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Bipartite question formation in Sm'algayax

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Matrix questions in Sm'algayax (Tsimshianic; British Columbia, Alaska) are doubly marked. *Wh*-questions involve the fronting of a *wh*-expression to the clause-initial position, together with the interrogative clitic =*u*; polar questions are introduced by the complementizer *ał*—diachronically derived from negation—and additionally bear the clitic =*ii*. By contrast, embedded questions only exhibit a single component: *wh*-fronting for *wh*-questions and a complementizer element for polar questions. I argue that this asymmetry reflects a two-layer interrogative syntax. The polar complementizer and the null trigger for *wh*-movement instantiate an interrogative $C_{[+Q]}$ within CP, while the clitics =*u* and =*ii* instantiate an illocutionary operator SA_{ASK} within a higher Speech Act Phrase (SAP). Because SAP is restricted to main clauses, embedded questions necessarily lack interrogative clitics. This paper contributes novel empirical evidence from an underdescribed language to ongoing debates about the embeddability of speech acts. Sm'algayax shows clear evidence for an unembeddable SAP layer in the formation of canonical, information-seeking questions, supporting the view that SAP is a genuinely root-only projection (in line with Dayal 2023, *pace* Krifka 2014; 2023; Woods 2016).

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1 Introduction

This paper has two main goals: one descriptive and one analytical. The first is to describe the formation of polar questions (PolQs) and content/*wh*-questions (WhQs) in Sm'algyax (Maritime Tsimshianic, ISO 639-3: *tsi*; VSO), based on novel data from elicitation with fluent first language speakers. I show that in main clauses, both PolQs and WhQs in Sm'algyax bear two morphological reflexes associated with question formation, while embedded clauses in each case only exhibit one. This bipartite structure for main-clause questions is illustrated in the examples below. In (1a) we see a baseline declarative sentence, and in (1b) we see its PolQ counterpart, marked by the left-edge element *ał* and the polar-interrogative clitic =*ii*.

- (1) a. *Nam dawlin.*
 nah = m dawł-n
 PFV = 2SG.I leave-2SG.III
 'You left.' *Baseline*
- b. *Ał nah dawlinii?*
ał nah dawł-n = **ii**
 Q PFV leave-2SG.II = INT
 'Did you leave?' *PolQ*

In the following examples, we see a baseline declarative (2a) and a WhQ (2b). The WhQ is characterized by a clause-initial *wh*-word and the *wh*-interrogative clitic =*u*.

- (2) a. *Dawła aadit.*
 dawł = a aadit
 leave = CN fisherman
 'The fisherman left.' *Baseline*
- b. *Naayu dawlit?*
naa = **u** dawł-ət ____
 who = INT leave-SX
 'Who left?' *WhQ*

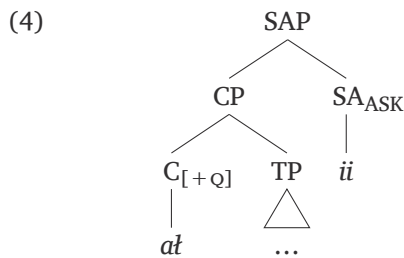
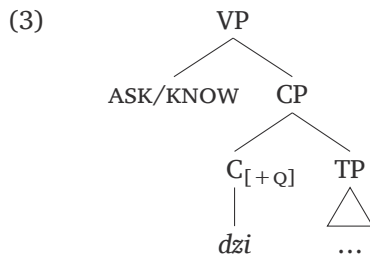
Embedded questions, as we will see, are marked by the obligatory presence of a complementizer *dzi* in embedded PolQs in the same position as *ał*, and by *wh*-initiality in embedded WhQs. The interrogative clitics =*ii* and =*u* appear only in main-clause questions and are obligatorily absent in embedded questions, certain non-canonical questions, and other non-interrogative contexts. This basic distribution is given in **Table 1**.

The analytical goal, then, is to situate these reflexes within a broader typology of *interrogative particles*. I argue for a two-layer syntax associated with question formation. Both main- and embedded-clause questions feature a *clause-typing particle* $C_{[+Q]}$ (Cheng 1991), which heads an

	Main	Embedded
WhQs	<i>wh</i> -initial + = <i>u</i>	<i>wh</i> -initial
PolQs	<i>at</i> + = <i>ii</i>	<i>dzi</i>

Table 1: Reflexes of question formation.

interrogative CP. $C_{[+Q]}$ is instantiated by *at/dzi* in PolQs, and a silent *wh*-operator in WhQs that is associated with clause-initial *wh*-words. Main clauses additionally feature a *Speech Act Phrase* (SAP) that is headed by an illocutionary operator SA_{ASK} associated with the conversational function of *asking* (see Speas & Tenny 2003; Farkas & Bruce 2010; Krifka 2014; Woods 2016; Sauerland & Yatsushiro 2017; Miyagawa 2022; Dayal 2023 and others). In Sm’algayax, SA_{ASK} is instantiated by the interrogative clitics =*ii* and =*u*; throughout, I will refer to these elements as markers of interrogative illocutionary mood. This is sketched below in (3) and (4) for embedded and main-clause PolQs, respectively. The main-clause restriction of =*ii* and =*u* falls out if question embedding predicates such as *ask* or *know* select for interrogative CPs, as in (3), and never SAPs.



This analysis, if correct, bears on a recent debate in the literature concerning whether speech acts can occur in embedded contexts. Drawing on data from *embedded root/main-clause phenomena* or *quasi-subordination*—such as embedded inversion in English questions—authors such as Krifka (2014; 2023) and Woods (2016) argue that speech acts (that is, peripheral projections headed by a speech act or illocutionary operator) can be embedded in a restricted way: namely, under *rogative* predicates such as *ask* or *wonder*, but not under *responsive* predicates such as *know* or *tell*.¹

¹ Embedded inversion is possible under responsives in certain conditions. For example, while *know* doesn’t license embedded inversion, *want to know* and *not know* can. These predicates are dubbed “shifty responsives” in Dayal (2023).

- (5) I wondered [**was he illiterate**]. *Embedded inverted question*
 (Roddy Doyle, *The Woman Who Walked into Doors*, cited in McCloskey 2006: 1)

Dayal (2023), on the other hand, provides extensive argumentation, based in part on the behaviour of several classes of interrogative particle in different embedding contexts, that quasi-subordination (such as the embedded inverted question in (5)) targets an intermediate projection between CP and SAP (called Persp(ective)P), and that SAP is in fact not embeddable. The clearest evidence for the unembeddability of SAP comes from the behaviour of so-called *meta question particles* (MQPs), that are taken to modify speech acts, and are strictly confined to main clauses. The unembeddability of the English MQP *quick(ly)* is shown below.

- (6) a. **Quick(ly)**, where did you hide the matza?
 b. *Mary asked Sue [**quick(ly)** where she hid the matza].
 c. *Mary asked Sue [**quick(ly)** where did she hide the matza]. (Dayal 2023: 8)

- (7) [_{SAP} ... *Not embeddable*
 [_{PerspP} ... *Embeddable under rogative predicates*
 [_{CP} ... *Embeddable under all question-embedding predicates*

While the Sm'algyax facts presented here do not provide evidence for a three-layer interrogative left periphery (that is, I do not provide evidence for PerspP in Sm'algyax), they do provide compelling evidence for an unembeddable SAP layer: not from particles that *modify* speech acts, but from particles associated with canonical question formation.

The remainder of this section introduces Sm'algyax, methodology, and basic morphosyntactic background. Sections 2 and 3 introduce the reflexes of polar and *wh*-question formation. Section 4 provides a formal analysis of question-formation reflexes in Sm'algyax, arguing for a bipartite interrogative syntax that minimally contains a clause-typing projection and a speech act projection. Section 5 considers additional evidence for this analysis with reference to non-canonical questions, and Section 6 concludes.

Finally, a note on terminology: this paper deals with three distinct notions of *clause type*: (i) the Tsimshianic-internal distinction between *independent* and *dependent* clauses; (ii) the more general crosslinguistic distinction between *main* (or *root/matrix*) and *embedded* (or *subordinate*) clauses; and (iii) the grammatically defined classes of sentences which closely correspond to speech acts: declarative, interrogative, imperative, and exclamative (see Portner (2018)); of which this paper only deals with declarative and interrogative clauses. Whenever I refer to the first of these, I will explicitly call it the independent/dependent clause distinction. Likewise, I will explicitly refer to the second as the main/embedded clause distinction. Any bare references to “clause typing” should be understood as referring to the third notion, i.e., the distinction between declarative and interrogative clauses.

1.1 Data and methodology

All uncited examples are drawn from novel fieldwork conducted in Prince Rupert, British Columbia, between 2018 and 2025, in collaboration with fluent Sm’alg yax speakers: Velna Nelson, Ellen Mason (Txałgiw/Hartley Bay), and Beatrice Robinson (Gitxaala/Kitkatla). Additional sessions with Velna Nelson took place via Zoom from 2020 to 2025. In person sessions typically involved group sessions with two or more language consultants, whereas Zoom sessions were conducted individually.

All language data was collected following standard semantic fieldwork methodology (Matthewson 2004): the consultant was given a context and an English sentence and asked to translate it into Sm’alg yax. Acceptability judgments were obtained by presenting the consultant with a Sm’alg yax sentence and asking for feedback on its acceptability in a specific context.

The four-line glossing convention used here is structured as follows: the first line includes the community orthography used across British Columbia (Dunn 1978). The second line uses the same orthography but includes morpheme boundaries. The third line provides grammatical category labels following the Leipzig glossing rules, and the fourth line gives an English translation. I have also presented examples drawn from traditional Ts’msyen narratives (or *adaawx*) (Boas 1912) in the community orthography.

1.2 Language background

Sm’alg yax, also known as Coast Tsimshian or the Ts’msyen language, is a Maritime Tsimshianic language spoken in Northwestern British Columbia, and Southeastern Alaska. The Interior branch of the family is made up of Gitksan and Nisga’a while the Maritime branch is made up of Sm’alg yax and Southern Tsimshian, or Sgüüxs. See Forbes (2023) for an overview of the family, and see Hill & Matthewson (2025) and Matthewson (to appear) for recent discussion and analysis of PolQ formation in Gitksan. This section outlines morphosyntactic facts about Sm’alg yax relevant to the discussion that follows.

Unmarked word order in Sm’alg yax is predicate initial, with transitive subjects preceding direct objects:

(8) *’Makdis Bill misoo.*

’mak-t-ə =s Bill =a misoo
 catch-T-TR[-3.II] =PN Bill =CN sockeye.salmon
 ‘Bill caught a sockeye salmon.’²

Predicate-initial word order

² Differences between the surface and underlying forms in (8) reflect two pervasive morphophonological processes. The first involves the determiner-like *connectives* (glossed as ‘CN’ for *common-noun connective* or ‘PN’ for *proper-noun connective* in the Tsimshianic literature), which are syntactically associated with the nominal to their *right* but encliticize to the *left*. The common-noun connective =a deletes after vocalic or sonorant segments (Anderson & Ignace

Sm'algyax, like all Tsimshianic languages, exhibits a distinction between *independent* and *dependent* clauses, which are characterized by distinct person-marking configurations and morphology on the predicate. Independent clauses are typically main clauses, but also appear in \bar{A} -movement constructions (including relative clauses, *wh*-questions, and focus fronting) that target the direct object argument, or *O*-argument. Embedded clauses (except for those that are characterized by \bar{A} -movement of the O-argument), imperatives, and main clauses introduced by a *dependent marker* such as *aka/ałga* 'NEGATION', or *yagwa* 'PROGRESSIVE aspect' are all characterized by dependent clause morphology.

The distinct person marking configurations of independent and dependent clauses are shown in the following examples. The independent clause in (9) is characterized by the presence of suffixal (*Series II*) agreement marking the ergative argument. The dependent clause in (10), triggered by the negation marker *aka*, features a prepredicative clitic (*Series I*) marking the ergative argument.

- (9) *Nah gabu naasii.*
 nah gap-ə-**u** = a naasü
 PFV eat-TR-1SG.II =CN raspberry
 'I ate raspberries.' *Independent clause*

- (10) *Akandi gaba hoon.*
 aka = **n** = di gap = a hoon
 NEG = 1SG.I = FOC eat[-3.II] =CN fish
 'I didn't eat fish.' *Dependent clause*

The distribution of the *transitive suffix* -ə (glossed as "TR") is likewise sensitive to the independent/dependent clause distinction.³ The following pair of examples shows the presence of the transitive suffix in independent clauses and its absence in dependent clauses:

- (11) a. *Gabit.*
 gap-ə-t
 eat-TR-3.II
 S/he ate it. *Independent clause*

2008). The second process involves deletion of the underlying third-person agreement suffix *-t* when immediately followed by the DP it agrees with (Davis 2018). Throughout this paper, *t*-deletion environments are indicated in the third line of glossed examples by square brackets around the third-person suffix: [-3.II].

³ The underlying forms in examples in (9) and (10) show that the transitive suffix -ə, appears in independent clauses but is absent in dependent clauses. However, this distinction is not immediately obvious in the surface forms (compare with (11a) and (11b) where this distinction is obvious). This surface opacity results from a morphophonological process: when the underlying transitive suffix -ə is followed by a vocalic or sonorant segment, such as the first-person suffixal agreement marker *-u*, the transitive suffix is deleted. For a detailed account of the morphophonology of the transitive suffix, see Brown et al. (2020).

b. *Yagwat gapt.*

yagwa = t gap-t

PROG = 3.I eat-3.II

'S/he is eating it.'

Dependent clause

I note here, and reiterate this point below in footnotes 5 and 16 that the independent/dependent clause distinction does not affect the distribution of the interrogative clitics = *ii* and = *u*. That is, either clitic may appear in both independent and dependent clauses, so long as they grammatically function as main clauses.

All \bar{A} -extraction constructions in Sm'algyax are marked by extraction morphology that indicates the grammatical role of the extracted element. This is illustrated below with relative clauses (but as we will see in Section 3, this same verbal morphology appears in *wh*-questions). In (12) we see an intransitive subject (S) relative clause marked by the suffix *-ət* (glossed as "SX" for "subject extraction"), in (13) an object (O) relative clause marked by the transitive suffix *-ə*, and in (14) a transitive subject (A) relative clause marked by the prepredicative morpheme *in* ("AX") and a third person agreement marker = *t*. In each case, a common-noun connective cliticizes to the right edge of the extracted element.

(12) a. *Sis'aaxsa gyet.*

sis'aaxs = a gyet

laugh = CN person

'A person laughed.'

*Baseline*b. *Wilaayu gyeda sis'aaxsit.*

wilaay-u = a gyet = a sis'aaxs-ət ___

know-1SG.II = CN person = CN laugh-SX

'I know the person who laughed.'

S-relative(13) a. *Gaba gyeda ts'ik'aaws.*

gap-ə = a gyet = a ts'ik'aaws

eat-TR[-3.II] = CN person = CN split.salmon

'The people eat split dried salmon.'

*Baseline*b. *Niidzu ts'ik'aawsa gabit.*

niist-ə-u = a ts'ik'aaws = a gap-ə-t ___

see-TR-1SG.II = CN split.salmon = CN eat-TR-3.II

'I saw the split dried salmon they ate.'

O-relative(14) *Wilaayu gyeda int gapt.*

wilaay = u = a gyet = a in = t gap-t ___

know-1SG.II = CN person = CN AX = 3.I eat-3.II

'I know the people who ate it.'

A-relative

The differences in person marking and verbal morphology in O-argument and A-argument extraction aligns with the independent/dependent clause distinction. O-extraction features independent clause morphology, including the transitive $-\text{ə}$ and suffixal agreement with the A-argument. A-extraction features dependent clause morphology, including preverbal clitic agreement with the A-argument, and the absence of transitive $-\text{ə}$.

Having introduced the basic word order, the independent/dependent clause distinction as well as a background to \bar{A} -movement, I now turn to the empirical core of the paper: the morphosyntactic reflexes associated with question formation.

2 Polar question reflexes

In this section, I outline the morphosyntactic reflexes of polar question (PolQ) formation, focusing on a structural asymmetry between main-clause and embedded-clause questions. In either environment, PolQs are introduced by an interrogative complementizer element ($a\bar{l}$ in main clauses, dzi in embedded clauses). Main-clause PolQs, however, display an additional reflex: the polar-interrogative clitic $=\bar{i}$, which is restricted to this environment.

One aspect of interrogative clitics that I will not address in detail in this paper is their linear positioning. Both $=\bar{i}$ (discussed in this section) and $=u$ (introduced in Section 3) exhibit the same linearization properties: they can appear in a range of positions in the clause, as documented in previous work (Brown & Davis 2024a; b; Davis & Brown 2024; Brown 2024a).⁴ Importantly, this positional variability does not affect the interpretation of the question. I set aside issues of linearization here, focusing instead on the syntactic distribution of these clitics and their restriction to main-clause interrogative sentences.

2.1 Main-clause polar questions

PolQ formation typically involves the left-edge element $a\bar{l}$ and the polar interrogative clitic $=\bar{i}$ (15b). The word order of a declarative sentence (15a) is retained.

- (15) a. *'Waays Judy naletayu.*
 $\text{'waa-}\text{ə}$ $=s$ Judy $=a$ na-leta-u
 find-TR[-3.II] $=\text{PN}$ Judy $=\text{CN}$ $\text{POSS-letter-1SG.II}$
 ‘Judy received my letter.’

Baseline

⁴ Both $=\bar{i}$ and $=u$, along with their allomorphs, surface in clause-internal and clause-final positions, encliticizing either to the predicate or an argument DP, or alternatively to left-peripheral focused XPs and *wh*-phrases. With respect to linearization, Sm'algyax interrogative clitics differ from those in the rest of the Tsimshianic family: in Gitksan (Rigsby 1986; Hill & Matthewson 2025; Matthewson to appear), Nisga'a (Tarpent 1987), and Sgüüxs (Tarpent 1994), interrogative clitics always surface in clause-final position.

b. *Ał waadit Judiyii naletayu?*

Ał=t waa-t =t Judi=**ii** =a na-leta=u?
 Q=3.I find-3.II =PN Judy=INT =CN POSS-letter-1SG.II

‘Did Judy receive my letter?’

PolQ ([+ ał, + ii])

The element *ał* is likely diachronically related to the negation markers *ałga/aka*. The Interior Tsimshianic languages Gitksan and Nisga’a likewise form neutral/unbiased PolQs with morphemes associated with negation (Rigsby 1986; Tarpent 1987; Hill & Matthewson 2025; Matthewson to appear). The interrogative clitic =*ii* is cognate with Sgüüxs =*ii*, which occurs in both PolQs and WhQs, and with Gitksan and Nisga’a =*aa*, which is restricted to PolQs.

The particle *ał* is not obligatory in PolQs; many PolQs are marked solely by the clitic =*ii*.⁵

(16) *’Waays Judiyii naletayu?*

’waa-ə =s Judi=**ii** =a na-leta-u
 find-TR[-3.II] =PN Judy=INT =CN POSS-letter-1SG.II

‘Did Judy receive my letter?’

[–ał, + ii]

A less common pattern features *ał* without =*ii*, as in (17). Further work is needed to determine whether this configuration which features *ał* and lacks =*ii* has any systematic semantic or pragmatic effects.⁶

(17) *Ał yagwał sikopis Henili?*

Ał yagwa =ł si-kopi =s Henili?

Q PROG =IRR.CN make-coffee[-3.II] =PN Henry

‘Is Henry making coffee?’

[+ ał, –ii]

Preliminary investigation in Brown (2021) reveals no difference between declarative and interrogative sentences with respect to intonation.⁷ Attempts to form a question marked solely by rising intonation (therefore lacking both *ał* and =*ii*) are rejected:

⁵ As shown in (15a), (15b), and (16), *ał* functions as a dependent marker. That is, *ał* consistently triggers dependent clause morphology, diagnosed by (i) the use of Series I ergative clitics (e.g., =*t* in (15a)) and (ii) the obligatory absence of the transitive suffix -ə. These examples also show that =*ii* freely appears in both independent and dependent clauses; I conclude from this that the Tsimshianic-internal clause-type distinction is orthogonal to the distribution of the PolQ clitic =*ii*.

⁶ It is noteworthy that either *ał* or =*ii* (but not both) may be omitted from a main-clause PolQ. I suggest that this optionality arises because the presence of either element is sufficient to signal a question interpretation. A similar pattern occurs in main-clause WhQs, where the *wh*-clitic =*u* can be dropped, since the clause-initial *wh*-word alone is sufficient to mark the clause as a question (see Section 3.1).

⁷ This claim is consistent with Tarpent (1987: 149) on the Interior Tsimshianic language Nisga’a. Shamei (2019) shows that the Gitksan polar interrogative clitic =*aa* is lexically encoded with a rising pitch.

(18) #*Yaa waas?* (rising intonation)

yaa =a waas

walk =CN rain

Intended: 'Is it raining?'

[-aɬ, -ii]

Though *aɬ* is likely derived from a morpheme associated with negation, its presence or absence in a question doesn't seem to signal a biased interpretation as one might expect. We see below that both options are possible in a context where the asker of the question does not appear to have any evidence or bias for or against the prejacent proposition (that is, whether there is tea) being true:

(19) [You are at a friend's house; you have no idea whether they keep tea in the house, but would like to have some tea]

a. *Sgüüyiɬ dii?*

sgüü = **ii** =ɬ dii

EXIST = INT = IRR.CN tea

'Is there tea?'

Neutral PolQ ([-aɬ])

b. *Aɬ sgüüdiɬ dii?*

aɬ sgüü-t = **ii** =ɬ dii

Q EXIST-3.II = INT = IRR.CN tea

'Is there tea?'

Neutral PolQ ([+aɬ])

PolQs both with and without *aɬ* are also freely volunteered and accepted in contexts where there is contextual evidence for *p*:

(20) [Lucy is in her windowless office. Alan has just arrived holding a wet umbrella and raincoat. (adapted from Gunlogson 2008)]

a. *Du! Yaayiiɬ waas?*

du yaa = **ii** =ɬ waas

oh walk = INT IRR.CN rain

Oh, it's raining?

Biased PolQ ([-aɬ])

b. *Du! Aɬ waasii gyelx?*

du **aɬ** waas = **ii** gyelx

oh Q rain = INT outside

Oh, it's raining?

Biased PolQ ([+aɬ])

(21) [Lucy mentioned a few days ago that her mother is visiting her. You run into her at a coffee shop with an older woman who bears a close resemblance to Lucy. You assume it's her mom, but want to confirm it. (adapted from Poschmann 2008)]

- a. *'Niit Lucy, 'niis noonii gwa'a?*
 'niit Lucy 'nii =s noo-n=ii =a gwa'a
 3.III Lucy DEM =PN mother-2SG.II=INT =CN DEM
 Hi Lucy! This is your mother? *Biased PolQ ([-aʔ])*
- b. *'Niit Lucy, aʔ 'niis noonii gwa'a?*
 'niit Lucy aʔ 'nii =s noo-n=ii =a gwa'a
 3.III Lucy Q DEM =PN mother-2SG.II=INT =CN DEM
 Hi Lucy! This is your mother? *Biased PolQ ([+ aʔ])*

The acceptability of both PolQ variants in the contexts above highlights a contrast between Sm'algyax and Gitksan: in Gitksan, the presence of the negation morpheme *nee* in PolQs carries a pragmatic effect, favouring contexts with neutral or negative contextual evidence for *p*, whereas PolQs without *nee* are preferred in contexts with contextual evidence for *p* (Hill & Matthewson 2025; Matthewson to appear). That is, in a neutral context like the one in (19), a PolQ featuring negative *nee* is preferred, while in a context where there is evidence for *p*, such as those in (20) and (21), a PolQ without negative *nee* is preferred. In Sm'algyax, however, PolQs with and without *aʔ* appear to occur in free variation.

Sm'algyax does however have a grammaticalized biased PolQ construction, characterized by the negative response particle *ayn* in initial position, as well as =*ii*. These *ayn*-questions are biased toward the truth of the prejacent proposition.

- (22) [We're looking for a restaurant in the neighbourhood. I remember there being a decent Chinese restaurant close by. I say to you: (adapted from Ladd (1981))]
Aynʔ t'aadii waptxooxgm dzeena a gwa'a?
ayn =ʔ t'aa-t=ii =a wap=txooxk-m dzeena a =a gwa'a
 no =IRR.CN stand-3.II=INT =CN house=eat-ATTR Chinese PREP[-3.II] =CN here
 'Isn't there a Chinese restaurant around here?' *Biased PolQ ([+ ayn])*
- (23) [There's a feast in early May; Lucy tells you she's planning to attend it. This surprises you because she previously mentioned she would be in Vancouver from mid-April to mid-May. You ask her:]
Aynʔ dm waanii a Ts'a'mas?
ayn =ʔ dm waal-n=ii a =a Ts'a'mas
 no =IRR.CN PROSP LV-2SG.II=INT PREP[-3.II] =CN Vancouver
 'Won't you be in Vancouver?' *Biased PolQ ([+ ayn])*

These data point to further variation between Sm'algyax and Gitksan question formation. In Gitksan, both neutral PolQs and biased PolQs such as (22) are formed using the same negation element *nee* (Hill & Matthewson 2025; Matthewson to appear).

Finally, we also find that both *ał* and *=ii* appear in alternative questions—those questions offering a disjunctive choice of answers, and expecting one of those options as a response.

- (24) a. *Ał waasii dzi ligi ayn?*
ał waas=*ii* dzi ligi ayn
 Q rain=INT IRR DWID no
 ‘Is it raining or not?’
- b. *Waasii dzi ligi ayn?*
 waas=*ii* dzi ligi ayn
 rain=INT IRR DWID no
 ‘Is it raining or not?’⁸ *(Polar) alternative question*
- (25) [You’re at a diner where breakfast includes a choice of coffee or tea. You order breakfast, and the waiter asks you:]
Ał dm hasaganii kopii dzi ligi dii?
ał dm hasax-n=*ii* =a kopii dzi ligi dii
 Q PROSP want-2SG.II=INT =CN coffee IRR DWID tea
 ‘Do you want coffee, or tea?’ *Alternative question*
- (26) [You are responding to (25)]
Dm xkopii’nu.
 dm x-kopii-’nu
 PROSP ingest-coffee-1SG.III
 ‘I’ll have coffee.’

Wrapping up this section, we have seen that two particles (*ał* and *=ii*) are used to form polar questions in Sm’algyax. *Ał*, which is likely derived from negation, is often omitted; contra Gitksan, the absence of the initial negative element in PolQs does not appear to carry a pragmatic effect. In the following sections, we investigate the syntactic distribution of these elements in more detail.

2.2 Embedded polar questions

So far, we have only considered main-clause PolQs. In embedded contexts, neither element that characterizes main-clause PolQs, that is, *ał* or *=ii*, can appear. Embedded PolQs are instead uniformly introduced by the complementizer *dzi*, glossed as ‘IRRealis’ in the Tsimshianic

⁸ These examples are better classified as polar alternative questions, in that the alternatives are a positive and negative counterpart.

literature.⁹ This generalization holds for PolQs embedded under *responsive* predicates, which select for declarative and interrogative complements, and *rogative* predicates, which select only for interrogative complements (Lahiri 2002).¹⁰

The contrast in (27)–(28) illustrates the pattern with the responsive predicate *wilaay* ‘know’: the embedded clause appears with initial *dzi*—where *ał* would occur in a main-clause PolQ—and lacks both *ał* and *=ii*.

- (27) *Ał hasaxł haasii wineeya?*
ał hasax =ł haas = **ii** = a wineeya
 Q want[-3.II] = CN dog = INT = CN food
 ‘Does the dog want food?’ *Baseline PolQ*
- (28) *Wilaays Dzon dzida hasaga haasa wineeya.*
 wilaay-ə = s Dzon [**dzi** = da hasax = a haas = a wineeya]
 know-ə[-3.II] = PN John IRR = SPT want[-3.II] = CN dog = CN food
 ‘John knows whether the dog wants food.’ *Responsive embedding*

The PolQ embedded under the rogative predicate *güüdax* ‘ask’ patterns the same way: *dzi* introduces the embedded interrogative clause, and neither *ał* nor *=ii* appears.

- (29) *Ał hasaganii dm yeltgn?*
ał hasax-n = **ii** dm yeltk-n?
 Q want-2SG.II = INT PROSP return-2SG.II
 ‘Do you want to go back?’ *Baseline PolQ*
- (30) *Yagwan güüdagan dza hasagan ła dm yeltgn.*
 yagwa = n güüdax-n [**dza** hasax-n ła dm yeltk-n]
 PROG = 1SG.I ask-2SG.II IRR want-2SG.II INCEP PROSP return-2SG.II
 ‘I’m asking you if you want to go back.’ *Rogative embedding*

Attempts to insert *=ii* into an embedded PolQ, with or without an initial *dzi*, are rejected:

- (31) **Wilaays Dzon (dzida) hasaxł haasii wineeya.*
 wilaay-ə = s Dzon [dzi = da hasax =ł haas = **ii** = a wineeya]
 know-TR[-3.II] = PN John IRR = SPT want = CN dog = INT = CN food
 Intended: ‘John knows whether the dog wants food.’ **Embedded = ii*

⁹ Matthewson (to appear) and Aonuki (to appear) show that embedded PolQs in Gitksan likewise must be introduced by the cognate element *ji*.

¹⁰ Lahiri’s rogative/responsive distinction subsumes the classification for question embedding verbs in Karttunen (1977) and Groenendijk & Stokhof (1984) (what the latter refers to as intensional and extensional complement embedding verbs).

Supporting evidence for this claim comes from their co-occurrence with, and consistent ordering relative to, *aka*: both *ał* and *dzi* may appear with *aka*, and in all cases they precede it.¹¹ This ordering is notable because propositional negation itself occupies a high clausal position, as shown by the fact that it precedes ergative Series I person agreement *n*, the aspectual marker *dm*, and the low focus element *di*. (The notation $a > b$ stands for “*a* linearly precedes *b*”.)

- (35) *Ha'ligoodu akanmdi goo Txatgiw.*
 ha'ligoot-u [aka = n = dim = di goo = a Txatgiw]
 think-1SG.II NEG = 1SG.I = PROSP = FOC go.to = CN Hartley Bay
 ‘I think I won’t go to Hartley Bay.’ *aka > n > dim > di*

Functional elements that precede negation include complementizers (e.g. *wil* in (36)), clausal coordinators (e.g. *da'al* ‘but’ in (37)), and discourse particles (e.g. *ap* ‘VERUM’ in (37)).

- (36) *Lu aam goodu wil akadmdi yaa waas.*
 lu aam goot-u [wil aka = dm = di yaa = a waas]
 in good heart-1SG.II COMP NEG = PROSP = FOC walk = CN rain
 ‘I am happy that it won’t rain.’ *wil > aka*

- (37) *Da'al ap akadi haws dip gwa'a.*
 da'al ap aka = di haw = s dip gwa'a
 but VER NEG = FOC say[-3.II] = PN PL DEM
 ‘But these people didn’t say.’ (SLLTD 2017) *da'al > ap > aka*

Turning to *ał*, we see that it may co-occur with *aka*, obligatorily preceding it. This positional evidence suggests that the two occupy distinct syntactic positions. Furthermore, the absence of a double negation reading in such contexts indicates that *ał*, despite being derived from a negation marker, does not contribute negative semantics.¹²

- (38) [Lucy previously said she would be in Vancouver in May, but now she’s saying she’ll attend a local feast during that time. You ask:]
 a. *Ał aka dm waanii a Ts'a'mas?*
 ał aka dm waal-n = ii a = a Ts'a'mas
 Q NEG PROSP LV-2SG.II = INT PREP[-3.II] = CN Vancouver
 ‘Will you not be in Vancouver?’ *ał > aka*

¹¹ An anonymous reviewer asks whether *ał* and *dzi* must *immediately* precede *aka*. In my elicited data, they always do. Future elicitation should test whether other high clausal elements that also precede *aka*—such as the verum marker *ap*—may intervene between *ał/dzi* and *aka*. I additionally note here that *dzi* never co-occurs with the complementizer *wil*.

¹² I thank an anonymous reviewer for highlighting the relevance of the absence of a double negation reading here.

- b. **Aka ał dm waanii a Ts'a'mas?*

aka ał dm waal-n=ii a = a Ts'a'mas
 NEG Q PROSP LV-2SG.II=INT PREP[-3.II] = CN Vancouver
 Intended: 'Will you not be in Vancouver?'

**aka* > *ał*

Likewise, in embedded PolQs, *dzi* may co-occur with, and precedes, *aka*:

- (39) a. *Güüdagu dzi aka nm dii goo Txalgiiw.*

güüdax-ə-u [**dzi aka** n=dim dii goo = a Txalgiiw]
 ask-TR-1SG.II IRR NEG 1SG.I=PROSP FOC go[-3.II] = CN Hartley.Bay
 'I asked if I will not go to Hartley Bay.'

dzi > *aka*

- b. **Güüdagu aka dzi nm dii goo Txalgiiw.*

güüdax-ə-u [**aka dzi** n=dim dii goo = a Txalgiiw]
 ask-TR-1SG.II NEG IRR 1SG.I=PROSP FOC go[-3.II] = CN Hartley.Bay
 Intended: 'I asked if I will not go to Hartley Bay.'

**aka* > *dzi*

As established in Section 2.2, *ał* and *dzi* cannot co-occur in embedded PolQs. This restriction also holds in main-clause PolQs:

- (40) a. **Ał dzi yaayii waas?*

ał dzi yaa=ii waas
 Q IRR walk=INT rain
 Intended: 'Is it raining?'

*[+*ał*, +*dzi*]

- b. **Dzi ał yaayii waas?*

dzi ał yaa=ii waas
 IRR Q walk=INT rain
 Intended: 'Is it raining?'

*[+*dzi*, +*ał*]

The ability of *ał* to co-occur with *aka* provides evidence that it is distinct from propositional negation. Meanwhile, the shared linear positioning of *ał* and *dzi* before negation, along with their complementary distribution in main vs. embedded PolQs, suggests a case of contextual allomorphy: *ał* (and its null alternant) functions as the main-clause realization of *dzi*. I adopt this assumption in Section 4, treating *ał* and *dzi* as allomorphs of a single interrogative complementizer.¹³ Let us now turn to WhQs.

¹³ This treatment is similar in spirit to Krifka (2017: 382), who suggests that the English question operator *whether* spells out as an overt complementizer in embedded clauses but as a null form in main clauses. A comparable pattern is found in Japanese: in embedded clauses, questions must be marked by the interrogative particle *ka*, while in main clauses, where questions are additionally marked by main-clause intonation, the interrogative particle *ka/no* may be omitted (see, e.g., Miyagawa 2022: 173–176 and references within). Sm'algayax differs from these languages in that the main-clause form is realized as a distinct allomorph *ał*, which is not droppable alongside question intonation, but alongside the presence of the interrogative clitic =*ii*.

3 *Wh*-question reflexes

WhQs, like PolQs, display two morphosyntactic reflexes in main-clause questions and a single reflex in embedded questions. We see in (41) a WhQ characterized by (i) a clause-initial *wh*-word and (ii) the *wh*-particle =*u*:¹⁴

- (41) a. *Nah baat Dzeen.*
 nah baa =t Dzeen
 PFV run =PN Jane
 ‘Jane ran.’ Baseline
- b. *Naayu nah baat?*
 naa =u =a nah baa-ət ___
 who =INT =CN PFV run-SX
 ‘Who ran?’ WhQ

I outline below the distribution of *wh*-words and the *wh*-clitic =*u*. I show that =*u*, but not the clause-initial *wh*-word, is restricted to main-clause WhQs: =*u* is prohibited from occurring in embedded WhQs, while both main and embedded clauses are introduced by a *wh*-word. I further show that =*u* is not associated directly with the *wh*-word itself. This section lays the groundwork for Section 4, where I propose that the trigger for the clause-initial *wh*-word is an interrogative C element, while =*u* (alongside polar interrogative =*i*) is the overt instantiation of a speech act operator.¹⁵

3.1 Main-clause *wh*-questions

Main-clause WhQs bear the same extraction morphology introduced in Section 1.2, but are further marked by the presence of the enclitic =*u*, which appears in every *wh*-question configuration, with all *wh*-words. Below we see S, O, and A questions marked with their respective extraction

¹⁴ An allomorph of the particle =*u* is =*du*:

- (i) *Naadu baat?*
 naa =u =a baa-ət ___
 who =INT =CN run-SX
 ‘Who ran?’
 Consultant’s comment: “Same as *Naayu baat*.”

The conditions affecting allomorph selection are described in Brown & Davis (2024b).

¹⁵ Sm’algayax exhibits two *wh*-question formation strategies, both of which can be characterized as rigidly *wh*-initial (Brown & Davis 2024b, see also Davis & J. Brown 2011; Davis & Nederveen 2021 on Gitksan). The first involves movement of a *wh*-argument, while the second employs a clause-initial predicative *wh*-word that selects a nominal argument and, by hypothesis, does not involve movement. Both constructions feature the *wh*-clitic =*u*. In this paper, I set aside the predicative *wh*-cases, but note that Richards (2021) accounts for similar facts in Tagalog by appealing to a *linear-adjacency requirement* between *wh*-phrases and interrogative C; linear-adjacency can be satisfied either through *wh*-movement of *wh*-arguments or base generation of *wh*-predicates.

morphology as well as the *wh*-particle =*u*.^{16,17} The position of =*u* is variable and it has several alternants, which are outlined in Brown (2024a). These factors do not affect my core claim here that =*u* is a marker of illocutionary mood.

(42) *Naayu sis'aaxsit?*

naa = **u** = a **sis'aaxs-ət** ____
 who = INT = CN laugh-SX
 'Who laughed?'

S wh-question

(43) *Goyu gabin?*

goo = **u** = a **gap-ə-n** ____
 what = INT = CN eat-TR-2SG.II
 'What did you eat?'

O wh-question

(44) *Goyu int łak'an?*

goo = **u** = a **in = t łak'-n** ____
 what = INT = CN AX = 3 bite-2SG.II
 'What bit you?'

A wh-question

In WhQs, the *wh*-word must appear in clause-initial position: *wh*-words cannot appear in their in-situ argument positions, either as a canonical question or an echo/surprise question (Brown 2024b):

(45) a. *Tgi k'apaaytga 'yuuta.*

tgi **k'apaaytk** = a **'yuuta**
 down fall = CN man
 'The man fell down.'

b. *Naayu tgi k'apaaytgit?*

naa = **u** **tgi** **k'apaaytk-ət** ____
 who = Q down fall-SX
 'Who fell down?'

¹⁶ O-argument WhQs differ from A-argument WhQs with respect to the Tsimshianic-internal independent/dependent-clause distinction. O-argument WhQs exhibit independent clause morphosyntax, while A-argument WhQs exhibit dependent clause morphosyntax (see Section 1.2). As (43) and (44) show, both configurations allow the *wh*-clitic =*u*; that is, like =*ii* (described in footnote 5), =*u* is insensitive to the independent/dependent-clause distinction.

¹⁷ In each *wh*-configuration, the left-peripheral connective =*a*/=*l* typically associated with extraction does not co-occur with =*u*. The presence of this expected connective is also variably influenced by other mood and interrogative clitics, such as =*ii* (polar question), =*sn* (conjectural evidential), and the Series I person-marking clitics. While I set this issue aside here, I posit that there is a morphologically conditioned deletion process affecting the distribution of connectives in some clitic sequences.

c. *Tgi k'apaaytgít naa(yu)?

tgi k'apaaytk-ət naa(=u)

down fall-SX who=Q

Intended: 'Who fell down?'

*wh-in-situ

(46) [Mary is talking about her young child, Pat, and mentioned that he ate sea lion. You are surprised by this:]

a. *Gabis Patł goo?!

gap-ə-t=s Pat=ł goo

eat-TR-3.II=PN Pat=IRR.CN what

Intended: 'Pat ate what?!'

b. [Correction offered by speaker]

Goł gabis Pat?!

goo=ł gap-ə-t=s Pat ___

what=IRR.CN eat-TR-3.II=PN Pat

'What did Pat eat?!'

*wh-in-situ

Though WhQs are almost always volunteered to me with =u, it may be dropped in colloquial or rapid speech.

(47) a. Naayu ħimooyš Dzon?

naa =u =a ħimoo-ə =s Dzon ___

who=INT =CN help-TR[-3.II] =PN John

'Who did John help?'

b. Naat ħimooyš Dzon?

naa =ł ħimoo-ə =s Dzon ___

who =IRR.CN help-TR[-3.II] =PN John

'Who did John help?'

=u may be omitted

Therefore, like the polar interrogative clitic =ii, the appearance of =u is optional (but preferred; my consultants describe wh-questions without =u as a "shortcut" and it appears to be judged as a difference in register). I note here, echoing footnote 6, that in both question types, when an interrogative clitic is absent, there is some other morphosyntactic cue of an interrogative clause: in polar questions there is the clause-initial particle ał, and in wh-questions there is a clause-initial wh-word.

Finally, though the examples above have shown the wh-particle occurring with the question words naa 'who' and goo 'what' in core-argument (S, O, A) questions, we see below that it also occurs in locative (48), temporal (49), discourse-linked (50), manner (51), and reason (52) questions, and with all other wh-words such as the underspecified ndaa/ndeh and all the

wh-words derived from it (48)–(51), as well as the quantificational *wh*-predicates *t'masool* 'how many (people)' (53), and *t'maays* 'how many (things)' (54).¹⁸

- (48) *Ndeyu nam wil niidzu?*
 ndeh = **u** = a nah = m wil niist-u ___
 where = INT = CN PFV = 2SG.II COMP see-1SG.II
 'Where did you see me?' *Locative WhQ*
- (49) *Dzindał dm ap yaltgidut Norman?*
 dzi = ndaa = ł dm ap yaltk-t = **u** = t Norman ___
 IRR = when = CN PROSP VER return-3.II = INT = PN Norman
 'When is Norman really coming back?' (Sasama 2001: 64) *Temporal WhQ*
- (50) *Ksindeyu gan diduulsit?*
 ksi = ndeh = **u** = a gan = a diduuls-ət ___
 out = which = INT = CN tree = CN alive-SX
 'Which tree is alive?' *Discourse-linked WhQ*
- (51) *Ndeyu wila waan?*
 ndeh = **u** wila waal-n ___
 how = INT MANR do-2SG.II
 'How are you doing?' *Manner WhQ*
- (52) *Goł gan sis'aaxsdut Kayla?*
 goo = ł gan sis'aaxs-t = **u** = t Kayla ___
 what = CN REAS laugh-3.II = INT = PN Kayla
 'Why is Kayla laughing?' (SLLTD 2017) *Reason WhQ*
- (53) *T'masooldu gyet?*
 t'masool-t = **u** = a gyet
 how.many.people-3.II = INT = CN people
 'How many people are there?' *'How many' WhQ*
- (54) *T'maaysdu dooni?*
 t'maays-t = **u** = a dooni
 how.many.things-3.II = INT = CN DEM
 'How many are way over there?' (SLLTD 2017) *'How many' WhQ*

¹⁸ Examples (53) and (54) feature predicative *wh*-words and are presented here without a proposed gap. I address the distinction between *wh*-movement cases and *wh*-predication cases in footnote 15.

In this section, we have seen that main-clause WhQs are obligatorily *wh*-initial and feature the interrogative clitic =*u*.

3.2 Embedded *wh*-questions

Embedded WhQs, like their main-clause counterparts, are strictly *wh*-initial. They appear as complements of standard question-embedding predicates, including responsive *wilaay* ‘know’ and rogative *güüdax* ‘ask’. The *wh*-clitic =*u*, which characterizes main-clause WhQs, cannot appear in embedded questions.

- (55) *Wilaayu naa(*yu) ħimoom sm'ooygit.*
 wilaay-ə-u [naa(*=u) =a ħimoom-ə =a sm'ooygit __]
 know-TR-1SG.II who(*=INT) =CN help-TR[-3.II] =CN chief
 ‘I know who the chief helped.’ *Responsive embedding; *embedded =u*

- (56) *Güüdagu naa(*yu) ħimoom sm'ooygit.*
 güüdax-ə-u [naa(*=u) =a ħimoom-ə =a sm'ooygit __]
 ask-TR-1SG.II who(*=INT) =CN help-TR[-3.II] =CN chief
 ‘I asked who the chief helped.’ *Rogative embedding; *embedded =u*

Embedded WhQs therefore parallel embedded PolQs in that both constructions exhibit a proper subset of the reflexes that appear in main clause questions.

3.3 *Wh*-interrogative =*u* is not directly associated with *wh*-words

A class of particles that appear both in WhQs and in a variety of other contexts has received considerable attention in previous literature. These particles are referred to as *Q-particles* (Kuroda 1965; Hagstrom 1998; Cable 2007; 2010a; b; Kotek 2014; 2019; Uegaki 2018: a.o.). While their distribution varies across languages, Q-particles exhibit a number of shared syntactic behaviours. I focus here on the distribution of Q-particles in Tlingit (or Lingít, a Na-Dene language of Northern British Columbia, Yukon, and Alaska), because Tlingit is a northern neighbour of Sm'algyax and has a relatively well-studied Q-particle *sá* (Cable 2007; 2010a; b).

First, Q-particles often appear in WhQs, main and embedded. We see this in the Tlingit examples below. The Q-particle *sá* obligatorily surfaces in a main-clause question in (57) and an embedded question in (58).

- (57) *Tlingit* (Cable 2007: 26)
 Aadóo yaagú *sá* ysiteen?
 who boat Q you.saw
 ‘Whose boat did you see?’

- (58) *Tlingit* (Nyman & Leer 1993: 200; cited in Cable 2007: 111)
 Tlél xwasakú [daa sáwé a káx xat x'aywóos'].
 not I.know what Q.FOC-part its surface.about you.ask.me
 'I don't know what you are asking me about.'

Already, this behaviour contrasts with the distribution of Sm'algyax =*u*, which is restricted to main-clause questions (see the previous section).

Another hallmark of Q-particles is their more general association with *wh*-expressions, even in non-interrogative contexts. This is again exemplified by *Tlingit* *sá*, which appears in the examples below alongside *wh*-indefinite pronouns formed from *daa* 'what' and *aadóo* 'who':

- (59) *Tlingit* (Nyman & Leer 1993: 14; cited in Cable 2007: 75)
 Daa sáwé yóo dikéenax.á.
 what Q.FOC yonder far.out.across.one
 'There was something up there.'
- (60) *Tlingit* (Dauenhauer & Dauenhauer 1990: 310; cited in Cable 2007: 111)
 Aadóo sá du éet shukawdudlixúxu áwé.
 who Q his to song's.words.are.for.SBJV FOC
 'Whoever the words of a song are for.'

These core behaviours are shared by Japanese *ka* and Sinhala *də*, which also appear in WhQs as well as *wh*-indefinites (Kuroda 1965; Hagstrom 1998).¹⁹

Turning back to Sm'algyax, we find that *wh*-expressions appear not only in WhQs, but also in a range of non-interrogative contexts, including existential and universal expressions (61)–(63), free relative clauses (64), and exclamatives (65). The *wh*-clitic =*u* is strictly prohibited from occurring in any of these non-interrogative *wh*-constructions.

- (61) *Ła'a ligi goo(*yu) haasgu.*
 ła'a-ə =a ligi **goo(*=u)** =a haas-k-u
 bite-TR[-3.II] =CN DWID what(*=INT) =CN dog-PASS-1SG.II
 'Something bit my dog.' *Wh-existential*

¹⁹ A prominent family of analyses for Q-particles is couched within a two-tier alternative semantics (Rooth 1985; 1992; Beck 2006), under which *wh*-words have a focus-semantic value but lack an ordinary semantic value. The role of the Q-particle in this kind of analysis is to convert its argument's focus-semantic value into an ordinary semantic value (Kotek 2014; 2019; Uegaki 2018). However, Q-particles such as *ka* have also been analyzed using Hamblin–Karttunen semantics, without adopting a two-tier semantics (e.g., Von Stechow 1996; Dayal 2023).

- (62) *Nah niidzu ligit naa(*yu).*
 nah niits-ə-u =a ligi =t **naa(*=u)**
 PFV see-TR-1SG.II =CN DWID =PN who(*=INT)
 ‘I saw someone.’ *Wh-existential*
- (63) *Dm małdu txa'nii goo(*yu) da k'wan.*
 dm mał-t-ə-u =a txa'nii **goo(*=u)** da =a k'wan
 PROSP tell-T-TR-1SG.II =CN all what(*=INT) PREP[-3.II] =CN 2SG.OBL
 ‘I will tell you everything.’ *Wh-universal*
- (64) *Waayu naa(*yu) dmt in dzaba ts'ikts'igu.*
 Waa-ə-u =a [**naa(*=u)** dm=t in dzap =a __ ts'ikts'ik-u]
 find-TR-1SG.II =CN who(*=INT) PROSP=3.I AX do[-3.II] =CN car-1SG.II
 ‘I found someone who will fix my car.’
 Lit. ‘I found **who** will fix my car.’ *Wh-free relative*
- (65) *Got/*(goyu) waalt!*
goo(*=u) =ł waal-t __
 what(*=INT) =IRR.CN be-3SG.II
 ‘What a thing!’²⁰ *Wh-exclamative*

These examples show that the *wh*-clitic is not associated with *wh*-expressions themselves and should not be analyzed as a Q-particle, unlike Japanese *ka* or Tlingit *sá* (Kratzer & Shimoyama 2002; Beck 2006; Cable 2007; 2010a; Kotek 2014; 2019; Uegaki 2018). Brown (2024a) further argues, based on the linearization of =*u*, that it does not form a constituent with the *wh*-expression, in contrast to the behaviour of Q-particles in *wh*-movement languages (e.g. Cable 2007; 2010a).

4 Bipartite question formation: the CP/SAP distinction

Sections 2 and 3 showed that the formation of PolQs and WhQs in Sm'algyax involves two distinct reflexes. PolQs feature a left-edge particle, while WhQs are obligatorily *wh*-initial. Both main-clause and embedded-clause questions show these reflexes. In addition, both question types

²⁰ The exclamative sentence in (65) has a distinct syntax from WhQs. Attempts to elicit a WhQ equivalent by adding the *wh*-clitic =*u* are corrected to a form with the *manner* complementizer *wila*, often truncated to *la*:

- (i) *Got la waalda?*
 goo =ł wila waal-t=a
 what =IRR.CN MANR be-3.II=INT
 ‘What happened?’

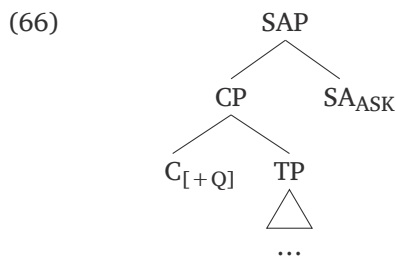
Note that this WhQ also exhibits the allomorph =*a*, which surfaces whenever =*u* appears in clause-final position.

feature a clitic: polar $=ii$ and $wh =u$, respectively. These clitics occur only in main-clause questions, are insensitive to the Tsimshianic independent/dependent clause distinction, and are not directly associated with wh -expressions. The distribution of these elements across main and embedded questions is summarized in **Table 2**.

	Main	Embedded
WhQs	wh -initial + $=u$	wh -initial
PolQs	at + $=ii$	dzi

Table 2: Reflexes of question formation.

This section develops a two-layer syntax associated with the formation of questions in Sm'algyax, which consists of a CP layer and a higher SAP (*Speech Act Phrase*) layer. All interrogative clauses (main and embedded) contain a $C_{[+Q]}$ element marking clause type. In Sm'algyax, this is instantiated by at or its null variant in main-clause PolQs, and by dzi in embedded PolQs. In both main and embedded WhQs, $C_{[+Q]}$ is realized as a null element that triggers movement of argument wh -words to clause-initial position. I treat $=ii$ and $=u$ as interrogative illocutionary mood operators: morphemes linked to the conversational function of *asking*. Syntactically, these particles occupy a projection high in the syntactic superstructure and take an interrogative CP as their complement. Evidence for this structure comes from embedding and coordination facts. Semantically, the operator selects a sentence radical (a set of propositions) and sets it as the *question under discussion* (QUD). The proposed structure is given in (66).



This analysis contributes to recent debates on the division between propositional content (typically associated with TP/CP) and illocutionary content, often thought to be restricted to root clauses. Sm'algyax provides evidence for the existence of overt, syntactically projected illocutionary operators in the form of interrogative clitics, and also supports the view that such operators are strictly non-embeddable (see Dayal 2023), contra approaches that permit embedded speech acts (e.g., Krifka 2014; 2023; Woods 2016).

4.1 Dayal’s (2023) three-way distinction between interrogative particles

To situate the Sm’algyax system within a broader typology of interrogative particles, I draw on the distinctions proposed in Dayal (2023).²¹ Dayal proposes a three-layered left periphery for interrogatives, motivated partly by the crosslinguistic distribution of interrogative particles. This architecture consists of: (i) a CP layer responsible for clause typing, (ii) a PerspP (*Perspective Phrase*) layer associated with introducing *centered questions*, and (iii) a higher SAP layer hosting speech act marking.²² These layers differ in their embeddability: CPs embed under all question-embedding predicates, PerspPs embed only under rogatives, and SAP cannot be embedded (setting aside direct quotation).²³

(67) The interrogative left periphery (Dayal 2023)

[SAP ...	<i>Not embeddable</i>
[PerspP ...	<i>Embeddable under rogative predicates</i>
[CP ...	<i>Embeddable under all question-embedding predicates</i>

Evidence for a CP projection comes from Japanese-type particles such as *ka*. Setting aside its non-interrogative uses (see Section 3.3), two defining properties of *ka* are: (i) embedded questions must contain it, and (ii) its presence alone is sufficient to mark the clause as interrogative. (In matrix contexts, *ka/no* mark questions but may be omitted; see footnote 13.)

(68) *Japanese* (Miyagawa 2022: 174)

Taroo-wa [dare-ga kuru *(**ka**)] sitteiru.
 Taro-TOP who-NOM come Q know
 ‘Taro knows who will come.’

Similar facts hold for Turkish and Finnish. In both languages, interrogative particles obligatorily occur in main and embedded PolQs, and their presence is sufficient to signal an interrogative interpretation (Gonzalez 2021; 2023, and references within). This is illustrated below with the Finnish PolQ marker *-ko*:

(69) *Finnish* (Gonzalez 2023: 9)

Jenna tietää [on-**ko** huomenna hyvä sää].
 Jenna knows is-POLQP tomorrow good weather
 ‘Jenna knows whether tomorrow’s weather will be nice.’

²¹ See also Gonzalez (2021; 2023), who builds upon this typology.

²² *Centering* “impl[ies] the presence of an individual who is potentially interested in obtaining the information conveyed by the question nucleus, the core proposition in the interrogative” (Dayal 2023: 4).

²³ See Footnote 1 on so-called *shifty responsives* (Dayal 2023).

Dayal analyzes *ka*-type markers (along with English *whether* and *wh*-movement) as indicators of interrogative clause type in the sense of Cheng (1991).²⁴

A second class is exemplified by Hindi-Urdu *kya*: (Bhatt & Dayal 2020; Dayal 2023, see also Biezma et al. 2025). Like *ka*, it can appear in matrix PolQs. Unlike *ka*, it embeds only under rogatives (e.g. *ask*, *wonder*, *want to know*), not under responsives (e.g., *know*). This restricted distribution, known as *quasi-subordination* (McCloskey 2006; Dayal & Grimshaw 2009; Woods 2016; Dayal 2023; Farkas & Roelofsen 2024), is illustrated below.

(70) *Hindi-Urdu* (Dayal 2023: 9)
 Ti:char-ne anu-se pu:cha: [ki **kya**: vo ca:i piyegi:].
 teacher-ERG Anu-INS asked SUB PQP she tea will.drink
 ‘The teacher asked Anu if she will drink tea.’

(71) *Hindi-Urdu* (Dayal 2023: 9)
 * ravi ja:nta: hai [ki **kya**: anu ja:egi:].
 Ravi knows AUX SUB PQP Anu will.go
 Intended: ‘Ravi knows whether Anu will go.’

Similar restrictions hold in Mandarin, where neutral PolQs are marked with the sentence-final particle *ma* (Li & Thompson 1981; Cheng 1991; Liu & Luo To appear). Like *kya*:, *ma*-questions embed under rogatives and shifty responsives such as *xiang zhidao* ‘want to know,’ but not under responsives such as *zhidao* ‘know’ (Bhatt & Dayal 2020; Liu & Luo To appear).

(72) *Mandarin* (Liu & Luo To appear: 3)
 Xiaoming xiang zhidao [ta de fenshu bi wo gao **ma**].
 Xiaoming want know 3SG POSS score than 1SG high MA
 ‘Xiaoming wants to know whether his score is higher than mine.’

(73) *Mandarin* (Liu & Luo To appear: 4)
 # Xiaoming zhidao [ta de fenshu bi wo gao **ma**].
 Xiaoming know 3SG POSS score than 1SG high MA
 Intended: ‘Xiaoming knows whether his score is higher than mine.’

Bhatt & Dayal (2020) and Dayal (2023) argue that these restricted embedding facts preclude a clause-typing account for *kya*:-type particles. Instead, *kya*:-type particles are placed in the intermediate PerspP projection.

²⁴ Gonzalez (2021; 2023) distinguish Finnish/Turkish particles from *ka*-type markers due to additional semantic effects, including focus effects, and an existential presupposition. For present purposes, I set these extra semantic effects aside and treat Finnish/Turkish particles as C-domain reflexes comparable to Japanese *ka*.

The highest layer, SAP, hosts illocutionary operators associated with speech acts in addition to speech act modifiers, referred to as *meta-question particles* (MQPs). Japanese *-kke* (a “remind-me” question particle; Sauerland & Yatsushiro 2017) and English MQP *quick(ly)* (Dayal 2016) are placed in SAP. These particles cannot embed, as shown below:

(74) *Japanese*

- a. Namae-wa nan-da-**kke**?
name-TOP what-COP-KKE
‘What is your name again?’ (Sauerland & Yatsushiro 2017: 4)
- b. *Boku-wa [(kimi-no) namae-ga nan-da-**kke** (ka)] siri-tai.
I-TOP you-GEN name-NOM what-COP-KKE Q know-want
Intended: ‘[I used to know but now I’ve forgotten, so] I want to know your name, please remind me.’ (Dayal 2023: 8)

- (75) a. **Quick(ly)**, where did you hide the matza?
b. *Mary asked Sue [**quick(ly)** where she hid the matza].
c. *Mary asked Sue [**quick(ly)** where did she hide the matza]. (Dayal 2023: 8)

This three-way distinction is summarized in **Table 3**: *ka*-type particles occupy CP, *kya:/ma*-type particles occupy PerspP, and MQPs like *-kke/quick(ly)* occupy SAP.

	Main-clause?	Quasi-embedded?	Embedded?	Domain
Japanese <i>ka</i>	yes	yes	yes	CP
Finnish <i>-kO</i>	yes	yes	yes	CP
Hindi-Urdu <i>kya:</i>	yes	yes	no	PerspP
Mandarin <i>ma</i>	yes	yes	no	PerspP
Japanese <i>-kke</i>	yes	no	no	SAP
English MQP <i>quick(ly)</i>	yes	no	no	SAP

Table 3: Interrogative particles three ways.

Turning back to Sm’algyax, we find a clear parallel between *ka*-type particles and both *at/dzi* in PolQs and the *wh*-initial requirement in WhQs. As shown in the preceding sections, all interrogatives—main and embedded—feature one of these reflexes (with *at* optional in main-clause PolQs, similar to the optionality of Japanese *ka/no* in main clauses). I treat the obligatory *wh*-initial position in WhQs as the reflex of a null operator C_{WhQ} heading interrogative CP, and propose that PolQs likewise involve an operator C_{PolQ} in the same position, spelled out variably as *at*, *dzi*, or \emptyset .

The interrogative clitics =*ii* and =*u*, by contrast, clearly fall outside this class: their inability to appear in embedded contexts rules out a clause-typing analysis.²⁵ Likewise, they should not be treated as PerspP level particles, as they do not exhibit quasi-subordination, as shown in Sections 2.2 and 3.2. The example in (76), repeated from (32) shows that =*ii* cannot appear as the complement of a rogative predicate:²⁶

- (76) **Yagwan güüdagan (dza) hasaganii dm yeltgin.*
 yagwa =n güüdax-n [dza hasax-n =ii dm yeltk-n]
 PROG = 1SG.I ask-2SG.II IRR want-2SG.II PROSP return-2SG.II
 Intended: ‘I’m asking you if you want to go back.’ *Embedded =ii

Given these embedding facts, the interrogative clitics are best analyzed as occupying the highest layer, SAP. They are different from the other particles used to argue for SAP in Dayal, however, in that they are associated with canonical information seeking questions, rather than functioning as *modifiers* of illocutionary acts such as MQPs *-kke* and *quick(ly)*. I therefore do not analyze Sm’algyax’s interrogative clitics as MQPs, but rather as instantiations of an illocutionary operator. In this way, while Sm’algyax doesn’t provide direct evidence for a three-layer interrogative syntax, it provides a different kind of evidence for a separate, unembeddable SAP layer.²⁷

The remainder of this section presents an analysis of Sm’algyax’s interrogative particles within a two-layer interrogative syntax.

4.2 What happens at CP

This section breaks down the interrogative clause-type marker $C_{[+Q]}$ into two separate elements: C_{PolQ} and C_{WhQ} . Starting with PolQs, the form of a polar interrogative sentence radical is given in (77). (I address allomorph selection in Section 4.3.)

²⁵ Further evidence that the interrogative clitics are not simply complementizers that are restricted to main clauses comes from their absence in (main clause) non-canonical questions, described in Section 5.

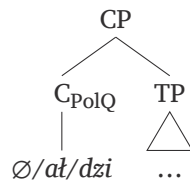
²⁶ Other Tsimshianic languages show the same restriction, as illustrated in the following Gitksan examples:

- (i) *Gitksan* (Matthewson to appear: ex. 16)
 a. Gidax-a-t ’nii’y ji wis(# =aa).
 ask-TR-3.II 1SG.III [IRR rain(# =L.O.C.)]
 ‘She asked me if it’s raining.’
 b. # Gidax-a-t ’nii’y nee =hl wis(=aa).
 ask-TR-3.II 1SG.III [NEG =CN rain(=L.O.C.)]
 ‘She asked me if it’s raining.’ Consultant’s comment on (ib) with *aa*: “In quotes.”

Note that Matthewson glosses Gitksan’s polar interrogative clitic as “L.O.C.”, for *Lack of Commitment*.

²⁷ Dayal (2023) provides additional evidence for SAP from (embedded) questions with disjunction, as well as from various intonational effects associated with questions and biased questions that are located at the level of both PerspP and SAP.

(77) Polar question radical



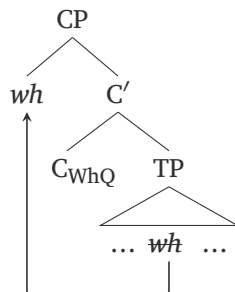
I assume a standard Hamblin (1973) semantics for PolQs, where a PolQ denotes the set containing the positive and negative answers, $\{p, \neg p\}$. The role of C_{PolQ} is to convert a proposition p into this bipolar set, as illustrated below for the English question ‘Did Betty leave?’.²⁸

(78) Did Betty leave?

- (79) a. $[\text{CP } C_{\text{PolQ}} [\text{TP } \text{Betty left}]]$
 b. $\llbracket \text{TP} \rrbracket = \lambda w.\text{left}_w(b)$
 c. $\llbracket C_{\text{PolQ}} \rrbracket = \lambda q_{\langle s,t \rangle}.\lambda p_{\langle s,t \rangle}.[p = q \vee p = \neg q]$
 d. $\llbracket \text{CP} \rrbracket = \lambda p_{\langle s,t \rangle}.[p = \lambda w.\text{left}_w(b) \vee p = \lambda w.\neg\text{left}_w(b)]$
 $\Rightarrow \{\lambda w.\text{left}_w(b), \lambda w.\neg\text{left}_w(b)\}$

Wh-question radicals also feature a clause-typing element, which I label C_{WhQ} :

(80) *Wh*-question radical



I adopt a *Hamblin-Karttunen* approach to *wh*-questions: a *wh*-question denotes the set of possible answers (Hamblin 1973) and C_{WhQ} shifts the clause from a proposition to a set of propositions; the *wh*-expression, an indefinite generalized quantifier, binds the variable denoted by the trace (Karttunen 1977). This is shown below for the English question ‘Who left?’.

(81) Who left?

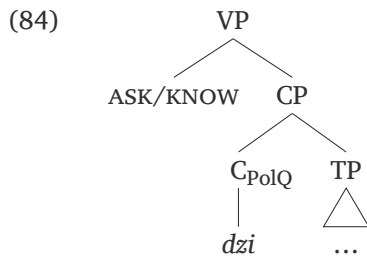
²⁸ I steer clear of the ongoing debate in the literature about whether PolQs denote bipolar sets, monopolar sets, or allow both options. Monopolar approaches (e.g., Bolinger 1978; Biezma & Rawlins 2012; Roberts 2012; Roelofsen & Farkas 2015; Dayal 2023) treat PolQs as denoting singleton sets, in contrast to the bipolar Hamblin semantics adopted here for simplicity. Mixed approaches (e.g., Krifka 2015) argue that some PolQs are bipolar and some are monopolar. This latter option is adopted by Matthewson (to appear) for Gitksan, based on structural distinctions between neutral (analyzed as bipolar) and biased (analyzed as monopolar) PolQs.

- (82) a. $[[CP\ who_i\ [C'\ C_{[+Q]}\ [TP\ t_i\ left]]]]$
 b. $[[TP]] = \lambda w.\text{left}_w(x_i)$
 c. $[[C_{WhQ}]] = \lambda q_{(s,t)}.\lambda p_{(s,t)}.p = q$
 d. $[[C_{WhQ}([TP])]] = \lambda p.[p = \lambda w.\text{left}_w(x_i)]$
 e. $[[CP]] = \lambda p.\exists x.[\text{human}(x) \wedge p = \lambda w.\text{left}_w(x_i)]$
 $\Rightarrow \{\text{Betty left, Mary left, Henry left, ...}\}$

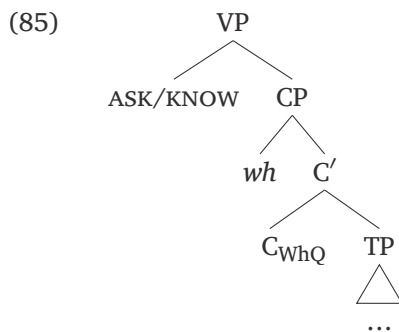
Assuming that questions denote the set of *true* propositions (Karttunen 1977), I adopt the answerhood operator *Ans-D* from Dayal (1996), which applies to a set of propositions Q in a given world, and picks out the unique proposition p in Q that is true in that world.

- (83) *Ans-D*: $\lambda Q.\iota p.[Q(p) \wedge p(w)]$

The denotations in (79c) and (82c), which convert their propositional arguments p into sets of propositions Q , explain the embedding facts: rogative verbs like ‘ask’ exclusively select for complements of type Q , responsive verbs like ‘know’ variably do so, and *anti-rogative* verbs like ‘believe’ never do so. As pointed out in Dayal (2023), this is equivalent to treating these elements as markers of interrogative clause type. Embedded questions are schematized below. Embedded polar questions, under my analysis, proceed as follows: a question-embedding verb such as ‘ask’ or ‘know’ selects an interrogative CP headed by C_{PolQ} (which is realized in this context as *dzi*).



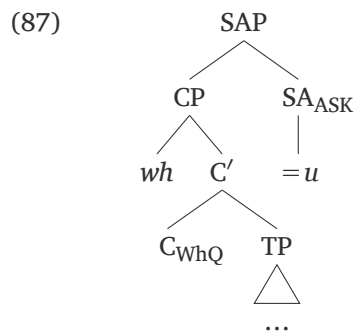
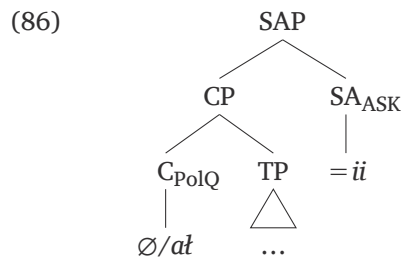
Embedded *wh*-questions involve a question-embedding predicate taking a *wh*-question radical headed by C_{WhQ} as in (80) as its complement.



I now turn to the interrogative clitics =*i* and =*u*.

4.3 What happens at SAP

As sketched in (66), I locate the interrogative clitics in the clausal super-structure, heading a SAP projection. Like question-embedding predicates, they select for a CP complement that features a $C_{[+Q]}$ element (see Section 4.2). A PolQ is shown in (86) and a WhQ is shown in (87).



I propose that both $=ii$ and $=u$ are instantiations of an illocutionary mood marker SA_{ASK} . In terms of its semantics, SA_{ASK} combines with a question radical Q (a set of propositions) and returns Q only if its not-at-issue condition is satisfied—namely, that Q is set as the question under discussion (QUD; see, e.g., Roberts 2012).²⁹ The denotation is given in (88).

(88) **SA_{ASK} operator**

$\llbracket SA_{ASK} \rrbracket(Q)$ is defined only if Q is set as the question under discussion.

If defined, $\llbracket SA_{ASK} \rrbracket(Q) = Q$

Two types of evidence support the structures in (86) and (87). First, as already established, interrogative clitics are strictly unembeddable. As argued for in Section 4.2, question embedding

²⁹ This approach is comparable to the question operator proposed by Farkas & Bruce (2010: 10), which takes a sentence radical as its argument and adds the corresponding set of propositions to the stack of questions/issues under discussion. A related idea is found in Büring (2016), where the polar interrogative operator INT—realized as a high boundary tone in English—takes a proposition-denoting sentence radical, converts it into a bipolar set, and sets it as the current QUD. In this sense, Büring's INT functions simultaneously as a clause-typing particle and an illocutionary operator, whereas the present analysis maintains a bifurcation between these roles. Finally, this proposal is also comparable to Matthewson's (to appear) analysis of Gitksan's PolQ clitic $=aa$, which is argued to encode a presupposition that the speaker lacks commitment to some proposition (by default the prejacent) that is relevant to the QUD.

predicates select for interrogative CP complements, and not SAP complements, which explains the absence of the interrogative clitic in embedded questions. Second, in coordinated questions, a single clitic scopes over both conjuncts, as in (89) and (90). The clitic cannot c-command the second conjunct from its surface position, nor can it move there without violating the Coordinate Structure Constraint (Ross 1967). The simplest analysis is that interrogative clitics are base-generated above both conjuncts, as in (91), and are positioned inside the first conjunct post-syntactically (as argued for in Brown & Davis (2024a; b); Davis & Brown (2024); Brown (2024a)).

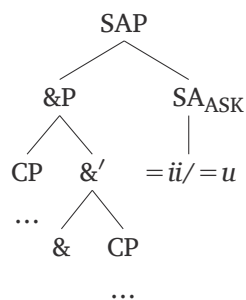
(89) *Ał kwdiinii ada su'naatan?*

ał kwdii-n =ii ada su'naat-n
 Q hungry-2SG.II =INT and tired-2SG.II
 'Are you hungry and (are you) tired?'

(90) *Goyu nah gabn ada naat nah int dzapt?*

[goo =u =a nah gap-ə-n __] [ada naa =ł nah in=t dzap-t __]
 what =INT =CN PFV eat-TR-2SG.II and who =IRR.CN PFV AX=3.I make-3.II
 'What did you eat and who made it?'

(91)



The syntactic structure in (91) dovetails with the semantics of coordination: as an anonymous reviewer helpfully points out, coordinated questions freely embed, as in (92), and are straightforwardly captured under a Hamblin-Karttunen approach, as in (93), which creates a set of possible joint answers to Q1 and Q2.

(92) I'm not sure [who arrived and who left].

(93) $\lambda q_{\langle s,t \rangle}. \exists p \in Q1. \exists p' \in Q2. [q = p \cap p']$

The questions in (89) and (90), are therefore best analyzed as involving *coordinated question radicals*, that are then selected by an illocutionary operator =ii/=u, as in (91).³⁰

³⁰ This analysis, if correct, has implications for analyses of coordinated questions as involving coordinated illocutionary acts, as argued in Krifka (2001) and in particular Hirsch (2017). Hirsch (2017) proposes an inflexible semantics for coordinating connectives such as *and* that requires conjoined questions to be analyzed as separate illocutionary

Let us turn to the question of allomorphy, starting with the C_{PolQ} operator. Recall that embedded PolQs (such as (84)) are always introduced by the element *dzi*, while main-clause polar questions are never introduced by *dzi*, and instead feature either a clause-initial particle *at*, or no additional marking \emptyset (besides =*ii*). I treat the variation in surface forms as a case of outward contextual allomorphy (see, e.g., Bobaljik 2000). In main-clause polar questions, where SA_{ASK} selects an interrogative clausal complement, C_{PolQ} is sensitive to the structurally adjacent SA_{ASK} element. In this configuration, C_{PolQ} spells out alternately as *at* or \emptyset . Elsewhere—specifically in embedded PolQs where no such adjacency obtains— C_{PolQ} surfaces as *dzi*. The lexical entry for C_{PolQ} is given in (94).

$$(94) \quad [C_{\text{PolQ}}] \iff \begin{cases} at/\emptyset & SA_{\text{ASK}}__ \\ dzi & (\text{elsewhere}) \end{cases}$$

Turning to the alternation between =*ii* and =*u*, both of which are analyzed as allomorphs of a single illocutionary mood head SA_{ASK} . The distribution of =*ii* and =*u* can be treated as a case of *inward* contextual allomorphy. Specifically, =*u* is conditioned by the presence of a C_{WhQ} element heading its complement, whereas =*ii* appears elsewhere (i.e., in polar and alternative questions). The lexical entry for SA_{ASK} is given in (95).

$$(95) \quad [SA_{\text{ASK}}] \iff \begin{cases} =u & __C_{\text{WhQ}} \\ =ii & (\text{elsewhere}) \end{cases}$$

This captures the complementary distribution of the two interrogative clitics: =*u* surfaces only in the context of a WhQ, while =*ii* appears elsewhere (including PolQs and alternative questions). Further support for treating both interrogative clitics as allomorphs of a single head comes from Sm'algyax's Maritime Tsimshianic sister, Sgüüxs, where both PolQs and WhQs may be marked by the same interrogative clitic =*ii*.³¹

(96) *Sgüüxs* (Tarpent 1994: 1)
 Ał mi wilaax =hl waa-t =ii
 Q 2SG.I know[-3.II] =CN name-3.II =INT
 'Do you know her name?'

(97) *Sgüüxs* (Tarpent 1994: 2)
 Nda =ł gasgoo =hl hasaga-n =ii
 how =CN amount[-3.II] =CN want-2SG =INT
 'How much do you want?'

acts. The ability for a single instance of =*ii*/=*u* to scope over coordinated questions suggests, however, that this coordination is happening at the CP level.

³¹ As can be seen in these examples, and echoing the point made in footnote 4, Sgüüxs' interrogative clitic =*ii* is a *final-position clitic*: it always surfaces in a right-peripheral position in the clause.

To conclude, interrogative clitics =*ii* and =*u* appear only in main-clause questions; they are absent from embedded questions and incompatible with non-interrogative uses of *wh*-expressions. I argued, based on this distribution, and further evidence from coordinated questions, that these elements head a SAP projection and select for an interrogative CP complement. Semantically, they set a question radical *Q* as the QUD. In Section 5, I present additional data from marked non-canonical question constructions that further support these conclusions.

5 Non-canonical questions

If =*u* and =*ii* are best analyzed as operators marking the speech act of *asking*, as opposed to functioning as clause-typing particles, we would expect them to be absent in certain interrogative clauses that exhibit a mismatch between clause-type and illocutionary mood. We already saw data that pointed to this conclusion in embedded questions (which I have argued lack illocutionary mood entirely in Sm'algyax). That is, in an embedded question such as 'I know **who left**', *who left* is interrogative in terms of its semantics (i.e. it denotes a set of propositions), but it does not have the conversational function associated with canonical, information-seeking questions. It follows that the Sm'algyax equivalent lacks the interrogative clitic =*u*:

- (98) a. *Wilaayu naa ksi dawlit.*
 wilaay-u =a [naa =a ksi= dawł-ət]
 know-1SG.II =CN who =CN out= leave-SX
 'I know who left.'
- b. **Wilaayu naayu ksi dawlit.*
 wilaay-u =a [naa =**u** =a ksi= dawł-ət]
 know-1SG.II =CN who=INT =CN out= leave-SX
 Intended: 'I know who left.'

We also predict that certain flavours of non-canonical question should prohibit the appearance of the interrogative clitics. This prediction is borne out. After providing a quick background to non-canonical questions, I show that Sm'algyax possesses a number of grammaticalized non-canonical question types, and that those that do not expect or require a response from an addressee also lack an interrogative particle.

5.1 Default assumptions accompanying question acts

I outline the empirical facts below with reference to Farkas's (2022) default assumptions accompanying question acts, which are inspired by traditional speech act theory (Searle 1969):

- (99) Default assumptions accompanying question acts (Farkas 2022)
- a. Speaker ignorance: The speaker’s epistemic state is neutral relative to the possible resolutions of the issue she raises.
 - b. Addressee competence: The speaker assumes that the addressee knows the information that settles the issue she raises.
 - c. Addressee compliance: The speaker assumes that the addressee will provide this information in the immediate future of the conversation as a result of the speaker’s speech act.
 - d. Issue resolution goal: It is assumed that the main aim the speaker pursues when raising an issue is to have it resolved in the immediate future of the conversation.

According to Farkas, a canonical, information-seeking question is one in which all the assumptions in (99) hold. However, these assumptions may be weakened or suspended, resulting in different types of non-canonical question (e.g. rhetorical questions, biased questions, etc.).

Sm’algyax exhibits three types of grammaticalized non-canonical question: rhetorical questions, conjectural questions, and biased questions.³² In the subsections that follow, I discuss these flavours of non-canonical question, with reference to the distribution of interrogative clitics.

5.2 Rhetorical questions

Rhetorical questions (RQs) can be informally characterized as interrogative sentences that have the feeling of an assertion; that is, the speaker does not expect an answer, though the interlocutor may still provide one (Sadock 1974; Han 2002; Caponigro & Sprouse 2007; Biezma & Rawlins 2017: a.o.). Although English RQs are not formally distinct from information-seeking questions (Caponigro & Sprouse 2007), a diagnostic for RQs is their ability to license “strong” negative polarity items (NPIs), such as minimizers (‘budge an inch’, ‘lift a finger’), which are degraded in information-seeking questions. The examples in (100) and (101) illustrate this contrast. In (100), the rhetorical question licenses the strong NPI ‘lift a finger’ and can be paraphrased as a negative existential: ‘(After all,) nobody helped me’ (Ladusaw 1980). (101) shows that the same NPI is not licensed in information-seeking questions.

(100) (After all,) who **lifted a finger** to help me? *Rhetorical question*

(101) #(I’m curious,) who **lifted a finger** to help you? *Information-seeking question*

In terms of the default assumptions given in (99) above, a RQ is one in which Speaker ignorance and the Issue resolution goal are suspended—that is, the Speaker and Addressee are both

³² By grammaticalized, I mean that there are dedicated syntactic constructions that correspond to these non-canonical question interpretations.

expected to know the answer (by Addressee competence together with the suspension of Speaker ignorance), and the communicative function of uttering a rhetorical question is not one of *asking* (due to the suspension of the Issue resolution goal).

Sm'algyax possesses a dedicated RQ construction, as discussed in Brown (2023). Like information-seeking questions, this construction features a clause-initial *wh*-expression, but it is further distinguished by the presence of the C element *dzi*—also found in embedded PolQs—and by the obligatory absence of the interrogative clitic =*u* (103).³³

(102) [Allie is talking to Ben about a problem that cannot be fixed. She says:]

Goo dzi wila waali. Nah baaltu txa'nii goo...

goo **dzi** wila waal-i nah baal-t-ə-u = a txa'nii goo
 what IRR MANR LV-IRR.1SG.II PFV try-T-TR-1SG.II =CN every what

'What can I (even) do. I've tried everything.'

dzi-RQ [- u]

(103) **Goyu dzi wila waali?*

goo = u **dzi** wila waal-i

what = INT IRR MANR LV-IRR.1SG.II

Intended: 'What can I (even) do.'

dzi-RQ [- u]

This RQ construction occurs frequently in narrative contexts, and is variably translated either as a *wh*-question or as a declarative sentence with a negative existential element such as 'nowhere', or 'nothing'. This construction is always associated with what I refer to as a "negative implication": the implication that the speaker believes that the answer corresponds to a negative existential.³⁴ In these narrative contexts, they are never answered.

Below, we see examples of marked rhetorical questions occurring in texts, with the narrative context indicating that the negative implication is present. In (104a), the narrator utters the marked rhetorical question "Therefore what then could he use now?" after making it clear that Asdiwaal has nothing to use to get himself out of the situation he is in, while in (104b) we see the marked rhetorical question "Where could he go?" preceding expository material asserting that there is in fact nowhere to go.

(104) [Asdiwaal carries several magical tools that have helped him out of difficult situations. However, this time he is stranded on a mountain in a storm without his magical tools:]

³³ A full explanation of the role of *dzi* in *wh*-rhetorical questions remains beyond the scope of this paper. By way of an initial hypothesis, the semantics for *dzi* proposed in Section 4.2 introduces a bipolar set denotation containing *p* and its complement. It is possible that the effect of such an element heading what would normally be the presupposed clause of a canonical information-seeking WhQ contributes to the non-canonical meaning observed in *dzi* RQs.

³⁴ Rohde (2006) and Caponigro & Sprouse (2007) show that not all RQs possess such a negative implication (though the one in (100) does).

- a. *Gan goo dzi gik hoyt gya'wn?*
 gan goo **dzi** gik hoy-t gya'wn
 REAS what IRR again use-3.II now
 'Therefore what then could he use now?'
- b. *Ndaa dzi yaakit? Man duulxgit, ada tgi duulxgit...*
 ndaa **dzi** yaak-t man duulxk-t, ada tgi duulxk-t
 where IRR go-3.II up stuck-3.II and down stuck-3.II
 'Where could he go? He could not go up, he could not go down...'
 (Boas 1912: The Story of Asdiwaal; 144–145)

Shortly after the narrator poses these rhetorical questions, Asdiwaal dies on the mountain.

These data show that Sm'algyax possesses a dedicated RQ construction, and that the interrogative clitic never appears in it. According to Farkas (2022), RQs are characterized by the suspension of Speaker ignorance and the Issue resolution goal: perhaps the presence of =*u* is associated with one or both of these pragmatic assumptions. In the next section I provide evidence from conjectural questions that suggests that the presence of =*u* is associated with the Issue resolution goal.

5.3 Conjectural questions

Conjectural Questions (CQs), like RQs, are a flavour of non-canonical question that has the form of an interrogative but the feel of an assertion (See e.g. Faller 2002; Littell et al. 2010; Matthewson 2010; Eckardt & Beltrama 2019; Eckardt 2020; Farkas 2022). Like RQs, they do not require or expect an answer. They are set apart from RQs, however, in that they express the Speaker's curiosity/ignorance about the interrogative prejacent *Q*. They are often translated as 'I wonder *Q*' or 'I don't know *Q*'. We see an example of a CQ in German below. The CQ in (105) is characterized by the presence of the particle *wohl*, appearing in an interrogative sentence with verb-final syntax.

- (105) *German* (Eckardt 2020: 2)
 Wo **wohl** der Schlüssel ist?
 where wohl the key is
 'Where might the key be, I wonder.'

For Farkas (2022), a conjectural question is one in which Addressee competence and the Issue resolution goal are suspended—the Speaker and the Addressee are thus both not expected to know the information that settles the issue, and the goal of uttering a CQ is not one of immediately resolving the issue.

Sm'alyax possesses a dedicated CQ construction that is characterized by the presence of the epistemic particle =sn/=si'in (a second-position clitic) in a sentence with interrogative syntax (i.e. a fronted *wh*-expression and extraction morphology). In (106), we see a declarative sentence marked with *si'in* translated to English as *might*. In (107), we see a CQ that is uttered in a context where the speaker (Mary) does not assume that the Addressee (Paul) is able to resolve the question under discussion.³⁵

(106) [There are some dark clouds in the sky]

Dm yaasi'int waas.

dm yaa=**si'in** =ɬ waas
PROSP walk=EPIS =IRR.CN rain

'It **might** rain.'

Conjectural/epistemic =sn/=si'n

(107) [There is a knock on the door in the middle of the night. Mary has no idea who it could be, and doesn't expect Paul to know either. Mary says to Paul: (adapted from Farkas 2022)]

Naasi'in gwii a taaym gwa'a?

naa=**si'in** =a gwii a =a taaym gwa'a?

who=EPIS =CN DEM PREP[-3.II] =CN time DEM

'Who could it be at this time, I wonder.'

CQ [-u]

Like the RQ construction in the previous section, the interrogative clitics do not appear in CQs.³⁶

³⁵ As with the dedicated RQ construction discussed in the previous section, there is no dedicated CQ construction for polar questions. Instead, a periphrastic *wh*-question construction is used:

- (i) a. *Waasisn.*
waas=**sn**
rain=EPIS
'It **might/must** be raining'
- b. *Waasii?*
waas=**ii**
rain=INT
'Is it raining?'
- c. *waas=**sn=ii** / *waas=**ii=sn**

- (ii) *Ndesi'int waal dzi waas.*
nde=**si'in** =ɬ waal dzi waas.
wh=EPIS =CN do/be IRR rain
'I wonder if it's raining.' Lit: How might it be if it rains?

³⁶ One Ts'msyen elder I work with does however allow epistemic =sn to appear alongside =u, specifically in cases that appear to be information-seeking (corresponding to *wh*- *do you think/assume*).

- (i) [My brother and I are hiking through the woods in bear country and see animal tracks. Fortunately, my brother recently completed a wilderness class and is in a better position to judge. I ask him: (adapted from Korotkova 2016)]

(108) **Naasnu t'aadit a gwii?*

naa = **sn** = **u** = a t'aat-ət a = a gwii
 who = EPIS = INT = CN sit-SX PREP[-3.II] = CN DEM
 Intended: 'Who sat here, I wonder.' CQ [- u]

Further evidence for the dissociation between CQs and the notion of *asking* come from the following examples. In (109) we see that a CQ may be used as a reply to an ordinary question to indicate that the Speaker of the CQ does not know the answer. Here it is obvious that the Speaker of the information-seeking question (109a) doesn't know the answer either, and is not expected to respond.

(109) a. *Naat int gapdu txa'nii maay?*

naa = **t** in = t gap-t = u = a txa'nii maay?
 who = CN AX = 3 eat-3.II = INT = CN all berries
 'Who ate all the berries?'

b. *Naasi'in (int gapt)...*

naa = **si'in** = a in = t gap-t
 who = EPIS = CN AX = 3.I eat-3.II
 'I wonder who (ate them)...' / 'I don't know who.' CQ as response [- u]

CQs may also function as self-addressed questions:

(110) [You're home alone and you can't find your keys. You say to yourself:]

Ndesn nahak'a'ayu.
 ndeh = **sn** = a na-hak'a'a-u
 where = EPIS = CN POSS-key-1SG.II
 'I wonder where my keys are.' Self-addressed CQ [- u]

(111) [You have a missed call from a mysterious phone number. You ask yourself:]

Naasn naht in si'is huutgu.
 naa = **sn** = a nah = t in si'is huutk-u
 who = EPIS = CN PFV = 3.I AX try call-1SG.II
 'I wonder who called me.' Self-addressed CQ [- u]

I conclude that Sm'algyax has a dedicated CQ construction, that, according to the characterization in Farkas (2022), arises due to the suspending of the assumptions of Addressee competence and

Goosnu galksa dawlit a gwa'a?
 goo = **sn** = **u** = a galksa dawł-ət a = a gwa'a?
 what = EPIS = INT = CN through pass-SX PREP[-3.II] = CN DEM
 'What passed through here, do you assume?'

the Issue resolution goal. Given that RQs and CQs share in common the suspension of the Issue resolution goal, as well as the absence of an interrogative clitic, I suggest that interrogative clitics are associated with the notion of Issue resolution. This is compatible with the analysis proposed for SA_{ASK} in Section 4.3.

5.4 Biased questions

Sm'algyax has two dedicated constructions associated with biased polar questions. The first type features the negative response particle *ayn*, and the second has the form of a tag question, formed with a pronoun *'niit*.

- (112) [There's a feast in early May; Lucy tells you she's planning to attend it. This surprises you because she previously mentioned she would be in Vancouver from mid-April to mid-May. You ask her:]

Aynł dm waanii a Ts'a'mas?

ayn =ł dm waan-n=**ii** a =a Ts'a'mas
no =IRR.CN PROSP LV-2SG.II=INT PREP[-3.II] =CN Vancouver

'Won't you be in Vancouver?'

Ayn question [+ ii]

- (113) [Michael told Lucy about a surprise party for a friend and asked her to keep it secret. Knowing she struggles with secrets, he asks her the next day]

Akadiim małit as 'niit, 'niidii?

aka =dii =m mał-ə-t a =s 'niit '**niit = ii**
NEG = FOC = 2SG.I tell-T-3.II PREP[-3.II] =PN 3.III 3.III =INT

You didn't tell him, **did you?**

'Niidii-tag question [+ ii]

Note that both of these non-canonical question types feature an interrogative clitic, contra the RQ and CQ constructions described above. This is not especially concerning, if the analytical goal is to link the presence of the interrogative clitics to information-seeking questions. For Farkas, a biased question arises via the *weakening* of Speaker ignorance: the Speaker's epistemic state is *not* neutral relative to the possible resolutions of the issue. Unlike RQs and CQs, the Issue resolution goal is still assumed, and an answer is therefore expected.

6 Conclusion

This paper examined the morphosyntactic reflexes of polar and *wh*-question formation in Sm'algyax. I argued that main-clause questions exhibit a bipartite structure marked by both a clause-typing element (*ał/wh*-initiality) and an interrogative clitic (= *ii*/= *u*), whereas embedded questions only feature the clause-typing element (*dzi/wh*-initiality). This distribution motivates a two-layer interrogative syntax: all questions feature a CP headed by C_[+Q], while

canonical main-clause questions additionally feature a higher speech act layer (SAP), the locus of interrogative clitics. This account explains both the main-clause restriction of the interrogative clitics and their association with the speech act of asking. Evidence from embedding, coordination, and non-canonical questions further supports this analysis. Taken together, the Sm'algyax facts provide clear evidence for an unembeddable speech act layer and contribute to ongoing debates about the architecture of the interrogative left periphery and the typology of interrogative particles.

Future work should investigate the extent to which Sm'algyax exhibits effects comparable to quasi-subordination and identify the formal properties of such structures. One potential avenue concerns the grammar of quotation. As illustrated in (114), while English SAP-level elements such as the MQP *quick(ly)* cannot straightforwardly appear in embedded questions, they may appear within quoted speech embedded under predicates such as *ask*, which, in addition to being a rogative predicate, can also select interrogative quotative complements (Grimshaw 2012; Dayal 2023).³⁷

- (114) a. She asked (***quick(ly)**,) who left.
 b. She asked, "**quick(ly)**, who left?"

Preliminary investigation reveals comparable effects in Sm'algyax: interrogative clitics are permitted in embedded contexts only when the complement is interpreted as a quotation. In (115b), a prosodic break following *güüdaga'nut Klalens* 'Clarence is asking me,' and the shift in person marking (first person *-u* in the non-quoted complement in (115a) vs. second person *-n* in the quotation in (115b)), support this analysis.

- (115) [Clarence phones you from the cafe, you report what he's saying to your friend who is there with you]
- a. *Güüdaga'nut Klalens goo(***yu**) dm hasagu.*
 güüdax-'nu =t Klalens [goo(*=**u**) =a dm hasax-**u**]
 ask-1SG.III =PN Clarence what =CN PROSP want-1SG.II
 'Clarence is asking me what I want.'
- b. *Güüdaga'nut Klalens, "gooyu dm hasagn?"*
 güüdax-'nu =t Klalens [goo=**u** =a dm hasax-**n**]
 ask-1SG.III =PN Clarence what=INT =CN PROSP want-2SG.II
 'Clarence is asking me, "what do you want?"'

A related question concerns the Sm'algyax quotative particle *daya*. Data from texts and preliminary elicitation show that it can occur with a range of complements, including

³⁷ See Dayal (2023: 6) for similar examples with English declarative questions, which likewise are only embeddable as quotations.

exclamations such as *hobiyee* ‘hurrah’ in (116) and jussive clauses featuring the prohibitive particle *giloo* in (117). Whether *daya* can likewise select interrogative quotative complements remains to be determined.

(116) “*Hobiyee!*” *daya gyet wil galmiilga na ts’apt.*

hobiyee daya gyet wil galmiilk =a na ts’ap-t
 hurrah QUOT people COMP play[-3.II] =CN POSS team-3.II

‘The people said “hurrah!” where their team was playing.’ (SLLTD 2017)

(117) “*Giloom gapt*” *daya.*

giloo =m gap-t **daya**
 PROHIB = 2PL.II eat-3.II QUOT

‘He said “don’t eat it.”’

Finally, the embeddability of other sentential mood markers and speaker-oriented elements—such as evidential enclitics (reportative *gat*, conjectural/epistemic *sn/si’in*, prior evidence *gn/gi’in*) and jussive mood markers, including the hortative *laan*, prohibitive *giloo*, and the zero-marked imperative—merits closer examination, particularly for what their distribution may reveal about the architecture of the Sm’algyax clausal periphery.

Abbreviations

Glosses not following the Leipzig Glossing Conventions are as follows:

AX – “Agent extraction morpheme”; ATTR – “Attributive”; CN – “Common noun connective”; DWID – “Domain widener”; EPIS – “Epistemic modal”; EXIST – “Existential”; I – “Series I clitic”; II – “Series II suffix”; III – “Series III pronoun”; INCEP – “Inceptive aspect”; INT – “Interrogative mood”; L.O.C. – “Lack of commitment” LV – “Light verb”; MANR – “Manner subordinator”; PN – “Proper noun connective”; PREP – “Preposition”; PROHIB – “Prohibitive mood”; PROSP – “Prospective aspect”; REAS – “Reason subordinator”; SPT – “Spaciotemporal particle” SX – “Subject extraction morpheme”; T – “T voice suffix”; VER – “Verum”.

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The author has no competing interests to declare.

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