Japanese pre-nominal demonstrative *so-no* is not a definiteness marker

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1 Introduction

Aim: to examine how to characterize definite / indefinite distinction in an article-less language, Japanese, by comparing one of its demonstratives, *so-no*, with German ‘strong article’ which displays apparently similar distribution.

Main proposal: Japanese demonstrative *so-no* should be analyzed as a NP-adjunct modifier semantically functioning as a domain restrictor in Etxebberia & Ginnakidou’s (2010) terms.

• The ‘definiteness’ is defined, following the traditional analysis, as a combination of existential and uniqueness/maximality presuppositions.

Outline

Section 2: present, by referring to Löbner (2011), similarities and differences between Japanese *so-no* and German strong article

• Japanese *so-no* does not necessarily induce uniqueness or maximality presupposition.

Section 3: (i) account for these similarities and difference by spelling out the semantics of the two expressions, and (ii) point out some morphological and syntactic phenomena which militate in favor of the proposed semantics of *so-no*.

Section 4: recapitulate the results of the talk.

2 Japanese demonstrative *so-no* and German strong article

2.1 Congruent and incongruent definite determination: Löbner (2011)

Four basic noun types

i) sortal nouns: unary predicate terms (of type <e,t>), like *man*

ii) individual nouns: individual terms (of type e) uniquely identified in a context of utterance, like *moon*

iii) relational nouns: binary predicate terms (of type <e,<e,t>>) determined by a not necessarily one-to-one relation to its external argument, like *brother* (*x’s brother* is not necessarily uniquely determined with respect to *x*)

iv) functional nouns: unary function terms (of type <e,e>) determined by a one-to-one relation to its external argument, like *father* (*x’s father* is uniquely determined with respect to *x*)

• inherent uniqueness [+U] / inherent relationality [+R]
  i) sortal: [-U][-R],   ii) individual: [+U][-R],   iii) relational: [-U][+R],   iv) functional: [+U][+R].

Which mode of determination is natural which noun type? → congruent / incongruent determination

• Determination is “congruent” when noun type is not changed.
· Determination is “incongruent” when noun type is shifted (coerced) with some contextual support.

Ex.
· ‘the moon’: the determination is congruent ← [+U] individual noun, moon, is not type-shifted to be compatible with singular definite article requiring the uniqueness of the referent.
· ‘the man’ in anaphoric or deictic use: the determination is incongruent ← [-U] sortal noun, man, should be type-shifted to [+U] noun to be compatible with singular definite article.
· ‘the father’ in bridging use: the determination is between congruent and incongruent.
  ← a functional noun, ‘father’, is disposed with [+U] feature, but its external argument should be contextually fulfilled by way of anaphoric relation with the antecedent.
· Löbner (2011: 307): “incongruent determination receives more salient expression, such as strong v. weak marking, marking v. non-marking, additional morphemes”.

(1) 
Scale of congruence of various uses of definite determiners (adapted from Löbner 2011: 320)  
← incongruent definite determination (requiring contextual support)
dectic with sortal or relational nouns > anaphoric with sortal or relational nouns
> bridging with functional nouns > with individual nouns
   congruent definite determination →

English
· Demonstratives, which may receive strong marking by stress, are incongruent markers.
· Definite article the, which cannot be stressed, is essentially a congruent marker, although it covers wide range of uses on the scale (1).
   i) The deictic use of the requires the uniqueness of the referent in a relevant situation, and is not acceptable in contexts where the same DP denotes different objects in the same situation.
· English demonstratives are acceptable in this case1 (so-called “conjunction test”)

(2a). *The man is dumb and the man isn’t.
   This man is dumb and this man isn’t. (Löbner 2011: 18)

ii) The bridging use is expressed by definite article the, as in (3), but not by demonstratives.
· that in (3) should need, as an incongruent marker, a heavy contextual support, that is, high saliency of the referent of accompanist, which however is not obtained in (3).

(3) Every singer complained that {the / #that} accompanist played too loudly. (adapted from Lyons 1999: 273)

iii) [+U] individual nouns, like moon in (4), are compatible with definite article the, but normally not with demonstrative that.

(4) {The / #That} moon was very bright last night. (idem.3)

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1 In the examples, definite article and demonstratives in English and German, Japanese so-no and similar expressions are put in bold types, and the NP following these expressions are italicized. The antecedent, if there exists, is underlined.
2.2 Similarities between Japanese so-no and German strong article

German
- German definite article may be either contracted or not with a preposition preceding it.
- Schwarz (2009): the contracted form (‘weak article’) conveys uniqueness of the referent in a relevant situation, while the non-contracted form (‘strong article’) is used primarily in anaphoric cases.

- German strong article conveys the readings situated on left-side of the scale (1).

  i) deictic reading with sortal nouns, like Auto ‘car’, even when the same DP denotes different objects in the same situation, as in (5).

(5) Hans ist {#im / in DEM} Auto gecommen, nicht {#im / in DEM} Auto.
Hans is in-the_weak / in the_strong car come not in-the_weak / in the_strong car
‘Hans came in that car, not in that car.’ (Schwarz 2009: 34) [deictic]

ii) anaphoric reading including bound variable reading, with sortal nouns, like Buch ‘book’, as in (6).

(6) In jeder Bibliothek, die ein Buch über Topinambur hat, sehe ich
In every library that a book about topinambur has, look I
{#im / in dem} Buch nach, ob man Topinambur grillen kann.
in-the_weak / in the_strong book PART whether one topinambur grill can
‘In every library that has a book about topinambur, I check in the book if one can grill topinambur.’ (idem.242) [anaphoric]

iii) bridging reading based on producer - product relation, as ‘a novel-the author’ in (7)3.

- This use is in principle limited in cases involving [+R] nouns. (Schwarz 2009: 267)
- If [+R] functional noun, Autor ‘author’, is replaced by [-R] sortal noun, Schriftsteller ‘novelist’, the bridging use is impossible.

(7) Jeder, der einen Roman gekauft hat, hatte schon einmal eine Kurzgeschichte
everyone that a novel bought had had already once a short story
{#von / von dem} Autor gelesen. (idem.247) [bridging]
by-the_weak / by the_strong author read
‘Everyone that bought a novel had already once read a short story written by the author.’

iv) Strong article is incompatible with individual nouns, like Mond ‘moon’, which are marked.

(8) Armstrong flog als erster {zum / #zu dem} Mond. (adapted from idem.40)
Armstrong flew as first one to-the_weak / to the_strong moon
‘Armstrong was the first one to fly to the moon.’[congruent with [+U] individual]

3 The abbreviations used in this paper are the following: ACC: accusative; CL: classifier; COMP: complementizer; COP: copular; DAT: dative; GEN: genitive; LOC: locative; NEG: negation; NOM: nominative; PART: particle; PL: plural; PROG: progressive; PST: past; Q: question marker; SG: singular; TOP: topic.

3 It however is the weak article that expresses a bridging reading based on a part / whole relation, as ‘a church-the tower’.
Japanese: three pre-nominal demonstratives: a-no, ko-no and so-no.

- Hoji et al. (2003: 115): “A ko-no NP is marked as [Proximal]; A a-no NP is marked as [Distal]; A so-no NP is neither [Proximal] nor [Distal].”
- so-no requires a linguistic antecedent: so-no is essentially anaphoric, like German strong article.
- so-no conveys, like German strong article:
  i) deictic use, with sortal nouns, referring to something closer to the hearer, even when the same DP denotes different objects in the same situation. Cf. (5)
  (9) Hans-wa so-no kuruma-de-wa naku, so-no kuruma-de kita. [deictic]
  Hana-TOP SO-NO car-with-TOP NEG SO-NO car-with came
  ‘Hans came in that car, not in in that car.’

 ii) bound anaphoric use, with sortal nouns. Cf. (6)
  (10) Do-no zidoosya-gaisya-no so-no zidoosya-gaisya-no ko-gaisya-o suisensita which automobile-company-\( ^{\star} \)SO-NO auto-company-GEN subsidiary-ACC recommended
  ‘Every automobile-company recommended so-no automobile-company (one, some or all subsidiary(ies) of that automobile-company’s).’ (Hoji, Kinsui, Takubo & Ueyama 2003: 104)

 iii) bridging use based on producer - product relation. Cf. (7).
  - This use is in principle only possible with [+R] nouns (Iori 2007: 146).
  - If [+R] tyosyo ‘work’ is replaced by a [-R] sortal noun, hon ‘book’, the bridging reading is impossible.
  (11) A: Ko-no aida, gakkai-no kaizyoo-de sensee-ga so-no tyosyo-ni me-o
  Last day meeting-GEN place-LOC Professor-NOM SO-NO work-DAT eye-ACC
toosi-teorare-ta yo. -- B: E, do-no tyosyo ? (Iori 2007: 146)
  pass-PROG-PST you know Oh, which GEN work
  ‘A: Last day, at the meeting (of Linguistic Society), Professor was reading so-no work (one, some or all work(s) of his). – B: Oh, which work?’

 iv) so-no is incompatible with individual nouns, like tuki ‘moon’, which are zero-marked in Japanese.
  (12) Saku-ban (#so-no\(^5\) tuki-wa totemo akarukat-ta.
  Last night SO-NO moon-TOP very bright-PST
  ‘(#That/The) moon was very bright last night.’ [congruent with [+U] individual]

 - Semantic domains expressed by (a) English that and the, (b) German strong and weak definite articles, and (c) Japanese so-no and non-marked form

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4 Hoji, Kinsui, Takubo & Ueyama (2003: 113) argue that the deictic use of so-no is relevant only when a conflict exists between the speaker’s and hearer’s viewpoints, that is when “the speaker construes the relevant object as distal, and the speaker thinks that the hearer would construe the relevant object as proximal”. The deictic use of so-no thus is not basic. They in effect suggest that “a marked operation creates, on the basis of ‘visual contact’ with an object, what corresponds to a linguistic expression that can serve as an antecedent […] and this is what underlies the deictic use of so-NPs.” (ibid.)

5 With deictic or anaphoric readings, so-no is compatible with tuki ‘moon’.
(13) \[ \text{incongruent} \rightarrow \text{congruent} \]
deictic > anaphoric > bridging (producer-product) > with [+U] nouns

a. \[ \text{-- -- English that--/-----------------------------------English the-----------------------------} \]
b. \[ \text{-- -- German strong ----------------/---------German weak--------} \]
c. \[ \text{-- -- Japanese so-no-----------------------------/---------Japanese zero------} \]

- The similarities between (13b) and (13c) seem to suggest a possibility of analyzing Japanese so-no as an incongruent definite determiner.
- There however is a crucial semantic difference between Japanese so-no and German strong article.

2.3 Differences between Japanese so-no and German strong article

**Bridge uses**
- German strong article is possible only with [+R][+U] functional nouns, like *Autor* ‘author’ in (7).
- Japanese so-no is compatible not only with functional nouns, but also with [+R][−U] relational ones.
- In (14), a bridging so-no is attached to a functional noun, *hyoosi* ‘cover’, and is associated to the antecedent, *zassi* ‘magazine’: a magazine has only one cover.

(14) Boku-ga aidokusi-teiru zassi-ga atte [...] ko-ndo so-no⁶ hyoosi-ni [...] me-NOM adore-PROG magazine-NOM exist, this time SO-NO cover-LOC

‘I adore a magazine, and this time, on so-no cover…’ (Iori 2007: 159)

- In (15) (= (11)), so-no is attached to a relational noun, *tyosyo* ‘work’.
- The denotation of so-no work is determined with respect to the antecedent, *sensee* ‘Professor’.
- Professor may publish more than one work.
- Japanese lacks obligatory plural marker. \( \rightarrow \) so-no work conveys a priori singular or plural reading.
- so-no work allows a non-maximal, partitive reading; ex. English translation
- The lack of uniqueness / maximality is confirmed by B’s replay meaning ‘which work?’

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⁶ Sebastian Löbner (p.c.) suggested to analyze so-no in (14) as an abbreviated form of the pronoun possessive, *sore-no* (demonstrative pronoun *sore* ‘that’ + genitive *no*). A similar idea is advanced by Iori (2007). If this analysis is on the right track, the use of so-no which I call ‘bridging’ should be considered as parallel not to the bridging use of definite article, but to ‘of that’ or ‘its’ in English. This analysis is however refuted by the following two observations: i) so-re-no cannot be refer to a human antecedent, which is not the case with “bridging” so-no, as in (15) where so-no is raced back to sensee ‘professor’; ii) the parallel treatment between so-re-no and “bridging” so-no would predict that “bridging” so-no syntactically behaves similarly to sore-no and differently from the deictic or anaphoric so-no. Kinsui (1999: 81) however points out that sore-no in (i) allows an ellipsis of the following NP, which is not the case for so-no. The examples (34a,b) below will further indicate that deictic so-no do not allow an ellipsis of the following NP. In sum, as regards the ellipsis of the following NP. “bridging” so-no is parallel to deictic so-no, rather than so-re-no.

(i) Zoo-no sinzoo-wa totemo ookii. Ippo no nezumi-ni-no sinzoo-wa aru ga,

\( \text{Elephant-GEN heart-TOP very big on the other hand mouse-LOC-also heart-TOP exist but} \)

\( \{\text{sore-no sinzoo-wa / *so-no sinzoo-wa}\} \text{ totomoto toisai. (Kinsui 1999: 81)} \)

\( \text{that-GEN heart-TOP / SO-NO heart-TOP very small} \)

‘The heart of an elephant is very big. A mouse too has a heart. But, its (heart) is very small.’
(15) A: Ko-no aida, gakkai-no kaizyoo-de sensee-ga so-no tyosyo-ni me-o
    Last day meeting-GEN place-LOC Professor-NOM SO-NO work-DAT eye-ACC
toosi-teorare-ta yo. -- B: E, do-no tyosyo ? (Iori 2007: 146) (= (11))
pass-PROG-PST you know Oh, which-GEN work
‘A: Last day, at the meeting (of Linguistic Society), Professor was reading so-no work (one, some or all work(s) of his). – B: Oh, which work?’

<sono-noun-TATI>

- Plurality of animate nouns in Japanese may be clarified by a suffix –tati.
- <so-no + noun-tati> does not necessarily induce maximality.
- In (16), so-no is attached to a noun, gakusee ‘student’, which is lexically type-shifted from [-R] sortal noun to [+R] relational one
- The denotation of so-no student-TATI is determined with respect to the antecedent, ‘Professor Hata’.
- so-no student-TATI can denote some or all of Professor Hata’s students.

(16) Hata … kyoozyu to so-no gakusee-tati-wa […] KG broadband station-nituite
Hata professor and SO-NO student-PL-TOP KG broadband station-about
give.a.talk. [with coerced relational noun]
‘Professor Hata and so-no student-TATI (some or all students of his) will give a talk about KG broadband station.’

Anaphoric uses

- In (17), [[so-no koinu ‘puppy’]] may be not maximally identified with the seven puppies introduced in A’s first sentence, which is confirmed by B’s reply meaning ‘how many puppies?’;

(17) A: Pet shop-ni totemo kawaii koinu-ga nana-hiki imasita. watasi-wa so-no
    pet-shop-LOC very pretty puppy-NOM seven-CL were me-TOP SO-NO
    koinu-o kaimasita. -- B: Nan-biki katta-no desu-ka?
    puppy-PL-ACC bought what-CL bought-COMP COP-Q

Gerhard Schaden (p.c.) correctly pointed out that, contrary to bridging so-no, the bridging type of German strong article cannot be situated in the same clause as its antecedent. This observation indicates that Japanese so-no has more characteristics in common with demonstratives than German strong article: according to Wolter (2006: 63-64), “Definite descriptions are interpreted relative to default situation [associated with discourse context reporting about a global discourse topic]”, while “demonstrative determiners require that their descriptive content is interpreted relative to a non-default situation [immediate salient situation distinct from the discourse context]”. Schaden’s observation may be due to the fact that the antecedent of Japanese so-no, which is basically a demonstrative, is traced back in the local domain of the immediate context, while that of German strong article, which remains essentially a definite article, is referred back in the global domain of a discourse;
‘A: The pet shop has seven very pretty puppies. I bought so-no puppy (one, some or all of those puppies) – B: How many ones did you buy?’

Deictic uses

• In (18), the denotation of of so-no koinu or so-no koinu-tati ‘puppy+PL’ may be not maximally identified with the seven puppies indicated by A’s gesture.
• The lack of uniqueness / maximality is confirmed by B’s reply meaning ‘how many puppies’?; ⁹

(18) [In a pet shop, client A talks to shop assistant B, in pointing out seven puppies he finds there]
A: so-no {koinu / koinu-tati} o kaimasu. -- B: Nan-biki desu-ka?
so-no puppy/puppy+PL-ACC buy what-CL COP-Q
‘A: I buy so-no puppy(-TATI) (one, some or all of those puppies)! – B: How many ones?’

• Japanese so-no, lacking uniqueness or maximality presupposition in all its uses, cannot be analyzed as a definite determiner¹⁰.

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⁸ Sebastian Löbner (p.c.) criticized the indefinite analysis of so-no, based on the fact that the same indefinite DP can denote different objects in the same context, which is called “conjunction text”, as in (i). On the other hand, the anaphoric use of Japanese so-no does not seem to pass the conjunction text. It should however be noticed that if we add classifier phrases which serve to assert the existence of the referent, the acceptability is improved, as in (ii). I tentatively suppose that differently from indefinite determiner, as A in (i), the partitive use of anaphoric so-no only presupposes the existence of the referents, but does not assert it, which is the origin of the different acceptability between (i) and (ii). Curiously, the partitive use of contracted form of <preposition+plural definite article> DES ‘of the’ in French, which may be analyzed as presupposing but not asserting the existence of the referent, does not pass the conjunction text, as in (iii).

(i) [There were five girls in the class] A girl left and a girl came in. (adapted from Löbner 2011: 24)
(ii) Pet shop-ni totemo kawaii koinu-ga nana-hiki imasita. watasi-wa so-no koinu-o *(ip-ppiki) katte,
pet-shop-LOC very pretty puppy-NOM seven-CL were me-TOP so-no puppy-ACC (one-CL) bought and
so-no koinu-o *(rop-ppiki) kaima-sendesi-ta.
so-no puppy-ACC (six-CL) buy-NEG-PST
‘A: The pet shop has seven very pretty puppies. I bought so-no puppy *(one-Classifier), and I didn’t buy so-no puppy *(six-Classifier)’

(iii) Il y avait cinq chiens et sept chats là-bas. *(Certains) des chats étaient noirs, et *(certains) des chats étaient blancs.
‘There were five dogs and seven cats over there. (Some) of the cats are black, and (some) of the cats were white.’

⁹ Admittedly, the default interpretation of anaphoric or deictic uses of so-no is the definite maximal reading, rather than the indefinite partitive reading. But in (17) and (18), the idea that the speaker A buys all of the seven puppies is less probable in view of B’s encyclopedic knowledge about pet-buyers. And I assume that if maximal identity is preferred to partial identity in anaphoric and deictic cases, it is because maximal identity relation between index and the propositional contribution of <so-no NP> requires less effort from the hearer. On the other hand, in bridging uses, uniqueness or maximality is usually not induced since the propositional contribution is only indirectly related to index through the following relational or functional noun.
3 Proposals

3.1 Japanese so-no as a domain-restricting modifier

German strong article

- Schwarz (2009): German strong article, but not weak article, evokes an extra individual argument, signaled by 1 in (19a).
- Elbourne (2008): demonstratives take three arguments, index, relation and a NP, as in (19b).

(19)a. \[[\text{DP } 1 \text{ [DP } \text{ NP}] \] (Schwarz 2009: 270)

b. \[[\text{DP } \text{ that } 1 \text{ [NP}] \] (Elbourne 2008: 430)

i) index (abbreviated by i in (19b)) is a salient individual on the basis of which the actual interpretation of a demonstrative is computed\(^ \text{11} \), and may be considered as corresponding to Schwarz’s (2009) extra individual argument in (19a).

ii) Relation (abbreviated by R in (19b)) constrains the relation between index and propositional contribution of the demonstrative phrase.

<deictic use> ex. (5)

- The semantics of deictic DEM Auto ‘the\(^ \text{strong} \) car’ in (5) is represented by (20a), where the value of index is represented in terms of an assignment function g.
- The variable x, provided by the following NP, Auto ‘car’, is related to the value of index, g(i), by identity Relation (noted by =).
- The referent of the whole DP is uniquely determined by the iota operator.
- Almost the same is true for anaphoric uses except that g(i) is determined not by the demonstratum but by the antecedent.

(20)a. deictic use: \[[[\text{DEM Auto (in (5))}]^g]=x (\text{car}’(x) \& x = g(i))

b. bridging use: \[[[\text{DEM Autor (in (8))}]^g]=x (\text{author}’(x)(y) \& y = g(i))

\(^ \text{10} \) In (17) and (18), the plural form of so-no, sore-ra-no, is not a priori impossible: -ra serves, as well as –tati in (16), to clarify the plurality of the referent. But they are not to be analyzed as simple plural markers. Kobayakawa (2004: 42) observes that, when denoting plural referents, <somo\(+NP\)> represents a group of entities conceived as belonging to the same category, while <sore-ra-no\(+NP\)> represents a group of entities conceived as belonging to different subcategories of the same category. In (17) and (18), <sore-ra-no\(+puppy\)> is more natural than <sore-ra-no\(+puppy\)>, since there is no contextual information indicating different subcategories of puppies. On the other hand, in (i), <sore-ra-no\(+pen\)> is natural because two different types of pens (felt pens and ball-point pens) are discussed. <sore-ra-no\(+pen\)> should denote objects including both of the two types of pens, but not necessarily all of the two felt pens and three ball-point pens previously introduced.

(i) Taro-wa feruto pen-o ni-hon to boonu pen-o san-bon katta. Sikasi sore-ra-no pen-wa, Taro-top felt pen-ACC two-CL and ball-point pen-ACC three-CL bought but SORE-RA-NO pen-TOP amari yoku kake-nakata. very well write-NEG-PST ‘Taro bought two felt pens and three ball-point pens. But SORE-RA-NO pen (one or all of the two felt pens and some or all of the three ball-point pens) didn’t write very well.’

\(^ \text{11} \) In deictic uses, index may further be spatially specified as [proximal] or [distal].
<bridging use based on producer-product relation> ex. (8)

- The semantics of bridging DEM Autor ‘the strong author’ in (8) is represented by (20b).
- The external argument (signaled by y) is identified with g(i), provided by the antecedent, ‘a novel’\(^{12}\).

- Now that the semantics of German strong article is clarified, we should ask how to represent the semantics of Japanese so-no, which manifests similar deictic, anaphoric and bridging uses, but allow wider range of readings from indefinite partitive reading to definite maximal reading.

\(<\text{ti}...\text{a}>\) in St’át’imcets

- A similar ambiguity between definite and indefinite interpretations is observed with a demonstrative determiner \(<\text{ti}...\text{a}>\) (disposed with [present] or [proximal] feature) in St’át’imcets (Lilooet Salish).
- In (21a), the bracketed sequence, \(\text{ti smém’l}hats\text{-a}\), is translated in English by ‘a girl’ or by ‘the girl’.
- Matthewson (1999) analyzes this determiner as a wide scope indefinite, based on the observation that it takes wide scope over quantifying expressions (conditional, modals and negation), as in (21b).

\[(21)\text{a. } \text{Húy’-lhkan ptákwlh, ptákwkh-min } \text{its7a } [\text{ti } \text{smém’l}hats\text{-a}]
\text{going.to-1SG.subject tell.story tell.story-applicative here } \text{DET girl-DET}
\text{wa7 ku7 ital láti7 } [\text{ti } \text{smém’l}hats\text{-a}]. \text{ (Matthewson 1999: 108)}\]

\text{IMPERFECTIVE REPORT cry deictic } \text{DET girl-DET}
\‘I’m going to tell a legend, a legend about a girl. The girl was crying there.’

\[\text{b. } \text{Cw7}\text{aoz kw-s áz’-en-as } [\text{ti } \text{sts’uqwaz’-a} ] \text{ kw-s Sophie.}
\text{NEG DET-NOM buy-DIRECTION 3.SG DET fish –DET DET-NOM Sophie}
\‘Sophie didn’t buy a fish.’ (=’There is a fish which Sophie didn’t buy.’) \text{(idem.91)}\]

- Etxebberia & Ginnakidou (2010) claim that this determiner should be analyzed as a modifier (of type \(<<\text{e},\text{t}>,<\text{e},\text{t}>\) serving as a domain restrictor, and therefore lacks its own quantificational force.
- The semantics of domain restriction is formalized in terms of a context set variable \(C\), as in (22a).

\[(22)\text{a. } [[\text{ti } \text{NP-}a]] = \lambda P_\text{e}\lambda x. P(x) \cap C(x) \text{ (Etxebberia & Ginnakidou 2010: 18)}\]

\[\text{b. } [[(21a)]] = \exists y [y \in \lambda x. \text{girl’}(x) \cap C(x)] \& I’m-going-to-tell-a-legend-about’(y)]\]

- The determiner \(<\text{ti}...\text{a}>\) yields, as in (22a), an intersection of the set of individuals denoted by the NP (represented by a property \(P\)) and the set of individuals provided by a property \(C\).
- The semantics of the first sentence of (21a) is computed, as in (22b), via a contextually introduced existential quantifier, and boils down to saying that there is a woman among contextually relevant women such that the speaker is going to tell a legend about her.

\(^{12}\text{Elbourne (2008) deals with demonstratives in the framework of situation semantics. I however do not mention the situation variable in the semantic representations of German strong article and Japanese so-no for simplicity of exposition.}\)
• When the set of the relevant alternative members is narrowed down until a singleton member, which is further mentioned in the previous discourse, the singular definite reading is obtained.

**Heim 2011**

“Ambiguous DPs [between definite and indefinite readings] in such languages [lacking definite and indefinite article] are simply indefinites. They are semantically equivalent to English indefinites, but have a wider range of felicitous uses because they do not compete with definites and therefore do not induce the same [quantity] implicature”. (Heim 2011: 1006)

• Definites and indefinites form a scale of competing alternatives
  
• In article-languages (with formal definite / indefinite distinction), Grician quantity principle requires that a use of an indefinite implicates the falsity of a stronger proposition including a definite.
• If such a formal distinction between definites and indefinites is absent, a determiner may be used either indefinitely or definitely: ex. <ti…a> in St’át’imcets.

**Japanese so-no**

• The effect of the context set variable C in Etxebberia & Ginnakidou’s (2010) framework is paraphrased in terms of Relation between index and the propositional contribution in Elbourne’s (2008) framework.

(23) The semantics of so-no: [[so-no NP]]^g = λP.λx [P(x) & R(x)(g(i))]

<deictic and anaphoric uses>

• The semantics of deictic and anaphoric so-no koinu ‘puppy’ in (17)/(18) is represented by (24a).
• The value of index (noted by g(i)) is interpreted as the seven puppies which are either introduced by the preceding discourse in (17), or indicated by a gesture in (18).
• The variable x, provided by the following NP, puppy, is related to g(i) by identity Relation.
• The semantics of the whole sentence of (17)/(18) is computed via a contextually introduced existential quantifier, as in (24b), and boils down to saying that in the restricted domain (consisting of the relevant seven puppies), there is / are some member(s) that A buys.

(24a) deictic and anaphoric uses: [[so-no koinu (in (17)/(18))]^g = λx [puppy′(x) & x = g(i)]

b. [[[17)/(18)]]^g = ∃y [y ∈ λx [puppy′(x) & x = g(i)] & buy′ (A)(y)]

• Because of lack of formal definite / indefinite distinction, Grician quantity implicature is not invoked.
• A use of so-no then allows both of stronger definite and weaker indefinite readings, like <ti…-a> in St’át’imcets.
But the interpretations of so-no and <ti...a> are not totally the same. ← The value of index of so-no, \(g(i)\), should be familiar, which is not the case with <ti...a>.

<bridging uses>: two cases
(i) one case includes lexically [+R] relational nouns, like typsyo ‘work’ in (11), or [+R] functional nouns, like hyoosi ‘cover’ (14).
(ii) another case includes nouns type-shifted from [-R] sortal noun to [+R] relational one, like so-no gakusee-tati ‘students’ in (16).

(i) The semantics of the case (i) is represented by (25a), where [+R] relational noun, typsyo ‘work’, is disposed with two arguments (\(x\) and \(z\)), the external one of which \(z\) is related, by way of identity Relation, to \(g(i)\) provided by the antecedent.

(ii) The semantics of the case (ii) is represented by means of a contextually salient Relation variable (Barker 2011: 1114), as in (25b).

In the context of (16), Relation between \(g(x) (= \text{Professor Hata})\) and \(x (= \text{student})\) may be most naturally considered as ‘supervise’ Relation.

The semantics of the whole sentence of (11) including bridging so-no is computed, just like in cases including deictic or anaphoric so-no, via a contextually introduced existential quantifier, as in (25c).

(25) bridging use
a. \([\{\text{so-no} \text{ typsyo (in (11))}\}]^g = \lambda x \left(\text{work}'(x)(z) \land z = g(i)\right)\) [with lexically [+R] relational noun]

b. \([\{\text{so-no} \text{ gakusee-tati (in (16))}\}]^g = \lambda x \left[\text{students}'(x) \land R(x)(g(i))\right]\) [coerced from [-R] sortal noun]

c. \([((11))]^g = \exists y \left[ y \in \lambda x \left(\text{work}'(x)(z) \land z = g(i)\right) \land \text{was-reading}'(g(i))(z)\right]\)

Indirect argument
- One observation in the field of L2 acquisition indirectly supports the hypothesis that Japanese so-no does not necessarily induce maximality.
- Kaneko (1996): L1 Japanese learners overuse English the in partitive indefinite contexts.
- Ex. in (26), the italicized pencil is interpreted as one of the pencils introduced by the underlined antecedent, some pencils.

(26) Once there was a boy. He wanted to write a letter. He went to his mother. She showed him some pencils. So he took (a / the ← ) pencil. And he wrote his letter. (Kaneko 1996)

- In such partitive contexts, native speakers choose the indefinite article, a, while Japanese learners tend to choose the.
- To understand this mis-use, it is to be noted that anaphoric and bridging uses of English the are often translated in Japanese by so-no, as in (27a,b) which are found in English-Japanese dictionaries.
In (27b), the mark is understood, through bridging inference, as the mark left on the telegraph pole after the traffic accident described by the first sentence.

(27)a. anaphoric (the translated by so-no)
   We keep a dog, and are all fond of the dog. (the translated with so-no in Kenkyusya’s English-Japanese Dictionary for the General Reader: 2246)

b. bridging (the translated by so-no)
   His car struck a telegraph pole; you can still see the mark on the pole. (the translated with so-no in Genius English-Japanese Dictionary: 1940)

If we assume that the acquisition of English the by L1 Japanese learners is somehow influenced by L1 transfer effect due to lack of maximality of Japanese so-no\(^1\), we may naturally account for their overuses of English the in partitive indefinite contexts.

3.2. Morphological and syntactic correlations
- The hypothesis that Japanese so-no does not induce uniqueness or maximality has some correlations in syntactic and morphological domains.
- Lyons (1999): the syntactic head D is the locus of the semantic feature of uniqueness / maximality, and is absent in article-less languages.
- Bošković (2009): article-less languages, like Japanese, Korean, Serbo-Croatian, etc. lack DP projection, and that determinerlike expressions (ex. possessives, demonstratives, etc.) in these languages are syntactically adjunctive modifiers\(^1\).
- Leu (2008):
  i) In some Germanic languages, demonstratives take the same form as the one that the definite article takes when followed by an adjective modifier, like di in Swiss German in (28a).
  ii) In colloquial Swedish, demonstratives consist of <definite article + locative ‘here/there’>, as in (28b).
  iii) Demonstratives have a complex structure consisting of <definite article+implicit/explicit modifier>.

\(^1\) Ko, Ionin & Wexler (2010) show, based on systematic empirical investigation, that another article-less L1, Korean, learners equally misuse English the in indefinite partitive contexts both in anaphoric and bridging cases. To account for this observation, they first assume i) that not only definiteness, but also existential presuppositionality are semantic universals provided by Universal Grammar: definiteness is defined as a combination of existential presupposition + uniqueness / maximality presupposition, while presuppositionality is not necessarily accompanied with uniqueness / maximality. They further assume that “L2 learners have access to semantic universals provided by Universal Grammar, just like child L1 learners” (p.214), and ii) that, fluctuating among possible parameter settings, they mis-set English the as a marker of existential presuppositionality, rather than definiteness. Kaneko (2012) points out that the lack of maximality is systematically observed with all of Japanese determiner-like expressions including not only so-no, but also the other two demonstratives, a-no and ko-no, as well as pre-nominal possessives, like watasi-no ‘my’, and propose to reinterpret Ko, Ionin & Wexler’s (2010) fluctuation hypothesis in terms of L1 transfer of parameter-setting (for presuppositionality) itself.
- Bošković (2009) however does not provide convincing evidence for the modifier analysis of demonstratives.

(28)a. d ṛaš / d ṛ rot ṛaš / d ṛ- ṛaš (Leu 2008: 19) [Swiss German]
    the rose / the red rose / this rose
b. d ėt hăr / d ėr dăr (idem.21) [colloquial Swedish]
    the here ‘this one / the there ‘that one’

Proposal

· Japanese so-no does not project DP responsible for uniqueness / maximality and should be analyzed as a NP adjunct corresponding to a modifier part of Leu’s structure, as in (29).

(29) [NP so-no (=Leu’s modifier component) [NP gakusee (student)]]

Three syntactic and morphological arguments in favor of this hypothesis

i) so-no is decomposed into the demonstrative prefixe, so-, and the genitive marker –no

· The same decomposition is possible for pre-nominal WH word, do-no, as in (30), which lacks, as well known, its own quantificational force (and requires to be associated to some quantificational expression, like universal particle –mo, as in (30)).

(30) Do-no zidoosya-gaisya-mo so-no ko-gaisya-o suisensita
    which automobile-company-∅ so-no subsidiary-ACC recommended
    ‘Every automobile-company recommended one, some or all subsidiaries of its.’

· The demonstrative prefix so- takes the same forms as the WH prefix do- in pronominal, locative, directive and adverbial cases, as in (31a-d).

· These parallel morphologies suggest that the demonstrative prefix so- lacks, like WH prefix do-, its own quantificational force.

(31)a. {so-re / do-re} [pronominal]
     that / which
b. {so-ko / do-ko} [locative]
     there / where
c. {so-tira / do-tira} [directive]
     that direction / which direction
d. {so-o / do-o} [adverbial]
     in that way / in which way

15 The nature of –no is not here fully discussed, and is approximately analyzed as a genitive marker. It may be compared with –nö taking part in pre-nominal numeral classifiers, whose nature is controversial: i) contextual case marker; ii) linking element inserted only morphologically and semantically inert; or iii) pre-nominal form of copular –da, etc.
(32a). *expensive this car (Bošković 2009: 195)

b. Toyota-wa [itiban gyoosekinoyo] so-no ko-gaisya-o suisensita
   Toyota-TOP [most productive] so-NO subsidiary-ACC recommended
   ‘Toyota recommended so-no (its) subsidiary which is the most productive’

(33a). Taro-wa [John-no sinrai]-o usinatta, Hanako-wa [Bill-no sinrai]-o usinatta17.
   Taro-TOP John’s faith-ACC lost Hanako-TOP Bill’s faith-ACC lost
   ‘Taro lost John’s faith. Hanako lost Bill’s (faith).’

b. *[Hare-no hi]-wa yoi ga, [ame-no hi]-wa otikomu. (Saito, Lin & Murasugi 2008: 253)
   clear-NO day-TOP good but rain-NO day-TOP feel depressed
   ‘Clear days are ok, but I feel depressed on rainy (days).’

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16 Differently from the bridging so-no in (32b), the anaphoric so-no is not easily preceded by a restrictive modifier, as shown by the contrast between (ia) and (ib). This difficulty may be due to the pragmatic constraint that the antecedent of so-no should be as near as possible (Iori 2007 and Wolter 2006). It is to be noticed that so-no may refer to the content of a modifier preceding it, as in (ii). When the intended antecedent is far from so-no, and a modifier intervenes between it and so-no, as in (ib), the antecedent of so-no cannot be clearly identified. On the other hand, in bridging uses, as in (32b) where the antecedent is in the same clause as so-no, the identification of its antecedent is not heavily disturbed by an intervening modifier.

17 Following a suggestion by Yoichi Miyamoto (p.c.), I modify Saito, Lin & Murasugi’s original examples, by using abstract nouns after no-marked expression: the absence of concrete nouns may be attributed to an implicit pro, rather than an ellipsis.
As shown by (34a,b), so-no doesn’t allow ellipsis of the following NP in deictic uses as well as in bridging uses, which indicates that so-no behaves as a NP-adjunct.

(34)a. [In pointing a slide shown in a conference]

[*[so-no kasetu]-wa tadasii ga [so-no kasetu]-wa tadasiku-nai. [deictic]
  SO-NO hypothesis-TOP right but SO-NO hypothesis-TOP right-NEG
  ‘That hypothesis is right, but that (hypothesis) is not right.’]

b. Minsyusyugi-wa [so-no kati]-o usina-tei-nai, syakaiteki-renai-mo [so-no kati]-o
  Democracy-TOP SO-NO value-ACC lose-PARFECT-NEG social-solidarity-also SO-NO value-ACC
  usina-tei-nai lose-PARFECT-NEG
  ‘(In spite of their crisis in these days,) Democracy has not lost so-no value. Social solidarity
  also has not lost so-no (value).’

4 Summary

Observations

• German strong article and Japanese so-no seem to manifest similar distributions (characterized in terms of the notion of incongruent definite determiner).

• Japanese so-no does not necessarily induce, contrary to German strong article, uniqueness or maximality presupposition (which militates against the analysis as in incongruent definite determiner).

Proposals

• The similarities between Japanese so-no and German strong article is captured by making use of Elbourne’s (2008) analysis about demonstratives.

• Their difference is captured (i) by assuming the presence or absence of iota operator, and (ii) by analyzing so-no as a NP-adjunct modifier semantically functioning as domain restrictor in Etxebberia & Ginnakidou’s (2010) terms.

• If so-no allows either unique / maximal definite reading or partitive indefinite reading, this is because, although these two readings form a scale of competing alternatives (the former entails the latter), Grician quantity implicature is not invoked due to the lack of formal definite / indefinite distinction in Japanese, and that the more informative definite reading is not excluded by a use of the form which is able to convey the less informative partitive reading.

Arguments

• This hypothesis allows us to naturally account for mis-uses of English the in indefinite partitive contexts by L1 Japanese L2 English learners, if we assume that they confuse English the and Japanese so-no.
This hypothesis finds its correlations in three morphological and syntactic phenomena.

i) the demonstrative prefix *so-*, taking part in pre-nominal demonstrative, *so-no*, systematically displays the same morphologies as the WH prefix *do-* in pre-nominal WH *do-no*, which is known as lacking its own quantificational force;

ii) *so-no* may be preceded by a restrictive modifier, like other adjective modifiers and differently from definite determiners in other languages;

iii) *so-no* manifests, concerning an ellipsis of the following NP, the same distribution with other *no*-marked pre-nominal adjuncts.

It will be the subject of another study to examine if a similar analysis is valid for the two other Japanese demonstratives, *ko-o* and *a-no*, as well as to other determiner-like expressions, like pre-nominal possessives.\(^\text{18}\)

**References**


Etxeberria, Urtzi & Anastasia Ginnakidou. 2010. *Contextual domain restriction, familiarity and definiteness: a cross-linguistic perspective*. available from :


\(^{18}\) For this point, see footnote 9.
Kaneko, Yumina. 1996. *Knowledge of the English article system in second language learning: To "the" or not to "the"*. Undergraduate thesis. Smith College, Northampton, MA.


