Inconsistencies of the Consistency Test

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January 4, 2019

- Looking at three classifier languages, Nuosu Yi (Jiang 2018), Thai (Jenks 2015), and Shan (Moroney 2018), this presentation examines the use of the Consistency test (Law of Contradiction, Löbner 1985; Dayal 2004) in the study of N/DP syntax and semantics.[1]
- The guiding questions here are
  - *What counts as a definite determiner?*
  - *Can we use the Consistency test to identify a definite determiner?*

1 Background

- In some languages, bare nouns can have different interpretations in different environments, as demonstrated for Shan, a Southwestern Tai language:[2]

(1) SHAN BARE NOUN INTERPRETATIONS

a. **măa** hàw jù.
dog bark IMPF
'Dogs are barking.' *existential:* $\exists$
'The dog(s) is/are barking.' *definite:* ι

b. **măa** hàw.
dog bark
'Dogs bark.' *generic:* *Gen*

c. **măa** mɔtwáaj hăaj kwàa jâw.
dog disappear disappear go PRF
'Dogs are extinct.' *kind:* $\cap$

d. mán pĕn **măa**.
3 be dog
'S/he is a dog.' *predicate:* $\cup$

[1] Gillon (2015) also uses this test to examine the syntax and semantics of bare nouns, but that will not be covered in this presentation.

[2] Data for this paper comes from my fieldwork with the Shan language in Chiang Mai, Thailand from January 2018 to present, working with a speaker from Keng Tawng City in Shan State, Myanmar, who has lived in Thailand for over 10 years. Data was collected using a variety of elicitation methods: story translation, stories based on storyboards, felicity judgments on grammatical sentences in specific contexts.

Glossing conventions: 1: first person, 3: third person, CLF: classifier, INDEF: indefinite, IMPF: imperfect, NEG: negation, PRF: perfect SG: singular

- A neo-Carlsonian type-shifting analysis, introduced by Chierchia (1998) and Dayal (2004), has been proposed for bare nouns for a variety of languages.
  - Hindi (Dayal 2004)
  - Mandarin (Yang 2001; Jenks 2018)
  - Nuosu Yi (Jiang 2018)
  - Teotitlán del Valle Zapotec (Deal & Nee 2017)
  - Thai (Jenks 2015)
  - Indonesian (Little & Winarto 2018)

(2) TYPE SHIFTING OPERATORS (Dayal 2004: (77a)): $\langle e,t\rangle \rightarrow e/\langle\langle e,t\rangle,t\rangle$
a. $\cap$: $\lambda P\,\lambda s\,\iota x\,[P_s(x)]$
b. ι: $\lambda P\,\iota x\,[P_s(x)]$
c. $\exists$: $\lambda P\,\lambda Q\,\exists x\,[P_s(x)\&Q(x)]$

- Identifying the determiners of a language is important for the type shifting analysis of definiteness.
- The Blocking principle determines what type shifting operations are available in a language:

(3) BLOCKING PRINCIPLE (Dayal 2004: (77c)): For any type shifting operation π and any X: $*\pi(X)$ if there is a determiner D such that for any set X in its domain, $D(X) = \pi(X)$

Essentially: "Don't do covertly what you can do overtly!" (Jenks 2018: (23))

- Dayal (2004) used the Consistency test to claim that the Hindi demonstrative is not a true definite determiner and thus does not block ι type shifting in Hindi.

(4) CONSISTENCY (Löbner 1985): If P is true for an individual term t, then $\neg P$ cannot be true for t

(5) #**The child** is sleeping but **the child** is not sleeping.

(6) **That child** is sleeping but **that child** is not sleeping.

- Since definite determiner *the* presupposes uniqueness in a context and is not deictic, two instances of *the NP* in one sentence can only refer to the same individual in (5).
- The deictic nature of the demonstrative in (6) allows reference to shift along with pointing.
- The goal of this presentation is to demonstrate that this test can identify demonstratives, but it is problematic to use it to identify what counts as a determiner for the Blocking principle.

Talk Organization

2 Types of definiteness

- Schwarz (2009) proposes that there are two types of definiteness expressed by German:

  i *weak*, contracted form (e.g., *vom* ('by the')), expressing uniqueness

  ii *strong*, non-contracted form (e.g., *von dem* ('by the')), expressing anaphoricity/familiarity

(7) GERMAN: UNIQUE DEFINITE (Schwarz (2009): (40))

Das Buch, das du suchst, steht **im** / **#in dem** **Glasschrank**.
the book that you look-for stands in-the$_{weak}$ / in the$_{strong}$ glass-cabinet
'The book that you are looking for is in the glass-cabinet.'

(8) GERMAN: ANAPHORIC DEFINITE (Schwarz (2009): (23))

Hans hat einen Schriftsteller und **einen Politiker** interviewt. Er hat **#vom** /
Hans has a writer and a politician interviewed He has from-the$_{weak}$ /
von dem **Politiker** keine interessanten Antworten bekommen.
from the$_{strong}$ politician no interesting answers gotten
'Hans interviewed a writer and a politician. He didn't get any interesting answers from the politician.'

- It has also been claimed that Thai (Jenks 2015) and Mandarin (Jenks 2018) have these two types of definiteness, but they are expressed by a bare noun (uniqueness) and a demonstrative expression (anaphoricity).

Table 1: Typology of definiteness marking (Jenks 2018: 530)

	Bipartite	Marked anaphoric	Generally marked	Marked unique
Unique (ι)	Def$_{weak}$	$\emptyset$	Def	Def$_{weak}$
Anaphoric (ι^x)	Def$_{strong}$	Def$_{strong}$	Def	$\emptyset$
Languages	German, Lakhota	Mandarin, Akan, Wu	Cantonese, English	(unattested)

- Importantly, in the marked anaphoric cases,
  - the demonstrative expresses anaphoric definiteness in Mandarin (Jenks 2018), and
  - a definite expression separate from the demonstrative expresses anaphoric definiteness in Akan (Arkoh & Matthewson 2013) and Wu (Simpson 2017).
- According to the Consistency test, the Mandarin demonstrative does not have the status of a determiner even thought it expresses anaphoric definiteness in the language.

3 Previous use: Three case studies

- This section examines the use of the consistency test in three classifier languages that do not mark plurality: Nuosu Yi (Jiang 2018), Thai (Jenks 2015), and Shan (Moroney 2018).
- It is clear that the Shan demonstrative behaves like a demonstrative in terms of the Consistency test, shown in (9).
- However, it is optionally available to express anaphoric definiteness, as shown in (10) and (11).

(9) SHAN: CONSISTENCY TEST (Moroney 2018: (24))

kɔ́k hòj **nâj** pĕn sĭ khăaw. **kɔ́k hòj** **nâj** pĕn sĭ lăm.
cup CLF.ROUND this be color white cup CLF.ROUND this be color black
'This cup is white. This cup is black.'

(10) SHAN: ANAPHORA (Moroney 2018: (13))

phu-tsáaj **kɔ̂** **nɯŋ** kwàa ti hâan khăaj măa tàa sûɪ̂ măa ʔɔ̀n
person-man CLF.PERSON one go at store sell dog for buy dog small
tŏ nɯŋ păn luk jíŋ mán-tsáaj... **phu-tsáaj** (**kɔ̂** **nân**) khɯ́n
CLF.ANIMAL one give child girl 3-man person-man CLF.PERSON that back
tɔ̀p waa,
respond that
'A man went to a dog store to buy a puppy for his daughter... The/that man replied,'

(11) SHAN: ANAPHORA

phu-tsáaj kɔ̂ nɯŋ lɛ **phu-jíŋ** **kɔ̂** **nɯŋ** naŋ jù náj
person-man CLF.PERSON one and person-woman CLF.PERSON one sit IMPF in
hɔŋ. **phu-jíŋ** (**kɔ̂** **nân**) haaŋlĭ nàa.
room person-woman CLF.PERSON that pretty very
'A man and a woman are sitting in a room. The/that woman is very pretty.'

- The Thai demonstrative patterns like a demonstrative in the Consistency test (12), but it is also obligatory when expressing anaphoric definiteness, shown in in (13).
- The obligatoriness of the demonstrative in Thai anaphoric definite cases, suggests that the Blocking Principle is in effect, yet the Consistency test does not show that the demonstrative should be considered a definite determiner.

(12) THAI: CONSISTENCY TEST (Jenks 2015: (3))

dèk **khon nán** nɔɔn yùu tɛ̀ɛ **dèk** **khon nán** mâi.dâi nɔɔn yùu.
child CLF that sleep IMPF but child CLF that NEG sleep IMPF
'That child is sleeping but that child is not sleeping.'

(13) THAI: ANAPHORA (Jenks 2015: (17))

mî̂awaan phŏm cəə kàp **nákrian khon nɨŋ**. (**nákrian**) #(**khon nán**) chalàat
yesterday 1ST meet with student CLF INDEF student CLF that clever
mâak.
very
'Yesterday I met a student. That student was very clever.'

- Jiang (2018) uses the Consistency test to identify the Nuosu Yi definite determiner, *su* in (14).

(14) NUOSU YI: CONSISTENCY TEST (Jiang 2018: (8b))

#nga **si-hni ma** **su** hxie-vur, **si-hni ma** **su** hxie-ap-vu
I girl CLF Su like girl CLF Su like-not
'#I like the girl but don't like the girl.'

- However, the consistency test cannot account for its optionality in definite constructions, as in (15).

(15) NUOSU YI: ANAPHORA WITH DEFINITE (Jiang 2018: (9a,b))

si-hni ma sini sse-vo ma i-go nyi, **si-hni** (**ma su**) jjy nra.
girl CLF and boy CLF room sit girl CLF Su very beau.
'A girl and a boy are sitting in the room, the girl is very pretty.'

- The results of the Consistency test do not correlate with the obligatoriness of the demonstrative/definite in anaphoric definite contexts in Nuosu Yi and Thai.

Table 2: Summary of three case studies

	Shan dem.	Thai dem.	Nuosu Yi det.
Consistency test	✓	✓	#
Use in anaphoric definite context	optional	obligatory	optional

4 What the Consistency test tells us

- When a demonstrative is used anaphorically, the Consistency test results in a contradiction, as in (16).
- The Thai demonstrative produces the same contradictory reading when it is used anaphorically, as in (17).

(16) ENGLISH: CONSISTENCY TEST WITH ANAPHORA

There is a child in the next room. #That child is sleeping but that child is not sleeping.

(17) THAI: CONSISTENCY TEST WITH ANAPHORA

mii **dèk khon** nèŋ yùu nay hɔ̂ɔŋ thàt pay. **#dèk khon nán** nɔɔn yùu tɛ̀ɛ **dèk**
have child CLF one LOC in room next PRT child CLF that sleep IMPF but child
khon nán mâi.dâi nɔɔn yùu.
CLF that NEG sleep IMPF
'There is a child in the next room. #That child is sleeping but that child is not sleeping.'

- Demonstratives have a fixed reference when used anaphorically.
- Using deixis with the second 'that' can make these examples felicitous.
- What this test tells us is whether a noun phrase has a rigid reference within a given linguistic context, but it does not tell us why.

5 Discussion

5.1 Analysis of Thai, Jenks 2015; Jenks 2018

- Jenks's (2015) has an analysis for why the Thai bare noun cannot be used in anaphoric environments, but he has a more recent analysis in Jenks's (2018) for Mandarin, and he says that "basically identical facts hold in Thai" (Jenks 2018: 531).

- The analysis is as follows:
  - Unique and anaphoric definiteness are expressed separately in Thai, following Schwarz's (2009) analysis of German definite articles.
  - Unique definiteness is expressed using bare nouns that type-shift via ι.
  - Anaphoric definiteness, which requires an extra semantic argument that can be filled by an index, cannot be expressed using type-shifting, so a demonstrative is used instead.
  - ι cannot be used in anaphoric cases because "there is a default preference in Mandarin and German for explicitly representing indices whenever possible" (Jenks 2018: 524).
    - This is a form of Maximize Presupposition (Heim 1991).
- Given that there are languages where bare nouns can express anaphoric definiteness, like Shan, as in (10), or in Nuosu Yi, as in (15), how can we predict the case of Thai?
- This type of analysis works better for German, where there is competition between two overt definite articles, or for a language like Akan or Wu, where an overt anaphoric definite article—distinct from the demonstrative—would 'block' anaphoric definite type shifting.
- Do we want to say that the demonstrative in Thai functions as an anaphoric definite determiner?

Table 3: Typology of definiteness marking

	Marked anaphoric	Generally unmarked	Marked/unmarked(?)
Unique (ι)	$\emptyset$	$\emptyset$	$\emptyset$/Def
Anaphoric (ι^x)	Def_{strong}	$\emptyset$	$\emptyset$/Def
Languages	Thai	Shan	Nuosu Yi, Indonesian

5.2 Analysis of Nuosu Yi, Jiang 2018

- For Nuosu Yi, the explanation that Jiang (2018) gives for why *su* is optional in definite contexts is by saying that the definite article is applying at a higher level than the bare noun.
- When the definite article or a demonstrative combine with a noun, a classifier is required.

(18) NUOSU YI: DEFINITE (Jiang 2018: (40b))

tsho *(ma) su
man CLF the
'the man'

- The argument is as follows:
  - The bare noun is a kind and can be type shifted into an entity, using one of the paths discussed by Trinh (2011), Dayal (2011), or Jiang (2012).
  - A classifier shifts the noun from a kind to a property of type $\langle e,t\rangle$, which can combine with the determiner *su*.
  - Blocking does not take place because the determiner does not apply to bare nouns.
  - Thus both ι type-shifting and the definite determiner are available in the language.

- If we were to say that the Thai demonstrative is functioning as an anaphoric definite article, that would be problematic for this explanation:
  - The Thai demonstrative is obligatory in anaphoric definite contexts.
  - The classifier must appear with the demonstrative, shown in (19).

(19) THAI: DEMONSTRATIVE (Jenks 2015: (93a))
thúrian *(lûuk) níi/nán/nôon
durian CLF this/that/yonder
'this/that/yonder durian'

- Thus, we would expect that if Jiang's (2018) explanation were applicable to Thai, there would be cases where the bare noun is an option in definite anaphoric contexts in Thai.

5.3 The status of the consistency test

- This leaves us with a few options for interpreting the role of the Consistency test as it relates to the Blocking principle.

Option 1: The Consistency test identifies definite determiners

- Nuosu Yi determiner optionality in anaphoric contexts can be explained along the lines of Jiang (2018).
- Thai demonstrative obligatoriness in anaphoric contexts is difficult to explain in a way that is consistent with the Nuosu Yi and Shan cases.
  - If the Thai demonstrative is an anaphoric definite determiner, the Consistency test cannot tell us that.
  - If the Thai demonstrative is a demonstrative, we have to rely on an apparently language-specific preference for overt expression of indices.

Option 2: The Consistency test demonstrates fixed reference of a nominal expression

- We lose a means of identifying definite determiners and consequently lose a means of constraining type-shifting.

6 Conclusion

- The Consistency test provides information about the reference produced by a particular nominal expression in a particular context.
- However, it fails to predict the obligatoriness of determiner/demonstrative elements in definite contexts in Nuosu Yi and Thai.
- Taking a closer look at the linguistic and non-linguistic contexts where these expression occur as well as considering the properties of the languages themselves might lead to more insight into this topic.

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