Universal Free Choice from Concessive Copular Conditionals in Tibetan

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Abstract. I describe the expression of free choice in Tibetan, which involves the combination of a *wh*-word, copula, conditional morphology, and a scalar ‘even’ particle. I demonstrate that the conventional semantics of these ingredients successfully combine to derive universal free choice meaning. This motivates a new approach to the compositional semantics of universal free choice, which does not prescribe its universal force. This quantificational force is parasitic on the modal/temporal operator which is restricted by the conditional; the scalar ‘even’ particle then ensures that the conditional restricts a necessity modal.

Keywords: Free choice · *wh* · Copula · Conditionals · *even* · Tibetan

1 Introduction

This paper has two complementary goals. The first is to report on the expression of free choice in Tibetan, based on original fieldwork.¹ Universal free choice items in Tibetan are a combination of a *wh*-word and the particle *yin.na’ang*, optionally preceded by a nominal domain.²

¹ The original data here reflect the grammars of three speakers of the Tibetan diaspora community in Dharamsala, India. One was born in Tibet and moved to India early in life; the other two were born in India. All grew up in the diaspora community with Tibetan as their first language. The data here was collected in Dharamsala in the summers of 2018 and 2019, and through some further correspondence.

² Abbreviations: AUX = auxiliary, COND = conditional, COP = copula, IMPF = imperfective, NEG = negation; DAT = dative, ERG = ergative, GEN = genitive. I employ Wylie romanization here, with periods indicating syllable boundaries where there is no morpheme boundary, as in Garrett 2001 (see note on p. 12).

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- (1) Nor.bu [(kha.lag) **ga.re yin.na'ang**] za-gi-red.
 Norbu food what YIN.NA'ANG eat-IMPF-AUX
 'Norbu eats **anything** / **any** food.'

Example (1) describes someone who is not picky about their food. Dumplings? Norbu eats them. Frog? He eats that too. Whatever the food, Norbu eats it.

The second goal is to motivate a new compositional semantics for universal free choice based on the overt morphosyntax of these Tibetan FCIs. *Yin.na'ang* is quite transparently the combination of the copular verb *yin*,³ conditional suffix *na*, and scalar focus particle *yang* 'even' (2). The combination may indeed appear transparently as *yin.na.yang*, but is commonly contracted to *yin.na'ang* in both writing and speech, and may further reduce to *yin.na'i* in casual speech.⁴ Goldstein 2001 lists all three forms (p. 1000), but identifies *yin.na'ang* as the canonical form. I follow this convention here and report all examples with *yin.na'ang*.

- (2) **yin** + **na** + **yang** = *yin.na.yang* > *yin.na'ang* > *yin.na'i*
copula cond even

In addition to forming *wh*-FCIs, *yin.na'ang* has two other uses, as a counterexpectational discourse particle—i.e. the translation equivalent for English 'but' and 'however'—and as a concessive scalar particle. I discuss these uses and their compositional semantics in Erlewine 2020.

Here I pursue the null hypothesis, that *yin.na'ang* in the expression of free choice indeed decomposes into the ingredients in (2). The structure in (1) is thus literally as in (3). *Wh-yin.na'ang* is a concessive conditional (i.e. *even if*; see e.g. König 1986) containing a copular description with a *wh*-word.

- (3) Norbu eats [even if {it/the food} is what].

My core analytic contribution in this paper will be to show how these ingredients in (3) together give rise to the expression's behavior as a universal FCI, without stipulating universal quantificational force. Previous work has discussed both empirical and analytic connections between universal free choice and (concessive) conditionals, as well as to *ever* free relatives and so-called unconditionals (see e.g. Gawron 2001; Rawlins 2008a,b, 2013; Szabolcsi 2019; Balusu 2019, 2020). Existing analyses which take the connection between these constructions seriously either stipulate a covert universal quantifier in these constructions (Menéndez-Benito 2005, 2010; Rawlins 2008a,b, 2013) or propose to derive universal force from a strengthening process (Chierchia 2013; Szabolcsi 2019). I argue that universal quantificational force is instead simply a necessary

³ Tibetan also has another copular form, *red*, with the choice of *yin* vs *red* expressing an evidential distinction (Garrett 2001; Tournadre 2008). However, in non-root contexts where evidential distinctions are not expressed, the copula is uniformly *yin*; most importantly for our purposes, *yin* is the expected copular form in conditionals (see e.g. Garrett 2001: 254).

⁴ This reduction to *yin.na'i* /yin.nɛ/ follows the common contraction of the scalar particle *yang* to *ya'i* /yɛ/, common in speech (Tournadre and Sangda Dorje 2003: 409).

consequence of the semantics of conditionals, the scalar particle ‘even,’ and the *wh*-phrase interpreted as a kind of indefinite, in combination.

2 An Approach to *wh*-quantification

I begin by introducing my assumptions regarding the compositional semantics of *wh*-phrases and their interaction with focus particles such as *EVEN*. Studies of the semantics of *wh*-questions and focus association have both motivated the idea that natural language meanings may make reference to *sets of alternative denotations* that vary in a systematic way. In a larger project in progress (see e.g. Erlewine 2019, in prep.), I pursue the hypothesis that these two forms of “alternatives” in grammar can be productively integrated, with the result being a compositional semantics for a wide range of non-interrogative uses of *wh*-words, i.e. *wh*-quantification. I present the core of this approach here, illustrating through its application to *wh*-*EVEN* NPIs in Tibetan (Erlewine and Kotek 2016).

I begin with a brief sketch of the compositional semantics of focus association in the framework of Alternative Semantics (Rooth 1985, 1992). Consider the interpretation of the English example (4) with the focus particle *even*.

(4) Even Tashi came to the party.

Following Karttunen and Peters 1979, the addition of *even* here introduces a requirement that the possibility of Tashi coming to the party is somehow particularly unlikely, compared to the possibility of other people coming to the party.⁵

Let us see how this meaning can be computed compositionally. We annotate the position of focus in a sentence with $\dots_F$ (Jackendoff 1972). As Jackendoff discusses, with *even* in pre-subject position in English, focus must be on the subject or a subpart thereof. We therefore take the LF structure for (4) to be as in (5a). In Alternative Semantics, each syntactic object α has two different corresponding meanings: its ordinary semantic value, $\llbracket \alpha \rrbracket^o$, and a set of alternative denotations of equal semantic type, $\llbracket \alpha \rrbracket^{\text{alt}}$. The alternative set (5c) is a set of propositions that includes the prejacent proposition (5b), as well as other contextually restricted alternative propositions that vary in the focused position. *Even* introduces the inference in (5d), requiring that the prejacent proposition $\llbracket \alpha \rrbracket^o$ (that Tashi came) be the least likely among the alternatives $\llbracket \alpha \rrbracket^{\text{alt}}$.

⁵ This scalar requirement is frequently described as a presupposition, but Karttunen and Peters 1979 and Kay 1990 characterize it as a conventional implicature. Here I will simply refer to it as the “scalar inference” and not comment on its precise status, except that it is not at-issue. Karttunen and Peters 1979 also describes an additional, additive inference of *even*: a requirement that someone else in addition to Tashi came to the party. Here I concentrate on the scalar part of *even*.

- (5) a. $\underline{\text{LF}}: \text{EVEN } [\alpha \text{ [Tashi]}_F \text{ came to the party}]$
 b. $\llbracket \alpha \rrbracket^o = \wedge \text{Tashi came to the party}$
 c. $\llbracket \alpha \rrbracket^{\text{alt}} = \{ \wedge \text{Tashi came...}, \wedge \text{Sonam came...}, \wedge \text{Migmar came...}, \dots \}$
 d. $[\text{EVEN } \alpha] \rightsquigarrow (\wedge \text{Tashi came...}) <_{\text{likely}} (\wedge \text{Sonam came...}) \wedge$
 $(\wedge \text{Tashi came...}) <_{\text{likely}} (\wedge \text{Migmar came...}) \dots$

The general recipe for this scalar inference of *even* is given in (6a). *Even* simply passes up the ordinary value of its complement (6b); thus in (5), the at-issue content is the prejacent proposition, ‘that Tashi came to the party.’

- (6) **The contribution of *even*:**
 a. $[\text{EVEN } \alpha] \rightsquigarrow \forall q \in \llbracket \alpha \rrbracket^{\text{alt}} [q \neq \llbracket \alpha \rrbracket^o \rightarrow \llbracket \alpha \rrbracket^o <_{\text{likely}} q]$
 b. $\llbracket \text{EVEN } \alpha \rrbracket^o = \llbracket \alpha \rrbracket^o$
 c. $\llbracket \text{EVEN } \alpha \rrbracket^{\text{alt}} = \{ \llbracket \alpha \rrbracket^o \}$

Finally, *even* also has the function of “resetting” the alternative set to be the singleton set of the ordinary value (6c).

Let’s now step back and discuss the computation of ordinary and alternative set denotations. Just as ordinary denotations of complex expressions are determined by the denotations of their subparts (7a), where $\circ$ is the appropriate mode of composition (e.g. functional application), Alternative Semantics provides a procedure for calculating the alternative set denotation for a complex expression, in (7b).

- (7) For node α with two daughters, β and γ :
 a. $\llbracket \alpha \rrbracket^o \equiv \llbracket \beta \rrbracket^o \circ \llbracket \gamma \rrbracket^o$
 b. $\llbracket \alpha \rrbracket^{\text{alt}} \equiv \{ b \circ c \mid b \in \llbracket \beta \rrbracket^{\text{alt}}, c \in \llbracket \gamma \rrbracket^{\text{alt}} \}$

In words, for α with two daughters β and γ , each alternative denotation for β is composed with each alternative denotation for γ ; the collection of such results is the alternative set denotation for α .

This method for the computation of sets of alternatives in (7b) is also useful for the interpretation of in-situ *wh*-phrases, as was proposed earlier in Hamblin 1973. *Wh*-phrases have the denotation of a set of alternatives, which then compose pointwise with other material to yield the denotation of a question as a set of alternative propositions, corresponding to possible answers. I follow Ramchand 1996, 1997, Beck 2006, and Kotek 2014, 2019, in casting this Hamblinian system of *wh*-alternatives within the Roothian two-dimensional semantic system just presented. *Wh*-phrases have an alternative set denotation corresponding to its Hamblin alternatives, but no defined ordinary semantic value. See for example the denotation of *who* in (8); its alternative set (8b) is the set of contextually-determined animate individuals which may count as short answers to *who*.

- (8) a. $\llbracket \text{who} \rrbracket^o$ undefined
 b. $\llbracket \text{who} \rrbracket^{\text{alt}} = \{ \text{Tashi, Sonam, Migmar, ...} \}$

Consider now the interpretation of the Tibetan *wh*-containing clause in (9) below. This example must be interpreted as a *wh*-question, even without the final question marker *gas*. Tibetan is a *wh*-in-situ language and does not have bare *wh*-indefinites.

- (9) **Tibetan *wh*-question:**
 [TP Thugs.spro-la *su* slebs-song] (-gas?)
 party-DAT who arrive-AUX -Q
 ‘Who came to the party?’ / *‘Someone came to the party.’

Composing ‘who’ (8) with the rest of the clause, we yield (10):

- (10) a. [TP]^o undefined
 b. [TP]^{alt} = {[^]Tashi came..., [^]Sonam came..., [^]Migmar came, ...}

To grammatically interpret (10) as a question, the alternatives that have been calculated as an alternative set ([TP]^{alt}) must be made the ordinary semantic value, which is the denotation that is ultimately interpreted. This is accomplished by the interrogative complementizer (Beck 2006) or by a dedicated adjoined operator, *ALTS*HIFT (Kotek 2019). See especially Kotek 2019 for more on the use of this framework for the interpretation of *wh*-questions.

Our interest, however, is in the non-interrogative use of *wh*-phrases, especially in concert with focus particles. In addition to *wh-yin.na’ang* FCIs, Tibetan forms NPIs through the combination of a *wh*-phrase and the scalar particle *yang* ‘even’ (Erlewine and Kotek 2016), as in (11):

- (11) ***Wh*-even NPI:**
 Thugs.spro-la *su-yang* slebs-*(ma)-song.
 party-DAT who-EVEN arrive-NEG-AUX
 ‘No one came to the party.’

Let’s consider the interpretation of the grammatical (with negation) and ungrammatical (negation-less) variants of (11) in turn. Following Erlewine and Kotek 2016, I take the focus particle *yang* to correspond to a unary *EVEN* operator taking propositional scope at LF, as schematized in (12).⁶ When we attempt to compute the *EVEN* in this structure, however, we run into a problem. The semantics for the scalar inference of *EVEN* (6a) requires that its sister have a defined ordinary value, but the sister of *EVEN* in (12) is a *wh*-containing clause, as in (10), and therefore does not have a defined ordinary value.

⁶ See also Branan and Erlewine 2020 for further discussion of this approach to constituent focus particles, as well as a supporting data point from Tibetan.

(12) LF: EVEN [NEG [*who* came to the party]]

To avoid this issue, I propose the adjunction of a covert operator $\exists$ (13) that defines an ordinary value that is the disjunction of its sister's alternative set, and simply passes up its sister's alternative set as its own.^{7,8}

- (13) a. $\llbracket \exists \alpha \rrbracket^o = \bigvee \llbracket \alpha \rrbracket^{\text{alt}}$
 b. $\llbracket \exists \alpha \rrbracket^{\text{alt}} = \llbracket \alpha \rrbracket^{\text{alt}}$

The full LF for (11) is thus as follows in (14). The denotation for ① is as in (10), which has no defined ordinary value. The application of $\exists$ in ② results in (14a). Negation applies pointwise in ③ (14b). Now notice that $\llbracket \textcircled{3} \rrbracket^o$ asymmetrically entails every alternative in $\llbracket \textcircled{3} \rrbracket^{\text{alt}}$. This ensures that the scalar inference of EVEN (14c) will always be true. The end result will be equivalent to the proposition ‘that no one came to the party,’ as desired.

- (14) LF: EVEN [③ NEG [② $\exists$ [① *who* came to the party]]]
- a. i. $\llbracket \textcircled{2} \rrbracket^o = \wedge \text{Tashi or Sonam or Migmar... came to the party}$
 $= \wedge \text{someone came to the party}$
 ii. $\llbracket \textcircled{2} \rrbracket^{\text{alt}} = \llbracket \textcircled{1} \rrbracket^{\text{alt}} = \{ \wedge \text{T came...}, \wedge \text{S came...}, \wedge \text{M came...}, \dots \}$
- b. i. $\llbracket \textcircled{3} \rrbracket^o = \text{NEG}(\wedge \text{someone came to the party})$
 $= \wedge \text{no one came to the party}$
 ii. $\llbracket \textcircled{3} \rrbracket^{\text{alt}} = \{ \wedge \text{T didn't come...}, \wedge \text{S didn't come...}, \wedge \text{M didn't...}, \dots \}$
- c. $[\text{EVEN } \textcircled{3}] \rightsquigarrow (\wedge \text{no one came...}) <_{\text{likely}} (\wedge \text{T didn't come...}) \wedge$
 $(\wedge \text{no one came...}) <_{\text{likely}} (\wedge \text{S didn't come...}) \wedge$
 $(\wedge \text{no one came...}) <_{\text{likely}} (\wedge \text{M didn't come...}) \dots \quad \bigcirc$

Now consider the variant of this structure without negation. (15) gives the scalar inference predicted by EVEN applying directly to ② in (14a):

- (15) $[\text{EVEN } \textcircled{2}] \rightsquigarrow (\wedge \text{someone came...}) <_{\text{likely}} (\wedge \text{Tashi came...}) \wedge$
 $(\wedge \text{someone came...}) <_{\text{likely}} (\wedge \text{Sonam came...}) \wedge$
 $(\wedge \text{someone came...}) <_{\text{likely}} (\wedge \text{Migmar came...}) \dots \quad \times$

Because the preajcent ‘that someone came to the party’ $\llbracket \textcircled{2} \rrbracket^o$ is asymmetrically entailed by each alternative in $\llbracket \textcircled{2} \rrbracket^{\text{alt}}$, this requirement in (15) is a contradiction. This scalar inference of EVEN can never be satisfied. Following Lahiri 1998, this

⁷ For Erlewine and Kotek 2016, this function is served by the additive component of EVEN, in lieu of this covert $\exists$ operator. In Erlewine 2019, in prep., I argue for the use of this $\exists$ operator for *wh*-quantification in a range of languages and contexts, beyond those with additive particles.

⁸ This $\exists$ operator stands in contrast to the existential closure operator of e.g. Kratzer and Shimoyama 2002, which also has the effect of collapsing or “resetting” the set of alternatives, leading to the predicted availability of bare *wh* indefinites, contrary to fact; see (9). In contrast, the $\exists$ operator defined here in (13) results in a structure that necessitates association with a higher operator which will “reset” the alternative set. See Erlewine 2019, in prep. for further discussion.

fatal requirement of EVEN in (15) leads to the ungrammaticality of the *wh*-EVEN expression without a licensing negation.⁹

In this way, the Hamblin semantics of *wh*-phrases can be productively combined with the Roothian semantics of focus, for example giving us a compositional semantics for *wh*-EVEN NPIs in Tibetan. With this background on the compositional semantics of *wh*-phrases and their interaction with focus particles in place, we are now in a position to turn to the compositional semantics of *wh-yin.na'ang* FCIs.

3 On the Syntax of *wh-yin.na'ang*

Next I address the syntax of *wh-yin.na'ang* FCIs. I first address its external syntax—how the *wh-yin.na'ang* expression relates to its containing clause—and then its internal syntax—i.e. the nature of the copular relation.

Taking its morphology at face value, *wh-yin.na'ang* is a *wh*-containing conditional clause, to which the scalar focus particle *yang* has adjoined, and I propose that it is interpreted as such. However, there is evidence that this whole FCI structure may actually occupy a nominal argument position. Consider example (16). Here the *wh-yin.na'ang* FCI hosts the dative case marker *-la*:

- (16) ***Wh-yin.na'ang* FCI with dative case:**
 Pad.ma [(phru.gu) su yin.na'ang]-la skad.cha bshad-kyi-red.
 Pema child who YIN.NA'ANG-DAT speech talk-IMPF-AUX
 'Pema talks to **anyone** / **any** child.'

The *wh-yin.na'ang* FCI is a clause in an argument position which describes that argument, and thus in broad strokes resembles a head-internal relative clause or a so-called *amalgam* structure (Lakoff 1974; also Kluck 2011), as in (17):

- (17) John is going to I think it's Chicago on Saturday. (Lakoff 1974: 324)

Here I propose to follow an intuition developed by Shimoyama (1999) for the interpretation of Japanese head-internal relatives, and independently by Hirsch (2016) for English *ever* free relatives. This idea is that the embedded clause is interpreted higher at LF, as adjoined to the embedding clause, and that the argument position is then interpreted as a pronoun anaphoric to an individual described in the clause.¹⁰ As a concrete example, then, assuming a surface structure for (16) roughly isomorphic to (18a) below, the corresponding LF for its interpretation will resemble (18b).

⁹ Erlewine and Kotek 2016 shows that *wh*-EVEN NPIs in Tibetan must be licensed by clause-mate negation. This is explained by the interpreted LF position of EVEN needing to be in the same clause as the pronounced position of *yang*. See Erlewine and Kotek 2016: 149 for discussion.

¹⁰ The informal coindexation in (18) will be formalized in terms of equality of nominal descriptions in Sect. 4 below.

(18) **The structure of *wh-yin.na'ang*:**

- a. Literal (16): Pema talks to [even if {it/the child} is who] $\Rightarrow$
- b. LF: [even if {it/the child}'_is who], Pema talks to *them*_i $\Rightarrow$
 EVEN [if {it/the child}'_is who, Pema talks to *them*_i]

I model the scalar particle *yang* as a unary EVEN operator at LF (Erlewine and Kotek 2016; see footnote 6), taking the entire conditional structure, with its consequent clause, as its complement. This is reflected in (18b) above.

Next, we turn to the internal syntax of *wh-yin.na'ang*. Again, following the overt morphology, I take the antecedent of the conditional to be a copular description involving a *wh*-phrase. I will suggest here that, within the Higgins 1973 classification of copular clauses, this is (in many cases) a specificational copular clause. Specificational copular clauses are distinguished through their information structure and use as well as in their syntax; for instance, pronominal reference to specificational subjects involve the neuter pronoun, as in (19a):

- (19) a. Specificational copular clause: (Mikkelsen 2005: 72)
 The tallest girl in the class is Molly, isn't it/*she?
- b. Predicational copular clause:
 The tallest girl in the class is Swedish, isn't she/*it?

Mikkelsen and subsequent authors have taken such facts to reflect that the subject of a specificational copular clause is not a referential expression of type *e*. In particular, Romero 2005 proposes that (definite) specificational subjects are individual concepts (functions from worlds to individuals); see also Arregi, Francez, and Martinovic to appear for recent support. As individual concepts, (definite) specificational subjects will not impose a uniqueness requirement for the nominal restriction on the evaluation world, although they will impose a uniqueness requirement on the referent given a particular evaluation world or situation. We will return to this detail, as well as discussion of indefinite specificational subjects, in Sect. 5.3.

In cases such as (16) with explicit nominal domain *phru.gu* 'child' or (1) above with *kha.lag* 'food,' I take these nominals to be the first argument, or the "subject," of the specificational copula. In the absence of such a nominal, I posit a corresponding null nominal (*pro*) as the first argument. The second argument of the copula is the *wh*-word whose alternative set ranges over individuals of type *e*, *de re*.¹¹ This discussion thus motivates the informal, literal translation of the specificational copular clauses using the English '{it/the child} is who' in (18b) or '{it/the food} is what' for (1).

An alternative analysis would be for these nominals to form a constituent with the *wh*-word to form a complex *wh*-phrase. However, complex *wh*-phrases in Tibetan are headed by postnominal *ga.gi* 'which' and *wh-yin.na'ang* FCIs cannot be built from such *which*-phrases:

¹¹ I limit the discussion here to the *wh*-words *su* 'who' and *ga.re* 'what' and leave discussion of other *wh*-words in FCIs for future work.

copular clauses are individual concepts (Romero 2005). Individual concepts are functions of type $\langle s, e \rangle$ from worlds or *situations* to individuals. Situations are subparts of possible worlds, which may be thought of as limited to particular times or places (see e.g. Kratzer 1989; Heim 1990). The type s is used for all situations, including worlds, which are simply maximal situations.

Concretely, I assume that these specificational subjects as in (21b) involve a definite determiner as in (22), taken from Elbourne’s work on definite descriptions in situation semantics. As Tibetan is an article-less language, I assume that THE is unpronounced. Composing THE with a nominal property such as ‘child’ in (23) yields the individual concept denotation in (24) of type $\langle s, e \rangle$.

$$(22) \quad \llbracket \text{THE} \rrbracket = \lambda P_{\langle e, \langle s, t \rangle \rangle}. \lambda s : \exists! x [P(x)(s)]. \iota x [P(x)(s)] \quad (\text{Elbourne 2013: 35})$$

(23) $\llbracket \text{child} \rrbracket = \lambda x. \lambda s_s. x$ is a child in s

$$(24) \quad \llbracket \text{THE child} \rrbracket = \lambda s : \exists! x[x \text{ child in } s]. \iota x[x \text{ child in } s]$$

Individual concepts of this form will be undefined for world/situations where the property's extension is not unique.

In cases with no nominal restrictor, I assume a corresponding null nominal (indicated as *pro* in (21b) above) which refers to a contextually salient property *P*, and which we can informally describe as “THE *P*.” Below, I will refer to this salient property as *P* in the general case, whether pronounced or not.

$$(25) \quad \llbracket \text{THE } P \rrbracket = \lambda s_s : \exists ! x [P(x)(s)]. \iota x [P(x)(s)]$$

As proposed in Sect. 3, in LFs for *wh-yin.na'ang* FCIs, there is a pronoun in FCI's surface argument position which is related to the subject of the conditional clause in some way. I used co-indexation above as in "*pro_i ... pro_i*" as a notational device to highlight the link between these two nominals, but we are now in a position to specify this relationship. Specifically, I propose that these two positions refer to the same individual concept: "THE *P*." In the antecedent clause ϕ , "THE *P*" is the specificational subject. In the consequent clause ψ , "THE *P*" is evaluated with respect to ψ 's situation or world of evaluation. We can restate the structure in (21b) in these terms as follows:

(26) **LF for (16):** (revised from (21b))
 EVEN [if [$\phi \exists$ [THE *P* is who]], [ψ IMPF [Pema talks to THE *P*]]]

I now turn to the compositional semantics of this LF, beginning with the antecedent of the conditional, ϕ . Given the semantics for ‘who’ (8) and $\exists$ (13) above, we yield the following two-dimensional denotation for ϕ in (26):

(27) **ϕ in (26):**

- a. $\llbracket \phi \rrbracket^o = \lambda s_s : \exists ! x [P(x)(s)]$
 $\quad \quad \quad \iota x [P(x)(s)] = \text{Tashi} \vee \iota x [P(x)(s)] = \text{Sonam} \vee \dots$
- b. $\llbracket \phi \rrbracket^{\text{alt}} = \left\{ \begin{array}{l} \lambda s_s : \exists ! x [P(x)(s)]. \iota x [P(x)(s)] = \text{Tashi}, \\ \lambda s_s : \exists ! x [P(x)(s)]. \iota x [P(x)(s)] = \text{Sonam}, \dots \end{array} \right\}$

The ordinary value of ϕ (27a) is a proposition—a predicate of situations—which presupposes that there is a unique P -individual in its argument situation s and

will return true if that individual is Tashi or Sonam or Migmar, etc.; e.g. in the domain of ‘who.’ The individual alternatives in $\llbracket \phi \rrbracket^{\text{alt}}$ (27b) each similarly presuppose a unique P -individual in the situation, but then return true when it is a particular individual in the domain.

We now turn to the interpretation of the conditional and its consequent ψ . I adopt the now standard approach to conditionals as restricting the domain of a modal or temporal operator in the consequent clause (Lewis 1975; Kratzer 1979, 1986; von Stechow 1994). The modal/temporal operator in the consequent ψ (the overt main clause) in both examples that we have seen so far (in (1) and (16)) is the imperfective aspect with generic/habitual interpretation. Following Arregui, Rivero, and Salanova 2014 and citations there, I model the imperfective as a type of universal modal that quantifies over a particular set of situations. In particular, for generic or habitual imperfectives, in turn following Cipria and Roberts 2000, the relevant set of situations will be “normal or usual” sub-situations of the topic situation, formally described as “characteristic” (Cipria and Roberts 2000: 325). I write $s' \leq_{ch} s$ to indicate that s' is a characteristic sub-situation of s .

I spell out the interpretation of ψ with its imperfective quantification in (28). As ψ does not contain any alternative-generating (e.g. focused or *wh*) expression, $\llbracket \psi \rrbracket^{\text{alt}} = \{\llbracket \psi \rrbracket^{\circ}\}$.

(28) **ψ in (26):**

$$\begin{aligned} \llbracket \psi \rrbracket^{\circ} &= \text{IMPF}_{\text{habitual}} (\llbracket \text{Pema talks to THE } P \rrbracket^{\circ}) \\ &= \lambda s_s. \forall s' [s' \leq_{ch} s \rightarrow \text{Pema talks to THE } P \text{ in } s'] \\ &= \lambda s_s. \forall s' [s' \leq_{ch} s \wedge \exists! x [P(x)(s')] \rightarrow \text{Pema talks to } \iota x [P(x)(s')] \text{ in } s'] \end{aligned}$$

Note that, in the third line in (28), I have unpacked the definedness requirement of “THE P ” and allowed this condition to restrict the set of relevant sub-situations s' . For example, if P is ‘child,’ we are allowing ourselves to look at only those characteristic sub-situations where there is a unique child to refer to.¹³ In all such situations, Pema talks to that child.

We now can calculate our full conditional clause, “if ϕ , ψ .” Recall that the conditional clause ϕ acts as a restrictor on the modal base of the ψ ’s modal quantification. The two-dimensional denotation for “if ϕ , ψ ” is thus as in (29). The effects of this conditional restriction are boxed here for presentation:

(29) **“If ϕ , ψ ” in (26):**

$$\begin{aligned} \text{a. } \llbracket \text{if } \phi, \psi \rrbracket^{\circ} &= \lambda s_s. \forall s' \left[\begin{array}{c} s' \leq_{ch} s \wedge \exists! x [P(x)(s')] \\ \boxed{\wedge \llbracket \phi \rrbracket^{\circ}(s')} \end{array} \rightarrow \begin{array}{c} \text{Pema talks to} \\ \iota x [P(x)(s')] \text{ in } s' \end{array} \right] \\ &= \lambda s_s. \forall s' \left[\begin{array}{c} s' \leq_{ch} s \wedge \exists! x [P(x)(s')] \\ \wedge \left(\begin{array}{c} \iota x [P(x)(s')] = T \vee \\ \iota x [P(x)(s')] = S \vee \dots \end{array} \right) \end{array} \rightarrow \begin{array}{c} \text{Pema talks to} \\ \iota x [P(x)(s')] \text{ in } s' \end{array} \right] \end{aligned}$$

¹³ A reviewer raises a concern about this presupposition in the modal preajacent affecting the set of situations that we quantify over. This can be thought of as a more general effect, where the description in the modal preajacent affects the domain of quantification chosen, as discussed by Arregui et al. (2014: 318).

$$\text{b. } \llbracket \text{if } \phi, \psi \rrbracket^{\text{alt}} = \left\{ \begin{array}{l} \lambda s_s \forall s' \left[\begin{array}{c} s' \leq_{ch} s \wedge \exists! x[P(x)(s')] \\ \wedge \iota x[P(x)(s')] = \text{Tashi} \end{array} \rightarrow \begin{array}{c} \text{Pema talks to} \\ \iota x[P(x)(s')] \text{ in } s' \end{array} \right], \\ \lambda s_s \forall s' \left[\begin{array}{c} s' \leq_{ch} s \wedge \exists! x[P(x)(s')] \\ \wedge \iota x[P(x)(s')] = \text{Sonam} \end{array} \rightarrow \begin{array}{c} \text{Pema talks to} \\ \iota x[P(x)(s')] \text{ in } s' \end{array} \right], \\ \dots \end{array} \right\}$$

The final ingredient in the *wh-yin.na'ang* LF in (26) is EVEN. As EVEN does not change the at-issue (asserted) content, our work in interpreting example (16) is now done, in (29a). (I discuss the contribution of EVEN in the following section.) What does this result in (29a) express? It claims that, in all characteristic sub-situations s' of the topic situation s where (a) there is a unique P (e.g. ‘child’) in s' and (b) that unique P is Tashi or Sonam or Migmar, etc.—e.g., an individual in the domain of ‘who’—Pema talks to that unique P .

Let’s restate this again in slightly more informal terms, to build an intuition for the claim. Concretely, let our salient property P be ‘child,’ and assume that all individuals that satisfy ‘child’ are in the domain of ‘who.’ Then, (29a) conveys the following:

- (30) In any and all “normal or usual” sub-parts of the current situation/world with a unique child, Pema talks to that child.

Note that (30) does not require Pema to have actually spoken with any or all of these children. Instead, it uses the modal semantics of the imperfective to allow ourselves to consider different “characteristic” situations with different children present. What about a situation with Tashi? Pema talks to him. How about Sonam? Pema talks to her too. Pema talks to any child. We have successfully derived the expression of universal free choice.

How did we do this? In particular, where did the universal force of the FCI come from? The universal quantificational force of *wh-yin.na'ang* in this example is that of the imperfective modal/temporal operator, whose modal base was restricted by the conditional. The imperfective introduces universal quantification over situations (see e.g. Arregui et al. 2014), with a shared individual concept evaluated in both the conditional and its prejacent, allowing us to indirectly universally quantify over different individuals in different situations.¹⁴ On this approach, this universal force need not be stipulated as in Menéndez-Benito 2005, 2010 or Rawlins 2008a,b, 2013, nor does it need to be derived using a strengthening procedure as in Chierchia 2013 and Szabolcsi 2019. Instead, it is simply a reflection of an ingredient that is already there: the modal/temporal operator restricted by the conditional.

¹⁴ There are a number of precursors to this idea—see for example Giannakidou 2001: 665–666 and citations there—although the implementation here using situation-binding in conditionals is to my knowledge new. In addition, the idea that ‘even’ plays a critical role in enforcing universal force, which I develop in the next section, is also new.

5 Restricting the Distribution of *wh-yin.na'ang*

In the previous section, we saw how the *wh-yin.na'ang* FCI derives the effect of universal quantification over a set of individuals, parasitic on a universal modal/temporal quantifier in the sentence. In this section, I discuss two principled ways in which the use and interpretation of *wh-yin.na'ang* is restricted. First, I discuss the role of the scalar particle *yang* ‘even’ in ensuring the FCI’s universal quantificational force. Second, I discuss the incompatibility of *wh-yin.na'ang* in necessity statements and episodic descriptions, and offer a new intuition for the nature of so-called *subtriggering* effects (LeGrand 1975).

5.1 Enforcing Universal Force

I begin by discussing the role of *yang* ‘even’ in enforcing the universal quantificational force of *wh-yin.na'ang*. First, we consider the effect of EVEN in example (16), which applies last in its LF (26). I repeat the two-dimensional denotation of EVEN’s sister, “if ϕ , ψ ,” here blurring out the material that is common to all propositions, so we can more easily see their interrelationships.

(31) “If ϕ , ψ ” from (29), schematically:

$$\begin{aligned} \text{a. } \llbracket \text{if } \phi, \psi \rrbracket^o &= \lambda s_s. \forall s' \left[\dots \wedge \left(\iota x [P(x)(s')] = \text{Tashi} \vee \right. \right. \\ &\quad \left. \left. \iota x [P(x)(s')] = \text{Sonam} \vee \dots \right) \rightarrow \dots \right] \\ \text{b. } \llbracket \text{if } \phi, \psi \rrbracket^{\text{alt}} &= \left\{ \lambda s_s. \forall s' [\dots \wedge \iota x [P(x)(s')] = \text{Tashi} \rightarrow \dots], \right. \\ &\quad \left. \lambda s_s. \forall s' [\dots \wedge \iota x [P(x)(s')] = \text{Sonam} \rightarrow \dots], \dots \right\} \end{aligned}$$

We observe that the ordinary value $\llbracket \text{if } \phi, \psi \rrbracket^o$ (31a) asymmetrically entails each of the alternatives in $\llbracket \text{if } \phi, \psi \rrbracket^{\text{alt}}$ (31b): If “in every situation where the unique P is Tashi or Sonam or ..., blah is true,” then it follows that “in every situation where the unique P is Tashi, blah,” and “in every situation where the unique P is Sonam, blah,” etc., but not vice versa. The prejacent proposition of EVEN is necessarily less likely than all of its alternatives, so the scalar inference of [EVEN $\llbracket \text{if } \phi, \psi \rrbracket$] will always be true. The addition of EVEN is felicitous here.¹⁵

What happens if the conditional instead restricts an existential modal/temporal quantifier, e.g. a possibility modal, instead of the universal imperfective operator of the examples above? Schematically again, we can expect to yield denotations for “if ϕ , ψ ” of the form in (32). The salient change from (31) is boxed.

¹⁵ This appears to make the addition of *yang* in *wh-yin.na'ang* systematically vacuous. In Erlewine 2019, in prep., I suggest that this is not entirely so: The addition of an overt focus particle necessitates its sister to have a defined ordinary value, which licenses insertion of the $\exists$ operator (13), whose insertion is otherwise marked.

(32) “If ϕ , ψ ” with ϕ restricting a possibility modal in ψ :

- a. $\llbracket \text{if } \phi, \psi \rrbracket^o = \lambda s_s. \boxed{\exists s'} \left[\dots \wedge \left(\iota x[P(x)(s')] = \text{Tashi} \vee \iota x[P(x)(s')] = \text{Sonam} \vee \dots \right) \wedge \dots \right]$
- b. $\llbracket \text{if } \phi, \psi \rrbracket^{\text{alt}} = \left\{ \lambda s_s. \boxed{\exists s'} [\dots \wedge \iota x[P(x)(s')] = \text{Tashi} \wedge \dots], \lambda s_s. \boxed{\exists s'} [\dots \wedge \iota x[P(x)(s')] = \text{Sonam} \wedge \dots], \dots \right\}$

Here, with existential quantification over situations, the entailment relationships between the prejacent and its alternatives have reversed. Each alternative in $\llbracket \text{if } \phi, \psi \rrbracket^{\text{alt}}$ (32b) now asymmetrically entails the prejacent $\llbracket \text{if } \phi, \psi \rrbracket^o$ (32a): If any proposition of the form “there is a situation where the unique P is Tashi, and blah is true” or “there is a situation where the unique P is Sonam, and blah is true” etc. is true, it follows that “there is a situation where the unique P is Tashi or Sonam or... and blah is true” will necessarily be true. In this case, the prejacent is logically weaker than its alternatives. EVEN applied to “if ϕ , ψ ” with a possibility modal will thus lead to a systematically unsatisfiable scalar inference, resulting in ungrammaticality.

The scalar particle *yang* ‘even’ in Tibetan *wh-yin.na’ang* FCIs thus plays a crucial role in ensuring that *wh-yin.na’ang* always expresses universal free choice, just as it may serve a crucial role in explaining the distribution of NPIs (see e.g. Lee and Horn 1995; Lahiri 1998; Erlewine and Kotek 2016). The logical requirements of EVEN—quantifying over the prejacent and its alternatives using the independently motivated semantics of *wh*-alternatives and their disjunction by $\exists$, introduced in Sect. 2—ensures that the conditional clause of *wh-yin.na’ang* restricts a universal modal/temporal operator, and therefore that *wh-yin.na’ang* itself will always have universal force.

Practically, *wh-yin.na’ang* does cooccur with possibility modals, as in example (33) below. The verb form in this example differs from (1) in the addition of the deontic possibility modal *chog*, and is also grammatical. The interpretation of *wh-yin.na’ang* here is again a universal FCI.

(33) ***Wh-yin.na’ang* FCI with deontic possibility modal:**

Nga-’i khyi [(kha.lag) ga.re yin.na’ang] za-**chog**-gi-red.
 1sg-GEN dog food what YIN.NA’ANG eat-ALLOWED-IMPF-AUX
 ‘My dog is allowed to eat anything / any food.’

In such examples, there is in principle a choice as to which modal/temporal operator the conditional clause restricts. If the conditional of *wh-yin.na’ang* restricts the ability modal, we yield prejacent and alternative set denotations of the form in (32), leading to ungrammaticality due to an unsatisfiable scalar inference of EVEN. Instead, the conditional clause must be construed as restricting the modal base of the higher imperfective operator, leading to the attested meaning where universal free choice takes scope over the possibility modal.

5.2 On the Granularity of Modal Quantification

The approach to universal free choice presented here may at first glance lead us to predict the availability of *wh-yin.na'ang* FCIs in sentences with any universal modal/temporal operator, whereas in reality its distribution is further restricted. For example, the use of *wh-yin.na'ang* with the deontic necessity modal *dgos* is judged as highly marked, just as its intended translation in English is as well.

(34) ***Wh-yin.na'ang* unavailable in necessity statements:**

?? Khyed.rang [sman ga.re yin.na'ang] za-dgos-red.
 2sg medicine what YIN.NA'ANG eat-must-AUX
 Intended: ≈ 'You must take any medicine.'

Following the presentation in Sect. 4 above, we predict (34) to have an LF representation as in (35) below. In every deontically best accessible world, where the unique medicine is *x*, you take *x*.

(35) **LF for (34):**

EVEN [if [$\exists$ [THE medicine is what]], MUST [you eat THE medicine]]

The problem with (34/35), I suggest, is a conflict between the granularity of the modal quantification and the uniqueness requirement of the definite individual concept "THE medicine." Specifically, I take the modal MUST here to quantify over possible *worlds* that are best according to an ordering source. The ordering source introduces considerations of what ought to be done in particular cases, but it does not change facts of the world, such as the uniqueness of medicine. In each world of evaluation, the uniqueness requirement is not satisfied, and thus the sentence cannot be evaluated.¹⁶ In contrast, in the grammatical examples above, the conditional in *wh-yin.na'ang* restricted the domain of quantification over a set of *situations* which could be granular enough to be restricted to situations with unique *P*-individuals.

A similar analysis applies to episodic descriptions, which is another context where *wh-yin.na'ang* FCIs are unavailable. See example (36) and a grammatical, FCI-less baseline in (37).

(36) ***Wh-yin.na'ang* ungrammatical in episodic descriptions:**

*bKra.shis da.lta [(kha.lag) ga.re yin.na'ang] bzas-tshar-song.
 Tashi now food what YIN.NA'ANG eat-finish-AUX
 Intended: ≈ 'Tashi finished eating any food now.'

(37) bKra.shis da.lta (kha.lag) bzas-tshar-song.

Tashi now food eat-finish-AUX
 'Tashi just finished eating right now.'

Episodic descriptions simply claim the existence of a particular type of event: here, (37) asserts that there was a completion of an eating event, in the past,¹⁷

¹⁶ Alternatively, if worlds where the uniqueness requirement is not met are filtered out of the base of modal quantification, as discussed above in footnote 13 above, the modal quantification becomes vacuous.

¹⁷ The auxiliary *song* expresses both past tense and direct evidentiality (Garrett 2001).

in the halo of the speech time ‘now.’ There is no overt modal/temporal operator. Let us assume, following Kratzer 1986, that the conditional in *wh-yin.na’ang* in such a case will restrict the modal base of a high, covert epistemic necessity modal.¹⁸ Assuming that such a covert epistemic necessity modal quantifies over doxastically accessible worlds, we will again run into problems satisfying the uniqueness requirement of the specificational subject.

5.3 Subtriggering

As with FCIs in other languages, though, the restrictions on the distribution of *wh-yin.na’ang* may not be absolute bans. Specifically, the restriction due to issues with the granularity of modal quantification just introduced above only holds in so far as the subject of the specificational clause is definite; see (35). Instead, if the content of the conditional clause in *wh-yin.na’ang* takes an indefinite specificational subject, as schematized in (38), this problem could be avoided.¹⁹

- (38) **Alternative LF for (34) with *indefinite* specificational subject:**
 EVEN [if [$\exists$ [A medicine is what]], [MUST [you eat IT]]]

In particular, the structure of the form in (38) will not require the worlds (or situations) that are quantified over to have a unique individual that satisfies the property ‘medicine,’ which I claim led to the unavailability of the *wh-yin.na’ang* FCI in example (34). In reality, example (34) *is* judged as unacceptable, so this alternate parse in (38) with an indefinite specificational subject must not be available in example (34), if it is indeed ever available.

I propose that parses for *wh-yin.na’ang* with indefinite specificational subjects, as sketched in (38) above, *are* in principle available, and that this option holds the key to understanding another aspect of the distribution of FCIs. Specifically, I predict that the availability of the indefinite subject parse as in (38)—which predicts the availability of the FCI without quantification over granular situations, and thus in a wider range of contexts—*should only be as good as the general availability of specificational copular clauses with indefinite subjects*.

It has been independently observed that subjects of specificational copular clauses are generally definite, but tolerate certain exceptions:

¹⁸ Alternatively, there simply is no universal modal/temporal operator in (36) for the conditional to restrict. Under this approach, there is no way for the scalar inference of *wh-yin.na’ang*’s EVEN to be satisfied.

¹⁹ Here I use a pronoun *it* in the consequent clause, in the position corresponding to the surface position of *wh-yin.na’ang*. It cannot be a (simple) definite description (“THE *P*”) as in (35) above, as the relevant individual (concept) is not unique in the antecedent clause situation, which is also the situation of evaluation for the consequent clause. What is needed here instead is a donkey pronoun or similar, which will pick out the particular individual (concept) witness of the indefinite in the conditional antecedent.

- (39) **Indefinite specificational subjects improve with modification:**
- a. *A doctor is John. (Heycock and Kroch 1999: 379)
 - b. ✓ One person who might help you is Mary. (Higgins 1973: 270)

In particular, modification—especially by relative clauses—seems to lead to acceptability. See e.g. Mikkelsen 2005: ch. 8, Heycock 2012, Comorovski 2007, and more recently Milway 2020 for discussion.

I suggest that this restricted acceptability of indefinite specificational subjects and its amelioration as in (39) is in turn responsible for the similar amelioration of FCIs in some environments when modified, dubbed “subtrigging” by LeGrand (1975). Tibetan exhibits this subtrigging effect as well: Example (40) differs from the unacceptable (34) in the addition of a relative clause on the nominal domain and is judged as perfectly acceptable.

- (40) ***Wh-yin.na’ang* in (34) improves with modification:**
- [[_{RC} Sman.pa sprad-pa-’i] sman ga.re yin.na’ang] za-dgos-red.
 doctor give-REL-GEN medicine what YIN.NA’ANG eat-must-AUX
 ‘[You] must take any medicine [_{RC} that the doctor gives [you]].’

Again, taking the morphology of the FCI seriously—in this case, that *wh-yin.na’ang* involves a copular description—led to this novel connection between the behavior of FCIs and specificational copular clauses. I will leave a further understanding of the nature of this effect itself for future work.

Finally, we should also wonder whether the explanation for FCI subtrigging effects that I suggest here can or should be extended to account for apparently parallel subtrigging contrasts in languages such as English (41), where FCIs do not obviously reflect the involvement of a specificational copula. I will also leave the exploration of this question for future work.

- (41) **Parallel subtrigging with English *any*:**
- a. ?? You must take any medicine.
 - b. ✓ You must take any medicine that the doctor gives you.

6 Summary and Outlook

This paper develops a new compositional semantics for universal free choice, from the predictable interactions of a number of ingredients. A specificational copular conditional clause describes an individual concept which the consequent then makes reference to. The conditional restricts the modal base of a modal/temporal operator in the sentence. And finally, the scalar particle EVEN associating with a *wh*-indefinite, enforces that the modified modal/temporal operator be a universal quantifier over situations. This leads indirectly to a kind of universal quantification over individuals in the domain of the FCI. The end result is a new approach to the universal force of universal FCIs, without directly prescribing or deriving this force. Furthermore, we have seen that this approach offers a

new analytic possibility for reducing so-called “subtriggering” effects to an independently observed constraint on indefinite subjects in specificational copular clauses.

Most importantly, this proposal is not a hypothetical proof-of-concept. The expression of universal free choice in Tibetan, documented here, transparently involves these ingredients: a concessive conditional clause (*even if*) with a copular description, ranging over different possible individual referents in the domain of a *wh*-word.

If this analytic approach for universal free choice is truly successful, we might imagine that other languages would also express universal free choice claims in this way. There is recent work suggesting exactly this. For example, Rahul Balusu (2019; 2020) has investigated different uses of concessive conditional expressions in a range of Dravidian languages; one such use is the formation of FCIs with exactly the same surface morphological makeup as in Tibetan: a *wh*-word with a copula and concessive conditional ending. Balusu also describes these copular descriptions as specificational.

(42) Morphologically parallel FCIs in Dravidian languages:

- a. Een-aad-ar-uu tinnutteene.
what-COP-COND-EVEN eat.will
'I'll eat anything.'
Kannada (Balusu 2020)
- b. Ravi eed-ai-naa tinTaaDu.
Ravi what-COP-COND.EVEN eat.will
'Ravi will eat anything / something or other.'
Telugu (Balusu 2019: 46)

There are, however, some subtle differences in these constructions amongst different Dravidian languages, and between them and Tibetan. For example, Telugu *wh-ai-naa* FCIs allow both universal ‘anything’ as well as existential ‘something or other’ readings, although Kannada and Tibetan do not have such existential readings. See Balusu 2019, 2020 for discussion.

Additional evidence comes from the form of universal FCIs in Japanese, which appear to be formed of a *wh*-phrase with a particle *demo*, as in (43a). On the identity of this particle *demo*, Nakanishi (2006: 141) states, “*Demo* can be morphologically decomposed into the copular verb *-de* followed by *-mo* [*even*]. However, it is not clear whether this decomposition is necessary.” In recent work, however, Hiraiwa and Nakanishi (to appear) push the decompositional hypothesis a step further, specifically proposing that Japanese *wh-demo* FCIs have the underlying structure in (43b), with a type of ellipsis obscuring the conditional morphology.²⁰

²⁰ The copula in Japanese involves the copular marker *de* as well as the existential verb *ar-*, making *de ar-te* in (43) the expected verb form for a copular conditional. See e.g. Nishiyama 1999.

(43) **Morphologically similar FCI in Japanese:**

a. Nan-demo tabemasu. →
what-DEMO eat.will
‘I will eat anything.’ | b. nan(i) de ar -te mo
what COP EXIST-COND EVEN
(Hiraiwa and Nakanishi, to appear) |
|--|---|

Whether expressions with *demo* indeed always reflect the structure in (43b) in the synchronic grammar of Japanese—or if the hypothesized structure in (43b) is better thought of as the diachronic source for what is now a single grammaticalized particle, *demo*—in my opinion warrants further debate. Still, the parallel as in (43) is additional fodder for the broad cross-linguistic viability of the decompositional approach to universal free choice developed here. See also Haspelmath 1997: 135–140 for discussion of indefinite expressions in many other languages which also exhibit morphological traces of copulas and concessive conditional morphology, some of which are still clearly FCIs, whereas others have extended to other indefinite types (pp. 149–150).

Furthermore, each of these concessive copular conditional expressions in both Dravidian languages and Japanese have a number of additional uses, which in fact largely overlap with the range of uses for Tibetan *yin.na’ang* (Erlewine 2020). The clear parallels in both the morphosyntactic composition and interpretational range of these expressions, across these genetically unrelated languages, further strengthens the motivation to take the decompositional approach to these expressions seriously, as well as to better document and understand the microvariation observed in their fine-grained behavior.

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