Extraction restrictions in Gitksan[*]

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Abstract

Ā-movement in Gitksan (Tsimshianic) makes a three way morphological distinction between the extraction of transitive subjects, intransitive subjects, and objects (Rigsby, 1986; Hunt, 1993; Davis and Brown, 2011). I argue that despite the descriptive generalisation that Gitksan has a tripartite extraction paradigm, this pattern actually instantiates a general ban on the extraction of ergatives. I suggest that ergative extraction construction in Gitksan involves a nominalisation construction as a alternative to the (illicit) movement of a transitive subject. One piece of evidence for this claim is that the morpheme involved in agent extraction constructions (*an*) is also a nominaliser. I also present new evidence that a similar construction is utilised in Gitksan to 'fix' otherwise illicit long-distance extractions from clauses that attach as adjuncts. This provides a strong piece of counter-evidence to recent claims that head-marking languages cannot have extraction restrictions (Deal, 2016).

1   Introduction

In this paper I discuss syntactic ergativity and extraction asymmetries in Gitksan, a Tsimshianic language. The extraction of transitive subjects or 'agents' (A), intransitive subjects (S), and objects (O) triggers distinct morphological marking. This paradigm is exemplified below.

Object extraction involves the movement of the object to a left peripheral position, and the appearance of a determiner-like element =*hl* before the remnant clause:

(1)   a. Gub-i=s   Lisa=hl   smax.
           eat-TR=DNC Lisa=CNC meat

'Lisa ate meat.'[1,2]

   b. Gwi=**hl**   gub-i=s   Lisa?
      what=CNC eat-TR=DNC Lisa
      'What did Lisa eat?'

Intransitive subject extraction involves the same position and determiner as object extraction, however, here we see the suffix *-Vt* (glossed as 'subject extraction') attached to the predicate:

(2)   a. Limx t   Lisa.
       sing   DNC Lisa
       'Lisa sang.'
     b. Naa=**hl**   limx-**it**?
       who=CNC sing-SX
       'Who sang?'

Extraction of a transitive subject involves: (i) a pre-predicative morpheme *an*, (ii) a third person singular resumptive pronoun =*t*, and (iii) a subordinate or 'dependent' clause remnant:

(3)   a. Gya'a=s   Lisa=hl   'ul.
       see[-TR]=DNC Lisa=CNC bear
       'Lisa saw the bear'
     b. Naa **an**=t   gya'a=hl 'ul?
       who AN=3.I see=CNC bear
       'Who saw the bear?'

The broad question of this paper pertains to whether or not this pattern constitutes an asymmetry between absolutive (intransitive subjects and objects), and ergative (transitive subjects) arguments, thus falling under the label of syntactic ergativity. Such asymmetries arise via a ban on relativisation, focusing, or *wh*-questioning of ergative arguments.

I provide new evidence that this is indeed the case. A construction similar to the agent question pattern (in that it has the morpheme *an* as well as a dependent clause remnant) arises during long-distance extraction from clauses that attach as adjuncts. I suggest that *an* appears in contexts in which movement is illicit, such as long-distance extraction from clauses that attach as adjuncts, as well as the extraction of ergatives.

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[1]Abbreviations: I = Series I person marker, II = Series II person marker, III = Series III person marker, CNC = common noun connective, DNC = determinate, PROSP = prospective, PL = plural, SG = singular, SX = S (intransitive subject) extraction marker, TR = transitive. A dash (-) marks an affix boundary and an equals sign (=) a clitic boundary.

[2]All examples, unless otherwise noted, come from my own elicitations with three first language Gitksan speakers. All mistakes are my own. I also draw upon a descriptive grammar (Rigsby, 1986), theoretical work on Gitksan case and agreement (Hunt, 1993), and extraction (Davis and Brown, 2011). Another important resource is a grammar for the mutually intelligible Nisg̲a'a language (Tarpent, 1987).

Though a full investigation into *how* ergative extraction restrictions arise in Gitksan is beyond the scope of this paper, I suggest that what Deal (2016) labels the 'standard view' of syntactic ergativity (Campana, 1992; Ordóñez, 1995; Bittner and Hale, 1996; Aldridge, 2004, 2008, 2012; Coon et al., 2014; Assmann et al., forthcoming) can provide a promising starting point. Under this family of theories, restrictions on the movement of ergatives results from properties of the absolutive, rather than the ergative. This results from the systematic inversion of objects to a position that c-commands the agent, which in turn blocks the movement of agents:

(4) *The standard theory (adapted from Deal (2016))*

POSITION X   BASE POSITION

[Object   [$_{VP}$ Subject   [V   Object   ]]]
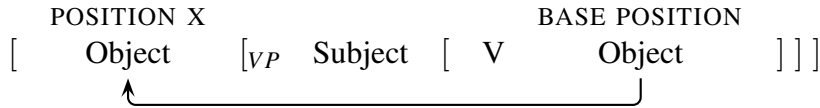
Deal (2016) provides an alternative analysis to the standard view in which extraction restriction effects are centred around morphological case discrimination appearing on DPs, and that pure head-marking languages (such as Gitksan) will therefore not have extraction restrictions. Apparent cases of extraction restrictions in head-marking languages are instead analysed as instances of extraction interacting with agreement. This is a similar approach to Stiebels (2006)'s account of 'agent focus' constructions in Mayan, which suggests that apparent extraction restrictions involve special ergative agreement (and crucially not a special syntactic construction).

Such an analysis would suggest that the agent extraction morpheme *an* is simply *wh*-agreement with agents (indeed, Deal explicitly says this about Gitksan), which is not dissimilar to what is assumed in earlier Gitksan literature (Rigsby, 1986; Hunt, 1993). However, the long-distance extraction cases discussed above suggest that this cannot be the case, as the same construction appears in the extraction of ergative as well as absolutive arguments.

Instead, I propose that ergative extraction constructions involve nominalisation with no actual extraction:

(5) a. Naa **an**=t   gya'a=hl 'ul?
       who AN=3.I see=CNC bear

       'Who saw the bear?'
       Lit. Who is the bear seeing one?

    b. [[*wh*] [AN=3.I$_i$ see *pro$_i$* bear]]

The inspiration for this analysis arises from the observation that the *an* morpheme involved in these constructions is cognate with the verbal nominaliser *an* in Gitksan. Thus, nominalisation occurs as a syntactic method of focusing or relativising an element that has been blocked from movement (by an absolutive licensing process as assumed by the standard analysis, or otherwise).

This proposal has both language-internal and broader theoretical implications. The language internal implications are as follows: (i) *an*, which is traditionally described as an agent relativisation or extraction morpheme (Rigsby, 1986; Hunt, 1993; Davis and Brown, 2011; Tarpent, 1987) is not utilised solely to mark or agree with extracted agents, (ii) a unified analysis of Gitksan's two

an morphemes ('agent extraction' and nominaliser) is tenable, and (iii) the agent extraction construction in Gitksan is syntactically quite dissimilar to the intransitive subject and object extraction constructions, despite semantic/pragmatic similarity (Davis and Brown, 2011; Brown, 2014). The main theoretical implication is that apparent extraction asymmetries in head-marking languages cannot be straightforwardly analysed as *wh*-agreement (contra Deal (2016)).

The layout is as follows. In §2 I present the necessary background on Gitksan syntax. In §3 I introduce two accounts of syntactic ergativity: the inherent case approach (Campana, 1992; Ordóñez, 1995; Bittner and Hale, 1996; Aldridge, 2004, 2008, 2012; Coon et al., 2014; Assmann et al., forthcoming), and the dependent case approach (Deal, 2016). In §4 I discuss extraction restrictions in Gitksan and propose an analysis. In §5 I discuss Gitksan's extraction morphology in light of my findings, as well as examples of syntactic ergativity found in purely head marking languages. In §6 I conclude.

2   Language background

In this section I provide a relevant background for the syntax of the Gitksan language, including word order and clause-typing, as well as the determiner and person-marking processes.

2.1   The Gitksan language

Gitksan is Tsimshianic language with fewer than 400 fluent speakers that is spoken in drainage of the Skeena river in the northern interior of British Columbia, Canada.

The Tsimshianic family is divided between the Coastal branch and the Interior branch. The Coastal branch is made up of Coast Tsimshian (Sm'algyax) and Southern Tsimshian (Sgüüxs), while the Interior branch consists of Gitksan and Nisg̲a'a:

(6) *Tsimshianic languages*
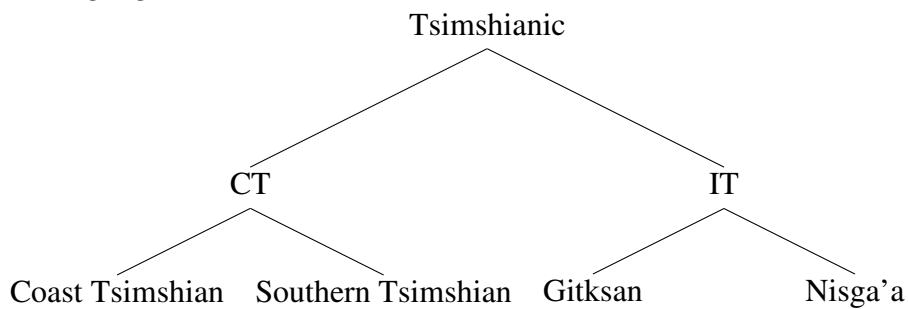
2.2   Word order and clause-typing

Gitksan has a rigid VSOX word order. Predicates are followed by grammatical subjects, direct objects, and then adjuncts/indirect objects (which are often introduced by the preposition *a*):

(7)   predicate ≫ subject (≫ object) (≫ adjunct)

(8) Gi'nam-i=s   Henry=hl   hun a=s   Lisa.
    give-TR=DNC Henry=CNC fish PREP=DNC Lisa
    'Henry gave the fish to Lisa.'

Non-canonical word order typically arises in sentences with *wh-* or focus movement, with certain quantifiers, and relative clauses. These constructions will be discussed in §4.

An important aspect of clausal syntax in Gitksan is the split between so-called *Dependent* and *Independent* clauses (Rigsby, 1986). Dependent clauses are triggered by subordination as well as the presence of a 'dependent marker'. Dependent markers are a set of pre-predicative morphemes including clausal coodinators, subordinators, and aspectual morphemes such as *yukw* (imperfective), *hlis(xw)* (perfective), *nee* (negation), and *ii* (clausal coordinator):

(9) *Independent vs. dependent clauses*
    a. Ba<u>x</u> t   John.   b. Nee=dii   ba<u>x</u>=s   John.
       run DNC John   NEG=FOC run=DNC John
       'John ran' (Independent)   'John didn't run' (Dependent)

This clause-type distinction affects the distribution of certain morphemes including the verbal suffix -/ə/ (glossed as 'transitive' (Rigsby, 1986), 'control' (Tarpent, 1987), and 'ergative' (Hunt, 1993)), which appears in independent transitive clauses, but is prohibited in dependent clauses:[3]

(10) *Transitive suffix distribution*
     a. Yats-**i**-'y   'nit.   b. Nee=dii=n   yats-t.
        hit-TR-1SG.II 3SG.III   NEG=FOC=1SG.I hit-3SG.II
        'I hit him.' (Independent)   'I didn't hit him.' (Dependent)

This clause-type distinction also affects Gitksan's person-marking and determiners, to be discussed now.

2.3 Person-marking

Gitksan has three morphologically distinct series of person-markers, named descriptively for their linear order in the clause: series I, II, and III. Series I clitics appear only in dependent clauses, in a pre-predicative position, and mark transitive subjects. Series II suffixes attach to verbs and mark transitive subjects in independent clauses, as well as transitive subjects and objects in dependent clauses. They also function as genitive or possessive suffixes in the nominal domain. Series III pronouns appear as intransitive subjects and objects in independent clauses, and also as strong pronouns elsewhere. These person markers and their distribution are shown below:

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[3]The surface form of this suffix is phonologically conditioned, and has allomorphs in [-i], [-a] and sometimes [-yi].

(11) *Gitksan person marking*

| | I | | II | | III | |
| | *Clitics* | | Suffixes | | *Pronouns* | |
	SG	PL	SG	PL	SG	PL
1	n	(n) dip	-'y	-'m	'nii'y	'nuu'm
2	m	m sim	-n	-si'm	'niin	'nisi'm
3	t		-t	-diit	'nit	'nidiit

(12) *Basic person marking distribution*

		Independent	Dependent
ERG	A	II	I
ABS	S	III	II
	O	III	II

This pattern in 12 has been referred to as 'pivoting ergative' (Davis and Brown, 2011) based on the following observations: in independent clauses series II has an ergative distribution, while series III has an absolutive distribution. In dependent clauses, however, series I has an ergative distribution, and series II, the *pivot*, now marks absolutive arguments. This is an ergative pattern on both "sides" of the clausal split. This can be seen below:

(13) *Independent clauses*

   a. Ba<u>x</u> **'nii'y**.
      run 1SG.III
      'I ran.' *intrans.*

   b. Gya'a-**'y** **'nii'n**.
      see-1SG.II 2SG.III
      'I see you' *trans.*

(14) *Dependent clauses*

   a. Yukw=hl   limx-**'y**.
      IPFV=CNC sing-1SG.II
      'I'm singing.' *intrans.*

   b. Yukw **ni**   hlimoo-**n**.
      IPFV   1SG.I help-2SG.II
      'I'm helping you.' *trans.*

Series I and series II person-markers can co-occur with overt lexical arguments, while series III pronouns cannot. This has led Forbes (2016) (after Hunt (1993)) to suggest that series I and II are true agreement paradigms, while series III are independent pronouns.

In §4 I propose a 'high absolutive' or 'absolutive = nominative' analysis of Gitksan (see (Campana, 1992; Murasugi, 1992; Bok-Bennema, 1991) for similar analyses), in which absolutive is licensed by T^0. Specifically, I propose that T^0 licenses series III pronouns, and that v is the locus of series II agreement.

(15) *ABS=NOM in Gitksan (independent clause)*

a. *Intransitive*

```
          TP
         /  \
        T    vP
        |   /  \
        |  v    VP
        |      /  \
     nom.     V    NP_ABS/III
```

b. *Transitive*

```
              TP
             /  \
            T    vP
            |   /  \
            | NP_ERG/II  v'
            |          /  \
            |        -ə    VP
            |             /  \
          nom.          V    NP_ABS/III
```
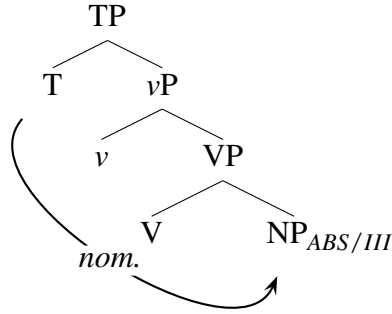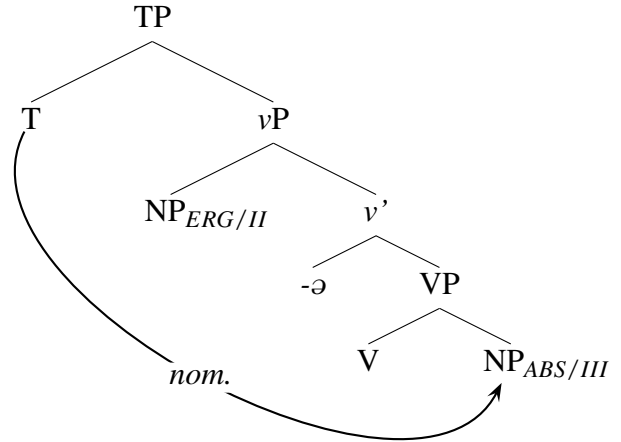
Such an analysis could explain the general absence of absolutive series III pronouns in dependent clauses, assuming dependent clauses lack T^0.[4] This also fits nicely with the standard approach to syntactic ergativity (Campana, 1992; Ordóñez, 1995; Bittner and Hale, 1996; Aldridge, 2004, 2008, 2012; Coon et al., 2014; Assmann et al., forthcoming) under which ergative extraction restrictions are a result of the relationship between an object and a higher head that c-commands transitive subjects.

2.4 Connectives

The final important piece of Gitksan background we will need pertains to the semantically vacuous determiner-like elements known as 'connectives' in the Tsimshianic literature (Boas, 1911). Connectives are especially important as they have been analysed as overt case markers in previous work (Baker, 2015; Hunt, 1993, for Coast Tsimshian and Gitksan, respectively). If this were the case Gitksan would not be classified as purely head-marking. However, a closer examination of Tsimshianic connectives shows that they are *not* sensitive to case (Davis and Forbes, 2015; Davis, 2016). Rather, they are merely interacting with the agreement paradigm described above. Under these analyses Gitksan is purely head-marking.

Nouns in Gitksan fall into two main classes: determinate nouns and common nouns. Determinate nouns are comprised of proper names, *wh*-words, independent pronouns, demonstratives and ascending kinship terms (mother, grandmother, etc.), while all other NPs fall into the common noun class. These classes correspond to different connectives: the common noun connective =*hl*, and the determinate noun connectives *t*, and =*s*. These connectives prosodically encliticise to the word preceding the noun, while *t* can also procliticise to the noun if it appears sentence initially.[5]

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[4]Series III pronouns *do* appear in dependent clauses in certain circumstances — I discuss the distribution of these cases and other challenges to such an analysis in §4.

[5]The only position in which the determinate connective =*s* appears is right adjacent to a predicate or a preposition (Davis and Forbes, 2015).

(16)   *Gitksan connectives* (Davis and Forbes, 2015)

	Context 1	Context 2
Common	=hl	
Determinate	t	=s

Common nouns are marked by *=hl*, regardless of grammatical role or clause type. This is shown in the independent clause in (17), and the dependent clause in (18):

(17)   Maj-i [**=hl**   hlgu tk'ihlxw] [**=hl**   ha'niigoyp'ax] a   [**=hl**   lo'op]
       hit-TR [=CNC small child   ] [=CNC window   ] PREP [=CNC rock]
       'The small child hit the window with a rock.'   (Hunt, 1993)

(18)   Nee=dii=t   gya'a [**=hl**   hana<u>k</u>'] [**=hl**   gyat]
       NEG=FOC=3.I see   [=CNC woman] [=CNC man]
       'The woman didn't see the man.'   (Davis and Forbes, 2015)

This common noun connective also introduces relative clauses, as well as clausal complements of certain dependent markers, such as the imperfective morpheme *yukw*:

(19)   Gyuks-in-'y   [**=hl**   wog-at   ]
       wake.up-CAUS-1sg.II [=CNC sleep-SX]
       'I woke up the sleeping one.'   (Forbes, 2013)

(20)   Yukw [**=hl**   lin=hl   os   ]
       IMPF [=CNC growl=CNC dog]
       'The dog is growling.'   (Forbes, 2013)

The determinate connectives *t*, and *=s* have a complicated distribution at the surface. In independent clauses, *t* appears with intransitive subjects and objects, while *=s* appears with transitive subjects. This is an ergative pattern:

(21)   *Determinates in independent clauses*
       a. Ba<u>x</u> [**t**   Gidi]
           run [DNC Katie]
           'Katie ran.' (intrans)   (Davis and Forbes, 2015)
       b. gya'a   [**=s**   Michael] [**t**   Gidi]
           see[TR] [=DNC Michael] [DNC Katie]
           'Michael saw Katie.' (trans)   (Davis and Forbes, 2015)

However, in dependent clauses, *t* appears with objects, while *=s* appears with transitive as well as intransitive subjects, a nominative pattern:

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(22) *Determinates in dependent clauses*

    a. Nee=dii   ba<u>x</u> [**=s**   Michael]
        NEG=FOC run [=DNC Michael]
        'Michael didn't run.' (intrans)   (Davis and Forbes, 2015)

    b. Neediit   gya'a [**=s**   Michael] [**t**   Aidan]
        NEG=FOC=3.I see   [=DNC Michael] [DNC Aidan]
        'Michael didn't see Aidan.' (trans)   (Davis and Forbes, 2015)

This is further complicated by the presence of participant (1st or 2nd person) ergative marking in dependent clauses (therefore a Series I person-marker). In the following example we see =*s* actually appearing with an object:

(23) Nee=dii=n   gya'a [**=s**   Michael]
      NEG=FOC=1SG.I see   [=DNC Michael]
      'I didn't see Michael.'   (Davis and Forbes, 2015)

This distribution is shown below:

(24) *t/=s distribution* (Forbes, 2013)

		Subj	Obj
Independent	intrans	t	
	trans	=s	t
Dependent	intrans	=s	
	trans$_1$	=s	t
	trans$_2$	Ser. I	=s

Instead of appealing to a case based analysis of determinate connectives in Gitksan (such as Hunt (1993)[6]), I adopt the analysis put forth in Davis and Forbes (2015) that =*s* is an allomorph of *t*, whose appearance is triggered by adjacency to a predicate containing a coindexed third person Series II person-marker -*t*. Under this analysis there is no overt case marking in Gitksan. This is shown below:

(25) *Gitksan connectives — updated* (Davis and Forbes, 2015)

	Context 1	Context 2
Common		=hl
Determinate	t	t → (=s)

With this background, and under the assumption that Gitksan is a purely head-marking language, we can turn to the question of whether Gitksan exhibits syntactic ergativity. This is important, as Deal (2016) argues that purely head-marking languages cannot.

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[6]The issues faced by such an account are discussed in Davis and Forbes (2015) and Davis (2016).

3 Syntactic ergativity

Languages with morphological ergativity vary as to whether they also show syntactic effects of ergativity.[7] The best-described, and most common aspect of syntactic ergativity is the restriction of the *wh*-movement, focus movement, or relativisation of ergative arguments (Polinsky, forthcoming). A canonical example of this comes from West Greenlandic. The relative clauses in (26) and (27) show us that absolutive arguments (intransitive subjects and objects) can be freely extracted:

(26) Miiqqa-t   [__$_{ABS}$ sila-mi   pinnguar-tu-t   ]
      child-PL.ABS [__   outdoors-LOC play-REL.INTRANS-PL]
      'The children who are playing outdoors.'   (West Greenlandic, Bittner, 1994)

(27) Miiqqa-t   [Juuna-p   __$_{ABS}$ paari-sa-i   ]
      child-PL.ABS [juuna-ERG __   look.after-REL.TRANS-3SG.PL]
      'The children that Juuna is looking after.'   (West Greenlandic, Bittner, 1994)

However, (28) shows us that that extraction of an ergative argument is not straight-forwardly possible:

(28) * Angut   [__$_{ERG}$ aallaat   tigu-sima-sa-a   ]
        man.ABS [__   gun.ABS take-PRF-REL.TRANS-3SG.SG]
      Intended: 'The man who took the gun.'   (West Greenlandic, Bittner, 1994)

To express the intended meaning in (28), an antipassive suffix must appear on the predicate, demoting the ergative argument into an absolutive. The former agent is now extractable:

(29) Angut   [__$_{ABS}$ aallaam-mik tigu-**si**-sima-su-q   ]
      man.ABS [__   gun-INS   take-ANTIP-PRF-REL.INTR-SG]
      'The man who took the gun.'   (West Greenlandic, Bittner, 1994)

The gap in West Greenlandic relative clauses must always be the trace or copy of an absolutive argument.

The goals of this section are to introduce and compare two analyses of extraction restrictions: (i) the standard analysis in which extraction restrictions arise through the movement of an object over a transitive subject (Campana, 1992; Ordóñez, 1995; Bittner and Hale, 1996; Aldridge, 2004, 2008, 2012; Coon et al., 2014; Assmann et al., forthcoming) and (ii) the case discrimination analysis (Deal, 2016).

The choice between these analyses has interesting implications for the analysis of extraction in Gitksan. According to the predictions in Deal (2016) ergative extraction restrictions arise though morphological case-discrimination. If this is the case than purely head-marking languages such

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[7]Discussion in this subsection largely follows Deal (2016).

as Gitksan cannot have extraction restrictions. Deal (2016) suggests that apparent extraction restrictions in purely head-marking languages are simply instances of *wh*-agreement. The theories covered in this section will lay the groundwork for the the next section, where I will discuss extraction in Gitksan and propose that the inherent case analysis better accounts for the data.

3.1 'The standard approach'

One family of approaches argues that ergative extraction restrictions result from the movement of objects to a position higher than the subject (Campana, 1992; Ordóñez, 1995; Bittner and Hale, 1996; Aldridge, 2004, 2008, 2012; Coon et al., 2014; Assmann et al., forthcoming).

The above references differ with respect to the mechanisms involved. For Ordóñez (1995); Bittner and Hale (1996); Coon et al. (2014) the object moves to be case licensed, while for Aldridge (2004, 2008, 2012) *v* bears an [EPP] feature, which attracts the object to an outer specifier of *v*P. The abstracted version of these accounts can be schematised as in (30):

(30) *The standard theory*

        POSITION X   BASE POSITION

    [Object   [$_{VP}$ Subject [V   Object   ]]]
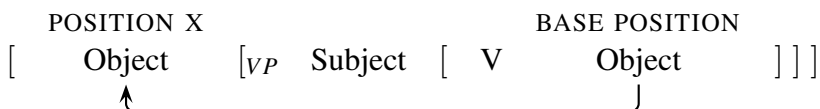
Ergative extraction restriction effects arise in this way: (i) objects move to 'Position X' (to be case licensed/because of an EPP feature), (ii) position X is also needed for Ā-movement, (iii) the occupation of Position X by the object blocks the subject (which is lower) from Ā-movement.

It is therefore the licensing of objects, rather than any properties specific to transitive subjects that result in ergative extraction restrictions. These analyses fit with inherent case analyses in which ergative is assigned low by *v*, thus requiring the object to be case licensed by a higher head (Woolford, 1997).

Deal (2016) and Polinsky (forthcoming) raise certain issues that such an approach faces. For example, in languages such as Chukchi (Chukotko-Kamchatkan), ergatives can be freely extracted in *wh*-questions, but are prohibited in relative clauses. This is not straight-forwardly explainable if it is the properties of the object alone that trigger these effects of syntactic ergativity.

Nonetheless, this approach makes predictions which appear to be borne out in Gitksan. For example, if 'absolutive' (series III in independent clauses) is assigned by T^0 — where it blocks the movement of ergatives — we might expect it to disappear in dependent clauses. I argue in §4 that this is the case.

3.2 The case discrimination approach

Taking the aforementioned issues with the inherent case approach into consideration, Deal (2016) proposes an alternate approach that seeks to account for syntactic ergativity in Ā-movement as a result of 'case discrimination'.[8] Case discrimination is the process in which a DP's morphological
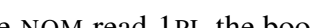
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[8]This is an extension of an analysis for Tongan proposed in Otsuka (2006, 2010).

case partially determines its ability to participate in Agree. Theories which aim to account for case discrimination typically appeal to an accessibility hierarchy such as (31) (Bobaljik (2008), after Moravcsik (1974); Marantz (1991)):

(31)   unmarked case   >   dependent case   >   lexical/oblique case   ...*or*
       nominative/absolutive >   accusative/ergative >   Dative

According to (31), a DP with lexical or oblique case can only be accessible for Agree if DPs with dependent as well as unmarked case are also accessible; while a DP with dependent case can only be accessible for Agree if DPs with unmarked case are also accessible. DPs with unmarked case should always be free to Agree. Therefore unmarked cases are the most accessible cases for Agree, while lexical/oblique cases are the least accessible. Case discrimination has previously been used to account for ϕ-agreement (Bobaljik, 2008) and A-movement (Preminger, 2014).

This can be seen in languages with 'quirky subjects' such as Icelandic. In (32) the verb agrees with the unmarked/nominative subject, while in (33) the verb cannot agree with the lexical case marked subject, and therefore must agree with the nominative object:

(32)   Við   lásum   bókina.
       we.NOM read.1PL the.book.ACC
       'We read the book.'   (Icelandic, Sigurðsson, 1996)

(33)   Morgum studentum   liki   verkið.
       many   student.PL.DAT like.3SG the.job.NOM
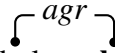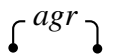   'Many students like the job.'   (Icelandic, Harley, 1995)

Case-discrimination is extended to syntactic ergativity/Ā-movement in this way: (i) Ā-movement of XP to Spec,CP requires Agree between XP and the C head in an operator feature — [WH], [REL], or [FOC], (ii) the operations Agree-[WH], Agree-[REL], and Agree-[FOC] are case discriminating: elements in dependent and lexical/oblique case are not accessible, (iii) the result will be that ergatives cannot enter into the relevant Agree relationship.

A case discrimination approach can account the West Greenlandic data in (26), (27), and (28) by simply stating that Agree-[REL] is case discriminating, and can therefore only enter into an Agree relation with unmarked cases.

An interesting side effect of an analysis that relies on overt morphological marking to account for extraction restrictions is that there is no way to derive similar constructions observed in pure head-marking languages (as there is no case-marking on the DP itself to prevent it from entering into an Agree relation with a case discriminating operator). Deal addresses this issue, and suggests that patterns resembling extraction restrictions in purely head-marking languages can be reanalysed as instances of *wh*-agreement, where special morphology simply indexes extracted arguments. In the next section I suggest that Gitksan is a counter-example to this kind of analysis, in that it is a purely head-marking language that has extraction restrictions, and that the morphology involved in agent extraction should not be analysed as *wh*-agreement morphology.

3.3 Wh-agreement

Before we proceed to the Gitksan data let us quickly turn to the phenomenon of *wh*-agreement. *Wh*-agreement refers to a special form of agreement that indexes an Ā-extracted argument (Deal, 2016; Chung and Georgopoulos, 1988; Baier, 2016). This can be seen in the following examples from Kilega (Bantu). In (34) we see class two agreement on the verb, while in (35) a different agreement marker appears on the verb, which agrees with the *wh*-moved argument:

(34) $\overbrace{\text{Bábo}}$ bíkulu **b-**ákásílé mwámí bikí mu-mwílo?
     2.that 2.woman 2SUBJ-give 1.chief 8.what 18-3village

     'What did those women give the chief in the village?'   (Kilega, Carstens, 2005)

(35) **Bikí** **bi-**ákásílé bábo bíkulu mwámí mu-mwílo?
     8.what 8.WH-give 2.that 2.woman 1.chief 18-3.village

     'What did those women give the chief in the village?'   (Kilega, Carstens, 2005)

    The special agreement morphemes that appear in extraction examples as above are traditionally analysed as the the form a probe takes when it has agreed with an operator (Chung and Georgopoulos, 1988; Watanabe, 1996). *Wh*-agreement occurs on the verb in a canonical agreement slot, and replaces regular agreement markers (Chung and Georgopoulos, 1988).

    In §5 I argue that the morpheme *an* that arises in agent-extraction constructions should not be analysed as a *wh*-agreement morpheme as it appears in environments in which non-agents are being extracted (therefore it is not agreeing with an ergative gap), and because it occurs neither in a canonical agreement slot, nor on the predicate itself. I also suggest that the subject extraction morpheme *-Vt can* be analysed as *wh*-agreement based on the observation that it only surfaces alongside subject gaps, and it occurs on the predicate in an agreement slot.

4 Extraction in Gitksan

In this section I introduce extraction in Gitksan, starting with the basic paradigm, followed by a discussion on long-distance extraction, where I introduce a previously undescribed construction involving 'intransitive bridge predicates' (IBPs). Long-distance extraction of a subject, object, or agent from IBP constructions results in a construction that is very similar to agent extraction (same *an* morpheme, same dependent clause type). I argue that the similarity between these constructions provides strong evidence against a claim that the agent extraction pattern in Gitksan can be analysed as *wh*-agreement (as suggested by Deal (2016)). I suggest that *an*, which is also a productive nominaliser in Gitksan, is appearing in these constructions as a fix for illicit movement. Extraction from IBP constructions is illicit because the clausal complements are not arguments of the verb (contra the clausal complements of transitive bridge verbs). Extraction of an ergative is illicit as the absolutive licensing mechanism blocks this kind of movement (as in §3.1).

4.1 The basic pattern

The basic extraction facts in Gitksan are outlined in this subsection. For more background on Ā-movement in Gitksan see Davis and Brown (2011). Relative clauses (36a), focus constructions (36b), and *wh*-questions (36c) all involve movement of a DP to a left peripheral position:

(36) a. Wilaay-i-n=hl gyat=hl   [naa=hl   limi-d-a   ]
          know-TR-2SG.I man=CNC [who=CNC sing-SX-YNQ]
          'Do you know the man who sang?'   (Davis and Brown, 2011)

      b. Ansiip'ansxw-'y=hl ['witxw-it k'yoots   ]
          friend-1SG.II=CNC [come-SX yesterday]
          'It's my friend who visited yesterday.'

      c. Naa=hl   ['witxw-it k'yoots   ]
          who=CNC [come-SX yesterday]
          'Who visited yesterday?'

Subject, object, agent, and adjunct extraction all show predictable extraction morphology. Extracted objects appear in this left peripheral position with the common noun connective =*hl* cliticised to its right edge, with an independent clausal remnant (indicated here by the presence of the TR morpheme):

(37) Gwi=**hl**   gub-i=s   John?
      what=CNC eat-TR=DNC John
      'What did John see?'

Intransitive subject extraction also involves the connective =*hl*, however, another morpheme, -*Vt* (labelled as a 'relative suffix' (Tarpent, 1987), 'intransitive relativiser suffix' (Rigsby, 1986), or 'subject extraction marker' (Hunt, 1993; Davis and Brown, 2011)), appears on the predicate:

(38) Naa=**hl**   lim-**it**?
      who=CNC sing-SX
      'Who sang?'

Agent extraction involves the morpheme *an* ('ergative relative pronoun' (Tarpent, 1987), 'a(gent) relative proclitic' (Rigsby, 1986), 'agent extraction' (Hunt, 1993; Davis and Brown, 2011)), which introduces a dependent clause. Recall that dependent clauses lack the transitive suffix and show a change in person marking:

(39) Naa **an**=t   gya'a=hl 'ul?
      who AN=3.I see=CNC bear
      'Who saw the bear?'

Rigsby (1986) notes a certain variability in whether a series I person-marking clitic appears in such constructions, and if so, whether it appears to the left or right of *an*. This shows that *an=t* is bimorphemic:[9]

(40) a. 'Nii'y **t=**an   gup=hl anaax.
       1SG.III 3.I=AN eat=CNC bread

    b. 'Nii'y an=**t**   gup=hl anaax.
       1SG.III AN=3.I eat=CNC bread

    c. 'Nii'y an gup=hl anaax.
       1SG.III AN eat=CNC bread
       'It's me that ate the bread.'   (Rigsby, 1986)

Finally, with indirect object or adjunct extraction, we see the complementiser *wil* to the right of the extracted adjunct, which introduces a dependent clause remnant, not unlike agent extraction above:

(41) t   Barbara **wil=**t   gi'nami=s Kathy=hl majagalee.
       DNC Barbara COMP=3.I give=cnc Kathy=CNC flowers
       'It was Barbara Kathy gave the flowers to.'   (Hunt, 1993)

These generalisations can be schematicised as below, where *adj* refers to adjunct, and subscripts on A, S, and O refer to the person agreement that appears before the predicate (in the case of Series I agreement), or suffixed to the predicate (in the case of Series II agreement):

(42) *Extraction morphology in Gitksan*

S=**hl**		PRED-**ət**	
O=**hl**		PRED-TR-II	A_{II}
A	**an**(=3.I)	PRED-II	O_{II}
Adj	**wil**(=I)	PRED-II	S_{II} / A_I O_{II}

Putting adjunct extraction aside, and focusing on arguments, it is unclear whether Gitksan's pattern constitutes an extraction asymmetry between ergatives and absolutives. It has been described as a tripartite system, in which objects, subjects, and agents are all marked with unique extraction morphology (Davis and Brown, 2011; Deal, 2016) — however it can be observed that subject and object extraction share a characteristic that is absent in agent extraction: namely the appearance of the *=hl* morpheme on the extracted word. Agent extraction, conversely, appears to be quite different structurally, with a special morpheme appearing before the predicate (*an*), a different clause-type (dependent), and the appearance of what seems to be a resumptive pronoun (*=t*). Despite these differences, discussion on the possibility of extraction asymmetries in Gitksan has largely been overlooked. I take up that challenge now, starting with new evidence from long-distance extraction. Instead, I propose that these constructions appear in environments where movement is illicit.

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[9]Though most past descriptions of Ā-movement in Gitksan include *=t* in their examples, it is often left out in fast/casual speech.

4.2 Long-distance extraction

In this subsection I introduce a previously undescribed long-distance extraction construction in Gitksan. This construction involves movement over an intransitive bridge predicate (IBP). IBP extraction constructions have many elements in common with agent extraction, including the appearance of the prepredicative *an* morpheme, and the obligatory dependent clausal remnant. I argue that this construction shows that *an* cannot be analysed as a kind of *wh*-agreement, as hypothesised by Deal (2016), as it appears in IBP extraction cases regardless of whether an A, S, or O is being extracted.

4.2.1 Transitive bridge predicates and extraction

Let us start with the familiar long-distance extraction pattern discussed in Hunt (1993) and Davis and Brown (2011). Example (43) shows that certain transitive predicates can take clausal complements:

(43) Amgood-i=s   John [dim=t   hlimoo-n   ]
      remember-TR=DNC John [PROSP=3.I help-2SG.II]
      'John remembered to help you.'

Here we see the transitive suffix on the matrix predicate — which only surfaces in independent clauses, and the =s proper noun morpheme indicative of ergative agreement in independent clauses.[10] These ingredients suggest that *John* is the agent, while the dependent clause *dimt hlimoon* is occupying the object position of the matrix predicate.

The familiar long-distance extraction pattern is built upon structures such as (43). This can be seen below in (44). This construction involves movement from a lower clause to the left periphery of a higher clause. As before, the matrix predicate appears to be in an independent clause, as evidenced by the appearance of the transitive suffix, while the series II agreement suggests that the subject *you* is ergative:

(44) Gwi=hl   anoog-a-n   [dim   da'witxw=s James] ?
      what=CNC allow-TR-2SG.II [PROSP bring=DNC James]
      'What did you allow James to bring?' (Davis and Brown, 2011)

In lower clauses we see canonical extraction morphology that corresponds to the grammatical role (S, O, or A) of the extracted argument, but in the higher clause the only extraction morphology that appears is the connective on the *wh*-word — resembling the object extraction pattern (see (42)). There seems to be no distinction between extracting *out of* an object and extracting an object, itself.[11]

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[10]See Davis and Forbes (2015) for extensive discussion on the interaction between person-marking and determiners in Interior Tsimshianic.

[11]This mirrors the long-distance extraction pattern seen in Upriver Halkomelem (Coast Salish) in which long-distance extraction occurs with formally transitive bridge predicates where the embedded clause is analysed as its

(45) *long-distance subject extraction*

    Naa=hl   gay   anoog-a=s   Clarissa [dim   lim-it   ] ?
    who=CNC DISTR allow-TR=DNC Clarissa [PROSP sing-SX]
    'Who did Clarissa allow to sing?'

(46) *long-distance object extraction*

    Guu=hl   gay   anoog-a=s   Clarissa [dim   gub-i=s   Aidan] ?
    what=CNC DISTR allow-TR=DNC Clarissa [PROSP eat-TR=DNC Aidan]
    'What did Clarissa allow Aidan to eat?'

(47) *long-distance agent extraction*

    Naa=hl   gay   anoog-a=s   Clarissa [dim   an=t   gup=hl huxws   ] ?
    who=CNC DISTR allow-TR=DNC Clarissa [PROSP AN=3.I eatCNC dried.fish]
    'Who did Clarissa allow to eat the *huxws*?'

Having established that long-distance extraction can freely occur with transitive bridge predicates in Gitksan, let us turn to a different kind of long-distance movement.

4.2.2   Intransitive bridge predicates and extraction

Certain intransitive predicates can also appear with dependent clauses:

(48)

(49)   Xbits'exw 'nii'y   [dim   'witxw=s   Henry]
       fear   1SG.III [PROSP arrive=DNC Henry]
       'I fear that Henry will arrive.'

The series III pronoun, which has an absolute distribution in independent clauses, and the absence of any transitive morphology, shows us that the matrix subject in this example is an intransitive subject.[12] This sets constructions such as (48) apart from the transitive bridge predicate constructions discussed in the previous subsection.

Long-distance extraction from a sentence such as (48) is not straight-forwardly available:

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direct object. The inflection in the matrix clause in these cases of long-distance extraction is the same as canonical object extraction (Thompson, 2012).

[12]These predicates are also intransitive in constructions not involving clausal complements. Here we see *Michael* appearing as an intransitive subject of *xbits'exw*, with the optional oblique argument *Henry* introduced by a preposition:

   i.   Xbits'exw t   Michael (e=s   Henry)
      fear   DNC Michael (PREP=DNC Henry)
      'Michael is afraid (of Henry).'

(50) * Naa=hl   bisxw 'niin [dim   'witxw-it] ?
        who=CNC expect 2SG.III [PROSP arrive-SX]

      Intended: 'Who do you expect will arrive?'

To convey the intended meaning in (50) we have to include the *an* morpheme before the matrix verb, and series II marking instead of series III (therefore indicative of a dependent clause):

(51) Naa=hl   **an** [bisxw-in   [dim   'witxw-it]] ?
      who=CNC AN [expect-2SG.II [PROSP arrive-SX]]

      'Who do you expect will arrive?'

Like the transitive bridge verb pattern in the previous subsection, the lower clause has canonical extraction morphology for subject, ergative, and object extraction. In (52) the predicate in the lower clause *gup* 'eat' is suffixed by the subject extraction morpheme *-Vt*, in (53) the predicate is preceded by *an*, while in (54) the object moves freely:

(52) *IBP subject extraction*

        Naa=hl   **an** [x̲bits'exw-in [dim   'witxw-it]] ?
        who=CNC AN [fear-2SG.II [PROSP arrive-SX]]

        'Who do you fear will arrive?'

(53) *IBP agent extraction*

        Naa=hl   **an** [bisxw=s   Aidan [dim   an=t   gup=hl huxws   ]] ?
        who=CNC AN [expect=DNC Aidan [PROSP AN=3.I eat=CNC dried.salmon]]

        'Who does Aidan expect to eat huxws?'

(54) *IBP object extraction*

        Guu=hl   gay   **an** [bisxw-in   [dim   gub-i=s   Aidan]] ?
        what=CNC DISTR AN [expect-2SG.II [PROSP eat-TR=DNC Aidan]]

        'What do you expect Aidan will eat?'

The long-distance extraction in (51) thus resembles ergative extraction in Gitksan in that there is a pre-predicate *an* morpheme, as well as the same switch from an independent to a dependent clause:

(55) a. *Agent extraction*

        Aidan **an** [=t   gup=hl anaax]
        Aidan AN [=3.I eat=CNC bread]

        'It's Aidan who ate the bread'

      b. *IBP extraction*

Naa=hl   **an** [bisxw-in   [dim   'witxw-it]] ?
who=CNC AN [expect-2SG.II [PROSP arrive-SX]]

'Who do you expect will arrive?'

However, these constructions are not identical. IBP extraction constructions lack the resumptive third person series I *=t*, and include the common noun connective *=hl* on the extracted word. The absence of the resumptive *=t* is easily explained, as the matrix predicate is intransitive, and series I only appears in transitive dependent clauses. The presence of *=hl* is trickier — however, in other contexts *=hl* and *=t* appear to be in complementary distribution. In the examples below, we can see that certain dependent markers (such as *yukw*) introduce intransitive dependent clauses with *=hl*, while transitive dependent clauses have a series I person marker in its place:

(56)   Yukw=**hl** lin=hl   os.
          IMPV=CNC growl=CNC dog
          'The dog is growling.'   (Forbes, 2013)

(57)   Yukw=**t** giba=s   John t   Mary.
          IPFV=3.I wait=DNC John DNC Mary
          'John is waiting for Mary.'   (Hunt, 1993)

Further examination of the interaction between series I clitics and the common noun connective clitic is needed.

    These IBP constructions can also arise by adding antipassive morphology to transitive verbs. In the following examples we see transitive matrix predicates with antipassive morphology have absolute subjects, and extraction from a lower clause has an identical pattern to the IBP extraction construction above:

(58)   a. Dim gibee-'esxw 'nii'y [dim   'witxw=s Henry]
            PROSP wait-ANTIP 1SG.III [PROSP arrive=DNC Henry]
           'I will wait for Henry to arrive.'
      b. Naa=hl   **an** [gibee-'esxw-in   [dim   'witxw-it]] ?
            who=CNC AN [wait-ANTIP-2SG.II [PROSP arrive-SX]]
           'Who will you wait for to arrive?'

    If the appearance of *an* is an instance of *wh*-agreement with extracted ergatives (as predicted by Deal (2016)), it is not clear why it would appear in examples such as (51) or (58) where there is no ergative being extracted.

    Instead, I argue that *an* is appearing in IBP and agent extraction constructions as a way to ameliorate illicit movement. This would suggest that Gitksan *does* have syntactic ergativity, and suggest that other head marking languages can in fact be syntactically ergative.

4.3   Interim discussion

Having established that there is a marked difference between extraction of ergatives and absolutives in Gitksan, and that the agent extraction construction seems to surface as a fix for illicit movement, the following questions arise:

1. What is the agent extraction morpheme *an*?

2. What is the subject extraction morpheme *-it*?

3. Why is IBP extraction illicit?

4. Why is agent extraction illicit?

The first question is relevant for obvious reasons: if certain movement is prohibited, how is *an* 'fixing' it? The second question relates to this issue: if Gitksan has an extraction asymmetry, why does subject extraction also have a special morpheme? I discuss these questions in §5, where I suggest that *an* is involved in predicate nominalisation (which in turn licenses extraction), and *-Vt* can be analysed as *wh*-agreement. Thus the system remains superficially tripartite, while still exhibiting a ban on the extraction on ergatives.

As for the third and fourth questions, I suggest that these extractions are illicit for different reasons. Contra transitive bridge predicate constructions in which the lower clause acts as an argument of the verb, the lower clause in IBP constructions actually attaches as an adjunct, which blocks the canonical movement out of it via the adjunct island constraint.[13] This is consistent with typical antipassive constructions that feature demoted agents (appearing as absolutives), with optional oblique objects that act as adjuncts:[14]

(60)   Gibee-'esxw t   Clarissa (e=s   Michael).
       wait-ANTIP   DNC Clarissa PREP=DNC Michael

       'Clarissa waited (for Michael).'

This also closely resembles patterns seen in other languages in the Pacific Northwestern Sprachbund. long-distance extraction in Upriver Halkomelem (Coast Salish) is allowed with transitive bridge predicates in which the lower clause is functioning as the direct object:

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[13]Davis and Brown (2011) show that extraction in Gitksan is sensitive to strong island constraints, including the adjunct island constraint.

[14]It is unclear why the default pattern for IBP extractions involves *an* instead of the complementiser *wil* that appears in other adjunct extractions. However one speaker has shown a certain variability between *an* and *wil* in these constructions:

(59)   Naa wil   bisxw-in   [dim 'witxw-it]?
       who COMP expect-2SG.II PROSP arrive-SX

       'Who do you expect to arrive.'
       Consultant's comment: Good, yes.

(61) Stæm k̓ʷ i=xʷ   hay-t   [k̓ʷ=aʔ=s   θey-t   ] ?
     what DET AUX=2SG.CS finish-TR.3O [COMP=2SG.POSS=NOM make-TR.3O]
     'What did you stop making?'   (Upriver Halkomelem, Thompson, 2012)

Extraction from clauses which are not functioning as as an argument of the verb is illicit, and a predicate nominalisation construction must be used instead (indicated by the presence of the nominaliser *s-*). This can be seen below, where the direct object position is filled by *-ax* 'me', with the lower clause therefore appearing in an unlicensed position:

(62) Stæm k̓ʷ aʔ-**s**-θəc-θ-ax   [k̓ʷ=ə=s   hakʷ-ə   ] ?
     what DET 2SG.POSS-NOM-tell-TR-1SG.O [COMP=1SG.POSS=NOM wear-TR.3O]
     'What did you tell me to wear?'   (Upriver Halkomelem, Thompson, 2012)

As for agent extraction, I propose that the standard approach outlined in §3.1 could account for the inability to straightforwardly extract agents. I discuss the application of such an analysis now.

4.4 Extraction asymmetries in Gitksan via case assignment

I suggested in the discussion above that the agent extraction construction in Gitksan cannot be analysed as involving *wh*-agreement. This is based on the appearance of a similar construction as a way to 'fix' certain illicit long-distance extractions, regardless of the θ-role of the extractee. It also must be noted that the position of *an* is not a canonical agreement slot in the Gitksan clause (as it appears alongside both series I and II person-marking).

If we turn to existing analyses of ergative extraction restrictions, Deal (2016)'s analysis does not apply as Gitksan lacks the overt morphological case needed for case-discrimination. Likewise, an analysis provided in Polinsky (forthcoming) that treats ergatives as PPs is untenable for Gitksan, as again, ergatives are not overtly marked in any way (while PPs in Gitksan *are*). I therefore propose an analysis based around a subset of the 'standard approach' discussed above (Campana, 1992; Bittner and Hale, 1996; Coon et al., 2014), leaving full implementation as future work.

The first assumption is that 'inherent ergative' is case assignment locally by transitive *v* to its Spec position (Woolford, 1997). This is appealing for Gitksan as independent clauses actually have an overt morpheme that appears only in transitive clauses, alongside ergative agreement: *-ə*:
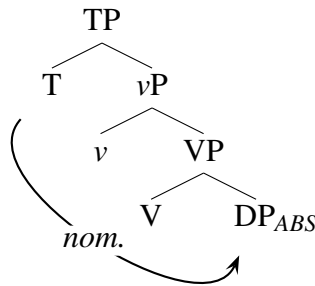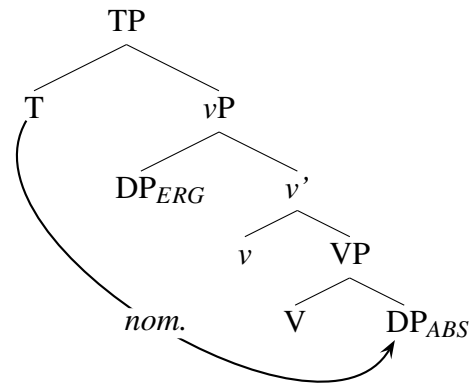
(63) *Inherent ergative*
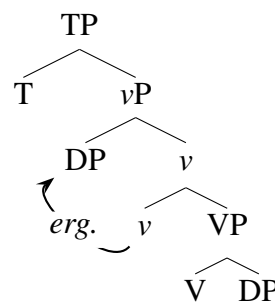
Legate (2008) suggests that ergative languages differ in the way absolutive arguments are assigned case. There are two options: (i) ABS=NOM (absolutive=nominative) (Campana, 1992; Murasugi, 1992; Bok-Bennema, 1991), and (ii) ABS=DEF (absolutive=default). In ABS=NOM languages objects and intransitive subjects receive case from T^0 — therefore resembling nominative case assignment:
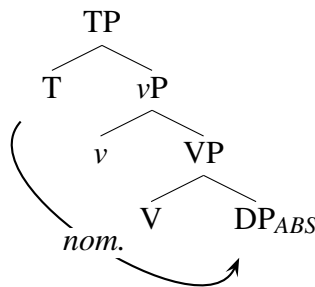
(64) *ABS=NOM*

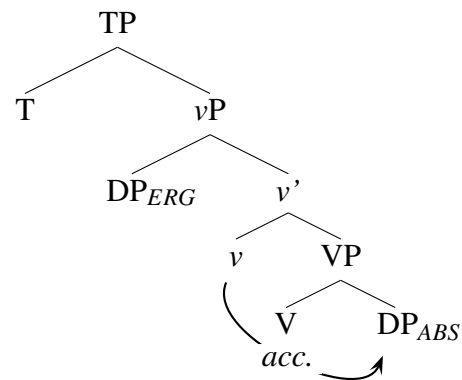   a. *Intransitive*
                  b. *Transitive*

```
        TP                              TP
       /  \                            /  \
      T    vP                         T    vP
          /  \                            /   \
         v    VP                     DP_ERG    v'
             /  \                              / \
            V   DP_ABS                        v   VP
   nom. ──────────▶                              / \
                                           nom.  V   DP_ABS
                                              ──────────▶
```

In ABS=DEF languages, absolutive is a morphological default. Objects receive (accusative) case from v^0, while intransitive subjects receive (nominative) case from T^0 — both getting spelled out by the same mechanism:

(65) *ABS=DEF*

    a. *Intransitive*
                  b. *Transitive*

```
        TP                              TP
       /  \                            /  \
      T    vP                         T    vP
          /  \                            /   \
         v    VP                     DP_ERG    v'
             /  \                              / \
            V   DP_ABS                        v   VP
   nom. ──────────▶                              / \
                                                V   DP_ABS
                                           acc. ──────▶
```

Coon et al. (2014) suggest that in the Mayan family both ABS=NOM and ABS=DEF languages are attested, and furthermore, that there is a correlation between the presence of syntactic ergativity and whether or not absolutives are case assigned as in (64) or (65). In ABS=NOM languages there are ergative extraction restrictions, and absolutive objects are not available in non-finite clauses,

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while in ABS=DEF languages there are no extraction restrictions, and absolutive objects *are* allowed in non-finite clauses. These syntactic ergativity effects arise in ABS=NOM languages from the relationship between the object and a head that c-commands the subject. The case licensing process in (64) blocks the extraction of subjects. The absence of absolutive objects in non-finite clauses is accounted for by the absence of T^0.

Following this logic, and operating under the assumption that Gitksan has extraction restrictions, we can make a predication that Gitksan is an ABS=NOM language. The question then arises as to whether or not Gitksan actually *behaves* like an ABS=NOM language. I explore this question by examining the distribution of series III (absolutive) pronouns.

Contra past treatments of Gitksan's case and person marking (Hunt, 1993; Forbes, 2016), I suggest that series III can be analysed as being licensed by T^0. This would explain its absence from (i) the basic person marking paradigm of dependent clauses, as well as (ii) the nominal domain.

4.4.1 Series III in (in)dependent clauses

Recall Gitksan's pivoting ergative person marking system:

(66) *Basic person marking distribution*

		Independent	Dependent
ERG	A	II	I
ABS	S	III	II
	O	III	II

One prediction made by the ABS=NOM analysis is that absolutives will not be available to appear in non-finite clauses, as there is no T^0 to assign case. If we assume dependent clauses are non-finite, the absence of series III absolutive pronouns from the basic pattern above looks like a strong piece of evidence for an ABS=NOM analysis.

However it is not so straight-forward: series III pronouns *can* appear in dependent clauses in some specific circumstances. The first circumstance is exemplified by the ambiguous example in (67):

(67) Nee=dii=t   t'is-diit.
      NEG=FOC=3.I hit-3PL.II
      (a) 'They didn't hit him/her.'
      (b) 'S/he didn't hit them.'   (Davis and Forbes, 2015)

This ambiguity arises from the fact that Gitksan lacks a third person plural series I clitic. Here the series II plural suffix can exceptionally agree with the agent to circumvent this gap (Davis and Forbes, 2015). The ambiguity in (67) can be resolved either contextually, or grammatically via the use of a series III pronoun:

(68) Nee=dii=t   t'is-diit **'nit**.
      NEG=FOC=3.I hit-3PL.II 3SG.III

      'They didn't hit him/her.' (unambiguous)   (Davis and Forbes, 2015)

Another circumstance in which a series III pronoun appears in a dependent clause can be seen in the following examples, where there is an optionality between VOS and VSO word orders triggered by pronominal objects:

(69) Hinda dim   wil-'y   ji [=t gun ha'w**-'y**   t   Lisa] ?
      how   PROSP do-1SG.II IRR [=3.I JUSS go.home-1SG.II DNC Lisa]

      What will I do if Lisa makes me go home?'   (Forbes, 2016)

(70) Hinda dim   wil-'y   ji [=t gun ha'w=s   Lisa **'nii'y**] ?
      how   PROSP do-1SG.II IRR [=3.I JUSS go.home-DNC Lisa 1SG.III]

      What will I do if Lisa makes me go home?'   (Forbes, 2016)

As Gitksan word order is rigidly VSO, constructions such as (70) can optionally surface to prevent the dispreferred VOS order. We can update the basic person marking paradigm:

(71) *Updated person marking distribution (Forbes, 2016)*

	Independent	Dependent
A_1	II	I
A_2		I & II
S	III	II
O_1	III	II
O_2		III

Another prediction made by the ABS=NOM analysis is that absolutives should not occur in caseless environments, as there should be no T^0 to assign this case. However series III pronouns appear in focus constructions as well as fragments:

(72) Q: Naa an=t   lilxws=hl daal?
         who AN=3.I steal=CNC money

         'Who stole the money?'

      A: **'Nii'y** (an=t   lilxws=hl daal).
         1SG.III AN=3.I steal=CNC money

         '(It's) me (who stole the money)'.

Though the appearance of series III pronouns in (70) and (72) appear to be counter evidence to an ABS=NOM analysis, I propose that series III performs two separate functions in Gitksan: (i) marking absolutives in independent clauses, and (ii) additional strong pronoun duties. There is an

intuition that the exceptional cases in which series III pronouns occur in dependent clauses above are 'fixes' of sorts — whether resolving ambiguity, or dispreferred word order. Strong pronouns are also expected to appear in focus constructions and fragments. Conversely, the appearance of series III in independent clauses as markers of absolutives is systematic.

If we look at the person marking paradigm in the neighbouring Coast Tsimshian language, we see evidence that such a claim is plausible. Coast Tsimshian has four series of person markers, three of which belong to the regular person marking paradigm, with a separate series functioning as independent pronouns (Mulder, 1994):[15]

(73)   *Coast Tsimshian person marking (compare (11))*

	I *Clitics*		II *Suffixes*		III *Suffixes*		*Independent pronouns*	
	SG	PL	SG	PL	SG	PL	SG	PL
1	n	dp	-u/-i	-m	-'nu	'nm	'nüüyu	'nüüm
2	m	m s'm	-n	-sm	-n	'nsm	'nüün	'nüüsm
3	t		-t	-dit	t		'niit	

Series I and II morphologically and distributionally correspond to Gitksan's series of the same names.[16] The remaining sets — the series III suffixes and the independent pronouns — both resemble Gitksan's series III pronouns, but differ from each other, and amongst themselves, morphologically and distributionally: Coast Tsimshian's series III is a verbal suffix that *only* marks absolutives in independent clauses, while the independent pronouns seem to only appear in preverbal focus constructions as well as copular constructions (Mulder, 1994). The distribution of series I, II, and III appears below. Not included are the independent pronouns as they do not systematically participate in person marking (unlike Gitksan's series III pronouns) but rather appear as independent DPs (Mulder, 1994):

(74)   *Coast Tsimshian person marking distribution (before person split)*

		Independent	Dependent
ERG	A	II	I
ABS	S	III	II
	O	III	II

I conclude this discussion with the following claims: Coast Tsimshian's series III marking has one function: to mark absolutive arguments in independent clauses (licensed by T^0). Coast

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[15]I adopt the theory neutral Interior Tsimshianic naming conventions for these person markers (series I, II, III) over the alternative (and misleading) terms used in the Coast Tsimshian literature (subjective, objective, definite objective, respectively).

[16]This is glossing over a person hierarchy that occurs in independent clauses in Coast Tsimshian. See Mulder (1994) for examples and discussion.

Tsimshian's independent pronoun set is just that: independent pronouns. In Gitskan, the corresponding functions of CT's series III and strong pronouns have been collapsed into a single series. Series III pronouns mark absolutive arguments in independent clauses (licensed by T^0), and have additional strong pronoun duties. This explains the exceptional appearance of Gitksan's series III pronouns in dependent clauses, and their systematic appearance in independent clauses. An ABS=NOM analysis is therefore still tenable for Gitksan.

4.4.2 (A)symmetries between the verbal and nominal domain

A comparison between the verbal and nominal domains provide a piece of evidence for an ABS=NOM analysis. The convergent cases are shown in (75) and (76). Here we see that constructions in which common nouns behave as intransitive subjects are isomorphic to possession by a common noun — both the subject, and the possessor are introduced by the common noun connective =*hl* and appear to the right of the head which they modify:

(75) *VP domain*

    Limx=**hl** gyat.
    sing=CN man
    'The man sang.'

(76) *DP domain*

    Ts'a'wax̲s=**hl** gyat.
    shoe=CN   man
    'The man's shoe'

Another symmetry between the nominal and verbal domain comes from extraction. 'Relativised possession' is isomorphic to intransitive subject extraction. In both constructions the arguments appear to the left of the head, with the common noun connective, as well as the intransitive subject extraction morpheme -*it*:

(77) *VP domain*

    Naa=**hl** lim-**it**?
    who=CN sing-SX
    'Who sang?'

(78) *DP domain*

    Naa=**hl** Ts'a'wax̲s-**it**?
    who-CN shoe-SX
    'Whose shoe?'

However, these similarities end when person marking is introduced. In the verbal domain series III pronouns mark intransitive subjects, while series II suffixes mark possessors of nominals:

(79) *VP domain*

    Limx   **'niin**.
    sing=DM 2SG.III
    'You sang.'

(80) *DP domain*

    Ts'a'wax̲s-**in**.
    shoe=CN-2SG.II
    'Your shoe'

This difference between (79) and (80) can be explained if series III pronouns are licensed by T^0. The clause in (79) has a finite T head that assigns case to the subject (surfacing as series III). In the DP projection there is no T^0 and therefore arguments are not marked by series III.

4.4.3 Case in dependent clauses

If Gitksan is an ABS=NOM language, and dependent clauses lack T^0, the question arises of how objects are licensed in dependent clauses. Unlike the Mayan ABS=NOM language Q'anjob'al (as analysed by Coon et al., 2014), transitive objects occur freely in dependent clauses in Gitksan. In Q'anjob'al, transitive dependent clauses, the suffix *-on* must appear on the predicate to license the appearance of objects. Coon et al. (2014) argue that this suffix is a Voice head that assigns accusative case low. Similarly, Gitksan predicates in transitive dependent clauses are distinct from those in independent clauses in that they lack the transitive suffix *-ə*. Perhaps this new head in dependent clauses is parallel to that of Q'anjob'al, and is able to assign absolutive case in the absence of T^0. I leave implementation and full discussion of such a system as future work.

In this discussion I suggested that Gitksan could plausibly be analysed as an ABS=NOM language in which intransitive subjects and objects are licensed by T^0. This can account for the existence of extraction restrictions in the language under an analysis in which this licensing process blocks the movement of transitive subjects (Coon et al., 2014; Campana, 1992; Bittner and Hale, 1996). I also suggested that this analysis can account for the distribution of series III pronouns in independent clauses, their (general) absense from dependent clauses, as well as their absense from the DP domain. I raised the question of how transitive objects are licensed in dependent clauses, and suggested that dependent clauses require a separate mechanism for assigning structural case to objects, which in turn receive series II agreement.

5 Discussion

In light of the previous discussion, I revisit Gitksan's extraction morphology and suggest that *an* 'agent extraction' morpheme can be analysed as a nominaliser. I also suggest that the *-Vt* subject extraction suffix surfaces in environments in which an argument is displaced from its head, triggering *wh*-agreement. I make a distinction between *an* and *-ət*, claiming that the former is indicative of an alternative to Ā-movement, while the latter occurs *during* Ā-movement. I leave an in-depth investigation of *-ət* as important future research.

In the second part of this discussion I provide examples of extraction asymmetries in other purely head-marking languages, and suggest that they also cannot be straight-forwardly analysed as *wh*-agreement.

5.1 Revisiting Gitksan extraction morphology

5.1.1 Agent extraction

Previous work on Interior Tsimshianic has descriptively referred to *an* as a morpheme that appears in the extraction or relativisation of transitive subjects (Hunt, 1993; Rigsby, 1986; Tarpent, 1987; Davis and Brown, 2011). However, this cannot be the case, as subjects, objects, and agents trigger the appearance of this morpheme in long-distance extraction with intransitive matrix predicates. The position that *an* occupies is also not a canonical agreement slot in the Gitksan clause (its

cooccurence with series I and II agreement markers shows this). If *an* is not merely a kind of ergative *wh*-agreement morpheme, then what could it be?

I suggest that these constructions involve nominalisation. This is based on the observation that another *an* morpheme is a productive nominaliser of verbs in Interior Tsimshianic:

(81) **an-**jam
      NOM-cook
      'kettle/pot'

Tarpent (1987) describes the nominaliser *an* in this way:

> *[T]his very widely used prefix has the general meaning: 'specific source or cause of ...,' hence the resulting nouns may have concrete or abstract meanings, sometimes both. . .*

A nominalisation approach might begin to explain the differences in the inflectional pattern between *an* clauses and non-*an* clauses. Series II person markers (ergative in independent clauses, absolutive in dependent clauses) also mark possession in the nominal domain:

(82) Ansiip'ansxw-'y
      friend-1SG.II
      'My friend'

Extrapolating from this we can propose that the appearance of series II person marking in agent extraction and IBP extraction involves the possession of a nominalised predicate or clause.

One piece of evidence for a predicate nominalisation analysis comes from examples such as the following. Here a nominal *ha'niigoot* 'thought' or literally 'one's heart' can act as a bridge. Long-distance extraction from this kind of construction occurs freely, mirroring the transitive bridge predicate extraction above discussed in §4:[17]

(83) a. Ha'niigoot=s James [dim   limx=s   Tyler]
              think=DNC   James [PROSP sing=DNC Tyler]
          'James thinks Tyler sang.'
          Lit. James's heart is that Tyler sang.   (Davis and Brown, 2011)

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[17]One diagnostic for the categorisation of *ha'niigoot* as a nominal is the absense of the transitive verbal morpheme -ə, as well as other distributional diagnostics such as its ability to be possessed as in the following:

ii. Tun=hl   ha'niigoodi-'y.
     this=CNC thought-1SG.II
     'This is my thought' / 'This is what I think.'

Note that if *ha'niigoot* were a verb then it would appear with a series III absolutive instead of a series II suffix.

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   b. Naa=hl   ha'nii<u>g</u>oot=s James [dim   lim-it   ] ?
      who=CN think=DNC   James [PROSP sing-SX]

      'Who does James think sang?'   (Davis and Brown, 2011)

Agentive nominalised clauses are often translated into Gitksan with this morpheme. However it is unclear whether or not this is a nominalised clause, or a headless relative clause:

(84)   Nee=ma   gya'a=hl an   eeji=hl   hun aa?
       NEG=2SG.I see=CNC AN/NOM fry=CNC fish YNQ

       'Have you seen the fish frier?' . . . or
       'Have you see who fries the fish?'

Both clausal and predicate nominalisation are used extensively in Ā-movement in other non-related languages in the Pacific Northwest *sprachbund*. For instance, locative relative clauses in St'át'imcets (Interior Salish) involve the nominalisation and possession of the clause:

(85)   Tsícw=kan   l=ta=   [tsal'álh=a [l=t=**s**=wá7=**sw**=a
       get.there=1SG.SU at=DET= [lake=EXIS [at=DET=NOM=IMPF=2SG.POSS=EXIS
       í7w'es   ]]
       fish.with.rod]]

       'I went to the lake where you were fishing.'   (St'át'imcets, Davis, 2010)

In Halkomelem (Coast Salish) we see a predicate nominalisation construction arising to license otherwise illicit long-distance movement. The nominalised predicate below (repeated from (62)) allows subordinate clauses to appear as arguments (unlike the non-nominal equivalent), allowing extraction to occur freely:

(86)   Stæm k̓ ʷ a?-**s**-θəc-θ-ax   [k̓ ʷ=ə=s   hakʷ-ə   ] ?
       what DET 2SG.POSS-NOM-tell-TR-1SG.O [COMP=1SG.POSS=NOM wear-TR.3O]

       'What did you tell me to wear?'   (Upriver Halkomelem, Thompson, 2012)

If the appearance of *an* in IBP extraction cases is comparable to the Halkomelem example above and the example with *ha'niigoots* in (83), we can analyse IBP extraction as involving a possessed nominal predicate (underlined in (87)) taking a clausal argument from which extraction can freely occur:

(87)   Naa=hl   [**an**-gibee-'esxw-in   [dim   'witxw-it]] ?
       who=CNC [NOM-wait-ANTIP-2SG.II [PROSP arrive-SX]]

       'Who will you wait for to arrive?'

The appearance of =*t* in agent extraction then raises questions. It is unclear if series I person marking ever appears in the nominal domain. For these cases I suggest that *an* is appearing higher in the clausal structure as a nominaliser. These constructions would then be biclausal, likely with no extraction (evidenced by the resumptive pronoun):

(88) a. Naa **an**=t   gya'a=hl 'ul?
          who AN=3.I see=CNC bear

          'Who saw the bear?' ... or
          'Who is the bear seeing one?'

      b. [[*wh*] [AN=3.I$_i$ see *pro$_i$* bear]]

Compare this to object extraction examples, where the single argument of the transitive marked verb in the remnant clause receives ergative agreement. This suggests there is a trace or copy of the moved object:

(89) a. Gwi=**hl**   gub-i=s   Lisa?
          what=CNC eat-TR=DNC Lisa

          'What did Lisa eat?'

      b. [*wh* [=CNC eat-TR-(II$_i$) Lisa$_i$ *(wh)*]]

The object movement case in (89) thus resembles the direct movement analysis of Gitksan extraction outlined in Davis and Brown (2011), while the agent question in (88) appears to be quite different structurally.

5.1.2 Subject extraction

If "agent-extraction" does not actually involve movement, but a special construction found elsewhere in the language, the next question is what is happening with subject extraction? Recall that the -*Vt* morpheme appears as a verbal suffix when intransitive subjects are extracted:

(90) Naa=**hl**   lim-**it**?
      who=CNC sing-SX

      'Who sang?'

Though this issue merits are more in-depth discussion, I suggest that -*Vt* is an agreement morpheme that surfaces in *wh*-movement contexts. Unlike *an*, -*Vt* surfaces in a canonical agreement position, and appears to be sensitive to this head/argument relationship, appearing only during the extraction of direct arguments. Subject extraction therefore has the following structure, where the intransitive subject moves to the left of the predicate, with the *wh*-word triggering default agreement on the predicate:

(91)   [*wh* [=CNC sing-IT ~~(wh)~~]]

agree

This can also be seen in 'relativised possession'. In Gitksan, the possessum appears before the possessor, which is indexed by series II agreement:

(92)   Ts'a'wax̱s-'y
       shoe-1SG.II
       'My shoe'

Relativised possession is formed in much the same way as intransitive subject extraction. The possessor appears the the left of the possessum, which is marked with *-Vt*:

(93)   Naa=hl   k'udats-**it** loo-t
       who=CNC coat-SX   PREP-3.II
       'Whose coat is it?'   (Tarpent, 1987)

I propose that this morpheme is not surfacing to 'fix' any illicit movement, but rather to index agreement between a head and its ex-situ argument.

5.2   Revisiting extraction asymmetries in head marking languages

Deal (2016) makes a distinction between examples such as (94) and (95):

(94)   Angut   [__*ABS* aallaam-mik tigu-**si**-sima-su-q   ]
       man.ABS [__   gun-INS   take-ANTIP-PRF-REL.INTR-SG]
       'The man who took the gun.'   (West Greenlandic, Bittner, 1994)

(95)   Maktxel max-∅   il-**on**[-i]   __?? naq winaq?
       who   ASP-3ABS see-AF-INTRANS __   CL man
   'Who saw the man?'   (Q'anjob'al, Coon et al., 2014)

In (94), we see a relative clause in West Greenlandic, a dependent marking language. As discussed above, relativisation of a transitive subject is only possible in West Greenlandic if the antipassive morpheme *-si* appears on the predicate, demoting the subject from ergative to absolutive. Deal suggests that this is a true case of syntactic ergativity as this antipassive morpheme occurs elsewhere in detransitivising environments, thus the gap in the example above is indeed absolutive.

In (95) we see an example of an ergative *wh*-question in Q'anjob'al (Mayan), a head-marking language. Like West Greenlandic, Q'anjob'al utilises extra morphology in the extraction of transitive subjects: the 'agent focus' suffix *-on*. For Deal, the salient difference between (94) and (95) is that there is no way of knowing whether the gap in the Q'anjob'al question is ergative or absolutive, unlike the West Greenlandic relative clause. Deal suggests that the Mayan 'agent focus'

example does not constitute a true restriction on the extraction of ergatives, and that *-on* can be analysed (after Stiebels (2006)) as a special form of *wh*-agreement with extracted ergatives.[18] This analysis is appealing for Deal as the case-discrimination theory for Ā-extraction restrictions (Deal, 2016) predicts that purely head-marking languages cannot exhibit extraction restrictions.

Coon et al. (2014) argue that Mayan agent focus constructions *are* indicative of a syntactic restriction on the extraction of ergatives (contra Stiebels, 2006). Adopting an analysis in which absolutives are assigned case by $Infl^0$, objects block the Ā-movement of ergatives:

(96) *The standard theory*

        POSITION X   BASE POSITION

   [Object   [$_{VP}$ Subject [V   Object   ]]]
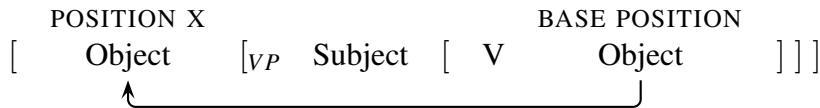
In agent focus constructions, *-on* exceptionally assigns case to transitive objects, thus allowing movement of transitive subjects. Evidence for this claim comes from the obligatory appearance of the same *-on* morpheme in transitive non-finite clauses:

(97) Chi uj   [hach y-il-**on**-i   ]
      ASP be.able.to [2ABS 3ERG-see-AF-ITV]
      'She can see you.'   (Q'anjob'al, Coon et al., 2014)

Coon et al. (2014) suggests that as there is no $Infl^0$ in non-finite clauses to assign case to objects, the *-on* morpheme appears and assigns case to the object, as it does in agent focus contexts. Adopting the analysis outlined in Coon et al. (2014) can provide a parsimonious account of the appearance of the *-on* morpheme in these two environments. This would suggest that (94) and (95) are not so dissimilar. Both constructions showcase different mechanisms for ameliorating illicit Ā-movement: Q'anjob'al assigns exceptional case to objects, while West Greenlandic demotes agents to absolutive case with an antipassive construction.

Other purely head-marking languages also show ergative extraction restrictions that cannot be reduced to simple *wh*-agreement. In Upper St'át'imcets (Interior Salish), if there is a null (pro) object, only a patient-centered interpretation is available:

(98) Mám'teq kw=s=John   áts'x-en-as   aylh ta= [sqáycw=a [túp-un'-as   ]]
      go.for.walk DET=NOM=John see-TR-3ERG then DET= [man=EXIS [punch-TR-3ERG]]
      'John went for a walk, then he saw the man who he punched.'
      (*. . . the man who punched him')   (Upper St'át'imcets, Davis, 2010)

Passive morphology may be employed to express the unavailable meaning in (98):

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[18]One issue faced by a *wh*-agreement approach is that this position is not a canonical agreement slot in the Mayan verbal complex (Coon, PC).

(99) Mám'teq   kw=s=John   áts'x-en-as   aylh ta= [sqáycw=a   [túp-un'-**em**   ]]
     go.for.walk DET=NOM=John see-TR-3ERG then DET [=man=EXIS [punch-TR-PASS]]
     'John went for a walk, then he saw the man who he was punched by.'
     (* '...the man he punched.')   (Upper St'át'imcets, Davis, 2010)

Shuswap and Thompson Salish also use passive-derived morphology in transitive subject extraction (Kroeber, 1999). These examples cannot be explained as involving *wh*-agreement.

A summary of this section, including the discussion on Gitksan in previous sections, is provided in (100):

(100) *'Fixing' extraction restrictions*

	Case-marking?	'Fix'	
Gitksan	✗	*an=t*	NMLZ & resumptive
West Greenlandic	✓	*-si*	ANTIP
Q'anjob'al	✗	*-on*	'case-assigner'
Upper St'át'imcets	✗	*-em*	PASS

Thus, head-marking and dependent-marking languages can both have extraction restrictions. The syntactic mechanisms available for fixing the underlying problem of ergative extraction can vary from language to language, with valency reduction such passivisation and antipassivisation (West Greenlandic and Upper St'át'imcets, respectively), a case-assigning morpheme (Q'anjob'al), and nominalisation (Gitksan) acting as potential fixes.

6   Conclusion

In this paper I proposed that despite the three-way morphological distinction made between the extraction of subjects, objects, and agents, Gitksan has ergative extraction restrictions:

(101) *Extraction morphology in Gitksan*

S=**hl**		PRED-**ət**	
O=**hl**		PRED-TR-II	A$_{II}$
A	**an**(=3.I)	PRED-II	O$_{II}$

A special construction, which I claim is made up of a nominaliser *an* and a resumptive pronoun =*t*, is utilised to 'mimic' the Ā-movement of ergative arguments. I showed that a similar construction (lacking =*t*) also appears in contexts of illicit movement, namely the long-distance extraction from clauses that attach as adjuncts. I provided an analysis of extraction restrictions in Gitksan akin to the analysis of 'Agent Focus' in Mayan in Coon et al. (2014). Under this analysis objects move above the subject for case assignment reasons, subsequently blocking the extraction of subjects. I suggested that the *-Vt* morpheme involved in subject extraction is an instance of *wh*-agreement.

The main theoretical claim is that purely head-marking languages such as Gitksan *can* have extraction restrictions, contra a recent account of syntactic ergativity (Deal, 2016).

In light of my discussion on extraction restrictions in Gitksan, I discussed other examples of apparent ergative extraction restrictions in head-marking languages (Q'anjob'al and Upper St'át'imcets) and suggested that a *wh*-agreement analysis — Deal's proposed alternative to syntactic ergativity in head-marking langauges — is not parsimonious for Q'anjob'al, and untenable for Upper St'át'imcets.

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Appendix A

I utilise a slightly modified version of the Hindle and Rigsby (1973) practical orthography. See Rigsby (1986) for in-depth phonological and phonemic sketches of the language.

Orth.	IPA	Orth.	IPA	Orth.	IPA
a	a, ə	k(y)	k^j	t'	$t^ʔ$
aa	a:	k(y)'	$k^{jʔ}$	tl'	$\widehat{t\ɬ}^ʔ$
b	b	<u>k</u>	q	ts	$\widehat{ts}$
d	d	<u>k</u>'	$q^ʔ$	ts'	$\widehat{ts}^ʔ$
e	e	l	l	u	u
ee	e:	'l	$l^ʔ$	uu	u:
g(w)	g^w	m	m	w	w
g(y)	g^j	'm	$m^ʔ$	w'	$w^ʔ$
<u>g</u>	ɢ	n	n	x	ç
h	h	'n	$n^ʔ$	xw	w^w
hl	ɬ	o	o	<u>x</u>	χ
i	i, ə	oo	o:	y	j
ii	i:	p	p	y'	$j^ʔ$
j	$\widehat{dz}$	p'	$p^ʔ$	'	ʔ
k(w)	k^w	s	s	-	ʔ
k(w)'	$k^{wʔ}$	t	t		