee's 1987 IDENT).

(28)	Input	Output	Operation ⇑
	e	<*e*, *t*>	λxλy[x=y]

(29)	lexical item	translation	type
	koto	λPιx[P(x)]	<<*e*, *t*>, *e*>

(30) $||\iota_u\phi||^{M, g}$
= the unique element of the set $\{d \in \Delta_e: w_c \in ||\phi||^{M, g[u/d]}\}$, if there is such; otherwise undefined.
'w_c' is the contextually fixed world (i.e. the world of utterance).

The crucial point of the definition in (30) is that $||\phi||$ is evaluated in the contextually fixed world, w_c, and this makes correct prediction that the referent of a common noun + *koto* must be a unique individual even when it interacts with

intensional verbs. Let us consider an English example, first. In English, examples like (31) are ambiguous even if the object is definite.

(31) John is looking for the professor.

One reading of (31) is that there is a unique individual such that he is a professor and John is looking for him. Another reading is paraphrased as: John is looking for anyone who he believes is a professor. The referent of *the professor*, thus, does not have to be a professor in the context where (31) is uttered. Now let us consider the Japanese counterparts.

(32) a. John-wa kyooju-o sagashi-tei-ru
-Top professor-Acc seek-Prog-Pres
'John is looking for a professor.'
'John is looking for the professor.'

b. John-wa [kyooju-no **koto**]-o sagashi-tei-ru
-Top professor-Gen -Acc seek-Prog-Pres
'John is looking for the professor.'

(32a) has a reading like a job advertisement, while (32b) does not have such a reading. And also in (32a) the person who John is looking for does not have to be a professor in the world where it is uttered. On the other hand, in (32b), the referent of *kyooju-no koto* must be the unique individual who is a professor in the context where the sentence is uttered. This is captured by the definition in (30).

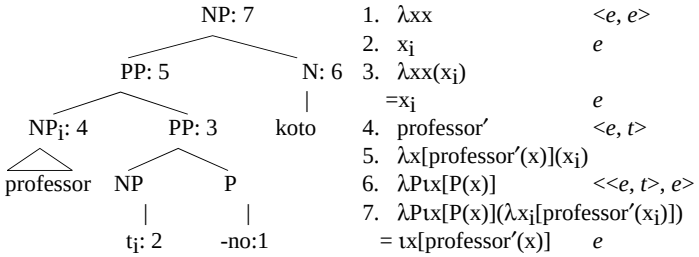
Another important assumption is that the genitive marker *-no*, which shows up before *koto*, is of type <*e*, *e*> as given in (33).

(33)

lexical item	translation	type
no	λxx	<*e*, *e*>

Now let us see how *kyooju-no koto* 'professor-Gen koto' translates into 'the professor'. The derivation is given in (34).

(34) common noun + *koto*

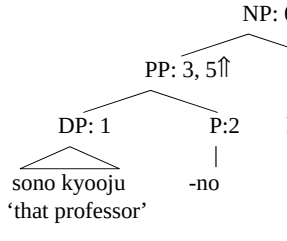


1. λxx <*e*, *e*>
2. x_i *e*
3. λxx(x_i) =x_i *e*
4. professor′ <*e*, *t*>
5. λx[professor′(x)](x_i)
6. λPιx[P(x)] <<*e*, *t*>, *e*>
7. λPιx[P(x)](λx_i[professor′(x_i)]) = ιx[professor′(x)] *e*

By assumption *-no* is of type <*e*, *e*>, as shown in 1. This forces the common noun *kyooju* 'professor' to move since function application does not apply. (27b) requires the trace left behind by *kyooju* 'professor' to be of type *e*. This type can combine with *-no*, and yields x_i of type *e*. This becomes an argument of the moved common noun which has adjoined to the PP, as illustrated in 5. After that, the usual function application gives us the desirable result, as shown in 6.–7.

Let's consider the cases of referential NPs + *koto*, next. In this case, the type-lifting operation in (28) accounts for the vacuousness of *koto*. First, let us see the case of demonstrative in (35).

(35) demonstrative NP + *koto*

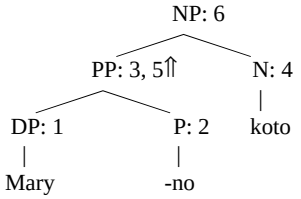


1. that-professor′ *e*
2. λxx <*e*, *e*>
3. λxx(that-professor′)
   = that-professor *e*
4. λPιx[P(x)] <<*e*, *t*>, *e*>
5. λxλy[x=y](that-professor′)
   = λy[that-professor′=y] <*e*, *t*>
6. λPιx[P(x)](λy[that-professor′=y])
   = ιx[that-professor′=x]
   = that-professor′ *e*

The important points are 5 and 6. At 5 we have type mismatch between *e* and <<*e*, *t*>, *e*>, where the type-lifting operation (28) applies to *e* and changes it into <*e*, *t*>. At 6, the ι-operator changes <*e*, *t*> back into *e*. Furthermore it follows from the definition of the ι-operator given in (30) that ιx[that-professor′=x] is equivalent to that-professor′. We started with that-professor′ and end up with that-professor′. This is the reason that *koto* seems to do nothing when combined with a demonstrative.

Proper names can be dealt with in the same way as illustrated in (36).

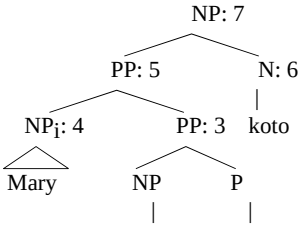
(36) proper name + *koto*



1. m *e*
2. λxx <*e*, *e*>
3. λxx(m)
   = m *e*
4. λPιx[P(x)] <<*e*, *t*>, *e*>
5. λxλy[x=y](m)
   = λy[m=y] <*e*, *t*>
6. λPιx[P(x)](λy[m=y])
   = ιx[m=x]
   = m *e*

In section 3, we have seen that Japanese names have two modes; one is referential and the other is predicative. We have also seen that a predicative name is altered into referential if it is followed by *koto*. This fact can be accounted for in the same way as in (34).

(37) 'predicative name' + *koto*

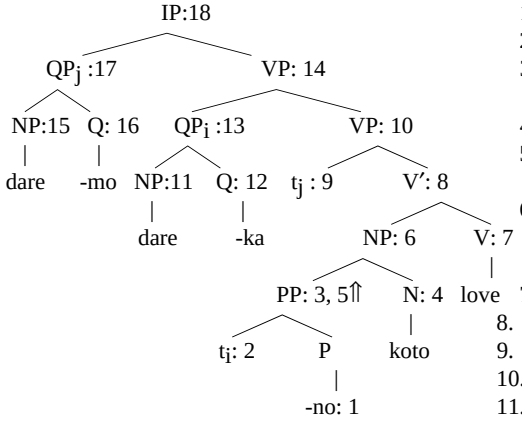


1. x_i *e*
2. λxx <*e*, *e*>
3. $\lambda x x(x_i)$
   $= x_i$ *e*
4. have-a-name-of-mary′ <*e*, *t*>
5. $\lambda x[\text{have-a-name-of-mary}'(x)](x_i)$
   $= \text{have-a-name-of-mary}'(x_i)$ *t*
6. λPιx[P(x)] <<*e*, *t*>, *e*>
7. $\lambda P \iota x[P(x)](\lambda x_i[\text{have-a-name-of-mary}'(x_i)])$
   $= \iota x[\text{have-a-name-of-mary}'(x)]$ *e*

The predicative *Mary*, which translates into have-a-name-of-mary′, serves as an argument of *koto* at 7, and the resulting formula denotes the unique individual whose name is Mary, namely Mary.

Koto is also vacuous when it follows quantified expressions of type <<*e*, *t*>, *t*>. Again, this vacuousness can be accounted for only by the assumptions given in (27). The derivation of 'everyone loves someone-koto' is given in (38).

(38) QP + *koto*



1. λxx <*e*, *e*>
2. x_i *e*
3. $\lambda x x(x_i)$
   $= x_i$ *e*
4. λPιx[P(x)] <<*e*, *t*>, *e*>
5. $\lambda x \lambda y[x=y](x_i)$
   $= \lambda y[x_i=y]$ <*e*, *t*>
6. $\lambda P \iota x[P(x)](\lambda y[x_i=y])$
   $= \iota x[x_i=x]$
   $= x_i$ *e*
7. love′ <*e*, <*e*, *t*>>
8. $\text{love}'(x_i)$ <*e*, *t*>
9. x_j *e*
10. $\text{love}'(x_i)(x_j)$ *t*
11. man′ <*e*, *t*>
12. $\lambda P \lambda Q \exists x[P(x) \wedge Q(x)]$ <<*e*, *t*>, <<*e*, *t*>, *t*>>
13. $\lambda Q \exists x[\text{man}'(x) \wedge Q(x)]$ <<*e*, *t*>, *t*>

14. $\lambda Q\exists x[man'(x) \wedge Q(x)](\lambda x_i[love'(x_i)(x_j)])$
    $= \exists x[man'(x) \wedge love'(x)(x_j)]$ *t*
15 man′ *<e, t>*
16. $\lambda P\lambda Q\forall y[P(y) \rightarrow Q(y)]$ *<<e, t>, <<e, t>, t>>*
17. $\lambda Q\forall y[man'(y) \rightarrow Q(y)]$ *<<e, t>, t>*
18. $\lambda Q\forall y[man'(y) \rightarrow Q(y)](\lambda x_j[\exists x[man'(x) \wedge love'(x)(x_j)]])$
    $= \forall y[man'(y) \rightarrow \exists x[man'(x) \wedge love'(x)(y)]]$ *t*

The object QP *dare-ka* is of type *<<e, t>, t>* which does not match the type required by *-no*. This type-mismatch motivates movement of the object QP. Once the QP moves out of the NP headed by *koto*, the type-lifting operation $\Uparrow$ applies to the trace left behind by the QP, and by the definition of the ι-operator the effect of *koto* is nullified as shown in 6.

To sum up, in this section I claimed that *koto* is a definite marker, which takes a common noun and gives a unique individual in discourse. In this regard, *koto* is the same as English *the*. However, *koto* can cooccur with other types of nominal expressions and the function seems vacuous. I showed that the vacuousness of *koto* can be accounted for by combinations of semantic principles, most of which are independently motivated.

6 Expletive Articles in Other Languages

The mechanism of nullification of definiteness proposed here is applicable to other cases. In several languages, definite markers are used with names. (39) is an Italian example taken from Longobardi (1994).

(39) Il Gianni mi ha telefonato.
the Gianni called me up Longobardi (1994: 622)

Longobardi argues conditions on the distribution of definite articles from a parametric perspective, which I do not reproduce here. The point here is that Longobardi analyzes the article in (39) as expletive. It seems to me that this analysis implies that Italian has two *il*'s, the definite determiner and the expletive article. But if my analysis is correct, we don't have to assume expletive articles. The definiteness of definite determiners can be nullified by the type lifting operation.

7 Conclusion

In this paper we claimed that *koto*, which has been treated as a pleonastic element in Japanese traditional grammar, is a definite marker, showing that common nouns followed by *koto* are interpreted as definite. We also observed that *koto* has no semantic contribution if it follows referential NPs and quantificational NPs, and we proposed that the nullification of the definiteness of *koto* can be accounted for by the three independently motivated assumptions; (i) type-lift-

ing (Partee's IDENT), (ii) Bittner's type determination of traces, (iii) LF-movement by type-mismatch, and one language specific assumption that the genitive marker before *koto* is of type <*e*, *e*>. We also suggested that our analysis can be extended to other languages in which definite markers can be used with names. If this is correct, there is no definite marker which is an expletive in disguise. The apparent expletiveness can be derived via semantic principles.

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Rutgers University
Department of Linguistics
18 Seminary Place
New Brunswick, NJ 08901-1184
kurafuji@eden.rutgers.edu