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The form and function of interrogatives in Sm'algyax

A dissertation submitted in partial satisfaction

of the requirements for the degree

Doctor of Philosophy in Linguistics

by

Colin Brown

2024

ABSTRACT OF THE DISSERTATION

The form and function of interrogatives in Sm'algyax

by

Colin Brown

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 2024

Professor Yael Sharvit, Co-Chair

Professor Harold Torrence, Co-Chair

This dissertation examines the formation of questions in Sm'algyax (Maritime Tsimshianic; ISO: `tsi`; British Columbia, Alaska) based on new fieldwork.

The first part outlines the complex morphosyntactic reflexes of both local and long-distance Ā-movement, including *wh*-movement, relativization, and focusing. Although Sm'algyax exhibits a rigidly ergative pattern in terms of number and person agreement, it shows a unique three-way distinction when extracting core arguments of a predicate. The extraction of an intransitive subject, a transitive subject, and a direct object are all marked differently. This reveals an underlying structural distinction between intransitive subjects and transitive objects that is not apparent when these elements remain in their in-situ positions.

Moving beyond local movement, I show that long-distance movement is possible and exhibits the same morphosyntactic marking found in local movement in each intermediate clause. This provides clear evidence that cross-clausal movement does not occur in "one fell swoop", but rather involves intermediate landing spots along the way (Chomsky, 1986, 2000; McCloskey, 2000; Chomsky, 2001; Rackowski & Richards, 2005; Chomsky, 2008; van Urk & Richards, 2015).

The second part focuses on a unique set of markers in Sm'algyax—referred to as *interrogative clitics*—that appear in both *wh*-questions and polar questions. I show that they are sensitive to a root/non-root clause distinction: they may appear in root/matrix questions, but not embedded questions. Their appearance in matrix questions is sensitive to whether those questions are in some sense canonical questions or not. I analyze the interrogative clitics as operators that appear in a high, peripheral syntactic position, and select for an interrogative clausal complement.

Finally, I turn to the linear positioning of the interrogative clitics in the clause, and show that they occupy a typologically rare second-last position. I show that appealing to the syntax, phonology, or a combination of syntax and phonology does not capture their distribution. Instead, I argue that the penultimate linearization implicates a distinct morphological component.

The dissertation of Colin Brown is approved.

Lisa Matthewson

Ethan Poole

Harold Torrence, Committee Co-Chair

Yael Sharvit, Committee Co-Chair

University of California, Los Angeles

2024

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ABBREVIATIONS

1	first person
2	second person
3	third person
ACC	accusative
AFFRM	affirmative
ANTIP	antipassive
ATTR	attributive
AUX	auxiliary
AX	agent extraction morpheme
CAUS	causative
CL	noun class marker
CN	common noun connective
CNTR	contrastive
COMP	complementizer
CONTR	contrastive
DEF	definite
DEM	demonstrative
DET	determiner
DWID	domain widener
EPIS	epistemic modal
ERG	ergative

F	feminine
FOC	focus
FRC	force marker
FUT	future
HORT	hortative
I	series I clitic
II	series II suffix
III	series III pronoun
INCEP	inceptive
INFL	inflection
INS	instrumental
IRR	irrealis
LOC	locative
LV	light verb
M	masculine
MANR	manner clause subordinator
NEG	negative
NMLZ	nominalizer
NOM	nominative
OBJ	object
OBL	oblique
PASS	passive
PFV	perfective
PL	plural

PN	proper noun connective
POSS	possessive
PREP	preposition
PROG	progressive
PROHIB	prohibitive
PROSP	prospective
PROX	proximal
PST	past
Q	question particle
REAS	reason clause subordinator
REL	relative
RESTR	restrictive
SBJV	subjunctive
SG	singular
SPT	spaciotemporal particle
SUB	subordinator
SX	subject extraction morpheme
T	transitive control suffix
TR	transitive
VER	verum
WH	underspecified content-question word

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PREFACE

- Chapter Five is partially derived from co-authored work with Henry Davis. Both authors contributed equally to writing; all linguistic examples drew from my independent work on Sm'algyax interrogative clitics.

  - Brown, C., & Davis, H. (in press-a). A second-last position clitic in Sm'algyax (Coast Tsimshian). *Proceedings of NELS 54.*

  - Brown, C., & Davis, H. (in press-b). A second-last position clitic in Sm'algyax: A puzzle. In M. R. Bochnak, E. Csipak, L. Matthewson, M. Morzycki, & D. K. E. Reisinger (Eds.), *The title of this volume is shorter than its contributions are allowed to be: Papers in honour of Hotze Rullmann* (Vol. 9). Vancouver, BC: UBC Occasional Papers in Linguistics.

  - Davis, H., & Brown, C. (in press). A second-last position clitic in Sm'algyax: A solution. In M. R. Bochnak, E. Csipak, L. Matthewson, M. Morzycki, & D. K. E. Reisinger (Eds.), *The title of this volume is shorter than its contributions are allowed to be: Papers in honour of Hotze Rullmann* (Vol. 9). Vancouver, BC: UBC Occasional Papers in Linguistics.

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CHAPTER 1

Introduction to the thesis

1.1 Introduction

This dissertation investigates the grammar of questions through the lens of Sm'algyax (a.k.a. Coast Tsimshian: Maritime Tsimshianic; ISO: `tsi`), based on new data collected from fieldwork. It explores the formation of questions in Sm'algyax and the elements that constitute a question, and examines the implications of these findings for both the architecture of Tsimshianic grammar and our broader understanding of questions crosslinguistically.

The discussion unfolds in two parts. The first part investigates the morphosyntactic reflexes of *filler-gap dependencies* or *Ā-movement*. Sm'algyax boasts a number of morphosyntactic reflexes of Ā-movement, which transparently reflect the movement of different elements in the clause (for instance, the extraction of an intransitive subject and of a direct object will show distinct morphological reflexes). The same extraction morphology is also observed in long-distance filler-gap dependencies, providing compelling evidence that cross-clausal movement does not occur in "one fell swoop", but rather involves intermediate landing spots along the way (Chomsky, 1986, 2000; McCloskey, 2000; Chomsky, 2001; Rackowski & Richards, 2005; Chomsky, 2008; van Urk & Richards, 2015). In Sm'algyax, these reflexes are found not only in the C-domain, but also in the verbal and pre-verbal domains.

The second part of the dissertation concerns a small set of grammatical markers that occur in questions, which I refer to throughout as *interrogative clitics*. These clitics are interesting for two main reasons. First, they are restricted to main-clause questions, and appear to be sensitive to sentential force: embedded questions categorically lack interrogative clitics, and certain non-

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canonical questions, namely those that are obligatorily non-interrogative, also lack interrogative clitics. I provide an analysis of the interrogative clitics, showing that they occupy a peripheral position in the syntactic superstructure and encode interrogative force.

Finally, I turn to the linear positioning of the interrogative clitics in the clause, and show that they occupy a typologically rare penultimate, second-to-last position. I show that appealing to the syntax, phonology, or a combination of syntax and phonology does not capture their distribution. Instead, I argue that the penultimate linearization implicates a distinct morphological component.

The chapter by chapter outline of the thesis is as follows:

Chapter 1: Sm'algyax background and morphosyntax. The remainder of this chapter introduces the language under discussion, Sm'algyax as well as the methodology used in gathering Sm'algyax data. I provide a review of its general typological properties and prior literature on morphosyntactic properties relevant to the thesis as a whole, including the clause-typing, person marking, and the determiner or *connective* system. I also outline a number of analytical assumptions that will be relevant for subsequent chapters.

Chapter 2: Sm'algyax extraction. This chapter introduces Ā-movement processes, including *wh*-question formation, focus fronting, and relative clauses. I provide an overview of the *wh*-expressions (the Sm'algyax equivalents of 'who', 'when', etc.) that feature in *wh*-questions, and outline a number of typological features of Sm'algyax questions. I then turn to an in-depth description of Sm'algyax's extraction morphology, which indicates the grammatical role of the extracted element. For core arguments, i.e., intransitive subjects (S), transitive subjects (A), and direct objects (O), we see a tripartite system: S, A, and O extraction all receive unique marking. This fact is interesting in its own right, as Sm'algyax is otherwise a rigidly ergative-absolutive patterning language. Furthermore, the extraction of non-core/oblique arguments and adjuncts also triggers an array of extraction morphology, which shows that there are distinct underlying positions and paths of movement that are indistinguishable when these elements appear in their in-situ positions. I provide an analysis of core argument extraction, which I argue involves case-sensitive *wh*-agreement in the verbal domain.

Chapter 3: Long-distance dependencies and successive-cyclic movement. In Chapter 3 I examine long-distance Ā-movement. Sm'algyax provides particularly transparent evidence that long-distance movement through multiple clauses does not occur in "one fell swoop", but must proceed stepwise (instantiating successive cyclic movement (Chomsky, 1986, 2000; McCloskey, 2000; Chomsky, 2001; Rackowski & Richards, 2005; Chomsky, 2008; van Urk & Richards, 2015)), leaving behind overt morphological traces within intermediate clauses. I extend to Sm'algyax the analysis of Rackowski and Richards (2005) and van Urk and Richards (2015) which argues that in order to facilitate long-distance movement, the entire (embedded) clause that contains the extractee must enter into an Agree relation with a functional head in the matrix/intermediate clause. I also discuss barriers to movement, which include most strong islands (Ross, 1967), as well a number of Sm'algyax-internal elements/processes. Interestingly, however, I also show that subject-islands appear to be freely violable in Sm'algyax.

Chapter 4: Interrogative clitics as illocutionary operators. In this chapter, I outline the distribution of interrogative clitics, which appear in both *wh*-questions and polar questions. The distribution of these elements is sensitive to a root/non-root clause distinction: they may appear in root/matrix questions, but not embedded questions. Furthermore, their appearance in matrix questions is sensitive to whether those questions are in some sense canonical questions or not. A number of question constructions in Sm'algyax display a mismatch between their clause-type and their pragmatic function (for instance, rhetorical questions are interrogative in form, but not in their function). The interrogative clauses do not appear in a number of non-canonical question types. I analyze the interrogative clitics as operators that appear in a high, peripheral syntactic position, and select for an interrogative clausal complement.

Chapter 5: Second-to-last linearization of interrogative clitics. The final substantive chapter analyzes the linearization of the interrogative clitics introduced in Chapter 4. Contrary to their high, peripheral position in the clause, they appear clause-internally, linearizing in a typologically rare second-to-last position. I argue that these clitics' surface position in the clause cannot be derived solely from their syntactic and phonological behaviour. Instead, it necessitates

the adoption of a separate morphological component.

Chapter 6: In this chapter, I sum up the findings from Chapters 1-5 and outline avenues for future work.

1.2   Language background

The Tsimshianic peoples and languages are indigenous to the watersheds of the Skeena and Nass Rivers, extending south along the coast to Klemtu in the northwest of British Columbia, Canada, plus a more recently established community in Metlakatla, Alaska. The family can be divided into two branches, each consisting of two mutually intelligible languages (Figure 1.2). The Interior branch of the family is made up of Gitksan and Nisg̲a'a, while the Maritime branch is made up of Sm'algyax and Sgüüx̱s, also referred to as Southern Tsimshian (see Forbes, 2023, and references therein).

Tsimshianic

Maritime   Interior

Sm'algyax   Sgüüx̱s   Gitksan   Nisg̲a'a
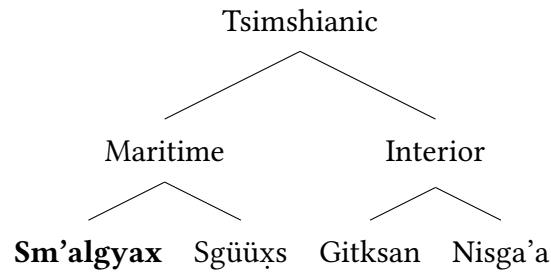
Figure 1.1: Tsimshianic family

For a recent overview of the Tsimshianic family as a whole, I refer the reader to Forbes (2023).

Sm'algyax is variably referred to as Coast Tsimshian (mostly by linguists), or the Ts'msyen language. It is spoken by the Ts'msyen people from the communities of Maxłaxaała (Metlakatla), Txałgiiw (Hartley Bay), Lax Kw'alaams (Port Simpson), Gitxaała (Lax Klan / Kitkatla), Gidasdzuu (Klemtu), Gits'ilaasü (Kitselas), and Gits'mg̲'eelm (Kitsumkalum), as well as Kxeen (Prince Rupert), Terrace, and Alaskan communities (TSLA, 2019). Ts'msyen territory is shown in Figure 1.2.

Figure 1.2: Ts'msyen territory in Northwestern British Columbia/Alaska (FPCC, 2022)

The name Sm'algyax is composed of a modifying element *sm* 'true, very' and *algyax*, which may function as a verb 'speak, talk', or a noun 'language': *Sm'algyax* therefore translates to 'true language'.[1] According to FPCC (2022), of a population of 9125, there are 79 fluent speakers, 124 semi speakers, and 748 learners.

The earliest documentation of the Sm'algyax language includes collections of texts (Boas, 1902; Beynon, 1932–1939) and a grammatical description (Boas, 1911). Later substantive linguis-

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1. Variations of this term are used by speakers of all Tsimshianic languages to refer to their own language, however, orthographic differences such as the absence of an orthographic vowel in *sm* as well as the absence of an orthographic space between the two morphemes are sufficient to distinguish Sm'algyax from the others.

tic work introduced the modern orthography, and included a dictionary and a short descriptive grammar (Dunn, 1978b, 1979), a masters' thesis (Sasama, 1995), Ph.D. dissertations (Mulder, 1994; Sasama, 2001; Forbes, 2018), and journal articles focused on specific phenomena, including glottalized/*interrupted* vowels (Sasama, 1997), grammatical categories (Stebbins, 2003), clitic typology (Mulder & Sellers, 2010), determiners/connectives (Davis & Forbes, 2015; Davis, 2018), and transitive verbal inflection (Brown et al., 2020). Beyond previous and forthcoming work by myself and co-authors (Brown, 2020, 2023a, 2024, in press; Brown & Davis, in press-a, in press-b; Davis & Brown, in press), there is no theoretical work on questions.

This dissertation owes a massive intellectual debt to the literature on the Interior Tsimshianic languages, in particular, Tarpent's (1987) Nisg̱a'a grammar and Rigsby's (1986) Gitksan grammar, and work that investigates the morphosyntax and semantics of Ā-movement and/or questions in Gitksan (Davis & Brown, 2011; Brown, 2014, 2016; Forbes, 2017; Brown, 2018; Brown & Forbes, 2018; Forbes, 2018; Matthewson, 2019; Davis & Nederveen, 2021; Matthewson, 2023).

1.3 Data and methodology

All uncited examples come from my own fieldwork in Prince Rupert, British Columbia and over Zoom. Primary data comes from three first-language speakers of Sm'algyax: Velna Nelson, Beatrice Robinson, and Ellen Mason, with more intermittent sessions conducted in Prince Rupert with three additional speakers: Doug Brown, Allen Robinson, and Theresa Lowther. The methodology employed corresponds to that outlined in Matthewson (2004): target strings and sentences are elicited by providing the consultant with a context and a sentence in the meta-language (in this case English) and asking for a translation into Sm'algyax, while speakers' acceptability judgements are elicited by providing the speaker with a context and a sentence in Sm'algyax and asking for a judgement or comment on acceptability for that context, as well as a translation back into English (if felicitous/acceptable) or a corrected form (if infelicitous/not acceptable).

The four-line glossing convention used throughout can be understood as follows: the first/top line appears in the community orthography used throughout Sm'algyax territory, adapted from

John Dunn's Sm'algyax orthography (Dunn, 1978b); see Section 1.4.1. The second line from the top utilizes the same orthography, but indicates morpheme boundaries; word-level morphophonological processes such as obstruent voicing before vowels are not marked at this level. The third line provides grammatical category labels, which broadly follow the Leipzig glossing rules. The fourth and final line provides an English translation.

Examples with non-canonical word-order, derived via a *fronting* process, are marked with a gap: ____. Italics in translation lines indicate contrastive focus. Any examples pulled from texts (e.g. Boas, 1902) have been retranscribed in the modern orthography.

Examples from the Sm'algyax Living Legacy Talking Dictionary (https://www.webonary.org/smalgyax/) are cited as "SLLTD".

1.4 Relevant grammatical processes

The main goal of this section is to outline the basic morphosyntax and relevant phonological processes necessary to discuss extraction and interrogatives in Sm'algyax in subsequent chapters. These processes include basic word order and alignment facts, as well as a more in-depth look at nominal, verbal, and preverbal morphophonology and morphosyntax. Though this section is largely descriptive, I outline throughout theoretical assumptions that will be relevant for subsequent chapters.

This is therefore by no means a comprehensive description of Sm'algyax grammar. In each section, where available, I reference works that delve deeper into the description and analysis of a given topic; I also refer the reader to the more general grammatical descriptions in Dunn (1979) and Sasama (2001), and the pedagogically focused work of Anderson and Ignace (2008), which have been invaluable resources for my own understanding of Sm'algyax.

My analysis of Sm'algyax morphosyntax differs from these works, however, in the following ways: I assume the presence of a verbal suffix that is sensitive to a clause-type distinction: the *transitive suffix* (Section 1.4.7, as argued in Brown et al. (2020)). I also show that third-person

agreement often undergoes deletion in certain person-marking configurations, which in turn affects the choice of proper-noun determiners (connectives) (Section 1.4.8 and Section 1.4.9, as argued in Davis (2018)).

The structure of this section is as follows: I outline the consonant and vowel inventory and the orthography in Section 1.4.1. I then turn to the basic word order facts, followed by an introduction to the verbal complex and pre- and post-verbal grammatical operations (Sections 1.4.2 to 1.4.5). I then introduce a Tsimshianic-internal clause-type distinction that conditions verbal inflection and person-marking, and bears on Ā-movement (Sections 1.4.6–1.4.8. In Section 1.4.9, I discuss determiners and conclude.

1.4.1 Phonology and orthography

The consonant and vowel inventories, adapted from Dunn (1978b, 1979) and Sasama (2001), are given in the tables below. Stops, affricates, and sonorants all have a plain and a glottalized series. Plain stops and affricates are voiced prevocalically. Glottalized obstruents are realized as an ejective and glottalized sonorants are preglottalized. Following Sasama (2001), I also include a series of aspirated stops that is only distinguished from plain stops prevocalically: they do not undergo voicing in this environment. The orthographic correspondence is given below the IPA in italics.

		labial	alveolar	lateral	palatovelar	velar	labiovelar	uvular	glottal
Obstruents									
Stops	*plain*	p	t		kʲ	k	kʷ	q	
		p/b	*t/d*		*ky/gy*	*k/g*	*kw/gw*	*k̲/g̲/x*	
	aspirated	pʰ	tʰ		kʲʰ	kʰ	kʷʰ		
		p	*t*		*ky*	*k*	*kw*		
	glottalized	p̓	t̓		k̓ʲ	k̓	k̓ʷ	q̓	ʔ
		p'	*t'*		*ky'*	*k'*	*kw'*	*k̲'*	*'*
Affricates	*plain*		c						
			ts/dz						
	glottalized		c̓	(ƛ̓)					
			ts'						
Fricatives			s	ɬ				χ	h
			s	*ł*				*x*	*h*
Sonorants									
	plain	m	n	l	j	ɰ	w		
		m	*n*	*l*	*y*	*ẅ*	*w*		
	glottalized	m̓	n̓	l̓	j̓	ɰ̓	ẇ		
		'm	*'n*	*'l*	*'y*	*'ẅ*	*'w*		

Table 1.1: Consonants in Sm'algyax

Vowels exhibit a contrastive length distinction:

Short vowels	i, a, o, u, ɯ, ə
	i, a, o, u, ü, i/a/e
Long vowels	iː, eː, aː, oː, uː, ɯː
	ii, ee, aa, oo, uu, üü

Table 1.2: Vowels in Sm'algyax (Sasama, 2001, p. 10)

1.4.2 Basic word order

Sm'algyax is a predicate initial language: monovalent predicates, which include intransitive verbs (1), stative predicates (2) and predicative nominals (3), are followed by their sole argument, and transitive verbs are followed by their external and internal arguments, in that order (4). Put differently, Sm'algyax is a Verb-Subject-Object language.

(1) *Sis'aaxsa   'yuuta.*
     Sis'aaxs=a 'yuuta
     laugh=CN   man

     'The man laughed.'

(2) *Suunsit   Haabit.*
     suuns=t   Haabit
     blind=PN Herbert

     'Herbert is blind.' (TSLA)

(3) *Lapleeda   'yuuta.*

     lapleet=a   'yuuta

     priest=CN man

     'The man is a priest.'

(4) *Nah niisda   hana'a   haas.*

     nah niist-i-t=a   hana'a=a   haas

     PFV see-TR-3.II=CN woman=CN dog

     'The woman saw the dog.'[2]

In the nominal domain, possessors (*Dzon* in (5)) follow possessed nouns (*naxsoos* in (5)):

(5) *Giigu   naxsoos   Dzon*

     giik-i-u=a   na-xsoo-t=s   Dzon

     buy-TR-1SG.II=CN POSS-boat-3.II=PN John

     'I bought John's boat.'

    Although the VSO order described above is fairly rigid, word orders that deviate from VSO are possible in certain configurations: the first of these is a pseudo noun incorporation construction (Massam, 2001) in which the theme/object immediately follows the predicate, forming a prosodic constituent with it, and is in turn followed by the subject. We see a pseudo noun incorporation construction in (6): the theme argument *mati* 'mountain goat' immediately follows the predicate *guu* 'strike/shoot'. In these constructions, the object lacks a determiner/connective, and is therefore not a DP but either an NP or N (see Section 1.4.9).

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2. Throughout this dissertation there are many examples in which the second and third lines of examples show a common-noun connective *=a* that is absent in the first (orthographic) line. This is due to the phonological process of vowel deletion, which is triggered in environments where the *=a* connective directly follows a sonorant or vowel (Anderson & Ignace, 2008).

(6) *Guumatit   Dzon.*

    guu-**mati**=t   Dzon

    shoot-goat=PN John

    'John hunted goat.' (SLLTD)

Although the predicates that feature in object incorporation constructions are formally *transitive*, object incorporation constructions resemble *intransitive* structures. In the example in (7), the same verb that appears in (6) is marked by a combination of voice morphology (the transitive suffix *-i*, see 1.4.7) and ergative-indexing suffixal agreement (*-t*) that is restricted to transitive sentences (see 1.4.8). This morphology is absent in (6), which more closely resembles clear-cut intransitive structures such as those in (1) or (2).

(7) *Guuyda   'wii wan.*

    guu-**i-t**=a   **'wii wan**

    shoot-TR-3.II=CN big   deer

    'He shot the big deer.'

Another construction that exhibits exceptional VOS word order occurs in transitive sentences which feature a third-person subject and a discourse participant (first/second-person) object, as in (8). Here we see the participant object encliticizing to the verb and the object exceptionally preceding the subject. Forbes (2020) proposes that VOS constructions in Sm'algyax uniformly arise via object incorporation.

(8) *Naht   huutgi'nu   doktaa.*

    nah=t   huutk=**'nu**=a   doktaa

    PFV=3.I call=1SG.III=CN doctor

    'The doctor called me.'

See 1.4.8 for further discussion regarding person marking.

Word orders in which subjects or objects precede the verb occur only via Ā-extraction and are marked by extraction morphology on or before the predicate. I discuss extraction in detail in Chapter 2.

1.4.3 Structure of inflecting words

Predicates in Tsimshianic may bear inflectional and derivational morphology, which generally follows the order in (9) (Forbes, 2018, 2023):

(9)   (proclitics=)derivational–plural–**root**–valence–voice–agreement(=enclitics)

In brief, preverbal and prenominal "proclitics" are a large closed class of adverb/adjective-like elements that precede the root and provide information about location, direction, or manner (Forbes, 2023), such as *tgi* 'down', *sagayt* 'together', *hagwil* 'slowly'.[3] Derivational prefixes include elements such as the verbalizing *x-* 'to consume y (where y is a beverage)', and causative *si-* (Sasama, 2001, pp. 107–119). Number prefixes (*ga-*, *li-*, CV- and CVC- reduplicative prefixes) mark nouns for plural, and index plural agreement with absolutive arguments as well as pluractionality for verbs (Sasama, 1995, pp. 194–219).[4] Valency suffixes (*e.g.* -т, -*k*) include causative, passive, and antipassive elements (Sasama, 2001; Brown et al., 2020, pp. 120–158), while the *transitive suffix* (Brown et al., 2020) appears on transitive predicates, surfacing in the form of a vowel or glide. Agreement suffixes index either ergative or absolutive person agreement, depending on the clause type. I discuss the valency/transitive marking suffixes and person-marking in more detail in Sections 1.4.7 and 1.4.8, respectively.

The following sentence exhibits a nearly maximally complex predicate, marked with multiple

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3. Though described as clitics, prenominals and preverbals do not resemble other clitics: they are often root-like, and perhaps could better be described as compounds. Further work is needed.

4. Many roots are not marked with these prefixes and inflect for plurality/pluractionality by way of suppletion or ablaut or some combination of processes. Furthermore, many roots exhibit non-varying forms/do not inflect for number Dunn (1979) and Sasama (1995, 2001).

preverbal clitics, number morphology in the form of a CVC reduplicating prefix, voice and valency marking suffixes, and person agreement. The root is given in bold.

(10)   *'Lii*   *k̲'anpiłpałdis*   *Sarah*   *wiswas*   *da*   *lax*   *g̲alaxan.*

       'lii= k̲'an=pił-**pał**-t-i-t=s   Sarah=a   wis-was   da-t=a   lax= galaxan

       on= over=PL-spread-T-TR-3.II=PN   Sarah=CN   PL-blanket   PREP-3.II=CN   on   railing

'Sarah spread her blankets over the railings.' (Sasama, 2001, p. 250)

1.4.3.1   A structural assumption

I assume, following extensive argumentation in Hunt (1993) and Forbes (2018), that in spite of the surface VSO order of all Tsimshianic languages, their underlying structure is SVO. I additionally assume a *v*P projection that introduces the external argument, and hosts a subset of the valency changing suffixes such as the antipassive, passive and causative suffixes (Forbes, 2018, 2019); I adopt from (Hunt, 1993) a TrP projection (*transitivity phrase*) which hosts the transitive suffix (glossed as -TR in (10) and discussed in 1.4.7). The internal structure of verbal domain is schematized in (11).

(11)
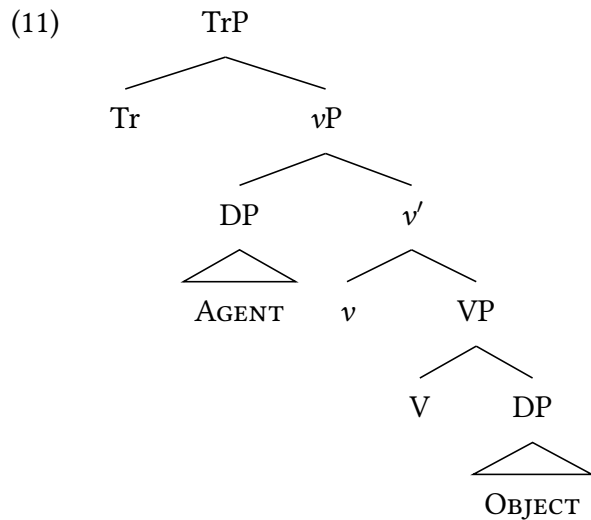
The question of how VSO order is derived in Tsimshianic remains unresolved, as there is no conclusive evidence that exclusively supports either a 'verb-raising' analysis or a 'predicate raising' analysis. As nothing in the subsequent chapters relies on one family of analysis over the other, I will simply assume a head-movement analysis.

A constellation of properties supports a head-movement analysis, including general verbal complexity and apparent Mirror Principle-obeying order (Baker, 1985), point to rollup head-movement of the V to some higher functional position, and the presence of low PPs (seen in Section 1.4.4).[5,6] The assumed structure is sketched in (12): the V head head-moves to v, the [V, v] complex moves to Tr, the [V, v, Tr] complex then moves to Agr (which I will assume is the locus of the person-marking suffixes). This derives the correct order of the verbal root and its suffixes.

(12)   VSO by V raising (e.g. Alexiadou & Anagnostopoulou, 1998, 1999)

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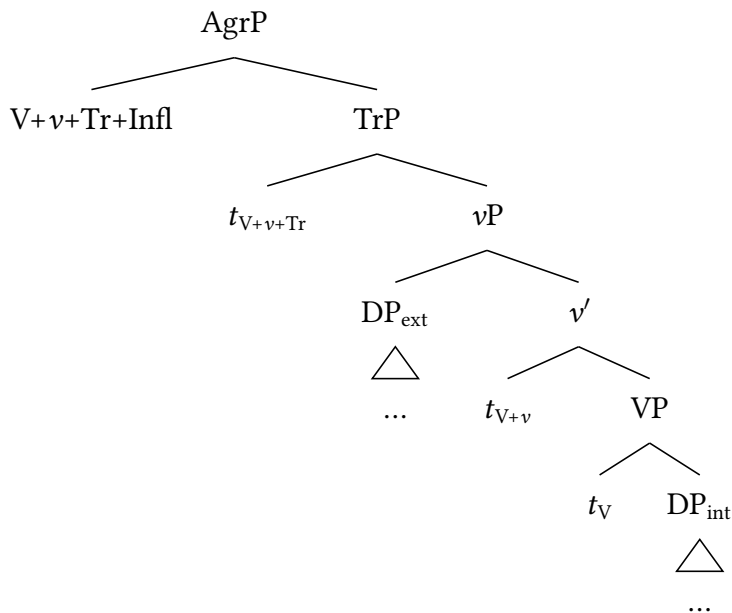
5. For similar argumentation in Gitksan, see Hunt (1993).

6. A vP/VP remnant movement analysis, for instance, might predict that adjuncts would raise alongside the raised constituent, yielding orders in which an adjunct breaks up the adjacency of the VSO sequence. This ordering is strictly ruled out in Sm'algyax: only modal, evidential, and interrogative clitics may intervene between the sequence of VSO.

1.4.4 Postverbal elements and operations

Setting aside Ā-extraction, non-core/oblique arguments and adjuncts must appear after the predicate and its core arguments, never interrupting the sequence of VSO. Non-core arguments are most commonly introduced by the all-purpose preposition *(d)a*, never registering agreement on the predicate.

(13) *K'yilams*   *Dzoon*   *'ẅah*   *das*   *Meeli.*

      k'yilam-i-t=s   Dzoon=a 'ẅah   **da-t=s**   **Meeli**

      give-TR-3.II=PN John=CN oolichan PREP-3.II=PN Mary

      'John gave oolichans to Mary.'

(14) *Giigu*   *xsoo* *a*   *naks*   *Dzon.*

      giik-i-u=a   xsoo **a-t=a**   **nak-t=s**   **Dzon**

      buy-TR-1SG.II=CN canoe PREP-3.II=CN wife-3.II=PN Dzon

      'I bought a canoe from John's wife.'

(15) *Nah dzabas*   *Ronnie*   *pts'aan das*   *Dick.*

      nah dzap-i-t=s   Ronnie=a pts'aan **da-t=s**   **Dick**

      PFV make-TR-3.II=PN Ronnie=CN pole   PREP-3.II=PN Dick

      'Ronnie has fixed a totem pole for Dick.' (Mulder, 1994, p. 49)

Some adverbial elements, including future-oriented time adverbials built from the irrealis complementizer *dzi* 'IRR', may follow core arguments without being introduced by a preposition:

(16) *Dm* *dawłit* *Dzeen* *dzigits'iip.*

      dm dawł=t Dzeen **dzigits'iip**

      PROSP leave-PN Jane tomorrow

      'Jane is leaving tomorrow.'

(17) *Dm* *dzabm* *pts'aan* *dziłayk* *k'ooł.*

      dm dzap-i-m=a pt'aan **dziłayk** **k'ooł**

      PROSP make-TR-1PL.II=CN pole next year

      'We'll make a pole next year.'[7] (SLLTD)

I assume that the non-core elements introduced in this section simply right-adjoin at various projections along the clausal spine (e.g. TP or VP):

(18)   TP/VP

    TP/VP   **PP/AP**

     ...   ...
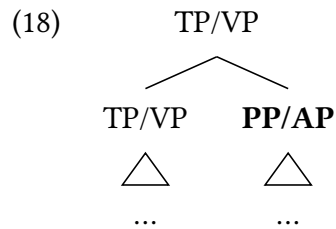
1.4.5 Preverbal elements and operations

I refer to the space preceding the verbal complex (the predicate and its derivational and inflectional morphology, discussed in Section 1.4.3) as the *preverbal field*. A number of distinct functional elements occupy the preverbal field, including aspectual markers, negation, information structural elements, subordinators, and person marking. I discuss here a subset of these elements

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7. The expression *dziłayk k'ooł* 'next year' is likely a contraction of the phrase *dzi=ła giik k'ooł*: a sequence of 'IRR=PROX again year'.

and their related processes, setting aside discussion of the preverbal person marking clitics which are described in Section 1.4.8.

1.4.5.1 Aspect and tense

Sm'algyax, like all Tsimshianic languages, does not overtly distinguish between non-future tenses (Anderson and Ignace 2008 for Sm'algyax; Rigsby 1986; Jóhannsdóttir and Matthewson 2007 for Gitksan; Tarpent 1987 for Nisg̲a'a). This means that a sentence like (19) below can be interpreted as either present or past tense, depending on the context.

(19) *Ba'antu*   *boot.*
      baa-'n-t-i-u=a   boot
      run-CAUS-T-TR-1SG.II=CN boat

      i. Present/habitual reading: 'I run the boat.'

      ii. Past reading: 'I ran the boat.'

Future tense, however, is obligatorily marked. The preverbal element *dm*, glossed as PROSPEC-TIVE aspect, is sufficient and necessary to encode a clause with an unambiguously future-oriented interpretation (see Matthewson, 2013; Matthewson & Todorovic, 2018; Rullmann & Matthewson, 2018; Aonuki, 2021b; Matthewson et al., 2022, on Gitksan):

(20) *Dm*   *baa*   *boot* *dziła*   *hup'l.*
      dm   baa=a   boot dzi=ła   hup'l
      PROSP run=CN boat   IRR=PROX evening

      'A boat will leave this evening.'

Beyond *dm*, there exist three additional core aspectual morphemes: *nah*, PERFECTIVE, *yakw/yagwa*,

PROGRESSIVE, and *ła*, glossed here as PROXIMAL.[8,9] Two to three of these elements may combine (Sasama, 2001, p. 65), in what appears to be a fixed ordering of *nah > ła > yagwa > dm* (where "*a > b*" is read "*a* precedes *b*").

(21) *nah > ła*

Nah	*ła*	*ba**g**u*		*sm'maay.*
nah	**ła**	bax-i-u=a		sm=maay
PFV	PROX	taste-TR-1SG.II=CN		true=berry

'I have tasted blueberries.' (SLLTD)

(22) *ła > dm*

Ła	*dm*	*k̲'aym*	*ax'axłgit*	*a*	*Ts'a'mas.*
ła	**dm**	k̲'aym	ax-axłk-t	a-t=a	Ts'a'mas.
PROX	PROSP	be.close	PL-arrive-3.II	PREP-3.II=CN	Vancouver

'They will soon arrive in Vancouver.' (SLLTD)

(23) *ła > yagwa*

Ła	*yagwa*	*gik*	*amxsens*	*Meeli.*
ła	**yagwa**	gik	amxsen-t=s	Meeli
PROX	PROG	again	gamble-3.II=PN	Mary

'Mary is gambling again.' (SLLTD)

---

8. The orthographically irregular *nah* 'PFV' is conventionally spelled with a final 'h' that is unpronounced.

9. A subset of these aspectual markers, *ła* and *yagwa*, trigger dependent clauses (discussed in Section 1.4.6). Co-occurrence of these two aspectual markers is unattested in my field notes.

(24) *yagwa > dm*

Yagwa   dm   al'algya̲ga   sm=gi-gyet.

yagwa dm   al-algyax-t=a   sm=gi-gyet

PROG   PROSP   PL-speak-3.II=CN true=PL-person

'The chiefs are going to speak.' (SLLTD)

(25) *ła > yagwa > dm*

Ła   yagwa dmt   laguulkit.

ła   yagwa dm=t   laguulk-t

PROX PROG   PROSP=3.I burn-3.II

'She is going to burn them.' (SLLTD)

The linear position of these aspectual elements is sketched below:[10]

(26) Linear precedence in the aspectual domain

nah
PFV
　　ła
　　PROX
　　　yagwa
　　　PROG   *dm*   TrP
　　　　　 PROSP   △
　　　　　　　　　...

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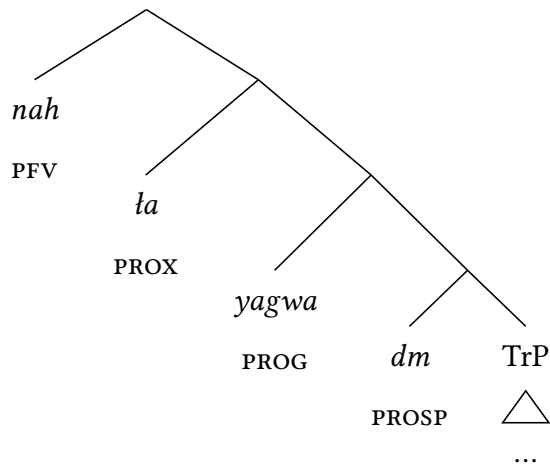
10. Matthewson et al. (2022) analyzes the Gitksan cognates of *yawga* and *dm* (*yukw* and *dim* in Gitksan); *yukw* is argued to occupy a modal projection (ModP), while *dim* heads its own projection dimP that is dominated by ModP. This analysis is compatible with the linear precedence we find in the aspectual domain in Sm'algyax.

Throughout this dissertation, unless relevant, I will include a abbreviated aspectual projection AspP that is headed by one or more of these elements, which dominates the verbal projection TrP:

(27)   **AspP**
          ╱‾‾‾‾‾‾╲
      Asp   TrP
               △
               ...
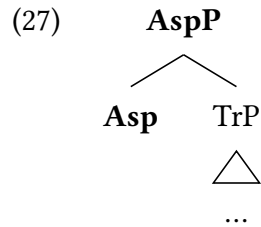
1.4.5.2 Negation

Sentences are negated by way of the preverbal element *aka/ałga* (henceforth referred to solely as *aka*).[11]

(28) *Akat   anooxt.*
      aka=t   anoox-t
      NEG=3.I   like-3.II

      'They don't like it.'

---

11. This negation element may be diachronically composed of a negative morpheme *a/ał* and *ka/ga*, whose likely Nisg̱a'a cognate is referred to as an *intensifier* in Tarpent (1987, p. 356). Evidence for this decomposition comes from the marking of polar questions, which often features a sentence-initial element *a(ł)* which I gloss as negation throughout this dissertation.

(i) *Ał   hasag̱anii   aks?*
     ał   hasax̱-n=ii=a   aks
     NEG want-2SG.II=Q=CN water

     'Do you want water?'

All other Tsimshianic languages use negative morphology to form polar questions (Rigsby, 1986; Tarpent, 1987, 1994; Matthewson, 2019, 2023).

(29) *Ałga aam   goodu   das   Henalii.*

   ałga aam=a   goot-u   da-t=s   Henalii

   NEG good=CN heart-1SG.II PREP-3.II=PN Henry

   'I am not happy with Henry.' (SLLTD)

Although the examples above show that *aka* itself is sufficient to negate a sentence, negated sentences are most often introduced by *aka* followed by *di*, glossed as FOCUS:[12]

(30) *Akadit   niisdit   Meeli   ol.*

   aka=di=t   niis-t=t   Meeli=a   ol

   NEG=FOC=3.I see-3.II=PN Mary=CN bear

   'Mary didn't see the bear.'

We observe in (30) that the negative morpheme *aka* precedes the focus morpheme *di*. The examples below show that *aka* also precedes (a subset of) the aspectual elements introduced in this section, which in turn precede *di*. That is, negation > aspect > focus.[13] The examples below show that *nah* and *dm* intervene between *aka* and *di*.

---

11. A more literal translation for this example would be "My heart is not good for Henry".

12. Though *di* has not yet been formally analyzed, it frequently appears in contrastive environments, including *wh*-questions, focus fronting constructions, and negation.

13. *Aka* does not co-occur with the aspectual markers *ła* and *yagwa*:

(i) a. *Akadit   k'otsk'otsdit   Meelił   hoon.*
      aka=dii=t   k'ots-k'ots-t=t Meeli=ł   hoon.
      NEG=FOC=3.I PL-cut-3.II=PN Mary=IRR.CN fish

      'Mary does/did not cut fish.' / 'Mary is/was not cutting fish.'

   b. * Akadit **yagwa** k'otsk'otsdit Meelił hoon.

   c.   Aka **yagwa**t k'otsk'otsdit Meelił hoon.

   d.   Aka**yagwa**dit k'otsk'otsdit Meelił hoon.

(31)　aka > *nah* (> *n*) > *di*

　　　Akanandi 　　　　*niist.*

　　　aka=nah=n=di 　niis-t

　　　NEG=PFV=1SG.I=FOC　see-3.II

　　　'I didn't see it.'

(32)　aka > *dm* > *di*

　　　Akadmdi 　　　　*looyks* 　　　*Meeli* 　*a* 　　　　　*Biktolia.*

　　　aka=dm=di 　looyk-t=s 　Meeli 　a-t=a 　　　　Biktolia

　　　NEG=PROSP=FOC　move-3.II=PN　Mary　PREP-3.II=CN　Victoria

　　　'Betty will not move to Victoria.'

These data indicate that Sm'algyax possesses a structurally high negation projection (NegP), and a relatively lower projection headed by *di* (which I call FocP), with both of these projections flanking AspP.

(ii)　a.　*Akadi* 　　*yaa* 　　*waas.*
　　　　aka=dii 　yaa-t 　waas
　　　　NEG=FOC　walk-3.II　rain

　　　　'It's not raining'

　　b.　* Akaładi yaa waas.

Like *yagwa* and *ła*, *aka* is also a trigger of the clause type split described in Section 1.4.6.

(33)

```
              NegP
             /    \
          Neg      AspP
                  /    \
               Asp      FocP
                        /   \
                     Foc     TrP
                              △
                              …
```
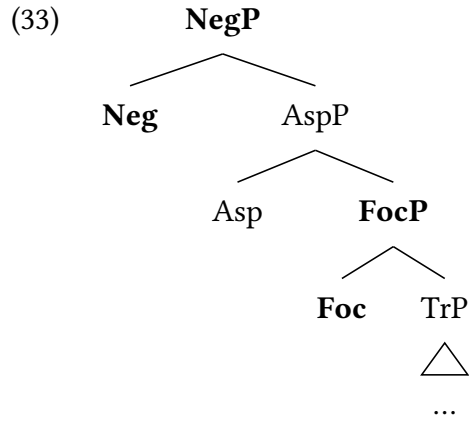
1.4.5.3 Subordination

Embedded clauses in Sm'algyax may be divided into those that are introduced by a *subordinator*, and those that are not. *Bare* clausal complements, those lacking a subordinator, merge directly as (clausal) complements of predicates, appearing as subjects of intransitive predicates and objects of transitive predicates.[14] A bare clausal complement is shown below: the transitive verb *anool* selects for a subject *dzi'is* and a bare clausal object:

(34) | *Anooltis* | *dzi'is* | *nm* | *ky'ilam* | *p'ildzap'il* | *a* |
| anool-t-i-t=s | dzi'is | [n=dm | ky'ilam-t=a | p'ildzap'il | a-t=a |
| allow-T-TR-3.II=PN | grandmother | 1SG.I=PROSP | give-3.II=CN | toy | PREP-3.II=CN |

   haas.
   haas]
   dog

'Grandma allowed me to give a toy to the dog.'

Literally: 'Grandma allowed [I will give a toy to the dog].'

I assume that these clauses are merged as verbal complements:

---

14. Clausal agents (subjects of transitive predicates) are unattested.

(35)   Clausal complementation:

```
        VP
       /  \
      V    CP
           /\
          /__\
           …
```
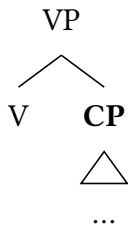
All other embedded clauses feature an overt subordinator that precedes the VSO sequence. These subordinators include *wil* SUBORDINATOR, *wila* MANNER, *g̲an* REASON, and *dzi* IRREALIS. The presence of these elements in certain interrogative constructions is described in Chapter 2.4.

The first element, *wil*, descriptively functions as a general complementizer, and is often translated to English using 'that':

(36)   *Lu aam g̲oodu   wil   g̲atg̲oydiksism.*
       lu   aam goot-u   [**wil** g̲at-g̲oydiks-sm]
       in   good heart-1SG.II SUB   PL-arrive-2PL.II

       'I am very happy that you all came.' (SLLTD)

The next subordinating element is *wila*, MANNER SUBORDINATOR, which introduces a manner clause, often translated to English using 'how'.

(37)   *Aam wila   miilkt.*
       aam   [**wila** miilk-t]
       good   MANR   dance-3.II

       'She/He dances well'
       Literally: 'It's good how she/he dances.'

G̲an, glossed as REASON SUBORDINATOR, introduces clauses translated as 'why' or 'that's why':

(38) *Dzakdida*   *łyoon g̲an lu aam g̲oot.*

   dzak-t-i-t=a   łyoon [**g̲an** lu aam g̲oot-t]

   kill-T-TR-3.II=CN moose REAS in good heart-3.II

   'She/he killed a moose that's why she/he's happy.'

I assume that these clauses introduced by a *wil, wila* and *g̲an* are clausal adjuncts:

(39) Clausal adjunction:
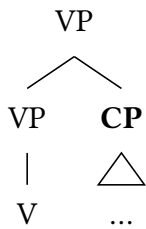
The complement/adjunct distinction will be relevant later in Chapter 3 where I discuss long-distance Ā-dependencies and syntactic islands in Sm'algyax. In brief, long-distance extraction proceeds straightforwardly through clauses that attach as complements, but is prohibited from clauses that merge as adjuncts (i.e., those that are marked by the presence of *wil, wila*, or *g̲an*).

Quite distinct from *wil, wila*, and *g̲an* is the final subordinating element covered here: *dzi*, glossed as IRREALIS. This element appears in a number of environments. In clear-cut subordinating environments, *dzi* introduces embedded polar questions (40) as well as *irrealis* subordinate clauses (41).[15]

---

15. The particle *ligi*—glossed as a *domain widener* DWID—often appears alongside *dzi*. *Ligi* appears in a number of environments, including disjunction and *wh*-indefinite nouns.

(40) *Akadit   wilaay dzi ligit   k̲’otsdit   Lucy   hoon.*

aka=di=t   wilaay [**dzi** ligi=t   k̲’ots-t=t   Lucy=a   hoon]

NEG=FOC=3.I know   IRR DWID=3.I cut-3.II=PN Lucy=CN fish

'He doesn't know if Lucy cut the fish.'

(41) *Wah   waa g̲oots   Betty dzi yaaɫ   waas.*

wah   waa g̲oot=s   Betty [**dzi** yaa=ɫ   waas]

without find heart=PN Betty IRR   walk=IRR.CN rain

'Betty doubts whether it rained.'

Together with the element *ligi*, *dzi* appears in clausal disjunction, translated as 'or':

(42) *Yaayii   waas dzi ligi   yaaɫ   maadm?*

yaa=ii   waas [**dzi ligi** yaa=ɫ   maadm]

walk=Q rain   IRR   DWID walk=IRR.CN snow

'Is it raining or is it snowing?'

Together with the element *da* SPACIOTEMPORAL, *dzi* also appears in conditional antecedents:

(43) *Dzida   luu t’aas   Alflit, aam dm   dip ts’ilaayat.*

dzi=da luu t’aa-t=s   Alflit   aam dm   dip ts’ilaay-t.

IRR=SPT   in   sit-3.II=PN Alfred good PROSP 1PL.I visit-3.II

'If Alfred is home, we should visit him.'

A number of jussive clause-types, including imperatives, hortatives, and prohibitives, may also be marked by *dzi*. In the following examples we see a prohibitive, introduced by *giloo* + *dzi*, and

a hortative introduced by *laan + dzi*:[16]

(44) *Giloom   dzi gapł   goot   giin.*

     giloo=m   **dzi** gap-t=ł   goo=t   gii-n ____

     PROHIB=2SG.I IRR eat-3.II=IRR.CN what=3.I food.give-2SG.II

     'Don't eat what they give you.'

(45) *Laan dza dip łimoomł   wegim!*

     laan dzi dip łimoom-t=ł   wek-m

     HORT IRR PL.I help-3.II=IRR.CN brother-1PL.II

     'Let's help out our brother!'

Embedded clauses headed by *dzi* may merge as complements (as in (35)) or as adjuncts (as in (39)). First, we see that they may be selected by predicates that select for bare clausal complements, such as *wilaay* 'know':

(46) a. *Wilaay* selects bare clausal complement

       Wilaayu   naht   nii   ol.

       wilaay-u   [nah=t nii-t=a   ol]

       know-1SG.II PFV=3.I see-3.II=CN bear

       'I know that she/he saw the bear.'

---

16. *Dzi* is not obligatory in jussive clauses:

(i) *Giloo   biik'n!*
    giloo   biik'-n
    PROHIB like-2SG.II

    'Don't lie!'

  More work needs to be done to determine what effect, if any, the presence/absence of *dzi* has in such clauses.

b.   *Wilaay* selects *dzi*-headed clausal complement

Akndi	*wilaay*	*dzi*	*dmt*	*liiłgidit*	*Meeli*	*haas.*
aka=n=di	wilaay-t	[**dzi**	dm=t	liiłk-t=t	Meeli=a	haas]
NEG=1SG.I=FOC	know-3.II	IRR	PROSP=3.I	look.after-3.I=PN	Mary=CN	dog

'I don't know if Mary will look after the dog.'

As with bare clausal complements, and unlike clausal adjuncts headed by *wil* (discussed in detail in Chapter 3), we also find that *dzi*-headed complements allow long-distance movement:

(47)   a.

Dm	*aam*	*dzidat*	*ḵotsdit*	*Lucy*	*hoon.*
dm	aam	[**dzi**=da=t	ḵots-t=t	Lucy=a	hoon]
PROSP	good	IRR=SPT=3.I	cut-3.II=PN	Lucy=CN	fish

'It'll be good if Lucy cuts the fish.'   Baseline

b.

Goyu	*dm*	*aamt*	*dzidat*	*ḵotsdit*	*Lucy?*
goo=u	dm	aam-it	[**dzi**=da=t	ḵots-t=t	Lucy ___]
what=Q	PROSP	good-SX	IRR=SPT=3.I	cut-3.II=PN	Lucy

'What would be good for Lucy to cut?'   Movement through *dzi*-clause

We also see that *dzi*-headed clauses sometimes pattern with adjunct clauses. For example, in (48a), we see a *wil*-clause adjoin to the intransitive predicate *lu aam goot* 'be happy', and a *dzi*-clause may also do so, as shown in (48b).[17]

---

17. In this example *dzi* is followed by the spaciotemporal element *da*, a sequence we often find in conditional clauses. It could be the case that this structure is a conditional clause in which the consequent clause precedes the antecedent clause. I set this issue aside.

(48) a. *Lu aam goodu niwil niis Meeli.*

　　　 lu= aam goot-u [n=**wil** nii-t=s Meeli]

　　　 in= good heart-1SG.II 1SG.I=SUB see-3.II=PN Mary

　　　 'I'm happy that I saw Mary.'

　 b. *Dm lu aam goodu dzida goydikst.*

　　　 dm lu= aam goot-u [**dzi**=da goydiks-t]

　　　 PROSP in= good heart-1SG.II IRR=SPT come-3.II

　　　 'I would be happy if she/he/they came.'

Though a thorough investigation of these elements is not the goal of this dissertation, I tentatively suggest that not all subordinators are clear-cut complementizers. More specifically, I assume that two elements head a CP: a null C element which can broadly be treated as a realis complementizer, and *dzi*, the irrealis complementizer.[18,19] On the other hand, *wil*, *wila*, and *gan* occupy a lower position I will label as SubP. This is sketched in (49). I assume that the bare clausal complements introduced above are headed solely by the null complementizer or irrealis *dzi*, while clausal adjuncts additionally feature one of the elements that heads SubP.

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18. Alternatively, *dzi* could be analyzed as an element that co-occurs with a null C.

19. The null complementizer may variably be realized as a common-noun connective, as below:

(i) *Anoolksa dm galmiilks Pita.*
　　 anoolks [=**a** dm galmiilk-t=s Pita]
　　 allowed =CN PROSP play-3.II=PN Peter

　　 'Peter is allowed to play.'

(49)

```
                    CP
           ┌─────────┴─────────┐
           C                  NegP
           |            ┌──────┴──────┐
         ∅/dzi         Neg          AspP
                              ┌──────┴──────┐
                             Asp           FocP
                                     ┌──────┴──────┐
                                    Foc           SubP
                                            ┌──────┴──────┐
                                           Sub           TrP
                                            |             △
                                      wil/wila/gan        …
```
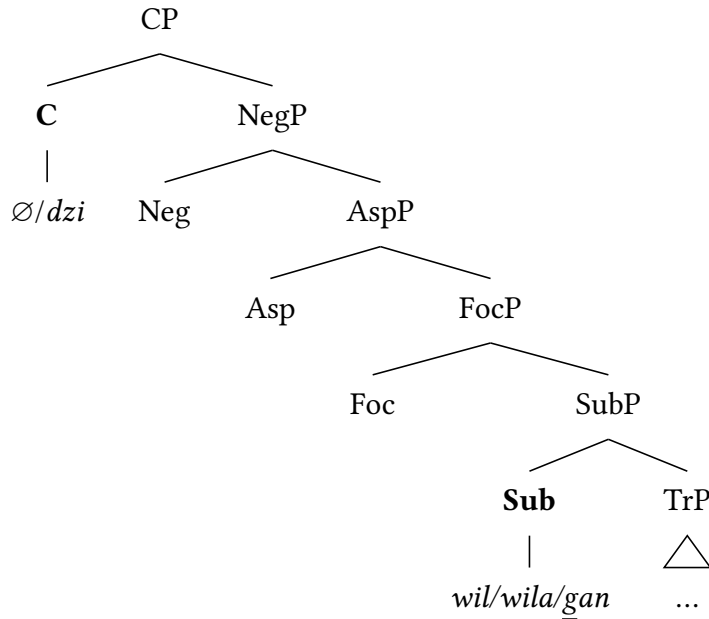
Evidence supporting this conclusion comes from the relative ordering of these elements with other preverbal elements discussed in this section. The subordinators *wil, wila* and *g̲an* are often not the first linear element in the (embedded) clause, and may be preceded by the aspectual elements prospective *dm* and perfective *nah*:

(50) *dm > wil*

Yagwan	*baxbadza*	*łgu*	*'wiileeks*	*gwa'a*	*dm*	*wil*	*t'aat.*
yagwa=n	bax=bats-t=a	łgu	'wiileeks	gwa'a	**dm**	**wil**	t'aa-t.
PROG=1SG.I	up=carry-3.II=CN	little	elder	here	PROSP	SUB	sit-3.II

'I am carrying this elder up to where he will sit.' (SLLTD)

(51) *dm > wila*

    Adziks   *dm*   *wila*   *yaawxgit.*

    adziks   **dm**   **wila**   yaawk-t

    haughty PROSP MANR eat-3.II

    'People are fussy eaters.' Lit: 'The manner that they eat is haughty/arrogant.'

(52) *nah > wil*

    Niidzu   *nah* *wilt*   *k̲'otsdit*   *Lucy*   *hoon.*

    niits-i-u   **nah** **wil**=t k̲'ots-t=t Lucy=a hoon

    see-TR-1SG.II PFV SUB=3.I cut-3.II=Pn Lucy=CN fish

    'I saw that Lucy cut the fish.'

(53) *dm > g̲an*

    Goyu   *dm*   *g̲an* *sag̲ayt* *g̲axhoonm?*

    goo=u   **dm**   **g̲an** sag̲ayt g̲ax-hoon-m

    what=Q PROSP REAS together eat-fish-1PL.II

    'Why are we going to eat fish?' (Anderson & Nelson, 2017)

Likewise, the element *di*, glossed as FOCUS, precedes these elements:

(54) *di > wil*

    Okanagan *di*   *wil* *'waatgu.*

    Okanagan **di** **wil** 'waatk-u

    Okanagan FOC SUB be.from-1SG.II

    'I'm from *the Okanagan*.'

Irrealis *dzi*, on the other hand, always precedes aspectual elements:

(55)   *dzi > dm*

Haligoodi	*dzi*	*dm*	*yaał*	*waas.*
haligoot-i	**dzi**	**dm**	yaa=ł	waas
think-IRR.1SG.II	IRR	PROSP	walk=IRR.CN	rain

'I thought that it was going to rain.'

The ability for elements such as the focus marker *di*, and especially the aspectual *dm* and *nah*, to precede *wil, wila* and *gan* points to them being lower functional elements, rather than occupying a peripheral C-position. The comparatively high irrealis element *dzi*, however, is always peripheral and therefore likely located in the C domain.

In this section I have shown that aspectual elements, clausal negation, and a number of subordinating elements must linearly precede the predicate. I now turn to a clause-type distinction that is crucial for navigating the remaining grammatical processes.

1.4.6   Independent and dependent clauses

Across the Tsimshianic family there are two main clause types, referred to throughout this thesis as *independent* and *dependent*. Much of the prior literature on Sm'algyax refers to these clause types as *indicative* and *subjunctive*, following the terminology introduced in Boas (1911). However, as we will see in detail in this section, the Tsimshianic clause type distinction is orthogonal to mood. I have here opted for the theory-neutral terms used in Rigsby (1986) and later work on Interior Tsimshianic.

This clause type distinction affects person marking, which in turn affects the determiner or connective system (Davis & Forbes, 2015; Davis, 2018). I discuss person marking in Section 1.4.8 and connectives in Section 1.4.9, with direct reference to the clause type distinction.

Independent clauses are typically predicate initial, though some preverbal clitics, particles,

and the aspectual morphemes *dm* PROSPECTIVE and *nah* PERFECTIVE appear before the verb in either clause type. The suffix *-i* (the *transitive suffix*) appears on transitive verbs in independent clauses and functions as a diagnostic for clause type across Tsimshianic (Brown et al., 2020). Examples (56) and (57) show independent clauses that feature the transitive suffix:

(56)   *T'uusis*   *Henry*   *xbiis.*
          t'uus-**i**-t=s   Henry=a   xbiis
          push-TR-3.II=PN Henry=CN box

          'Henry pushes/pushed the box.'   Independent

(57)   *Gabit.*
          gap-**i**-t
          eat-TR-3.II

          'S/he eats/ate it.'   Independent

I discuss the transitive suffix in more detail in Section 1.4.7.

Dependent clauses occur in subordinate contexts, imperative constructions, or are triggered by the presence of a DEPENDENT MARKER, one of a heterogeneous class of prepredicative morphemes which includes *ał/aka* NEGATION, *yagwa* PROGRESSIVE, and *ła* PROXIMAL. In (58) and (59) we see dependent clauses triggered by the dependent markers *yagwa* and *aka*, respectively — note that unlike (56) and (57) these examples lack the transitive suffix:

(58)   *Yagwat* *t'uusdit*   *Henry*   *xbiis.*
          yagwa=t t'uus-t=t   Henry=a   xbiis
          PROG=3.I push-3.II=PN Henry=CN box

          'Henry is/was pushing the box.'   Dependent

(59) *Akadit   gapt.*

      aka=di=t   gap-t

      NEG=FOC=3.I   eat-3.II

      'S/he doesn't/didn't eat it.'   Dependent

I follow Hunt (1993) (on Gitksan) and Forbes (2018) (on Gitksan and Sm'algyax) in assuming that there is no major structural distinction between independent and dependent clauses. Rather, these clauses simply differ in terms of inflection. The following sections will further explore the morphological effects of this clause type distinction.

1.4.7   The transitive suffix

The transitive suffix, introduced in Section 1.4.6, is a vocalic suffix that appears as *-i* in the second line of the examples. It occurs in exactly two environments: in independent clauses featuring transitive predicates (outlined in Section 1.4.6), and when there is Ā-extraction of direct objects (to be discussed in detail in Chapter 2).[20]

In terms of the morphophonology of the transitive suffix, it is a featureless vowel that assimilates to its consonantal environment, surfacing as [ɪ]/"i" in the orthography (the elsewhere form) or [a]/"a" (following uvular consonants (60)), or as a glide [j]/"y" (following vowels (61)).

(60) /-i/ → [a] / [+uvular]____

      *Huumts'ag**a**t*

      huumts'ax-**i**-t

      kiss-TR-3.II

      'She/he/they kissed her/him/them.'   Independent

---

20. In 1.4.3.1 I located the transitive suffix in a projection that dominates *v*P: TrP.

(61) /-i/ → [j] / [+vowel]___

’Nax’nuuyt

’nax’nuu-**i**-t

hear-TR-3.II

‘She/he/they heard her/him/them.’   Independent

Compare the independent clauses in (60) and (61) to the dependent clauses below, which lack the transitive suffix:

(62) *Akadit   huumts’axt*

aka=di=t   huumts’ax-t

NEG=FOC=3.I kiss-3.II

‘She/he/they didn’t kiss her/him/them.’   Dependent

(63) *Akadit   ’nax’nuut*

aka=di=t   ’nax’nuu-t

NEG=FOC=3.I hear-TR-3.II

‘She/he/they didn’t hear her/him/them.’   Dependent

As outlined in detail in Brown et al. (2020), diagnosing the presence of the transitive suffix is often a non-trivial task: deletion processes obscure its presence, while epenthesis processes often result in the presence of an identical vowel in the same position.

The transitive suffix undergoes deletion in two main environments. The first environment occurs when a verb stem has a sonorant coda. Any sequence of a sonorant-final verb stem and a transitive suffix will result in the deletion of the vowel: /R-i/ becomes [R]. This is observed below with the sonorant-final verb *limoom* ‘to help’. Despite the proposed underlying difference

between the independent and dependent verbal complex, the verbs in (64a) and (64b) share an identical surface form due to vowel deletion after a sonorant:

(64) Sonorant-final stem:

    a.   *Dm*   **łimoomt.**
            dm   łimoom-**i**-t
            PROSP help-TR-3.II

            'She/he/they will help her/him/them.'   Independent

    b.   *Akadit*   **łimoomt.**
            aka=di=t   łimoom-t.
            NEG=FOC=3.I help-3.II

            'She/he/they didn't help her/him/them.'   Dependent

The second deletion environment is when the transitive suffix is followed by a vocalic suffix or clitic, such as the first-person suffix *-u* and the common-noun connective *=a*. This deletion process is observed in (65). The vocalic person suffix *-u* triggers the deletion of the transitive suffix, resulting in identical surface forms across both clause types:

(65) TR deletion before first-person suffix *-u*:

    a.   **Gabu**   *sami.*
            gap-**i**-u=a   sami
            eat-TR-1SG.II=CN meat

            'I ate meat.'   Independent

b. *Akadit* **gabu**.

aka=di=t   gap-u

NEG=FOC=3.I eat-1SG.II

'It didn't eat me.'   Dependent

Turning to an example of epenthesis, the sequence of a sibilant-final verb root and a sibilant-initial suffix triggers the epenthesis of a vowel identical in quality to the transitive suffix.

(66) Sibilant-final stem + suffix -*sm*:

a. **T'uusism***t*   *Henry.*

t'uus-**i**-sm=t   Henry

hit-TR-2PL.II=PN Henry

'You all hit Henry.'   Independent

b. *Akadit*   **t'uusism**.

aka=di=t   t'uus-sm

NEG=FOC=3.I hit-2PL.II

'She/he/they didn't hit you all.'   Dependent

This sibilant epenthesis rule does not apply with the proper-noun connective =*s* (discussed in Section 1.4.9). Here we see a contrastive environment: the sequence of sibilant-final stem, transitive suffix, and a proper-noun clitic =*s* will surface as [sis], while a sibilant-final stem followed immediately by =*s* surfaces as [s]:[21]

(67) Sibilant-final stem + connective =*s*:

---

21. The third-person suffix -*t* independently deletes in (67) due to the predictable rule of -*t* deletion discussed in Section 1.4.8.3.

a. ***T'uusis*** *Henryt* *Aidan.*

t'uus-i-t=s   Henry=t   Aidan

hit-TR-3.II=PN Henry=PN Aidan

'Henry hit Aidan.'   Independent

b. *Akadit* ***t'uus*** *Henry.*

aka=di=t   t'uus-t=s Henry

NEG=FOC=3.I hit-3.II   Henry

Though deletion and epenthesis processes obscure the surface distribution of the transitive suffix, I follow the conclusions in Brown et al. (2020) that transitive predicates in independent clauses categorically feature a transitive suffix, whether or not it surfaces overtly. Throughout this dissertation, the presence of a transitive suffix is systematically marked in the second line of glossed examples.

1.4.8   Person marking

In this section, I turn to person marking, which is described and analyzed in Forbes (2018). This section outlines the basic person marking pattern, a proposed morphophonological rule that conditions the deletion of the third person agreement suffix in certain environments, and marked person marking configurations which result from person-hierarchy effects.

1.4.8.1   The basic pattern

There are four sets or *series* of person markers in Sm'algyax (Table 1.3). The distribution of these person-markers is sensitive to the independent/dependent distinction: in independent clauses, Series II suffixes index agreement with the transitive (or *ergative*) subject, and objects and intransitive subjects (*absolutive* arguments) surface as Series III pronouns; in dependent clauses, Series I clitics index agreement with the transitive subject, while Series II suffixes agree with objects

and intransitive subjects. This distribution is schematized in Table 1.4:[22,23]

| | I | | II | | IIIa | | IIIb | |
| | *Clitics* | | *Suffixes* | | *Weak pronouns* | | *Strong pronouns* | |
	sg	pl	sg	pl	sg	pl	sg	pl
1	n	(n) dip	-u	-m	='nu	='nm	'nüüyu	'nüüm
2	m	m sm	-n	-sm	=n	=nsm	'nüün	'nüüsm
3	t		-t		$\emptyset$			'niit

Table 1.3: Sm'algyax person marking

	A	S	O
Independent	II	III	III
Dependent	I	II	II

Table 1.4: Basic person-marking system

We see examples of these person-marking configurations below. In the intransitive independent clause in (68), the intransitive subject (S) is marked with a Series III(a) suffix. In the transitive independent clause in (69), the object (O) surfaces as a Series III(b) independent pronoun and the transitive subject, or *agent* (A), is marked by a Series II verbal suffix:[24]

---

22. These series are referred to as Series I–III after Rigsby (1986), based on their linear position in the clause. For example, Series I clitics appear prepredicatively, while Series II suffixes follow the predicate. Series I–III are referred to in much of the Sm'algyax literature following Boas (1911) and Dunn (1979) as *subjective*, *objective* and definite *objective*, respectively. Sasama (2001, 77 fn.65) points out that these terms are misleading as, for instance, an *objective* (Series II) suffix can mark intransitive subjects and transitive subjects in addition to marking objects. I opt here for the theory-neutral terminology from Rigsby (1986) that is in use for much of the linguistic work on Interior Tsimshianic.

23. A corresponds to Agent, the subject of a transitive verb, S corresponds to the Subject of an intransitive predicate, while O corresponds to the Object of a transitive verb.

24. I follow Peterson (2017) and Forbes (2018) in analyzing Series IIIa suffixes as phonologically weakened forms of the Series IIIb pronouns. The generalization is as follows: when an absolutive pronominal element appears adjacent to a verb that is not inflected with Series II person marking, the "weakened" Series IIIa form surfaces — this is the case for independent intransitive sentences, as well as some independent transitive sentences which have a marked agreement pattern stemming from person-hierarchy effects (see Forbes, 2018; Brown et al., 2020, for description and discussion of these marked agreement patterns). When the verb *is* inflected with Series II person marking, an absolutive argument will surface as a Series IIIb pronoun — this is the case for independent transitive sentences.

(68) Independent intransitive: (weak) Series III marks S

Baa'nu.

baa='**nu**

run=1SG.III

'I ran'

(69) Independent transitive: Series II marks A; (strong) Series III marks O

'Nax'nuuyn(t   'niit).

'nax'nuu-i-**n**(=t   **'niit**)

hear-TR-2SG.II=PN 3.III

'You heard him.'

Example (69) also shows that third-person independent pronouns may be dropped.

In the intransitive dependent clause in (70), S is not marked by Series III, but by a Series II suffix. In the transitive dependent clause in (71), O is also marked by a Series II suffix, while A is marked by a prepredicative Series I clitic:

(70) Dependent intransitive: Series II marks S

Akadi   baayu.

aka=di   baa-**u**

NEG=FOC run-1SG.II

'I didn't run.'

(71) Dependent transitive: Series I marks A; Series II marks O

Akandi   *'nax'nuun.*

aka=**n**=di   'nax'nuu-**n**

NEG=1.I=FOC   hear-2SG.II

'I didn't hear you.'

The system schematized in Table 1.4 has been referred to as *pivoting ergative* by Davis and Brown (2011) for Gitksan (Interior Tsimshianic), as it exhibits ergative agreement patterns on both sides of the clause-type conditioned split, with Series II suffixes acting as the pivot, due to the fact that they mark ergative arguments in independent clauses, and absolutive arguments in dependent clauses. This kind of pattern may also be characterized as partial *agreement reversal* (Kalin & van Urk, 2015).[25]

1.4.8.2   A sketch of person agreement

I present here an adapted and abbreviated version of the general analysis of person marking argued for in Forbes (2018), and refer the reader to Forbes (2018, 2021) for data and argumentation.

The analysis assumes a probe-goal approach to agreement (Chomsky, 2000, 2001). As pointed out in Forbes (2021), the number of active agreement probes in a clause falls out from the following generalizations:[26]

(72) Agreement loci by clause properties (Forbes, 2021)

     a.   Transitive/ergative generalization:

        If the clause is transitive, one locus for agreement is introduced to the derivation.

---

25. Kalin and van Urk (2015) define agreement reversal as a pattern in which a function of agreement markers switches between aspects; however the Tsimshianic pattern is not sensitive to aspectual distinctions, but rather to the independent/dependent clause-typing distinction.

26. Following Forbes (2018, 2021), I treat Series I clitics and Series II suffixes as agreement (their presence being governed by the presence of probes), and Series III pronouns as full DPs.

b. Clause type generalization:

If there is a dependent marker, an(other) agreement locus is introduced to the derivation.

These generalizations are schematized in Table 1.5.

	-trans	+trans
Independent	–	1ϕ
Dependent	1ϕ	2ϕ

Table 1.5: Agreement loci by clause properties (Forbes, 2021)

I situate the Series I probe in the Tr projection that dominates vP.[27] The locus of the Series II probe is a higher functional projection (here, AgrP):

(73) Locus of Series I and II agreement probes
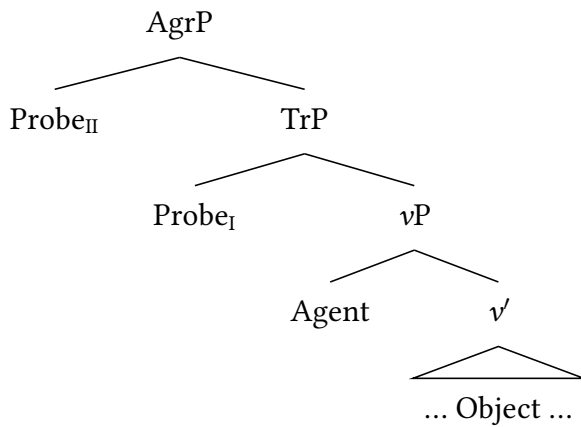
Starting with transitive dependent clauses, which are fully inflected with respect to core-argument agreement, the Series I probe in Tr probes its complement and agrees with the closest accessible argument: the A-argument. This Agree relation transfers A's φ-features (person and

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27. This is consistent with Hunt (1993), which argues that both the transitive suffix and Series I occupy Tr. However, this differs from Forbes (2018, 2021), which places the Series I probe (and the transitive suffix) in the projection that introduces the A-argument (vP). The analysis of Ā-extraction morphology in Chapter 2 requires that the Series I probe dominate both core arguments.

number) to Tr. Following Forbes (2018), Series I clitics are postsyntactically displaced from this base position in the verbal domain to a higher peripheral one. The Series II probe, situated in Agr, Agrees with the remaining argument, the O-argument, inheriting O's φ-features.

(74) a. Step 1: Tr Agrees with A; spells out as Series I clitic

$$[_{\text{TrP}} \; \text{Tr}_{[\varphi]} \; [_{v\text{P}} \; \text{DP}_{[\varphi]} \; [_{v'} \; ...] \;] \;]$$

b. Step 2: Agr Agrees with O; spells out as Series II suffix

$$[_{\text{AgrP}} \; \text{Agr}_{[\varphi]} \; [_{\text{TrP}} \; \text{Tr} \; [_{v\text{P}} \; \text{DP} \; [_{v'} \; v \; [_{\text{VP}} \; \text{V} \; \text{DP}_{[\varphi]} \;] \;] \;] \;] \;]$$
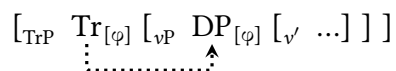
The Series I probe is inactive in intransitive dependent clauses.[28] The Series II probe Agrees with the sole argument: the S-argument.

(75) a. Agr Agrees with S; spells out as Series II suffix

$$[_{\text{AgrP}} \; \text{Agr}_{[\varphi]} \; [_{\text{TrP}} \; \text{Tr} \; [_{v\text{P}} \; \text{DP}_{[\varphi]} \; [_{v'} \; ...] \;] \;] \;]$$
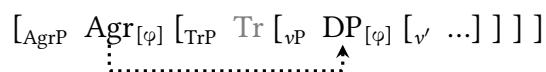
Independent clauses deviate from the inflectional behaviour outlined above for dependent clauses. The Series I and Series II probes are assumed to have a special relation that results in the latter taking on the properties of the former (Forbes, 2018).[29] Independent clausal agreement (setting aside marked agreement configurations, described in Section 1.4.8.4) is therefore characterized by a configuration in which only the A-argument is agreed with. In an intransitive independent clause, the bundled probe is inactive and no agreement surfaces. In a transitive independent clause, the bundled probe agrees with the A-argument (registering Series II agreement), while the non-agreeing Tr head spells out as -*i*, the transitive suffix.

---

28. I assume, following Hunt (1993), that even intransitive structures have a TrP projection.

29. Forbes (2018, p. 133) argues that the independent/dependent clause distinction falls out from a special C element that occurs only in matrix clauses that triggers independent style inflection.

(76) Agr Agrees with A; spells out as Series II suffix; Tr spells out as *-i*

$$[_{\text{AgrP}} \; \text{Agr}_{[\varphi]} \; [_{\text{TrP}} \; \text{Tr} \; [_{v\text{P}} \; \text{DP}_{[\varphi]} \; [_{v'} \; v \; [_{\text{VP}} \; \text{V DP} \;]$$
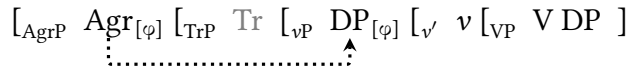
Having the Series I probe and the transitive suffix heading the same projection accounts for the cross-Tsimshianic generalizations:

(77) Two generalizations about the transitive suffix (Forbes, 2018; Brown et al., 2020):

    a. The transitive suffix appears if and only if suffixal (Series II) verbal agreement agrees with the ergative argument.

    b. The transitive suffix is in complementary distribution with (Series I) ergative agreeing clitics.

1.4.8.3 *-t* deletion

Throughout this dissertation I include in the morpheme breakdown the presence of a proposed underlying third-person agreement marker *-t*, following the proposal in Tarpent (1987) for Nisg̲a'a, which is adopted in Hunt (1993) for Gitksan as well as by Davis (2018) for Sm'algyax.

(78) Dependent intransitive: Series II marks S; deleted when adjacent to referent

    *Ła   miiga   maay. (not **miikda**)*

    ła   miik-**t**=a   maay

    PROX ripe-3.II=CN berry

    'The berries are ripe.'

Consistent with the generalizations outlined in the previous section, the proposed suffixal Series II agreement marker *-t* agrees with ergative arguments in independent clauses and absolutive

arguments in dependent clauses. However, it does not surface when followed directly by the DP it agrees with, as is the case in (78). Davis (2018) formulates the *-t* deletion rule in (79):[30]

(79)   *-t deletion* (Davis, 2018)

    3.II $-t_{[\alpha K]} \rightarrow \varnothing$ / _____ $DP_{[\alpha K]}$

    (where K stands for a Case feature)

As noted by Davis (2018, p. 35), this process eliminates most instances of underlying *-t* followed by an overt DP. However, this deletion process is sensitive to a strict adjacency requirement: when elements such as sentential clitics appear between the predicate and its arguments, *t*-deletion does not occur. We observe this in (80): the epistemic modal clitic *=sn* surfaces between the predicate and its argument, and *-t* appears.

(80)   *Ła*   *miiktsnł*   *maay.*

    ła   miik-**t**=sn=ł   maay

    PROX   ripe-3.II=EPIS=IRR.CN   berry

    'The berries might/must be ripe.'

Likewise, if *-t* is adjacent to a non-coreferring DP (i.e., *-t* and its adjacent DP do not share a Case feature K), it obligatorily surfaces. This specifically occurs in VSO dependent clauses, where the transitive subject intervenes between *-t* and its coreferring (object) DP. In this configuration, a Series I clitic agrees with the subject (indicated in italics in (81)), and the overt Series II suffix agrees with the object (indicated in bold).[31]

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30. This rule presupposes that arguments in Sm'algyax possess abstract case features; in Chapter 2 I argue that all core arguments are assigned these abstract case features via a configurational case algorithm.

31. A sequence of third person *-t* and the proper noun connective *=t* surfaces as [dit].

(81) *Yagwat   ludamksdit   Betty   mak'ooxs.*

  yagwa=*t* ludamks-**t**=*t*   *Betty*=**a** **mak'ooxs**

  PROG=3.I   squeeze-3.II=PN Betty=CN salmonberries

  'Betty is squeezing the salmonberries.'

1.4.8.4 Person hierarchy effects

As is described in more detail in Mulder (1994), Sasama (2001), Forbes (2018), and Brown et al. (2020), independent clauses in Sm'algyax are sensitive to person-hierarchy effects, resulting in a number of marked person-marking configurations for independent clauses that diverge from the basic pattern in Table 1.4.

The first marked configuration optionally arises in intransitive sentences with a discourse participant (first or second person) subject. Contrary to the basic system, where we expect Series III to mark the intransitive subject, we observe a configuration in which a Series I clitic and a Series III pronoun both refer to the subject. This is the only person-marking configuration in which a Series I clitic agrees with a role other than a transitive subject.

(82) *Nan   gislooyga'nu   da   Kyoto.*

  nah=**n**   gis-looyk=**'nu**   da   Kyoto

  PFV=1SG.I transfer-move=1SG.III PREP Kyoto

  'I moved to Kyoto.' (Sasama, 2001, p. 259)

Independent transitive clauses with a third-person object are always marked in line with Table 1.4; that is, a Series II suffix agrees with the transitive subject a Series III pronoun realizes the object (83a).[32] Independent clauses with participant (first or second person) subjects and

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32. Recall, however, that third-person Series III pronouns are often dropped, as in (69).

objects take on dependent clause morphosyntax: they lack the transitive suffix, a Series I clitic marks the transitive subject, and a Series II suffix marks the object (83b). Finally, independent clauses with a third-person subject and a participant object are marked as follows: a Series I clitic marks the transitive subject, and a Series III pronoun marks the object (83c):

(83)   a.   Unmarked: Third-person object:

        Nah t'uusismt   'niit.

        nah t'uus-i-**sm**=t   **'niit**

        PFV hit-TR-2PL.II=PN 3.III

        'You all hit him/her/them.'

    b.   Marked: 1/2-on-1/2:

        Nam   t'uusu.

        nah=**m** t'uus-**u**

        PFV=2.I push-1.II

        'You hit me.'

    c.   Marked: 3-on-1/2:

        Naht   t'uusinsm.

        nah=**t**   t'uus=**nsm**

        PFV=3.I hit-TR=2PL.III

        'He/her/they hit you all.'

These marked agreement configurations are analyzed in Forbes (2018).

1.4.8.5   Beyond core arguments

Beyond the marking of core arguments, Series II suffixes and Series III pronouns have additional roles. For instance, Series III pronouns may follow a preposition (84), and function as strong

pronouns in a left-peripheral position under Ā-movement (85), and Series II suffixes also mark possession (86):

(84) *Gaadu   kaats adan   k'ilamt   as   'niit.*

gaa-t-u   kaats ada=n   k'ilam-t [a-t=s   **'niit**]

take-T-1SG.II card and=1SG.I give-3.II PREP-3.II=PN 3.III

'I take a card and give it to her/him.'

(85) *'Nüün dm   int   gaas   Meeli.*

'nüün [dm   in=t   gaa-t=s ___ Meeli]

2SG.III PROSP AX=3.I take-3.II=PN Meeli

'It's you who will take Mary.'

(86) *waabm*

waap-**m**

house-1PL.II

'our house'

Having described person marking across independent and dependent clauses, I now turn to the morphological marking associated with overt DPs.

1.4.9 Connectives

I conclude this chapter with a description of the determiner-like elements, referred to in the Tsimshianic literature as *connectives* following Boas (1912). Connectives are clitics that attach to the phrase that appears to the left of the nominal they introduce; they do not encode a DP

with any discernable semantic interpretation (e.g. definiteness effects). This is seen in (87): the connective *=a* is associated with the common noun *hana'a*, but phonologically attaches to the predicate *sis'aaxs* which appears to the left of the noun. All non-predicative nominals must be introduced by a connective.[33]

(87) *Sis'aaxsa   hana'a.*

     sis'aaxs   [=**a**   hana'a]

     laugh   =CN   woman

     'The/a woman laughed.'

There are four connectives which make up this system: the proper-noun (or *determinate*) connectives *=t* and *=s*, and the common noun connectives *=a* and *=ł*. Proper-noun connectives appear with proper names, ascending kinship terms (such as mother and grandfather, but not daughter or grandson), Series III pronouns (in some configurations), and demonstratives. Common noun connectives introduce every other class of nominal. The connective *=a* uniformly introduces intransitive subject, transitive subject and object across both clause types:[34]

(88) Independent intransitive: [*=a* S]

     G̲oyt'iksa   ts'ikts'ik.

     g̲oyt'iks   [=**a**   ts'ikts'ik]

     arrive   =CN   car

     'The car arrived.' (Anderson & Ignace, 2008, p. 366)

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33. As pointed out above, sometimes the connective is phonologically elided when it follows a sonorant or vowel (Anderson & Ignace, 2008).

34. Though (90) and (91) function as matrix/root sentences, they are dependent clauses as they are introduced by the dependent markers *ła* and *yagwa*, respectively.

(89) Independent transitive: [=*a* S] [=*a* O]

Dm   gaba   haasa   hoon.

dm   gap-i-t   [=**a** haas] [=**a** hoon]

PROSP eat-TR-3.II =CN dog   =CN fish

'The dog will eat the fish.' (Anderson & Ignace, 2008, p. 394)

(90) Dependent intransitive: [=*a* S]

Ła   dzaga   giik.

ła   dzak-t [=**a** giik]

PROX die-3.II =CN fly

'The fly is dead.'(Sasama, 2001, p. 98)

(91) Dependent transitive: [=*a* A] [=*a* O]

Yagwat   sibaasda   gyeda   haas.

yagwa=t sibaas-t   [=**a** gyet]   [=**a** haas]

PROG=3.I scare-3.II =CN person =CN dog

'The person scared the dog.'

Under certain conditions, =*a* is optionally replaced by =*ł*, the so-called irrealis connective. This connective appears in a number of non-declarative sentence types, including interrogatives, imperatives, and exclamatives, as well as alongside negation, epistemic modals, and evidentials. Examples of the irrealis connective are given below:

(92) Negation

Akat   *anooxdit*   *Larryɬ*   *onions.*

a=ka=t   anoox-t=t   Larry   [=ɬ   onions]

NEG=FOC=3.I   like-3.II=PN   Larry   =IRR.CN   onions

'Larry doesn't like onions.' (Sasama, 2001, p. 106)

(93) Polar question

Gabaɬ   *haasiiɬ*   *hoon?*

gap-i-t   [=ɬ   haas]=ii   [=ɬ   hoon]

eat-TR-3.II   =IRR.CN   dog=Q   =IRR.CN   fish

'Did the dog eat the fish?'

In subsequent chapters, I will discuss the role of common-noun connectives (both irrealis and non-irrealis) in extraction and questions.

The choice between the two proper-noun connectives proceeds as follows. In an independent clause, intransitive subjects and objects are introduced by *=t* while transitive subjects are introduced by *=s* — a straight-forward ergative-absolutive pattern.

(94) Independent intransitive — [*=t* S]

Sisaaxsit   *Meeli*

sisaaxs   [=**t**   Meeli]

laugh   =PN   Mary

'Mary laughs/laughed'

(95) Independent transitive — [=*s* A] [=*t* O]

      Sibaasis   *Dzont*   *Meeli*

      sibaas-i-t   [=**s** Dzon] [=**t** Meeli]

      scare-TR-3.II =PN John   =PN Mary

      'John scares/scared Mary'

In dependent clauses, the choice of proper noun connective is more complex: =*s* introduces intransitive subjects, while =*t* introduces transitive subjects and objects. However, when an object is adjacent to the predicate (such as in sentences with a pronominal subject) it is exceptionally introduced by =*s*.

(96) Dependent intransitive — [=*s* S]

      Yagwa sis'aaxs   *Meeli*

      yagwa sis'aaxs-t [=**s** Meeli]

      PROG   laugh-3.II =PN Mary

      'Mary is/was laughing'

(97) Dependent transitive — [=*t* A] [=*t* O]

      Yagwat   sibaasdit   *Dzont*   *Meeli*

      yagwa=t sibaas-t   [=**t** Dzon] [=**t** Meeli]

      PROG=3.I scare-3.II =PN John   =PN Mary

      'John is/was scaring Mary'

(98) Dependent transitive − [=s O]

  Ła   dmt   łimooms   Doug.

  ła   dm=t   łimoom-t [=**s** Doug]

  PROX PROSP=3.I help-3.II   =PN Doug

  'She/he is about to help Doug.' (Anderson & Ignace, 2008)

Plural determinate nouns are marked by the presence of the particle *dip*. A sequence of proper noun *=t* and *dip* reduces to *dip*, while a sequence of proper noun *=s* and *dip* surfaces as *=s dip*:

(99) *Ganabiipsu*   *dip Rick, Lawrence, adat   Ken.*

  ga-nabiip-s-u=**t**   **dip** Rick Lawrence ada=t   Ken

  PL-uncle-PL-1SG.II=PN   PL   Rick Lawrence and=PN Ken

  'Rick, Lawrence, and Ken are my uncles.' (Sasama, 2001, p. 200)

(100) *Aka lunda*   *a'algyaxs*   *dip Dzon dis*   *Meeli.*

  aka lunda   a-algyax-t=**s**   **dip** Dzon di-t=s   Meeli

  NEG back.and.forth PL-speak-3.Ii=PN PL   John with-3.II=PN Mary

  'Mary and John aren't speaking to each other.' (SLLTD)

Though the examples above show *dip* apparently functioning as an ordinary (determinate) plural marker, it is best classified as an *associative plural* marker; that is, an element that combines with a noun X to form the interpretation 'X and the people associated with X'/'X and them' (Daniel & Moravcsik, 2011; Forbes, 2013). We see an associative construction with *dip* in the example below:

(101) *Dip Klalensa   k̲'adawɫit.*

     dip Klalens=a   k̲'adawɫ-it

     PL   Clarence=CN leave.PL-SX

     'Clarence and them left.'

Davis (2018) argues that the choice between *=t* and *=s* is determined as follows. The connective *=t* appears as a default, unmarked connective, while *=s* appears precisely in the environment where a common-noun connective follows an underlying third-person *-t* suffix (described in 1.4.8), as we can see in the second line of the morpheme breakdown in the examples above. This process is formalized as a series of rules: first, an underlying sequence of /-t=t/ (-3.II=PN) triggers the *=s* connective allomorph via a rule of "/t/-softening", second, *-t* is deleted via the *-t* deletion rule in (79).

With this background in place, let us now turn to our discussion of questions in Sm'algyax.

CHAPTER 2

Sm'algyax extraction

2.1   Introduction

This chapter presents an in-depth look at *wh*-questions, focusing, and relativization in Sm'algyax.

Questions in Sm'algyax are characterized by a complex system of extraction morphology indicating whether a transitive subject (A), intransitive subject (S), or object (O) has been extracted. This tripartite system is surprising given that Sm'algyax is an otherwise ergative patterning language in which intransitive subjects and direct objects pattern together with respect to person marking and agreement (as shown in Chapter 1.4.8). We thus find that extraction processes reveal a grammatical distinction between intransitive subjects and direct objects, as is also attested in the Interior Tsimshianic languages (Rigsby, 1986; Tarpent, 1987; Davis & Brown, 2011; Brown, 2016; Forbes, 2017).

In addition to core-argument extraction, Sm'algyax also boasts a number of configurations marking different types of adjunct and non-core-argument extraction. Again, as has also been established in Interior Tsimshianic in Brown and Forbes (2018), we observe that while in-situ oblique elements often pattern identically to one another, extraction of these oblique elements differs substantially, highlighting underlying heterogeneity not observable in sentences with canonical word order.

This chapter provides a detailed description of each configuration and shows parallels to other kinds of movement/fronting such as focusing and relativization: so-called *A-bar* processes (henceforth Ā-processes).

I propose that the tripartite agreement pattern we find in core-argument extraction results from *wh*-agreement between a head in the expanded verbal projection (Tr) and an argument indexed with an Ā-feature and, crucially, an abstract case feature. Despite typically patterning as an ergative-absolutive language; I argue, in line with Forbes (2017), that Sm'algyax core arguments each bear distinct abstract case features.

This chapter proceeds as follows: In Section 2.2.1, I outline the basic facts of *wh*-expressions, *wh*-movement, and extraction. In Section 2.3, I move onto description of core argument extraction with a focus on *wh*-questions. In Section 2.4, I describe non-core argument and adjunct extraction. In Section 2.5, I provide an analysis of extraction morphology, appealing to underlying abstract case features. In Section 2.6, I conclude. I note here that most questions are marked by the *wh*-clitic *=u*, glossed as Q in the examples. I discuss this clitic in detail in Chapters 4 and 5.

2.2   *Wh*-expressions and questions

In contrast to Sm'algyax's canonical predicate initial word order (1a), *wh*-questions (1b), focus constructions (1c), and relative clauses (1d) are characterized by the preposing of a post-predicative word or phrase to the clause-initial position:

(1) a. *Tgi   k̲'apaaytga   'yuuta*

tgi   k̲'apaaytk=a **'yuuta**

down fall=CN   man

'The man fell down.'

b. *Naayu   tgi   k̲'apaaytgit?*

naa=u=a   tgi   k̲'apaaytk-it ___

who=Q=CN down fall-sx

'Who fell down?'

c. *Dzon*   *tgi*   *ḵ'apaaytgit.*

Dzon=a tgi   ḵ'apaaytk-it ___

John=CN down fall-sx

'*John* fell down.' (a suitable answer to (1b))

d. *Wilaayu*   *'yuuta*   *tgi*   *ḵ'apaaytgit.*

wilaay-u=a   **'yuuta**=a tgi   ḵ'apaaytk-it ___

know-1SG=CN man=CN   down fall-sx

'I know the man who fell down.'

In this section I outline basic facts about *wh*-questions in Sm'algyax. I introduce simple and complex *wh*-expressions and their uses in both questions and non-interrogative contexts. I show that *wh*-in-situ is not permitted and clear-cut multiple *wh*-questions are not possible, but may be approximated. Finally, I argue, following Davis and Brown (2011) and Davis and Nederveen (2021) (on Gitksan) and Brown and Davis (in press-a, in press-b), and Davis and Brown, in press (on Sm'algyax), that there are two distinct question formation strategies, characterized as involving either *direct* or *indirect* movement.

2.2.1 *Wh*-expressions

There are three basic *wh*-expressions in Sm'algyax: *naa* 'who', *goo* 'what', and an underspecified *wh*-expression *ndaa/ndeh.* As shown in Table 2.1, these basic words combine with subordinating elements such as *wil/wila/g̱an* to form complex *wh*-expressions corresponding to 'when', 'how', and 'why'. (These subordinators and non-core argument extraction configurations are described in detail in Section 2.4). In addition to the basic *wh*-expressions, there are two quantificational *wh*-expressions *t'masool* 'how many (people)', and *t'maays* 'how many (things)'.

	naa	*goo*	*ndaa/ndeh*	**t'ma-*
	'who'	'what'	WH	'how many'
wil SUB		*goo wil* 'when'	*ndaa wil* 'where'	
wila MANNER		*goo wila* 'how'	*ndaa wila* 'how'	
g̱an REASON		*goo g̱an* 'why'		
Other			*dzindaa* 'when (irrealis)' *ksindaa* 'which (one)'	*t'masool* 'how many (people)' *t'maays* 'how many (things)'

Table 2.1: Sm'algyax *wh*-expressions

Bare *wh*-expressions may occasionally appear in argument positions, functioning as light nouns such as 'person' or 'thing'. This suggests that the interrogative reading of these *wh*-expressions is associated with the clause-initial position.[1]

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1. Non-interrogative *wh*-expressions do, however, optionally occur clause initially in *headless relative clauses*:

(i) Context: John trapped two bears; one managed to get free and start running off.
    Guuyda   (goo)   k̲'eexgit.
    guu-i-t=a   **goo**=a   k̲'eexk-it ____
    shoot-TR-3.II=CN what=CN run.off-SX

    'She/He shot the one that ran off.'

(ii) *Txal'waayu   (naa)   int   ba'an   boot.*
     txal'waa-i-u=a   **naa**=a   in=t   baa-'n-t ____=a   boot
     meet-TR-1SG.II=CN who=CN AX=3.I run-CAUS-3.II=CN boat

     'I met the one who runs the boat.'

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(2) *Ksiniidzu*   *naa.*
     ksi=niist-i-u=a   **naa**
     out=see-TR-1SG.II=CN who

     'I picked out a person.'

(3) *Hablbooltida*   *goo*   *a*   *ts'im* *ts'ikts'ikt.*
     ha=bl-boolt-i-t=a   **goo** a-t=a   ts'im ts'ikts'ik-t
     INS=PL-keep-TR-3=CN   what PREP-3.II=CN in   car-3.II

     'She/he is keeping things in her/his car.'

Indefinite/indeterminate nouns—those that refer to non-specific entities—are most often composed of a *wh*-expression preceded by a particle that contributes quantificational meaning, including *ligi* 'some/any/or', *txa'nii* 'all', and *ał/aka/'wah* 'not'.

(4) *Nah* *niidzu*   *ligit*   *naa*
     nah   niits-i-u   **ligi**=t   **naa**
     PFV   see-TR-1SG DWID=PN who

     'I saw someone.'

(5) *Giigida*   *txa'nii* *goo* *ap* *ksa*   *ła'at.*
     giik-i-t=a   **txa'nii** **goo** ap   ksa=a   ła'at
     buy-TR-3.II=CN   all   what VER only=CN ball

     'She/he bought everything but the ball.'

(6) *Giloo   labayt   'nakan   da   'wah goo.*
    giloo=a   liba**g**ayt 'naka-n   da-t=a   **'wah goo**
    PROHIB=CN wrong   reach.out-2SG.II PREP-3.II=CN NEG   what

    'Stop reaching for nothing.' (SLLTD)

Wh-expressions marked with quantificational particles are able to appear in the clause-initial position, where they receive a focused rather than an interrogative meaning:

(7) *Txa'nii goo   wil baast.*
    txa'nii goo wil baas-t ____
    all   what SUB fear-3.II

    'She/he is afraid of *everything*.'

2.2.2 No *wh*-in-situ

In example (1b) we see that *wh*-question formation involves preposing of a *wh*-expression to the clause-initial position. This preposing is obligatory: the *wh*-expression cannot appear in situ, either as a canonical question or an echo/surprise question:

(8) a. *Tgi   k̲'apaaytga   'yuuta.*
        tgi   k̲'apaaytk=a 'yuuta
        down fall=CN   man

        'The man fell down.'

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b. *Naayu tgi   ḵ'apaaytgit?*

    naa=u tgi ḵ'apaaytk-it ___

    who=Q down fall-sx

    'Who fell down?'

c. * *Tgi   ḵ'apaaytgit naa(yu)?*

    tgi   ḵ'apaaytk-it **naa**(=u)

    down fall-sx   who=Q

    Intended: 'Who fell down?'

(9) Context: 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-i-t=s   Pat=ł   **goo**

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

    Intended 'Pat ate what?!'

b. *Goł   gabis   Pat?!*

    goo=ł   gap-i-t=s   Pat

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

    'What did Pat eat?!' (Correction offered by speaker in context)

2.2.3 Multiple *wh*-questions

Multiple *wh*-questions are not straightforwardly permitted. In (10) we observe that multiple *wh*-movement is not possible, and that English-style multiple *wh*-questions with an in-situ *wh*-

expression are likewise not possible.

(10) Context (adapted from Krifka (2001)): You are at a potluck and are curious about who made what.

a. * *Naa(yu) goo(yu) int dzamt?*
   naa(=u) goo(=u) in=t dzam-t
   who=Q what=Q AX=3.I make-3.II

b. * *Naa(yu) int dzam goo(yu)?*
   naa(=u) in=t dzam-t goo(=u)
   who=Q AX=3.I make-3.II what=Q

Intended: 'Who made what?'

This fact places Sm'algyax among the set of languages that disallow multiple *wh*-questions, which also includes Irish, Berber, Somali, and Italian (Stoyanova, 2008), as well as a number of languages from the Mesoamerican sprachbund (for further examples, see the papers included in Caponigro et al., 2020).

Multiple *wh*-questions may be approximated by questions with universal quantifiers, which are compatible with *pair-list answers* (as in (11b)). As is shown in (11c), this construction is also compatible with *functional answers* (see, e.g., Groenendijk and Stokhof (1984), Engdahl (1986), Chierchia (1993), and Dayal (2016)).

(11) Context (adapted from Krifka (2001)): You are at a potluck and are curious about who brought what.

a. *Goł   wils wineeyadu txadoga   txa'nii gyet?*

   goo=ł   wils wineeya=u txa=dox-i-t=a   txa'nii gyet ____?

   what=CN kind food=Q   around=bring-3.II=CN every   person

   'What dish did everyone bring?'

b. *Miyuup   di   digoydiksis   Alfred, anaay di   digoydiksis   Betty, ada*

   miyuup   di   digoydiks-i-t=s   Alfred, anaay di   digoydiks-i-t=s   Betty, ada

   rice   FOC bring-TR-3.II=PN Alfred rice   FOC bring-TR-3.II=PN Betty, and

   sami di   digoydiksis   Tsaali.

   sami di   digoydiks-i-t=s Tsaali.

   meat FOC bring-TR-3.II=PN Charlie

   'Alfred brought rice, Betty brought bread, and Charlie brought meat.' *Pair-list answer*

c. *Lip goo   wils wineeya anoogat.*

   Lip goo   wils wineeya anoox-i-t.

   self what kind food   like-TR-3.II

   'Whatever dish they liked.'   *Functional answer*

Gutzmann et al. (2020) note that in Gitksan, questions featuring a fronted *wh*-expression and an in-situ *wh*-expression introduced by the domain-widening particle *ligi* optionally permit a multiple *wh*-question interpretation (these constructions are compatible with pair-list responses, see Gutzmann et al. (2020, p. 32)):

(12)   Context: You're the detective investigating a crime and you come into a room of potential witnesses. You ask: "Who saw something?"

Naa an=t   alp'a gya'a=hl ligi   agwi?
who AX=3.I RESTR see=CN   DWID what

'Who saw something?' (Gitksan; Gutzmann et al., 2020, p. 32)

(13)   Context: You're a detective. Everyone is yelling out what they saw about the crime. You say: "Calm down; …":

Naa an=t   alp'a gya'a=hl ligi   agwi?
who AX=3.I RESTR see=CN   DWID what

'Who saw what?' (Gitksan; Gutzmann et al., 2020, p. 32)

This kind of construction has been volunteered to me as an approximation of a multiple *wh*-question in Sm'algyax:

(14)   Context: Bill gave out a number of food items to different people. You're curious who was given what.

* *Got   giindit   Billdut   naa?*
   go=t   giin-t=t   Bill=u=t   naa
   what=3.I give-3.II=PN Bill=Q=PN who

Intended: 'What did Bill give to whom?'
Consultant's comment: What are you trying to say? [Corrected to (15)]

(15) Context: Bill gave out a number of food items to different people.

     Got   *giindit*   *Billdut*   *ligit*   *naa?*

     go=t   giin-t=t   Bill=u=t ligi=t   naa

     what=3.I give-3.II=PN Bill=Q=PN DWID=PN who

     'What did Bill give to someone?'[2]

These constructions with an in-situ *ligi-wh* expression warrant further investigation to determine whether the pair-list responses they permit correspond to true semantic pair-list answers or are better analyzed in another way. I note here that the possibility of pair-list responses is not limited to multiple *wh*-questions; similar responses can also arise with questions involving universal quantifiers (as in (11a)), plural definites (Krifka, 1992; Srivastav, 1992; Dayal, 1996; Johnston, 2023), and certain indefinites (Fiorentino, 2006).[3] This issue remains an open question.

2.2.4 Discourse-linked questions

Discourse-linked *wh*-questions (translated with 'which') are formed with the complex *wh*-expression *ksindaa/ksindeh* which appears before a noun, or may stand alone, in which case it is translated as 'which one':

(16) a. *Ksindeyu*   *g̲an diduulsit?*

       ksi=ndeh=u g̲an diduuls-it ___

       out=WH=Q   tree live-sx

       'Which tree is alive?'

---

2. This translation to English was volunteered by my consultant in the context.

3. Pair-list responses to plural definites have been treated by Krifka (1992), Srivastav (1992), and Dayal (1996) as pragmatic (over-) elaborations that provide more information than explicitly asked for, rather than true pair-list answers. By contrast, Johnston (2023) argues that plural definites do have genuine (i.e., semantically represented) pair-list answers.

b. *Ksindeyu   diduulsit?*

   ksi=ndeh=u diduuls-it ___

   out=WH=Q   live-sx

   'Which one is alive?'

2.2.5   Two question formation strategies

Following work on the closely related Interior Tsimshianic language Gitksan (Davis & Brown, 2011; Davis & Nederveen, 2021), and recent collaborative work on Sm'algyax (Brown & Davis, in press-a, in press-b; Davis & Brown, in press), I adopt the hypothesis that Sm'algyax has two question-formation strategies, characterized by *direct* versus *indirect* movement.

Direct movement proceeds much as in English: a *wh*-expression undergoes Ā-movement to the left periphery of the clause. Indirect movement structures, on the other hand, feature a predicative *wh*-expression that is base generated in initial position and takes a DP as its argument (typically a headless relative clause; see Aonuki (2021a, on Gitksan headless relative clauses)).

Though the surface realization of direct and indirect movement is often identical, one construction in Sm'algyax unambiguously signals the indirect movement structure: content questions featuring the relative pronoun *gu*.[4] The examples below show that *gu* introduces relative clauses, both headed (17) and headless (18):

(17) *Wilaayu   hana'a   gu   sis'aaxsit.*

      wilaay-i-u=a   hana'a=a   [**gu** sis'aaxs-it ___]

      know-TR-1SG.II=CN   woman=CN   REL   laugh-sx

      'I know the woman that laughed.'   *Headed relative clause*

---

4. *Gu* is probably historically a reduced form of the *wh*-expression *goo* 'what'; however, it is not synchronically a question word.

(18) *Gabu*   *gu   nah dzabn.*

gap-i-u=a   [**gu** nah dzap-i-n ____]

eat-TR-1SG.II=CN   REL PFV make-TR-2SG.II

'I ate what you made.'   *Headless relative clause*

Gu may also appear in *wh*-questions, as shown in (19) below.

(19) *Godu*   *gu   yoyksis*   *Meeli?*

goo=du=a   [**gu** yoyks-i-t=s   Meeli ____]

what=Q=CN   REL wash-TR-3.II=PN Mary

'What did Mary wash?' Literally: 'What is [(the thing) that Mary washed]?'

Indirect and direct movement structures are sketched below. I propose that a question like (19) has the structure in (21), with *gu* functioning as a relative pronoun.

(20) Direct movement:

$[_{CP}$ *wh* C $[_{TP}$ ... ____ ...]]
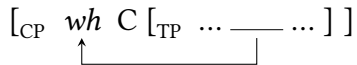
(21) Indirect movement:

$[_{TP}$ *wh* $[_{DP}$ *pro* $[_{CP}$ (*gu*) C $[_{TP}$ ... ____ ...]]]]
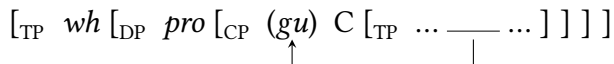
Evidence for these two movement strategies comes from interrogative clitic placement (discussed in Chapter 5, Brown and Davis (in press-a, in press-b) and Davis and Brown (in press)). In brief, the *wh*-clitic =*u* shifts from a clause-peripheral position (as I argue in Chapter 4) to a clause-internal position, variably appearing on the *wh*-word or in a post predicative position (as shown in (22)).

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(22) a. *Godu*   *yoyksis*   *Meeli?*

goo=**u**=a   yoyks-i-t=s   Meeli

what=Q=CN wash-TR-3.II=PN Mary

'Who washed the dishes?'

   b. *Goł*   *yoyksadut*   *Meeli?*

goo=ł   yoyks-i-t=**u**=t   Meeli

what=IRR.CN wash-TR-3.II=Q=PN Mary

'Who washed the dishes?'

When relative *gu* appears, *wh*-clitic positioning is no longer variable: it must follow the *wh*-word and cannot appear in the lower, post predicative position:

(23) a. *Godu*   *gu* *yoyksis*   *Meeli?*

goo=**u**=a   **gu** yoyks-i-t=s   Meeli

what=Q=CN REL wash-TR-3.II=PN Mary

'Who washed the dishes?'

   b. * *Goł*   *gu* *yoyksi=dut*   *Meeli*

goo=ł   **gu** yoyks-i-t=**u**=t   Meeli

what=IRR.CN REL wash-TR-3.II=Q=PN Mary

Intended: 'Who washed the dishes?'

In Chapter 5, I build on the work of Brown and Davis (in press-a, in press-b) and Davis and Brown (in press) to argue that these linearization facts stem from the distinction between direct and indirect movement. The unavailability of (23b) is explained by the assumption that questions involving relative *gu* exhibit an indirect movement structure, as illustrated in (23). Consequently,

the string introduced by *gu* constitutes a DP in the form of a headless relative clause, which is impervious to the morphophonological process of interrogative clitic linearization. I return to the discussion of interrogative clitics in Chapter 5.

Having presented these basic generalizations about *wh*-questions and extraction, I now turn to a more in-depth discussion of the morphosyntax associated with core and non-core argument extraction in Sm'algyax. In the following sections I show that all Ā-constructions, including *wh*-questions, relative clauses, and focus fronting, show morphosyntactic reflexes of the grammatical role of the extracted element (whether it is an intransitive subject, transitive subject, object or one of a number of distinct types of non-core argument).

2.3   Core-argument extraction

The Ā-movement of core arguments in Sm'algyax exhibits distinct extraction morphology indicating whether an intransitive subject (S), object (O), or transitive subject (A) has been extracted. As pointed out for the similar pattern in Gitksan (Davis & Brown, 2011; Brown, 2016; Forbes, 2017; Brown, 2018; Forbes, 2018), this tripartite system is surprising, given that person-marking and number agreement in Sm'algyax does not generally mark a grammatical distinction between intransitive subjects and objects (or *absolutives*).

In this section I outline core argument extraction morphology, and compare focus constructions, relative clauses, and embedded questions to highlight the surface isomorphism between these constructions. I mainly employ embedded questions for expository reasons here, since root/matrix questions are almost always volunteered with the *wh*-clitic *=u*, which exhibits variable positioning in the clause and obscures the otherwise consistent morphosyntactic marking of these constructions. I also include illustrative examples of root questions marked with *=u*, but limit discussion of the interrogative clitic itself until Chapters 4 and 5.

2.3.1 Intransitive subject extraction

Extraction of an intransitive subject is marked morphologically by the presence of the suffix *-it* (glossed as SX for *S-extraction*) that suffixes on the predicate, and the common-noun connective *=a/=ł* encliticized to the extracted element and introducing the clause from which extraction has taken place.

(24) S-extraction

    a. *Sisaaxsa   gyet.*
        sisaaxs=a gyet
        laugh=CN person

        'A person laughed.'   Baseline

    b. *Pada   sisaaxsit.*
        Pat   [=a   sisaaxs-**it** ___]
        Pat   =CN laugh-SX

        'It's Pat who laughed.'   Focused S-argument

    c. *Wilaayu   gyeda   sisaaxsit.*
        wilaay-u=a   gyet   [=a   sisaaxs-**it** ___]
        know-1SG.II=CN person =CN laugh-SX

        'I know the person who laughed.'   Relativized S-argument

    d. *Güüdagu   naa   sisaaxsit.*
        güüdax-i-u=a   naa [=a   sisaaxs-**it** ___]
        ask-TR-1SG.II=CN who =CN laugh-SX

        'I asked who laughed.'[5]   Embedded question targeting the S-argument

Here and throughout, I assume that the common-noun connective that appears in extraction (the *extraction connective*) ambiguously spells out a complementizer (in direct movement structures) and a relative pronoun (in indirect movement structures)—see Section 2.2.5.

The presence of a common-noun connective that introduces the clause from which extraction has taken place, encliticizing to the *wh*-expression in questions such as (24d) is obscured by the general vowel-final nature of *wh*-expressions (recall that the *=a* connective systematically deletes when appearing after vowels and sonorants (Anderson & Ignace, 2008; Brown et al., 2020)). Evidence that there is a connective in questions comes from those questions that feature the irrealis connective *=ł*, which does not undergo this deletion. We see this in (25)—here *=ł* is licensed by the matrix-clause negation:

(25)   *Akandi*   *wilaayɬ*   *naaɬ*   *dawɬit.*

   aka=n=di   wilaay-t=ł   naa [=**ł**   dawɬ-**it** ____]

   NEG=2SG.I=FOC know-3.II=IRR.CN who =IRR.CN leave-SX

   'I don't know who left.'

Root *wh*-questions do not differ substantially from embedded ones. They bear the same extraction morphology described above; however, they are additionally optionally marked with the interrogative clitic *=u* on the *wh*-phrase:

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5. In these examples with *güüdagu* 'I ask(ed)' it is not clear whether the embedded question is introduced by a connective *=a*, as it is routinely deleted after a vowel. An embedded question with the third-person suffix *-t* does however show us that there is an underlying connective in these constructions:

(i) *Güüdagada*   *ndeh wil waan.*
   güüdax-i-t=**a**   ndeh wil waal-n
   ask-TR-3.II=CN   WH   SUB LV-2SG.II

   'She asked how you are doing.'

(26) *Naayu   sisaaxsit?*

naa=**u** [=a sisaaxs-**it** ____]

who=Q =CN laugh-sx

'Who laughed?'   Question targeting S-argument

Subject extraction is schematized below. The *wh*/focused/relativized subject appears prepredicatively, followed by a common noun connective and a predicate marked by the subject extraction suffix -*it*:

(27)   S-extraction morphology

      S=CN PRED-sx ____

Before turning to object extraction, I note here that extraction targeting the S-argument of both unergative (28) and unaccusative predicates (29) proceeds identically, as evidenced by the following two examples.[6]

(28) *Naayu   nah miilgit?*

naa=**u**=**a**   nah miilk-**it**

who=Q=CN PFV dance-sx

'Who danced?'

(29) *Naayu   sa   oksgit?*

naa=**u**=**a**   sa   oksk-**it**

who=Q=CN down fall-sx

'Who fell?'

---

6. Like Hunt (1993) and Forbes (2018) for Gitksan, I have been unable to find any substantive difference between unergative and unaccusative structures.

2.3.2 Object extraction

Object extraction is characterized by the presence of the transitive suffix *-i* on the verb and a person-marking configuration in which a Series II suffix agrees with the transitive subject; object extraction configurations therefore exhibit morphology characteristic of independent clauses (described in Section 1.4.6). Although the transitive suffix cannot be observed in the surface forms in (30a)–(30d) due to a morphophonological deletion process, the examples in (31) without a DP subject show that the transitive suffix does appear between consonants (/CiC/ → [CiC]).[7]

(30) O-extraction

     a.   *Gaba*   *gyeda*   *ts'ik'aaws.*

         gap-i-t=a   gyet=a   ts'ik'aaws

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

         'The people eat split dried salmon.'   Baseline

     b.   *Ts'ik'aawsa*   *gaba*   *gyet.*

         ts'ik'aaws   [=**a**   gap-**i**-t=a   gyet ___]

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

         'It's split dried salmon that the people eat.'   Focused O-argument

     c.   *Niidzu*   *ts'ik'aawsa*   *gaba*   *gyet.*

         niist-u=a   ts'ik'aaws   [=**a**   gap-**i**-t=a   gyet ___]

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

         'I saw the split dried salmon the people ate.'   Relativized O-argument

---

7. In the examples in (30), the process of third-person *-t* deletion (described in Chapter 1.4.8.3) occurs, creating a phonological environment where both the transitive suffix and the common noun connective are adjacent. Given that both elements are vocalic, and that the transitive suffix deletes when it precedes a vowel, and that the =*a* connective deletes when it follows a vowel, it remains unclear which element is being deleted.

d. *Güüdagu*   *goo*   *gaba*   *gyet.*

     güüdax-i-u=a   goo [=**a** gap-**i**-t=a   gyet ___]

     ask-TR-1SG.II=CN goo =a   eat-TR-3.II=CN person

     'I asked what the people eat.'   Embedded question targeting O-argument

(31) a. *Niidzu*   *ts'ik'aawsa*   *gabit.*

     niist-u=a   ts'ik'aaws [=**a** gap-**i**-t ___]

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

     'I saw the split dried salmon she ate.'   Relativized O-argument

   b. *Güüdagu*   *goo*   *gabit.*

     güüdax-i-u=a   goo [=**a** gap-**i**-t ___]

     ask-TR-1SG.II=CN goo =a   eat-TR-3.II

     'I asked what she ate.'   Embedded question targeting O-argument

As we saw above for subject questions, root *wh*-questions may be additionally marked by the interrogative clitic *=u* without affecting the characteristic extraction morphology.

(32) *Goyu*   *'nax'nuuyn?*

    goo=**u**   [=a   'nax'nuu-**i**-n ___]

    what=Q   =CN hear-TR-2SG.II

    'What did you hear?'   Question targeting O-argument

I claim that the transitive suffix functions as extraction morphology in these object extraction cases, in spite of it also being present in the baseline transitive sentence (30a). I provide below

two pieces of evidence that the transitive suffix *is* part of the extraction morphology of object extraction, and is not simply occurring here because these sentences feature transitive predicates.

The first piece of evidence comes from the appearance of the transitive suffix in clauses with dependent markers. Hunt (1993, pp. 252–253) shows that in Gitksan, dependent markers may appear in object extraction configurations; despite the presence of a dependent marker, these object extraction examples still feature a transitive suffix and independent style inflection. This shows that the transitive suffix has a distinct role in object extraction. This argument can be replicated for Sm'algyax. The examples below show the proximal aspect marker *ła*, a dependent marker, introducing a dependent clause—as diagnosed by the presence of the ergative indexing Series I clitic and Series II morphology indexing the absolutive argument, and the absence of the transitive suffix:

(33) *Łat   dzapda   'yuuta   waap.*
      ła=**t**   dzap-t=a   'yuuta=a waap
      PROX=3.I make-3.II=CN man=CN house

      'The man is just beginning/just began to build the house.' (Mulder, 1994, p. 80)

(34) *Łan   nax'nuu   wuts'iin.*
      ła=**n**   nax'nuu-t=a wuts'iin
      PROX=1SG.I hear-3.II=CN mouse

      'I just heard a mouse.'

In object-extraction configurations with dependent markers, the transitive suffix appears, there is no Series I agreement morphology, and the Series II suffix indexes agreement with the transitive subject: all hallmarks of independent clauses.

(35) *Godu   nah ła   gabit?*

goo=u=a   nah ła   gap-**i**-t ___

what=Q=CN PFV PROX eat-TR-3.II

'What did she/he just eat?'

(36) *Godu   ła   'nax'nuuyn?*

goo=u=a   ła   'nax'nuu-**i**-n ___

what=Q=CN PROX hear-TR-2.II

'What did you just hear?'

Further evidence that the transitive suffix, and more generally independent clause morphology, is associated with object extraction comes from embedding. Embedded clauses with canonical word order in Sm'algyax are obligatorily dependent clauses, and therefore lack the transitive suffix *-i.* For example, in (37) the embedded clause *t gapdit Bill bilhaa* is marked with a Series I ergative clitic *=t*, and lacks the transitive suffix. The embedded object extraction configuration *ap ksa bilhaa gabis Bill* in (38), conversely, lacks Series I marking and is obligatorily marked with the transitive suffix. Again, this shows that the transitive suffix occurs as a direct reflex of the extraction of an object.

(37) *Wilaayut   gapdit   Bill   bilhaa.*

wilaay-i-u   [(=a)=**t** gap-t=t   Bill=a   bilhaa]

know-TR-1SG.II =CN=3.I eat-3.II=PN Bill=CN abalone

'I know that Bill ate abalone.'

(38) *Wilaayu*   *ap ksa*   *bilhaa*   *gabis*   *Bill.*

wilaay-u   [=a ap ksa=a   bilhaa=a   gap-**i**-t=s   Bill ____]

know-1SG.II =CN VER only=CN abalone=CN eat-TR-3.II=PN Bill

'I know it was only abalone that Bill ate.'

Object extraction is schematized below. A common-noun connective follows a left-peripheral object, the transitive suffix appears on the verb, and a Series II suffix indexes agreement with the transitive subject/agent (as indicated here by the subscript A):

(39)   O-extraction morphology

O=CN PRED-TR-II$_A$ A ____

2.3.3   Transitive subject extraction

The extraction of an A-argument is quite different from intransitive subject and object extraction. This configuration is marked by the preverbal *agent extraction* element *in*, and the appearance of a third person Series I clitic *=t*. Unlike O-extraction configurations, which pattern like independent clauses with respect to person marking (i.e., Series II suffixes agree with the A-argument) and the presence of the transitive suffix, A-extraction configurations pattern like dependent clauses: they feature a Series I clitic and lack the transitive suffix, and the Series II suffix indexes agreement with the object.[8]

(40)   A-extraction

---

8. Unlike with S- and O-extraction, the presence of the common-noun connective following the extracted element in A-extraction is variable, and generally a point of variation between speakers. A-extraction in Interior Tsimshianic lacks the connective in this position (Tarpent, 1987; Davis & Brown, 2011).

a. *Gaba*   *gyeda*   *ts'ik'aaws.*

   gap-i-t=a   gyet=a   ts'ik'aaws

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

   'The people eat split dried salmon.'   Baseline

b. *'Nüün*   *int*   *gaba*   *ts'ik'aaws.*

   'nüün [=**a** **in**=**t**   gap-t=a ＿＿ ts'ik'aaws]

   2SG.III =CN AX=3.I eat-3.II=CN   split.salmon

   'It's you who ate split dried salmon.'   Focused A-argument

c. *Wilaayu*   *gyeda*   *int*   *gaba*   *ts'ik'aaws*

   wilaay-u=a   gyet   [=**a** **in**=**t**   gap-t=a ＿＿ ts'ik'aaws]

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

   'I know the people who eat split dried salmon.'   Relativized A-argument

d. *Güüdagu*   *naa*   *int*   *gaba*   *ts'ik'aaws.*

   güüdax-i-u=a   naa   [=**a** **in**=**t**   gap-t=a ＿＿ ts'ik'aaws]

   ask-TR-1SG.II=CN who =CN AX=3.I eat-3.II=CN   split.salmon

   'I asked who eats split salmon.'   Embedded question targeting A-argument

The focus example in (40b) additionally shows that the Series I clitic in this configuration does not index the φ features present on the extracted argument: despite the A-argument, the canonical target of Series I agreement, being a second-person pronoun, the Series I clitic is third-person. I address this mismatch in Section 2.5.2.1.

The absence of the transitive suffix is clearly observed in the relative clause and embedded question with a pronominal object in (41). If it were present, we would expect the form *gap-i-t* to surface as *gabit*.

(41) a. *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 eat it.'   Relativized A-argument

   b. *Güüdagu*   *naa*   *int*   *gapt.*

     güüdax-i-u=a   naa [=a in=t   gap-t ___]

     ask-TR-1SG.II=CN who =CN AX=3.I eat-3.II

     'I asked who eats it.'   Embedded question targeting A-argument

A root question, featuring the interrogative clitic *=u*, predictably shares this A-extraction morphology. This example also clearly shows that Series II morphology indexes agreement with O in A-extraction configurations.

(42) *Goyu*   *int*   *łaḵ'an?*

     goo=**u**   [=a **in=t**   łaḵ'-n ___]

     what=Q =CN AX=3.I bite-2SG.II

     'What bit you?'   Question

Agent extraction is schematized below. The extracted agent appears in the left-peripheral position, followed by the prepredicative A-extraction morpheme *in* and the third-person clitic *=t*; verbal agreement suffixes agree with the absolutive object:[9]

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9. The third person Series I clitic *=t* may optionally appear before or after the agent extraction morpheme *in* with no change in meaning:

(i) *Naayu*   *naht*   *in* *halagyagu?*
    naa=u=a   nah=**t**   **in** halagyaḵ-u
    who=Q=CN PFV=3.I AX laugh.at-1SG.II

    'Who laughed at me?'

(43) A-extraction morphology:

A(=CN) AX=3.I PRED-II$_O$ ___ O

In sum, the morphosyntax of Sm'algyax extraction exhibits a tripartite pattern in which in-transitive subjects, transitive subjects, and objects receive unique marking:

(44) Argument extraction in Sm'algyax

Subject | S [=CN PRED-SX ___]   = (24)

Object | O [=CN PRED-TR-II$_A$ ___]   = (30)

Agent | A [(=CN) AX=3.I$_A$ PRED-II$_O$ ___]   = (40)

2.3.4 Subject vs object extraction

The discussion in this section (schematized in (44)) has shown that both absolutive arguments, namely intransitive subjects and objects, behave distinctly with respect to extraction. Note, how-ever, that the morphological material following the predicate in either extraction configuration may sometimes be surface identical. For example, in (45) the subject extraction morpheme and the sequence of the transitive suffix and third-person Series II suffix both surface as *it*:

(45) S- vs. O-extraction: surface identical morphology

   a. *Naayu   tgi   oksit?*

      naa=u=a   tgi   oks-**it** ___

      who=Q=CN down fall-sx

      'Who fell?'   S-extraction, *-it* suffix appears on predicate

b. *Goyu   gabit?*

    goo=u=a   gap-**i-t** ____

    what=Q=CN eat-TR-3.II

    'What did she eat?'   O-extraction, *-i* suffix appears on predicate

A potential unifying analysis of the transitive suffix and subject extraction suffix might proceed as follows:[10] (i) both S- and O-extraction trigger the appearance of an extraction suffix *-i* EXTRACT (formally distinct from the transitive suffix), (ii) both S- and O-extraction trigger the use of Series II suffixes, which follow the extraction suffix. For O-extraction, the Series II suffix agrees with A, and for S-extraction, the Series II suffix functions as an expletive third-person S. This potential alternate analysis is applied to the examples in (45) below:

(46)   Unifying S- and O-extraction?

    a. *Naayu   tgi   oksit?*

        naa=u=a   tgi   oks-**i-t** ____

        who=Q=CN down fall-EXTRACT-3.II

        'Who fell?'   S-extraction, Series II agrees w/ expletive S

    b. *Goyu   gabit?*

        goo=u=a   gap-**i-t** ____

        what=Q=CN eat-EXTRACT-3.II

        'What did she eat?'   O-extraction, Series II agrees w/ A

This potential unifying analysis, however, fails to actually unify the processes of S- and O-extraction. The Series II morphology in the intransitive extraction configuration would be indexing agreement with an intransitive subject (which occurs in dependent clauses), while the

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10. I would like to thank Seth Cable for helping me work through this discussion.

same suffix in the object extraction configuration would be indexing agreement with a transitive subject (which occurs in independent clauses). Therefore, if the approach sketched out here is correct, it still fails to unify the processes of S- and O-extraction.

Forbes (2018, pp. 160–161) shows, using language-internal diagnostics from hiatus resolution in Gitksan, that *-it* sx is not decomposable to a sequence of *-i-t*. The same argumentation can be extended to Sm'algyax, revealing that the unifying analysis sketched in (46) is not correct. Forbes' argumentation, applied to Sm'algyax, is as follows: the transitive suffix, in both its canonical and extraction related uses, surfaces as a glide [j] when it follows a vowel final predicate. Below we see that in an independent clause, the transitive suffix surfaces as a glide when it follows a vowel-final predicate such as *txal'waa* 'meet'—the transitive suffix is predictably absent in the dependent clause:

(47)   a.   *Txal'waays   Henry.*

txal'waa-**i**-t=s   Henry

meet-TR-3.II=PN Henry

'Henry met her.'   Independent

b.   *Akadit   txal'waas   Henry.*

aka=di=t   txal'waa-t=s   Henry

NEG=FOC=3.I meet-3.II=PN Henry

'She didn't meet Henry.'   Dependent

Object extraction from the same predicate triggers the appearance of the transitive suffix, again in its surface form as a glide:

(48) *Ligi lip naa dm txal'waayn, ada midm małat.*

ligi lip naa=a dm txal'waa-**i**-n ___ ada mi=dm mał-i-t

DWID self who=CN PROSP meet-TR-2.SG.II then 2SG.I=PROSP tell-T-3.II

'Whoever you meet, just tell them.' (SLLTD)

The subject extraction suffix does not trigger glide epenthesis in the same environment, but undergoes partial deletion: the vowel is deleted, and only the [t] surfaces:

(49) a. *Baa gyet.*

baa=a gyet

run=CN person

'A person ran.'

b. *Wilaayu gyeda baat. (not **baayt**)*

wilaay-u=a gyet=a baa-**it** ___

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

'I know the person who ran.'

In spite of surface level resemblance between subject and object extraction, this differing morphophonological behaviour between the TR and SX suffixes reveals a distinction between the morphosyntactic marking of these two configurations.

Therefore, as shown by Davis and Brown (2011) and Forbes (2018) for Gitksan, extraction reveals underlying syntactic heterogeneity with respect to absolutive arguments: S and O generally pattern together with respect to person marking and number agreement, but exhibit distinct marking under extraction.[11] Transitive subject extraction is quite different from intransitive sub-

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11. There is one other further environment that distinguishes between S and O in Sm'algyax: intransitive independent clauses with a participant (1/2 person) subject may trigger a marked agreement pattern in which a Series I clitic

ject and object extraction: a prepredicative morpheme *in* together with a third-person clitic *=t* appears and triggers a dependent clause. The additional presence of the *wh*-clitic *=u* sets apart (root) *wh*-questions from other Ā-configurations such as relative clauses and focus fronting.

2.4 Non-core-argument and adjunct extraction

Non-core arguments and adjuncts, in their canonical positions, linearize to the right of any core arguments (see Section 1.4.4). In this section I discuss extraction of these elements. I show that in the majority of cases, we observe a configuration where an extracted element precedes a dependent clause headed by one of three subordinating elements (not unlike the agent extraction configuration described in Section 2.3). We also observe a configuration featuring a bare dependent clause: a clause exhibiting dependent clause morphology with no overt subordinating element. As we observed above for the core-argument extraction, and as pointed out for Gitksan in Brown and Forbes (2018), we find that non-core arguments in their in-situ position are often identically marked (being introduced by the preposition *(d)a*), but extraction of these elements does not proceed identically. We again find that extraction exposes underlying heterogeneity that is not immediately apparent in sentences with canonical word order.

The extraction of non-core arguments and adjuncts is most commonly marked by the presence of one of three subordinating elements: *wil*, *wila*, and *g̲an*. I outline here the distribution and meaning contribution of these elements in questions, relative clauses, and focus constructions and show that most non-core argument extraction is characterized by the presence of *wil*, while the

---

surfaces and agrees with the subject, which itself surfaces as a Series III pronoun. There are no environments in which a Series I clitic may agree with an object.

(i) Marked agreement: Series I agrees with participant subject
   Nam   siipginsm.
   na=**m**   siip-k=nsm.
   PFV=2.I   sick-PASS=2PL.III

   'You (pl.) were sick.' (Sasama, 2001, p. 78)

These marked agreement configurations are described in more detail in Mulder (1994), Sasama (2001), Forbes (2018), and Brown et al. (2020).

wh-expressions *ndaa/ndeh*, and *goo* combine with these subordinators to create adjunct questions. As we will see in detail in the following discussion, *ndaa* + *wil* results in a locative/'where' question, *goo* + *wil* results in a temporal/'when' question, *ndaa/goo* + *wila* results in a manner/'how' question, and *goo* + *gan* results in a reason/'why' question.

(50) *Ndeyu   nam   wil niidzu?*
      ndeh=u   nah=m   **wil** niits-u
      where=Q PFV=2SG.II SUB see-1SG.II

      '**Where** did you see me?'

(51) *Goyu   wil axłgn   da   Kxeen?*
      goo=u   **wil** axłk-n   da-t=a   Kxeen
      what=Q SUB arrive-2SG.II PREP-3.II=CN Prince

      '**When** did you arrive in Prince Rupert?' SLLTD (2017)

(52) *Goyu   ma   wila 'maga   txaaw?*
      goo=u   m=   **wila** 'mak-t=a   txaaw
      what=Q 2SG.II MANR catch-3.II=CN halibut

      '**How** do you catch halibut?'

(53) *Goyu   gan   sisaaxsin?*
      goo=u   **gan**   sisaaxs-n
      whatQ   REAS laugh-2SG.II

      '**Why** are you laughing?'

2.4.1   Extraction with *wil*

The default configuration for relativizing, focusing, or questioning non-core arguments involves the subordinating element *wil*. In sentences without extraction, *wil* introduces certain embedded clauses, often corresponding to 'that'-clauses in English. Clauses introduced by *wil* are always dependent clauses, as evidenced by the presence of ergative-agreeing series I clitics, absolutive-agreeing series II suffixes, and the absence of the transitive vowel suffix:

(54)   Intransitive dependent clause complement: Series II marks S

Lu aam g̲oodu   wil   gatg̲oydiksism.

lu aam goot-u   [**wil** gat-g̲oydiks-sm]

in good heart-1SG.II SUB PL-arrive-2PL.II

'I am very happy that you all came.' (SLLTD)

(55)   Transitive dependent clause complement: Series I marks A; Series II marks O

Lu aam g̲oodu   wilt   niidzn.

lu aam goot-u   [**wil**=t   niist-n]

in good heart-1SG.II COMP=3.I see-2SG.II

'I'm happy that she/he saw you.'

Typical double object constructions in Sm'algyax feature an absolutive-marked theme and a goal introduced by the preposition *(d)a* (56a). Extraction of the absolutive theme patterns with object extraction (56b) as described in Section 2.3:

(56) a. *Ky'ilam   'yuuta   p'iildzap'il da   haas.*

ky'ilam-i-t=a   'yuuta=a p'ildzap'il [da-t=a   haas]

give-TR-3.II=CN man=CN   toy   PREP-3.II=CN dog

'The man gave a toy to the dog'   Baseline

b. *Goyu   ky'ilam   'yuuta   da   haas?*

goo=u   ky'ilam-**i**-t=a   'yuuta=a ____ [da-t=a   haas]

what=Q give-TR-3.II=CN man=CN   PREP-3.II=CN dog

'What did the man give the dog?'   Question targeting O-argument

Extraction of the oblique goal (Obl) features the complementizer *wil* which introduces a dependent clause (57). Note that the preposition does not appear in the left-peripheral position under this pattern, nor is it stranded:[12]

(57) a. *Naayu wilt   ky'ilamda   'yuuta   p'ildzap'il?*

naa=u **wil**=t   ky'ilam-t=a 'yuuta=a p'ildzap'il ____

who=Q COMP=3.I give-3.II=CN man=CN   toy

'Who did the man give the toy to?'   Question targeting Obl-argument

b. *Güüdagu   naa wilt   ky'ilamda   'yuuta   p'ildzap'il?*

güüdax-i-u=a   naa **wil**=t   ky'ilam-t=a 'yuuta=a p'ildzap'il ____

ask-TR-1SG.II=CN who COMP=3.I give-3.II=CN man=CN   toy

'I asked who the man give the toy to?'   Embedded Q targeting Obl-argument

As in the core-argument Ā-processes described above, oblique relative clauses and focus constructions receive the same morphosyntactic marking that questions do.

_____

12. In all of the configurations described in this subsection, the subordinator is obligatory.

(58)   a.   *Niidzu*   *haas* *wilt*   *k'yilamda*   *'yuuta*   *p'ildzap'l.*

           niist-u   haas **wil**=t   ky'ilam-t=a   'yuuta=a p'ildzap'il ____

           see-1SG.II dog   COMP=3.I   give-3.II=CN   man=CN   toy

           'I saw the dog that the man gave the toy to.'   Relativized Obl-argument

   b.   *Haas* *wilt*   *k'yilamda*   *'yuuta*   *p'ildzap'l.*

           Haas **wil**=t   ky'ilam-t=a   'yuuta=a p'ildzap'il ____

           dog   COMP=3.I   give-3.II=CN   man=CN   toy

           'It was the dog that the man gave the toy to.'   Focused Obl-argument

A number of other non-core argument nominals which are introduced by the preposition *(d)a* extract identically. Below we see that the extraction of benefactives (59), causees in causative constructions (60), as well as locatives (formed with *ndaa/ndeh + wil*) (61) and realis/non-future temporals (formed with *goo + wil*) (62) all feature the *wil* complementizer and a dependent clause complement:[13,14]

---

13. One of my consultants also forms 'when' questions with the underspecified *wh*-expression *ndaa/ndeh* followed by the clitic cluster *n=da* which consists of two clitics that appear in spaciotemporal environments; these questions also feature a dependent clause remnant:

(i)   *Ndeyu*   *ndat*   *dzapdit*   *Meeli*   *ts'ikts'ik?*
     ndeh=u   **n=da**=t   dzap-t=t   Meeli=a   ts'ikts'ik
     wh=CN   SPT=SPT=3.I   do-3.II=PN   Mary=CN   car

     'When did Mary fix the car?'

14. I specify *realis* temporal extraction, as the extraction of future oriented time adverbials results in an exceptional configuration which lacks any overt extraction morphology (a "bare" extraction configuration, see discussion around (66)). This is observed below with the fronted adverbial *dzigits'iip* 'tomorrow' and the future-oriented *wh*-expression *dzindaa/dzindeh* 'when', both of which appear to be composed of the irrealis element *dzi*, and either the time adverbial *gits'iip* 'yesterday' or the general *wh*-element *ndaa/ndeh*:

(i)   a.   *Dm*   *dawłit*   *Dzeen* *dzigits'iip.*
        dm   dawł=t   Dzeen   dzigits'iip
        PROSP   leave=PN   Jane   tomorrow

        'Jane will leave tomorrow.'   Baseline

(59) Benefactive extraction:

    a.   *Sipaay'nu*   *das*   *Klalens.*

        si-paay='nu   [da-t=s   Klalens]

        make-pie=1.III PREP-3.II=PN Clarence

        'I baked a pie for Clarence.'

    b.   *Naayu wil sipaayn?*

        naa=u   **wil** si-paay-n ____

        who=Q SUB make-pie-2SG.II

        'Who did you make a pie for?'

(60) Causee extraction:

    a.   *Gwiniitsnta*   *fismaan*   *hagwilhuu a*   *didaat.*

        gwin-niist-'n-t-i-t=a   fismaan=a   hagwilhuu [a-t=a   di-daat]

        CAUS-see-CAUS-T-TR-3.II=CN fisherman=CN rope   PREP-3.II=CN PL-crew

        'The fisherman showed the rope to the crew.' ('show' = 'cause to see')

---

    b. *Dzigyits'iip dm   dawłs   Dzeen.*
       dzigits'iip dm   dawł-t=s   Dzeen
       tomorrow   PROSP leave-3.II=PN Jane

       '*Tomorrow* Jane will leave.'   Focus

    c. *Dzindeyu   dm   dawłs   Dzeen?*
       dzi=ndeh=u=a dm   dawł-t=s   Dzeen
       IRR=WH=Q=CN PROSP leave-3.II=PN Jane

       'When will Jane leave?'   Question

b. *Naayu   wilt   gwiniitsnda   fismaan   hagwilhuu?*

naa=u **wil**=t   gwin-niist-'n-t-t=a   fismaan=a   hagwilhuu ⎯⎯

who=Q COMP=3.I   CAUS-see-CAUS-T-3.II=CN   fisherman=CN rope

'Who did the fisherman show the rope to?'

(61)   Locative extraction:

a. *Nah niidzu   a   Kxeen.*

nah   niits-i-u   [a-t=a   Kxeen]

PFV   see-TR-1SG.II PREP-3.II=CN Prince

'I saw her/him in Prince Rupert.'

b. *Ndeyu   nam   wil niidzu?*

ndeh=u nah=m   **wil** niist-u ⎯⎯

wh=Q   PFV=2SG.I SUB see-1SG.II

'Where did you see me?'

(62)   (Realis) temporal extraction:

a. *Axłga'nu   da   Kxeen   gits'iipda.*

axłk='nu   da-t=a   Kxeen   gits'iipda

arrive=1SG.III PREP-3.II=CN   Prince Rupert yesterday

'I arrived in Prince Rupert yesterday.'

b. *Goyu   wil axɫgn   da   Kxeen?*

   goo=u **wil** axɫk-n   da-t=a   Kxeen ____

   what=Q SUB arrive-2SG.II PREP-3.II=CN Prince Rupert

   'When did you arrive in Prince Rupert?' SLLTD (2017)

2.4.2 Exceptional cases

Comitative and instrumental arguments do not extract with *wil*; they are instead paraphrased by bi-clausal constructions, as indicated by the English translations.

(63) Comitative extraction:

a. *Habida   ḵ'ala   aks   diɫ   wekt.*

   hap-i-t=a   ḵ'ala   aks   [di=ɫ   wek-t]

   go.PL-TR-3.II=CN upriver water with=IRR.CN brother-3.II

   'She/he went to the river with her/his brother.'

b. *Naaɫ   sduulda,   ɫat   goo   ḵ'ala   aks?*

   naa=ɫ   sduul-t=a ____   ɫa=t   goo-t ḵ'ala   aks

   who=IRR.CN companion-3.II=Q PROX=3.I go-3.II upriver water

   'Who was her/his companion, when she/he went to the river'

(64) Instrumental extraction:

a. *K'odzida*   *hoon*   *a*   *t'u'utsk.*

     ḵ'ots-i-t=a   hoon   [a-t=a   t'u'utsk]

     cut-TR-3.II=CN   fish   PREP-3.II=CN   knife

     'She/he cut the fish with a knife.'

b. *Goł*   *hayda,*   *łat*   *ḵ'odza*   *hoon?*

     goo=ł   hay-t=a ___   ła=t   ḵ'ots-t=a   hoon

     what=IRR.CN   use-3.II=Q   PROX=3.I   cut-3.II=CN   fish

     'What did she/he use, when she/he cut the fish?'

Work on the Interior Tsimshianic languages Nisg̱a'a (Tarpent, 1987) and Gitksan (Brown & Forbes, 2018) reveals that not all obliques extract uniformly with *wil*. We observe similar facts in Sm'algyax. Two additional classes of oblique argument are introduced by the preposition *(d)a* in their in-situ position in the clause do not extract with a *wil* clause. These are (i) oblique objects of psych/experiencer predicates such as *baas* '(be) afraid', *buuysk* 'expect', *at'üüt* '(be) repelled'; and (ii) quirky objects of a closed class of (di)transitive predicate such as *siwaa* 'give a name to someone' and *giin* 'give food to someone'. The first exceptional class is characterized by nominalization of the (psych) predicate, while the second class features a bare dependent clause: a dependent clause that is not introduced by a dependent marker such as *wil*:

(65) Prepositional theme of psych-verbs:

a. *Baasi'nu*   *a*   *sgyet.*

     baas='nu   [a-t=a   sgyet]

     afraid=1SG.III   PREP-3.II=CN   spider

     'I am afraid of spiders.'

b. *Goyu   nabaasn?*

goo=**u**=a   **na**-baas-n

what=Q=CN NMLZ-afraid-2SG.II

'What are you afraid of?' Lit. What is your fear?

(66) Quirky (di)transitive theme; naming verb recipients:

a. *Siwaatida   łguułgm   hana'axt   as   Emily.*

si-waa-t-i-t=a   łguułk-m   hana'ax-t   [a-t=s   Emily]

CAUS-name-T-TR-3II=CN chilld-ATTR woman-3.II PREP-3.II=PN Emily

'She named her daughter Emily.'

b. *Naayut   siwaada   łguułgm   hana'axt?*

naa=u=t   si-waa-i-t=a   łguułk-m   hana'ax-t

who=Q=3.I CAUS-name-T-3.II=CN child-ATTR woman3.II

'What did she name her child?'

In spite of the oblique arguments above being introduced by the same prepositional element *(d)a*, they do not extract uniformly. This again points to heterogeneity that is not straightforwardly apparent when these arguments appear in their in-situ positions.

2.4.3 Extraction with *wila*

The next type of question containing a subordinating element is marked by the morpheme *wila* MANNER which introduces a dependent clause. These manner clauses are often translated to English using 'how'.

94

(67) *Aam wila   miilkt.*

aam **wila** miilk-t

good MANR dance-3.II

'She/He dances well' Lit: It's good how she/he dances.

(68) *Aam wilat   'maga   txaaw.*

aam **wila**=t   'mak-t=a   txaaw

good MANR=3.I catch-3.II=CN halibut

'She catches halibut well.' Lit: It's good how she catches halibut.

Manner questions are formed with *goo* 'what' preceding *wila*:

(69) a. *Goyu   wila   miilgn?*

goo=u   **wila** miilk-n

what=Q MANR dance-2SG.II

'How do you dance?'   Manner question

b. *Güüdagu   goo wila   miilgn.*

güüdax-i-u=a   goo **wila** miilk-n

ask-TR.1SG.II=CN what MANR dance-2SG.II

'I asked how you dance.'   Embedded manner question

(70) a. *Goł*   *wilat*   *ḵ'otsda*   *łgu*   *'yuuta*   *hoon?*

        goo=ł   **wila**=t   ḵ'ots-t=a   łgu   'yuuta=a hoon

        what=IRR.CN MANR=3.I cut-3.II=CN small man=CN fish

        'How did the boy cut the fish?'   Manner question

    b. *Güüdagu*   *goo*   *wilat*   *ḵ'otsda*   *łgu*   *'yuuta*   *hoon?*

        güüdax-i-u=a   goo=a   **wila**=t ḵ'ots-t=a   łgu 'yuuta=a hoon

        ask-TR.1SG.II=CN what=CN MANR=3.I cut-3.II=CN small man=CN fish

        'I asked how the boy cut the fish.'   Embedded manner question

Consistent with all other extraction morphology, we see that *wila* also appears in relative clauses and focus-fronting constructions:

(71) a. *Anoogu*   *(goo)* *wila* *liimit.*

        anoox-i-u   goo **wila** liimi-t

        like-TR-1SG.II what MANR sing-3.II

        'I like how she sings.'   (Headless) manner relative clause

    b. *'Nii* *wila*   *hałeelst.*

        'nii **wila** hałeels-t

        DET MANR work-3.II

        'This is how it works.'   Manner focus

2.4.4   Extraction with *gan*

The final subordinating element found in extraction is *gan* REASON, which often appears in clauses translated as 'why' or 'that's why', and predictably triggers a dependent clause.

(72) *Hanaanḡa aytga 'yuuta ḡan waalt.*

hanaank̲=a aytk-t=a 'yuuta **gan** waal-t

girl.PL=CN blame-3.II=CN man REAS happen-3.II

'The man is blaming the girls (for) why he's in trouble' (Sasama, 2001)

(73) *Dzakdida łyoon ḡan lu aam ḡoot.*

dzak-t-i-t=a łyoon **gan** lu aam goot-t

kill-T-TR-3.II=CN moose REAS in good heart-3.II

'She/he killed a moose that's why she/he's happy.'

In interrogatives, we find *ḡan* occurring with the *wh*-expression *goo* 'what' to express 'why' (or perhaps more literally 'what reason') questions. As with all of the configurations outlined in this subsection, the clause following the subordinator is a dependent clause.[15]

(74) a. *Sa oksga łgwoomłk.*

sa oksk=a łgwoomłk

off fall=CN child

'The child fell.'   Baseline

---

15. This subordinator may also appear with the *wh*-expression *naa* 'who' in questions such as the following:

(i) *Naayu ḡan luwantga ḡoodin dm laaltgit?*
naa=u **gan** luwantk=a goot-n dm laaltk-it
who=Q REAS worry=CN heart-2.II PROSP slow-SX

'Who are you worried will be late?'
'**Who is the reason** you are worried that they will be late'

b. *Goyu   g̱an sa oksga   łgwoomłk?*

goo=u=a   **gan** sa oksk-t=a   łgwoomłk

what=Q=CN REAS off fall-3.II=CN child

'Why did the child fall?'   Reason question

c. *Güüdag̱u   goo   g̱an sa oksga   łgwoomłk.*

güüdax-i-u=a   goo=u=a   **gan** sa oksk-t=a   łgwoomłk

ask-TR-1SG.II=CN what=Q=CN REAS off fall-3.II=CN child

'I asked why the child fell.'   Embedded reason question

(75) a. *Giigida   hoon.*

giik-i-t=a   hoon

buy-TR-3.II=CN fish

'She/he bought fish'   Baseline

b. *Goyu g̱ant   giiga   hoon?*

goo=u **gan**=t giik-t=a   hoon

who=Q REAS=3.I buy-3.II=CN fish

'Why did she/he buy fish?'   Reason question

c. *Güüdag̱u   goo g̱ant   giiga   hoon.*

güüdax-i-u=a   goo **gan**=t giik-t=a   hoon

ask-TR-1SG.II=CN what REAS=3.I buy-3.II=CN fish

'I asked why she/he bought fish.'   Embedded reason question

As above, this element may appear in (headless) relative clauses and focus constructions:

(76) a. *Akndi   anooga   goo gan dawłt.*

aka=n=di   anoox-t=a   goo **gan** dawł-t

NEG=1SG.I=FOC like-3.II=CN what REAS leave-3.II

'I don't like (the reason) why she/he left.'   (Headless) reason relative clause

b. *Gwa'a gant   giiga   hoon.*

gwa'a **gan**=t   giik-t=a   hoon

this   REAS=3.I buy-3.II=CN fish

'This is why she/he bought fish.'   Reason focus

In sum, non-core-argument questions and Ā-movement processes are characterized by the preposing of some element to the clause-initial position and typically feature a subordinating element, either *wil*, *wila*, or *gan*, which introduces a dependent clause. The first element, *wil*, appears in the extraction of oblique DPs, locatives, and temporals. The second element *wila* occurs in manner questions/constructions (those translated with 'how') and *gan* occurs in reason questions/constructions (those translated with '(that's) why'). This is schematized in (77). As outlined in Section 2.4.2, there are a number of exceptional and paraphrastic extraction configurations that do not conform to (77).

(77)   Non-core argument/adjunct extraction in Sm'algyax:

wil	(intransitive)	X [wil PRED-II$_S$ ____]	= (59)
	(transitive)	X [wil=I$_A$ PRED-II$_O$ ____]	= (60)
wila	(intransitive)	X [wila PRED-II$_S$ ____]	= (69)
	(transitive)	X [wila=I$_A$ PRED-II$_O$ ____]	= (70)
gat	(intransitive)	X [gan PRED-II$_S$ ____]	= (74)
	(transitive)	X [gan=I$_A$ PRED-II$_O$ ____]	= (75)

2.5 Analyzing extraction morphology

In this section, I present an analysis of the extraction morphology in Sm'algyax, focusing on core argument extraction. Building on the conclusions drawn in Section 2.3 and following Forbes (2017) on Gitksan and the suggestion in Davis (2018) on Sm'algyax, I propose that the three-way distinction between A-, S-, and O-argument extraction is best captured if Sm'algyax has a formally tripartite alignment; that is, the three core-argument types bear distinct abstract case features. I adopt a configurational-case theory (e.g., Marantz, 1991; Preminger, 2012, 2014; Baker, 2015; Preminger, 2024), which, as argued in Baker (2015) naturally accounts for tripartite alignment patterns.

Drawing from case-based *wh*-agreement approaches that have been adopted in the literature on Austronesian languages including Tagalog (Rackowski & Richards, 2005), Palaun (Georgopoulos, 1985) and Chamorro (e.g., Chung 1991, 1998; Lahne 2009; Georgi 2014), I argue that all core-argument extraction configurations similarly involve *wh*-agreement in the verbal domain. Specifically, I suggest that the Tr head (the locus of the transitive suffix and Series I clitics) obligatorily agrees with any argument bearing an Ā-feature. In the case of S- and O-extraction, this *wh*-agreement manifests as the verbal suffixes *-it* and *-i*, respectively. As argued for the similar system in Gitksan in Forbes (2017), the presence of abstract case features differentiating the S- and O-arguments accounts for the distinct marking found in both extraction configurations. For A-argument extraction, I treat the presence of the third-person Series I marker *=t* as the result of an Agree relation between Tr and an argument bearing an Ā-feature. However, in this case, we observe an *anti-agreement* effect (Ouhalla, 1993; Baier, 2018): even if the A-argument bears 1st/2nd person φ-features, the default third-person form always surfaces when an Ā-feature is also present.

Finally, I briefly discuss the presence of the elements *in*, which appears in A-argument extraction, and *wil*, which appears in non-core argument extraction. I propose that these elements head a SubP projection that is active in ergative and oblique extraction.

2.5.1 Tripartite case via configurational case

I adopt a *configurational-case* (also known as *dependent-case*) analysis (e.g. Marantz, 1991; Preminger, 2012, 2014; Baker, 2015; Preminger, 2024). A pointed out in Baker (2015) and Davis (2018, p. 488), both of which consider data from Sm'algyax, this family of analyses naturally generates languages like Sm'algyax that (a) exhibit a tripartite case alignment, and (b) do not distinguish between subjects of unergative and unaccusative predicates.[16] I describe below how case assignment occurs in configurational models and the specific analytical assumptions I make in order to capture the Sm'algyax facts.

Configurational-case systems generally differentiate between three kinds of case, termed *lexically-governed*, *dependent*, and *unmarked*. Case assignment in models of this type follow the algorithm in (78):

(78) Configurational-case algorithm (adapted from Poole, 2024, p. 2)

    a.   Assign idiosyncratic **lexically-governed cases**.

       $[_{\text{PP/VP/XP}}\ \ P^0/V^0/X^0\ \ DP_{[\text{CASE:LEX}]}$ where LEX = the relevant lexical case

    b.   Take the remaining DPs. If DP_{α} c-commands DP_{β}, assign **dependent case** either to DP_{α} ("high") DP_{β} ("low")—see (79).

       $[DP_{[\text{CASE:\{DEP\}/}\square]}\ \ \ldots\ [\ \ldots\ DP_{[\text{CASE:}\square\text{/\{DEP\}}]}\ \ldots]\ ]$

    c.   If a DP was not assigned case in (78a) or (78b), then assign it **unmarked case**.

       $[\text{CASE:}\square]\ \leftrightarrow\ \textsc{unmarked case}$

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16. Baker (2015) presents an analysis of putative case marking on argument nominals in Sm'algyax, and argues that it exhibits a tripartite case system. Davis (2018) argues that what Baker (2015) analyzes as case marking is epiphenomenal and independently falls out from the interactions between (Series II) argument agreement and common and proper noun connectives. Despite these core analytical differences, both authors suggest that Sm'algyax bears a tripartite case system best captured by a configurational-case analysis: the former argues that case manifests as dependant marking on the nominal, the latter argues that it is abstractly represented.

As we see in (79), dependent cases can either be assigned *high* or *low*. Following Marantz (1991), I will assume dependent case assigned high is *ergative*, dependent case assigned low is *accusative*.

(79) High and low dependent case assignment (adapted from Baker, 2015, p. 80)

   a. If DP$_\alpha$ c-commands DP$_\beta$ in the relevant domain, then assign **ergative** case to DP$_\alpha$.

   [DP$_{[\text{CASE:ERG}]}$ ... [... DP$_{[\text{CASE:}\square]}$ ...]]

   b. If DP$_\alpha$ is c-commanded by DP$_\beta$ in the relevant domain, then assign **accusative** case to DP$_\alpha$.

   [DP$_{[\text{CASE:}\square]}$ ... [... DP$_{[\text{CASE:ACC}]}$ ...]]

Languages may assign dependent case via (79a), resulting in an *ergative-absolutive* alignment, where *absolutive* is the unmarked case. When dependent case is assigned via (79b), the language exhibits a *nominative-accusative* alignment, with *nominative* as the unmarked case. Tripartite languages emerge when dependent cases are assigned both high and low: ergative dependent case is assigned high, accusative dependent case is assigned low, and nominative serves as the unmarked case. This tripartite configuration is how I assume case assignment operates in Sm'algyax. I sketch this below.

Starting with lexically-governed cases, I will assume that non-core arguments introduced by the preposition *(d)a* receive *oblique* case. Though it is possible that oblique case is assigned by a valency-related head in the verbal projection, I will simply assume that it is assigned by the preposition itself:

(80) P assigns [CASE:OBL]

   [$_{\text{PP}}$ P^0 DP$_{[\text{CASE:OBL}]}$]

In a transitive clause, where the A-argument c-commands the O-argument, dependent case assignment occurs both high and low. This results in the A-argument receiving ergative case, and the O-argument receiving accusative case:

(81) Dependent case is assigned high [CASE:ERG] and low [CASE:ACC]

$$[_{vP} \text{ DP}_{[\text{CASE:ERG}]} \quad ... \; [_{VP} \; ... \; \text{DP}_{[\text{CASE:ACC}]} \; ...] \;]$$

In an intransitive clause, whether unergative (82a) or unaccusative (82b), there is only a single argument (S). In this configuration, the S-argument is assigned nominative, the unmarked case:

(82) S-arguments receive unmarked case [CASE:NOM]

 a. $[_{vP} \text{ DP}_{[\text{CASE:NOM}]} ... [_{VP} \; ... \;] \;]$

 b. $[_{vP} \; ...[_{VP} \; ... \; \text{DP}_{[\text{CASE:NOM}]} \;] \;]$

Following Preminger (2012, 2014, 2024), I assume that configurational case is assigned in the syntax, rather than in the postsyntactic PF branch of the derivation (as posited by, e.g., Marantz, 1991). This implies that case features assigned to a DP do not need to be overtly realized. Given that Sm'algyax is a head-marking language (Davis, 2018), the case features assigned in (80)–(82) are never realized on the DP itself, but may be indexed by agreement.

To sum up this section, I have argued that Sm'algyax has an underlying three-way case system, that is accounted for by a configurational-case algorithm.

2.5.2 *Wh*-agreement in the verbal domain

Having introduced tripartite case assignment, I now turn to core argument extraction morphology. I argue that all three extraction configurations described above minimally involve an Agree relation between the Tr head and a DP argument bearing an Ā-feature. Crucially, abstract case

features borne by an Ā-argument trigger distinct forms for A-, S-, and O-extraction configurations.[17]

I assume throughout this section, following Forbes (2018) on Gitksan, that dependent clause inflection is the default person-marking configuration, and that independent clause inflection is derived from that of dependent clauses when dependent markers are absent. I also follow Forbes (2018) in analyzing the extraction complementizer as a dependent marker: all extraction configurations are formally dependent clauses. The independent-style inflection exhibited by O-extraction is therefore derived from a dependent clause.

2.5.2.1 Series I =t in A-argument extraction

Recall that A-argument extraction is characterized by the presence of *in* AX and an unvarying third-person Series I clitic *=t*. In the example below we see the third-person Series I element *=t* mismatching with the second-person ergative argument in the clause-initial position; as noted by Forbes (2018, p. 157), this is an anti-agreement effect: Series I agreement does not agree with the actual φ-feature of the extracted argument, but a default or reduced third-person value (see Baier, 2018).[18]

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17. Throughout this section, I make no claims regarding the nature of this Agree relation between the Tr head and the moving XP, i.e. whether Tr simply Agrees with the moving XP, or whether this relation triggers intermediate movement of XP to [Spec,TrP].

18. Forbes (2018, pp. 157–158), citing and glossing an example from Dunn (1978a, p. 337), suggests that this example shows that Series I clitics *can* agree with the full range of φ-features of the A-argument in A-extraction configurations:

(i) *'Nüüyu   na'in   dzaba   waap.*
     'nüüyu   na=in   dzap-t=a   waap
     1SG.III   1SG.I=AX   make-3.II=CN   house

'I'm the one who built the house.' (example from Dunn (1978a, p. 337), glossed in Forbes (2018, pp. 157–158))

This is a misanalysis of the data: the morpheme glossed as a first-person singular Series I clitic is actually the perfective aspectual element *nah*. This example does show, however, that Series I *=t* is sometimes dropped.

(83)   φ mismatch between extractee and Series I

  'Nüün   int   'maga   txaaw.

  'nüün=a in=**t**   'mak-t=a ___ txaaw

  2SG.III   AX=3.I   catch-3.II=CN halibut

  '*You* caught the halibut.'

I begin with A-extraction, as the A-argument is the default target for Tr agreement (see Section 1.4.8.2).[19] Regular dependent clause agreement proceeds as follows: Tr probes its complement, agrees with the A-argument and spells out the φ-features borne by A in the form of a Series I agreement clitic. This is sketched below for regular Series I agreement in a dependent clause. Series II agreement follows this operation. The A-argument is not a viable target for further Agree relations (indicated here by greyed out text); the Series II probe agrees with the remaining (O-)argument:

(84)   a.   Step 1: Tr Agrees with A; spells out as Series I clitic

       $[_{\text{TrP}}$ Tr$_{[\varphi]}$ $[_{v\text{P}}$ DP$_{[\varphi]}$ $[_{v'}$ ...]]]

    b.   Step 2: Agr Agrees with O; spells out as Series II suffix

       $[_{\text{AgrP}}$ Agr$_{[\varphi]}$ $[_{\text{TrP}}$ Tr $[_{v\text{P}}$ DP $[_{v'}$ v $[_{\text{VP}}$ V DP$_{[\varphi]}$]]]]]

In A-argument extraction, I assume a similar structure to (84), with one difference: the A-argument bears an Ā-feature. In this configuration, the probe on Tr agrees with its specifier, which results in the A-argument's features, including the Ā-feature, being copied to it:

(85) $[_{\text{TrP}}$ Tr$_{[\varphi, \bar{\text{A}}]}$ $[_{v\text{P}}$ DP$_{[\varphi, \bar{\text{A}}]}$ $[_{v'}$ ...]]]

---

19. Recall that, following Forbes (2018), I take dependent clause inflection to be the default person-marking configuration.

In this configuration, where the φ-probe bears both φ-features and an Ā-feature, an impoverishment rule is triggered. I adapt from Baier (2018, p. 3) the rule in (86), which deletes the φ-features on the probe on Tr in the context of an Ā-feature:

(86)   Impoverishment of φ-features in the context of an Ā-feature

   $[φ] \rightarrow ∅/ [\underline{\quad}, \bar{A}, Tr]$

The application of this rule results in the default form of the probe on Tr, which is the third-person *=t*. The presence of unvarying *=t* in A-extraction configurations is therefore an instance of anti-agreement: the retreat to an underspecified form—in this case, the third-person *=t*—in the context of an Ā-feature (Baier, 2018).

A similar anti-agreement effect is found in Fiorentino (Romance); the example below shows that in the context of Ā-extraction, the finite verb and subject clitic do not register person, gender, and number features of the *wh*-subject, and instead appear in the default third-person masculine singular form. Full subject-verb agreement is obligatory in non-extaction contexts.

(87)   Fiorentino (Romance)

   Quante   ragazze gli/*le   ha/*hanno   *parlato con   te?*
   how.many girls   3SG.M/3.PL.F have.3.SG/have.3.PL spoken with you

   'How many girls have spoken to you?' (Brandi & Cordin, 1989, pp. 124–125)

To conclude this section, I have argued, following Forbes (2018) on Gitksan, that the appearance of an unvarying third-person *=t* clitic in A-argument extraction contexts is an anti-agreement effect: Tr agrees with its canonical target: the A-argument; however, when the A-argument bears an Ā-feature, an impoverishment rule is triggered and the default third-person form surfaces. The Vocabulary Item for the Tr probe in A-extraction configurations is given below:

(88) Vocabulary Item for Tr in A-extraction

/=t/ ⟺ [Tr {[Ā]}]

2.5.2.2 O-extraction and the -*i* suffix

I now turn to O-extraction, characterized by the presence of the -*i* verbal suffix:

(89) *Haas*   *dm*   *di*   *liiłgis*   *Dzon.*

haas(=a) dm   di   liiłk-**i**-t=s   Dzon ___

dog=CN   PROSP   FOC   look.after-TR-3.II=PN   John

'John will look after *the dog*.'

As in A-extraction, I propose that the O-extraction configuration involves the probe on Tr agreeing with an Ā-argument: in this case, the O-argument. Assuming that the A-argument is the default target for the probe on Tr, I propose that this exceptional agreement with O results from the probe being relativized to agree with any element bearing an Ā-feature. (In the absence of an accessible Ā-feature Tr agrees with the closest argument, as in (84).)[20] Following Forbes (2017), I additionally assume that the probe copies an accusative case feature from the object.[21,22]

(90) $[_{\text{TrP}}$ Tr$_{[\varphi,\,\bar{\text{A}},\,\text{CASE:ACC}]}$ $[_{v\text{P}}$ DP $[_{v'}$ $[_{\text{VP}}$ V DP$_{[\varphi,\,\bar{\text{A}},\,\text{CASE:ACC}]}$ $]$

In this configuration, the φ-features are fully deleted and the Tr head bearing both [Ā] and [CASE:ACC] spells out as -*i*:

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20. That is, the probe becomes *less picky* throughout the derivation. I assume some mechanism akin to *probe impoverishment* (Béjar, 2003) or *probe relaxation* (Johnson, 2024) which allows probes to become less picky upon failed first-cycle Agree.

21. Though I did not indicate that Tr inherits an ergative case feature from the A-argument in the A-extraction derivation in (85), nothing precludes [CASE:ERG] from being a part of the feature bundle copied over to Tr.

22. Forbes (2017) does not specify which probe indexes the case feature in O-extraction; I argue that it is on Tr.

(91) Vocabulary Item for Tr in O-extraction

/-i/ ⟺ [Tr {[Ā, CASE:ACC]}]

Turning to Series II agreement, which exceptionally agrees with the A-argument in O-extraction, the effect of deleting the φ-features on the O-argument renders it unavailable for further Agree operations. The Series II probe then agrees with the remaining argument that bears active φ-features: A-argument. This is sketched below:

(92) [$_{AgrP}$ Agr$_{[\varphi]}$ [$_{TrP}$ Tr [$_{vP}$ DP$_{[\varphi]}$ [$_{vP}$ [$_{VP}$ V DP]

The effect of situating the O-extraction suffix in Tr is consistent with the analysis in Forbes (2018) that the transitive suffix in independent clauses and Series I clitics are allomorphs of the same head, which captures the generalization that they are in complementary distribution.[23] However, the present account diverges from Forbes (2018) in a key respect: she proposes that Series II suffixes are unable to agree with Ā-features, so in O-extraction Series II exceptionally agrees with the A-argument and the Series I probe (in *v* in Forbes (2018)) spells out as the default form: *-i.* I argue that Tr must agree with a local Ā-feature, with Series II suffixes agreeing with the remaining argument.

2.5.2.3 S-extraction and the *-it* suffix

S-extraction configurations feature the *-it* suffix on the predicate:

(93) *Goyu   dzagit   a   ts'im gwa'a?*

goo=u=a   dzak-**it** ___ a-t=a   ts'im gwa'a

what=Q=CN die-sx   PREP-3.II=a in   there

'What died in there?'

---

23. Hunt (1993) also locates Series I clitics and the transitive suffix in the same projection: TrP.

I also analyze this suffix as resulting from an Agree relation between Tr and an argument bearing an Ā-feature. In S-extraction configurations, Tr additionally inherits a [CASE:NOM] feature from the S-argument, differentiating it from O-extraction configurations:

(94) $[_{\text{TrP}}$ $\text{Tr}_{[\varphi,\,\bar{\text{A}},\,\text{CASE:NOM}]}$ $[_{v\text{P}}$ $\text{DP}_{[\varphi,\,\bar{\text{A}},\,\text{CASE:NOM}]}$ $[_{v'}$ v $[_{\text{VP}}$ V $]$

While it may initially seem questionable to associate the presence of the S-extraction suffix with the Tr head—given that the Tr head is typically associated with agreement with A-arguments—there is independent evidence supporting the underlying presence of Tr in intransitive constructions.[24] Recall from Chapter 1.4.8.4, that a Series I clitic can agree with a participant (first or second person) S-argument in independent clauses:

(95) *Nan*   *sa'apyaa'nut*   *gits'iip.*
nah=**n**   sa'ap=yaa-'nu=t   gist'iip
PFV=1SG.I   around=walk-1SG.III=PN yesterday

'I went for a walk yesterday.' (SLLTD)

This shows that, while the probe on Tr is typically inactive in intransitive clauses, it may be activated if certain features are present. In the case of (95) those features are [+participant] φ-features, in the case of S-extraction it is an Ā-feature.

As in O-extraction, φ-features are fully deleted in the context of an Ā-feature; in this configuration, the Tr head bears both [Ā] and [CASE:NOM] features, and spells out as *-it*:

(96) Vocabulary Item for Tr in S-extraction

/-it/ $\Longleftrightarrow$ [Tr {[Ā, CASE:NOM]}]

---

24. Hunt (1993) assumes a TrP in both intransitive and transitive structures.

In this section I have proposed that (a subset of) the reflexes of extraction of an S-, A-, and O-argument result from an Agree relation between a single head (Tr) and a DP bearing an Ā-feature. I argued that Tr spells out both Ā-features and case-features inherited from this Agree relation, accounting for the tripartite pattern. This analysis resembles those put forth to account for case-sensitive Ā-agreement in Austronesian languages such as Chamorro (Chung, 1998; Lahne, 2009; Georgi, 2014). I return to this comparison in Chapter 3.3.4.

2.5.3 The preverbal elements *in* and *wil*

I now briefly turn to extraction morphology that appears outside the verbal domain, focusing on A-extraction *in* and oblique extraction *wil*.

Recent work on Gitksan questions has adopted an analysis that the A-extraction element (*an* in Gitksan) appears as a *fix* for otherwise illicit extraction of an ergative argument (Brown, 2016; Forbes, 2017; Brown, 2018; Forbes, 2018). Supporting evidence for this claim comes from the appearance of this element not only in A-extraction, but also extraction of oblique themes of psych verbs/anti-passivized verbs, which are likewise assumed to be not straightforwardly extracted. We see below the same morpheme appearing in both A-extraction and oblique theme extraction:

(97) A-extraction in Gitksan

   *Naa **an**=t   gup-t ____   =hl   susiit?*
   who AX=3.I eat-3.II=CN potato

   'Who ate the potato?' (Gitksan; Davis & Brown, 2011, p. 50)

(98)   Oblique theme extraction in Gitksan

   a.   *Yukw=hl gibee-'esw-i'y   **a=s**   **Henry**.
        PROG=CN wait-ANTIP-1SG.II PREP=PN Henry

        'I'm waiting for Henry.' (Gitksan; Forbes, 2017, p. 12)

   b.   *Naa=hl   **an** gibee-'esw-t ___   =ist?*
        who=CN AX wait-ANTIP-3SG.II AFFRM

        'Who is s/he waiting for?' (Gitksan; Forbes, 2017, p. 12)

Brown (2016) links Gitksan's AX morpheme to the homophonous nominalizer *an*, and proposes that illicit A- and oblique theme extraction is rescued by nominalization.

   I note here that in Sm'algyax, while the extraction of psych verb/antipassive themes triggers unique marking, these configurations don't share extraction morphology with A-extraction. A-extraction is marked by *in(=t)*, Oblique theme extraction is marked by the nominalizer *na-*.

(99)   A-extraction in Sm'algyax

   Goyu   int   łak̲'an?
   goo=u=a   **in=t**   łak̲'-n ___
   what=Q=CN AX=3.I bite-2SG.II

   'What bit you?'

(100)   Oblique theme extraction in Sm'algyax

   Goyu   nabaasn?
   goo=u=a   **na**-baas-n
   what=Q=CN NMLZ-afraid-2SG.II

   'What are you afraid of?' Lit. What is your fear?

Furthermore, the *na-* nominalizer productively appears in nominalization (101) and certain possession constructions (102); AX exclusively appears in A-extraction. I take this to show that A-extraction in Sm'algyax is likely not synchronically linked to nominalization.

(101)   *Nabaasu*   *sgyet.*

        na-baas-u=a   sgyet

        NMLZ-fear-1.SG.II=CN   spider

        'Spiders are my fear.'

(102)   *Kw'a'antu*   *naha'ḵa'ayu.*

        kw'aa-'n-t-u=a   **na**-ha'ḵa'a-u

        lost-CAUS-T-1SG.II=CN   NMLZ-key-1SG.II

        'I lost my keys.'

While I make no new claims about whether Sm'algyax possesses an ergative extraction constraint that bars A-extraction, I suggest that *in* occupies the SubP projection that is flanked by the verbal domain (below) and the aspectual domain (above). Recall from Chapter 1.4.5.3, the subordinators *wil, wila* and *g̲an* occupy this position:

(103)

```
                        CP
              ┌──────────┴──────────┐
              C                    NegP
              │            ┌─────────┴─────────┐
            ∅/dzi         Neg               AspP
                                    ┌─────────┴─────────┐
                                   Asp               FocP
                                            ┌──────────┴──────────┐
                                           Foc                  SubP
                                                        ┌─────────┴─────────┐
                                                       Sub                 TrP
                                                        │                   △
                                                 wil/wila/g̲an/in            …
```
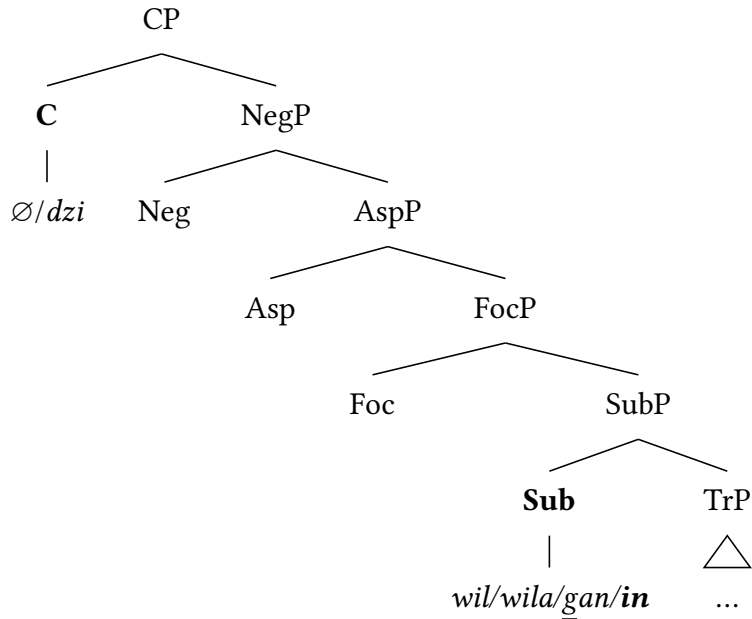
Evidence for this comes from relative ordering of *in* and these other elements. For instance, the prospective aspect marker *dm* and the "focus" marker *di* precede *in*:

(104) *dm > in*

Naayu	*dm*	*int*	*dzam*	*wineeya*	*dzigits'iip?*
naa=u=a	**dm**	**in**=t	dzam-t=a	wineeya	dzigits'iip
who-Q=CN	PROSP	AX=3.I	make-3.II=CN	food	tomorrow

'Who will make food tomorrow?'

(105) *(dm >) di > in*

Naayu	*dm*	*di*	*int*	*liiłgn?*
naa=u=a	dm	**di**	**in**=t	liiłk-n
who=Q=CN	PROSP	FOC	AX=3.I	look.after-2SG.II

'Who will look after you?'

Crucially, just like *in*, *wil* is also implicated in extraction. Recall that most cases of non-core argument or oblique extraction feature *wil*:

(106) *Goyu   sah dm   wil dawłn?*

goo=u=a   sah dm   **wil** dawł-n?

what=Q=CN sah PROSP SUB leave-2SG.II

'What day will you leave?'

This shows that, in addition to the verbal domain, the SubP domain is also implicated in certain extraction configurations. I propose here that the head on Sub also agrees with case-features of an Ā-feature bearing element. The Sub head spells out as *in* if it agrees with an element that bears an Ā- and ergative case ([CASE:ERG]) feature, while it spells out as *wil* if it agrees with an element that bears an Ā-feature and an oblique case feature ([CASE:OBL]). The vocabulary items for Sub are given below.[25]

(107) Vocabulary Items for Sub

  a. /*in*/ ⟺ [Sub {[Ā, CASE:ERG]}]

  b. /wil/ ⟺ [Sub {[Ā, CASE:OBL]}]

2.5.4 Movement to [Spec,CP]

Finally, I propose an extraction complementizer, that variably spells out a common-noun connective *=a/=ł* or a zero form. This complementizer probes its domain for an Ā-feature bearing XP, and upon agreeing with it, triggers movement to its specifier. Crucially, I assume that prior Ā-agreement in the TrP domain does not render its goal inactive for further Ā-probes.

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25. The two other elements in Sub, *gan* and *wila*, respectively show up in 'reason' (such as 'why did you leave?') and 'manner' (such as 'how did you fix the car?') constructions. These forms can be subsumed under the present proposal if we assume that both constructions inflect for agreement between Sub and a null (REASON or MANNER) operator.

(108) a. Step 1: C Agrees with DP$_{\bar{A}}$

$$[_{CP} \; C_{[\bar{A}]} \; [_{AspP} \; \ldots \; DP_{[\bar{A}]} \; \ldots \,] \,]$$
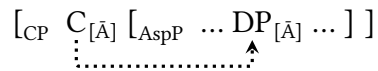
      b. Step 2: DP$_{\bar{A}}$ moves to [Spec,CP]

$$[_{CP} \; DP_{[\bar{A}]} \; [_{C'} \; C_{[\bar{A}]} \; [_{AspP} \; \ldots \; \underline{\quad} \; \ldots \,] \,] \,]$$
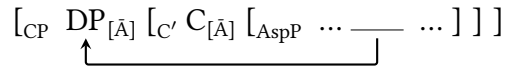
This two-step process accounts for the appearance of the extracted element in the clause-initial position.

2.6   Conclusion

In this chapter, I introduced and described Ā-extraction in Sm'algyax. I showed that extraction of a core argument exhibits a tripartite pattern: object and intransitive subject extraction both feature verbal suffixes—*-i* and *-it*, respectively—while transitive subject extraction is marked by a subordinating element *in* and an unvarying third-person clitic *=t*. This three-way pattern may be unexpected considering case alignment in canonical clauses in Sm'algyax, which is ergative and does not typically differentiate between intransitive subjects and direct objects. As pointed out in Davis and Brown (2011) and Forbes (2017) for Gitksan, Ā-movement thus exposes underlying syntactic heterogeneity between both types of absolutive argument.

I provided an analysis of core-argument extraction morphology that appealed to an abstract tripartite case alignment, which is otherwise obscured in non-Ā-movement contexts. The agreement probe on Tr, typically spelling out as Series I agreement with an A-argument, is relativized to arguments bearing an Ā-feature. Tr agrees with a DP marked for an Ā-feature, and additionally spells out that DPs case feature. This analysis aligns with case-based *wh*-agreement approaches that have been adopted in the literature on Austronesian languages, such as Chamorro, where *wh*-agreement is analyzed as case agreement between the verbal head and the moving XP (e.g., Georgopoulos 1985; Chung 1991, 1998; Rackowski and Richards 2005; Lahne 2009; Georgi 2014).

CHAPTER 3

Long-distance dependencies

3.1 Introduction

In addition to the local extraction configurations described in the previous chapter, Sm'algyax also allows long-distance extraction, where an element is extracted from an embedded clause (C2/3) to appear in a left-peripheral position of a higher clause (C1).

(1)   *Naayu*   *małdn*   *int*   *dzaba*   *ła'ask?*

    [$_{C1}$ naa=u=a   mał-t-i-n   [$_{C2}$ in=t   dzap-t=a   ła'ask ____]]

    who=Q=CN   say-T-TR-2SG.II   AX=3.I make-3.II=CN seaweed

    'Who did you say prepares the seaweed?'

In this chapter I show that long-distance extraction bears extraction morphology in both the embedded clause(s) and the matrix clause, and that the same morphosyntactic parallelism between *wh*-movement, focus movement, and relative clause formation observed in local extraction in Chapter 2 is also observed in long-distance extraction.

The analysis of *wh*-agreement presented in Chapter 2 is extended to long-distance movement. I suggest, following Rackowski and Richards (2005), van Urk and Richards (2015), Branan (2018), and Van Urk (2020) that long-distance extraction morphology provides strong evidence that the verbal domain is implicated in successive cyclic movement. I argue, following Branan (2018) that an Agree relation between an element in the verbal projection and the embedded phrase *unlocks* that phrase for extraction. I propose that Agree between the verbal head Tr and the embedded

CP therefore allows extraction out of the CP.

I also show that while long-distance movement is possible, it is not boundless. Sm'algyax obeys a number of islands to movement such as adjunct islands, complex noun phrase islands, and *wh*-islands (Ross, 1967). One notable exception, however, is the apparent availability of extraction from subject islands, as noted by Forbes (2017) for Gitksan.

The rest of the chapter proceeds as follows: Section 3.2 provides a brief background to long-distance Ā-movement, Section 3.3 outlines the basic Sm'algyax data, Section 3.4 extends the analysis presented in Chapter 2 to the long-distance Ā-movement patterns, Section 3.5 discusses barriers to extraction, and Section 3.6 concludes.

3.2 Successive cyclic movement

Much theoretical work and a wealth of empirical evidence supports the claim that long-distance dependencies do not occur *in one fell swoop*, but are composed of a series of more local dependencies. We see these two analytical options in (2) from Van Urk (2020, p. 112): (2a) schematizes movement in one fell swoop, (2b) schematizes successive cyclic movement.[1]

(2) a. A long-distance dependency in one-fell-swoop

Which books does Fatima think [$_{CP}$ Sam said [$_{CP}$ Harisah likes ____]]

b. A long-distance dependency as successive cyclic

Which books does Fatima think [$_{CP}$ ____ Sam said [$_{CP}$ Harisah likes ____]]

Work by Georgi (2014; 2017) identifies four patterns of reflexes of long-distance Ā-movement crosslinguistically. These are schematized in (3): the underscore represents the base position of

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1. See for example Chomsky (1973, 1977, 1986, 2000, 2001), Rackowski and Richards (2005), Chomsky (2008), Georgi (2014), van Urk and Richards (2015), and Van Urk (2020) and references within.

the Ā-moved XP, that leaves a reflex R on a head H.[2] Clause boundaries are represented by C.

(3)   Patterns of reflexes of long-distance Ā-movement (Georgi, 2017)

   a.   PI: Reflex in the final and nonfinal clauses

   $[_{C1}$ ...$[_{HP}$ XP$_{wh}$ $[_{H'}$ **H-R** ...$[_{C2}$ ...**H-R** ...$[_{C3}$ ...**H-R** ...____$_{XP}$]]]]]

   b.   PII: Reflex solely in the final clause

   $[_{C1}$ ...$[_{HP}$ XP$_{wh}$ $[_{H'}$ **H-R** ...$[_{C2}$ ...H ...$[_{C3}$ ...H ...____$_{XP}$]]]]]

   c.   PIII: Reflex solely in nonfinal clauses

   $[_{C1}$ ...$[_{HP}$ XP$_{wh}$ $[_{H'}$ H ...$[_{C2}$ ...**H-R** ...$[_{C3}$ ...**H-R** ...____$_{XP}$]]]]]

   d.   PIV: No reflex in any clause

   $[_{C1}$ ...$[_{HP}$ XP$_{wh}$ $[_{H'}$ H ...$[_{C2}$ ...H ...$[_{C3}$ ...H ...____$_{XP}$]]]]]

In the following section, I demonstrate that long-distance Ā-movement in Sm'algyax provides especially clear evidence for successive cyclic movement in long-distance extraction. The verbal morphology associated with local Ā-movement, as introduced in Chapter 2, appears in each clause involved in long-distance movement; therefore exhibiting Georgi's Pattern I. Furthermore, in long-distance extraction, extraction morphology only registers the case features of the extracted element in the clause it is base-generated in, while structurally higher clauses bear extraction morphology that registers the case features of the clause from which the element is extracted.

3.3   Long-distance extraction morphology

Long-distance extraction in Sm'algyax bears extraction morphology in both the embedded and matrix clauses. This section provides the basic Sm'algyax data and shows that final and non-final

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2. The crosslinguistic reflexes of long-distance Ā-movement include morphological marking, syntactic reflexes (e.g. inversion), or tonal effects.

clauses along the path of long-distance Ā-movement show reflexes of movement.

3.3.1   Extraction morphology at the launch site

Let us first walk through the extraction morphology that appears in the *launch site* (the clause where the extracted element is base generated). As observed in local extraction in Section 2.3, extraction morphology in the clause where the extracted element is base generated reflects that element's grammatical role.

Starting with long-distance S-extraction, the examples below show that the suffix *-it*, characteristic of S extraction, appears when an S-argument has been relativized, focused, or *wh*-moved long-distance.[3]

(4)   Long-distance S extraction:

    a.   *Anooltis*   *dzi'is*   *dm*   *galmiilgu.*

        anool-t-i-t=s   dzi'is   [dm   galmiilk-u]

        allow-T-TR-3.II=PN grandmother PROSP play-1SG.II

        'Grandma allowed me to play.'   Baseline

    b.   *Niidzu*   *łgwoomłga*   *anooltis*   *dzi'is*   *dm*

        niist-i-u=a   łgwoomłk [=a   anool-t-i-t=s   dzi'is ⎯⎯   [dm

        see-TR-1SG.II=CN child   =CN allow-T-TR-3.II=PN grandmother PROSP

         galmiilgit.

         galmiilk-**it** ⎯⎯]]

         play-sx

        'I saw the boy that Grandma allowed to play.'   Relative clause

---

3. In the examples that follow I use the embedding predicate *anool* 'allow', as many predicates that correspond to traditional bridge predicates such as 'want' or 'think' are nominals in Sm'algyax. I address the latter further in Section 3.3.2.3.

c. *Ap   ksat   Bidaa   anooltis   dzi'is   dm   galmiilgit.*

ap   ksa=t   Bidaa   [=a   anool-t-i-t=s   dzi'is ___   [dm   galmiilk-**it** ___]]

VER   only=PN   Peter   =CN   allow-T-TR-3.II=PN   grandmother   PROSP   play-SX

'It was only Peter that Grandma allowed to play.'   Focus

d. *Naayu   anooltis   dzi'is   dm   galmiilgit?*

Naa=u   [=a   anool-t-i-t=s   dzi'is ___   [dm   galmiilk-**it** ___]]

who=Q   =CN   allow-T-TR-3.II=PN   grandmother   PROSP   play-SX

'Who did Grandma allow to play?'   Question

We observe similar facts in long-distance O-extraction: the *-i* suffix shows up in the clause containing the base-generated O in long-distance relatives, focus constructions, and *wh*-questions, mirroring local O-extraction.

(5)   Long-distance O extraction:

a. *Anooltis   dzi'is   nm   ts'ilaaya   'nasiip'insgu.*

anool-t-i-t=s   dzi'is   [n=dm   ts'ilaay-t=a   'na-siip'insk-u]

allow-T-TR-3.II=PN   grandmother   1SG.I=PROSP   visit-3.II=CN   POSS-friend-1SG.II

'Grandma allowed me to visit my friend.'   Baseline

b. *Nah   txal'waayu   hana'a   anooltis   dzi'is   dm*

nah   txal'waa-i-u=a   hana'a   [=a   anool-t-i-t=s   dzi'is ___   [dm

PFV   meet-TR-1SG.II=CN   woman   =CN   allow-T-TR-3.II=PN   grandmother   PROSP

ts'ilaayin.

ts'ilaay-**i**-n ___]]

visit-TR-2SG.II

'I saw the woman that Grandma allowed you to visit.'   Relative clause

c. *'Niis*   *Luusi*   *anooltis*   *dzi'is*   *dm*   *ts'ilaayin.*

   'niit=s   Luusi [=a anool-t-i-t=s   dzi'is ____   [dm ts'ilaay-**i**-n ____]]

   3.III=PN Lucy =CN allow-T-TR-3.II=PN grandmother PROSP visit-TR-2SG.II

   'It was Lucy that Grandma allowed you to visit.'   Focus

d. *Naayu*   *anooltis*   *dzi'is*   *dm*   *ts'ilaayin?*

   naa=u [=a anool-t-i-t=s   dzi'is ____   [dm ts'ilaay-**i**-n ____]]

   who=Q =CN allow-T-TR-3.II=PN grandmother PROSP visit-TR-2SG.II

   'Who did Grandma allow you to visit?'   Question

Finally, long-distance extraction of the transitive subject is marked by the appearance of *in=t*:

(6)   Long-distance A extraction:

a. *Wilaayu*   *łgu*   *'yuuta*   *anooltis*   *dzi'is*   *dm*   *int*

   wilaay-i-u=a   łgu 'yuuta [=a anool-t-i-t=s   dzi'is   [dm **in=t**

   know-TR-1SG.II=CN small man   =CN allow-T-TR-3.II=PN Grandma PROSP AX=3.I

     ts'ilaays   *Lucy.*

     ts'ilaay=s ____ Lucy]]

     visit=PN   Lucy

   'I know the boy that Grandma allowed to visit Lucy.'   Relative clause

b. *'Nüün*   *anooltis*   *dzi'is*   *dm*   *int*   *ts'ilaaya*   *hana'a.*

   'nüün [=a anool-t-i-t=s   dzi'is   [dm **in=t** ts'ilaay=a ____ hana'a]]

   2SG.III =CN allow-T-TR-3.II=PN Grandma PROSP AX=3.I visit=CN   woman

   'It's you that Grandma allowed to visit the woman.'   Focus

c. *Naayu*   *anooltis*   *dzi'is*   *dm*   *int*   *ts'ilaaya*

naa=u [=a anool-t-i-t=s   dzi'is ____   [dm **in=t**   ts'ilaay-t=a ____

who=Q =CN allow-T-TR-3.II=PN grandmother PROSP AX=3.I visit-3.II=CN

     'nasiip'insgit?

     'na-siip'insk-t]]

     POSS-friend-3.II

'Who did Grandma allow to visit their friend?'   Question

The above examples show that the characteristic extraction morphology that is associated with local S, O and A extraction—respectively, the appearance of *-i*, *-it*, and *in=t*—is also present in the clause from which long-distance movement originates.

We observe that long distance movement of obliques also triggers predicted extraction morphology in the embedded clause. Consistent with local oblique extraction described in Section 2.4, the long-distance extraction of the oblique goal in (7) triggers a dependent clause headed by *wil*, while in (8) we see the bare dependent-clause configuration, characteristic of extraction from naming-verbs outlined in Section 2.4.2.

(7)   Long-distance oblique question 1:

     a.   *Anooltis*   *dzi'is*   *nm*   *ky'ilam*   *p'ildzap'il* *a*

         anool-t-i-t=s   dzi'is   [n=dm   ky'ilam-t=a p'ildzap'il a-t=a

         allow-T-TR-3.II=PN grandmother 1SG.I=PROSP give-3.II=CN toy   PREP-3.II=CN

         haas.

         haas]

         dog

'Grandma allowed me to give a toy to the dog.'

b.
Goyu		*anooltis*		*Dzi'is*	*minm*	*wil*	*ky'ilam*
goo=u	[=a	anool-t-i-t=s	Dzi'is ___	[m=dm	**wil**	ky'ilam-t=a
what=Q	=CN	allow-T-TR-3.II=PN	grandmother	2SG.I=PROSP	COMP	give-3.II=CN

p'ildzap'il?

p'ildzap'il ___]]

toy

'What did grandma allow you to give a toy to?'

(8) Long-distance oblique question 2:

a.
Anooltis	*dzi'is*	*nm*	*siwaada*	*haas*
anool-t-i-t=s	dzi'is	[n=dm	si-waa-t-t=a	haas
allow-T-TR-3.II=PN	grandmother	1SG.I=PROSP	make-name-T-3.II=CN	dog

as	*Mediik.*
a-t=s	mediik]
PREP-3.II=PN	grizzly

'Grandma allowed me to name the dog Mediik (grizzly bear).'

b.
Godu	*waa*		*anooltis*	*dzi'is*	*minm*	*siwaada*
goo=u	waa	[=a	anool-t-i-3.II=s	dzi'is ___	[m=dm	si-waa-t-t=a
what=Q	name	=CN	allow-T-TR-3.II=PN	grandmother	2SG.I=PROSP	make-name-T-3.II

haas?

haas ___]]

dog

'What name did grandma allow you to name the dog?'

Let us turn to the reflexes of long-distance movement that occur in intermediate and final clauses along the path of movement.

3.3.2 Extraction morphology in intermediate and final clauses

In the previous section I showed that the extraction morphology that occurs in local extraction also appears in the clause from which long-distance movement originates: the launch site. Turning to intermediate and final clauses implicated in long-distance extraction, we also find morphosyntactic reflexes of extraction. I show that this morphology does not index agreement with the extracted XP itself, but with the clause that contains that XP.

3.3.2.1 Transitive bridge predicates

All the extraction configurations in (4)–(6) feature a matrix predicate marked with the transitive suffix: *anool-t-**i**-t=s.* There are two possible explanations for the appearance of the transitive suffix here: (i) the matrix verb is transitive and there is no dependent marker present; the transitive suffix appearing here is therefore not related to extraction, and simply appears in line with the canonical licensing conditions of this morpheme, or (ii) the transitive suffix indexes Ā-movement. We observe in (9) and (10) evidence for option (ii).

In the baseline sentence in (9), the intermediate clause *t niisdit Meeli* is clearly a dependent clause, as evidenced by the appearance of Series I ergative morphology and the absence of the transitive suffix. This is contrasted with the long-distance question in (9), in which the intermediate clause *niidzis Meeli* lacks Series I morphology, and is marked with a transitive suffix.

(9) a. *Ha'li̲goots*   *Billt*   *niisdit*   *Meeli dawłs*   *Dzon.*
        ha'li̲goot-t=s Bill [=**t** niist-t=t   Meeli [dawł-t=s   Dzon]]
        think-3.II=PN Bill   =PN see-3.II=PN Mary leave-3.II=PN John

    'Bill thinks Mary saw that John left.'   Baseline

b. *Naał   ha'lig̱ootdut   Bill   niidzis   Meeli   dawłit?*

   naa=ł   ha'lig̱oot-t=u=t Bill ___ [niist-**i**-t=s Meeli ___ [dawł-it ___]]

   who=IRR.CN think-3.II=Q=PN Bill   see-TR-3.II=PN Mary   leave-sx

   'Who does Bill think Mary saw leave?'   Question

The focus construction in (10) also shows this shift from the baseline dependent clause *t anooldit dzi'is*, which again bears Series I morphology and lacks the transitive suffix, to the independent clause *ap ksat Lusii anooltis dz'is* which bears the transitive suffix and lacks Series I agreement.

(10) a. *Ha'lig̱oodut   anooldit   dzi'is   dm   g̱almiilga łgu   'yuuta.*

   ha'lig̱oot-u [=**t** anool-t=t   dzi'is   [dm   g̱almiilk=a łgu   'yuuta]]

   think-1SG.II =3.I allow-3.II=PN grandmother PROSP play=CN   small man

   'I think that Grandma allowed the boy to play.'   Baseline

   b. *Ha'lig̱oodu   ap   ksat   Lusii   anooltis   dz'is   dm*

   ha'lig̱oot-u [=a ap   ksa=t   Lusii=a anool-t-**i**-t=s dz'is ___   [dm

   think-1SG.II =CN VER only=PN Lucy=CN allow-T-TR-3.II=PN grandmother PROSP

      g̱almiilgit.

      g̱almiilk-it ___]

      play-sx

   'I think it was only Lucy that Grandma allowed to play.'   Focus

These examples show that intermediate and matrix clause morphosyntax is sensitive to these long-distance Ā-dependencies: transitive bridge predicates (TBPs) such as *anool* 'allow' select for a DP subject and an object clause; movement out of an object clause triggers extraction morphology consistent with object extraction outlined in Chapter 2. This parallel between extraction *of*

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an object DP and extraction *from* an object clause is schematized below:

(11) a. WH =cn PRED-tr-ii A ____   Local O extraction

      b. WH =cn PRED-tr-ii A [_CP ...____ ...]   Extraction over TBR

    This generalization also predicts we should find morphology characteristic of local DP extraction in other flavours of long-distance extraction. We turn to three such cases below.

3.3.2.2   Intransitive bridge predicates

In addition to these transitive bridge predicates that select clausal objects, there are also intransitive predicates (IBPs) that select clausal subjects. Below, we see that the predicate *anool* 'allow' with the valency reducing suffix *-k(s)* functions as a monovalent predicate that can take a DP or clausal complement (12).

(12) a. *Anoolksit   Pita.*
          anool-ks   [=t   Pita]
          allow-pass =pn Peter

          'Peter is allowed.'

      b. *Anoolksa   dm   galmiilks   Pita.*
          anool-ks   [=a   dm   g̲almiilk-t=s Pita]
          allow-pass =cn prosp play-3.ii=pn Peter

          'Peter is allowed to play.'

    Long-distance movement over an IBP triggers the appearance of the intransitive subject extraction morpheme, while the embedded clause exhibits predicted S, O, or A extraction morphol-

ogy corresponding to the role of the extracted element:

(13)   Intransitive bridge predicate morphology:

    a.   *Naayu   anoolksit   dm   galmiilgit?*

        naa=u   [=a anool-ks-**it** ___ [dm   galmiilk-**it** ___]]

        who=Q =CN allow-PASS-SX   PROSP play-SX

        'Who is allowed to play?'

    b.   *Goyu   anoolksit   dm   gabit?*

        goo=u   [=a anool-ks-**it** ___ [dm   gap-**i**-t ___]]

        what=Q =CN allow-PASS-SX   PROSP eat-TR-3.II

        'What is he allowed to eat?'

    c.   *Naayu   anoolksit   dmt   in gaba   naasüü?*

        naa=u   [=a anool-ks-**it** ___ [dm=**t**   in gap-t=a ___ naasüü]]

        who=Q =CN allow-PASS-SX   PROSP=3.I AX eat-3.II=CN   raspberries

        'Who is allowed to eat raspberries?'

We likewise see that long-distance relativizing and focusing over an IBP triggers subject extraction morphology on the embedding predicate.

(14)   Intransitive bridge predicate morphology:

    a.   *Bida   anoolksit   dmt   in ts'ilaays   Lu'ux*

        Bida [=a anoolks-**it** ___ [dm=**t**   in ts'ilaay=s ___ Lu'ux]]

        Peter =CN allow-PASS   PROSP=3.I AX visit=PN   Lucy

        'It's Peter who was allowed to visit Lucy.'   Focus

b. *Niidzu*   *łgu*   *'yuuta*   *gu*   *anoolksit*   *dmt*   *in*   *ts'ilaays*

    niist-i-u=a   łgu   'yuuta [gu   anoolks-**it** ___   [dm=**t**   **in**   ts'ilaay=s ___

    see-TR-1SG.II=CN   small   man   REL   allow-PASS   PROSP=3.I   AX   visit=PN

     Lu'ux.

     Lu'ux]]

     Lucy

    'I saw the boy that is allowed to visit Lucy.'   Relative clause

Elsewhere in the Tsimshianic family this is also observed: in Gitksan the cognate S extraction suffix *-it* also appears on IBPs in long-distance questions:

(15)   *Gu=hl*   *g̲ay*   *aam-it*   [*ji*   *jap-xw-it* ___] ?

      what=CN   CONTR   good-SX   IRR   make-PASS-SX

      'What would it be good if (it) were made?' (Gitksan; Forbes, 2017, p. 4)

The shared morphological reflexes of local S extraction and extraction from a clause that merges as a complement to an intransitive predicate are schematized in (16).

(16)   a.   WH =CN PRED-SX ___   Local S extraction

      b.   WH =CN PRED-SX [_{CP} ...___ ...]   Extraction over IBP

3.3.2.3   Nominal bridge predicates

A number of words which correspond to canonical bridge verbs are nominals in Sm'algyax, including *ha'lig̲oot* 'think', *k̲'omtga g̲oot* 'hope', and *hasax* 'want'. These words are not marked

with verbal morphology such as the transitive theme vowel *-i*, but are instead inflected with Se-
ries II person markers, which function in these configurations as markers of possession. Local
extraction of the argument of a possessed nominal is shown below. There is no overt extraction
morphology present on the possessed nominal:

(17) *Goyu̱   di   pdee̱gn?*
      goo=u   [=a   di   pdeex-n]
      what=Q =CN   FOC crest/clan-2SG.II

      'What is your crest?'

Long-distance extraction over nominal bridge predicates (NBPs) is again marked as expected
in the embedded clause. However, no extraction morphology apart from the common-noun con-
nective occurs in the matrix clause:

(18) *Naał   ha'li̱gootdut   Meeli dawłit?*
      naa   [=ł   ha'li-goot-t=u=t   Meeli [dawł-**it** ___]]
      who   =IRR.CN   on-heart-3.II=Q=PN   Mary leave-SX

      'Who does Mary think left?'

(19) *Goyu̱   ha'li̱goodn   guuys   Meeli?*
      goo=u   [=a   ha'li-goot-n   [guu-**i**-t=s   Meeli ___]]
      what=Q =CN   on-heart-2SG.II   shoot-TR-3.II=PN   Mary

      'What do you think Mary hunts?'

(20) *Naayu*   *ha'li̱goodn*   *int*   *sigüünksa*   *ła'ask?*

     naa=u [=a ha'li-̱goot-n   [**in=t** si-güünks-t=a ____ ła'ask]]

     who=Q =CN on-heart-2SG.II AX=3.I CAUS-dry-3.II=CN seaweed

     'Who do you think dries seaweed?'

We again observe a parallel between the local extraction of an element and long-distance extraction from the clause that contains that element.

(21) a. WH =CN PRED-II$_{poss}$ ____   Local extraction of poss'd nominal complement

    b. WH =CN PRED-II$_{poss}$ [$_{CP}$ ...____ ...]   Extraction over NBP

3.3.2.4 Nominalized bridge predicates

A final class of predicate that can function as a bridge predicate, described in in Gitksan (Brown, 2016; Forbes, 2017; Brown & Forbes, 2018), corresponds to psych verbs and verbs marked with antipassive morphology. One such verb is *baas* 'to be afraid'. This verb is formally intransitive, but can optionally introduce a theme argument by way of the preposition *a*:

(22) *Baasi'nu*   *a*   *sgyet.*

     baas='nu   a-t=a   sgyet

     afraid=1SG.III PREP-3.II=CN spider

     'I'm afraid of spiders.'

As shown in Chapter 2.4.2, extraction of this oblique theme does not proceed straightforwardly. The predicate must appear in a nominalized possessed form, prefixed by the possessive morpheme *na-*.

(23) *Goyu   nabaasn?*

goo=u   [=a **na**-baas-n]

what=Q =CN POSS-afraid-2SG.II

'What are you afraid of?' Lit: 'What is your fear?'

When functioning as a bridge verb, this class of verb is inflected with intransitive subject agree-
ment followed by the clausal complement. Unlike oblique DP themes, the clause is not introduced
by a preposition:

(24) *Baasi'nu   ɬadm   k̲'aym batsgis   Dzon.*

baas-'nu   [ɬa=dm   k̲'aym batsk   =s Dzon]

afraid-1SG.III INCEP=PROSP soon   arrive PN John

'I fear John will arrive soon.'

Long-distance extraction over this class of predicate shows the same nominalization observed
in local extraction. Again, the embedded clause exhibits predictable local extraction morphology.

(25) *Naayu   nabaasin   ɬadm   k̲'aym batsgit?*

naa=u   [=a **na**-baas-n   [ɬa=dm   k̲'aym batsk-**it** ___]

who=Q =CN POSS-afraid-2SG.II INCEP=PROSP soon   arrive-SX

'Who do you fear will arrive soon?'

I treat this construction, following Brown (2016), Forbes (2017), and Brown and Forbes (2018),
as a *fix* to otherwise illicit movement. The extraction of an oblique theme of a psych verb is
blocked; however, a nominalized psych verb crucially selects for a theme in an argument position,
licensing extraction of that argument. This is extended to extraction from an oblique clausal

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complement, which is likewise illicit. Again, nominalizing the psych predicate allows it to take a direct CP argument, licensing extraction out of that CP argument.

The parallel between local extraction of an oblique theme of a psych verb and extraction from an oblique clausal complement is sketched below:

(26) a. WH =cn **na**-PRED-II$_{poss}$ ____   Local extraction of psych theme DP

    b. WH =cn **na**-PRED-II$_{poss}$ [$_{CP}$ ...____ ...]   Extraction over psych predicate

3.3.2.5 Extraction from clausal agents triggers *in*?

We have seen in the preceding discussion that clausal complements may occupy argument positions of S and O (as well as complements of possessed nominals), and that long-distance extraction *from* these clausal complements exhibits the same morphological reflexes as local extraction *of* an S/O argument. This predicts that if clausal complements were to occupy an A position, then extraction from such a clause would register AX morphology on the predicate that selects for a clausal A.

It turns out that such clausal agents are unattested, and any attempt at eliciting such configurations are rejected by my consultants.

(27) *Siłuun(ta)   (wil) limis   Meelit   Betii.
      siłuun-t=a   wil   limi-t=s   Meeli=t   Betii
      make.angry-3.II=CN   SUB   sing-3.II=PN Mary=PN   Betty

    Intended: 'That Mary sang angered Betty.'

It is not immediately clear why there would be a restriction preventing clausal agents. Perhaps, given the strict ordering of VSO (as described in 1.4.2), any non-DP element intervening

between the predicate and a core argument is strictly ruled out. In the case of (27), the non-DP agent intervenes between the predicate and its DP object. I set this issue aside.

3.3.3 Extraction morphology restricted to the final clause

I note here that there is one reflex of extraction and one reflex specific to question formation, that are restricted to the final clause in long-distance Ā-movement; respectively, these are the appearance of the extraction connective *=a/=ł*, and the interrogative clitic *=u*. Observe that in (28), adapted from (18), we see one instance of the extraction connective and the interrogative clitic in the final clause (C1).

(28)   *Naał*   *anooltidut*   *Dzi'is*   *dm*   *galmiilgit?*

    [$_{C1}$ naa=**ł**   anool-t-i-t=**u**=t   Dzi'is   [$_{C2}$ dm   g̱almiilk-it ___]]

    who=IRR.CN allow-T-TR-3SG.II=Q=PN grandma   PROSP play-sx

    'Who did Grandma allow to play?'

I make no specific claims about the extraction connective apparently being restricted to the final clause; however, I note that predicted common noun connectives may not surface where expected across a range of grammatical contexts. The distribution of the extraction connective in long distance extraction is left as future work. In Chapter 4, I show that the appearance of *=u* (alongside the polar interrogative clitic *=ii*) is orthogonal to Ā-movement. I therefore set aside discussion of *=u* in long-distance Ā-movement until then.

3.3.4 Situating Sm'algyax in the long-distance extraction typology

To conclude this discussion, we find that long-distance extraction is possible, and shares the extraction morphology described in the local extraction sections. The clause from which the element is extracted bears predictable marking indicating whether an A, S, or O has been moved, while the upstairs clause appears to bear morphology indicating the relationship between the

matrix predicate and its clausal complement. For formally transitive bridge predicates, which select an agent DP and a clausal complement, extraction from that clause registers object extraction morphology on the bridge predicate (as in (4)). Intransitive predicates that select a clausal complement are marked with subject extraction morphology when extraction occurs from that clausal complement (as in (12)). Therefore, in Sm'algyax, extraction from a clausal complement mirrors the extraction of an argument. This is schematized for the three most common bridge predicate types: transitive (TBP), intransitive (IBP), and (possessed) nominal (NBP):

(29) a. WH =CN PRED-SX ____   Local S extraction

     b. WH =CN PRED-SX [CP ...____ ...]   Extraction over IBP

(30) a. WH =CN PRED-TR-II A ____   Local O extraction

     b. WH =CN PRED-TR-II A [CP ...____ ...]   Extraction over TBR

(31) a. WH =CN PRED-II$_{poss}$ ____   Local extraction of poss'd nominal complement

     b. WH =CN PRED-II$_{poss}$ [CP ...____ ...]   Extraction over NBP

This extraction morphology is an instantiation of Georgi's (2014; 2017) pattern PI, as the configuration-specific reflexes (R) of local Ā-movement appear in each clause (C) along the path of long-distance Ā-movement. Recall the four patterns of long-distance Ā-movement reflexes, repeated below.

(32) Patterns of reflexes of long-distance Ā-movement (Georgi, 2017)

    a. PI: Reflex in the final and non-final clauses

$$[_{C1} \ldots [_{HP} \; XP_{wh} \; [_{H'} \; \textbf{H-R} \ldots [_{C2} \ldots \textbf{H-R} \ldots [_{C3} \ldots \textbf{H-R} \ldots \underline{\quad}_{XP} \,]\,]\,]\,]\,]$$

    b. PII: Reflex solely in the final clause

$$[_{C1} \ldots [_{HP} \; XP_{wh} \; [_{H'} \; \textbf{H-R} \ldots [_{C2} \ldots \text{H} \ldots [_{C3} \ldots \text{H} \ldots \underline{\quad}_{XP} \,]\,]\,]\,]\,]$$

    c. PIII: Reflex solely in non-final clauses

$$[_{C1} \ldots [_{HP} \; XP_{wh} \; [_{H'} \; \text{H} \ldots [_{C2} \ldots \textbf{H-R} \ldots [_{C3} \ldots \textbf{H-R} \ldots \underline{\quad}_{XP} \,]\,]\,]\,]\,]$$

    d. PIV: No reflex in any clause

$$[_{C1} \ldots [_{HP} \; XP_{wh} \; [_{H'} \; \text{H} \ldots [_{C2} \ldots \text{H} \ldots [_{C3} \ldots \text{H} \ldots \underline{\quad}_{XP} \,]\,]\,]\,]\,]$$

While exhibiting PI is not especially rare, I note here that Sm'algyax, alongside Gitksan (Brown, 2016; Forbes, 2017), exhibits a subtype of PI in which the reflexes of movement in intermediate and final clauses—i.e. C1 and C2, but not C3 in (32)—do not inflect for features of the extracted element, but rather features of the clause it is extracted from. This system is strikingly similar to long-distance extraction in some Austronesian languages: see, e.g., Chung (1998), Lahne (2009), and Georgi (2014) for Chamorro, Georgopoulos (1985) for Palaun, and Rackowski and Richards (2005) for Tagalog.

I first give an example from a language in which long-distance movement shows reflexes in final and non-final clauses (=PI) that inflect for features of the extracted element. Wolof (Niger-Congo) complementizers agree in noun class with an element in their specifier. We see this below for local S-, O-, and Adjunct questions:

(33) Complementizer agreement in Wolof questions (Torrence, 2012, p. 1151)

    a. ∅ ***k-u*** ____ *togg* *ceeb* *ak* *jën?*

        Q CL-u   cook rice and fish

        'Who cooked rice and fish?'   S-question

b.   ∅   *y-u*   *jigéén*   *j-i*   *togg* —— ?

     Q   CL-u   woman   CL-DEF.PROX   cook

     'What(pl) did he woman cook?'   O-question

c.   ∅   *f-u*   *jigéén*   *j-i*   *togg-e*   *ceeb ak jën* —— ?

     Q   CL-u   woman   CL-DEF.PROX   cook-LOC   rice   and   fish

     'Where did the woman cook rice and fish?'   Adjunct-question

In long-distance extraction, class agreement with the extracted element is registered on every C along the path of movement:

(34)   Long-distance complementizer agreement (Wolof; Torrence, 2012, p. 1176)

a.   [$_{CP}$ ∅ *f-u*   *a*   *defe*   [$_{CP}$ *f-u*   *Maryam wax* [$_{CP}$ *f-u*   *ñu*   *teg*   *tééré*   *b-i* ——]]]

     Q   CL-u   2SG   think   [$_{CP}$ CL-u   Maryam   say   [$_{CP}$ CL-u   3PL   put   book   CL-DEF.PROX

     'Where do you think Maryam said they put the book?'

b.   [$_{CP}$ ∅ *k-u*   *Kumba*   *wax*   [$_{CP}$ *ne*   *k-u*   *Isaa defe*   [$_{CP}$ *ne*   *k-u*   *Maryam*

     Q   CL-u   Kumba   say   FRC   CL-u   Isaa   think   FRC   CL-u   Maryam

     dóór ——]]]
     hit

     'Who did Kumba say that Isaa thought that Maryam hit?'

Though Wolof and Sm'algyax are both classified as PI languages according to Georgi's typology, it is clear from the examples above that the reflexes of long-distance extraction in Wolof inflect for features of the extracted element itself. This is contrasted with Sm'algyax where reflexes of long-distance extraction inflect for features of the clause containing the extracted element.

I now turn to Chamorro, which exhibits a pattern that is very similar to Sm'algyax.[4] Local extraction in Chamorro exhibits a *wh*-agreement system that inflects for case features of the extracted element.[5] S-extraction is characterized by an infix *-um-*, O-extraction is characterized by optional nominalization and an infix *-in-*, and Obl-extraction features nominalization and an optional *-in-* infix. We see below examples of local S-, O-, and Obl-questions:

(35) Local *wh*-agreement in Chamorro (Chung, 1998, p. 236)

    a.   *Hayi f**um**a'gasi* ___   *i*   *kareta?*
           who   WH.NOM.wash   the   car

           'Who washed the car?'   S-question

    b.   *Hasa f**im**a'gasése-nña*   *si*   *Henry* ___ *pära hagu?*
           what   WH.OBJ.wash.PROG-3SG.POSS   CASE   Henry   for   you

           'What is Henry washing for you?'   O-question

    c.   *Hafa pära fa'gase-mmu*   *ni*   *kareta* ___
           what   FUT   WH.OBL.wash-2SG.POSS   CASE   car

           'What are you going to wash the car with?'   Obl-question

These extraction reflexes are also present in long-distance movement. Like Sm'algyax, these reflexes only agree with features of the extracted XP in the clause that it is base-generated in. Subsequent reflexes in structurally higher clauses inflect for features of the CP that the extracted XP is extracted from. We see this in the examples below:

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4. Similar patterns are also exhibited in the Austronesian languages Tagalog (Rackowski & Richards, 2005) and Palaun (Georgopoulos, 1985).

5. This complex system is additionally sensitive to a realis/irrealis distinction, transitivity, and the unaccusative/unergative distinction, and additionally replaces regular φ-agreement processes. I set these complications aside. See Chung (1998), Lahne (2009), and Georgi (2014).

(36) Long-distance extraction in Chamorro (Chung, 1998, pp. 249–250)

a. *Hafa malago'-ña*   *si*   *Magdalena* [*păra ta-chuli'* ___]
what WH.OBL.want-3.SG.POSS CASE Magdalena FUT WH.OBJ.bring

'What does Magdalena want us to bring?'

b. *Hayi si*   *Manuel* **hin***assóso-nña*   [*ch**um**uli'* ___ *i*   *salappi'*]
who CASE Manuel WH.OBJ.think.PROG-3SG.POSS WH.NOM.take the money

'Who does Manuel think has taken the money?'

In (36a), the object of the embedded verb is extracted, as indicated by the O-extraction morphology in the lower clause. However, the matrix clause is not marked for O-extraction; instead, it shows Obl-extraction, which marks the relationship between the matrix verb and its oblique clausal complement. In (36b), the subject of the embedded verb is extracted, signalled by the *-um-* infix, which is characteristic of subject extraction. The matrix verb is marked with the *-in-* infix, reflecting *wh*-agreement with its clausal complement, which merges as an object. Therefore, both Chamorro and Sm'algyax display an overt relationship between the predicates in intermediate and final clauses and the embedded clause from which long-distance movement occurs.

In the next section I sketch an analysis of long-distance extraction in Sm'algyax, extending the analysis of local extraction presented in Chapter 2, that accounts for the parallel marking of local extraction of an argument and long distance extraction from a clause that merges in an argument position.

3.4 Analysis of long-distance Ā-movement in Sm'algyax

An analysis of long-distance Ā-movement in Sm'algyax must account for the following generalizations: (i) Ā-movement from the launch site (described in Section 3.3.1) mirrors local Ā-movement (as described in Chapter 2), and (ii) Ā-movement from a clause that itself merges as an argument

mirrors Ā-local movement of that type of argument. As in Chapter 2, I focus on core-argument extraction.

I argue that the local Agree relation between Tr and an Ā-marked XP must occur in every clause along the path of long-distance extraction. At the launch site, Tr agrees with the extracted XP before it moves to [Spec,CP]; in subsequent clauses, Tr agrees with a clausal complement, licensing extraction out of that clause.

Let us begin with extraction morphology at the launch site. Recall that I argued that local core-argument extraction involves Tr undergoing *wh*-agreement with a nominal bearing an Ā-feature. Additional case-features borne by the extracted element are spelled out on Tr, explaining the different forms for A-, S-, and O-extraction.

(37) Extraction morphology Vocabulary Items (with relevant features)[6]

 a. /-*it*/ $\Longleftrightarrow$ [Tr {[Ā, CASE:NOM]}]

 b. /-*i*/ $\Longleftrightarrow$ [Tr {[Ā, CASE:ACC]}]

 c. /=*t*/ $\Longleftrightarrow$ [Tr {[Ā]}]

I walk through the first step of the derivation of long-distance Ā-movement below, focusing on long distance S extraction (I assume that the analysis for local A and O extraction as presented in Chapter 2 can be similarly extended to this first step of long-distance Ā-movement). By way of a reminder, local S extraction proceeds as in (38): Tr agrees with an S-argument bearing an Ā-feature, transferring its features to itself.

(38) Tr agrees with S$_{[\bar{A}]}$

 [$_{TrP}$ Tr$_{[\varphi, \bar{A}, CASE:NOM]}$ [$_{vP}$ DP$_{[\varphi, \bar{A}, CASE:NOM]}$ [$_{v'}$ v [$_{VP}$ V]]]]

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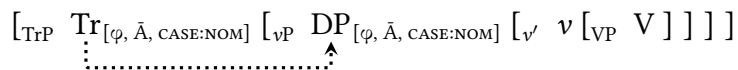
6. Recall that the A-extraction element *in* is realized in a higher SubP projection

The φ-features on Tr are dispelled via the application of an impoverishment rule, and $Tr_{[\bar{A}, \text{CASE:NOM}]}$ spells out as *-it*, given (37). Subsequently, an interrogative C-head agrees with S, triggering movement to [Spec,CP].

(39) a. Step 1: C Agrees with $XP_{\bar{A}}$

$[_{CP} \ C_{[\bar{A}]} \ [_{AspP} \ \dots DP_{[\bar{A}]} \dots] \ ]$
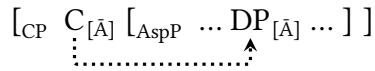
b. Step 2: $XP_{\bar{A}}$ moves to [Spec,CP]

$[_{CP} \ DP_{[\bar{A}]} \ [_{C'} \ C_{[\bar{A}]} \ [_{AspP} \ \dots \underline{\quad} \dots] \ ] \ ]$
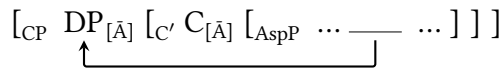
Turning back to long-distance Ā-movement of an S (as in (40)), I suggest that the same process we see in (38) accounts for the surfacing of identical extraction morphology in the launch site (C2). Therefore, an at an intermediate stage of the long-distance Ā-movement derivation, C2 has the structure in (41).

(40)   *Naayu*   *anooltis*   *dzi'is*   *dm*   *galmiilgit?*

   $[_{C1}$ Naa=u=a   anool-t-i-t=s   dzi'is $\underline{\quad}$ $[_{C2}$ dm   galmiilk-**it** $\underline{\quad}$]]

   who=Q=CN   allow-T-TR-3.II=PN   grandmother   PROSP   play-SX

   'Who did Grandma allow to play?'

(41) $[_{CP} XP_{[\bar{A}, \text{CASE:NOM}]} \ [_{C'} \ C \ [_{AspP} \ \text{dm} \ \underline{galmiilk}\text{-}\textbf{it} \ \underline{\quad} \ ] \ ] \ ]$

These first steps account for the appearance of local extraction morphology in the launch site of long-distance Ā-movement.

Turning to the next step, which involves movement across clausal boundaries (from C2 to C1), I adopt the analysis that that extraction from a CP requires agreement between a functional head

in C1 and the entire clause in C2 that is extracted from (Rackowski & Richards, 2005; Dikken, 2009, 2012a, 2012b; van Urk & Richards, 2015). In the case of Sm'algyax, and to extend the local extraction analysis presented here to cross-clausal movement, I argue that the Tr head agrees with the clausal complement bearing an Ā-feature. Crucially, I assume that not just DPs, but also CPs can be marked for case.
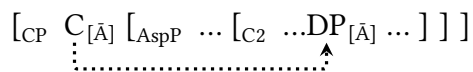
(42)   Tr agrees with CP$_{[\bar{A}]}$ in O-position

$[_{TrP}$ Tr$_{[\bar{A}, \text{CASE:ACC}]}$ $[_{vP}$ DP $[_{v'}$ v $[_{VP}$ V CP$_{[\bar{A}, \text{CASE:ACC}]}$ $]$ $]$ $]$ $]$
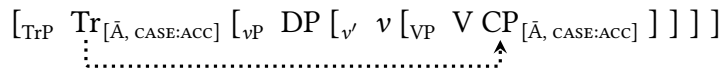
Here, the matrix Tr head indexes agreement with the clause that appears in O-position. Tr takes on the CP argument's case features, in this case *accusative*, spelling out as *-i*. An Agree relation between Tr and a nominative marked CP argument (as we find in extraction over Intransitive Bridge Predicates) will spell out as *-it*.

I adopt from Branan (2018) the idea that the Agree relation that holds between a local head and an embedded clause *unlocks* the phase, allowing movement to occur out of the phase. The C head in C1 may now probe into the embedded CP, targeting the Ā-argument:

(43)   a.   Step 1: C Agrees with XP$_{\bar{A}}$

$[_{CP}$ C$_{[\bar{A}]}$ $[_{AspP}$ ... $[_{C2}$ ...DP$_{[\bar{A}]}$ ... $]$ $]$ $]$

b.   Step 2: XP$_{\bar{A}}$ moves to [Spec,CP]

$[_{CP}$ DP$_{[\bar{A}]}$ $[_{C'}$ C$_{[\bar{A}]}$ $[_{AspP}$ ... $[_{C2}$ ...——— ... $]$ $]$ $]$ $]$
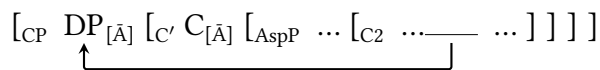
This accounts for the shared morphological reflexes between local extraction of an argument and extraction from a clausal complement: both types of extraction utilize the same mechanisms of Agree and Move.

3.5 Barriers to extraction

Although we have seen in this chapter that extraction may cross clausal boundaries, this movement is sensitive to a number of well-known island constraints (Ross, 1967). For example, extraction from adjunct islands, complex noun phrases, and *wh*-islands are ungrammatical. The following ungrammatical examples, constructed in line with the morphosyntactic generalizations described in Section 3.3 for grammatical long-distance movement, were systematically rejected by my consultants:

(44) Adjunct Island:[7]

  a. *Dawłit   Meeli awil   ła   g̲oydiks   Bill.*
      dawł=t   Meeli [awil   ła   g̲oydiks=s Bill]
      leave=PN Mary because PROX arrive=PN Bill

      'Mary left because Bill arrived.'

  b. * *Naayu dawłit   Meeli   awil   ła   g̲oydiksit*
      naa=u dawł-it   Meeli ___ [awil   ła   g̲oydiks-it ___]
      who=Q leave-SX Mary   because PROX arrive-SX

      Intended: *Who$_i$ did Mary leave because (they$_i$) arrived

  c. *Naayu g̲oydiksit   g̲an dawłs   Meeli?*
      naa=u g̲odiks-it ___ g̲an dawł=s   Meeli
      who=Q arrive-SX   g̲an REAS leave=PN Mary

      'Who arrived causing Mary to leave?' Volunteered correction of (44b)

Complement clauses headed by *wil* are also islands to movement:

---

7. If we assume that only an Agree relation between Tr and a complement clause licenses long-distance Ā-movement, and that adjuncts never control agreement, it follows that adjunct clauses should be islands for extraction.

(45) a. *Lu aam g̲oodu   wilt   niidzn.*

lu aam goot-u   [**wil**=t   niist-n]

in good heart-1SG.II COMP=3.I see-2SG.II

'I'm happy that she/he saw you.'

b. * *Naayu (wil)   luu am   g̲oodn   mwil   niis(t)?*

naa=u wil   lu aam goot-n   [m=wil   niis-t ___]?

who=Q (COMP) in good heart-2SG.II 2.I=COMP see-3.II

Intended: 'Who are you happy that you saw?'

(46) Complex noun phrase island:

a. *Gabis   Dzon   hoon nah sip'iyaans   Meeli.*

gap-i=s   Dzon [=a hoon nah si-p'iyaan-i-t=s   Meeli]

eat-TR=PN John CN fish PFV make-smoke-TR-3.II=PN Mary

'John ate the fish that Mary smoked.'

b. * *Naayu gabis   Dzon hoon   nah sip'iyaant?*

naa=u gap-i=s   Dzon [hoon nah si-p'iyaan-i-t ___]

who=Q eat-TR=PN John fish   PFV make-smoke-TR-3.II

Intended: *Who$_i$ did John eat the fish that (they$_i$) smoked?

(47) *Wh*-island

  a. *Wilaayda   goo g̱ant   k̲'otsdit   Lucy   hoon.*

     wilaay-i-t=a   [goo g̱an=t   k̲'ots-t=t   Lucy=a   hoon]

     know-TR-3.II=CN   what REAS=3.I cut-3.II=PN Lucy=CN fish

     'He knows why Lucy cut the fish.'

  b. * *Goyu   wilaayda   goo g̱ant   k̲'otsdit   Lucy?*

     goo=u   wilaay-i-t=a   [goo g̱an=t   k̲'ots-t=t   Lucy ____]

     what=Q know-TR-3.II=CN   what REAS=3.I cut-3.II=PN Lucy

     Intended: *What$_i$ does he know why Lucy cut (it$_i$)?

Focus fronting and relativization are also island sensitive:

(48) a. * *Pada   dawłit   Meeli   awil   ła   g̱oydiksit.*

       Pat=a   dawł-it Meeli ____ [awil   ła   g̱oydiks-it ____]

       Pat=CN leave-SX Mary   because PROX arrive-SX

       Intended: *It's Pat$_i$ that Mary left because (he$_i$) arrived   Focus

  b. * *Wilaayu   'yuuta   dawłit Meeli   awil   ła   g̱oydiksit.*

     wilaay-i-u=a   'yuuta=a dawł-it Meeli ____ [awil   ła   g̱oydiks-it ____]

     know-TR-1SG.II=CN man=CN   leave-SX Mary   because PROX arrive-SX

     Intended: *I know the man that Mary left because (he$_i$) arrived   Relative clause

This ungrammatical example in (46) also shows that resumption (the overt Series II suffix *-t* index-ing agreement with the extracted subject) does not ameliorate these island violating sentences.

In the presentation of cross-clausal extraction in (16), it was shown that intransitive matrix predicates may take clausal complements, and long-distance extraction from within this clause

is possible. This would suggest that a well-known island constraint, the subject-island constraint (Ross, 1967), is violable in Sm'algyax. The subject-island constraint, which prohibits movement from inside a sentential subject, is shown in English below:

(49)   a.   [That John visited Mary] is unlikely.

       b.   *Who [that John visited ___] is unlikely?

The ability to extract from clausal complements of intransitive predicates is attested in Gitksan, as noted in Forbes (2017). Below we see that the intransitive predicate *aam* '(be) good' allows an element to be extracted from its clausal complement. As in Sm'algyax, extraction over an intransitive bridge predicate triggers subject-extraction morphology.

(50)   *Gu=hl*   *g̲ay*   *aam-it* ___   [*ji*   *jap-xw-it* ___]?
       what=CN   CNTR   good-SX   IRR   make-PASS-SX

       'What would it be good if (it) were made?' (Gitksan; Forbes, 2017)

    A number of non-Tsimshianic VSO languages are also reported to allow subject island violations, as we see in the Chamorro example in (51) from Chung (1991).

(51)   *Hay   siguru*   [*na   pära   u-ginänna*   *i*   *karera* ___]?
       who   INFL.certain   that   will   INFL-PASS.win   the   race

       'Who is it certain that the race will be won by?'
       (lit. Who is [that the race will be won by] certain?) (Chamorro; Chung, 1991, p. 2)

The transparency of sentential subjects for extraction has also been observed in Irish and Niuean (Chung, 1983). Chung suggests that this transparency results from a structural distinction between subjects in VSO languages that is not present in, e.g., SVO languages. In VSO languages, Chung argues, subjects are properly governed by the predicate at S-structure, while extraction

is only prohibited out of non-properly governed positions. Georgi (2014), citing Müller (2010), also suggests that subject clauses in VSO languages are not islands because they are merged VP-internally. The Agree-based analysis adopted for long-distance Ā-movement in this chapter actually predicts that intransitive subject clauses should allow extraction out of them. If long-distance Ā-movement requires an Agree relation between a functional head in the higher clause and the lower CP from which extraction takes place, and we assume that Tr Agrees with the clausal subject (just like DP subjects in simple S extraction), we do not anticipate any barrier to extraction.[8]

3.6 Conclusion

The extraction morphosyntax associated with the local extraction of core arguments is also found in long-distance extraction in Sm'algyax (barring agent extraction, due to a ban on clausal agents). We have seen clear evidence for successive-cyclic movement of an element from an embedded clause, where local extraction morphology appears corresponding to the case of the element that has been moved. Bridge predicates exhibit extraction morphology corresponding to the clause containing the extracted XP. For formally transitive bridge predicates which select an agent DP and a clausal complement, extraction from that clause registers object extraction morphology on the bridge predicate. Intransitive predicates which select a clausal complement are marked with subject extraction morphology when extraction occurs from that clausal complement, mirroring the local-extraction behaviour of this class of predicates. Therefore, in Sm'algyax, the extraction from a clausal complement mirrors the extraction of an argument.

I provided an analysis of long-distance Ā-movement, which is almost wholly derived from the analysis of local movement in Chapter 2: movement from the launch site is identical to local movement; cross clausal movement involves an Agree relation to be established between a matrix or intermediate Tr head the embedded clause, licensing extraction out of that clause.

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8. Languages that do exhibit subject island effects would have to rule them out independently.

Finally, I devoted some discussion to barriers to extraction. I showed that Ā-movement in Sm'algyax is not boundless, and that Sm'algyax obeys most well-known island constraints. One exception is that sentential subjects are transparent to extraction. This places Sm'algyax among a number of VSO languages (Chamorro, Irish, and Niuean) as allowing subject island violations.

CHAPTER 4

Sentential particles: syntax and semantics

4.1   Introduction

In this chapter, I discuss issues pertaining to the interface of syntax and illocutionary mood via an investigation of grammatical particles that appear in questions in Sm'algyax. Questions in Sm'algyax are typically marked by one of two interrogative clitics: *=ii* and *=u*, which appear in polar (yes/no) and *wh*-questions, respectively. The polar question clitic is seen in (1) and the *wh*-question clitic is seen in (2). (1) also shows that polar questions may additionally be marked by the clause-initial particle *ał*.

(1)   a.   *Nam   dawłin.*
          nah=m   dawł-n
          PFV=2SG.I leave-2SG.III

          'You left.'   Baseline

     b.   *Nam   dawłinii?*
          nah=m   dawł-n=**ii**
          PFV=2SG.I leave-2SG.II=Q

          'Did you leave?'   Polar Q 1

c. *Ał   nah dawłinii?*

   ał   nah dawł-n=**ii**

   NEG PFV leave-2SG.II=Q

   'Did you leave?'   Polar Q 2

(2) a. *Łimoom   sm'ooygida   łguułgit.*

   łimoom-i-t=a   sm'ooygit=a łguułk-t

   help-TR-3.II=CN chief=CN   child-3.II

   'The chief helped his/her child.'   Baseline

b. *Naał   łimoomdu   sm'ooygit?*

   naa=ł   łimoom-i-t=**u**=a   sm'ooygit

   who=CN.IRR help-TR-3.II=Q=CN chief

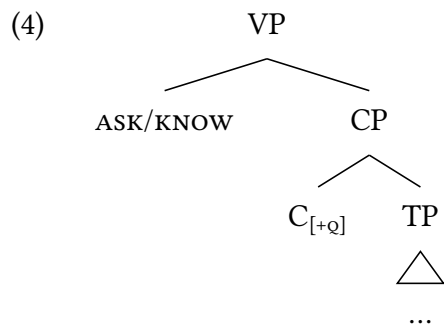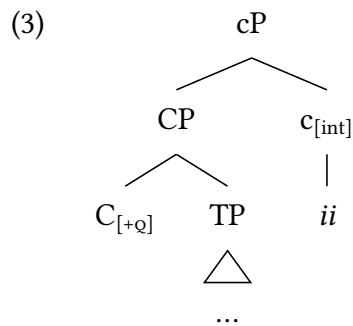   'Who did the chief help?'   Content Q

This chapter explores the distribution of these interrogative clitics and the composition of canonical questions in Sm'algyax. I show that, while the interrogative clitics appear in root questions, they are obligatorily absent in embedded questions, in certain types of non-canonical questions, and in non-interrogative contexts. Given this distribution, I argue that they are not straightforwardly analyzable as complementizers nor as Q-particles. Drawing from analyses of the syntax/semantics of speech acts and illocutionary mood (Cinque, 1999; Speas & Tenny, 2003; Farkas & Bruce, 2010; Krifka, 2017; Sauerland & Yatsushiro, 2017; Krifka, 2019; Miyagawa, 2022),[1] I propose that *=ii* and *=u* are interrogative illocutionary mood markers; that is, they are conventionally associated with direct question acts. This characterization is largely consistent with a

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1. These analyses are themselves derived from traditional speech act theory (e.g. Searle, 1969).

recent proposal in Matthewson (2023) that Gitksan's interrogative clitic *=aa* introduces a speech-act operator that "reduces speaker commitment to *p* and/or asks the addressee to commit to *p*" (Matthewson, 2023, p. 65).

I argue that the locus of interrogative mood in Sm'algyax is a high, peripheral position in the syntactic superstructure which is restricted to matrix clauses. The basic structure of a root and an embedded question are schematized below for a polar question, headed by a [+Q] complementizer. This CP level either combines with *=ii* to be interpreted as an interrogative as in (3), or can be taken as an argument to question-embedding verbs as in (4).

(3)

```
                cP
              /    \
          CP          c[int]
        /    \          |
   C[+Q]     TP         ii
              △
             ...
```

(4)

```
                VP
              /    \
        ASK/KNOW      CP
                    /    \
                C[+Q]     TP
                           △
                          ...
```

As I will show, the facts provide compelling support for an articulated interrogative clausal periphery, which minimally contains an interrogative complementizer and an illocutionary marker (see also Matthewson, 2019; Dayal, 2023; Matthewson, 2023).

The remainder of this chapter is structured as follows: Section 4.2 outlines the distribution of the polar and *wh* interrogative clitics *=ii* and *=u*, Section 4.3 analyzes the interrogative clitics

as illocutionary markers, Section 4.4 considers additional evidence for the illocutionary mood analysis with reference to non-canonical questions, and Section 4.5 concludes.

4.2   The basic distribution of interrogative clitics

In this section, I outline the basic distribution of the interrogative clitics *=ii* and *=u*, and show that they are restricted to root interrogative sentences, and may not appear anywhere else, including embedded questions or with *wh*-indefinite pronouns. Based on this distribution, I argue that Sm'algyax exhibits a structural asymmetry between root and embedded clauses: root clauses feature an additional syntactic projection, the locus of *=ii/=u*, which embedded clauses lack. This structural difference accounts for the presence of interrogative clitics in root questions and their absence in embedded questions.

4.2.1   A sketch of polar interrogatives

Polar interrogatives are marked by the presence of the polar question clitic *=ii* (5b). The word order of a declarative sentence (5a) is retained.[2]

(5)   a.   *Waays*　　　　*Judy*　　*naletayu*

　　　　Waa-i-t=s　　　Judy=a　na-leta-u

　　　　find-TR-3.II=PN　Judy=CN　POSS-letter-1SG.II

　　　　'Judy received my letter.'　　　　　　　　　　　　　　　　　　　　　　　*Baseline*

---

2. Preliminary investigation in Brown (2021) reveals no difference between declarative and interrogative sentences with respect to intonation, which is consistent with Tarpent (1987, p. 149) on the Interior Tsimshianic language Nisg̱a'a. However, Shamei (2019) shows that the Gitksan polar interrogative clitic *=aa* is lexically encoded with a rising pitch.

b.   *Waays   Judiyii   naletayu?*

     Waa-i-t=s   Judi=**ii**=a   na-leta-u?

     find-TR-3.II=PN Judy=Q=CN   POSS-letter-1SG.II

     'Did Judy receive my letter?'   *Polar question*

Response particles corresponding to 'yes', 'no', etc. are common responses to polar interrogatives.

(6)   *Oo.*

      yes

      'Yes.'

(7)   *Ayn.*

      no

      'No.'

(8)   *Iihoo'ii.*

      dunno

      'I don't know.'

Polar questions may also optionally be introduced by a sentence-initial negative existential particle *ał*, a dependent marker, which occurs alongside *=ii* (9). The example in (10), which is marked by *ał* and lacks *=ii*, shows that the presence of *ał* alone is sufficient to form a polar question.

(9) *Ałt   waadit   Ɉudiyii   naletayu?*

Ał=t   waa-t=it   Judi=**ii**=a   na-leta=u?

NEG=3.I   find-3.II=PN   Judy=Q=CN   POSS-letter-1SG.II

'Did Judy receive my letter?'

(10) *Ał   yagwał   sikopis   Henili?*

Ał   yagwa=ł   si-kopi-t=s   Henili?

NEG   PROG=CN   make-coffee-3.II=PN   Henry

'Is Henry making coffee?'

The presence of *ał* in an interrogative sentence does not encode semantic negation as in English questions with low negation (e.g. 'Did Judy **not** receive my letter?'), nor does it trigger an obligatory biased interpretation, as in English questions with high negation (e.g. **Didn't** Judy receive my letter?'). The appearance of a negation particle in unbiased polar questions is attested in all Tsimshianic languages (Rigsby 1986; Matthewson 2019, 2023 for Gitksan, Tarpent 1987 for Nisg̲a'a, Tarpent 1994 for Sg̲üüx̲s). In the examples below, we see that the same element *nee* in Gitksan is used in a negative sentence (11) as well as in polar interrogatives, alongside *=aa*, Gitksan's cognate of *=ii* (12):

(11) *Luu **nee**=hl   wineex.*

in   NEG=CN   food

'There's no food.' (Gitksan; Matthewson, 2019)

(12) ***Nee**=hl   yukw=hl   wis=**aa***?

NEG=CN PROG=CN rain=Q

'Is it raining?' (Gitksan; Matthewson, 2019)

Biased polar questions in Sm'algyax are formed in two ways. The first involves the negative response particle *ayn* in initial position, which co-occurs with *=ii*. These *ayn*-questions are biased toward the truth of the prejacent proposition *p*.

(13) Context (adapted from Ladd (1981)): We're looking for a restaurant in the neighbourhood. I remember there being a decent Chinese restaurant close by. I say to you:

Aynł   *t'aadii*   *waptooxgm*   *dzeena* *a*   *gwa'a?*

ayn=ł   t'aat-t=**ii**=a   wap=txooxk-m   dzeena   a-t=a   gwa'a

no=IRR.CN   stand-3.II=Q=CN house=eat-ATTR Chinese PREP-3.II=CN here

'Isn't there a Chinese restaurant around here?'

(Speaker believes there is a Chinese restaurant around here, seeks confirmation)

The second type has the form and interpretation of a tag-question and features the third-person pronoun *'nii(t)*, combined with the interrogative particle *=ii*, to form the tag element *'niidii* (which is often shortened to *'nii*):

(14) *'Nüüngał*   *int*   *'maga*   *txaaw,* *'niidii?*

'nüün=g̱at=ł   in=t   'mak=a   txaaw, **'niit=ii**?

2SG.III=REP=CN.IRR AX=3.I catch=CN halibut 3.III=Q

'(They say) you caught the halibut, is that right?'

Finally, we also find that *=ii* appears in alternative questions—those questions offering a disjunctive choice of answers, and expecting one of those options as a response. Note that there is a single occurrence of *=ii* in alternative questions.

(15) *Ał waasii dzi ligi ayn?*

ał waas=**ii** dzi ligi ayn

NEG rain=Q IRR LIGI no

'Is it raining or not?'[3]

(16) Context: I want to know the day Margaret left. I know she either left today or yesterday.

Dawłiit   Margaret a   sah gya'wn dzi ligi gits'iipda?

Dawł=**ii**=t Margaret a   sah gya'wn dzi ligi gits'iipda?

leave=Q=PN Margaret PREP day now   IRR ligi yesterday

'Did Margaret leave today, or yesterday?'

(17) Context: You're visiting for breakfast. I know you always have either coffee or tea with breakfast. I offer you the choice between coffee and tea.

Dm   hasag̲anii   kopii dzi ligi dii?

dm   hasax-n=**ii**=a   kopii dzi ligi dii

PROSP want-2.II=Q=CN coffee IRR LIGI tea

'Do you want coffee, or tea?'

(18) Context: You are responding to (17).

Dm   xkopii'nu.

dm   x-kopii-'nu

PROSP ingest-coffee-1SG.III

'I'll have coffee.'

---

3. This example is better classified as a polar alternative question, in that the alternatives are a positive and negative counterpart.

Wrapping up this section, we have seen that one of two particles (*=ii* and *ał*), or a combination of them both, is used to form polar questions in Sm'algyax. Neither particle is obligatory, but at least one must surface to form a polar question. In the following sections we investigate the syntactic distribution of *=ii* in more detail.

4.2.2 Polar interrogative *=ii* only marks root interrogatives

This section looks at the distribution of *=ii* with explicit comparison to other particles that appear in polar interrogatives crosslinguistically. I show that *=ii* is restricted to main clause interrogatives. It cannot appear in embedded questions; this behaviour differentiates it from polar question particles in Japanese, Finnish, and Turkish (Kuroda, 1965; Hagstrom, 1998; Gonzalez, 2021)); this includes interrogative clauses embedded under *rogative* predicates—i.e., predicates that only embed interrogative complements (Lahiri, 2002)—this behaviour differentiates *=ii* from polar question particles in Hindi (Bhatt & Dayal, 2020; Dayal, 2023)).

First, we observe that *=ii* is confined to root interrogative sentences such as (19).

(19) *Nah yoyksis   Clarensii   ts'ikts'ik?*
      nah yoyks-i-t=s   Clarence=**ii**=a   ts'ikts'ik
      PFV wash-TR-3.II=PN Clarence=Q=CN   car

      'Did Clarence wash the car?'

We see in the examples below that *=ii* is prohibited from occurring in embedded questions, which are instead introduced by the irrealis complementizer *dzi*.[4]

---

4. The negative particle *ał* is also restricted to root polar questions:

(i) a. *Akandi   wilaay   dzi dmt   liiłgidit   Meeli   haas.*
       aka=n=di   wilaay-t **dzi** dm=t liiłk-t=t   Meeli=a haas
       NEG=1SG.II=FOC   know-3.II IRR PROSP=3.I care.for-3.II=PN Mary=CN dog

       'I don't know if Mary will look after the dog.'

(20) a. *Güüda̱gat   dzit   ḵotsdit   Lucy   hoon.*

      güüdax-i-t [**dzi**=t ḵots-t=t   Lucy=a   hoon]

      ask-TR-3.II IRR=3.I cut-3.II=PN Lucy=Q=CN fish

      'He asked if Lucy cut the fish.'

   b. * *Güüda̱gat (dzi)t   ḵotsdit   Lucyii   hoon.*

      güüdax-i-t [dzi=t ḵots-t=t   Lucy=**ii**=a   hoon]

      ask-TR-3.II IRR=3.I cut-3.II=PN Lucy=Q=CN fish

(21) a. *Hasax̱ł   haasii   wineeya?*

      hasax=ł   haas=**ii**=a wineeya

      want=CN dog=Q=CN food

      'Does the dog want food?'

   b. *Wilaays Dzon dzida   hasa̱ga   haasa   wineeya.*

      wilaay=s Dzon [**dzi**=da hasax=a haas=a   wineeya]

      know=PN John IRR=SPT want=CN dog=CN food

      'John knows whether the dog wants food.'

   c. * *Wilaays   Dzon (dzida) hasa̱gał   haasii   wineeya.*

      wilaay-t=s   Dzon [dzi=da hasa̱k=ł   haas=**ii**=a wineeya]

      know-3.II=PN John IRR=SPT want=CN dog=Q=CN food

---

b. * *Akandi   wilaay   a̱ł   dmt   liiłgidit   Meeli   haas.*

    aka=n=di   wilaay-t   **a̱ł**   dm=t   liiłk-t=t   Meeli=a   haas

    NEG=1SG.II=FOC know-3.II NEG PROSP=3.I care.for-3.II=PN Mary=CN dog

Intended: 'I don't know if Mary will look after the dog.'

(22) a. *Hasag̲anii* *dm* *yeltgn?*

Hasax-n=**ii** dm yeltk-n?

want-2SG.II=Q PROSP return-2SG.II

'Do you want to go back?'

b. *Yagwan* *g̲üüdag̲an dza hasag̲an* *ła* *dm* *yeltgn.*

yagwa=n güüda̲k-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.'

c. * *Yagwan* *g̲üüdag̲an (dza) hasag̲an=ii dm* *yeltgin.*

yagwa=n güüda̲k-n [dza hasax-n=**ii** dm yeltk-n]

PROG=1SG.I ask-2SG.II IRR want-2SG.II PROSP return-2SG.II

Note that neither responsive predicates such as *wilaay* 'know', which embed declarative and interrogative clauses, nor rogative predicates such as *g̲üüdax* 'ask', which only embed interrogative clauses, allow *=ii* to surface in the embedded interrogative clause.

This behaviour contrasts with the obligatory appearance of question particles in embedded interrogative clauses in languages like Turkish (Gonzalez, 2021), Finnish (Gonzalez, 2021), and Japanese (Kuroda, 1965; Hagstrom, 1998; Uegaki, 2018, a.o.). In the Turkish examples below, the question particle *mı* appears in clauses embedded under both the rogative predicate 'wonder' and the responsive predicate 'know'.

(23) a. *Ali Oya* **mı** *Sessizev-i* *al-dı* *merak ediyor.*

Ali Oya POLQP Sessizev-ACC buy-PST wonder

'Ali wonders whether Oya bought Sessizev.'

b. *Ali Oya **mɪ** Sessizev-i al-dı biliyor.*

Ali Oya PolQP Sessizev-ACC buy-PST know

'Ali knows whether Oya bought Sessizev.' (Turkish; Gonzalez, 2023, p. 27)

The presence of *mɪ* in the embedded clause is sufficient to encode an embedded question interpretation; this particle is therefore a good candidate for being a clause-typing particle in the sense of Cheng (1990) (i.e. a C$_{[+Q]}$).[5]

The categorical unembeddability of *=ii* also contrasts with particles in languages such as Hindi-Urdu (Bhatt & Dayal, 2020; Dayal, 2023), which may be freely embedded under rogative, but not responsive predicates. In (24) we see that the polar question particle *kya:* cannot appear in the interrogative clausal complement of a responsive predicate corresponding to 'know', while in (25) we see that *kya:* freely appears in the clausal complement of the rogative predicate corresponding to 'ask':

(24) ** ravi ja:nta: hai ki **kya:** anu ja:egi:.*

Ravi knows AUX SUB PQP Anu will.go

Intended: 'Ravi knows whether Anu will go.' (Hindi-Urdu; Dayal, 2023, p. 9)

(25) *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.' (Hindi-Urdu; Dayal, 2023, p. 9)

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5. I discuss clause-typing particles further in Section 4.3, explicitly comparing them to illocutionary mood markers. Broadly, I assume that an interrogative clause-typing particle C$_{[+Q]}$ shifts the meaning of its propositional argument (type $\langle s,t \rangle$) to the level of a set of propositions (type $\langle \langle s,t \rangle, t \rangle$). Crucially, I assume that C$_{[+Q]}$ is present in both matrix and embedded interrogatives.

Bhatt and Dayal (2020) and Dayal (2023) argue that the inability of *kya:* to be embedded under responsive predicates precludes it from being straightforwardly analyzable as a clause-typing particle, and instead pursue a novel analysis of *kya:* as a special kind of particle that functions in an articulated interrogative left-periphery. Following this logic, I likewise propose that the inability of *=ii* to appear in any embedded context also shows that a clause-typing analysis overgenerates, and instead pursue an illocutionary operator analysis in Section 4.3.

The polar interrogative clitic *=ii* only appears in polar and alternative questions. As I argue in Section 4.3, this distribution is consistent with it being an illocutionary operator associated with the speech act of *questioning*. In the next subsection, I discuss the distribution of *=ii* with reference to the independent/dependent clause-type distinction in Sm'algyax.

4.2.2.1   Root/non-root vs independent/dependent

As we saw in the previous section, *=ii* is prohibited from appearing in embedded questions. In this section I show that this prohibition is not related to the Tsimshianic independent/dependent clause distinction.

Recall from Chapter 1.4.6 that in Sm'algyax there are two clause types that are characterized by distinct person-marking configurations and voice morphology on the predicate. As the root question in (19) features an independent clause (as evidenced by the transitive suffix *-i* on the predicate), and the embedded question in (20) is a dependent clause (and therefore lacks the transitive suffix), the distribution of *=ii* might plausibly be subsumed under the umbrella of the independent/dependent clause-type distinction. However, the examples below show that this is not the case. In (26), a root level dependent clause is triggered by the presence of the dependent marker *yagwa*: *=ii* freely occurs within the dependent clause, showing that its absence in (20) does not arise solely due to the dependent status of the embedded interrogative clause. The example in (27) features an embedded independent clause, triggered by the focusing of the object. Despite being an interrogative clause (it is embedded under the rogative predicate *güüdax* 'ask'), the embedded independent clause obligatorily lacks *=ii*.

(26) *Yagwał   hadiksdii   łgu   'yuuta.*

yagwa=ł   hadiks-t=**ii**=a łgu   'yuuta

PROG=IRR.CN swim-3.II=CN small man

'Is the boy swimming?'

(27) a. *Güüdagu   dzi 'nii ts'ikts'iga   gwa'a nah saksiltis   Meeli.*

güüdax-i-u   [_{Indep} **dzi** 'nii ts'ikts'ik=a gwa'a nah saksil-t-i-t=s   Meeli]

ask-TR-1SG.III   IRR DEM car=CN   DEM   PFV clean-T-TR-3.II=PN Mary

'I asked if Mary cleaned *this car*.'

b. * *Güüdagu   (dzi) 'nii ts'ikts'iga   gwa'a nah saksiltiit   Meeli.*

güüdax-i-u   [_{Indep} (dzi) 'nii ts'ikts'ik=a gwa'a nah saksil-t-i-t=**ii**=t   Meeli.

ask-TR-1SG.II   IRR DEM car=CN   DEM   PFV clean-T-3.II=Q=PN Mary

The examples in (26) and (27) clearly show that beyond the independent/dependent clause distinction, there is a separate, root/non-root clause distinction. Root clauses may host interrogative clitics like *=ii*; non-root clauses may not.

	Independent	Dependent
+root	+Q	+Q
−root	−Q	−Q

Table 4.1: Distribution of the polar question clitic (Q) across clause types.

4.2.3   *Wh*-interrogative *=u*

As we saw in Chapter 2, *wh*-questions in Sm'algyax are characterized by the presence of a fronted *wh*-expression, extraction morphology, and a *wh*-particle *=u* (28):[6]

(28)   *Naayu*   *nah baat?*

    naa=**u**=a   nah baa-it

    who=Q=CN   PFV   run-sx

    'Who ran?'

The goal of this section is to outline the basic syntactic distribution of *=u*. I show that *=u* is a main clause phenomenon: it appears in root interrogatives and does not appear in embedded questions. I also show that *=u* is not associated directly with the *wh*-word itself—it does not appear alongside *wh*-indefinites or in non-interrogative *wh*-clauses such as free-relative constructions or *wh*-exclamatives. This section lays the groundwork for Section 4.3, where I propose an analysis in which *=u* (alongside polar interrogative *=ii*) is the overt instantiation of an interrogative mood operator.

As we saw in Chapter 2, all Ā-extraction constructions in Sm'algyax are marked by extraction morphology that indicates the grammatical role of the extracted element. Below we see an intransitive subject (S) relative clause marked by the suffix *-it* SUBJECT EXTRACTION (29), an object (O) relative clause marked by the suffix *-i* TRANSITIVE (30), and a transitive subject (A) relative clause marked by the prepredicative morpheme *in* AGENT EXTRACTION and the resumptive third

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6. An allomorph of the particle *=u* is *=du*:

(i)   **Naadu**   *baat?*

    naa=u=a   baa-it ____

    who=Q=CN   run-sx

    'Who ran?'

    Consultant's comment: "Same as *Naayu baat.*"

  I discuss the conditions affecting allomorph selection in Chapter 5.

person clitic *=t* (31). In each case, a common-noun connective cliticizes to the right edge of the extracted element.

(29)   S-relative:

    a.   *Sis'aaxsa   gyet.*

          sis'aaxs=a gyet

          laugh=CN   person

          'A person laughed.'

    b.   *Wilaayu   gyeda   sis'aaxsit.*

          wilaay-u   gyet=**a**   sis'aaxs-**it** _____

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

          'I know the person who laughed.'

(30)   O-relative:

    a.   *Gaba   gyeda   ts'ik'aaws.*

          gap-i-t=a   gyet=a   ts'ik'aaws

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

          'The people eat split dried salmon.'

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

          niist-u   ts'ik'aaws=**a**   gap-**i**-t _____

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

          'I saw the split dried salmon they ate.'

(31) A-relative:

Wilaayu   gyeda   int   gapt.

wilaay=u   gyet=**a**   **in**=t   gap-t ⎯⎯

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

'I know the people who ate it.'

Main-clause *wh*-questions feature the same extraction morphology, 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 morphology as well as the *wh*-particle *=u*:[7] The position of *=u* is variable and it has several alternants, which I will discuss in Chapter 5. These factors do not affect my core claims here that *=u* is a marker of illocutionary mood.

(32) S *wh*-question:

Naayu   sis'aaxsit?

naa=**u**=a   sis'aaxs-**it** ⎯⎯

who=Q=CN laugh-sx

'Who laughed?'

---

7. In each *wh*-configuration, the connective *=ł* typically associated with extraction in the left-peripheral phrase does not cooccur with *=u*. The presence of this expected connective is also variably influenced by other mood and sentential 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.

(33) O *wh*-question:

Goyu   gabin?

goo=**u**=a   gap-**i**-n ____

what=Q=CN   eat-TR-2SG.II

'What did you eat?'

(34) A *wh*-question:

Goyu   int   łak̲'an?

goo=**u**=a   **in=t**   łak̲'-n ____

what=Q=CN   AX=3   bite-2SG.II

'What bit you?'

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

(35) a. *Naayut   'nüün?*

naa=**u**=t   'nüün

who=Q=PN   2SG.III

'Who are you?'

b. *Naat   'nüün?*

naa=t   'nüün

who=PN   2SG.III

'Who are you?'

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 that in both question types, when an interrogative clitic is absent, there is some other morphosyntactic evidence of an interrogative clause: in polar questions there is the clause-initial particle *ał*, and in *wh*-questions there is a clause-initial *wh*-expression.

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 (36), temporal (37), and manner (38) questions, and with all other *wh*-words such as the underspecified *ndaa/ndeh* and all the *wh*-words derived from it (36)–(39), the quantificational *wh*-words *t'masool* 'how many (people)' (40), and *t'maays* 'how many (things)' (41), as well as complex *wh*-constructions such as *goo gan* 'why' ('what' followed by a dependent clause headed by the subordinator *gan*) (42), or *ndeh gasgaaw/goo gasgaaw* 'how big', 'how much' (lit. what/how is the size/amount) (43):

(36) *Ndeyu   nam   wil   niidzu?*
     ndeh=**u**=a   nah=m   wil   niist-u ___
     where=Q=CN PFV=2SG.II COMP see-1SG.II

     'Where did you see me?'

(37) *Dzindał   dm   'ap   yaltgidut   Norman?*
     dzi=ndaa=ł   dm   'ap   yaltk-t=**u**=t   Norman ___
     IRR=when=CN PROSP VER return-3.II=Q=PN Norman

     'When is Norman really coming back?' (Sasama, 2001, p. 64)

(38) *Ndeyu   wila   waan?*
     ndeh=**u**=a   wila   waal-n ___
     how=Q=CN MANR do-2SG.II

     'How are you doing?'

(39) *Ksindeyu*   *g̱an diduulsit?*

ksi=ndeh=**u**=a   g̱an diduuls-it ＿＿

out=which=Q=CN   tree alive-sx

'Which tree is alive?'

(40) *T'masooldu*   *gyet?*

t'masool-t=**u**=a   gyet

how.many.people-3.ɪɪ=Q=CN   people

'How many people are there?'

(41) *T'maaysdu*   *dzak'wüsga gyilks diyeltgn?*

t'maays-t=**u**=a   dzak'wüsk=a gyilks= di=yeltk-n

how.many.things-3.ɪɪ=Q=CN   animal=CN   back=   with=return-2sɢ.ɪɪ

'How many animals did you return with?' (SLLTD)

(42) *Goł*   *g̱an sis'aaxsdut*   *Kayla?*

goo=ł   g̱an sis'aaxs-t=**u**=t   Kayla ＿＿

what=CN   REAS laugh-3.ɪɪ=Q=PN Kayla

'Why is Kayla laughing?' (SLLTD)

(43) *Ndeł*   *g̱asg̱aawdu*   *xsoos*   *Dzon?*

nde=ł   g̱asg̱aaw-t=**u**   xsoo-t=s   Dzon

how=CN   amount-3.ɪɪ=Q canoe-3.ɪɪ=PN John

'How big is John's canoe?'

In this section, we have seen that the particle *=u* appears in *wh*-questions. The appearance of this clitic sets questions apart from other Ā-extraction constructions such as relative clauses and focus fronting.

4.2.4 *Wh*-interrogative *=u* is a main clause phenomenon

Just like the polar interrogative clitic *=ii*, the *wh*-clitic *=u* is restricted to main clause questions. The examples in (44)–(46) show that while questions may be freely embedded under typical question embedding predicates such as *wilaay* 'know', *güüdax* 'ask', or *aap'ax* 'remember', the *wh*-clitic is not able to appear in embedded questions.

(44) *Wilaayu   naa(*yu) ɫimoom   sm'ooygit.*
      wilaay-u   [naa(*=u) ɫimoom-i-t=a   sm'ooygit ___]
      know-1SG.II who(*=Q) help-TR-3.II=CN chief

      'I know who the chief helped.'

(45) *Güüda̲gu   naa(*yu) ɫimoom   sm'ooygit.*
      güüdax-u [naa(*=u) ɫimoom-i-t=a   sm'ooygit ___]
      ask-1SG.II who(*=Q) help-TR-3.II=CN chief

      'I asked who the chief helped.'

(46) *Akandi   aap'ax   ndeɫ/(*ndeyu)   habit.*
      aka=n=di   aap'ax-t   [ndeh(*=u)=ɫ   hap-i-t ___]
      NEG=1SG.I=FOC remember-3.II where(*=Q)=IRR.CN PL:go-TR-3.II

      'I don't remember where they went.'

4.2.5   Independent/dependent clause distinction

Again, as observed with the polar interrogative clitic, the *wh*-clitic freely occurs in independent and dependent clauses, as long as they are root interrogatives. Recall that object extraction configurations such as (47) obligatorily exhibit independent clause-type inflection, and transitive subject extraction configurations such as (48) obligatorily exhibit dependent clause-type inflection. The examples below show that the *wh*-clitic occurs in both configurations, and is therefore insensitive to the independent/dependent clause distinction.

(47)   *Goł*   *gabidut*   *Dzon?*
       goo=ł   gap-i-t=**u**=t   Dzon
       what=IRR.CN   eat-TR-3.II=Q=PN   John

       'What did John eat?'

(48)   *Naał*   *int*   *gapdu*   *txa'nii*   *maay?*
       naa=ł   [_Dep in=t   gap-t=**u**=a   txa'nii=a maay]
       who=IRR.CN   AX=3.I   eat-3.II=Q=CN   all=CN   berry

       'Who ate all the berries?'

The main-clause restriction of the *wh*-clitic *=u* is shown below.

	Independent	Dependent
+root	+Q	+Q
−root	−Q	−Q

Table 4.2: Distribution of the *wh*-question clitic (Q) across clause types.

I conclude that the *wh*-clitic is not a marker of (interrogative) clause type—for example, an

instantiation of a C[+Q]-head—since if it were, we would expect it to occur in both matrix and embedded interrogative clauses.[8]

4.2.6 *Wh*-interrogative *=u* is not directly associated with *wh*-expressions

A class of particles that appear both in *wh*-questions and a number of other contexts have received much attention in previous literature. These particles have been referred to as Q-particles (Kuroda, 1965; Hagstrom, 1998; Cable, 2007, 2010a, 2010b; Kotek, 2014, 2018; Uegaki, 2018, a.o.). Though the distribution of these particles varies from language to language, there are a number of shared syntactic behaviours exhibited by Q-particles. I will walk through the basic distribution of Q-particles with reference to Tlingit (or Lingít, a Na-Dene language of Northern British Columbia, Yukon, and Alaska), because Tlingit is a northern neighbour of Sm'algyax and it possesses a relatively well-studied Q-particle *sá* (Cable, 2007, 2010a, 2010b).

First, Q-particles often appear in *wh*-questions, matrix and embedded. We see this in the Tlingit examples below. The Q-particle *sá* obligatorily surfaces in a matrix question in (49) and an embedded question in (50).

(49) *Aadóo yaagú **sá** ysiteen?*
      who   boat   Q   you.saw

      'Whose boat did you see?' (Tlingit; Cable, 2007, p. 26)

(50) *Tlél xwasakú [daa **sá**wé   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.' (Tlingit; Nyman & Leer, 1993, p. 200) (cited in Cable (2007, p. 111))

---

8. Further evidence that *=u* is not simply a complementizer that is restricted to main clauses comes from its absence in (root clause) non-canonical questions, described in Section 4.4.

Already, this behaviour contrasts with the distribution of Sm'algyax *=u*, which is restricted to matrix 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':

(51) *Daa **sá**wé yóo dikéenax.á.*
    what Q.FOC yonder far.out.across.one

    'There was something up there. (Tlingit; Nyman & Leer, 1993, p. 14)

(52) *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.' (Tlingit; Dauenhauer & Dauenhauer, 1990, p. 310)

These core behaviours are shared by Japanese *ka* and Sinhala *də*, which also appear in *wh*-questions, as well as *wh*-indefinites (Kuroda, 1965; Hagstrom, 1998). The standard analysis of Q-particles is couched in a two-tier alternative semantics (Rooth, 1985, 1992; Beck, 2006) and assumes that *wh*-words have only a focus-semantic value; structures with *wh*-words will therefore have an undefined ordinary semantic value. The role of the Q-particle is to assign its argument an ordinary semantic value by converting its focus-semantic value to an ordinary semantic value (Kotek, 2014, 2018; Uegaki, 2018).

Turning back to Sm'algyax, we also find that, apart from appearing in *wh*-questions, *wh*-expressions appear in a number of non-interrogative contexts, including as indefinite/indeterminate nouns (53)–(55), in headless relative clauses (56), and in exclamatives (57). However, as these examples show, the *wh*-clitic *=u* is strictly prohibited from appearing in any of these non-interrogative *wh*-constructions.

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(53) *Ła'a   ligi goo(*yu)   haasgu.*

ła'a=a   ligi **goo(*=u)**=a   haas-k-u

bite=CN LIGI what(*=Q)=CN dog-PASS-1SG.II

'Something bit my dog.'

(54) *Nah niidzu   ligit   naa(*yu).*

nah niits-u   ligi=t   **naa(*=u)**

PFV see-1SG.II LIGI=PN who(*=Q)

'I saw someone.'

(55) *Dm   małdu   txa'nii goo(*yu) da   k'wan.*

dm   mał-t-i-u   txa'nii **goo(*=u)** da   k'wan

PROSP tell-T-TR-1SG.II all   what(*=Q) PREP 2SG.OBL

'I will tell you everything.'

(56) *Waayu   naa(*yu) dmt   in dzaba   ts'ikts'igu.*

Waa-i-u   [**naa(*=u)** dm=t   in dzap-t=a ___ ts'ikts'ik-u]

find-TR-1SG.II who(*=Q)   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.'

(57) *Goł/*(goyu)   waalt!*

goo(*=u)=ł   waal-t ___

what(*=Q)=IRR.CN be-3SG.II

'What a thing!'

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These examples show that the *wh*-clitic is not associated with *wh*-expressions themselves, and that it should not be analyzed as a Q-particle like Japanese *ka* or Tlingit *sá* (Kratzer & Shimoyama, 2002; Beck, 2006; Cable, 2007, 2010a; Kotek, 2014, 2018; Uegaki, 2018). Chapter 5 also provides evidence from the linearization of *=u* that it does not form a constituent with the *wh*-expression, as Q-particles in *wh*-movement languages are often analyzed (e.g. Cable, 2007, 2010a).

4.2.7 Interim conclusion

So far, we have seen that polar and *wh*-questions are both marked by a clitic: polar *=ii* and *wh =u*, respectively. Shared behaviour of *=ii* and *=u* includes a restriction to main clause questions and an insensitivity to the independent/dependent clause distinction. I also showed that the *wh*-clitic is not directly associated with *wh*-expressions. I concluded that these particles should not be analyzed either as $C_{[+Q]}$ or as Q-particles.

The distinction between main and embedded questions is schematized in the table below. In the next section I present an analysis that accounts for this distinction.

	+root	-root
Wh-Qs	*wh*-movement and *=u*	*wh*-movement only
Polar Qs	*ał* or *=ii* (or both)	*dzi*

Table 4.3: Main and embedded questions

4.3 Interrogative clitics as illocutionary mood

The previous sections have shown that the interrogative particles under discussion are limited to root interrogative sentences, and therefore should not be analyzed as clause-typing particles (Cheng, 1990), as we would expect such elements to occur in both root and embedded questions. I also showed that the *wh*-clitic does not appear in any non-interrogative *wh*-constructions, showing that it is not associated with *wh*-expressions themselves, and therefore should not be treated

like a Q-particle, such as Tlingit *sá*.

Given that the interrogative clitics *=u* and *=ii* are associated strictly with root, interrogative sentences, and in line with Matthewson's 2023 characterization of Gitksan's polar interrogative clitic *=aa*, I analyze both as an interrogative illocutionary mood operator: that is, a morpheme that is linked to the conversational function of "asking" (Portner, 2018, p. 122). I suggest that syntactically, these particles occupy a functional projection high in the syntactic superstructure and take an interrogative CP as their complement. Evidence for this structure comes from embedding and coordination. Additional evidence for the illocutionary mood analysis comes from "marked" flavours of non-canonical questions: I show that Sm'algyax possesses two kinds of non-canonical question that exhibit a mismatch between their (interrogative) clause type and their (non-interrogative) illocutionary mood, and that both lack the interrogative clitic.

This analysis thus bears on recent work that seeks to account for the distinction between propositional content (typically associated with the TP/CP domain), and illocutionary content, which is often restricted to main clauses. The appearance of overt illocutionary operators in Sm'algyax provides evidence for the presence of a syntactically projected illocutionary mood operator.

4.3.1 Background: analysing illocutionary operators

Much recent work, building both on foundational semantic/pragmatic work on speech acts (e.g. Searle, 1969), and pioneering syntactic work on the distinctions between main and embedded clauses (e.g. Emonds, 1970; Ross, 1970), has sought to adequately analyze so-called main clause phenomena, also referred to as root-level phenomena. Well studied examples of purported main-clause phenomena include auxiliary inversion and topicalization in English, V2 in Germanic, allocutive agreement in Basque (Oyharçabal, 1993), and politeness marking in Korean and Japanese (e.g. Portner et al., 2019; Miyagawa, 2022). In this chapter, I add Sm'algyax's interrogative clitics to this list. This section outlines some analytical assumptions that will factor into my analysis of Sm'algyax's interrogative clitics.

A core tenet that underlies the family of theories that analyze main-clause phenomena is that a main clause can be broken up into two components: a propositional layer and an illocutionary layer. In syntactic terms, the propositional layer corresponds to the TP/CP level, while the illocutionary layer occurs higher up in the clausal superstructure. Individual analyses couched within this general framework divide up the illocutionary layer in different ways. For instance, Miyagawa (2022), building upon similar analyses such as Speas and Tenny 2003; Wiltschko and Heim 2016; Krifka 2017, 2019, proposes a two-layer superordinate structure. These layers are a Speaker-Addressee Phrase (SAP), which contains representations of the speaker and the addressee, and a Commitment Phrase (CommitP), which represents the speaker's commitment relative to the proposition.

(58) Superordinate clausal structure (Miyagawa, 2022)
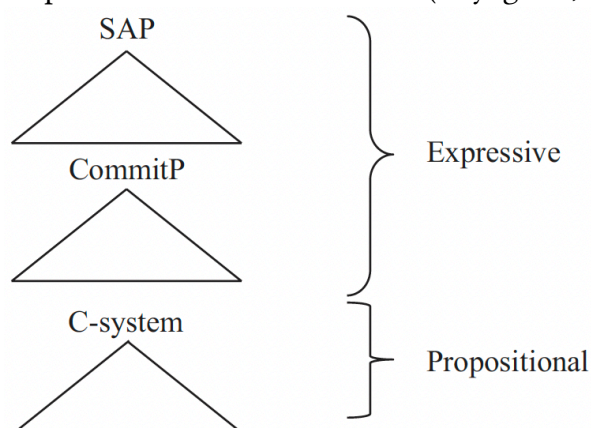
Work by Krifka (2017; 2019) posits an additional layer: Judge Phrase (JudgeP) between the CP and CommitP levels, while Portner et al. (2019) work with a single additional layer (though they state their analysis is compatible with additional levels): cP, where c stands for "context"—the authors refer to c-domain elements as *utterance-oriented* markers and C-domain elements as *content-oriented*.

In subsequent sections, I will adopt from Portner et al. (2019) the simpler notational distinction between illocutionary/expressive content ("cP"), and propositional content ("CP").[9]

---

9. In Portner et al. (2019) the projection that cP dominates is labelled MoodP, which they take to be the locus of clause-

4.3.2   The interrogative superstructure in Sm'algyax

In this section, I provide an analysis of main-clause and embedded questions in Sm'algyax, appealing to an expanded interrogative superstructure. The basic components of this analysis are sketched in (59):

(59)

```
                         cP
                     /        \
              CP                c[int]
           /      \              |
        C[+Q]      TP          =ii/=u
                   /\
                  /__\
                   ...
```
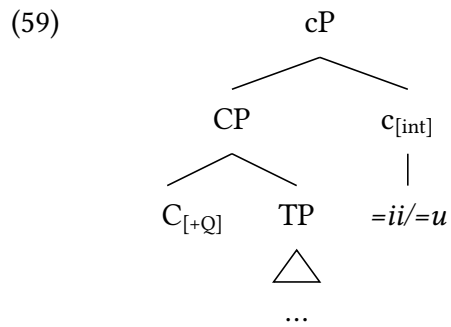
I assume that both main-clause questions and embedded questions possess a CP layer headed by a clause-typing C-head (as in Cheng 1990). In main-clause questions, but crucially not embedded questions, there is a cP layer that dominates the CP layer, and is headed by a right-branching interrogative clitic.[10] These two layers, CP and cP, respectively correspond to the propositional and illocutionary content distinction. I provide evidence for this structure from embedded and coordinated questions.

4.3.2.1   The interrogative complementizer

This section outlines my assumptions about the syntax and semantics of interrogative clause-typing, mostly following discussion in Dayal (2023).

---

typing particles that freely appear in complement clauses. To avoid confusion (given that I take (illocutionary) mood to be located in c), I refer to this lower projection as CP, where C is the locus of clause-typing particles.

10. Interrogative clitics in the other Tsimshianic languages all appear in final position. I assume, following Brown and Davis (in press-a, in press-b) and Davis and Brown (in press), that questions in Tsimshianic languages involve right-branching structures such as (59). The clause-internal position of the interrogative clitics in Sm'algyax results from post-syntactic displacement; see Chapter 5.

Let us start with polar interrogatives. I propose that the form of a polar interrogative sentence radical (that is, an interrogative CP) is as in (60). In a root polar question, $C_{[+Q]}$ is spelled out alternatively as null or as the polar question particle *ał*. In embedded polar questions $C_{[+Q]}$ spells out as the irrealis complementizer *dzi*.

(60)   Polar question radical

```
              CP
           ╱      ╲
       C[+Q]       TP
         |         △
      ∅/ał/dzi     …
```
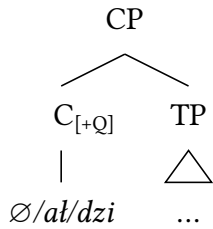
In terms of their semantics, I assume that declarative and interrogative clauses differ in terms of their type. Declaratives denote propositions, and interrogatives sets of propositions. Following Bolinger (1978), and much recent work on polar questions (Biezma & Rawlins, 2012; Roberts, 2012; Roelofsen & Farkas, 2015; Dayal, 2023; Gonzalez, 2023, a.o.), I assume that polar interrogatives denote singleton sets. The role of $C_{[+Q]}$ is to convert a proposition p into the singleton set containing p. This is shown below for the English question 'Did Betty leave?'.[11]

(61)   Did Betty leave?

(62)   a. $[_{CP}\ C_{[+Q]}\ [_{TP}\ \text{Betty left}]\ ]$

        b. $[\![\text{TP}]\!] = \lambda w.\text{left}_w(b)$

        c. $[\![C_{[+Q]}]\!] = \lambda p_{\langle s,t \rangle}.\lambda q_{\langle s,t \rangle}.p = q$

        d. $[\![\text{CP}]\!] = \lambda p_{\langle s,t \rangle}.p = \lambda w.\text{left}_w(b)$

---

11. Nothing in my core analysis of illocutionary mood hinges on polar questions denoting singleton rather than bipolar sets, in fact Matthewson (2023) proposes that both options exist for Gitksan. I address this further in Section 4.5.

Following Biezma and Rawlins (2012) I assume that $C_{[+Q]}$ additionally presupposes that the alternatives for a question are elements in the set of salient alternatives in a context **SalientAlts**(c). In the case of a polar question, with a singleton set denotation, this requires that its content is one of the salient alternatives in the context. For instance, given a context where it's epistemically possible that Aidan, Betty, and Clarence left, the polar question in (61) has the following alternatives in (63):

(63)   **SalientAlts**(c):

   Betty left

   Aidan left (implicit)

   Clarence left (implicit)

I additionally assume that a bipolar $\{p, \neg p\}$ denotation can be coerced when necessary (i.e. embedding contexts or discourse-initial questions, see Biezma and Rawlins (2012, p. 393)).

   Wh-question radicals also feature a $C_{[+Q]}$:

(64)   *Wh*-question radical
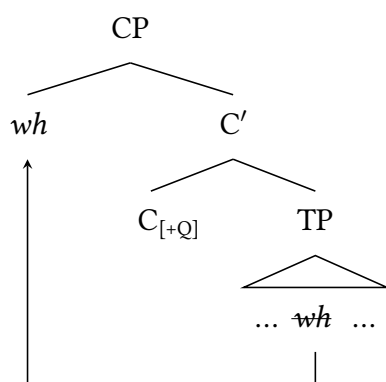
   I adopt a *Hamblin-Karttunen* approach to *wh*-questions: a *wh*-question denotes the set of possible answers (Hamblin, 1973) and a $C_{[+Q]}$ element shifts the clause from a proposition to a

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?'.

(65)   Who left?

(66)   a. $[_{CP}$ who$_i$ $[_{C'}$ C$_{[+Q]}$ $[_{TP}$ t$_i$ left]]]

       b. $[\![TP]\!]$ = $\lambda w.\text{left}_w(x_i)$

       c. $[\![C_{[+Q]}]\!]$ = $\lambda q_{\langle s,t \rangle}.\lambda p_{\langle s,t \rangle}.p = q$

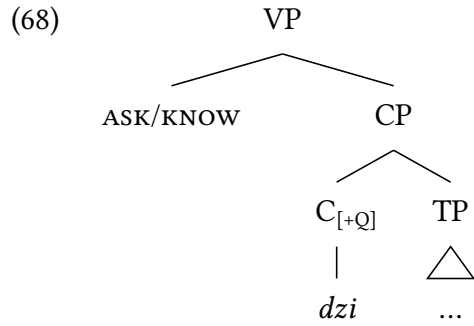   d. $[\![C_{[+Q]}([\![TP]\!])]\!]$ = $\lambda p.[p = \lambda w.\text{left}_w(x_i)]$

       e. $[\![CP]\!]$ = $\lambda p.\exists x.[\text{human}(x) \wedge p = \lambda w.\text{left}_w(x_i)]$
            $\Rightarrow$ {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.

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

    As pointed out in Dayal (2023), assigning the denotation $[\lambda p_{\langle s,t \rangle}.\lambda q_{\langle s,t \rangle}.p = q]$ to C$_{[+Q]}$ effectively treats it as a clause-typing expression; rogative verbs like 'ask' exclusively select for complements headed by C$_{[+Q]}$, responsive verbs like 'know' variably select for them, and *antirogative* verbs like 'believe' never do so. Embedded questions are schematized below. Embedded polar questions, under my analysis, proceed as follows: a question-embedding verb such as 'ask' or 'know' will select an interrogative CP headed by *dzi*.

(68)

```
              VP
          /        \
    ASK/KNOW        CP
                  /     \
              C[+Q]      TP
                |         △
               dzi        …
```

Embedded *wh*-questions involve a question-embedding predicate taking a *wh*-question radical as in (64) as its complement.

(69)

```
              VP
          /        \
    ASK/KNOW        CP
                  /     \
                wh       C′
                       /     \
                   C[+Q]      TP
                               △
                               …
```
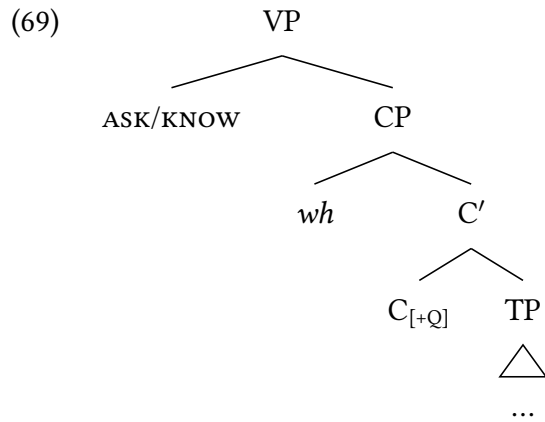
I now turn to the interrogative clitics *=ii* and *=u*.
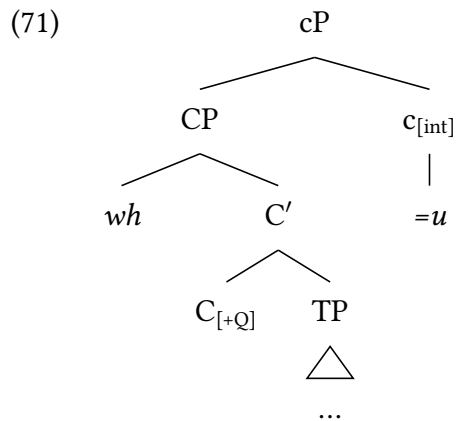
4.3.2.2   The interrogative clitics

As sketched in (59) above, I locate the interrogative clitics in the clausal super-structure, heading a cP projection. I assume that they select for a CP complement that features a $C_{[+Q]}$-element (introduced in Section 4.3.2.1).

In (70) we see a main clause polar question featuring the polar question clitic *=ii* and its CP complement.

(70)

```
                    cP
               ┌─────┴──────┐
              CP           c[int]
           ┌───┴───┐         │
        C[+Q]     TP        =ii
          │       △
         ∅/ał     ...
```
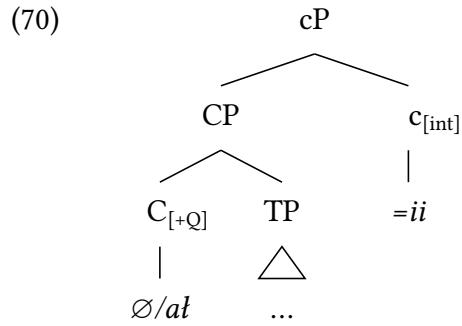
Recall that polar questions embedded under verbs such as 'ask' or 'know' are categorically introduced by the element *dzi*, which I argued to be a $C_{[+Q]}$ head. Main-clause polar questions are never introduced by *dzi*; instead they feature either a clause-initial particle *ał*, or no additional marking ∅ (besides *=ii*). I take *ał* and ∅ to be matrix $C_{[+Q]}$ heads. The matrix/embedded distinction, I assume, results from syntactic selection: *=ii* selects a complement headed by *ał*/∅, while question-embedding verbs select for a complement headed by *dzi*.

Turning to root-level *wh*-questions, we again find a cP projection, this time headed by the interrogative clitic *=u*.

(71)

```
                    cP
               ┌─────┴──────┐
              CP           c[int]
           ┌───┴────┐        │
          wh        C'       =u
               ┌────┴────┐
            C[+Q]       TP
                         △
                        ...
```

As I argued in Section 4.3.2.1, embedded questions feature a verb that selects for an interrogative CP complement. These question-embedding verbs do not select for cP complements, which explains the absence of the interrogative clitic in embedded questions.

Further syntactic evidence for the interrogative clitics occupying a position above the root CP comes from coordinated questions, which commonly feature a single instance of *=u* or *=ii* inside the first conjunct scoping over two interrogative clauses. We see this in the coordinated polar question in (72) and the coordinated *wh*-question in (73).

(72) *Ał   kwdiinii   ada su'naałan?*
      ał   kwdii-n=**ii**   ada su'naał-n
      NEG hungry-2SG.II=Q and tired-2SG.II

      'Are you hungry and (are you) tired?'

(73) Context: You're talking to a friend who returned from a baking exchange:
      Goyu   nah gabn   ada naał   nah int   dzapt?
      [goo=**u** nah gap-i-n ____] [ada naa=ł   nah in=t   dzap-t ____]
      what=Q PFV eat-TR-2SG.II and who=IRR.CN PFV AX=3.I make-3.II

      'What did you eat and who made it?'

In the examples above, the interrogative clitics cannot c-command the second conjunct from their surface position inside the first conjunct. Furthermore, syntactic movement of an interrogative clitic into a c-commanding position would violate the Coordinate Structure Constraint (Ross, 1967). The only other possibility—which I will adopt—is that the interrogative clitics are base-generated in a c-commanding position above both conjuncts (as in (74)) and are positioned inside the first conjunct post-syntactically (as argued for in Chapter 5).[12]

---

12. I do not attempt to analyze coordinated questions in this dissertation.

(74)

```
                        cP
                ┌────────┴────────┐
              &P                 c[int]
        ┌──────┴──────┐           │
       CP            &'         =ii/=u
        │        ┌────┴────┐
       ...       &        CP
                           │
                          ...
```
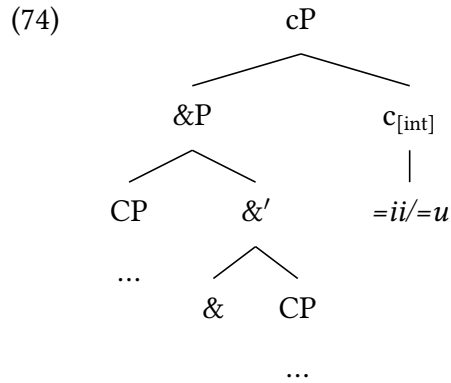
In terms of the semantics of $c_{[int]}$, I propose that it combines with a question radical Q (which denotes a set of propositions) and returns Q only if the not-at-issue conditions in (i) and (ii) hold.[13] This has the broad effect of selecting a question radical and setting it as the current question under discussion.

(75)   **$c_{[int]}$ operator**

$[\![c_{[int]}]\!](Q)$ is defined only if:

(i) if Q is a singleton set of propositions, then SalientAlts(c) $\neq \varnothing$, and

(ii) Q is set as the question under discussion

If defined, $[\![c_{[int]}]\!](Q) = Q$[14]

I crucially assume that the distinction between *=ii* and *=u* is (morpho)syntactic. The *wh*-clitic *=u* is triggered via a [+wh] feature from the *wh*-word in [Spec,CP], and *=ii* appears elsewhere (polar and alternative questions).

Turning to embeddability, there is an ongoing debate about whether expressions at this level are truly embeddable. Some recent accounts of root-like embedded phenomena, such as embedded inverted questions in English dialects and embedded V2 in German suggest that speech

---

13. Following Biezma and Rawlins (2012, p. 393), if there are no salient alternatives in c then the bipolar denotation of a polar question can be coerced.

14. (75ii) ensures that Q is among the salient alternatives in c.

acts can, in fact, be embedded, albeit in a restricted manner, typically under rogative verbs like 'ask' or 'wonder' (see, e.g., Krifka 2014, Woods 2016, cf. Dayal 2023). The interrogative clitics *=ii* and *=u* are categorically unembeddable, placing Sm'algyax, alongside many other languages (e.g. Mandarin (Li & Thompson, 1981; Paul, 2014), Cantonese (Sybesma & Li, 2007; Lam, 2014), Cuzco Quechua (Faller, 2002, 2003, 2014), and Korean (Portner et al., 2019)), as exhibiting a strong distinction between root and non-root clauses. It remains an open question whether these differences arise from the distinct lexico-semantic and syntactic properties of embedding verbs in these languages—predicates in German and English possess unique properties that grant them the exceptional ability to embed direct questions, while those in Sm'algyax or Cantonese do not— or whether they reflect a more fundamental difference in how illocutionary material is encoded across these languages.

To conclude this section, the interrogative clitics *=ii* and *=u* only appear in root 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 are generated above CP, in a cP projection, and select for an interrogative CP complement. Semantically, they have the effect of setting a question radical Q as the current question under discussion.

4.4   Non-canonical questions

If *=u* and *=ii* are operators associated with the speech act of *asking* rather than 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 root canonical questions. It follows that the Sm'algyax equivalent lacks the interrogative clitic *=u*:

(76) *Wilaayu*   *naa*   *ksi*   *dawłit.*

wilaay-u   [naa=a   ksi=   dawł-it]

know-1SG.II   who=CN   out=   leave-SX

'I know who left.'

(77) * *Wilaayu*   *naayu*   *ksi*   *dawłit.*

wilaay-u   [naa=**u**=a   ksi=   dawł-it]

know-1SG.II   who=Q=CN   out=   leave-SX

'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.

4.4.1 Non-canonical questions

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):

(78) 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 (78) 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.[15] In the subsections that follow, I discuss these flavours of non-canonical question, as well as their ability to license interrogative clitics.

4.4.2   Rhetorical questions

Rhetorical questions (RQs) can informally be characterized as interrogative sentences that have the feel of an assertion; that is, the speaker does not expect an answer, though the interlocutor may give one (Sadock, 1974; Han, 2002; Caponigro & Sprouse, 2007; Biezma & Rawlins, 2017, a.o.).

An example of an English RQ is given below: note that unlike information seeking questions, rhetorical questions may license "strong" negative polarity items such as minimizers (e.g. 'budge an inch', 'lift a finger'). The RQ in (79) can be paraphrased as a negative existential sentence '(After all) **nobody** helped me.' (Ladusaw, 1980).

(79)   (After all,) who **lifted a finger** to help me?

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

In terms of the default assumptions given in (78) above, a RQ is one in which Speaker ignorance and the Issue resolution goal are suspended—that is, the Speaker and Addressee are both 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, discussed in Brown (2023a). Much like information-seeking questions, this RQ construction is characterized by an initial *wh*-expression, but is further marked by the presence of the irrealis element *dzi*, as well as the obligatory absence of the interrogative clitic *=u* (81).[16]

(80) Context: 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-i-u	txa'nii	goo
what	IRR	MANR	LV-IRR.1SG.II	PFV	try-T-TR-1SG.II	every	what

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

(81) * *Goyu* *dzi* *wila* *waali?*

goo=**u**	**dzi**	wila	waal-i
what=Q	IRR	MANR	LV-IRR.1SG.II

Intended 'What can I (even) do.'

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

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16. There is no dedicated construction for rhetorical polar questions.

negative existential.[17] 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 (82a), 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 (82b) we see the marked rhetorical question "Where could he go?" preceding expository material asserting that there is in fact nowhere to go.

(82)   Narrative context: Asdiwaal carries with him a number of magical tools that have helped him out in tricky situations. However, this time he is stranded on a mountain in a storm without his magical tools:

   a.   *<u>Gan</u>   goo   dzi   gik   hoyt   gya'wn?*
        <u>gan</u>   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-it,   ada   tgi   duulxk-it
        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 suspen-

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17. Caponigro and Sprouse (2007) show that not all RQs possess such a negative implication (though the one in (79) does).

sion 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.

4.4.3   Conjectural questions

Conjectural Questions[18] (CQs), like RQs, are a flavour of non-canonical question that has the form of an interrogative but the feel of an assertion. 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 (83) is characterized by the presence of the particle *wohl*, appearing in an interrogative sentence with verb-final syntax.

(83)   *Wo*   **wohl** *der Schlüssel ist?*
       where wohl   the   key   is

       'Where might the key be, I wonder.' (German; Eckardt, 2020, p. 2)

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'algyax 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 (84), we see a declarative sentence marked with *si'in* translated to English as *might*. In (85), we see a CQ that is uttered in a context

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18. See e.g. Faller (2002), Littell et al. (2010), Matthewson (2010), Eckardt and Beltrama (2019), Eckardt (2020), and Farkas (2022).

where the speaker (Mary) does not assume that the Addressee (Paul) is able to resolve the question under discussion.[19]

(84) Context: There are some dark clouds in the sky:

Dm   *yaasi'inł*   *waas.*

dm   yaa=**si'in**=ł   waas

PROSP walk=EPIS=IRR.CN rain

'It **might** rain.'

(85) Context (adapted from Farkas (2022)): 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:

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19. Like 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=Q

    'Is it raining?'

   c. *waas=**sn**=ii / *waas=**ii**=**sn**

(ii) *Ndesi'inł*   *waal*   *dzi*   *waas.*
    nde=**si'in**=ł   waal   dzi   waas.
    wh=EPIS=CN   do/be   IRR   rain

    'I wonder if it's raining.' Lit: How might it be if it rains?

Naasi'in   gwii a   taaym gwa'a?

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

who=EPIS that PREP time   this

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

Like the RQ construction in the previous section, the interrogative clitics do not appear in CQs.[20]

(86)   * *Naasnu   t'aadida   gwii?*

naa=**sn**=**u**=a   t'aat-it=a gwii

who=EPIS=Q=CN sit-SX=CN here

Intended: 'Who sat here, I wonder.'

Further evidence for the dissociation between CQs and the notion of "asking" come from the following examples. In (87) 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 (A) doesn't know the answer either, and is not expected to respond.

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20. 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) Context (adapted from Korotkova (2016)): 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:

Goosnu   galksa   dawłit   a   gwa'a?

goo=**sn**=**u**=a   galksa   dawł-it a=a   gwa'a?

what=EPIS=Q=CN through   pass-SX PREP=CN DEM

'What passed through here, **do you assume**?'

(87) a. *Naał   int   gapdu   txa'nii maay?*

   naa=ł   in=t   gap-t=u   txa'nii maay?

   who=CN   AX=3   eat-3.II=Q   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'

CQs may also function as self-addressed questions:

(88) Context: You're home alone and you can't find your keys. You say to yourself:

   Ndesn   nahak̲'a'ayu.

   ndeh=**sn**   na-hak̲'a'a-u

   where=EPIS   POSS-key-1SG.II

   'I wonder where my keys are.'

(89) Context: You have a missed call from a mysterious phone number. You ask yourself:

   Naasn   naht   in   si'is huutgu.

   naa=**sn**   nah=t   in   si'is huutk-u

   who=EPIS   PFV=3.I   AX   try   call-1SG.II

   'I wonder who called me.'

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

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and 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 c$_{[int]}$ in Section 4.3.2.2.

4.4.4 Biased questions

As described in Section 4.2.1, Sm'algyax has dedicated constructions associated with biased polar questions. These are repeated below. The first type features the negative response particle *ayn*, and the second has the form of a tag question, formed with a pronoun *'niit*.

(90) *Ayn* PQ; Context (adapted from Ladd (1981)): We're looking for a restaurant in the neighbourhood. I remember there being a decent Chinese restaurant close by. I say to you:

Aynł	*t'aadii*	*waptooxgm*	*dzeena*	*a*	*gwa'a?*
ayn=ł	t'aat-t=**ii**=a	wap=txooxk-m	dzeena	a-t=a	gwa'a
no=IRR.CN	stand-3.II=Q=CN	house=eat-ATTR	Chinese	PREP-3.II=CN	here

'Isn't there a Chinese restaurant around here?'

(91) Tag question

'Nüüngał		*int*	*'maga*	*txaaw,*	*'niidii?*
'nüün=gat=ł		in=t	'mak=a	txaaw,	**'niit=ii**?
2SG.III=REP=CN.IRR		AX=3.I	catch=CN	halibut	3.III=Q

'(They say) you caught the halibut, is that right?'

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.

4.5   Conclusion

In this chapter I outlined the syntactic distribution and semantic contribution of the interrogative clitics *=ii* and *=u*, which respectively appear in polar questions (as well as alternative questions) and *wh*-questions. I argued that these interrogative clitics occupy a clause-peripheral position above CP. Supporting evidence came from embedding and coordination facts. I suggested that these elements are associated with the speech act of *asking*. Evidence from dedicated non-canonical question constructions showed that the presence of an interrogative clitic is associated with an expectation of an answer.

Before turning to the next chapter, I would like to highlight an important avenue for future research on the semantics of questions in Sm'algyax, specifically regarding the presence of the clause-initial particle *ał* in (root) polar questions. My current characterization of this phenomenon suggests that *ał* represents an optional allomorphy, with $C_{[+Q]}$ optionally spelling out as *ał* or as a zero form $\varnothing$. Recent work by Matthewson (2023) on Gitksan provides an avenue for teasing apart any potential effects associated with the presence or absence of *ał* in Sm'algyax polar questions.

Gitksan, like Sm'algyax, forms polar questions with a clause-initial negative element (Gitksan: *nee*) and an interrogative clitic (Gitksan: *=aa*). Polar questions can either be realized with both *nee* and *=aa* (92a) or by *=aa* alone (92b).

(92) a. *Neehl yukwhl wisaa?*

      nee=hl yukw=hl wis=**aa**

      NEG=CN PROG=CN rain=Q

      'Is it raining?'

   b. *Yukwhl wisaa?*

      yukw=hl wis=**aa**

      PROG=CN rain=Q

      'Is it raining?' (Gitksan; Matthewson, 2023, p. 49)

Matthewson (2023) shows that questions composed with both *nee* and *=aa* are ambiguous between unbiased questions and negatively biased questions, while those with only *=aa* are positively biased: they expect the prejacent to be *true.* Based on this behaviour, Matthewson proposes that *nee* has two distinct functions in questions: (i) in negatively biased questions, *nee* functions as semantic negation, (ii) in unbiased ones, it takes a proposition p and delivers a bipolar set of propositions $\{p, \neg p\}$.[21] The analysis proposed in Matthewson (2023) characterizes (positively and negatively) biased questions as *monopolar*, denoting singleton sets, while unbiased questions are formally *bipolar.*

Though I have shown that Sm'algyax possesses a grammaticalized negatively biased question construction (formed with clause-initial *ayn*, see (90)), more data must be gathered to tease apart whether polar questions introduced by *ał* similarly function both as unbiased and negatively biased questions, and whether those lacking *ał* are positively biased.[22]

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21. Matthewson proposes that the role of *=aa*, similar to the analysis of Sm'algyax's interrogative clitics presented here, is "to introduce a speech-act operator that reduces speaker commitment to p and/or asks the addressee to commit to p" (Matthewson, 2023, p. 65).

22. Dunn (1979, p. 70) characterizes polar questions without *ał* as questions that expect the answer to be 'yes', and those with *ał* as questions that expect the answer to be 'no'; however, no contexts are provided.

CHAPTER 5

Linearizing sentential particles

5.1   Introduction

This chapter continues investigating the class of interrogative particles introduced in Chapter 4—the polar interrogative *=ii* and the *wh*-interrogative *=u*—with a focus on describing and analyzing the linear positioning of these clitics. In Chapter 4, I argued that in terms of their syntax, and in spite of their surface position, which is often clause internal, the interrogative clitics are base-generated in a high, peripheral position in the clausal superstructure.

In this chapter, first, I outline the phonological behaviour of the interrogative clitics and show that they are enclitic; that is, they must lean on some element to their left. Having established the syntactic and phonological behaviours of the interrogative clitics, I turn to an in-depth discussion of their linear positioning. Broadly, I show that the interrogative clitics appear in one of three fixed positions in the clause, which I term *argument placement*, *predicate placement*, and *focus placement*. I suggest that all three placements reduce to a single, typologically rare *penultimate* position preceding the last argument DP in the root clause.

I argue that clitic linearization takes place in the morphology. The lexical entries of interrogative clitics are encoded with a *morphological proclitic* feature (exhibiting a mismatch with their *phonological enclitic* behaviour). This feature causes the clitics to undergo postsyntactic reordering to appear to the left of an argument DP, subsequently, a phonological enclitic feature causes them to lean left.

This chapter proceeds as follows: in Section 5.2, I provide evidence that the interrogative clitics are phonologically enclitic, in Section 5.3, I outline the basic linear positioning of the inter-

rogative clitics, in 5.4, I show that the three surface positions can be reduced to a single, penulti-mate, position. Section 5.5 shows that while the core distribution (with respect to linearization) is identical, there exist a number of idiosyncratic differences between them. Section 5.6 concludes.

Finally, I note here that the discussion, presentation, and analysis in this chapter is based on joint work with Henry Davis (Brown & Davis, in press-a, in press-b; Davis & Brown, in press, collectively referred to as B&D). An important difference between this chapter and our prior work is that while B&D focus on the *wh*-clitic *=u*, this chapter discusses both interrogative clitics.

5.2   The phonology of interrogative clitics

The goal of this section is to show that, phonologically, the interrogative clitics must lean on some phrase to their left. I present four pieces of evidence for this claim. First, the *wh*-clitc *=u* and the polar clitic *=ii* never appear in initial position: this follows straightforwardly from their enclitic status.

(1)   * *U/Yu/Dunaa liimit?*

      u=naa=a   liimi-it?

      Q=who=CN   sing-sx

    Intended: 'Who sang?'

(2)   * *Iibaan?*

      ii=baa-n?

      Q=run-2SG.III

    Intended: 'Did you run?'

The second piece of evidence comes from the interaction of the interrogative clitics with the connectives. Recall from Section 1.4.9 that connectives are syntactically associated with a

nominal element to their right, but phonologically encliticize to a phrase to their left (see e.g., Mulder & Sellers, 2010). For example, in (3) below, the proper noun (PN) connective *=t* introduces the pronoun *'nüün* that appears to its right, but encliticizes to the sequence of the *wh*-expression *naa* plus the *wh*-clitic *=u* that appears to its left.[1] On the assumption that only clitics may attach to other clitics, if *=t* is encliticized to the *wh*-phrase, and *=u* precedes it, *=u* must also be an enclitic.

(3) *Naayut   'nüün? (not: *naa=t=u 'nüün)*

    naa=**u** [=**t** 'nüün]

    who=Q =PN 2SG.III

    'Who are you?'

We observe the same behaviour with the polar interrogative clitic *=ii*. It may be followed by a common-noun connective or a proper noun connective.

(4) *Gaba   hana'ayiił   hoon?*

    gap-t [=a hana'a]=**ii** [=**ł**   hoon]

    eat-3.II =CN woman=Q =IRR.CN fish

    'Did the woman eat the fish?'

(5) *Wilaayniit   Meeli?*

    wilaay-n=**ii**   [=**t** Meeli]

    know-2SG.II=Q =PN Mary

    'Do you know Mary?'

Third, we observe contextual allomorphy effects that are triggered when *=u* encliticizes to a *wh*-word. When the *wh*-clitic immediately follows a *wh*-word, it optionally surfaces as either

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1. Proper noun connectives introduce independent (Series III) pronouns as well as proper nouns in Sm'algyax.

[ju] or [du]. I suggest that these cases involve separate processes of epenthesis: either glide epenthesis (yielding [ju]) or [t] epenthesis (yielding [du], given the consistent voicing of plain obstruents when preceding a vowel):

(6) *Naayu   baat?*
     naa=**u**=a   baa-it
     who=Q=CN run-sx

     'Who ran?'

(7) *Naadu   baat?*
     naa=**u**=a   baa-it
     who=Q=CN run-sx

     'Who ran?'

However, when the *wh*-clitic follows a non-*wh* word, it obligatorily surfaces either as [du], or [u] when following a third person Series II verbal suffix *-t*, triggering obligatory obstruent voicing and rendering an identical sequence of [du]):

(8) *Goł   wils liimidu dm   yaatm?*
     goo=ł   wils liimi=**u** dm   yaat-m
     what=IRR.CN kind song=Q PROSP tell/sing-1PL.II

     'What kind of song will we sing?' (SLLTD)

(9) *Naa int   sibaasdut   Meeli?*

    naa in=t sibaas-t=u=t   Meeli

    who AX=3.I scare-3.II=Q=PN Mary

    'Who scared Mary?'

Polar question *=ii* also exhibits contextual allomorphy triggered by the element to its left. When encliticizing to a high back vowel, [w] glide insertion occurs (10), while attaching to other vowels triggers [j] glide insertion (11):

(10) *Nam   'nax'nuuyuwii?*

    Nah=m   'nax'nuu-u=**ii**?

    PFV=2SG.I see-1SG.II=Q

    'Did you see me?'

(11) *Gaba   hana'ayii=ł   hoon?*

    gap-t=a   hana'a=**ii**=ł   hoon

    eat-3II=CN woman=Q=IRR.CN fish

    'Did the woman eat the fish?'

Assuming that contextual allomorphy of this type requires not only adjacency but phonological integration with the preceding word, these data provide another argument that the interrogative clitics are phonologically enclitic.

The example in (9) above shows that the *wh*-clitic *=u* triggers (/t/ to [d]) obstruent voicing when encliticized to an obstruent final element. This is also the case with the polar question clitic *=ii*. In the example below, the obstruent final adverb *dzigits'iip* 'tomorrow' is immediately followed by *=ii*, and the final /p/ segment undergoes voicing to [b]:

(12) *Dzigits'ii**biił***   *dm*   *dawłs*   *Dzeen?*

      dzigits'iip=ii=ł   dm   dawl-t=s   Dzeen

      tomorrow=Q=IRR.CN   PROSP   leave-3.II=PN   Jane

      'Is Jane leaving *tomorrow*?'

Finally, the presence of an interrogative clitic attaching to an inflected predicate blocks the Series II -*t* deletion rule introduced in Chapter 1.4.8. Recall that when a DP immediately follows Series II suffixal agreement that agrees with it, the agreement suffix undergoes deletion:

(13) Dependent intransitive: Series II marks S; deleted when adjacent to agreeing DP

      Ła   *miiga*   *maay. (not **miikda**)*

      ła   miik-**t**=a   maay

      PROX   ripe-3.II=CN   berry

      'The berries are ripe.'

However, when a second-position clitic such as the modal =*sn* intervenes between the predicate and the agreeing argument, -*t* deletion does not occur.

(14)   *Ła*   *miiktsnł*   *maay. (not **miiksnł**)*

      ła   miik-**t**=sn=ł   maay

      PROX   ripe-3.II=EPIS=IRR.CN   berry

      'The berries might/must be ripe.'

This -*t*-deletion process is also blocked by the interrogative clitics. In (15a) we see a baseline declarative sentence with a configuration that triggers -*t*-deletion. The progressive marker *yagwa* selects a dependent clause, and a Series II suffix indexes agreement with an absolutive argument; here the absolutive DP immediately follows the predicate. Therefore, in this configuration, the

third-person suffix must delete. However, in (15b), when an interrogative clitic intervenes between the subject and the predicate, the immediate adjacency required to trigger -*t*-deletion fails to hold, and -*t* obligatorily surfaces.

(15) a. *Yagwa* **sikopiis**   *Henilii. (not* **sikopiits***)*

        yagwa si-kopii-**t**=s   Henilii

        PROG   make-coffee-3.II=PN Henry

        'Henry is making coffee.'   -*t*-deletion

    b. *Yagwał*   **sikopiidiit**   *Henilii? (not* **sikopiiyiis/sikopiiyiit***)*

        yagwa=ł   si-kopii-**t**=**ii**=t   Henilii

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

        'Is Henry making coffee?'[2]   No -*t*-deletion

We observe the same process with the *wh*-clitic in the examples below:[3]

(16) a. *Naayu*   **łak̲'as**   *Spot?*

        naa=**u**=a   łak̲'-i-t=s   Spot?

        who=Q=CN bite-TR-3.II=PN Spot

        'Who did Spot bite?'   -*t*-deletion

---

2. Interestingly, the presence of an interrogative clitic also affects the choice of allomorph of the proper-noun connective. When following an interrogative clitic, PN always surfaces as =*t* and never =*s* (compare the connectives in (15a) and (15b)).

3. I address the variable position of the interrogative clitic in these examples in the following section.

b. *Naał*   ***łak̲'adut***   *Spot?*

   naa=ł   łak̲'-i-t=**u**=t   Spot

   who=IRR.CN bite-TR-3.II=Q=PN Spot

   'Who did Spot bite?'   No *-t*-deletion

The ban on the interrogative clitics appearing in initial position and the contextual allomorphy and interaction with the *-t*-deletion rule associated with the element to the left of *=ii/=u* the all point to the same conclusion: these particles are phonologically enclitic.

5.3   The placement of interrogative clitics

This section outlines the basic positioning of the interrogative clitics. I show that there are three core positions that these particles may occupy, which I characterize (after B&D) as *argument placement*, *predicate placement*, and *focus placement*.[4]

A generalization that can be made about these three placements is that the interrogative clitics must linearize to the left of the rightmost argument DP. I propose in Section 5.4, following B&D, that this is a two-step process. First, Q shifts from its base position (which is final position) to the penultimate position, due to a morphological requirement that Q precedes a DP. Second, Q phonologically enclitizes to the XP to its left.

(17)   a.   Step 1: Q shifts to left of closest DP argument:

           [$_{YP}$ ... XP **Q** DP Q]

   b.   Step 2: Q enclitizes to XP:

           [$_{YP}$ ... XP=**Q** DP]

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4. B&D focus only on the *wh*-clitic *=u*, and refer to the third placement as *wh*-placement.

5.3.1 Argument placement

Argument placement occurs in a root clause containing a contiguous sequence of V-A-O, resulting in the placement of the interrogative clitic between the A-argument and the O-argument. In the context of polar questions, which feature the interrogative clitic *=ii*, argument placement occurs in two configurations: first, in a question involving a transitive predicate with an unmarked VAO word order (as in (18)), and second, in a question featuring a transitive predicate where an oblique argument or adjunct occurs in the prepredicative focus position (as in (19)). In both of these cases, *=ii* "tucks in" between the transitive subject and the object, encliticizing to the transitive subject.

(18) a. *Nah dzakwdił   olii   haas?*
          nah   dzakw-t-i-t=ł   ol=**ii**=a   haas
          PFV   kill-T-TR-3.II=IRR.CN bear=Q=CN   dog

          'Did the bear kill the dog?' (Dunn, 1979, p. 71)

      b. *Di   ts'ima'ans   Sarayii   ts'its'ii?*
          di   ts'imaa-'n-t=s   Sarah=**ii**=a   ts'its'ii
          FOC   sweet-CAUS-3.II=PN Sarah=Q=CN   marrow

          'Does Sarah like marrow?' (Sasama, 2001, p. 84)

(19) *Ał   gits'iipł   nah wilt   yaakada   'yuutayiił   haas?*
      a=ł   gits'iip=ł   nah wil=t   yaak-t=a   'yuuta=**ii**=ł   haas
      NEG=IRR.CN yesterday=IRR.CN PFV COMP=3.I walk-3.II=CN man=Q=IRR.CN dog

      'Did the man follow the dog *yesterday*?'

In *wh*-questions, the *wh*-clitic *=u* displays argument placement in questions with a *Wh*-V-A-O word order. This occurs in oblique argument or adjunct questions such as (20). Just as observed in

the polar questions above, the *wh*-clitic *=u* appears in a second-last position, between the subject and the object, phonologically leaning on the subject:

(20)   *Dzindeł*   *dmt*   *dzapdit*   *Meelidu*   *ts'ikts'ik?*

       dzindeh=ł   dm=t   dzap-t=t   Meeli=**u**=a   ts'ikts'ik

       IRR.when=IRR.CN   PROSP=3.I   make/fix-3.II=PN Mary=Q=CN   car

       'When will Mary fix the car?'

Argument placement is schematized in (21). In this configuration, an interrogative clitic is positioned between a transitive subject and an object within a clause exhibiting VAO order. The (preverbal) focus position within this structure may be occupied by an oblique or adjunct element. Crucially, if a *wh*-expression occupies the focus position, the clitic *=u* appears; if not, *=ii* appears.

(21)   *Argument placement*

       a.   [(FOC) V DP$_A$=**ii** DP$_O$]   PolQ

       b.   [WH V DP$_A$=**u** DP$_O$]   WhQ

Assuming that the syntax outputs a final-position Q element (as in Chapter 4), I propose that Q shifts postsyntactically from this final position to the closest position with a DP to its right. This linearization process is sketched below for argument placement.

(22)   [{WH/(FOC)} V DP$_A$ **DP$_O$ Q**] $\longrightarrow$ [WH V DP$_A$ **Q** DP$_O$]   *Argument placement*

Before turning to predicate placement, I note that argument placement is in apparent free variation with focus placement, described in Section 5.3.3; however, attempts to shift Q to the left of other DPs are rejected by consultants. We see this in the examples below. The example in (23) shows that polar *=ii* freely shifts between argument placement and focus placement, while (24)

shows that it may not appear elsewhere, i.e., on the predicate.[5]

(23) a. *Dzigits'iipł*   *dmt*   *liiłgidit*   *Lisayii*   *haas?*

dzigits'iip=ł   dm=t   liiłk-t=t   Lisa=**ii**=a   haas

tomorrow=IRR.CN PROSP=3.I look.after-3.II=PN Lisa=Q=CN dog

'Will Lisa look after the dog *tomorrow*?'

   b. *Dzigits'iibiił*   *dmt*   *liiłgidit*   *Lisa*   *haas?*

dzigits'iip=**ii**=ł   dm=t   liiłk-t=t   Lisa=a   haas

tomorrow=Q=IRR.CN PROSP=3.I look.after-3.II=PN Lisa=CN dog

'Will Lisa look after the dog *tomorrow*?'

(24) a. * *Hasaxdii(=ł)*   *haasa*   *wineeya?*

hasax-t=**ii**=IRR.CN haas=a   wineeya

want-3.II=Q   dog=CN food

Intended: 'Does the dog want food?' (Corrected to (24b))

   b. *Hasaxł*   *haasii*   *wineeya?*

hasax-t=ł   haas=**ii**=a   wineeya

want-3.II=IRR.CN dog=Q=CN food

'Does the dog want food?'

Likewise, the *wh*-clitic *=u* freely shifts between argument placement and focus placement, but cannot appear elsewhere if argument placement is possible.

---

5. I address the possibility of final-position linearization in Section 5.5.

(25) a. *Got*   *wila*   *dzapdit*   *Meelidu*   *ts'ikts'ik?*

        goo=t   wila   dzap-t=t   Meeli=**u**=a   ts'ikts'ik

        what=PN   MANR   make-3.II=PN   Mary=Q=CN   car

        'How did Mary fix the car?' (Volunteered form)

   b. *Goyut*   *wila*   *dzapdit*   *Meeli*   *ts'ikts'ik?*

        goo=**u**=t   wila   dzap-t=t   Meeli=a   ts'ikts'ik

        what=Q=PN   MANR   make-3.II=PN   Mary=CN   car

        'How did Mary fix the car?' (Accepted form)

   c. * *Got*   *wila*   *dzapdut*   *Meeli*   *ts'ikts'ik?*

        goo=t   wila   dzap-t=**u**=t   Meeli=a   ts'ikts'ik

        what=PN   MANR   make-3.II=Q=PN   Mary=CN   car

        Intended: 'How did Mary fix the car?'

5.3.2   Predicate placement

Predicate placement occurs when an interrogative clitic leans on the predicate, linearizing to the left of a DP that may be an intransitive subject, transitive subject, or object.

Starting with polar questions, the clitic *=ii* exhibits predicate placement in questions with monovalent predicates and unmarked Predicate-Subject word order, such as the examples in (26) where the clitic linearizes to the left of the S-argument. The example in (27) shows that when an adjunct is focused, the interrogative clitic may still appear on the predicate to the left of the S-argument.

(26) a. *Nah siipgii   'yuuta?*

nah siipk=**ii**=a 'yuuta

PFV sick=Q=CN man

'Was the man sick?' (Dunn, 1979, p. 70)

   b. *Asgüüyii   ts'ali?*

asgüü=**ii**=a   ts'al-i

funny=Q=CN face-IRR.1SG.II

'Is my face funny?' (Sasama, 2001, p. 84)

(27) *Gits'iipda   dawłdiit   Dzeen?*

gits'iip=da=a   dawł-t=**ii**=t   Dzeen

yesterday=PST=CN leave-3.II=Q=PN Jane

'Did Jane leave *yesterday*?'

The following examples with focused core arguments show that the interrogative clitic may precede an A-argument if the O-argument appears in the focus position (29), and may precede the O-argument if the A-argument appears in the focus position (28).

(28) *Xsoo   wa'atidiit   Clarence?*

xsoo=a   wa'at-i-t=**ii**=t   Clarence ___

canoe=CN sell-TR-3.II=Q=PN Clarence

'Did Clarence sell *a canoe*?'   O-extraction

(29) *Klalens*   *int*   *waat'adii*   *xsoo?*

Klalens=a   in=t   wa'at-t=**ii**=a ____ xsoo

Clarence=CN   AX=3.I   sell-3.II=Q=CN   canoe

'Did *Clarence* sell a canoe?'   A-extraction

We also observe predicate placement when one of the two core-arguments is not realized as a full DP. When only a transitive object is realized as a full DP, *=ii* appears sandwiched between the predicate and the object (30a), and when only a transitive subject is realized as a full DP, *=ii* appears between the predicate and the transitive subject (30b).

(30) a.   V=**ii** $\varnothing_A$ DP$_O$

Maganii   *hoon?*

mak̲-i-n=**ii**=a   hoon

catch-TR-2SG.II=Q=CN fish

'Did you catch the fish?'

  b.   V=**ii** DP$_A$ $\varnothing_O$

Naht   *huutgi'nuwii*   *doktaa?*

nah=t   huutk-'nu=**ii**=a   doktaa

PFV=3.I call-1SG.III=Q=CN doctor

'Did the doctor call me?'

I now turn to *wh*-questions and the *wh*-particle *=u*. When all core arguments are spelled out as full DPs, predicate placement occurs in three syntactic configurations: (i) an adjunct question with a monovalent predicate (31), (ii) a transitive subject question (32), and (iii) an object question (33). In these examples, *=u* linearizes to the left of an S-argument, an O-argument, and an A-argument, respectively.

(31) *Dzindał*   *dm* *'ap* *yaltgidut*   *Norman?*

      dzindaa=ł   dm   'ap yaltk-t=**u**=t   Norman

      IRR.when=IRR.CN PROSP VER return-3.II=Q=PN Norman

      'When is Norman really coming back?' (Sasama, 2001, p. 64)

(32) *Naał*   *int*   *gapdu*   *ts'ik'aaws?*

      naa=ł   in=t   gap-t=**u**=a   ts'ik'aaws

      who=IRR.CN AX=3.I eat-3.II=Q=CN split.salmon

      'Who ate the split salmon?'

(33) *Goł*   *gabidu*   *gyet?*

      goo=ł   gap-i-t=**u**=a   gyet

      what=IRR.CN eat-TR-3.II=Q=CN person

      'What do the people eat?'

As we saw with polar *=ii* above, when one of the two post-verbal core arguments is not realized as a full DP, *=u* still linearizes to the left of the remaining full DP, appearing in predicate position:

(34) WH V=**u** $\varnothing_A$ DP$_O$

      Naał   *nam*   *wil* *ky'ilamdu*   *'ẅah?*

      naa=ł   nah=m   wil ky'ilam-t=**u**=a   'ẅah

      who=IRR.CN PFV=2SG.I SUB give-3.II=Q=CN oolichan

      'Who did you give oolichans to?'

(35) WH V=**u** DP$_A$ $\varnothing_O$

Goł	*naht*	*gyiindut*	*Meeli*
go=ł	nah=t	gyiin-n=**u**=t	Meeli
what=IRR.CN	PFV=3.I	food.give-2SG.II=Q=PN	Mary

'What did Mary give you?'

Predicate placement is schematized in (36): the interrogative clitic leans on the predicate and is followed by a core-argument DP that may function either as an intransitive subject, a transitive subject, or an object.

(36) *Predicate placement*

    a. [(FOC) V=**ii** DP$_{S/A/O}$]   PolQ

    b. [WH V=**u** DP$_{S/A/O}$]   WhQ

I sketch predicate placement below. Just as we saw with argument placement, Q shifts from its final position to the left of the closest DP.

(37) [{WH/(FOC)} V **DP$_{A/S/O}$ Q**] ⟶ [WH V **Q DP$_{A/S/O}$**]   *Predicate placement*

Finally, I note here that, as is the case with argument placement, predicate placement is also in free variation with focus placement, described in the next section. Recall from Section 5.3.1, however, that argument placement and predicate placement are not in free variation with each other.

(38) a. *Dzigits'iipł*   *dm*   *dawłdiit*   *Dzeen?*

dzigits'iip=ł	dm	dawł-t=**ii**=t	Dzeen
tomorrow=CN	leave-3.II=Q=PN	Jane	

'Is Jane leaving *tomorrow*?'

b. *Dzigits'iibiił*   *dm*   *dawłs*   *Dzeen?*

     dzigits'iip=**ii**=ł   dm   dawł-t=s   Dzeen

     tomorrow=Q=IRR.CN   PROSP   leave-3.II=PN   Jane

     'Is Jane leaving *tomorrow*?'

(39)   a.   *Goł*   *gabidut*   *Dzon?*

         goo=ł   gap-i-t=**u**=t   Dzon

         what=IRR.CN   eat-TR-3.II=Q=PN   John

         'What did John eat?'

    b.   *Godu*   *gabis*   *Dzon?*

         goo=**u**=a   gap-i-t=s   Dzon

         what=Q=CN   eat-TR-3.II=PN   John

         'What did John eat?'

5.3.3   Focus placement

The third and final core placement of interrogative particles is focus placement, which occurs if an interrogative clitic leans on a focused phrase or *wh*-expression in clause-initial position. We see this in the examples below for polar questions with a focused S-argument (40), O-argument (41) A-argument (42), and adjunct (43).

(40)   *Dzeeniił*   *ksi*   *dawłit?*

      Dzeen=**ii**=ł   ksi   dawł-it ‿‿‿

      Jane=Q=IRR.CN   out   leave-SX

      'Did *Jane* leave?'   S-extraction

(41) *Xsooyii*   *wa'atis*   *Clarence?*

xsoo=**ii**=a   wa'at-i-t=s   Clarence ___

canoe=Q=CN sell-TR-3.II=PN Clarence

'Was it a canoe that Clarence sold?'   O-extraction

(42) *Clarensii*   *int*   *waat'a*   *xsoo?*

Clarence=**ii**=a   in=t   wa'at-t=a ___ xsoo

Clarence=Q=CN AX=3.I sell-3.II=CN   canoe

'Was it Clarence who sold a canoe?'   A-extraction

(43) *Dzigits'iibiił*   *dm*   *dawłs*   *Dzeen?*

dzigits'iip=**ii**=ł   dm   dawł-t=s   Dzeen

tomorrow=Q=IRR.CN PROSP leave-3.II=PN Jane

'Is Jane leaving *tomorrow*?'   Adjunct-extraction

Note that (41) and (42) respectively form minimal pairs with (28) and (29).

Turning to *wh*-questions, focus placement is always a viable placement of *=u*, and, as described in the previous sections, often occurs in free variation with either argument placement or predicate placement. The examples below show focus placement with an intransitive subject, object, transitive subject, and adjunct question:

(44) *Naayu*   *sis'aaxsit?*

naa=**u**=a   sis'aaxs-it ___

who=Q=CN laugh-sx

'Who laughed?'   S-extraction

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(45) *Goyu   gaba   gyet?*

goo=**u**=a   gap-i=a   gyet ____

what=Q=CN   eat-TR-3.II=CN   person

'What do the people eat?'   O-extraction

(46) *Naayu   int   gaba   ts'ik'aaws?*

naa=**u**=a   in=t   gap=a ____   ts'ik'aaws

who=Q=CN   AX=3.I   eat=CN   split.salmon

'Who eats split dried salmon?'   A-extraction

(47) *Ndeyu   wil   sa oksga   łgwoomłk?*

ndeh=**u**=a   wil   sa=oks-k=a   łgwoomłk ____

where=Q=CN   COMP   off=fall-PASS=CN   child

'Where did the child fall?'   Adjunct-extraction

Focus placement is schematized below.

(48) *Focus placement*

   a.   [FOC=**ii** V [...]]   PolQ

   b.   [WH=**u** V [...]]   WhQ

To maintain the generalization that Q shifts leftward to satisfy the requirement that it has a
DP to its right, I argue, following B&D, that focus placement involves Q linearizing to the left of
a DP in the form of a headless relative clause. Recall from Chapter 2 that there are two paths
to *wh*-question formation/focus fronting, characterized as direct and indirect movement. Direct

movement (schematized in (49)), involves the movement of a *wh*-expression/focused element to the clause-initial position, while indirect movement (schematized in (50)) involves a predicative *wh*-expression/nominal taking a headless relative clause complement. Indirect movement is signalled by the optional presence of the relative pronoun *gu*.

(49)   Direct movement:

   $[_{CP}$ *wh*/foc C $[_{TP}$ ... ___ ...]]
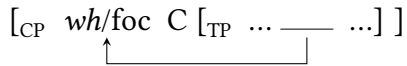
(50)   Indirect movement:

   $[_{TP}$ *wh*/foc $[_{DP}$ *pro* $[_{CP}$ (*gu*) C $[_{TP}$ ... ___ ...]]]]
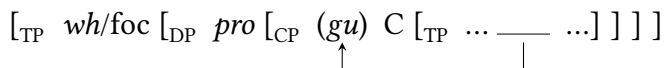
Support for the hypothesis that focus-placement involves indirect movement comes from the following generalization: all focus constructions and *wh*-questions with focus-placement optionally allow the relative pronoun *gu*, while *gu* may not appear when an interrogative clitic exhibits argument placement or predicate placement. The examples in (51) show this for polar questions containing *gu*. Examples (51a) and (51b) show optionality between focus-placement and predicate-placement when relative *gu* is absent. This reflects the ambiguity between indirect and direct movement. In (51c) and (51d), we see that when relative *gu* is present—thus signalling the indirect movement strategy—only focus-placement is possible.

(51)   a.   *Ał   Meeliyii   dm   liiłgis   Lisa?*
            ał   Meeli=**ii** dm   liiłk-i-t=s   Lisa ___
            NEG   Mary=Q   PROSP look.after-i-3.II=PN Lisa

        'Is it Mary that Lisa will look after?'

b. *Ał   Meeli   dm   liiłgidiit   Lisa?*

   ał   Meeli=a   dm   liiłk-i-t=**ii**=t   Lisa ____

   NEG Mary=Q=CN PROSP look.after-i-3.II=Q=PN Lisa

   'Is it Mary that Lisa will look after?'

c. *Ał   Meeliyii gu dm   liiłgis   Lisa?*

   ał   Meeli=**ii gu** dm   liiłk-i-t=s   Lisa ____

   NEG Mary=Q   REL PROSP look.after-i-3.II=PN Lisa

   'Is it Mary that Lisa will look after?'

d. * *Ał   Meeli   gu dm   liiłgidiit   Lisa?*

   ał   Meeli   **gu** dm   liiłk-i-t=**ii**=t   Lisa ____

   NEG Mary=Q   REL PROSP look.after-i-3.II=Q=PN Lisa

   Intended: 'Is it Mary that Lisa will look after?'

The *wh*-questions in (52) show that the same generalization holds for the *wh*-clitic *=u*. Without *gu*, *=u* can either attach to the *wh*-phrase (52a) or in penultimate position (52b), again reflecting ambiguity between direct and indirect movement; however, with overt *gu* only indirect movement is possible, and therefore *=u* must attach to the *wh*-phrase (52c). Attempts to attach *=u* to the predicate in penultimate position are ungrammatical, as shown in (52d).

(52) a. *Godu   yoyksis   Meeli?*

       goo=**u**=a   yoyks-i[-t]=s   Meeli

       what=Q=CN wash-TR-3.II=PN Mary

       'What did Mary wash?'

b. *Goł*   *yoyksadut*   *Meeli?*

goo=ł   yoyks-i-t=**u**=t   Meeli

what=IRR.CN   wash-TR-3.II=Q=PN Mary

'What did Mary wash?'

c. *Godu*   *gu* *yoyksis*   *Meeli?*

goo=**u**=a   **gu** yoyks-i[-t]=s   Meeli

what=Q=CN REL wash-TR-3.II=PN Mary

'What did Mary wash?'

d. * *Goł*   *gu* *yoyksi=dut*   *Meeli*

  goo=ł   **gu** yoyks-i-t=**u**=t   Meeli

  what=IRR.CN REL wash-TR-3.II=Q=PN Mary

Intended: 'What did Mary wash?'

Though the examples in (51) and (52) show O-extraction configurations, the generalization that the presence of *gu* forces focus-placement is also observed in A-extraction, as evidenced by the *wh*-questions below:

(53) a. *Naadu*   *gu* *int*   *yoyksa*   *nooł?*

naa=**u**=a   **gu** in=t   yoyks[-t]=a   nooł

who=Q=CN REL AX=3.I wash[-3.II]=CN dish

'Who washed the dishes?'

b.   * *Naał*   **gu**   *int*   *yoyksdu*   *nooł?*

       naa=ł   **gu**   in=t   yoyks-t=**u**=a   nooł

       who=IRR.CN   REL   AX=3.I   wash-3.II=Q=CN   dish

       Intended: 'Who washed the dishes?'

Crucially, I assume that DPs (including headless relative clauses) constitute spellout phases (Chomsky, 2000, 2001) and therefore their internal structure is impenetrable to the linearization of the interrogative clitics.

I schematize focus-placement below: Q linearizes to the left of a DP/headless relative clause.[6]

(54)   [{WH/(FOC)} **DP**$_{S/HRC}$ **Q**] $\longrightarrow$ [WH **Q DP**$_{S/HRC}$]   *Focus placement*

5.3.4   What linearization is insensitive to

I have proposed that *=ii* and *=u* shift from a final position to satisfy a requirement to have a DP to their right. It follows that these particles are insensitive to all other elements of the clause, including prepredicative functional elements ((55) and (56)), as well as adjuncts and non-core arguments ((57)–(59)). Irrespective of this "extra" linguistic material, Q categorically appears to the left of the final DP argument.

---

6. The structure in (54) also captures copular questions with simple DP arguments, such as the following:

(i) *Naadut*   *Dzon?*
    naa=**u**   [$_{DP}$ =t   Dzon]
    who=Q   =PN   John

    'Who is John?'

(55) *Ał   gits'iipł   nah   wilt   yaakada   'yuutayiił   haas?*

a=ł   gits'iip=ł   **nah wil=t**   yaak-t=a   'yuuta=**ii**=ł   haas

NEG=IRR.CN yesterday=IRR.CN   PFV   COMP=3.I   walk-3.II=CN man=Q=IRR.CN   dog

'Did the man follow the dog *yesterday*?'

(56) *Ndeł   nam   wil niisdu   ol?*

ndeh=ł   **nah=m wil** niis-t=**u**   ol

where=IRR.CN PFV=2.I SUB see-3.II=Q bear

'Where did you see the bear?'

(57) *Ap gun gapdis   Meeliyii   sup   da   k'wan?*

ap   gun gap-t-i-t=s   Meeli=**ii**=a sup   [**da-t=a**   **kw'an**]

VER CAUS eat-T-TR-3.II=PN Mary=Q=CN soup PREP-3.II=CN 2SG.OBL

'Did Mary make you eat the soup?'

(58) *Goł   ky'ilamdu   'yuuta da   haas?*

goo=ł   ky'ilam-i-t=**u**=a   'yuuta [**da-t=a**   **haas**]

what=IRR.CN give-TR-3.II=Q=CN   man   PREP-3.II=CN dog

'What did the man give the dog?'

(59) *Naał   nah habooltidut   Dzon   asda gits'iipda?*

naa=ł   nah habool-t-i-t=**u**=t   Dzon [**asda gits'iipda**]

who=IRR.CN PFV look.after-T-TR-3.II=Q=PN John PREP yesterday

'Who did John look after yesterday?'

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Q likewise cannot linearize into embedded CPs (60) or complex DPs (61):

(60) a. *Naayu   hasag̲at   dmt   ludadoodit Henalii   misoo?*

     naa=**u**=a   hasax-it ___ [$_{CP}$ dm=t   ludadoo-t=t Henalii=a misoo]

     who=Q=CN want-SX   PROSP=3.I can-3.II=PN Henry=CN sockeye

     Intended: 'Who wants Henry to can the sockeye?'

  b. * *Naał   hasag̲at   dmt   ludadoodit Henaliidu   misoo?*

     naa=ł   hasax-it ___ [$_{CP}$ dm=t   ludadoo-t=t Henalii=**u**=a misoo]

     who=IRR.CN want-SX   PROSP=3.I can-3.II=PN Henry=Q=CN sockeye

     Intended: 'Who wants Henry to can the sockeye?'

(61) a. *Dm   hasaxs   Dzon dis   Samii   kopii?*

     dm   hasax-t=s   [$_{DP}$ Dzon di-t=s   Sam] =**ii**=a kopii

     PROSP want-3.II=PN   John and-3.II=PN Sam=Q=CN coffee

     'Do Sam and John want coffee?'

  b. * *Dm   hasaxs   Dzonii dis   Sam   kopii?*

     dm   hasax-t=s   [$_{DP}$ Dzon=**ii** di-t=s   Sam] =a kopii

     PROSP want-3.II=PN   John=Q and-3.II=PN Sam=CN coffee

     'Do Sam and John want coffee?'

These examples show us that linguistic material that precedes or follows the sequence of the predicate and its core arguments does not affect interrogative clitic linearization.

5.3.5 Interim conclusion

So far, following the discussion in B&D, I have established the following generalizations with respect to the interrogative clitics *=ii* and *=u*:

(a) The syntactic position of the interrogative clitics is high in a root clause (taking CP as its complement (Chapter 4)).

(b) Phonologically, the interrogative clitics are enclitic: they are phonologically integrated with a phrase to their left (Section 5.2).

(c) Their linear position falls into three distributional patterns, which I have characterized as argument placement, predicate placement, and focus placement (Section 5.3).

The three core placements for *=ii* and *=u* are schematized below in (62) and (63), respectively. Note that the core placements of these particles are the same (64).

(62) Core placements of *=ii*

    a.   [(FOC) V DP$_A$=**ii** DP$_O$]   *Argument placement*

    b.   [(FOC) V=**ii** DP$_{S/A/O}$]   *Predicate placement*

    c.   [FOC=**ii** […]]   *Focus placement*

(63) Core placements of *=u*

    a.   [WH V DP$_A$=**u** DP$_O$]   *Argument placement*

    b.   [WH V=**u** DP$_{S/A/O}$]   *Predicate placement*

    c.   [WH=**u** […]]   *Focus placement*

(64) Core placements of the interrogative clitics (Q)

a. [{WH/(FOC)} V DP$_A$=**Q** DP$_O$]   *Argument placement*

b. [{WH/(FOC)} V=**Q** DP$_{S/A/O}$]   *Predicate placement*

c. [{WH/FOC}=**Q** […]]   *Focus placement*

Recall that in Chapter 4 I argued that Q is base-generated in a right-peripheral syntactic position, and in Section 5.2 that it is phonologically enclitic. A linearization approach that is only sensitive to syntax and phonology would predict that these clitics occur in final position, rather than the penultimate position described here.[7]

Furthermore, no attempt to derive the surface positions of Q from its base position via syntactic movement is viable: such an operation would have to involve movement out of, or lowering into, syntactic islands—for example, the coordinate structures observed in Chapter 4 repeated below.

(65) *Ał   kwdiinii   ada su'naałan?*
ał   kwdii-n=**ii**   ada su'naał-n
NEG hungry-2SG.II=Q and tired-2SG.II

'Are you hungry and (are you) tired?'

---

7. These syntactic and phonological facts alone do however account for the final positioning of interrogative clitics in all other Tsimshianic languages (Tarpent 1994 for Sg̱üüx̱s, Tarpent (1987) for Nisg̱a'a, and Rigsby 1986; Matthewson 2019, 2023 for Gitksan).

(66)   Context: You're talking to a friend who returned from a baking exchange:

      Goyu   nah gabn   ada naał   nah int   dzapt?

      [goo=**u** nah gap-i-n ⎯⎯] [ada naa=ł   nah in=t   dzap-t ⎯⎯]

      what=Q PFV eat-TR-2SG.II and who=IRR.CN PFV AX=3.I make-3.II

      'What did you eat and who made it?'

I conclude that the linear positions of Q cannot be derived solely by the syntax, the phonology, or any combination of the two. I instead argue, following B&D, that the core placements of Q fall out from the generalization that Q exhibits a mismatch between its phonological and morphological host: morphologically, Q must have a DP to its *right*, and phonologically, it must lean on some XP to its *left*. In the following section, I propose an analysis, adapted from (Brown & Davis, in press-a), in which the lexical entries for *=ii* and *=u* possess phonological as well as morphological linearization features.

5.4   Implementation

This section provides a sketch of a formal account of Q linearization in Sm'algyax, following Brown and Davis (in press-a).

First, I adopt from Davis and Huijsmans (2021) and Huijsmans (2023) the idea that clitics come lexically equipped with linearization features. In the case of *=ii* and *=u*, these features specify:

  (a) The direction of cliticization (pro- vs. en-cliticization)

  (b) The category of the host: DP, in the case of *=ii/=u* (which may be further broken down into [+D, −head])

The lexical entry for *=ii* will therefore look like that in (67), including both phonological (top) and morphological (bottom) features:

(67)   Lexical entry for *=ii*: [Q] $\Longleftrightarrow$ $\left\{ \begin{array}{c} \text{/=ii/} \\ \underline{\quad\quad}=[_{DP} \end{array} \right\}$

The lexical entry for *=u* differs minimally, which I will attribute to the presence of a [+wh] feature that Q inherits from the *wh*-word.

(68)   Lexical entry for *=u*: [Q$_{[+wh]}$] $\Longleftrightarrow$ $\left\{ \begin{array}{c} \text{/=u/} \\ \underline{\quad\quad}=[_{DP} \end{array} \right\}$

Second, we need a partially linearized syntactic representation as the input to the morphology. I adopt the standard linearization operation of Marantz (1988) and Embick and Noyer (2001), which converts hierarchical structures such as (69) to linearized structures such as (70). The notation $a * b$ indicates that a is left adjacent to b.

(69)   [$_{XP}$ X [$_{YP}$ [$_{ZP}$ Z] Y]]

(70)   [X $*$ [Z $*$ Y]]

However, crucially, not all hierarchical structure is deleted when linearization takes place, so unlike Embick and Noyer (2001), I keep structure intact in the current phase, as in (71):

(71)   [$_{XP}$ X $*$ [$_{YP}$ [$_{ZP}$ Z] $*$ Y]]

I do, however, delete internal bracketing of completed phases, meaning they are automatically inaccessible for clitic placement, as desired. This means that at the first (morphological) stage of spell-out for the expanded CP phase containing Q, the following representations will act as input for clitic linearization for argument placement (73a), predicate placement (73b), and focus-placement (73c).

(72) a. $[[_{CP}$ {WH/(Foc)} * $[_{TP}$ V+T * $[_{vP}$ DP$_A$ * $[_{VP}$ **DP$_O$** * $]]]]$ **Q**= $]$

    b. $[[_{CP}$ {WH/(Foc)} * $[_{TP}$ V+T * $[_{vP}$ **DP$_{A/S/O}$** * $]]]$ **Q**= $]$

    c. $[[[_{TP}$ WH/NP$_{PRED}$+T * $[_{vP}$ **DP$_S$** * $]]]$ **Q**= $]$

As required, Q will pick out the rightmost DP, leading to the intermediate representations in (73):

(73) a. $[[_{CP}$ {WH/(Foc)} * $[_{TP}$ V+T * $[_{vP}$ DP$_A$ * $[_{VP}$ **Q**= * **DP$_O$** $]]]]]$

    b. $[[_{CP}$ {WH/(Foc)} * $[_{TP}$ V+T * $[_{vP}$ **Q**= * **DP$_{A/S/O}$** $]]]]$

    c. $[[[_{TP}$ WH/NP$_{PRED}$+T * $[_{vP}$ **Q**= * **DP$_S$** $]]]]$

At the second stage of spell-out, I assume bracket erasure as input to the phonological component, as in (74):

(74) a. /{WH/(Foc)}/ * /V+T/ * **/DP$_A$/** * **/{=ii/=u}/** * /DP$_O$/

    b. /{WH/(Foc)}/ * **/V+T/** * **/{=ii/=u}/** * /DP$_{S/A/O}$/

    c. **/{WH/NP$_{PRED}$}+T/** * **/{=ii/=u}/** * /DP$_S$/

The analysis sketched here supports the conclusions in Davis and Huijsmans (2021) and Huijsmans (2023) (made for the Salish languages ʔayʔaǰuθəm and St'át'imcets) that clitic linearization, in some cases, must take place in a separate morphological component. I have adapted the proposed models in Davis and Huijsmans (2021) and Huijsmans (2023), and Brown and Davis (in press-a), in which clitics come equipped with lexically specified phonological and morphological features.[8] In the case of Sm'algyax's interrogative clitics, in addition to bearing a phonological

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8. This approach is similar in spirit to the analysis proposed in Kalin and Rolle (2024), which argues that the idiosyncratic behaviour of individual morphemes—focusing on infixation and suppletive allomorphy—is best captured by lexically specified *Conditions on Insertion* (which determine whether an exponent is allowed to appear in a given environment) and *Conditions on Position* (which determine where a morpheme must be positioned relative to a pivot). Much like the morphological linearization features adopted here, Kalin and Rolle's 2024 Conditions on Position can trigger displacement of a morpheme at a later point of the derivation to satisfy those conditions.

enclitic feature, they also bear a morphological proclitic feature which specifies that they must linearize to the left of a DP.

There is an important difference between the clitic linearization model proposed in Davis and Huijsmans (2021) and Huijsmans (2023) on the one hand, and the one presented in Brown and Davis (in press-a) and here: in Davis and Huijsmans (2021) and Huijsmans (2023), clitic linearization operates on a partially impoverished hierarchical representation derived from the syntactic component, while Q linearization in Sm'algyax operates on an impoverished and linearized structure: Q must shift to the left of the linearly closest DP in its domain.

A final note on the domain of linearization: as we saw in Section 5.3.4, Q only appears within root clauses, and is only sensitive to DP arguments of the main predicate (in focus-placement cases the main predicate is a *wh*-word or a focused NP). Q may not linearize into DPs, (complement and adjunct) CPs, or PPs. I take this to result from these XPs being spelled-out phases at the point in the derivation where Q linearization takes place, rendering them inaccessible to Q linearization.

However, as we see in, e.g., (73), Q must be able to linearize into *v*Ps, which are commonly taken to constitute phases (e.g., Chomsky, 2000). Though more research needs to be done to resolve this open issue, I consider here two analytical options. The first option is that *v*P simply does not constitute a phase in Sm'algyax, which is argued in Keine (2016, 2020) to be the case for Hindi. A second option is that *v*P does constitute a phase, as is commonly assumed, but that Q has a bi-partite structure, in which the overt exponent of Q is base-generated, and linearizes *v*P internally, obligatorily appearing within the scope of a covert Q operator in the clausal superstructure. Given that the second option likely overgenerates,[9] I tentatively assume the first option, that *v*P does not constitute a phase.

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9. For instance, we would need to prevent Q from appearing in embedded CPs such as in the ungrammatical (60b).

5.5   Final positioning

Until this point, all the examples presented in this chapter feature a viable, full DP host that Q is able to morphologically procliticize to. This section outlines interrogative clitic linearization when there is no such host. We observe the following facts.

1. *=ii* appears in a final position when there is no viable DP host for it to precede,

2. *=ii* variably appears in final position following an adjunct, and

3. *=u* may never appear in final position; however a variant of the *wh*-clitic, namely *=a*, may in certain cases appear clause finally.

Starting with polar interrogative *=ii*, final-position *=ii* occurs when there is no full DP argument, as we see in the intransitive question in (75a) and the transitive question in (75b).

(75)   a.   V=**ii** ∅ₛ

       Nam   dawłnii?

       nah=m   dawł-n=**ii**

       PFV=2SG.I leave-2SG.II=Q

       'Did you leave?'

    b.   V=**ii** ∅ₐ ∅ₒ

       Nam   'nax'nuuyuwii?

       nah=m   'nax'nuu-u=**ii**

       PFV=2SG.I hear-1SG.II=Q

       'Did you hear me?'

The examples in (75) suggest that when there is no viable DP host for *=ii* to morphologically procliticize to, it may exceptionally appear in final position, i.e., its base position.

Unlike *=ii*, the *wh*-clitic *=u* never surfaces in final position. Instead, when appearing in the final position, the *wh*-clitic takes a separate form, *=a* (which has allomorphs [=ja] *ya* or [=da] *da*). The *=a* variant of the *wh*-clitic most often occurs in fragment questions, which consist only of a *wh*-expression and Q:

(76) a. *Goya?*   *(not Goyu)*

       goo =**a/(*=u)**

       what=Q

    b. *Goda?*   *(not Godu)*

       goo =**a/(*=u)**

       what=Q

       'What (is it)?'

(77) a. *Naaya?*   *(not Naayu)*

       naa =**a/(*=u)**

       who=Q

    b. *Naaya?*   *(not Naadu)*

       naa =**a/(*=u)**

       who=Q

       'Who (is it)?'

In configurations where no post-predicative argument DP is realized overtly, we observe the following. Questions targeting the S argument force *wh*-placement; there are no other options:

(78) a. *Naayu   ksi   dawłit?*

          naa=**u**=a   ksi= dawł-it ____

          who=Q=CN out= leave-SX

          'Who left?'

    b. * *Naał*   *ksi*   *dawłida?*

          naa=ł   ksi= dawł-it=**a**

          who=IRR.CN out= leave-SX=Q

          Intended: 'Who left?'

When no post-verbal argument is realized overtly in questions with a transitive predicate, either *wh*-placement occurs (with the *=u* variant) or final-positioning occurs (with the *=a* variant):

(79) a. *Naadu*   *di*   *łimooyt?*

          naa=**u**=a   di   łimoo-i-t ____

          who=Q=CN FOC help-TR-3.II

          'Who did she/he help?'

    b. *Naał*   *di*   *łimooyda?*

          naa=ł   di   łimoo-i-t ____=**a**

          who=Q=CN FOC help-TR-3.II=Q

          'Who did she/he help?'

(80) a. *Naayu int gapt?*

naa=**u**=a   in=t   gap-t ___

who=Q=CN   AX=3.I   eat-3.II

'Who ate it?'

b. *Naał int gabida?*

naa=ł   in=t   gap-t ___=**a**

who=Q=CN   AX=3.I   eat-3.II=Q

'Who ate it?'

More must be said about the distribution of *=a*. To be specific, *=a* is available as an alternative to *=u* in cases of A- and O-extraction with a third person and no following DP, such as those in (79) and (80), otherwise, only *=u* is permitted, as we see in the examples below with non-third-person arguments.

(81) a. *Naayu int 'nax'nuun?*

naa=**u**=a   in=t   'nax'nuu-n

who=Q=CN   AX=3.I   hear-2SG.II=Q

'Who heard you?'

b. * *Naał int 'nax'nuun(d)a?*

naa=ł   in=t   'nax'nuu-n=**a**

who=IRR.CN   AX=3.I   hear-2SG.II=Q

Intended: 'Who heard you?'

(82) a. *Goyu   'nax'nuuyn?*

goo=**u**=a   'nax'nuu-i-n

what=Q=CN hear-TR-2SG.II=Q

'What did you hear?'

b. * *Goł   'nax'nuuyn(d)a?*

goo=ł   'nax'nuu-i-n=**a**

who=IRR.CN hear-TR-2SG.II=Q

Intended: 'What did you hear?'

I leave the question of how we reconcile this *=a* data with the core-distribution of *=u* for future work.

A final difference between *=ii* and both *=u* and *=a* is that the former may optionally appear in final position following an adjunct—as noted in Sasama (2001, fn.78). An example exhibiting *adjunct position* is given in (83). Adjunct position is not possible for *=u* or *=a*, as we see in (84).

(83) *Nah yoyksit   asda gits'iibii?*

nah yoyks-i-t   asda gits'iip=**ii**

PFV wash-TR-3.II PREP yesterday=Q

'Did she/he wash it yesterday?'

(84) a. *Ndeyu   dm   gooyn   dzigits'iip?*

ndeh=**u**=a   dm   goo-i-n   dzigits'iip

where=Q=CN PROSP go-TR-2SG.II tomorrow

'Where will you go tomorrow?'

b. * *Ndeł*   *dm*   *gooyn*   *dzigits'iipdu/dzigits'iipda?*

       ndeh=ł   dm   goo-i-n   dzigits'iip**{=u/=a}**

       where=Q=IRR.CN PROSP go-TR-2SG.II tomorrow=Q

Intended: 'Where will you go tomorrow?'

This section showed exceptions to the strong claim that Q always linearizes to a penultimate position in a VS or VAO sequence. These include final-positioning of the polar-interrogative clitic *=ii* in configurations with (i) no available DPs, and (ii) (optionally) when following an adjunct. The first exception shows that the requirement to morphologically procliticize to a DP host is violable if there is no available host; the second suggests that adjuncts may variably block *=ii* linearization (interestingly, this does not hold for *=u*, which never follows a post-verbal adjunct). On the other hand, *=u* never appears in final position; however, a variant of the *wh*-clitic, *=a*, appears in final position, with a restricted distribution: when a third-person argument is dropped, *=a* may appear. I leave the analysis of the linearization of the *=a* variant as future research, but note here that its position provides indirect support for the analysis of *=u* as a second-last-position clitic in that *=a* surfaces where *=u* is predicted to be impossible.

5.6 Conclusion

This chapter outlined the distribution of the interrogative clitics *=ii* and *=u*, which I analyzed as second-last position clitics. Their position in the clause cannot be handled by the syntax, phonology, or a combination of the two. Instead, I argued, after B&D, that the interrogative clitics possess a morphological linearization feature that causes it to shift postsyntactically from a right-peripheral position to the left of the closest linear DP.

CHAPTER 6

Concluding thoughts

This dissertation examined the morphosyntax and semantics of questions in Sm'algyax. In Chapter two I showed that *wh*-questions, relative clauses, and focus constructions bear nearly identical extraction morphology that indicates the grammatical role of the extracted argument. Focusing on core-argument (A, S, O) extraction, I analyzed the predicate-adjacent extraction morphology as *wh*-agreement: a head in the extended verbal projection: Tr, Agrees with A, S, or O, replacing canonical declarative person-marking. Additional reflexes in the T and C domains point to either intermediate movement through, or Agreement with these projections. Chapter three showed that these local reflexes that are also present in long-distance extraction. Like Sm'algyax's relative, Gitksan (Davis & Brown, 2011; Brown, 2016; Forbes, 2017; Brown, 2018), and a number of Austronesian languages, e.g., Chamorro (Chung, 1998), *wh*-agreement agrees with the extracted XP only in the clause it is base generated in; *wh*-agreement in structurally higher clauses instead agrees with the clause containing the extracted XP.

Chapter four introduced the interrogative clitics: the *wh*-clitic *=u* and the polar question clitic *=ii*. I showed that both are restricted to main clause questions, and are additionally absent in certain non-canonical questions. I analyzed the interrogative clitics as illocutionary mood markers which signal that an answer is requested. Chapter five argued that these clitics are displaced from their base-generated final position, to the left of the closest DP, appearing in a typologically rare second-to-last position.

Taken together, these findings reveal an especially intricate system for encoding interrogative structures, one that shows multiple morphosyntactic reflexes across the V-T-C spine and into the syntactic superstructure. It clearly reveals otherwise underlying grammatical distinctions

between types of argument and adjunct, and a distinction between independent/dependent clause type, on the one hand, and root/non-root clauses on the other.

While this dissertation has laid some groundwork toward understanding these complex phenomena (built upon prior work on Gitksan (Davis & Brown, 2011; Brown, 2016; Forbes, 2017; Brown, 2018; Forbes, 2018)), many questions remain. What is the exact role of the pre-predicative markers that appear in A-extraction (*in*) and oblique/adjunct extraction (*wil, wila* and *g̲an*), or the sentence-initial element *ał* that appears in polar questions? Why is the *extraction connective* apparently absent from non-final clauses in long-distance extraction? What licenses the appearance of the final-position variant of the *wh*-clitic? Additionally, much more work remains to be done to adequately explore the cross-linguistic implications and theoretical significance of these processes in Sm'algyax.

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