Questions and conditionals with disjunction in Gitksan*

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1 Introduction

- A morpheme *ji* in Gitksan[1] (and cognates in Nisga'a[2] and Sm'algyax[3]) introduce conditional antecedents and embedded polar questions.
- *Ji* is also allowed in declarative attitude complements when the attitude holder is uncertain or wrong.[4] Similar patterns in Sm'algyax.[5]
- Reasons to attempt a unified analysis:
  1. Similar distributions in related languages make accidental homophony less likely.
  2. Use of the same morpheme for questions and uncertainty observed cross-linguistically.
     - An interrogative disjunction morpheme *háishi* in Mandarin also appears in non-interrogative disjunction with an uncertainty inference.[6]
     - A Q-particle *ka* in Japanese appears in 'think' complements with a 'hedging' effect.[7]

- Novel data from disjunction: *Ji* can introduce each disjunct in conditional antecedents and embedded questions with disjunction.
- Proposal: *Ji* takes a proposition and constrains its relationship with the set of epistemic possibilities associated with a speech or thought event.

2 Language background

- Tsimshianic > Interior Tsimshianic > Gitksan, Nisga'a.
- Spoken in northern British Columbia.
- 255 fluent speakers as of 2022 (Gessner et al. 2022).
- VSO (Rigsby 1986).
- Data from my fieldwork with Vincent Gogag (VG) and Hector Hill (HH) unless otherwise noted.

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1. Rigsby (1986); Hunt (1993); Aonuki (2025); Matthewson (to appear)
2. Tarpent (1987)
3. Sasama (2001); Brown (2022, 2023, 2024, 2026)
4. Hunt (1993); Gogag et al. (in prep); Aonuki (2025)
5. Brown (2022, 2023)
6. Erlewine (2025)
7. Goodhue and Shimoyama (2022)

3 Embedded polar questions

(1) [Embedded polar question with rogative verb]
Gidax̲-a-[-t]=s Lisa 'nii'y [*(**ji**) 'witxw-i'y g̲o'osun ky'oots]
ask-TR[-3.II]=PN Lisa 1SG.III ji arrive-1SG.II here yesterday
'Lisa asked me if I came here yesterday.' (VG-v., HH)[8]

(2) [Embedded polar question with responsive verb]
Context: John is a huge Canucks fan. Their game should have finished by now but John forgot his phone and can't check the results. His friend says:

a. Mehl-d-i[-t]=hl ligi=t naa loo-'y [**ji** x̲sdaa[-t]=hl Canucks]
tell-T-TR-[3.II]=CN ligi=PN who OBL-1SG.II ji win[-3.II]=CN Canucks
'Someone told me **whether** the Canucks won.' (VG-v.)

b. Mehl-d-i[-t]=hl ligi=t naa loo-'y [**(win)** x̲sdaa[-t]=hl Canucks]
tell-T-TR-[3.II]=CN ligi=PN who OBL-1SG.II **COMP** win[-3.II]=CN Canucks
'Someone told me **that** the Canucks won.' (VG)

4 Conditional antecedents

(3) Context: "Where is Prof. X?"

a. [**Ji** nee=dii wil-t g̲oo[-t]=hl pdo'o-t] yukw=t si-wilaay[-t]=hl git
ji NEG=FOC LVB-3.II LOC[-3.II]=CN room-3.II PROG=3.I CAUS-know[-3.II]=CN people
'If he's not in his room, he is teaching.' (VG-v.)

b. *[Nee=dii wil-t g̲oo[-t]=hl pdo'o-t] yukw=t si-wilaay[-t]=hl git
NEG=FOC LVB-3.II LOC[-3.II]=CN room-3.II PROG=3.I CAUS-know[-3.II]=CN people
intended: 'If he's not in his room, he is teaching.' (VG)

8. "-v." following a speaker initial indicates that the sentence was volunteered by the speaker. Moreover, "(α)" in an example sentence indicates that the version without α was tested and accepted, while a lack of brackets simply indicates lack of data about whether α is required.

5 Declarative complements: Uncertainty and Falsity

(4) a. ['Think' with uncertainty]
Context: Today is Thursday, and Henry usually comes to the department on Thursday.
Ha'niigood-i'y [(**ji**)[10] dim 'witxw[-t]=s Henry go'osun sa tun]
think-1SG.II ji PROSP arrive[-3.II]=PN Henry here today
'I think Henry will be here today.' (VG)

b. ['Think' with certainty]
Context: Henry told me yesterday that he would come to the department today for sure.
Ha'niigood-i'y [(#**ji**) dim 'witxw[-t]=s Henry sa tun]
think-1SG.II ji PROSP arrive[-3.II]=PN Henry today
'I think Henry will be here today.' (VG)

(5) ['Hope' with uncertainty]
Context: Lisa was sick last week.
Bisxw-i'y [(**ji**) am wila he[-t]=s Lisa gyuu'n]
hope-1SG.II ji good MANR say[-3.II]=PN Lisa now
'I hope Lisa is feeling better now.' (VG)

(6) [False attitude, third person]
Context: Someone comes in and says "I'm looking for Miss. Davis." (Referring to Henry Davis).
Ha'niigoot-t **(ji)** hanak[-t]=s Henry
think-3.II [ji woman[-3.II]=PN Henry]
'He thinks that Henry is a woman.' (HH-v., VG-v.)[11]

(7) [Past false attitude, first person]
Context: Yurika runs into Lisa after being told she left already, and says to her:
Ha'niigood-i'y [**ji** ha'w-in]
think-1SG.II ji go.home-2SG.II
'I thought that you left.' (HH-v.)

6 Disjunction in conditional antecedents and embedded questions

- In conditional antecedents, two *ji*-clauses (Ji p or ji q, r) can be disjoined, similar to disjunction of *if*-clauses.

(8) [Conditional antecedent with disjunction]
[**Ji** siipxw-in oo *(**ji**) hlabixsxw-in] sgi dim ha'w-in
ji be.sick-2SG.II oo ji be.tired-2SG.II CIRC.NECESS PROSP go.home-2SG.II
'If you're sick or if you're tired, you should go home.' (VG)

10. To be more accurate, without *ji*, the clause should be preceded by a connective *=hl*, as in *Ha'niigood-i'y=hl* .... This applies to other cases in which *ji* is marked as optional after the predicate *ha'niigoot* 'think.'
11. Both HH and VG volunteered the version with *ji*. The version without *ji* was judged and accepted by VG.

- Disjunction of two *ji*-clauses is also possible in embedded questions.

(9) Context: John arrived earlier than Mary expected. Mary: "You were so fast! Did you walk, or did you run?"

Gidax-a[-t]=s	Mary	a[-t]=s	John	[**ji**	yee-t	oo	*(**ji**)	bax-t]
ask-TR-[3.II]=PN	Mary	PREP[-3.II]=PN	John	ji	walk-3.II	or	ji	run-3.II

'Mary asked John if he walked or if he ran.' (VG)

- Both conditional antecedents with disjunction and (embedded) alternative questions have been analyzed as denoting a set of propositions contributed by each disjunct (e.g., Alonso-Ovalle 2006; Rawlins 2013; Biezma and Rawlins 2012; Uegaki 2018; Meertens 2021).
- I will argue that *ji* takes a proposition p and returns {p}, with a presupposition that p is a member of a non-singleton set of salient possibilities.

7 Analysis

- *Ji* takes a proposition p and returns {p}, with presuppositions that:
  - p is a member of the salient alternatives in the context set of a thought or speech eventuality; and
  - there is an alternative other than p.

(10) $[\![\text{ji}_e\ \text{p}]\!]^g = \{\text{p}\}$
Defined only if $[\![\text{p}]\!] \in \text{SalientAlts}(\text{cs}(\text{g}(\text{e}))) \wedge \exists \text{q}[\text{q} \neq \text{p} \wedge \text{q} \in \text{SalientAlts}(\text{cs}(\text{g}(\text{e})))]$

My proposal for the presupposition of *ji* uses formal devices independently motivated in the literature on questions and subjunctive mood.

1. The idea that there is a connection between questions and epistemic possibilities is found in previous works on alternative questions[a] as well as Inquisitive Semantics.[b]

(11) SalientAlts(c) is the set of salient alternative propositions that are mutually exclusive and exhaust the epistemic possibilities in c, i.e., the possible answers to the QUD.[c]

2. To extend SalientAlts(c) to embedded contexts, I replace the context c with a "context set" of a speech or thought eventuality.[d]

- Context set of a thought event is a doxastic modal base;
- Context set of a speech event is the (reported) discourse context.[e]

a. Biezma and Rawlins (2012); Meertens (2021)
b. e.g., Ciardelli et al. (2018)
c. Adapted from Biezma and Rawlins (2012)
d. Schlenker (2008)
e. See also Portner and Rubinstein (2012); Silk (2018) for proposals to treat a doxastic modal base on par with a discourse context of a speech event.

- I will treat *oo* as a Junction head[12] that takes two sets and returns their union.[13]
- Its semantic type explains why *ji* is required in both disjuncts of *ji p oo ji q*.

(12) $[\![\mathrm{P}_{stt}\ \text{oo}\ \mathrm{Q}_{stt}]\!] = [\![\mathrm{P}]\!] \cup [\![\mathrm{Q}]\!]$

- I assume there is an interrogative complementizer C_{+Q}.
- While it is semantically vacuous, its semantic type explains the obligatoriness of *ji* in embedded questions.

(13) $[\![\mathrm{C}_{+Q}]\!] = \lambda \mathrm{P}_{stt}.\ \mathrm{P}$

7.1 Embedded questions

- In an embedded alternative question *ji p oo ji q* (9), the presupposition of *ji* is satisfied because both p and q are live possibilities in the context set of the reported discourse.

(14) $[\![[_{VP}\ \text{ask}_e\ \mathrm{C}_{+Q}\ \text{ji}_e\ \text{p oo ji}_e\ \text{q}]]\!]^{e_0,g}$
= λw. Ask(g(e))(w)({p,q})
Defined only if p $\in$ SalientAlts(cs(g(e))) $\wedge$ q $\in$ SalientAlts(cs(g(e)))
where cs(g(e)) is the context set associated with an event of asking.

- In simple embedded polar questions (2a), although I assume that their semantic denotations are monopolar, the presupposition of *ji* requires that the negation of the prejacent proposition is a live epistemic possibility.

(15) $[\![[_{VP}\ \text{tell}_e\ \mathrm{C}_{+Q}\ \text{ji}_e\ \text{p}]]\!]^{e_0,g}$
= λw. Tell(g(e))(w)({p})
Defined only if p $\in$ SalientAlts(cs(g(e))) $\wedge$ $\exists$q[q $\neq$ p $\wedge$ q$\in$SalientAlts(cs(g(e)))]
where cs(g(e)) is the context set associated with an event of telling.

7.2 Conditional antecedents

- In a conditional antecedent, *ji* requires that the prejacent is a live possibility in the global context set (i.e, context set of e_0).

(16) $[\![\text{ji}_{e_0}\ \text{p oo ji}_{e_0}\ \text{q}]\!]^{e_0,g}$ = {p, q}
Defined only if p, q $\in$ SalientAlts(cs(e_0))

- For concreteness, I assume that a (covert) modal takes the conditional antecedent as an argument.

(17) a. $[\![\textsc{mod}]\!]^{e_0,g} = \lambda \mathrm{f}_{sst}.\ \lambda\phi.\ \lambda$p. λw. $\forall$w′$\in$(f(w)$\cap$p): ϕ(w′)=1

b. $[\![\textsc{mod}\ \mathrm{f}_{sst}\ \phi]\!]^{e_0,g} = \lambda$p. λw. $\forall$w′$\in$(f(w)$\cap$p): ϕ(w′)=1

- There is a type mismatch between the antecedent and consequent.
  - The modal in the consequent expects a proposition (17b).
  - The antecedent is a set of propositions (16).

12. den Dikken (2006)
13. von Stechow (1991)

- I propose a compositional rule (Modified Point-wise Function Application; (18)) that builds on Point-wise Function Application.[14][15]

(18) Modified Pointwise Function Application
If α is a branching node with daughters β and γ, and $\underline{[\![\beta]\!]^g \in D_{\langle\sigma\tau\rangle}}$ and $[\![\gamma]\!]^g \subseteq D_\sigma$, then $[\![\alpha]\!]^g$ = $\{f(x)\in D_\tau$: $f = [\![\beta]\!]^g$ & $x \in [\![\gamma]\!]^g\}$.

(19) $[\![(17b)]\!]^{e_0,g}([\![(16)]\!]^{e_0,g})$ (via Modifned PFA (18))
= $\{\lambda w.\ \forall w'\in(f(w)\cap\mathbf{p})$: $\phi(w')=1$, $\lambda w.\ \forall w'\in(f(w)\cap\mathbf{q})$: $\phi(w')=1\}$
Defined only if $p, q \in$ SalientAlts($cs(e_0)$)

- Then, following Rawlins (2008a,b, 2013), I assume that the need to assert the sentence[16] triggers an insertion of a covert universal operator (20).

(20) a. $[\![\forall]\!]^{e_0,g} = \lambda Q_{stt}.\ \lambda w.\ \forall p\in Q$: $p(w)=1$ (adapted from Kratzer and Shimoyama 2002:6)

b. $[\![\forall$ MOD $f_{sst}\ \phi$ [ji$_{e_0}$ p oo ji$_{e_0}$ q] $]\!]^{e_0,g}$
= $\lambda w''.\ \forall r[r\in\{\lambda w.\ \forall w'\in(f(w)\cap\mathbf{p})$: $\phi(w')=1$, $\lambda w.\ \forall w'\in(f(w)\cap\mathbf{q})$: $\phi(w')=1\}\rightarrow r(w'')=1]$
= $\lambda w.\ \forall w'\in(f(w)\cap\mathbf{p})$: $\phi(w')=1 \wedge \forall w'\in(f(w)\cap\mathbf{q})$: $\phi(w')=1$
Defined only if $p, q \in$ SalientAlts($cs(e_0)$)

7.3 Uncertainty

- When a *ji*-clause occurs in the complement of an anti-rogative verb, I assume that there is a covert existential operator (21a), although its effect is vacuous without disjunction in the complement (21b).[17]

(21) a. $[\![\exists]\!]^{e_0,g} = \lambda Q_{stt}.\ \{\lambda w.\ \exists\phi\in Q$: $\phi(w)=1\}$

b. $[\![\exists$ ji p$]\!]^{e_0,g} = \{\lambda w.\ \exists\phi\in\{p\}$: $\phi(w)=1\} = \{p\}$

(22) $[\![\text{think}_e \exists$ ji$_e$ p$]\!]^{e_0,g} = \{\lambda w.$ Think$(g(e))(w)(p)\}$ (by Modified PFA)
Defined only if $p \in$ SalientAlts($cs(g(e))$) $\wedge\ \exists q[q \neq p \wedge q\in$SalientAlts($cs(g(e))$)]

- Again, I assume that the need to assert the sentence triggers an insertion of a covert universal operator.

14.

(i) Pointwise Functional Application
If α is a branching node with daughters β and γ, and $[\![\beta]\!]^{w,g} \subseteq D_{\langle\sigma\tau\rangle}$ and $[\![\gamma]\!]^{w,g} \subseteq D_\sigma$, then $[\![\alpha]\!]^{w,g} = \{f(x)\in D_\tau$: $f\in [\![\beta]\!]^{w,g}$ & $x \in [\![\gamma]\!]^{w,g}\}$. (Shimoyama 2006:153(f.n.20); see also Rooth 1985; Kratzer and Shimoyama 2002.)

15. The same effect can be achieved with a type shifter (i) suggested in Dawson (2020) for downward-entailing operators, including conditionals. However, below, Modified PFA will be used in non-downward-entailing contexts as well.

(i) Type shifter for downward-entailing operators:
$\lambda f_{\langle\alpha,\beta\rangle}.\ \lambda A_{\{\alpha\}}.\ \forall a\in A[f(a)]$, where $A_{\{\alpha\}}$ is a set of elements of type α (Dawson 2020:136(95))

16.

(i) Assertion operator A
$[\![$[A] $\alpha]\!] = [\![\alpha]\!]$ defined only if $|[\![\alpha]\!]| = 1$ (adapted from Rawlins 2013:129(51))

17. See (36a) for an example with disjunction.

- In (22), the inference of uncertainty comes from the presupposition that there is an alternative to the prejacent proposition p in the context set of the eventuality of thinking.

Doesn't the presupposition contradict the assertion of 'think p'?

- I assume that *ha'niigoots* is semantically 'consider it possible'/'entertain' and is strengthened to universal if that would not cause contradiction. Empirically, somewhat analogous behaviours are seen in variable force modals,[18] including in Gitksan.[19]
- There is some evidence that *ha'niigoots* 'think' in Gitksan has a weaker-than-universal force.

(23) Context: Stacy will be pet-sitting Fluffy. She thinks Fluffy might be a dog, so she buys some bones. She also thinks Fluffy might be a cat, so she buys some cat food.[20]

a. [VG's judgement]
Ha'niigoot-t [(**ji**) us[-t]=s Fluffy] ii hox=dii ha'niigoot-t [(**ji**) nee=dii
think-3.II ji dog[-3.II]=PN Fluffy CCNJ again=FOC think-3.II ji NEG=FOC
us[-t]=s Fluffy]
dog[-3.II]=PN Fluffy
'She thinks Fluffy might be a dog, and she also thinks Fluffy might not be a dog.'
Lit: 'She thinks that (ji) Fluffy is a dog, and she also thinks that (ji) Fluffy is not a dog.'
(VG)

b. [HH's judgement]
Ha'niigoot-t [(**ji**) us[-t]=s Fluffy] ii hox=dii ha'niigoot-t [*(**ji**) nee=dii
think-3.II ji dog[-3.II]=PN Fluffy CCNJ again=FOC think-3.II ji NEG=FOC
us[-t]=s Fluffy]
dog[-3.II]=PN Fluffy
(HH)

HH's judgement that the *ji* is required in the second embedded clause can now be explained as a Maximize Presupposition effect.

8 Polar question interpretation possible

- If we maintain that SalientAlts(cs(g(e))) is identical to the immediate QUD, which in turn correspond to the denotation of a question, we would predict that *ji p oo ji q* can only denote an alternative question and not a polar question.
- While there is some fluctuation, *ji p oo ji q* is often accepted in contexts that require a polar question interpretation.

18. Rullmann et al. (2008); Bochnak (2015); see also Deal (2011) for an existential model without a universal counterpart.
19. Peterson (2010); Matthewson (2013)
20. Context from TFS Working Group 2012.

(24) Context: Mary says to her mom "For my birthday, I want a handmade dress or a book. But don't tell me which one I will get until I open the present. I want it to be a surprise." The day before her birthday, Mary says to her mom, "I just want to know if we're ready for my birthday party tomorrow. **Don't tell me what you prepared, but did you prepare one of the things I mentioned? I mean, did you make a dress or buy a book?"** Her mom assures her, "Yes. Don't worry."

a. Gidax̲[-t]=s Mary=t nox̲-t **ji**=t jap[-t]=hl nak oo **ji**=t giikw[-t]=hl
ask[-3.II]=PN Mary=PN mother-3.II ji=3.I make[-3.II]=CN dress oo ji=3.I buy[-3.II]=CN
ha'niilitsxx̲w
book
'Mary asked her mother if she made a dress or bought a book.' (VG)
#*Mary asked her mother if she made a dress or **if** she bought a book.*

b. Mehl-d-i[-t]=hl nox̲-t loo[-t]=s Mary **ji**=t jap[-t]=hl nak oo **ji**=t
tell-T-TR[-3.II]=CN mother-3.II OBL[-3.II]=PN Mary ji=3.I make[-3.II]=CN dress oo if
giikw[-t]=hl ha'niilitsxx̲w
buy[-3.II]=CN book
'Her mother told Mary if she made a dress or bought a book.' (VG)
#*Her mother told Mary if she made a dress or **if** she bought a book.*

(25) Context: At the airport security, coming back from overseas. A traveler needs to fill out a custom form but forgot her glasses, so an airport worker is helping her by reading out the questions. One of the questions says: **"Did you touch animals or bring meat? Yes/No"**
Gidax̲-a-t 'niin **ji** ma-das[-t]=hl jagwasxw oo **ji** ma=di'witxw[-t]=hl smax
ask-TR-3.II 2SG.III ji 2SG.I-touch[-3.II]=CN animals oo ji 2SG.I-bring[-3.II]=CN meat
'It asks you if you touched animals or brought meat.' (VG)
#*It asks you if you touched animals or **if** brought meat.*

- The notion of the QUD that SalientAlts(cs(g(e))) corresponds to should include QUDs of a larger discourse[21] rather than being limited to the immediate QUD denoted by the question.

(26) $[\![[_{VP}\ \text{ask}_e\ C_{+Q}\ \exists\ \text{ji}_e\ \text{p oo ji}_e\ \text{q}]]\!]^{e_0,g}$
$= \lambda w.\ \text{Ask}(g(e))(w)(\{\lambda w'.\ \exists r \in [\![\text{ji p oo ji q}]\!]^{e_0,g}\colon r(w')=1\})$
$= \lambda w.\ \text{Ask}(g(e))(w)(\{\lambda w'.\ \exists r \in \{p, q\}\colon r(w')=1\})$
$= \lambda w.\ \text{Ask}(g(e))(w)(\{\lambda w'.\ [p(w')=1 \vee q(w')=1]\})$
Defined only if $p, q \in \text{SalientAlts}(cs(g(e)))$

The possibility of a polar interpretation of *ji p oo ji q* has two consequences:

1. *Ji* is not an interrogative complementizer, even in its embedded question uses.[a]
2. At least in Gitksan, a string-identical alternative question is not a disjunction of two polar questions.

There is an ongoing debate about whether an alternative question is a disjunction of two polar questions[b] or not[c].

- One of the arguments for an AltQ being a disjunction of PolQs is that disjunction of *whether* clauses receive an AltQ interpretation (27).

21. See 'mother QUD' in Meertens (2021) as well as 'projected questions' in Mayr and Schmitt (2026).

(27) I want to know whether Sally brought wine or whether she brought juice.
(Pruitt and Roelofsen 2011:7(9))

- Gitksan shows a different pattern in which a string used in a PolQ can be disjoined without forcing an AltQ interpretation, which suggests that the distinction between embedded PolQs and AltQs must be made later in the composition.

a. Contra Brown 2024, 2026 on a cognate in Sm'algyax
b. Uegaki (2014); Roelofsen and Van Gool (2010); Pruitt and Roelofsen (2011)
c. Meertens (2021)

9 Remaining issues

1. *Ji* in a false attitude (28 repeated from 6) is not explained.

(28) [False attitude, third person]
Context: Someone comes in and says "I'm looking for Miss. Davis." (Referring to Henry Davis).
Ha'niigoot-t **(ji)** hanak[-t]=s Henry
think-3.II [ji woman[-3.II]=PN Henry]
'He thinks that Henry is a woman.' (HH-v., VG-v.)[22]

- Whether we index *ji* with the event variable of 'think' or the matrix speech event variable, the cardinality of the salient alternatives in the context set is one. What has a cardinality of two is a union of the salient alternatives for the speaker ($\{\neg p\}$) and the attitude holder ($\{p\}$).

(29) $[\![\text{think}_e\ \text{ji}_e\ p]\!]^{e_0,g} = \{\lambda w.\ \text{Think}(g(e))(w)(p)\}$ (by Modified PFA)
Defined only if $p \in \text{SalientAlts}(cs(g(e))) \wedge \exists q[q \neq p \wedge q \in \text{SalientAlts}(cs(g(e)))]$

2. *Ji* appears in counterfactual conditionals.

(30) Context: John is angry because Mary ate a slice of cake he left in the fridge. Mary says "Come on! Don't be so mad at me..."
[**Ji** hli nee=dii=n gup-t] ii dim=t gup=hl ligi=t naa
Ji hli NEG=FOC=1SG.I eat-3.II CCNJ PROSP=3.I eat=CN DWID=PN who
'If I hadn't eaten it, someone else would have eaten it.' (VG)

- In (30), *ji* should be indexed with the expanded modal base of the matrix modal, not e_0.

10 Conclusion

10.1 Summary

- The morpheme *ji* in Gitksan appears in embedded questions, conditional antecedents, and declarative attitude complements in contexts involving uncertainty or falsity.
- I provided novel data showing that *ji* can occur in each disjunct of conditional antecedents and embedded questions with disjunction.
- I argued that *ji* constrains the set of salient alternative propositions so that the prejacent remains a live possibility.

10.2 Broader implications

- To the extent that a unified analysis is plausible, *ji* provides empirical evidence for a shared component between questions, conditionals, and uncertainty.
- At least in embedded questions in Gitksan, an alternative question is not a disjunction of polar questions (Meertens 2021; contra Roelofsen and Van Gool 2010; Pruitt and Roelofsen 2011).

11 Appendix: Two kinds of disjunction

- In conditional antecedents and embedded questions with disjunction with the form of *ji p oo ji q*, we saw that the second occurrence of *ji* is obligatory ((8), (9)).
- However, there is another strategy for disjunction, *(ji) X oo ligi Y*, which can occur in every context that *ji p oo ji q* can, and more.
  - *Ligi* is often required in this construction.

(31) [Conditional antecedent with clausal disjunction]
[Ji siipxw-in **oo *(ligi)** hlabixsxw-in] sgi dim ha'w-in
ji sick-2SG.II oo ligi tired-2SG.II CIRC.NECESS PROSP go.home-2SG.II
'If you are sick or tired, you should go home.' (VG-v.)

(32) [Embedded AltQ]
Gidax̲-a[-t]=s Mary=t John [ji yee-t **oo *(ligi)** bax̲-t]
ask-TR[-3.II]=PN Mary=PN John ji walk-2.II oo ligi run-3.II
'Mary asked John if he walked or ran.' (VG-v.)

- Unlike *ji*, *oo ligi* can:
  - occur in a matrix clause (33a);
  - disjoin sub-clausal elements (34a); and
  - be used in non-interrogative disjunction (35a, 36a).

(33) [Matrix AltQ with clausal disjunction]

a. Yee 'niin=aa **oo ligi** bax̲ 'niin=aa
walk 2SG.III=L.O.C. oo ligi run 2SG.III=L.O.C.[24]
'Did you walk or did you run?' (VG-v.)

b. *Yee 'niin=aa **oo ji** bax̲ {'niin, -an}=aa
walk 2SG.III=L.O.C. oo ji run {2SG.III, -2SG.II}=L.O.C.
intended: 'Did you walk or did you run?' (VG)

(34) [Embedded PolQ with a DP disjunction] Context: Reporting a conversation in which someone said to me, "Have you seen Lisa or Henry today? I need to talk to either one of them."

a. Gidax̲-at 'nii'y [ji=n gyaa[-t]=s Lisa **oo ligi**=t Henry sa tun]
ask-3.II 1SG.III ji=1SG.I see[-3.II]=PN Lisa oo ligi=PN Henry today
'He asked me if I saw Lisa or Henry today.' (VG-v.)

24. L.O.C. stands for 'lack of commitment,' following Matthewson (to appear).

b. *Gidax̲-at 'nii'y [ji=n ga'a[-t]=s Lisa **oo ji**=t Henry sa tun]
ask-3.II 1SG.III ji=1SG.I see[-3.II]=PN Lisa oo ji=PN Henry today
intended: 'He asked me if I saw Lisa or Henry today.' (VG)

(35) [Non-interrogative DP disjunction]
Context: You hear a car arriving at the department.

a. 'Witxw=t Lisa **oo ligi**=t Henry
arrive=PN Lisa oo ligi=PN Henry
'Lisa or Henry arrived.' (VG-v.)

b. *'Witxw=t Lisa **oo ji**=t Henry
arrive=PN Lisa oo ji=PN Henry
intended: 'Lisa or Henry arrived.' (VG)

(36) [Non-interrogative CP disjunction]
Context: Hearing a door shut, A says, "What's that sound?" B responds:

a. Ha'niigood-i'y daaw'hl[-t]=s Lisa oo (ligi) 'witxw=t Neda
think-1SG.II leave[-3.II]=PN Lisa oo ligi arrive=PN Neda
'I think Lisa left or Neda arrived.' (VG-v.)

b. *Ha'niigood-i'y daaw'hl[-t]=s Lisa oo ji 'witxw=t Neda
think-1SG.II leave[-3.II]=PN Lisa oo ji arrive=PN Neda
intended: 'I think Lisa leaft or Neda arrived.' (VG)

- I propose that *oo ligi* is a type-flexible Junction head that can take two elements and compose a set containing them (37).
  - This is unlike *oo* alone, which requires its arguments to already denote a set (12).

(37) $[\![\text{oo ligi}]\!] = \lambda X.\ \lambda Y.\ \{X, Y\}$

- A reason to not decompose *oo ligi* has to do with its interpretation.
- Occurrences of *ligi* in other contexts often give rise to ignorance or indifference readings (see (30)).[25]
- However, *oo ligi* is used in non-interrogative disjunction without an uncertainty inference, and in fact *ligi* is judged to be obligatory.

(38) [Non-interrogative DP disjunction without ignorance]
Context: Treasure hunting. Kids can't find the treasure for a long time, so the father gives them a hint.
Gahlaxw[-t]=hl ha'niitx̲oox̲xw **oo *(ligi)** ha'niit'aa
under[-3.II]=CN table oo ligi chair
'It's under the table or a chair.' (VG-v.)

25. See Bicevskis et al. 2017 on *ligi* with indeterminate *wh* elements; and Aonuki 2022 on *ligi* in translations of *ever*-free relatives

References

Alonso-Ovalle, Luis. 2006. Disjunction in alternative semantics. Doctoral Dissertation, University of Massachusetts Amherst.

Aonuki, Yurika. 2022. Free relatives in Gitksan. In Proceedings of Semantics of Under-Represented Languages in the Americas (SULA) 11.

Aonuki, Yurika. 2025. 'irrealis' *ji* in declarative and interrogative complements in Gitksan. to appear in WCCFL 43.

Bicevskis, Katie, Henry Davis, and Lisa Matthewson. 2017. Quantification in Gitksan. In Handbook of quantifiers in natural language: Volume ii, 281–382. Springer.

Biezma, María, and Kyle Rawlins. 2012. Responding to alternative and polar questions. Linguistics and Philosophy 35:361–406.

Bochnak, M Ryan. 2015. Variable force modality in Washo. In Proceedings of north-east linguistics society, volume 45, 105–114. MIT Cambridge, MA.

Brown, Colin. 2022. Sm'algyax mood: a first look at *dzi*. Paper presented at UCLA AIS, February 8.

Brown, Colin. 2023. Irrealis-marked interrogatives as rhetorical questions. Open Linguistics 9:20220239.

Brown, Colin. 2024. The form and function of interrogatives in Sm'algyax. Doctoral Dissertation, University of California, Los Angeles.

Brown, Colin. 2026. Bipartite question formation in sm'algyax. Glossa: a journal of general linguistics 11.

Ciardelli, Ivano, Jeroen Groenendijk, and Floris Roelofsen. 2018. Inquisitive semantics, volume 6. Oxford University Press.

Dawson, Virginia Ellen. 2020. Existential quantification in tiwa: Disjunction and indefinites. Doctoral Dissertation, UC Berkeley.

Deal, Amy Rose. 2011. Modals without scales. Language 87:559–585.

den Dikken, Marcel. 2006. Either-float and the syntax of co-or-dination. Natural language & linguistic theory 24:689–749.

Erlewine, Michael Yoshitaka. 2025. Interrogative and standard disjunction in mandarin chinese. Journal of Semantics ffaf008.

Gessner, Suzanne, Tracey Herbert, and Aliana Parker. 2022. Report on the status of B.C. First Nations languages 4th edition. First Peoples' Cultural Council. Retrieved from `https://fpcc.ca/stories/status-of-languages`.

Gogag, Vince, Hector Hill, and Barbara Sennott. in prep. 'Nit ganwilt: Thirty-six Gitksan stories.

Goodhue, Daniel, and Junko Shimoyama. 2022. Clausal embedding under *to* in Japanese as speech acts. In Proceedings of the Amsterdam Colloquium, 105–112.

Hunt, Katharine D. 1993. Clause structure, agreement and case in Gitksan. Doctoral Dissertation, University of British Columbia.

Kratzer, Angelika, and Junko Shimoyama. 2002. Indeterminate pronouns: The view from Japanese. In Proceedings of Tokyo conference on psycholinguistics 3, ed. Y. Otsu, 1–25.

Matthewson, Lisa. 2013. Gitksan modals. International Journal of American Linguistics 79:349–394.

Matthewson, Lisa. to appear. Aren't Gitksan negative polar questions biased? International Journal of American Linguistics .

Mayr, Clemens, and Viola Schmitt. 2026. Generalized non-de dicto: Underspecification and discourse stability. manuscript.

Meertens, Erlinde Johanne. 2021. Alternative questions: From surface to meaning. Doctoral Dissertation, University of Konstanz.

Peterson, Tyler Roy Gösta. 2010. Epistemic modality and evidentiality in gitksan at the semantics-pragmatics interface. Doctoral Dissertation, University of British Columbia.

Portner, Paul, and Aynat Rubinstein. 2012. Mood and contextual commitment. In Semantics and linguistic theory, 461–487.

Pruitt, Kathryn, and Floris Roelofsen. 2011. Disjunctive questions: Prosody, syntax, and semantics. a seminar at the Georg August Universität Göttingen.

Rawlins, Kyle. 2008a. (un)conditionals: An investigation in the syntax and semantics of conditional structures. Doc-

toral Dissertation, University of California, Santa Cruz.
Rawlins, Kyle. 2008b. Unifying "if"-conditionals and unconditionals. In Semantics and linguistic theory, 583–600.
Rawlins, Kyle. 2013. (un)conditionals. Natural Language Semantics 21:111–178.
Rigsby, Bruce. 1986. Gitksan grammar. University of Queensland.
Roelofsen, Floris, and Sam Van Gool. 2010. Disjunctive questions, intonation, and highlighting. In Logic, Language and Meaning: 17th Amsterdam Colloquium, Amsterdam, The Netherlands, December 16-18, 2009, Revised Selected Papers, 384–394. Springer.
Rooth, Mats Edward. 1985. Association with focus (montague grammar, semantics, only, even). University of Massachusetts Amherst.
Rullmann, Hotze, Lisa Matthewson, and Henry Davis. 2008. Modals as distributive indefinites. Natural Language Semantics 16:317–357.
Sasama, Fumiko. 2001. A descriptive study of the Coast Tsimshian morphology. Doctoral Dissertation, Kyoto University.
Schlenker, Philippe. 2008. The lazy Frenchman's approach to the subjunctive: Speculations on reference to worlds and semantics defaults in the analysis of mood. In Romance languages and linguistic theory 2003: Selected papers from 'going romance'2003, nijmegen, 20–22 november, 269–309. John Benjamins Publishing Company.
Shimoyama, Junko. 2006. Indeterminate phrase quantification in japanese. Natural Language Semantics 14:139–173.
Silk, Alex. 2018. Commitment and states of mind with mood and modality. Natural Language Semantics 26:125–166.
von Stechow, Arnim. 1991. Focusing and backgrounding operators. Discourse particles 6:37–84.
Tarpent, Marie-Lucie. 1987. A grammar of the Nisgha language. University of Victoria.
TFS Working Group. 2012. Feeding Fluffy. Retrieved from http://www.totemfieldstoryboards.org.
Uegaki, Wataru. 2014. Japanese alternative questions are disjunctions of polar questions. In Semantics and linguistic theory, 42–62.
Uegaki, Wataru. 2018. A unified semantics for the Japanese Q-particle *ka* in indefinites, questions and disjunctions. Glossa: a journal of general linguistics 3:1–45.