Anaphoric Bare Nouns without Indices

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▶ How do we investigate the semantics of silence?
▶ Compare Marka-Dafing (Mande: Burkina Faso) to Babanki (Grassfields Bantu: Cameroon):

(1)   chwìchwì ɔ́   nyừʔ-ừ
     1.sun   DJ burn-PROG
     'The sun is intense.' (Babanki, Akumbu & Jenks 2023)

(2)   té =ˈé,   káŋ fàrì
     sun =DEF be   intense
     'The sun is intense.' (Marka-Dafing, Jenks & Konate 2022)

Translational equivalence?

Does availability of an expression P_1 and P_2 in the same semantic context guarantee that those two expressions have the same semantics?

1 Two perspectives on semantic variation

Perspective 1: The 'contextualist' view

Languages all make use of the same meanings, which are always available in the same contexts across languages.

- ▶ Assumes a universal 'menu' of meanings
- ▶ Known to be false (Matthewson 2001; Von Fintel & Matthewson 2008; Deal 2011; Bochnak 2015)

Perspective 2: The 'variationist' view

Languages vary in the truth conditions they are capable of expressing

- ▶ Lexical items available to different languages must differ in meaning at some level (via compositionality)
- ▶ 'Translational equivalence' from one language to the next does not guarantee semantic equivalence

▶ Jenks (2018) makes the following claim about Mandarin, replicating a
similar claim in Jenks (2015) for Thai:

(3)   a.   Bare N (e.g. *gou* 'dog') → 'Plain' uniqueness definite
     b.   Dem-Clf-N (e.g. *na zhi gou* 'that dog') → Anaphoric
       definite

(4)   *Index!*
     Represent and bind all possible indices.

▶ Three responses to Jenks (2018) have pointed to the fact that
anaphoric bare Ns are freely available in Mandarin (Bremmers et al.
2022; Dayal & Jiang 2022; Simpson & Wu 2022), hence, either the
semantic representations are wrong or *Index!* is too strong.

▶ In this talk, I will argue that the semantic representations proposed in
in Jenks (2018); anaphoric bare Ns are often allowed because
uniqeuness often suffices to achieve reference.

▶ I maintain that definiteness comes in two basic types, even in languages without articles (Jenks & Konate 2022):

(5)   a.   *Plain definites*
          Static, achieve reference or facilitate covariation by means of situation variables.
      b.   *Indexed definites*
          Dynamic, achieve reference or facilitate covariation by means if indices, i.e., variables for individuals.

▶ Indexed definites include demonstratives, anaphoric definites, and pronominal definites of the *we linguists* variety.

▶ Bare Ns, if a language does permit them to be definite, can only be plain definites.

▶ In Thai, Mandarin, and many other languages, bare nouns are natural in definite contexts characterized by uniqueness:

(6) MANDARIN: LARGER SITUATION DEFINITES
  a. **Yueliang** sheng shang lai le.
     moon   rise up   come PERF
     'The moon has risen.' (Chen 2004, p. 1165)
  b. (#**Na**/#**zhe ge**) **Taiwan** (**de**) **zongtong** hen shengqi
       that/this   CLF Taiwan MOD president very angry
     'The president of Taiwan is very angry.'

▶ Under the contextualist view (e.g. Jenks 2018), such contexts imply that bare N in Mandarin must be semantically definite

▶ But under a variationist view, we can only conclude that whatever meanings bare N have are *compatible* with such contexts; these meanings could in fact be indefinite

▶ Some of the strongest evidence for definite interpretations of bare N seem to come from cases where unique definites can receive situation-dependent readings:

(7)   SITUATION-DEPENDENT REFERENCE IN MANDARIN

    a. jin nian **zongtong** lai zi PFP
       this year president come from PFP
       'This year [the president]$_i$ comes from the PFP.'

    b. ming nian **zongtong** jiang shi DPP de dang yuan
       next year president will be DPP REL party member
       'But next year [the president]$_{??i/j}$ will be from the DPP.'

    c. ming nian **zhe wei zongtong** jiang shi DPP de dang yuan
       next year this CLF president will be DPP REL party member
       'But next year [the president]$_i$ will be from the DPP.'

▶ In (7-b), *zongtong* picks out a unique individual distinct from its antecedent, i.e., this is not an anaphoric reading

▶ However, the indefinite 'a President' would also allow a covarying reading, so it is hard to know if these are truly definite.

▶ The same point can be made about covarying readings of bare nouns under quantificational topic situations:

(8) QUANTIFICATIONALLY BOUND SITUATIONS IN MANDARIN

Obama mei   dao   yi ge chengshi ta dou gen (#**zhe wei**)
obama every arrive one CLF city,   he all with   this CLF
shizhang ji anmi an
mayor   meet
'In every city that Obama visited, he met with the mayor (of that city).'

▶ As long as an indefinite can have a bound situation variable, covariation should still be possible with the bare indefinite in contrast to the demonstrative above.

- ▶ Jenks (2018) assumed, following Chierchia (1998) and Dayal (2004), that iota type-shifting was universally available, including in the definite bare N contexts above

- ▶ Šimík & Demian (2020) argue on the basis of experimental work that Russian bare N in fact lack a uniqueness presupposition $\rightarrow$ implies ι is not universal

- ▶ In a way, Matthewson (2001) had already shown this, if Lilloet Salish only has indefinite articles

- ▶ The evidence for, e.g., Mandarin or Thai remains equivocal, until Šimík & Demian-style experiments are replicated for these languages

▶ Absent experimental work, there is some evidence that Mandarin Bare N do in fact have ι-type readings: Not all Bare N languages allow them in bridging contrasts.

▶ There are at least two languages where such readings are absent for bare N:

1 Guebie (Kru; Jenks, Sande, & Zimmermann 2023)
2 Babanki (Grassfields Bantu; Akumbu & Jenks 2023)

▶ Babanki has contrast between an exphoric and anaphoric dem
▶ Bare Ns occur in some uniqueness contexts, but not in bridging/quantificationally-bound situation contexts (Akumbu & Jenks 2023):

(9) a. ń ə́ ə́-ŋgə́ŋ k˝ ỳ s tə̀ lyə̌ kə̀-t˺ ky-í(=kə́)
        really 5-house 9.all 1P.EXCL P2 look 7-head 7-DEM(=7.ENC)
        In every house, we looked up at [the roof].

    b. ń ə́ ə́-ŋgə́ŋ k˝ ỳ s tə̀ lyə̌ kə̀-t˺ (kə́ ŋgə́ŋ)
        really 5-house 9.all 1P.EXCL P2 look 7-head 7 house
        'In every house, we looked up at [the roof].' (intended)

    c. ń ə́ ə́-ŋgə́ŋ k˝ ỳ s tə̀ lyə̌ kə̀-t˺
        really 5-house 9.all 1P.EXCL P2 look 7-head
        ná-ky-ì(=kə́)
        AN-7-DEM(=7.ENC)
        In every house, we looked up [the aforementioned roof].

▶ Setting the precise account of the exophoric cases aside; these examples show unique definite bare N do not come 'for free'

(10) QUANTIFICATIONALLY BOUND SITUATIONS IN MANDARIN

Obama mei   dao   yi ge chengshi ta dou gen (#**zhe wei**)
obama every arrive one CLF city,   he all with   this CLF
shizhang ji anmi an
mayor   meet
'In every city that Obama visited, he met with the mayor (of that city).'

- ▶ Situation-dependent readings of bare Ns are not available in Babanki but they are in Mandarin
- ▶ Perhaps Mandarin speakers interpret nouns using ι but Babanki speakers do not.
- ▶ This is expected under the 'variationist' view: Some languages have 'lexicalized' definite interpretations of bare N, others have not.
- ▶ Mandarin bare nouns interpreted with ι, though perhaps it is not universally available (*pace* Chierchia 1998; Dayal 2004)

3 Outline

1 Introduction

2 Are bare Ns ever really definite?

3 Anaphoric bare Ns

4 Why bare Ns must lack indices

5 Conclusion

▶ Three contrasts are central to the claims in Jenks (2018):
   1 Narrative sequences (but see below)
   2 Donkey sentences
   3 Rigid reference in President sentences

3 Contrast 1: Narrative sequences

▶ Jenks (2018) points to narrative sequences like the following as evidence that demonstratives are anaphoric definites:

(11)   NARRATIVE SEQUENCES

  a.   jiaoshi   li   zuo-zhe yi ge nansheng he   yi ge
       classroom inside sit-PROG one CLF boy   and one CLF
       nüsheng,
       girl,
       'There is a boy and a girl sitting in the classroom …

  b.   Wo zuotian   yudao #(**na ge**) **nansheng**
       I   yesterday meet   that CLF boy
       'I met the boy yesterday.'

▶ The responses to Jenks (2018) (namely Bremmers et al. 2022; Dayal & Jiang 2022; Simpson & Wu 2022) all focused on demonstrating that bare Ns are in fact broadly available in anaphoric positions in Mandarin

▶ All agree that this particular example is exceptional due to the topic shift induced by 'yesterday' in the second sentence, a point we will return to.

▶ Bare N are impossible as donkey anaphora, unlike definite descriptions:

(12) mei ge [you yi zhi shuiniu de] nongfu dou hui da #(**na zhi**)
      every CLF have one CLF buffalo REL farmer all will hit   that CLF
      shuiniu.
      buffalo
      'Every farmer that has a buffalo hits that buffalo.'

(13) ni   jiao shei jin-lai, wo dou jian **na ge ren**.
      you ask who enter, I   all see that CLF person.
      'Whoever you ask to come in, I'll see that person.'

▶ This contrast is robust and has been replicated in several other languages; neither Dayal & Jiang 2022 or Bremers et al. 2022 address it.

▶ Simpson & Wu 2022 present potential counterexamples (their fn. 2), but these involve bare nominal antecedents

▶ A bare noun allows a covarying reading, but the demonstrative obligatorily picks out the discourse antecedent:

(14) SITUATIONALLY DEPENDENT REFERENCE IN MANDARIN

    a. jin nian **zongtong** lai   zi   PFP
        this year president come from PFP
        'This year [the president]$_i$ comes from the PFP.'

    b. ming nian **zongtong** jiang shi DPP de dang yuan
        next year president   will be DPP REL party member
        'But next year [the president]$_{??i/j}$ will be from the DPP.'

    c. ming nian **zhe wei zongtong** jiang shi DPP de dang yuan
        next year this CLF president   will be DPP REL party member
        'But next year [the president]$_i$ will be from the DPP.'

► The analysis consists of two parts

1. Only demonstratives contain an index
2. Indices must be used whenever they are available

(15) a. DEFINITE BARE N, *xuesheng* 'student'
$[\![xuesheng]\!] = \exists!x[\textbf{Student}(x)(s_r)].\iota x\textbf{Student}(x)(s_r)$

b. DEM-CLF-N, *na ge xuesheng* 'that CLF student'
$[\![na\ ge\ xuesheng]\!] = \exists!x[\textbf{Student}(x)(s_r) \wedge AT_{\text{obj}}(x) \wedge x = g(1)].\iota x[\textbf{Student}(x)(s') \wedge AT_{\text{obj}}(x)]$

(16) *Index!*
Represent and bind all possible indices.

► Preview: I will concede that *Index!* is too strong, but maintain that the meanings in (15) are essentially correct.

- ▶ Dayal & Jiang 2022, Bremmers et al. 2022, and Simpson & Wu 2022 all demonstrate that anaphoric bare Ns in Mandarin are widespread.
- ▶ This creates an obvious problem for *Index!*, which predicts bare nouns are unacceptable given the availability of an antecedent
- ▶ Bremmers et al. further show that anaphoric bare Ns extend into contexts where German uses strong/anaphoric articles based on identical passages in *Harry Potter* novels.
- ▶ However, relevant counterexamples are similar, as the referent of the anaphoric bare noun is *a.* an established topic and *b.* unique

▶ Below is an example of an anaphoric bare N from Dayal & Jiang 2022
▶ While *gou* 'dog' is anaphoric, it is clearly unique in the topic situation:

(17) <u>Yi</u> <u>tiao</u> <u>gou</u> dagai   kan chuan chang-yi   lache   de bu
      one CL dog probably see wear long-clothes pull.rickshaw DE not
      shen shunyan,   gen zhe   ta yao. Ta tingzhu le
      very pleasing.to.the.eye follow PROG 3SG bite 3SG stop   PERF
      che,   dao   zhuai zhe   buzi,   pinming   de zhui
      rickshaw opposite grab PROG dusk.whisk try.very.hard DE race
      zhe   **gou** da.
      PROG dog beat
      'One dog probably didn't find the rickshaw puller in the long shirt
      pleasing to the eye and was following him to bite him. He stopped the
      rickshaw, grabbed his dustwhisk by the whisk-end, and raced very hard
      after the dog.' (BCC Corpus, from Rickshaw Boy, by Lao She, from
      Dayal & Jiang 2022, p. 155)

▶ The following example is from Bremmers et al. (2022)

▶ Aagain, the parcel is highly salient and unique in the context:

(18) [Context: As the owls flooded into the Great Hall as usual,
      everyone's attention was caught at once by a long thin package
      carried by six large screech owls. Harry was just as interested as
      everyone else to see what was in this large parcel and was amazed
      when the owls soared down and dropped it right in front of him,
      knocking his bacon to the floor.]

M: Tāmen pūshan-zhe chìbǎng gānggāng fēi zǒu,   yòu yǒu
    they   flutter-ASP wings   right   fly away and have
    yī zhǐ māotóuyīng xié   lái   yī fēng xìn,   rēng zài
    one CLF owl   bring come one CLF   letter throw to
    bāoguǒ shàngmiàn.
    parcel   on
    'They had hardly fluttered out of the way when another owl
    dropped a letter on top of the parcel.' (Bremmers et al. 2022,
    p. 746)

▶ Narrative sequences like the following, with two clearly contrasting individuals in the first utterance, also clearly allow anaphoric bare Ns (Dayal & Jiang 2022, Simpson & Wu 2022)

▶ These kinds of examples show clear optionality between bare Ns vs. demonstratives (the latter are somewhat marked in English)

(19)   a.   wo zuotian   shouyang-le yi-zhi xiaogou he yi-zhi xiaomao.
                I   yesterday adopt-ASP   one-CL puppy   and one-CL kitten
                'Yesterday I adopted a puppy and a kitten.'

        b.   wo ba (na-zhi) xiaogou guan-zi   huayuan-li
                I   BA (that-CL) puppy   enclose-at garden-inside
                'I put the puppy in the garden.' (Simpson & Wu 2022, p. 309)

- ▶ The contexts in which bare Ns are available, and the papers presenting them, point to a conclusion like the following:

(20)   Anaphoric Bare Ns are possible whenever a listener/reader can reasonably assume that uniqueness holds within the topic situation.

- ▶ To account for this observation, I assume that observe a Gricean preference for simpler expressions, following earlier work (cf. Chierchia 1998's *Avoid structure!* Ahn 2022's *Don't overdetermine!*)

(21)   *Simple reference*
         If two expressions α and β are such that $\llbracket\alpha\rrbracket^{g,c} = \llbracket\beta\rrbracket^{g,c}$, then use the structurally "simpler" expression.

- ▶ ι is applied directly to N; it has no syntactic counterpart, hence, bare Ns are simpler than demonstratives
- ▶ Allows us to maintain that definite bare Ns never have an index (*pace* Dayal & Jiang 2022, Bremmers et al. 2022)

- ▶ Some other principle must override *Simple reference* in examples like the following (from Jenks 2018)

(22)   NARRATIVE SEQUENCES
   a.   jiaoshi   li   zuo-zhe yi ge nansheng he yi ge nüsheng,
        classroom inside sit-PROG one CLF boy   and one CLF girl,
        'There is a boy and a girl sitting in the classroom …
   b.   Wo zuotian   yudao #(**na ge**) **nansheng**
        I   yesterday meet   that CLF boy
        'I met the boy yesterday.'

- ▶ (22-b) involves a distinct situation from (22-a) (due to 'yesterday'), hence, uniqueness is not established within that situation
- ▶ I propose that anaphoric definites have a topic-setting function in such contexts, i.e. they *establish* the uniqueness of a discourse referent in a new situation s w.r.t restriction P
- ▶ This function is necessary if the topic situation has shifted

- ▶ Consider again the following kind of situation, where there is optionality:

(23) a. wo zuotian shouyang-le yi-zhi xiaogou he yi-zhi xiaomao.
          I yesterday adopt-ASP one-CL puppy and one-CL kitten
          'Yesterday I adopted a puppy and a kitten.'
      b. wo ba (na-zhi) xiaogou guan-zi huayuan-li
          I BA (that-CL) puppy enclose-at garden-inside
          'I put the puppy in the garden.' (Simpson & Wu 2022, p. 309)

- ▶ The optionality corresponds to uncertainty w.r.t uniqueness: I conjecture that the speaker feels confident that uniqueness holds, the bare noun will be used.

- ▶ I think this proposal makes experimentally textable predictions, where context could be manipulated w.r.t. uniqueness to favor one expression or the other.

3 Donkey sentences again

▶ In donkey sentences, the antecedent clause introduces a DR (by virtue of the explicit indefinite); this index can only be dynamically bound if it is represented in the donkey anaphor

(24) mei ge [you yi zhi shuiniu de] nongfu dou hui da #(**na zhi**)
     every CLF have one CLF buffalo REL farmer all will hit that CLF
     shuiniu.
     buffalo
     'Every farmer that has a buffalo hits that buffalo.'

▶ Simpson & Wu 2022 (p. 312, fn. 2) provide a counterexample (citing Roger Liao, p.c.)

▶ Bare indefinite antecedents, so no explicit DR is introduced:

(25) mei-ge [yang shuiniu de] renjia dou gei **shuiniu**
     every-CLF keep buffalo REL family all give buffalo
     chuan-shang-le yifu.
     wear-up-ASP clothing
     'Every family who has a buffalo puts clothes on it.'

(26) Everyone who has donkeys feeds donkeys.

▶ Seeting aside cases with bare N antecedents, English crucially differs from Mandarin in allowing donkey definites (Elbourne 2013):

(27)   Every man who has a donkey beats the donkey.

▶ In Jenks (2015, 2018) I suggested that English definites optionally project an index

▶ However, languages such as Marka-Dafing have definite articles which can be explicitly marked as anaphoric, and this anaphoric marker is in fact optional (Jenks & Konate 2022)

(28)   [ní tʃé ˈní péỳ dò sàŋ] ɛ́ɛ̀   (wó)
        If man PAST donkey some buy 3SG.PRES IDX:ANA
        pé=ˈí   sèŋ
        donkey=DEF hit
        'If a man buys some donkey, he hits that donkey.'

▶ Together, we can conclude that situation-based donkey anaphora are available, but only when forced by 1) the lack of an established DR antecedent (as with Mandarin bare Ns) or 2) the presence of

- ▶ President sentences involve a shifted situation, like 'yesterday' narrative sequences
- ▶ Demostratives forces reference to earlier DR, even when context favors a different individual:

(29) SITUATIONALLY DEPENDENT REFERENCE IN MANDARIN

    a.   jin nian **zongtong** lai   zi   PFP
            this year president   come from PFP
            'This year [the president]$_i$ comes from the PFP.'

    b.   ming nian **zongtong** jiang shi DPP de dang yuan
            next year president   will be DPP REL party member
            'But next year [the president]$_{??i/j}$ will be from the DPP.'

    c.   ming nian **zhe wei zongtong** jiang shi DPP de dang yuan
            next year this CLF president   will be DPP REL party member
            'But next year [the president]$_i$ will be from the DPP.'

- ▶ Such contexts are interesting because they constitute a limiting case for *simple reference*: bare Ns and demonstratives no longer are equivalent so they do not compete

▶ *Index!*, according to Jenks (2018), is a simple extension of Heim's *Maximize Presupposition!*: If an index is available, we should use it.

▶ The general availability of bare Ns in Mandarin (and plain definites in English), suggest that *Index!* is violable, and in often overridden by Gricean manner maxims such as *simple reference*

▶ This should be no surprise: cooperative communication involves negotiating the conflicting demands of efficiency and effectiveness

▶ The contexts presented in Jenks (2018) were those where an index was semantically or pragmatically necessary.

▶ One final issue for this proposal is Bremmers et al.'s finding that Mandarin bare Ns are often used in contexts where German strong/uncontracted definites are used:
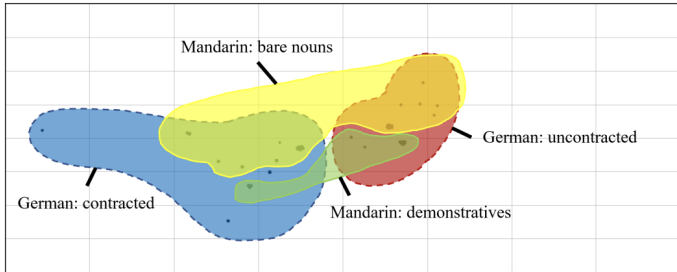

Figure 3
A probabilistic semantic map with the main form-based clusters for German and Mandarin

▶ Bremmers et al. take this to imply that bare Ns in Mandarin are possible but restricted to *situation-level familiarity*, i.e., cases where an anaphor is used in the same topic situation as its antecedent

▶ This difference between German and Mandarin could also be due to the absence of a structural difference between weak and strong articles in
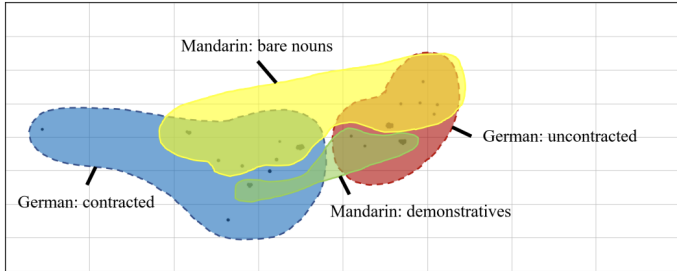
Figure 3
A probabilistic semantic map with the main form-based clusters for German and Mandarin

▶ Contexts where *situation-level familiarity* is met may be identical to those where situation-internal uniqueness is met

▶ Under my proposal, though, German speakers are still gladly using explicit indexical links whereas Mandarin speakers do not

▶ This difference between may simply be due to the absence of a structural difference between weak and strong articles in German: both are DPs, so speakers are *more likely* to pay heed to *Index!* given the absence of additional cost

- ▶ Mandarin bare Ns are NPs type-shifted to a unique definite
- ▶ Like English definite descriptions, they never include an index, but instead express anaphoric dependencies via reference to a contextually unique entity
- ▶ A principle *simple reference* prefers bare nouns over demonstratives when they are referentially equivalent
- ▶ Otherwise, demonstratives (i.e. an indexed/anaphoric definite) must be used, e.g. to establish uniqueness, for binding, or to explicitly pass a DR from an old topic situation to a new one

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5 Conclusion

▶ Dayal & Jiang (2022) propose that (Mandarin) demonstratives include an anti-uniqueness presupposition, while bare Ns can have indices or not, but presuppose uniqueness:

1   Demonstratives have an index and include an anti-uniqueness condition in the situations where they are used (30-a)
2   Bare Ns are ambiguous between weak and strong definites (30-b-c)

(30) a. Demonstratives (indexed and anti-unique)
          $[\![Dem]\!] = \lambda s\lambda P:\exists s'\ s \leq s'\ \wedge |P_s|>1.\iota x[P_s(x)\wedge x=y]$
      b. Strong definite (indexed and unique)
          $[\![the_{STRONG}|]\!]=\lambda s\lambda P :|P_s \cap \lambda x[x=y]|=1.\iota x[P_s(x)\wedge x=y]$
      c. Weak definite (no index)
          $[\![the_{WEAK}]\!] = \lambda s\lambda P:|P_s|=1.\iota x[P_s(x)]$

▶ The lexical entry in (30-a) predicts that Mandarin demonstratives are only possible in contexts where a definite expression $\iota x.P(x,s)$ is in a situation s which is a subpart of a larger situation s' where its denotatum is not unique w.r.t P.

▶ The anti-uniqueness condition on demonstratives faces several challenges:

1   It overgenerates: because situations are parts of worlds, there is almost always a larger situation s' where a definite would not be unique → demonstratives should always be possible
2   Anaphoric demonstratives are in fact unique
3   Wrong predictions about president sentences
4   No account of donkey sentences

▶ Moroney (2019) points out that anaphoric demonstratives show consistency effects (due to Löbner 1985), i.e., they show typical uniqueness:

(31)   There is a child in the next room. #[**That** child] is sleeping but [**that** child] is not sleeping.

(32)   Mii dèk   khon nɨ̀ŋ yùu nay hɔ̂ɔŋ thàt pay. #[dèk khon
        have child CLF one LOC in   room next PRT child   CLF
        nán] nɔ̀ɔn yùu tὲɛ [dèk khon **nán**] mâj.dâj nɔɔn yùu.
        that sleep IPFV but child CLF   that NEG   sleep IPFV
        'There is a child in the next room. #That child is sleeping but that child is not sleeping.   (Thai, Moroney 2019, p. 7)

▶ Yu (2023) shows that demonstratives in Mandarin occur in contexts so specific that only one referent could possibly be available

▶ President sentences pose a similar problem: the bare N in (33-b) is not anaphoric to the president in (33-a), but prefers sloppy reference, i.e.: multiple presidents are in the larger situation

▶ When the anaphoric demonstrative is used in (33-c), it forces rigid reference to the same individual; the immediate larger situation (containing last year and this) was one where there was just a single president

(33) SITUATIONALLY DEPENDENT REFERENCE IN MANDARIN

    a. jin nian **zongtong** lai   zi   PFP
        this year president   come from PFP
        'This year [the president]$_i$ comes from the PFP.'

    b. ming nian **zongtong** jiang shi DPP de   dang yuan
        next year president   will be DPP REL party member
        'But next year [the president]$_{??i/j}$ will be from the DPP.'

    c. ming nian **zhe wei zongtong** jiang shi DPP de   dang
        next year this CLF president   will be DPP REL party
        yuan
        member

But next year [the president]$_j$ will be from the DPP.

- ▶ Consider donkey sentences in light of the proposal by Bremmers et al. (2022) that anaphoric bare Ns are licensed by *situation-level familiarity*;

(34) *Situation-level familiarity*: an anaphor introduced in the same topic situation as its antecedent

(35) mei ge [you yi zhi shuiniu de] nongfu dou hui da #(**na zhi**)
      every CLF have one CLF buffalo REL farmer all will hit that CLF
      shuiniu.
      buffalo
      'Every farmer that has a buffalo hits that buffalo.'

- ▶ If Mandarin bare N have indices, why should they be impossible as donkey anaphora?
- ▶ Now consider situation-level familiarity: covarying situations between antecedent and consequent would seem to satisfy the basic condition for situation-level familiarity, yet bare N are impossible.

5 In conclusion

▶ The Bare N type-shifter ι does not introduce an index in Mandarin, nor is it universally available

▶ There is good reason to assume that anaphoric definites and demonstratives are variants of the same general species of indexed definites (Jenks & Konate 2022), which achieve reference by virtue of indices, i.e. the 'discourse markers' of dynamic semantics

▶ The problems for *Index!* posed by anaphoric bare nouns are real, but they provide evidence that speakers default to structurally simpler forms when uniqueness suffices to achieve reference

▶ Languages may differ in the forms that they choose to adopt in anaphoric contexts based on the syntactic and semantic resources afforded by that language.

Thank you!

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