Random choice modality: The view from Chuj (Mayan)[1]

Luis ALONSO-OVALLE — *McGill University*
Justin ROYER — *McGill University*

Abstract. Random choice indefinites convey, roughly, that an agent made an indiscriminate choice. There is however no consensus on the exact nature of the modality that random choice indefinites express (Alonso-Ovalle and Menéndez-Benito, 2018). This paper discusses new data from Chuj, an understudied Mayan language. In this language, random choice indefinites feature a morpheme (*komon*) that can appear either as a nominal or verbal modifier (Royer and Alonso-Ovalle, 2019). We show that the modal component of *komon* departs from previous proposals on the nature of random choice modality. Both in DPs and VPs, *komon* conveys information about the likelihood of the event described. The modal component of *komon* is nevertheless tied to its syntactic position. VP-*komon* conveys that the most expected worlds where the described event happens are no more expected than the most expected worlds where it does not. DP-*komon* conveys a similar modal component, but hardwires a comparison between the likelihood of the event described, which involves an individual in the extension of the NP, and that of alternative events determined by considering alternative individuals in the extension of the NP.

Keywords: Modality, random choice, indefinites, Mayan.

1. Introduction

While modality cuts across syntactic categories (Kratzer, 1981), most work within formal semantics has traditionally focused on the modal component of verbal auxiliaries. The focus has recently broadened beyond the verbal domain (Arregui et al., 2017), though, causing questions about the cross-categorial nature of modality to emerge, for example: (i) What modal flavors can DPs express? (ii) To what extent do they mirror those of VP modals? (iii) To what extent is the type of modal component tied to its syntactic position? In this paper, we bring new data on the expression of random choice modality with relevance to questions (i-iii). We focus on a type of modal flavor that can be expressed by indefinite DPs crosslinguistically: random choice modality. Random choice indefinites convey, roughly, that an agent made an indiscriminate choice (see Alonso-Ovalle and Menéndez-Benito 2015, 2018 and references therein).

The data that we discuss come from Chuj, an understudied Mayan language spoken by roughly 70,000 speakers in Guatemala and Mexico (Piedrasanta, 2009).[2] Chuj provides a vantage point

for the study of questions (ii-iii) with respect to random choice modality. As we will see, random choice DPs in Chuj feature a morpheme (*komon*) that can also show up in the verbal domain, where it conveys a modal component, too. This invites a comparison between the modality expressed by *komon* in different environments. We will see that the modal component that *komon* expresses depends on its syntactic position: within the verbal domain, *komon* conveys a comparison between the likelihood of the event described and other alternative events. Within the DP, *komon* can also convey a likelihood meaning component, but this time the modal component hardwires a comparison between the described event, involving an individual in the extension of the NP, and a set of alternative events determined with the help of alternative individuals in the extension of the NP. With respect to question (i), we will see that the study of *komon* contributes to the debate about the kind of modality contributed by random choice expressions, as the modality that *komon* conveys departs from that of other such expressions discussed in previous literature. While showing differences with other random choice expressions, *komon* also shows some commonalities. Like other unrelated random choice expressions, *komon* has a scalar, non-modal use. This poses the question, which will remain unanswered here, about why the modal and non-modal meanings go together across languages.

The paper is organized as follows. Section 2 provides some background on the expression of random choice modality and situates Chuj in the landscape of random choice indefinites. Section 3 explores the use of *komon* within the verbal domain and Section 4 within the nominal domain. Section 5 concludes with a summary and a question for future research.

2. Background: Chuj in the landscape of random choice expressions

Random choice indefinites are modal indefinites. Consider the Spanish sentence in (1), which includes the random choice indefinite *un NP cualquiera* (Alonso-Ovalle and Menéndez-Benito, 2011, 2013, 2018).[3]

(1) María compró un regalo cualquiera.
     María bought a   gift   CUALQUIERA
     ≈ 'María bought a random gift.'

The sentence in (1) can convey (i) the existential claim that María bought a gift (like its counterpart with a standard indefinite), and (ii) the modal claim that she could have bought any other gift (its random choice component).

Several other indefinites that *can* convey a random choice component have been identified across languages. These include Italian *uno qualsiasi* and *un qualunque* (Chierchia, 2013), Romanian *un oarecare* (Fălăuş, 2015, 2014), German *irgendein* (Kratzer and Shimoyama 2002; Buccola and Haida 2017), as seen in (2), and the Korean *na* indeterminates (Choi, 2007; Kim and Kaufmann, 2007; Choi and Romero, 2008a), as (3) illustrates.

(2) Hans hat irgend-ein   Buch gekauft.
     Hans has IRGEND-INDF book bought

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[3]Abbreviations are as follows: A: ergative/possessive; AG: agentive suffix; B: absolutive; 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. 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.

≈ 'Hans bought some book / a random book.'   (Buccola and Haida 2017)

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

There is no consensus in the literature about what kind of modality random choice modality is. Chierchia (2013) suggests, mostly in passing, that Italian *uno qualsiasi* and German *irgendein* are interpreted under the scope of a covert *bouletic* modal. Under this proposal, the sentence in (2) is predicted to convey that Hans' desires did not favour any specific book.

Alonso-Ovalle and Menéndez-Benito (2018) propose that the modality that *un NP cualquiera* contributes is interpreted relative to the *decision* of the agent of the described event. Under this view, the sentence in (1) conveys that María decided to buy a book and that that decision did not favour any specific book. Unlike what the bouletic account predicts, this modal condition can be true in cases where the agent wanted to pick a particular book (as long as he did not decide to do so).

Buccola and Haida (2017) put forth the claim that the interpretation of *irgendein* involves a simplicity-based comparison of alternative possible actions. Under their proposal, the random choice interpretation of *irgendein* arises when this indefinite is interpreted under the scope of the adverb *einfach* ('simply'), which they assume can be covert. The basic idea is that *irgendein* contributes two components: (i) the proposition that Hans bought a book in a set D, and (ii) for any D' that is a subset of D, the alternative proposition that Hans bought a book in D'. *Einfach*, on its turn, conveys the modal component that any alternative action described by the alternative propositions that *irgendein* contributes (buying a book in any of the subset domains) would not have been simpler for Hans. This excludes situations where Hans wanted to take a particular book, given that picking a book from a subset of books containing the desired book would have been "simpler" for Hans than picking a book from the whole set of books, since he would have to discard less books in that case.

Finally, Choi (2007) and Choi and Romero (2008b) propose, in the spirit of von Fintel 2000, that random choice modality is counterfactual modality. Under their analysis, (3) conveys that John picked a card and that he would have also picked one if the set of actual cards had been different. This modal component is satisfied in cases where the agent did not care about the identity of the cards (also in other scenarios, see Alonso-Ovalle and Menéndez-Benito 2018).

The sample of items expressing random choice modality that have been studied in the previous literature remains modest, and our understanding of the attested variation is, correspondingly, limited. We focus here on the expression of random choice modality in Chuj for two reasons. The first is that Chuj is similar enough to other previously studied languages to allow for a direct comparison. The language features DPs that can convey random choice modality. For instance, example (4), with modifier *komon* within an indefinite DP, can convey (i) that Xun bought a book, and (ii) that he could have bought any book, like its Spanish counterpart in (1).

(4)   Ix-s-man   [DP jun **komon** libro] waj Xun
        PFV-A3-buy   INDF KOMON book   CLF Xun
        ≈ 'Xun bought a random book.'

The parallel with other previously studied languages does not stop there. Just like its Spanish counterpart, the sentence in (4) can appropriately describe scenarios like (5), where the random choice modal component is false, but the individual satisfying the existential claim is not a remarkable one (Alonso-Ovalle and Menéndez-Benito, 2018):

(5)   *'Unremarkable' scenario:* Juan[/Xun] went to the bookstore. He wanted to buy *The Unbearable Lightness of Being*, and did so. I don't think this book is special in any way.

The second reason why Chuj is well suited to contribute to the study of random choice modality is that it is different enough from other languages for a comparison to be interesting. For instance, as (6) illustrates, the modifier *komon* can also be part of the verbal complex:

(6)   Ix-s-**komon**-man-ej   jun   libro waj Xun.
        PFV-A3-KOMON-buy-DTV INDF gift   CLF Xun
        ≈ 'Xun randomly bought a book.'

When *komon* is VP internal, it can also convey random choice modality. The example in (6), for instance, could be used, like (4), to convey that the agent was indifferent with respect to the issue of which book to buy. This provides an opportunity to probe into the semantics of random choice modality and into the potential differences between DP and VP-level modality. Crucially, when *komon* surfaces internal to the VP, it can also convey a "likelihood" component, which becomes apparent in sentences without agents, as (7), with an unaccusative verb.

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

In (7), *komon* signals that the event of Malin arriving was not expected. Since this meaning component is not discussed in previous studies of random choice expressions, we are left with the question of how this likelihood component relates to the expression of random choice modality.

In analyzing *komon*, we will proceed as follows. Section 3 will focus on VP-internal *komon*. We will see that VP *komon* contributes information about the likelihood of the event described and point out that this meaning component is satisfied in random choice scenarios. Section 4 will then focus on DP internal *komon*. We will see that DP-*komon* can also convey a likelihood component, one that differs from that of VP-*komon* in that it hardwires a comparison between the likelihood of alternative events determined with respect to the individuals in the extension of the NP.

3. VP komon

3.1. Distribution and interpretation

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

(8)   TAM − Set B − Set A − ⏐ **ADV** ⏐ − ROOT − STATUS SUFFIX

Tense-aspect-mood (TAM) and agreement markers precede the verb root. Following the tradition in Mayan linguistics, we refer to absolutive morphemes as "Set B", and to ergative morphemes as "Set A" (these are also used to cross-reference possessors). So-called "status

suffixes" follow verbal roots. These affixes encode information about verb class membership, such as transitivity and derivational status.[4] A third class of morphemes can precede the root in the position indicated by the box in (8). In this position we find a limited set of adverbs, including modifiers like *te* 'a lot/repeatedly' or *wach* 'more' (see e.g. Vázquez Álvarez 2011 for similar stem-internal material in Ch'ol). This is also the position where *komon* shows up within the verbal complex, as (9) illustrates.

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

In Section 2 we saw that when *komon* appears internal to the verb stem in a transitive sentence, it can describe scenarios where the agent made a random choice. At the same time, we saw that in cases with non-agentive predicates, verbal *komon* conveys that the described event was not expected. Our strategy to understand the meaning contribution of VP-*komon* will be to start by looking at its interpretation in cases where it does not appear to give rise to different interpretations, i.e. when it does not combine with transitive verbs.

In examples like (10), where it combines with an unergative verb, *komon* conveys that the described event was not expected: the sentence in (10) can felicitously describe the scenario in (11a), but not the scenario in (11b).

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

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

The same interpretation is observed when VP-*komon* modifies an unaccusative verb (as well as other non-volitional predicates): for instance, the sentence in (12), repeated from (7), can felicitously describe the scenario in (13a), where Malin's arrival was not expected, but not the one in (13b), where it was.

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

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

We also find this interpretation with predicates overtly marked as statives through the stative suffix *-nak*. To illustrate: the sentence in (14) conveys that Xuwan was not expected to be asleep; it can felicitously describe the scenario in (15a), but not the one in (15b).

(14)   **Komon** way-nak   uch Xuwan.
        KOMON sleep-STAT CLF Xuwan

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[4]See Coon 2016; Aissen et al. 2017 and references therein. For descriptive grammars and more background on Chuj, see Hopkins 1967, Maxwell 1981, and García Pablo and Domingo Pascual 2007.

'Xuwan was unexpectedly asleep.'

(15)　　a.　　5 year-old Xuwan is usually very excited in the morning, but this morning she was asleep. ✓

　　　　　b.　　5 year-old Xuwan has been running around all day. ✗

These examples make two points. First, VP-*komon* can convey that the described event was not expected, as anticipated above. Second, given examples like (12), its modal component does not presuppose the existence of an agent, against some of the analyses of random choice modality presented in section 2 (Chierchia, Alonso-Ovalle and Menéndez-Benito, Buccola and Haida), which establish a connection between random choice modality and agentivity.

We turn now to the interpretation of *komon* in combination with transitive verbs, as in (16):

(16)　　Ix-s-**komon**-yam-ej　　　　jun　regalo ix　Malin.
　　　　PFV-A3-KOMON-grab-DTV INDF gift　　CLF Malin
　　　　≈ 'Malin randomly/unexpectedly grabbed a gift.'

As was the case with intransitive and stative predicates, the presence of *komon* in (16) can convey that the described event is not expected. For instance, (16) is judged felicitous in the scenario in (17), where Malin did not grab a gift at random, but the event of Malin grabbing a gift was not expected, because it was not her turn to choose.

(17)　　*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 Malin's turn to choose*, when 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) = ✓

The sentence in (16) can also felicitously describe the scenario in (18) where Malin did grab a gift a random, but where her grabbing a gift was expected, because it was her turn to choose.

(18)　　*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) = ✓

In the unexpected event scenario in (17), the event of Malin grabbing a gift is *less* expected than any of the most expected events. Given the facts, the most expected events would not be events of grabbing a gift at all, but events where Malin waits for her turn. In the random choice scenario in(18), Malin was expected to grab a gift, but the grabbing of the actual gift that she grabbed was no more expected than the event of grabbing any of the other gifts that she could have grabbed. We therefore propose that what unifies the felicity conditions on VP-*komon* is a modal component that conveys that, given the circumstances, the most expected worlds where the described event happens are no more expected than the most expected worlds where that event does not happen. Because this meaning component can also capture the attested interpretation with intransitives and statives, we build an analysis of VP-*komon* along these lines in the next subsection.

3.2. Analysis

We start by making some background assumptions. We will assume that transitive and unaccusative verbs express relations between individuals, events, and worlds, as in (19):

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

We further assume that agents get added via Event Identification (Kratzer, 1996) and that *vP*s express relations between eventualities and worlds:

(20) a. $[\![\,[_{vP}\ \text{Xun grab that book}\,]\,]\!] =$ b. $[\![\,[_{vP}\ \text{Xun sleep-STAT}]\,]\!] =$
$\lambda e.\lambda w.\text{GRAB}_w(\text{B})(e)\ \&\ \text{AGENT}(e)(\text{XUN})$ $\lambda s.\lambda w.\text{SLEEP}_w(s)\ \&\ \text{HOLDER}(s)(\text{X})$

For convenience, we ignore the contribution of temporal and aspectual markers and assume external existential closure of properties of eventualities:

(21) a. $[\![\,[\exists_e[_{vP}\ \text{Xun grab that book}\,]\,]\,]\!] =$ b. $[\![\,[\exists_e[_{vP}\ \text{Xun sleep-STAT}\,]\,]\,]\!] =$
$\lambda w.\exists_e[\text{GRAB}_w(\text{B})(e)\ \&\ \text{AGENT}(e)(\text{XUN})]$ $\lambda w.\exists_s[\text{SLEEP}_w(s)\ \&\ \text{HOLDER}(s)(\text{X})]$

With these assumptions in place, we treat VP-*komon* as a *vP* modifier that adds a modal condition to the event description that the *vP* denotes: that among the worlds that share the relevant circumstances with the actual world, the most expected ones where (a counterpart of) the described event happens are no more expected than the most expected worlds where (a counterpart of) the described event does not happen.

This modal condition is formalized in (22). 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 (an event maximally similar to e) is part of w'. The possibilities that the modal component of VP-*komon* invokes are projected from the type of events described by the *vP* (Hacquard, 2006). $\text{f}_{circ_{\langle i,st\rangle}}$ is a variable ranging over functions mapping events to sets of worlds and **f** is its value ($v(f)$, where v is the variable assignment). **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. $\text{Max}_{\leq_{g(w)}}$ takes a set of worlds and returns those worlds within the set that are ranked at the top of an ordering ($\leq_{g(w)}$) that ranks worlds with respect to how close they get to what is the most natural course of events in the world of evaluation w (we assume that there are always worlds ranked higher than any others). g is the *stereotypical ordering source* determining this ordering: $g(w)$ is a set of propositions describing the most natural course of events in w. For any worlds $w, w', w'', w' >_{g(w)} w''$ 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 $g(w)$ in the standard way: $w' \geq_{g(w)} w''$ just in case $\{p : w' \in p\ \&\ p \in g(w)\}$ is a (possibly improper) superset of $\{p : w'' \in p\ \&\ p \in g(w)\}$ (Kratzer, 1991). In an abuse of terminology, we write '$p \geq_{g(w)} q$', where p, q are sets of possible worlds, 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.

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

To improve readability, we will abbreviate the modal condition in (22) as in (23):

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

This modal condition covers the basic cases with intransitives and statives where *komon* conveys that the described event was not expected. To illustrate, consider (10) again, which, as seen above, can describe the scenario in (24).

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

(24) Xun is waiting for the bus with other people seriously. He starts dancing. ✓

The sentence in (10) has the LF in (25a), interpreted as in (25b): the sentence is predicted to be true in a world *w* if and only if (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 than the most expected worlds where those circumstances hold and *e* does not happen. Figure 1 represents the main properties of the world corresponding to the scenario in (24). In this case, **f** projects possibilities from Xun's dancing event. There are two types of possibilities: those where that dancing does not happen (represented by the top box), and those where the dancing happens. The most expected worlds of the first type (represented by the shaded box within the top box) are worlds where Xun waits for the bus. The most expected worlds of the second type (represented by the shaded box within the bottom box) are of course worlds where Xun dances. The arrow indicates that the former type of world is more expected than the second. The modal component is true in the scenario in (24).

(25) a. LF: $\exists_e$ [komon $f_{\text{circ}\langle i,st \rangle}$ [$_{vP}$ Xun danced]]
      b. $[\![(25a)]\!]^v = \lambda w.\exists e[\text{AGENT}(e)(\text{XUN}) \, \& \, \text{DANCE}_w(e) \, \& \, \neg f\text{-EXPECTED}_w(e)]$
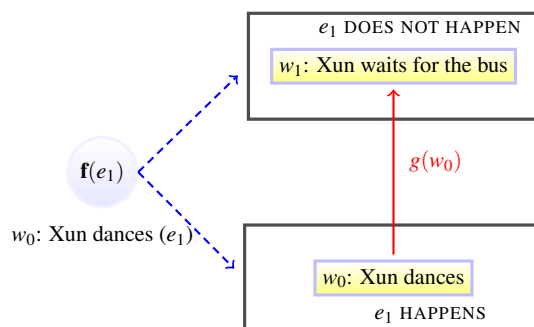

Figure 1: Context: *Xun komon-danced*

We now turn to transitive sentences such as (16), repeated below, for which the modal condition should be satisfied in both the unexpected event scenario in (17) and the random choice scenario in (18).

(16) Ix-s-**komon**-yam-ej   jun   regalo ix   Malin.
      PFV-A3-KOMON-grab-DTV INDF gift   CLF Malin
      ≈ 'Malin randomly/unexpectedly grabbed a gift.'

The sentence in (16) has the LF in (26a), which is interpreted as in (26b): (26a) is predicted to be true in a world w if and only if (i) there is an event e in w such that there is a gift x and e is an event of Malin grabbing x, and (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 does not happen.

(26)   a.   LF: $\exists_e$ [a gift]$_{\langle e, \langle i, st \rangle \rangle}$ $\lambda 1$ [komon f$_{\text{circ} \langle i, st \rangle}$ [Malin grabbed t_1]]

        b. $[\![(26a)]\!]^v = \lambda w. \exists e \exists x \left[\begin{array}{c} \text{GIFT}_w(x) \ \& \ \text{AGENT}(e)(\text{M}) \ \& \ \text{GRAB}_w(e)(x) \\ \& \neg \mathbf{f}\text{-EXPECTED}_w(e) \end{array} \right]$

The modal condition in (26b) is satisfied in the unexpected event scenario in (17). The leftmost picture in Figure 2 represents the main properties of the type of world represented by the unexpected event scenario. In this scenario, the modal base ($\mathbf{f}(e_1)$) contains worlds where it was not Malin's turn to choose. The most expected worlds where Malin does not grab the gift that she grabbed (which we will call 'gift$_1$') are worlds where no gift is grabbed at all, since it is not her turn to choose. Crucially, those worlds are more expected than the most expected worlds where Malin grabs gift$_1$.

The modal condition is also true in the random choice scenario in (18). There, the modal base picks up worlds where it was Malin's turn to choose. As represented in the rightmost picture in Figure 2, this time the most expected worlds where Malin does not grab the gift that she actually grabbed ('gift$_1$') and the relevant circumstances obtain are worlds where Malin grabs a different gift, given that she was expected to grab a gift. In the scenario, those worlds are as likely to occur as worlds where Malin grabs the gift that she actually grabbed.
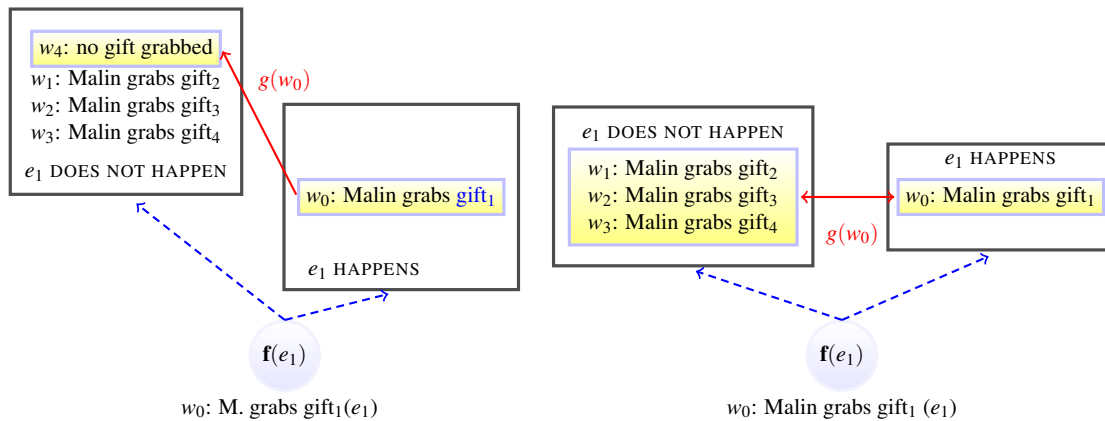

Figure 2: Unexpected event (left) and random choice (right) scenarios : *Malin komon-grabbed a gift*

Let us now consider the scenario in (27), where the modal condition of VP-*komon* is not satisfied:

(27)   *Unremarkable 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!*

The target sentence in (16) is correctly predicted to be false in this scenario, since, given the

circumstances (Malin wants to grab the jackpot and it is her turn), grabbing the gift wrapped in blue is more expected than not grabbing the gift in blue, as shown in Figure 3.
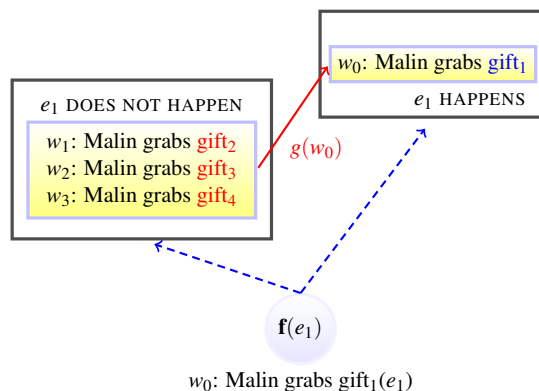

Figure 3: Unremarkable scenario: *Malin komon-grabbed a gift*

In sum, we treat VP-*komon* as a (syntactically) low circumstantial modal that adds to the denotation of the *vP* a modal condition. This modal condition, which hardwires a comparison of events with respect to a likelihood ranking, is predicted to come out as true in both the unexpected and random choice scenarios.

We will move now to consider the interpretation of *komon* in the nominal domain. As anticipated, we will see that when *komon* conveys a modal component, it minimally differs in requiring the comparison between the likelihood of alternative events to be determined with respect to the individuals in the extension of the NP.

4. *Komon* in the nominal domain

Chuj exhibits no case morphology on nominals. So-called noun classifiers are used as definite determiners, and *jun* is used as the singular indefinite determiner (Buenrostro et al. 1989, García Pablo and Domingo Pascual 2007, Royer 2019), as (28) illustrates. The example in (29) shows that a limited set of adjectives appear immediately before nominals (Maxwell 1976; Coon 2018), and *komon* can appear on either side of adjectives, always preceding the noun.

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

(29) Ix-s-man   [DP jun   {**komon**} saksak {**komon**} libro] ix.
      PFV-A3-buy   INDF KOMON white   KOMON book   CLF
      ≈ 'She bought a {random} white {random} book.'

4.1. Interpretation: NP-*komon* vs. DP-*komon*

Hopkins (2012) suggests that *komon* grammaticalized from Spanish *común* ('common/average.') In fact, when *komon* appears in predicative position with no overt determiner, it conveys that the argument of the NP does not stand out compared to other individuals in the NP extension, as the paraphrase in (30) indicates.

(30)   [**Komon** estudyante] waj Xun.
         KOMON student   CLF Xun
       ≈'Xun is an average/unexceptional student.'

This 'unremarkable' interpretation of NP-*komon* is also present with full DPs in object position. Example (31), for instance, can describe the unremarkable scenario in (27), repeated below:

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

(27)   *Unremarkable 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!*

We will tentatively assume that, in cases like this, *komon* is a non-modal NP modifier that
conveys information about where its argument stands in a contextually determined ranking of
equivalence classes of individuals in the extension of the NP. This 'NP-*komon*' conveys that
the argument of the NP is ranked around the middle of the contextually relevant scale, and that
most individuals in the extension of the NP are in the same equivalence class as the argument
of the NP. For instance, the sentence in (30) is naturally interpreted with respect to a ranking
of equivalence classes of students that groups together all students that are as good students
as others, as determined, for instance, by how good their grades are. *Komon* conveys that the
equivalence class that Xun belongs to is at the middle of the ranking, and that it contains most
students. The ranking of sets of individuals that *komon* invokes can vary. For instance, in (32),
the ranking seems to be grouping students with respect to the social status of their parents.

(32)   Man **komon** estudyante-ok laj waj Xun, y-unin   winh waj Justin Trudeau.
       NEG KOMON student-IRR   NEG CLF Xun, A3-child CLF CLF Justin Trudeau
       'Xun is not just any student, he's Justin Trudeau's son.'

In line with these observations, we note that NP-*komon* is deviant with nouns that describe en-
tities that are hard to rank with respect to each other, or with singleton nouns, whose extension
do not allow for non-trivial rankings, as shown in (33) and (34).

(33) $^?$ **Komon** tumin jun k'en tik.   (34)   # Ix-w-il   k'en **komon** uj.
           KOMON money one CLF DEM   PFV-A1S-see CLF KOMON moon
       $^?$'This is average money.'   #'I looked at the average moon.'

Nominal *komon* does not only convey an unremarkable interpretation, though. While *komon*
can convey an unremarkable interpretation in the first sentence in (35), the second sentence,
which can naturally follow the first, blocks this interpretation. With the continuation in (35),
we see that DP-*komon* can contribute, like VP-*komon*, a likelihood component conveying that
the event described—the appearance of the deer—was not expected.

(35)   Ix-jaw   [jun **komon** sakchej]. Te' niwak nok', te'-ay   y-ib'   nok'.
       PFV-come INDF KOMON deer   INTS big   CLF INTS-EXT A3-strength CLF.
       ≈ 'A deer unexpectedly appeared. It (the deer) was very big and strong.'

In object position, we can also see that DP-*komon* can convey more than the 'unremarkable' interpretation. The sentence in (31), where *komon* appears in the object of a transitive verb, is perceived as ambiguous in the random choice scenario provided in (18), repeated below. It can be taken to be false, under its unremarkable interpretation, since Malin grabbed an outstanding gift; but also true, under its random choice interpretation, because Malin grabbed a gift at random. This shows that a second interpretation, related to VP-*komon* and appropriate in scenario (18), is available.

(31) Ix-s-yam   [$_{DP}$ jun **komon** regalo] ix   Malin.
      PFV-A3-grab   INDF KOMON gift   CLF Malin
      ≈ 'Malin grabbed a random gift.'

(18) *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!

In sum, we saw in (35) that like VP-*komon*, DP-*komon* can convey a likelihood component. We also saw in (31) that DP-*komon* can describe the same random choice scenario as VP-*komon*. Since we saw in section 3.2 that both interpretations of VP-*komon* were tied to a likelihood component, we conclude that DP-*komon* can also convey a likelihood component.

Given these facts, we assume that there are two possible contributions of *komon* in the nominal domain. First, *komon* can contribute a non-modal 'unremarkable' interpretation, where it requires accessing a set of individuals (the NP extension). Second, *komon* can also convey that the event described is not likely; this contribution requires accessing the denotation of the *vP*, an argument of the DP. We therefore assume that these different contributions of *komon* in the nominal domain result from an ambiguity. *Komon* can be an NP modifier or a D modifier.

A piece of evidence in favour of this ambiguity comes from the following observation: when conveying random choice, *komon* does not tolerate any material intervening between the D and *komon*. For instance, the sentence in (36) is felicitous in the unremarkable scenario (27), but not in the random choice scenario (18).

(36) Ix-s-yam   [$_{DP}$ jun   k'ank'an **komon** regalo] waj Xun.
      PFV-A3-grab   INDF yellow   KOMON gift   CLF Xun
      'Xun grabbed a yellow random gift.'

In the rest of this paper, we only focus on the use of nominal *komon* as a D-modifier (DP-*komon*), and we leave the NP-modifier (NP-*komon*) use for future work.

4.2. DP-*komon*

A first attempt to capture the fact that both VP- and DP-*komon* have a modal component expressing unlikelihood would be to assume that DP-*komon* simply 'plugs in' the semantics of VP-*komon* onto the *vP* argument of the DP, as schematized in (37).

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

This would predict the right interpretation for DP-*komon* in subject position, as in (35) or (38)

below. The LF of (38), in (39a), is predicted to be true in the world of evaluation w if and only if there is an event e and a deer x in w such that e is an appearing of x and, given the circumstances around the preparatory stages of e, the most expected worlds where e happens are no more expected than the most expected worlds where e does not happen. The sentence is predicted to be true in worlds where the appearance of the deer was not expected to happen.

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

(39)   a.   LF: $\exists_e$ a komon (f) deer $\lambda 1$ [t_1 appeared]
         b.   ⟦ (39a) ⟧ $= \lambda w.\exists e\exists x[\text{DEER}_w(x)\ \&\ \text{APPEAR}_w(x)(e)\&\neg\textbf{f}\text{-EXPECTED}_w(e)]$

Under this analysis, (31), with DP-*komon* in object position, also comes out true in the random choice scenario. The sentence has the LF in (40a), which is predicted to be true in a world w if and only if there is an event e and a gift x in w such that e is an event of Malin grabbing x and, 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. As we saw before, these truth-conditions are satisfied in the random choice scenario, where the most expected worlds where the event does not happen are still worlds where a gift is grabbed.

(31)   Ix-s-yam   [$_{\text{DP}}$ jun **komon** regalo] ix   Malin.
         PFV-A3-grab   INDF KOMON gift   CLF Malin
         ≈ 'Malin grabbed a random gift.'

(40)   a.   LF: $\exists_e$ a komon gift $\lambda 1$ Malin grabbed t_1
         b.   ⟦ (40a) ⟧ $= \lambda w.\exists e\exists x\left[\begin{array}{c}\text{GIFT}_w(x)\ \&\ \text{AGENT}(e)(\text{M})\ \&\ \text{GRAB}_w(e)(x)\\ \&\neg\textbf{f}\text{-EXPECTED}_w(e)\end{array}\right]$

While these results are promising, the current analysis faces two challenges. The first is that it overgenerates. Under the current proposal, we expect DP-*komon* to be true, like VP-*komon*, in the unexpected event scenario in (17), repeated below.

(17)   *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 Malin's turn to choose*, when 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!

This prediction is not borne out: (31) is judged *false* in (17). 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.

The second challenge is that the likelihood component is not available when the DP is headed by a definite determiner, as in (41), or by a universal determiner, as in (42). In these cases, only the unremarkable interpretation is perceived.[5]

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[5]The examples in (41) and (42) were corroborated with proper context, not provided here for reasons of space.

(41) Ix-in-man [$_\text{DP}$ ch'anh **komon** libro.]
PFV-A1S-buy CLF(=DEF) KOMON book
≈ 'I bought the average book.'

(42) [Junjun **komon** libro] ix-in-man-a'.
∀ KOMON book PFV-A1S-buy-TV
≈ 'I bought every average book.'

In view of these challenges, we endorse a different analysis for DP-*komon*. Rather than comparing a particular event with the most expected worlds where this event does not happen (as VP-*komon* does), we propose that DP-*komon* hardwires a comparison of events that only differs with respect to the event participant that the DP ranges over. In (43), DP-*komon* takes as arguments a function from events to sets of worlds, and then a D and an NP to yield a DP denotation (a function from a relation *R* between individuals, events, and worlds to a relation between events and worlds). This DP denotation does two things: first, it conveys what the DP without *komon* would have conveyed; this meaning component is marked as ① in (43). On top of that, a modal condition is added; it 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), and compares the likelihood of the event *e* with the likelihood of other events *e'* of the same type involving those individuals (③). The whole condition conveys that the most expected worlds where *e* happens are no more expected than the most expected worlds where those alternative events *e'* happen.[6]

(43) $[\![_\text{DP}[_\text{D} \text{ D } [\text{komon f}_{\text{circ}\langle i,st\rangle}]] \text{ NP}]\!]^v = \lambda R_{\langle e,\langle i,st\rangle\rangle}.\lambda e.\lambda w.$

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

$$\underbrace{}_{\text{modal condition}}$$

Let us illustrate what these these truth-conditions predict for (31) in (18).

(31) Ix-s-yam [$_\text{DP}$ jun **komon** regalo] ix Malin.
PFV-A3-grab INDF KOMON gift CLF Malin
≈ 'Malin grabbed a random gift.'

(18) *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!

The interpretation of the LF for (31), in (44a), is in (44b): the sentence is predicted to be true in a world *w* if and only if (i) there is 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 the relevant circumstances obtain) are no more expected than the most expected worlds in *w* where Malin grabs *x*.

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[6]Under our analysis, DP-*komon* essentially creates a complex determiner, along the lines of (some of) the nonlocal modifiers discussed in Larson 1999, Zimmermann 2003, Schwarz 2006 and Morzycki 2016.

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

b. $[\![(44)]\!] = \lambda w.\exists e$
$$
\left[
\begin{array}{c}
\exists x[\text{GIFT}_w(x)\ \&\ \text{GRAB}_w(e)(x)\ \&\ \text{AG}(\text{M})(e)] \\
\& \\
\forall y
\left[
\begin{array}{c}
[\text{GIFT}_w(y)\ \&\ y \notin \{z : \text{GRAB}_w(z)(e)\ \&\ \text{AG}(\text{M})(e)\}] \\
\rightarrow \\
\left(
\begin{array}{c}
\text{Max}_{\leq_{g(w)}}(\{w' : \text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \\
\leq_{g(w)} \\
\text{Max}_{\leq_{g(w)}}(\{w' : \exists e'[\text{GRAB}_{w'}(y)(e')]\} \cap \mathbf{f}(e))
\end{array}
\right)
\end{array}
\right] \\
\underbrace{\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad}_{\text{modal condition}}
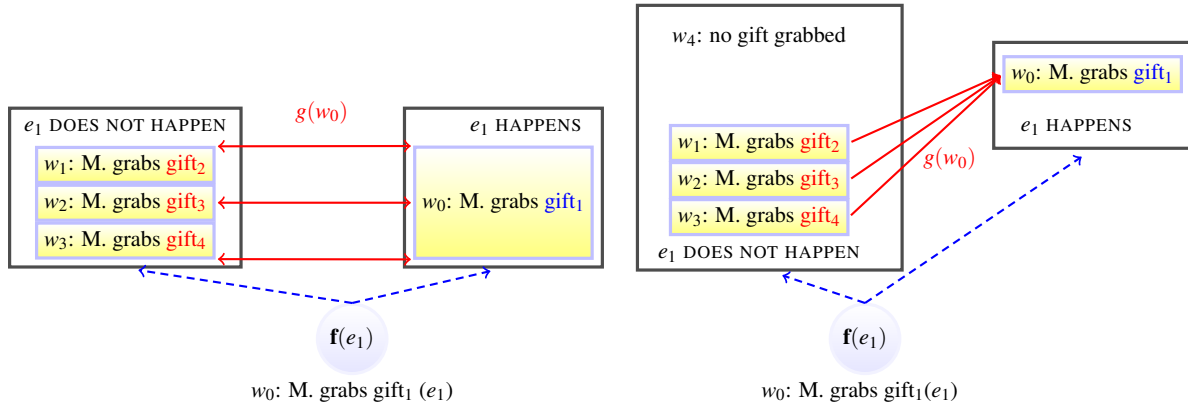\end{array}
\right]
$$

Figure 4: Random choice (left) and unexpected e (right) scenarios : *Malin grabbed a komon gift*

In the random choice scenario in (18), this modal condition is true. As illustrated in the leftmost diagram in Figure 4, none of the most expected worlds where Malin grabs an alternative gift are more expected than the most expected worlds where Malin grabs the gift that she actually grabbed. That is, since all the gifts are wrapped the same, she is as likely to grab the gift that she grabbed as any of the other gifts. Since Malin grabbed a gift in that scenario, the sentence is correctly predicted to be true.

The sentence in (31) is now correctly taken to be false in the unexpected event scenario, since, in this scenario, the grabbing of the blue gift was in fact more expected than any of the potential alternative grabbings, as represented in the rightmost diagram in Figure 4.[7]

Finally, the current analysis gives us a possible way to account for the determiner restriction imposed on the likelihood interpretation of DP-*komon*. Consider (41), repeated below:

(41) Ix-in-man   [DP ch'anh   **komon** libro].
      PFV-A1S-buy   CLF(=DEF) KOMON book
      ≈ 'I bought the average book.'

In (44), *komon* combines with a noun classifier, used as a definite determiner (Buenrostro et al., 1989; Royer, 2019). The classifier presupposes that there is only one book. DP-*komon* first asserts that the speaker grabbed that unique book. Then, DP-*komon* contributes the modal condition in (45). Given the uniqueness component of the definite, there will only be one individual

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[7]Notice that because it was not Malin's turn to grab a gift, the events that we are comparing are still less expected than any event of Malin not grabbing a gift.

that can satisfy the first conjunct in the antecedent of the conditional in (45). Since the speaker bought that book, the second conjunct in the antecedent of the conditional will fail to be true, and, so, the whole antecedent will be false. This means that the modal condition will hold vacuously and *komon* will therefore contribute nothing more than what the DP without *komon* would have contributed. To the extent that adding vacuous material can result in deviancy, we explain why only the unremarkable interpretation is perceived here.

$$(45) \quad \forall y \left[\begin{array}{c} \boxed{[\text{ BOOK}_w(y) \ \& \ y \notin \{z : \text{BUY}_w(z)(e) \ \& \ \text{AG}(\text{SPEAKER})(e)\}]} \\ \rightarrow \\ \left(\begin{array}{c} \text{Max}_{\leq_{g(w)}}(\{w' : \text{HAPPEN}_{w'}(e)\} \cap \mathbf{f}(e)) \\ \leq_{g_{(w)}} \\ \text{Max}_{\leq_{g(w)}}(\{w' : \exists e'[\text{BUY}_{w'}(y)(e')]\} \cap \mathbf{f}(e)) \end{array} \right) \end{array} \right]$$

The same line of explanation can be extended to cases where *komon* co-occurs with a universal quantifier, as in (42), repeated below. In this case, the non-modal component in the predicted truth-conditions will convey that the speaker grabbed all books. Therefore, much like with the previous case, the antecedent of the conditional in the modal condition will have to be false, since all books are in the set of things that the speaker grabbed, and, again, *komon* would contribute nothing beyond what the DP without *komon* would have contributed.

(42) [Junjun **komon** libro] ix-in-man-a'.
   ∀   KOMON book PFV-A1S-buy-TV
   ≈ 'I bought every average book.'

5. Conclusion

We started this paper with three questions: (i) What modal flavors can DPs express? (ii) To what extent do they mirror those of VP modals? (iii) To what extent is the modal component of modal expressions tied to its syntactic position?

With respect to question (i), we focused on random choice modality. We saw in section 2 that there is no consensus about the nature of random choice modality. Chuj presents a new case. In Chuj, random choice modality seems to derive from a modal component that conveys information about the likelihood of the type of event described. This meaning component is different from those discussed in previous proposals that tie random choice modality to agentivity (Chierchia 2013, Buccola and Haida 2017, Alonso-Ovalle and Menéndez-Benito 2018). With respect to question (ii), we found that the likelihood modal component associated with random choice modality can arise both at the *vP* and the DP levels, but, with respect to question (iii), we saw that the modal components expressed by VP- and DP-*komon* were not exactly parallel: 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.

One issue that we are leaving open for now is the precise characterization of the unremarkable interpretation, also possible when *komon* arises as a nominal modifier. As discussed in the introduction, Spanish *uno NP cualquiera* also has this interpretation (Alonso-Ovalle and Menéndez-Benito, 2018). Alonso-Ovalle and Menéndez-Benito (2018) assume that the random choice and unremarkable meanings of *uno NP cualquiera* correspond to two different,

homophonous forms, but the fact that *komon* also has this interpretation poses interesting questions: Is there a reason why the unremarkable and random choice interpretations are lumped together across languages?

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