Modal effects in the nominal domain: Lessons from Chuj

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1 Context

Modality cuts across syntactic categories (Kratzer 1981), but most work in formal semantics has focused on verbal auxiliaries.

The focus has recently broadened beyond the verbal/inflectional domain (e.g Arregui, Rivero & Salanova 2017) and cross-categorial questions arise, e.g.:

Q1 What modal flavors can DPs express?

Q2 To what extent do they mirror those of VP modals?

Q3 To what extent is the modal component of modal expressions tied to their syntactic position?

Goal

Focus on a DP modal flavour, **random choice modality** (RCM), and bring data from Chuj with relevance to Q1-Q3.

Random choice modality.

- Random choice indefinites are modal indefinites (Alonso-Ovalle & Menéndez-Benito 2015, now AO & MB), e.g. Spanish *un NP cualquiera* (AO & MB 2011, 2013, 2018):

(1) SPANISH

María compró un regalo cualquiera.
María bought a gift CUALQUIERA
≈ 'María bought a random gift.'[1]

- ▶ María bought a gift (like standard indefinite)
- ▶ She could have bought any gift (RC modality)

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[1] Abbreviations in glosses are as follows: A: ergative/possessive; AG: agentive suffix; B: absolutive; ALGÚN: Spanish *algún*; CLF: noun classifier; CUALQUIERA: Spanish *cualquiera*; DEM: demonstrative; DIV: derived intransitive suffix; DTV: derived transitive suffix; INDF: indefinite; IRGEND: German *irgend-*; KOMON: Chuj *komon*; IV: intransitive status suffix; PFV: perfective; TOP: topic.

Here, and throughout the handout, we use *random* and, later on, *unexpectedly* in the translations of sentences with *komon*. This is just a rough approximation. We are not assuming that *komon* and *random* or *unexpectedly* are equivalent.

- Similar items have been identified cross-linguistically (Italian *uno qualsiasi* and *un qualunque* (Chierchia 2013), Romanian *un oarecare* (Fălăuş 2014, 2015), German *irgendein* (Kratzer & Shimoyama 2002, Buccola & Haida 2017), the Korean *-na* indeterminates (Choi 2007, Kim & Kaufmann 2007, Choi & Romero 2008), a.o.).

(2) GERMAN

Hans hat irgend-ein Buch gekauft.
Hans has IRGEND-INDF book bought
≈ 'Hans bought a random book.' (Buccola & Haida 2017)

(3) KOREAN

John-un amwu-khadu-na cip-ess-e.
John-TOP AMWU-card-OR take-PAST-DEC
≈ 'John picked a random card.' (Choi 2007)

What exactly is random choice modality? There's no consensus.

- Chierchia (2013): *uno qualsiasi* and *irgendein* are interpreted under the scope of a covert *bouletic* modal. So (2) ≈ Hans' desires did not favour any specific book.

- AO & MB (2018): *un NP cualquiera* is interpreted relative to the *decision* of the agent. (1) ≈ María decided to buy a book and that decision didn't favour any specific book.[2]

- Buccola & Haida (2017): RC arises when *irgendein* combines with the adverb *einfach* ('simply'), which can be covert. *Irgendein* contributes (i) the proposition that Hans bought a book in a set D and (ii) the alternative propositions that Hans bought a book in $D' \subseteq D$. *Einfach* conveys that buying a book in any of these subset domains would not have been simpler for Hans. [3]

  Notice that these three accounts are tightly connected to ***agentivity****. Without an agent,* RC *cannot arise.*

- Choi (2007) and Choi & Romero (2008): RCI convey counterfactual modality (von Fintel 2000), (3) conveys that John picked a card and that he would have also picked one if the set of actual cards had been different.[4]

Limited sample of languages. The sample of languages studied remains modest, and our understanding of the attested variation in the expression of RCM is limited.

[2] Unlike the bouletic account, the modal condition can be true in cases where the agent wanted to pick a particular book, but did not decide to do so.

[3] This excludes situations where Hans wanted to take a particular book, since, in that case, picking a book from a subset of books containing the desired book would have been simpler than picking a book from the whole set of books (less books would have to be discarded.

[4] This condition is true in RC scenarios, but not only there (AO & MB 2018).

Chuj

Today: new data relevant to RCM from **Chuj**, a Q'anjob'alan Mayan language spoken by ≈ 70,000 speakers primarily in Guatemala and Mexico (Piedrasanta 2009).

- All Chuj data come from original fieldwork conducted with speakers of the Nentón and San Mateo Ixtatán variants of Chuj. Data were collected in Huehuetenango, Guatemala and Chiapas, Mexico, as well as with a consultant in Montreal, using a hypothesis-driven fieldwork methodology (Matthewson 2004, Davis, Gillon & Matthewson 2014).

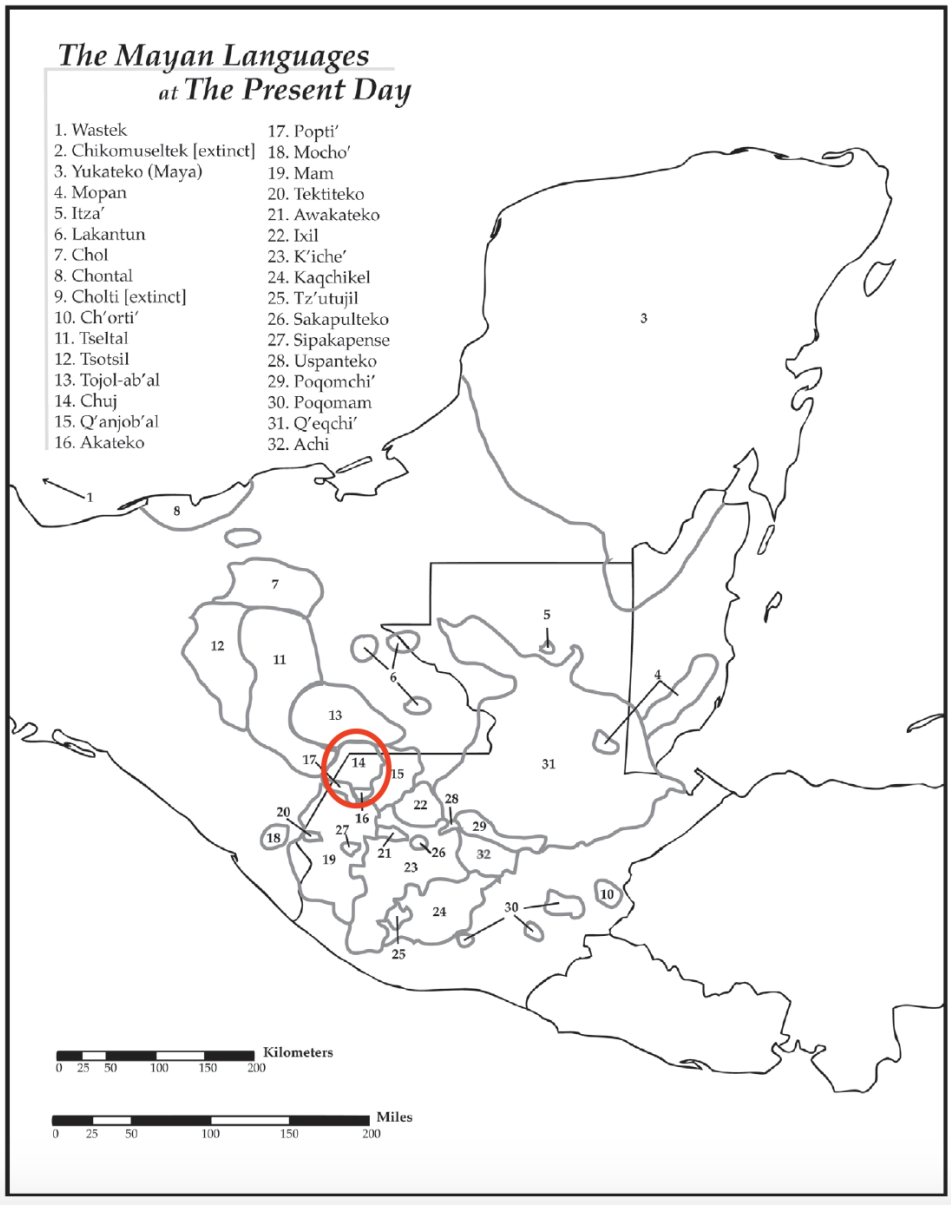

Figure 1: Current-day Mayan-speaking area (Law 2014, p. 25)

Why Chuj?

Reason 1. A language with DPs that can convey RCM:

(4) *Komon* in the DP

Ix-s-man [$_{DP}$ jun **komon** libro] waj Xun
PFV-A3-buy INDF KOMON book CLF Xun
≈ 'Xun bought a random book.'

- ► Xun bought a book (like standard indefinite)
- ► He could have bought any book (RC modality)

(Nb. the counterpart of (4) without *komon* only conveys a standard non-modal indefinite meaning.)

Reason 2. Different enough from other RC modals to draw interesting comparisons.

- The modifier *komon* can also be part of the verbal complex:

(5) *Komon* in the VP

Ix-s-**komon**-man-ej [$_{DP}$ jun libro] waj Xun.
PFV-A1S-KOMON-buy-DTV INDF gift CLF Xun
≈ 'Xun randomly bought a book.'

- Both (4) with "DP-*komon*" and (5) with "VP-*komon*" can describe RC scenarios, where the agent was indifferent to the book.

(6) SCENARIO 1 (RANDOM CHOICE): *Xun had to buy a book a week ago for school. He rarely reads and so decided to buy a book at random. The book ended up to being really special for him.*

Both (4) and (5) are **true** in this scenario.

Reason 3. *Komon* can also convey a *likelihood* modal component (which we will link RC modality to), made salient in sentences without agents (since RCM modality require an agent that acts upon a theme):

(7) Ix-**komon**-k'och ix Malin.
PFV-KOMON-arrive CLF Malin
≈ 'Malin unexpectedly arrived.'

- ► Malin's arrival was not expected (likelihood component)

The distribution of *komon* seems to provide an ideal testing ground to probe into RC modality and more generally into Q2 and Q3 above, repeated below.

Q2 To what extent do DP modals mirror VP modals?

Q3 To what extent is the modal component of modal expressions tied to their syntactic position?

In light of these questions, we'll set to solve the following puzzles related to *komon*:

Puzzle 1: Why can VP-*komon* lump together the expression of random choice and low likelihood? (§2)
Puzzle 2: How do the modal components of VP- and DP-*komon* relate to each other? (§3)

2 *Komon* in the verbal domain (VP-*komon*)

2.1 Distribution: The Chuj verbal complex

- Chuj is an ergative-absolutive, head-marking language.
- Fully inflected verbs exhibit the template in (8).

(8) *Transitive verb template in Chuj*
TAM − Set B − Set A − **ADV** − ROOT − STATUS SUFFIX

TAM = tense-aspect-mood marking.
Set B = absolutive marking
Set A = ergative marking (also used as possessive marking)
Status suffix = marks verbs for transitivity

- A limited set of adverbs **ADV** surface within the verbal complex (other Mayan languages allow adverbs in this position too, see e.g. Vázquez Álvarez 2011 on Ch'ol).

(9) Ix-ko-**mol**-man-ej jun libro.
PFV-A1P-together-buy-DTV INDF book
'We bought a book together.'

(10) Ix-ko-**te**-man-ej jun libro.
PFV-A1P-INTS-buy-DTV INDF book
'We repeatedly bought a book.'

- Distributionally, VP-*komon* patterns with these adverbs.

(11) Ix-ko-**komon**-man-ej jun libro.
PFV-A1P-KOMON-buy-DTV INDF book
≈ 'We randomly bought a book.'

2.2 Interpretation

In addition to conveying RCM, VP-*komon* can also convey 'low likelihood' of an event.[5]

- With verbs other than agentive transitive verbs, *komon* only conveys low-likelihood.
- Unaccusative verb:

(12) Ix-**komon**-k'och ix Malin.
PFV-KOMON-arrive CLF Malin
≈ 'Malin unexpectedly arrived.'

(13) a. Malin lives far away and she didn't tell us she'd visit, but she just arrived. (12) = ✓
b. Malin told me she'd come visit at 2:00pm. It's 2:00pm and she just arrived. (12) = #

[5]There has been some work on modality in Mayan, but most work has focused exclusively on irrealis marking (see e.g. Polian 2007, Mateo-Toledo 2008, Buenrostro 2015, Henderson 2016). To my knowledge, this is the first semantic proposal for *komon* in Chuj.

- Unergative verbs:

(14) Ix-**komon**-chanhal-w-i waj Xun.
PFV-KOMON-dance-SUF-IV CLF Xun
≈ 'Xun unexpectedly danced.'

(15) a. Xun is waiting for the bus with other people seriously. He starts dancing. (14) = ✓
b. Xun is at a venue where everyone is expected to perform the same dance, and so he dances it. (14) = #

In sum: *komon* in the verbal domain can generally convey that the event was not expected (for more examples, see Alonso-Ovalle & Royer 2020).

Agentive transitive verbs. Consider sentence (16), which like (5) is ambiguous:

(16) Ix-s-**komon**-yam-ej jun regalo ix Malin.
PFV-A1S-KOMON-grab-DTV INDF gift CLF Malin
≈ 'Malin randomly/unexpectedly grabbed a gift.'

- As previous examples, (16) can convey **unexpectedness**. In the scenario below, Malin's picking a gift is not expected—because it was not her turn to choose.

> *Unexpected event scenario:* Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's not her turn to choose, but she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's not her turn, she runs to the blue gift and unwraps it. It's the jackpot! (16) = ✓

- But (16) can also felicitously describe the scenario below, where a **random choice** was made, just like counterpart sentences with Spanish *un NP cualquiera*.

> *Random choice scenario*: Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's Malin's turn to choose. All of the gifts are wrapped the same, so Malin just picks one at random. It's the jackpot! (16) = ✓

Key points:

- In the *unexpected event scenario*, the event of Malin picking a gift is *less* expected than any of the most expected events (which, given the facts, are events where she doesn't pick a gift).
- In the *random choice scenario*, Malin was expected to pick a gift, but the picking of the actual gift that she picked was *no more expected* than the event of picking any of the other gifts that she could have picked.

Our hypothesis:

VP-*komon* conveys that, given the circumstances, the most expected worlds where the described event happens are no more expected than the most expected worlds where the event does not happen.

2.3 A modal adverb conveying unexpectedness

Puzzle 1: Why can VP-*komon* lump together the expression of random choice and low likelihood?

Background assumptions.

- We assume that transitive and unaccusative verbs express relations between individuals (their internal arguments), events, and worlds.

(17) a. $[\![\text{ grab }]\!] = \lambda x.\lambda e.\lambda w.\text{GRAB}_w(x)(e)$
b. $[\![\text{ arrive }]\!] = \lambda x.\lambda e.\lambda w.\text{ARRIVE}_w(x)(e)$

- Agents get added via Event Identification (Kratzer 1996); *vP*s express relations between eventualities and worlds:

(18) $[\![[_{vP} \text{ Xun grab that book }]]\!] =$
$\lambda e.\lambda w.\text{GRAB}_w(\text{B})(e)$ & $\text{AGENT}(e)(\text{XUN})$

- We will ignore the contribution of temporal and aspectual (TAM) markers and assume external existential closure of properties of eventualities:

(19) $[\![[\exists_e [_{vP} \text{ Xun grab that book }]]]\!] =$
$\lambda w.\exists_e[\text{GRAB}_w(\text{B})(e)$ & $\text{AGENT}(e)(\text{XUN})]$

The modal condition.

- We treat VP-*komon* as a *vP* modifier that adds to the event description expressed by *vP* the modal condition in (20):[6]

(20) $[\![\text{komon}_{vP} \text{ f}_{\text{circ}\langle i,st\rangle}]\!]^v = \lambda R_{\langle i,st\rangle}.\lambda e.\lambda w.R_w(e)$ & $\underbrace{\begin{pmatrix} \text{Max}_{\leq_{g(w)}}(\{w' : \text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \\ \leq_{g(w)} \\ \text{Max}_{\leq_{g(w)}}(\{w' : \neg\text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \end{pmatrix}}_{\text{modal condition}}$

In words:

- In the modal condition *komon* considers the circumstances ($\mathbf{f}(e)$ or "the modal base") around the event described by *v*P, and compares two types of worlds.

i. Worlds where the circumstances hold and the event happens.

ii. Worlds where the circumstances hold and the event doesn't happen.

- And the modal condition is satisfied iff the most expected worlds where the event happens are no more ($\leq$) expected then the most expected worlds where the event doesn't happen.

Critically: this condition is met in cases where *e* is as likely to occur as any other likely event AND in cases where *e* is expected not to happen.

[6] We use *i* as the type of eventualities, and *e* or *s* as variables ranging over eventualities. We assume a Lewisian ontology (Lewis 1968), where individuals and events are world-bound. $\text{HAPPEN}_{w'}(e)$ is true if a counterpart of *e* (event maximally similar to *e*) is part of w'.

We abbreviate the modal condition in (20) as (21):

(21) $[\![\text{komon}_{vP}\ \text{f}_{\text{circ}\langle i,st\rangle}]\!]^g = \lambda R_{\langle i,st\rangle}.\lambda e.\lambda w.\ R_w(e)\ \&\ \neg\textbf{f}\text{-EXPECTED}_w(e)$

. . . . . .

Formal details explained:

- The possibilities that the modal component of VP-*komon* invokes are projected from the type of events described by the *vP* (Hacquard 2006).
- $\text{f}_{\text{circ}\langle i,st\rangle}$ is a variable ranging over functions mapping events to sets of worlds and **f** its value—($v(f)$, where "v" stands for the variable assignment).
- As is the case with other low modals, **f** provides *a certain type* of *circumstantial* modal base: it projects from e the set of worlds w' where a set of circumstances (true facts) around the preparatory stage of e are true.
- g is a **stereotypical ordering source**: $g(w)$ returns a set of propositions describing the most natural course of events in w.

  for any worlds $w', w'', w' >_{g(w)} w''$ iff w' gets closer to what is expected given the normal course of events in w than w''. The ordering is defined with respect to $g(w)$:

  $w' \geq_{g(w)} w''$ iff $\{p : w' \in p\ \&\ p \in g(w)\} \supseteq \{p : w'' \in p\ \&\ p \in g(w)\}$ (Kratzer 1991)

  We make the Limit Assumption: that there are worlds ranked higher than any others.
- In an abuse of terminology, where p, q are sets of possible worlds, we write '$p \geq_{g_w} q$' to convey that any p-world is at least as close to what is expected given the normal course of events in w than any q-world.

. . . . . .

Basic illustration. The modal condition covers basic "unexpected" cases.

(14) Ix-**komon**-chanhal-w-i waj Xun.
PFV-KOMON-dance-SUF-IV CLF Xun
≈ 'Xun unexpectedly danced.'

▶ Felicitous if, e.g., Xun is waiting for the bus with other people seriously. He starts dancing.

(22) a. LF: $\exists_e$ [komon $\text{f}_{\text{circ}\langle i,st\rangle}$ [$_{vP}$ Xun danced]]

b. $[\![\text{(22a)}]\!]^v =$
$\lambda w.\exists e[\text{AGENT}(e)(\text{XUN})\ \&\ \text{DANCE}_w(e)\ \&\ \neg\textbf{f}\text{-EXPECTED}_w(e)]$

c. True in w iff (i) there is an event e of Xun dancing in w and (ii) the most expected worlds in w where the relevant circumstances at the preparatory stage of e hold and e happens are no more expected in w than the most expected worlds where those circumstances hold and e does not happen.

(ii) = **false** if Xun was expected to dance (see Fig. 2).

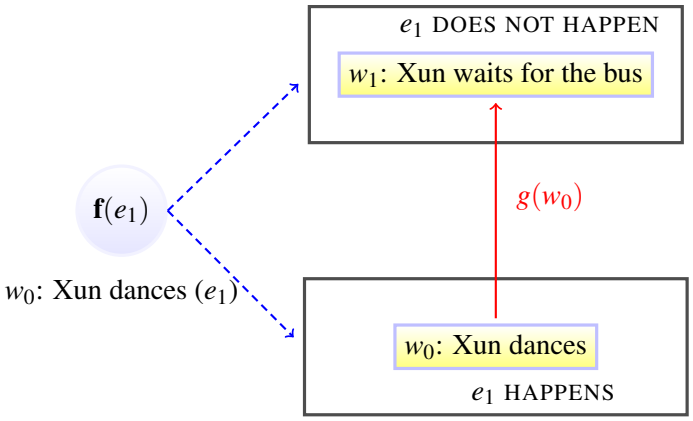

Figure 2: Context: *Xun komon-danced*

Illustration with agentive transitives. With transitives, like (16), the modal condition will be satisfied in both the *unexpected event* and the *random choice* scenarios.

(16) Ix-s-**komon**-yam-ej jun regalo ix Malin.
PFV-A1S-KOMON-grab-DTV INDF gift CLF Malin
≈ 'Malin {randomly/unexpectedly} grabbed a gift.'

(23) a. LF: $\exists_e$ a gift $\lambda 1$ [komon $f_{circ\langle i,st\rangle}$ [Malin grabbed t_1]]

b. $[\![$ (23a) $]\!]^v$ =
$\lambda w.\exists e \exists x \left[\begin{array}{c} \text{GIFT}_w(x) \ \& \ \text{AGENT}(e)(\text{M}) \ \& \ \text{GRAB}_w(e)(x) \\ \& \neg \mathbf{f}\text{-EXPECTED}_w(e) \end{array} \right]$

c. True in w iff (i) there's an event e in w such that there's a gift x & e is an event of Malin grabbing x & (ii) given the relevant circumstances around the preparatory stage of e, the most expected worlds in w where e happens are no more expected than the most expected worlds in w where e doesn't happen.

Unexpected event scenario w.r.t. (16) and (23):

> *Unexpected event scenario:* Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's not her turn to choose, but she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's not her turn, she runs to the blue gift and unwraps it. It's the jackpot! (16) = ✓

- Here, $\mathbf{f}(e)$ picks up worlds where it wasn't Malin's turn to choose.
- As shown in Figure 3, in the *unexpected event scenario*, the most expected worlds where Malin does not pick the jackpot (i.e. worlds where the event doesn't happen) are worlds where no gift is picked at all (since it's not Malin's turn), and those are more expected than worlds where the jackpot is picked.

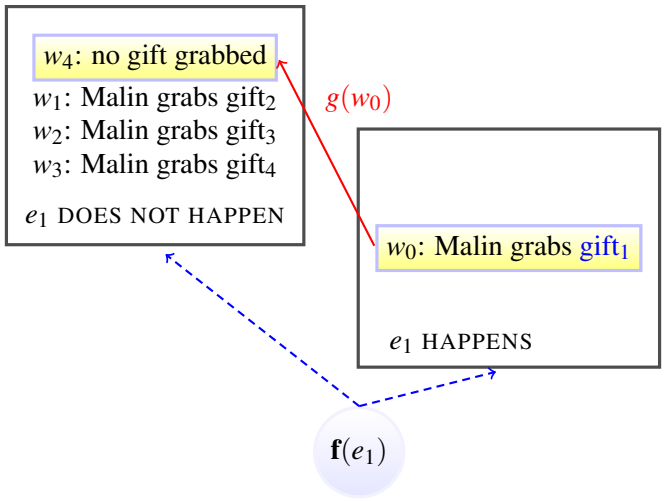

Figure 3: Unexpected event scenario : *Malin komon-grabbed a gift*

∴ (16) = **true** in the *unexpected event scenario*.

Random choice scenario w.r.t. (16) and (23).

> *Random choice scenario*: Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's Malin's turn to choose. All of the gifts are wrapped the same, so Malin just picks one at random. It's the jackpot! (16) = ✓

- Here, $\mathbf{f}(e)$ picks up worlds where it was Malin's turn to choose.
- As shown in Figure 6, the most expected worlds where Malin does not grab gift$_1$ and the relevant circumstances obtain are not worlds where Malin didn't grab a gift (unlike the unexpected event scenario), but worlds where Malin grabbed a different gift. In the scenario, those worlds are **as likely** as the worlds where the gift with the jackpot is grabbed.

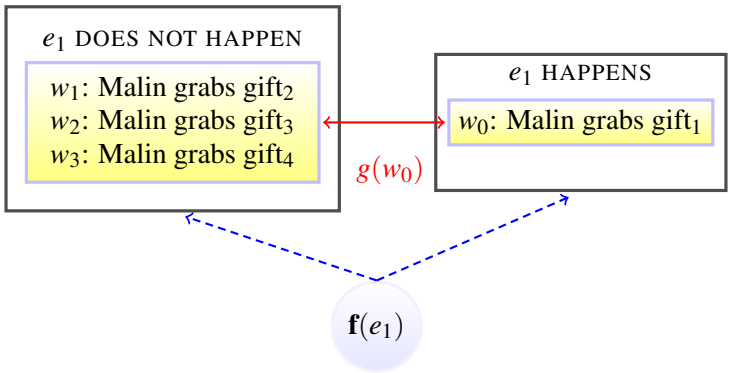

Figure 4: Random choice (right) scenarios : *Malin komon-grabbed a gift*

∴ (16) = **true** in the *random choice scenario*.

Modal condition not satisfied. A scenario where VP-*komon* is infelicitous:

> *Other scenario*: Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. **It's Malin's turn to choose**, when **she notices that one gift is wrapped in blue**, while the other three in red. Malin grabs the blue gift. It's a cheap gift. (16) = #

- The target sentence in (16) is correctly predicted to be false in this scenario.
- Given the circumstances (Malin wants to pick the jackpot and it's her turn), picking the gift wrapped in blue was more expected than not picking the gift in blue:

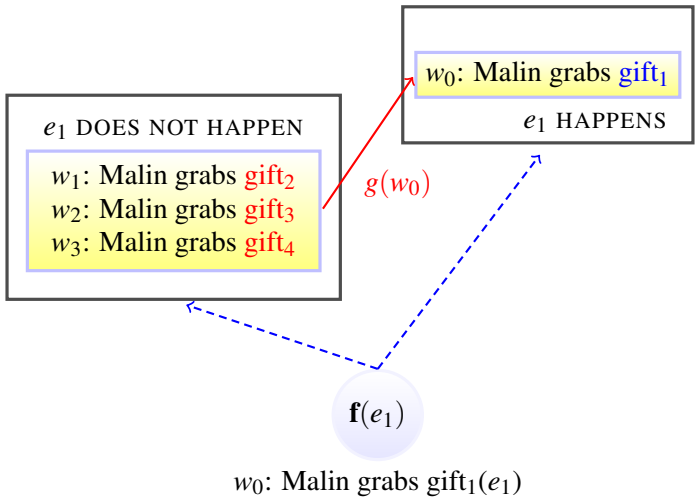

Figure 5: Unremarkable scenario: *Malin komon-grabbed a gift*

∴ (16) = **false** in this scenario.

2.4 Summary

- VP-*komon* is a circumstantial modal that adds to the denotation of the *vP* that the most expected worlds where the described event happens are no more expected than the most expected worlds where the event does not happen.
- The modal condition comes out as true in both the *unexpected event* and *random choice* scenarios.

Next: We turn to the contribution of *komon* in the nominal domain.

- We'll see that *komon* in the nominal domain can also convey a likelihood component, but crucially needs to compare events with events that involve the individuals in the extension of the NP argument.

3 *Komon* in the nominal domain

3.1 Background on the Chuj DP

- Chuj exhibits no case morphology on nominals. A set of classifiers are used as definite articles, and *jun* is the SG indefinite article (Buenrostro et al. 1989, García Pablo & Domingo Pascual 2007, Royer 2019).

(24) Ix-y-il [**jun** tz'i'] [**winh** winak].
PFV-A3-see INDF dog CLF man
'The man saw a dog.'

- A limited set of adjectives (e.g. colour, size, terms and *komon*) appear immediately before the nominal (Maxwell 1976; Coon 2018).

(25) Ix-s-man [$_{DP}$ jun **saksak / niwan / komon** libro] ix Malin.
PFV-A1S-buy INDF white big KOMON book CLF Malin
'Malin bought a white/big/random book.'

- Adjectives can sometimes be stacked. In such cases, *komon* can appear on either side of other adjectives:

(26) Ix-s-man [$_{DP}$ jun {**komon**} saksak {**komon**} libro] ix.
PFV-A1S-buy INDF KOMON white KOMON book CLF
≈ 'She bought a {random} white {random} book.'

3.2 Two interpretations for nominal *komon*

3.2.1 'Unremarkable' uses

In the nominal domain, *komon* can convey that the satisfier of the NP does not stand out compared to other individuals in the NP extension.

- Hopkins (2012): *komon* comes from Spanish *común* 'common/average'.[7]

- Still today, *komon* can convey "unremarkability":

(27) [**Komon** k'ayb'um] waj Xun.
KOMON student CLF Xun
≈'Xun is an average/unexceptional student.'

So is nominal *komon* always about 'unremarkability'?

No! Sometimes nominal *komon* conveys something about the likelihood of the event described (even with "remarkable" referents), just like VP-*komon*.

[7] Mateo-Toledo (2008) also translates Q'anjob'al *komon* as 'common'

3.2.2 'Unexpectedness' uses

Nominal *komon* in intransitives can convey that an event was unexpected:

(28) Context: *A deer showed up in the village out of the blue.*

Ix-jaw [jun **komon** sakchej].
PFV-come INDF KOMON deer
≈ 'A deer unexpectedly appeared.'

- The sentence could be felicitously followed with the claim that the individual that satisfies the existential claim is remarkable:

(29) Felicitous continuation of (28)

Te' niwak nok' te'-ay y-ib' nok'.
INTS big CLF INTS-EXT A3-strength CLF.
≈ 'It (the deer) was very big and strong.'

Random choice. And (30) is **true** in the *random choice scenario* (where the gift is remarkable since it's the jackpot).

(30) Ix-s-yam [$_{DP}$ jun **komon** regalo] ix Malin.
PFV-A3-grab INDF KOMON gift CLF Malin
≈ 'Malin grabbed an average/unremarkable gift.'

Random choice scenario: Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's Malin's turn to choose. All of the gifts are wrapped the same, so Malin just picks one at random. It's the jackpot! (30) = ✓

- We will assume an ambiguity between an NP modifier (expressing unremarkability) and a D-modifier (expressing a likelihood component).
  - See appendix for some evidence, and Alonso-Ovalle & Royer 2020 for more on the 'unremarkable' use of nominal *komon*
  - Note that *komon*'s different semantic interpretations in the nominal domain is comparable to other "non-local" modifiers identified in the semantic literature, which can also sometimes appear inside DP but require accessing the vP (Larson 1999, Zimmermann 2003, Schwarz 2006, Morzycki 2016).

(31) An occasional sailor strolled by.
- ▶ Someone who sails occasionally strolled by (NP-modifier)
- ▶ Occasionally, a sailor strolled by (vP-modifier)

3.3 Accounting for DP-*komon*

Puzzle 2: How do the modal components of VP- and DP-*komon* relate to each other?

Try 1. Treat DP-*komon* just like VP-*komon*.

- We can manipulate *komon*'s semantic type such that it syntactically appears inside DP but scopes over the *v*P:

(32) $\left[\!\left[\begin{array}{c} \text{jun} \\ \text{komon}_{DP} \quad \mathbf{f}_{\text{circ}\langle i,st\rangle} \end{array} \right]\!\right] =$

$$\lambda P_{\langle e,st\rangle}\lambda R_{\langle e,\langle i,st\rangle\rangle}.\lambda e.\lambda w.\exists x[P_w(x) \;\&\; [[\![\text{komon}_{vP}]\!](\mathbf{f}_{\text{circ}\langle i,st\rangle})(R_w(x))](e)(w)]$$

Some correct predictions:

- E.g.: Right interpretation in *random choice scenarios*.

(30) Ix-s-yam [$_{\text{DP}}$ jun **komon** regalo] ix Malin.
PFV-A1S-grab INDF KOMON gift CLF Malin
≈ 'Malin randomly grabbed a gift.'

(33) a. LF: $\exists_e$ a komon gift $\lambda 1$ Malin grabbed t_1

b. $[\![$ (33a) $]\!]$ =
$\lambda w.\exists e\exists x \left[\begin{array}{c} \text{GIFT}_w(x) \;\&\; \text{AGENT}(e)(\text{M}) \;\&\; \text{GRAB}_w(e)(x) \\ \&\neg\mathbf{f}\text{-EXPECTED}_w(e) \end{array} \right]$

c. True in *w* iff there is an event *e* such that there is a gift *x* & *e* is an event of Malin grabbing *x* & given the circumstances around the preparatory stage of *e*, the most expected worlds where *e* happens are no more expected than the most expected worlds where *e* does not happen.

But at least two issues:

1. DP-*komon* is expected to be true, like VP-*komon*, in the *unexpected event scenario*.

(30) Ix-s-yam [$_{\text{DP}}$ jun **komon** regalo] ix Malin.
PFV-A1S-grab INDF KOMON gift CLF Malin
≈ 'Malin randomly grabbed a gift.'

> *Unexpected event scenario:* Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's not her turn to choose, but she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's not her turn, she runs to the blue gift and unwraps it. It's the jackpot!

- Unlike its counterpart with VP-*komon*, speakers judge (30) **false** in this scenario.
  - DP-*komon* seems to be blind to the fact that the actual grabbing—the fact that Malin grabbed a gift in the first place—was not expected. Rather, it requires that the actual grabbing be no more expected than the potential grabbings of any of the other gifts. This is not the case in the unexpected event scenario.

2. Contrary to VP-*komon*, the likelihood interpretation of DP-*komon* is not available with all determiners.
   - Definite determiners (classifiers):

   (34) a. Ix-s-sikl-ej [$_{DP}$ winh **komon** k'ayb'um] waj Xun.
   PFV-A3-choose-DTV CLF(=DEF) KOMON student CLF Xun
   Cannot mean: 'Xun chose the student at random.'
   b. Ix-s-**komon**-sikl-ej [$_{DP}$ winh k'ayb'um] waj Xun.
   PFV-A3-KOMON-choose-DTV CLF(=DEF) student CLF Xun
   Can mean: 'Xun chose the student at random.'

   - Universal quantifier:

   (35) a. [Junjun **komon** libro] ix-in-man-a'.
   ∀ KOMON book PFV-A1S-buy-TV
   Cannot mean: 'I bought every book at random.'
   b. [Junjun libro] ix-in-**komon**-man-ej.
   ∀ book PFV-A1S-KOMON-buy-DTV
   Can mean: 'I bought every book at random.'

   (for context used for (34) and (35), see Alonso-Ovalle & Royer 2020)

   - These examples show that the **indefinite determiner plays an important role** in deriving the modal component of DP-*komon*.

Try 2. Comparing events and individuals.

Proposal: DP-*komon* does not compare a particular event with the most expected worlds where this event does not happen, but hardwires a comparison of events **that only differ with respect to individuals in the extension of the NP**.

- DP-*komon* essentially creates a complex determiner, along the lines of (some of) the nonlocal modifiers discussed Larson 1999 and Zimmermann 2003.

(36) $\left[\!\!\left[\begin{array}{ccc} & \text{DP} & \\ \text{D} & & \text{NP} \\ \text{D} & & \\ & \text{komon}_{DP} \quad \text{f}_{\text{circ}\langle i,st\rangle} & \end{array} \right]\!\!\right]^{v} = \lambda R_{\langle e,\langle i,st\rangle\rangle}.\lambda e.\lambda w.$

$$\text{①}\ [[\![\text{D}]\!]([\![NP]\!])(R)](e)(w)\ \&\ \underbrace{\forall x \left[\begin{array}{c} \text{②}\ [[\![\text{NP}]\!](w)(x)\ \&\ x \notin \{y : R_w(y)(e)\}] \\ \rightarrow \\ \text{③} \left(\begin{array}{c} \text{Max}_{\leq_{g(w)}}(\{w' : \text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \\ \leq_{g(w)} \\ \text{Max}_{\leq_{g(w)}}(\{w' : \exists e'[R_{w'}(x)(e')]\} \cap \mathbf{f}(e)) \end{array} \right) \end{array} \right]}_{\text{modal condition}}$$

Let's unpack this:

- DP-*komon* takes a D and an NP as arguments to yield a DP denotation.

  (a function from a relation R between individuals, events and worlds to a relation between events and worlds)

- The DP denotation combines with its argument R (vP) ①.

DP-*komon* also conveys a **modal condition**:

- This condition looks at all individuals in the NP extension that are not related to the described event e by R in the world of evaluation ②.
- It compares the likelihood of the event e with the likelihood of other events e' of the same type involving those individuals. The condition conveys that the most expected worlds where e happens are no more ($\leq$) expected than the most expected worlds where e' happens ③.[8]

Illustration.

(30) Ix-s-yam [$_{DP}$ jun **komon** regalo] ix Malin.
PFV-A1S-grab INDF KOMON gift CLF Malin
≈ 'Malin grabbed a random gift.'

Random choice scenario: Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's Malin's turn to choose. All of the gifts are wrapped the same, so Malin just picks one at random. It's the jackpot! (30) = ✓

(37) LF: $\exists_e$[(jun) komon$_{DP}$ f](gift) $\lambda 1$ Malin grabbed t_1

(38) $[\![(37)]\!] =$

$$\lambda w.\exists e\left[\begin{array}{l} \exists x[\textsc{gift}_w(x)\ \&\ \textsc{grab}_w(e)(x)\ \&\ \textsc{ag}(\textsc{m})(e)] \\ \& \\ \underbrace{\forall y\left[\begin{array}{c}[\textsc{gift}_w(y)\ \&\ y \notin \{z : \textsc{grab}_w(z)(e)\ \&\ \textsc{Ag}(\textsc{m})(e)\}] \\ \rightarrow \\ \left(\begin{array}{c}\textsc{Max}_{\leq_{g(w)}}(\{w' : \textsc{happen}_{w'}(e)\} \cap \mathbf{f}(e)) \\ \leq_{g_{(w)}} \\ \textsc{Max}_{\leq_{g(w)}}(\{w' : \exists e'[\textsc{grab}_{w'}(y)(e')]\} \cap \mathbf{f}(e))\end{array}\right)\end{array}\right]}_{\text{modal condition}} \end{array}\right]$$

(39) True in w iff (i) there's an event e such that e is a grabbing of a gift by Malin, and (ii) for every gift x in w that Malin did not grab, it holds that the most expected worlds in w where e happens (and relevant circumstances obtain) are no more expected than the most expected worlds in w where Malin grabs x.

[8] To make the formula easier to read, we omit from it a condition stating that those events e' are continuations of the preparatory stage of e.

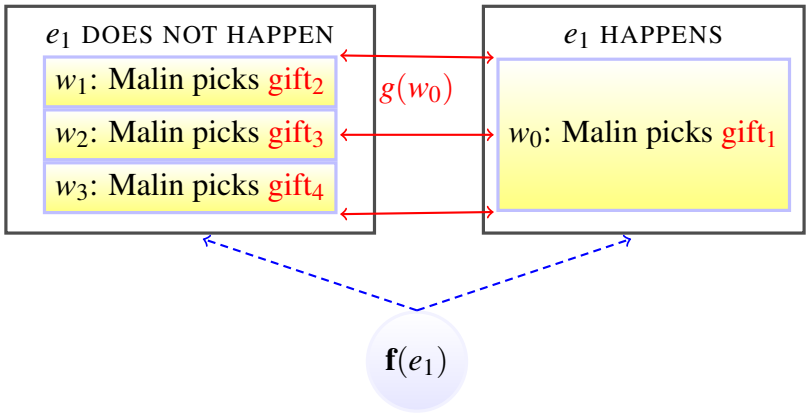

Figure 6: Random Choice Context : *Malin grabbed a komon gift*

'Unexpected event' interpretation expected to be false.

- And (30) is predicted to be false in the *unexpected event scenario*, since Malin was expected to grab the blue gift (see Figure 7).

> *Unexpected event scenario:* Malin is at a gift exchange. She knows there's a jackpot of $1,000 and that the other gifts are cheap. There are four gifts left, one must be the jackpot. It's not her turn to choose, but she notices that one of the gifts is wrapped in blue, while the other three in red. Even though it's not her turn, she runs to the blue gift and unwraps it. It's the jackpot!

$\therefore$ (30) = **false** in *unexpected event scenario*

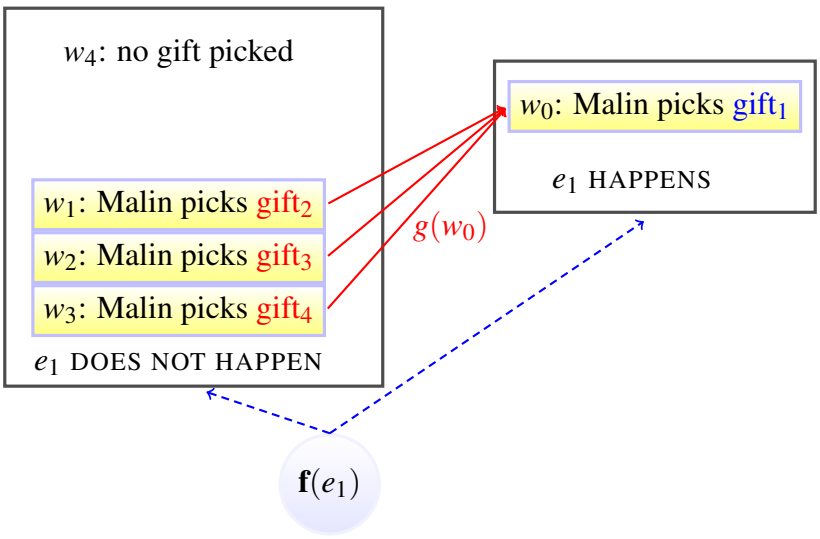

Figure 7: Unexpected Event Context : *Malin grabbed a komon gift*

- Because it wasn't Malin's turn to grab a gift, the events that we are comparing are still less expected than Malin not grabbing a gift, but DP-*komon* now hardwires a comparison between individuals.

Taking stock:

- Apparent equivalence between VP- and DP-*komon* in the *random choice scenario*:

  ▶ VP-*komon*—compares likelihood of the actual event with other events.

  In the *random choice scenario*, the actual grabbing with alternative grabbings of other gifts is accidental: the most expected worlds where Malin doesn't grab the gift that she grabbed happen to be worlds where she grabs another gift.

  ▶ DP-*komon*—compares events with events **and** individuals in the extension of the NP.

  In the *random choice scenario*, it compares the actual grabbing of a gift with alternative grabbings of gifts, but this time the comparison of alternative grabbings is hardwired in the semantics.

- This explains why VP-*komon* is compatible with the *unexpected event scenario* but not DP-*komon*, since DP-*komon* hardwires a comparison of events that only differs with respect to the individuals contained in the extension of its NP argument.

3.4 Determiner restriction explained

Recall that DP-*komon* can only combine with certain determiners:

(34a) Ix-s-sikl-ej [$_{DP}$ winh **komon** k'ayb'um] waj Xun.
PFV-A3-choose-DTV CLF(=DEF) KOMON student CLF Xun
≈ 'Xun chose the unremarkable student.' (cannot mean: 'Xun chose the student at random')

- We can now explain this.
- The definite classifier will trigger a uniqueness presupposition (that there's only one student) and the non-modal condition will convey that Xun chose that unique student.
- In the modal condition, there is only one individual that can satisfy the first conjunct in the antecedent of the conditional in (40) —if the presupposition is satisfied, there will only be one salient student.

(40) $$\forall y \left[\boxed{[\,\text{STUDENT}_w(y) \;\&\; y \notin \{z : \text{CHOOSE}_w(z)(e) \;\&\; \text{AG}(\text{XUN})(e)\}]} \rightarrow \left(\begin{array}{c} \text{Max}_{\leq_{g(w)}}(\{w' : \text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \\ \leq_{g(w)} \\ \text{Max}_{\leq_{g(w)}}(\{w' : \exists e'[\text{CHOOSE}_{w'}(y)(e')]\} \cap \mathbf{f}(e)) \end{array} \right) \right]$$

- But that student is in the set of things that the speaker chose in the described event, so the second conjunct in the conditional's antecedent is false. The modal condition holds vacuously and so *komon* contributes nothing.
- To the extent that adding vacuous materials can result in deviancy, we explain why only 'unremarkable' *komon* is perceived here.
- The same line of explanation extends to cases with ∀ determiners like (35a): the modal condition will also be trivially true, since all books are in the set of things that the speaker grabbed and, again, DP-*komon* will contribute nothing.

4 Conclusion

We started the talk with three questions:

Q1 What modal flavors can DPs express?

Q2 To what extent do DP modals mirror those of VP modals?

Q3 To what extent is the modal component of modal expressions tied to their syntactic position?

Q1 → We focused on random choice modality. We saw that RCM in Chuj derives from a likelihood component (casting doubt on a unified account of RCM)

Q2 → We saw that DP-*komon* can convey the same modal flavour as VP-*komon* (they both convey a likelihood component).

Q3 → We saw that VP-*komon* and DP-*komon* differ in that the former conveys information about the likelihood of an event while the latter compares the likelihood of an event with alternative events **that differ with respect to its event participants**.

Remaining questions:

- How does *komon* differ from other *random choice indefinites*, and should we revisit previous accounts?
- Can we unify the 'unremarkable' interpretation with random choice modality? Or has the modal component of *komon* been grammaticalized?

References

Alonso-Ovalle, L. & Menéndez-Benito, P. (2011), Expressing indifference: Spanish *Un NP Cualquiera*, *in* M. A. *et al.*, ed., 'Proceedings of the 21st Semantics and Linguistic Theory Conference', Cornell University, Ithaca, NY, pp. 333–347.

Alonso-Ovalle, L. & Menéndez-Benito, P. (2013), Random choice modality: Spanish *Uno Cualquiera*, *in* E. Chemla, V. Homer & G. Winterstein, eds, 'Proceedings of *Sinn und Bedeutung* 17', pp. 27–43.
URL: *http://semanticsarchive.net/sub2012/*

Alonso-Ovalle, L. & Menéndez-Benito, P. (2018), 'Projecting possibilities in the nominal domain: Spanish *uno cualquiera*', *Journal of Semantics* **35**(1), 1–41.

Alonso-Ovalle, L. & Menéndez-Benito, P., eds (2015), *Epistemic Indefinites. Exploring Modality Beyond the Verbal Domain.*, Oxford University Press.

Alonso-Ovalle, L. & Royer, J. (2020), Random choice from likelihood: The case of chuj (mayan). Ms. McGill University.

Arregui, A., Rivero, M. L. & Salanova, A. (2017), *Modality across syntactic categories*, Vol. 63, Oxford University Press.

Buccola, B. & Haida, A. (2017), Expressing indifference in German, *in* A. Cremers, T. van Gessel & F. Roelofsen, eds, 'Proceedings of the 21st Amsterdam Colloquium', Vol. 21, pp. 165–174.

Buenrostro, C. (2015), El morfema *-ok* y la modalidad irrealis en chuj de san mateo ixtatán, *in* 'Estudios de lenguas amerindias 3: Escenarios de diversidad lingüística', Universidad de Sonora, pp. 55–74.

Buenrostro, C., Díaz, J. C. & Zavala, R. (1989), Sistema de clasificación nominal del Chuj, *in* 'Memorias del Segundo Coloquio Internacional de Mayistas', Vol. II, UNAM, Mexico City.

Chierchia, G. (2013), *Logic in Grammar*, Oxford University Press, Oxford.

Choi, J. (2007), Free Choice and Negative Polarity: A Compositional Analaysis of Korean Polarity Sensitive Items., PhD thesis, University of Pennsylvania.

Choi, J. & Romero, M. (2008), Rescuing existential free choice items in episodic sentences, *in* O. Bonami & P. Cabredo Hoffner, eds, 'Empirical issues in formal syntax and semantics'.

Coon, J. (2018), Distinguishing adjectives from relative clauses in Chuj (with help from Ch'ol), *in* L. Kalin, I. Paul & J. Vander Klok, eds, 'Heading in the right direction: Linguistics treats for Lisa Travis', McGill Working Papers in Linguistics.

Davis, H., Gillon, C. & Matthewson, L. (2014), 'How to investigate linguistic diversity: Lessons from the Pacific Northwest', *Language* **90**(4), 180–226.

Fălăuş, A. (2014), '(Partially) free choice of alternatives', *Linguistics and Philosophy* **37**(2), 121–173.

Fălăuş, A. (2015), Romanian epistemic indefinites, *in* L. Alonso-Ovalle & P. M. Benito, eds, 'Epistemic Indefinites', Oxford University Press, pp. 60–81.

García Pablo, G. & Domingo Pascual, P. M. (2007), *Stzolalil Sloloni-Spaxtini heb' Chuj: Gramática Descriptiva Chuj*, Academia de Lenguas Mayas de Guatemala.
Hacquard, V. (2006), Aspects of Modality, PhD thesis, MIT.
Henderson, R. (2016), 'Mayan semantics', *Language and Linguistic Compass* **10**(10), 551–588.
Hopkins, N. (2012), *A Dictionary of the Chuj Mayan Language*, Jaguar Tours, Tallahassee, FL.
Kim, M.-J. & Kaufmann, S. (2007), Domain restriction in freedom of choice: A view from Korean *indet-na* items, *in* E. Puig-Waldmüller, ed., 'Proceedings of *Sinn und Bedeutung* 11', Universitat Pompeu Fabra, Barcelona, pp. 375–389.
Kratzer, A. (1981), The Notional Category of Modality, *in* H.-J. Eikmeyer & H. Rieser, eds, 'Words, Worlds, and Contexts', Walter de Gruyter, Berlin, pp. 38–74.
Kratzer, A. (1991), Modality, *in* A. von Stechow & D. Wunderlich, eds, 'Semantics: An International Handbook of Contemporary Research', Walter de Gruyter, Berlin, pp. 639–650.
Kratzer, A. (1996), Severing the external argument from its verb, *in* J. Rooryck & L. Zaring, eds, 'Phrase Structure and the Lexicon', Kluwer, Dordrecht, pp. 109–137.
Kratzer, A. & Shimoyama, J. (2002), Indeterminate pronouns: The view from japanese, *in* Y. Otsu, ed., 'Proceedings of the 3rd Tokyo Conference on Psycholinguistics', pp. 1–25.
Larson, R. (1999), Semantics of adjectival modification. LOT Winter School Class Notes, Amsterdam.
Law, D. (2014), *Language contact, inherited similarity and social difference: The story of linguistic interaction in the Maya lowlands*, John Benjamins, Amsterdam.
Lewis, D. (1968), 'Counterpart theory and quantified modal logic', *Journal of Philosophical Logic* **65**, 113–126.
Mateo-Toledo, B. E. (2008), The family of complex predicates in Q'anjob'al (Maya): Their syntax and meaning, PhD thesis, University of Texas Austin, Austin, TX.
Matthewson, L. (2004), 'On the methodology of semantic fieldwork', *International Journal of American Linguistics* **70**(4), 369–415.
Maxwell, J. M. (1976), 'Chuj intransitives: Or when can an intransitive verb take an object?', *Journal of Mayan Linguistics* **1**, 128–140.
Morzycki, M. (2016), Toward a general theory of nonlocal readings of adjectives., *in* N. Babe, P. Berezovskaya & A. Scholler, eds, 'Proceedings of Sinn and Bedeutung 20', pp. 512–532.
Piedrasanta, R. (2009), *Los Chuj, Unidad y rupturas en su espacio*, Amrar Editores, Guatemala City, Guatemala.
Polian, G. (2007), El sufijo *-uk* y la diversificación de la modalidad irrealis en tseltal, *in* 'Conference on Indigenous languages of Latin America III', University of Austin in Texas, pp. 1–26.
Royer, J. (2019), Domain restriction and noun classifiers in Chuj, *in* M. Baird & J. Pestesky, eds, 'NELS 49: Proceedings of the forty-ninth annual meeting of the North-East Linguistics Society', Vol. 3, pp. 87–97.
Schwarz, B. (2006), Attributive *wrong*, *in* D. Baumer, D. Montero & M. Scanlon, eds, 'Proceedings of the 25th West Coast Conference on Formal Linguistics', pp. 362–370.
Vázquez Álvarez, J. J. (2011), A Grammar of Chol, a Mayan Language, PhD thesis, University of Texas Austin, Austin, TX.
von Fintel, K. (2000), Whatever, *in* B. Jackson & T. Matthews, eds, 'Proceedings of the 10th Semantics and Linguistic Theory Conference', CLC Publications, Ithaca, NY, pp. 27–40.
Zimmermann, M. (2003), 'Pluractionality and complex quantifier formation', *Natural Language Semantics* **11**(3), 249–287.

Appendix: Evidence for an ambiguity between two nominal *komon*s?

- When conveying unlikelihood, *komon* doesn't tolerate any material intervening between D and *komon*. This is not the case when *komon* only conveys unremarkability.

(41) Ix-s-yam [$_{DP}$ jun *yax* **komon** regalo] waj Xun.
PFV-A3-grab INDF green KOMON gift CLF Xun
'Xun grabbed a green random gift.'

▶ Felicitous in *unremarkable scenario*.

▶ Infelicitous in *random choice scenario*.

(42) Ix-s-yam [$_{DP}$ jun **komon** *yax* regalo] waj Xun.
PFV-A3-grab INDF KOMON green gift CLF Xun
'Xun grabbed a green random gift.'

▶ Felicitous in *unremarkable scenario*.

▶ Felicitous in *random choice scenario*.

- This supports the view of *komon* as ambiguous.