The Structure of Transitivity in Gitksan*

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Abstract: This paper presents a morphosyntactic analysis of transitive verbal morphology in Gitksan (Tsimshianic). I synthesize the Interior Tsimshianic literature on these morphemes and present some novel data. I then present a Distributed Morphology analysis of the Gitksan *v*P, arguing that transitivity is encoded with minimally two projections, *v* and Voice. In other words, Gitksan is a 'split-*v*P' language in the vein of Pylkkänen (2002). Transitivizers such as causatives and comitatives appear in *v*, while the independent-order transitive vowel is in Voice. The (ergative) external argument is merged in Voice, which also serves as the locus of transitive case and agreement. Finally, I argue that the transitivizers I locate in *v* all have distinct underlying semantic-syntactic representations—that is, they are not allomorphs—and explore some issues to be tackled regarding their semantic decomposition, including redundant morpheme-stacking.

Keywords: Gitksan, Tsimshianic, transitivity, argument structure, little v, Voice

1 Introduction

This paper examines some properties of transitivity and argument structure in Gitksan, a Tsimshianic language of the British Columbia northern interior. I consider these topics from a morphosyntactic perspective: how is transitivity composed in the syntactic structure of this language, and how does overt 'transitive' morphology map to this structure?

This paper adopts the framework of Distributed Morphology, or DM (Halle and Marantz 1993), which assumes that clausal structures are compositionally constructed from Roots ($\sqrt{}$) from which lexical content is derived, and verbalizers (*v*) from which argument structure is syntactically projected. While the lexical content of the Root contributes properties of the internal argument, it is *v* and related projections (e.g. Voice) which contribute properties of the external argument, including agency and causation, as well as the syntactic properties of transitive clauses, including case/agreement. In adopting this assumption, this paper explores morphemes which possibly instantiate the *v* level, their relation to one another, and the beginnings of their syntactic and semantic contributions to transitive structures.

I propose that Gitksan is a language wherein the functions of the *v*-level are split into minimally two projections: *v* and Voice. I argue that the transitive vowel in independent clauses and ergative agreement in dependent clauses are two ways that Voice, the locus of grammatical transitivity, is instantiated. Consequently, I interpret seven other morphemes relating to causation, agentivity, and

Table 1: Transitivizing patterns in Gitksan

	Intransitive		Transitive	
unmarked	*ts'iip*	'be tied up'	*ts'iip*	'tie up'
si-	*'mas*	'grow, grow up'	*si'mas*	'grow, raise'
-xw	*naks*	'be married'	*naksxw*	'marry'
-T	*jilks*	'melt, thaw'	*jilksd-/jilksi-*	'melt, thaw'
-in	*kw'as*	'break, be broken'	*kw'asin*	'break'
di-	*yee*	'walk, go'	*diyee*	'escort'
sil	*he*	'say, feel, express'	*sil(ga) he*	'say along with'
gun	*wil*	'do'	*gun wil*	'make (s.o.) do'

event structure, as syntactic terminals in *v*P, each with their own particular semantic flavor. I suggest that none of these 'transitive' morphemes can be interpreted as allomorphs of each other, conditioned on the basis of the Root they attach to, but instead are semantically and/or syntactically distinct.

The paper is structured as follows: §2 discusses the properties of several transitive markers in Gitksan as they have been reported in prior literature. §3 provides further background on the theoretical assumptions of DM as they relate to the compositional structure of transitive predicates. §4 presents an argument that Gitksan is a language which splits properties of transitivity between two heads: *v* and Voice. Having attributed inflectional transitive properties to Voice, §5 explores the semantic contributions of various *v* morphemes, including areas where they appear to be semantically vacuous or redundant. §6 concludes.

2   Transitive marking in Gitksan

The initial description of the transitive morphemes I here review was initially presented by Rigsby (1986), for Gitksan, and Tarpent (1987) for mutually intelligible Nisg̲a'a to the west. These languages constitute the Interior branch of the Tsimshianic family. Table 1 summarizes transitivizers, showing eight different transitivizing patterns on roots that may appear bare as intransitives.

Hunt (1993) presents an alternate account of an additional transitive morpheme *-i-*, originally treated by Rigsby the same way as the morphemes in Table 1 but which is conditioned by clause type. Hunt argues that this is not a transitivizer, but instead a transitive inflectional marker. I discuss transitive inflection in §2.1, to follow. Belvin (1997) also investigates the properties of causation and transitivity; his account of the Nisg̲a'a causatives (cognates: *si-*, *-in*, and *gun*) includes a morphosemantic analysis, which Peterson (2006) replicates for Gitksan. I review this background, as well as general properties of the seven transitivizing morphemes in §2.2.

2.1   Transitive inflection

Gitksan is a morphologically ergative language: transitive clauses can be identified by the fact that transitive subjects receive special agreement. However, this special agreement differs between the two possible clause types in the language.

Dependent clauses[1] are introduced by subordinators of all kinds, including the clausal coordi-

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[1] This terminology (independent/dependent) originates from Rigsby (1986). I adopt it here for its theory-

nator *ii*, complementizers and subordinating verbs, aspectual markers, negation, irrealis, and moods such as the imperative. In dependent clauses, exemplified in (1), transitive subjects receive pre-verbal 'Series I' agreement (1b), while absolute arguments typically receive suffixal 'Series II' agreement.[2]

(1) a. Needii   baha'y.
       nee=dii   bax̱-'y
       NEG=FOC   run-1SG.II
       'I didn't run.'

    b. Neediit   iileni'y.
       nee=dii=**t**   hilen-'y
       NEG=FOC=1.I   chase-1SG.II
       'She didn't chase me.'   (VG)

In independent clauses, presented in (2), transitive subjects receive Series II agreement (2b), while absolute arguments surface as 'Series III' pronouns. Transitive independent clauses furthermore contain an additional morpheme, which I refer to here as the 'transitive vowel'.

(2) a. Bax̱ 'nii'y.
       bax̱ 'nii'y
       run   1SG.III
       'I ran.'

    b. Iilenit   'nii'y.
       hilen-i-**t**   'nii'y
       chase-TR-3.II 1SG.III
       'She chased me.'   (VG)

All sources note that the transitive vowel (/-ə-/, realized as [-i-] or [-yi-]) is restricted to independent clauses. It was originally interpreted by Rigsby (1986) as an allomorph of the -T- morpheme, a transitivizer that I will discuss in the next subsection. The two were differentiated in Tarpent's (1987) description of Nisg̱a'a, where she referred to the transitive vowel as 'grammatical control'.[3] Hunt (1993:230) builds on this and proposes that the transitive vowel was not a transitiv*izer*, but

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neutral character.

[2] Abbreviations used in examples are as follows: 1=first person, 2=second person, 3=third person, ACC=accusative, ANTIP=antipassive, ASSOC=associative, ATTR=attributive, AX=agent extraction, CAUS=causative, CN=common noun determiner, COM=comitative, COMP=complementizer, COMPL=completive, DEM=demonstrative, DISTR=distributive, DN=determinate noun determiner, EPIS=epistemic, ERG=ergative, FOC=focus, I=series I agreement, II=series II agreement, III=series III pronoun, INS=instrumental, IPFV=imperfective, LOC=locative, MANR=manner, NACT=non-active voice, NEG=negative, NMLZ=nominalizer, OBL=oblique, PFV=perfective, PL=plural, PREP=preposition, PROSP=prospective, PROX=proximal, Q=question particle, QUDD=question under discussion downdate, SG=singular, SPT=spatiotemporal, TR=transitive, VER=verum focus.

[3] Later work in Tarpent (1991) proposes that this vowel is an object-relativizer, and that independent clauses are derived via relativization. Hunt (1993) presents a strong argument against this analysis.

rather an inflectional marker of transitivity.[4] It does not actually *transitivize* a verb; if that were the case, it would be expected to appear on the verb root regardless of clause type. Both authors argue that its apparent complementarity with some other true transitivizing suffixes is phonologically conditioned; most notably, the vowel is deleted after the sonorant-final *-in* causative (Hunt 1993:230).

    In sum, grammatically transitive clauses can always be differentiated from grammatically intransitive ones in principle, even where there are not two obvious DPs. If a clause is dependent, it can be identified as transitive if there is ergative preverbal agreement with the subject. If a clause is independent, then suffixal agreement will be with the subject, rather than the object; furthermore, there is often an additional vowel (the transitive vowel) preceding the agreement suffix.

2.2 Transitivizers

In contrast to the transitive vowel, the following transitivizing morphemes appear on verb stems regardless of the clause type of the overall construction. I begin with multi-purpose morphemes that are commonly used in both intransitive and transitive contexts, then move to morphemes that are more strictly transitive.

2.2.1 si-

The morphemes *si-* and *-xw* are both most frequently used in constructions that produce intransitive predicates, but can also be used to form transitive predicates. The better attested of these is *si-*, a highly productive morpheme which commonly operates on nouns to produce a 'create, procure, or process N' meaning (Rigsby 1986:350–351).

(3)   Hlishl   si'anaaxi'y   hiihluxw tun.
        hlis=hl **si**-anaax-'y   hiihluxw t=xwin
        PFV=CN CAUS-bread-1SG.II morning DN=DEM.PROX
        'I already made bread this morning.'   (VG)

In this use, *si-* is possibly operating as a verbalizer (*v*) which incorporates its complement nominal.[5]

    In addition, *si-* acts as a causative, operating on many intransitive verbs and adjectives to produce a transitive form, illustrated in (4).

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[4] Specifically, Hunt (1993) proposes that the transitive vowel realizes the [+transitive] head of an inflectional Transitive Phrase (TrP). This is essentially the analysis I adopt in §4, though rather than 'TransitiveP' I use VoiceP (Hale and Keyser 1993a). See also footnote 12.

[5] Another morpheme with a similar function, but a different semantic contribution, is *x̱-*, as in (i) which provides a 'consumes, experiences N' interpretation to the incorporated noun.

(i)   X̱hun   'nii'y hiihluxw daa'whl.
     x̱-hun   'nii'y hiihluxw daa'whl
     CONSUME-fish 1SG.III morning leave
     'I ate fish this morning.'   (BS)

However, both *si-* and *x̱-* can be used to modify nouns without verbalizing them, indicating 'the N that Possr made' or 'the N that Possr is eating/drinking/experiencing', as in (ii).

(4) a. G̲al gyamk ’nit, yugwimaahl   siipxwt.
     g̲al gyamk ’nit yukw=imaa=hl siip-xw-t
     too warm 3.III IPFV=EPIS=CN sick-NACT-3.II
     ‘He feels hot, he must be sick.’   (BS)

    b. Sigyamgit.
     si-gyamk-i-t
     CAUS-warm-TR-3.II
     ‘S/he heated it.’   (Rigsby 1986:359)

Belvin (1997) proposes that *si-* represents state causation; it is a direct causative that operates on, typically, states.

2.2.2 -xw

The morpheme *-xw* largely enjoys a life as an intransitive ‘non-active’ marker, subsuming the functions of a middle/inchoative, passive, and sometimes a reflexive. Its middle use is illustrated in (5).[6]

(5) Sim lukw’il ankws   anaaxis.
    sim lukw’il ankw-**xw** anaax=is
    true very   cook-NACT bread=QUDD
    ‘The bread is completely cooked.’   (HH)

    It also appears on a small number of transitives. Rigsby (1986) identifies two classes for its usage: first, on roots that also have a nominal use, illustrated in (6); second in positional constructions, illustrated in (7). Rigsby (1986:343) states that the latter type of *-xw* construction specifically indicates a sense of ‘adopting a position’, contrasting with intransitive constructions that merely denote a locative state.

(6) *Context: The speaker has amnesia and is guessing facts about their forgotten life.*

(ii) a. T’aahl maa’y ’nuu’m ky’oots, iit   ap jahl   ts’uuts’ simaa’yi’m.
     t’aahl-maa’y ’nuu’m ky’oots ii=t ap jahl-t=hl   ts’uuts’ **si**-maa’y-’m
     pick-berries 1PL.III yesterday and=3.I VER eat.up-3.II=CN bird CAUS-berry-1PL.II
     ‘We picked berries yesterday, and a bird ate them all *(lit: ate all our picked-berries)*.’   (BS)

    b. Am sax̲ x̲dii   dii aksis   Lisa.
     am x̲sax̲ **x̲** -dii   dii aks-i-t=s   Lisa
     only only CONSUME-tea FOC drink-TR-3.II=DN Lisa
     ‘Lisa only drinks tea.’   (LW)

It is therefore unclear whether, for both morphemes, the contribution is of verbalization, event structure, or lexical content more like roots (e.g. √MAKE and √CONSUME)—or some combination of these. I leave this question for future work.

[6] This morpheme has the allophones [-s] (post-velar), [-txʷ] (post-sonorant), and [-xʷ] (elsewhere). However, there are a few examples that demonstrate that the full alternation (particularly that of *-s*) is either no longer productive (Hunt 1993), or must be attributed to two closely related morphemes, only one of which participates in the full alternation (Rigsby 1986).

a. Naksimaa   ’nii’y.
    naks=imaa   ’nii’y
    marry=EPIS 1SG.III
    ‘Maybe I’m married.’ (cf. *naks* ‘spouse (N)’)

b. Naksxwi’yimaa   gyat tust.
    naks-**xw**-i-’y=imaa   gyat t=xwist
    marry-NACT?-TR-1SG.II=EPIS man DN=DEM.PROX
    ‘Maybe I married that man.’   (BS)

(7) a. ’Niit’aahl   ts’uuts’ la<u>x</u> <u>g</u>an.
        ’nii=t’aa=hl ts’uts’   la<u>x</u> <u>g</u>an
        on=sit=CN   bird   on   tree
        ‘The bird is sitting in the tree.’

    b. Gipaykwhl   ts’uuts’ la<u>x</u>’u’y   iit   ’niit’aatxwhl   <u>g</u>an.
        giphaykw=hl ts’uuts’ la<u>x</u>’u-’y   ii=t   ’nii=t’aa-**xw**-t=hl   <u>g</u>an
        fly=CN   bird   above-1SG.II and=3.I on=sit-NACT?-3.II=CN tree
        ‘The bird flew over and landed in the tree.’   (VG)

In either of these cases, roots appear with the *-xw* morpheme in transitive constructions, but not intransitive ones, in contrast to the broader generalization that *-xw* marks a type of intransitive. It is possible, however, that these transitive uses can be subsumed under a notion of adopting a result state, or a type of reflexive voice.

2.2.3   -T

There is a second morpheme which, like *-xw*, may have both intransitive and transitive uses. The morpheme is abstractly represented as *-T* (Tarpent 1987), given its multitude of different allomorphs including [t], [d], [td], [di], and [i]. The distribution of these allomorphs largely depends on the form of the preceding stem (whether there is a stem-final consonant or vowel) and presence or absence of following suffixes. The surface realization of the suffix as consonant, vowel, or both is likely determined through reference to syllable structure, though I do not review these properties here. Broadly, the suffix is *-t* when immediately followed by a vowel (such as the transitive vowel in independent clauses), and *-i-* or *-di-* when followed by a non-vocalic suffix, including all the pronominal suffixes, as is typical of dependent clauses. Thus, we typically find a consonant-vowel alternation across clause types, as illustrated in (8).

(8) a. Yukw**d**in   <u>k</u>’abaluuyaa?
        yukw-T-i-n   <u>k</u>’abaluu=aa
        carry-T-TR-2SG.II rifle=Q
        ‘Do you have the rifle?’   (HH)

    b. Ii   needipdii   yugw**i**hl   aks.
        ii   nee=dip=dii   yukw-T-t=hl   aks
        and NEG=1PL.I=FOC carry-T-3.II=CN water
        ‘And we didn’t bring the water with us.’   (HH)

I focus here on the established transitive uses of -*T*.[7] First, certain roots are lexically specified to use -*T* when functioning as transitive verbs. These are referred to as 'T-verbs' (Hunt 1993). One example is *yukw* 'carry, hold', from (8) above. Another is *mahl* 'tell', provided in (9a); contrast an antipassive use in (9b).

(9) a. Mahldi'y   dim   wil   ha'wis   Michael.
         mahl-**T**-i-'y dim   wil   ha'w-t=s   Michael
         tell-T-TR-1SG.II PROSP COMP   go.home-3.II=DN   Michael
         'I said/told that Michael was going home.'   (BS)

     b. ant'imahlasxw
         an-t'ip-mahl-asxw
         NMLZ-sharply.down-tell-ANTIP
         'story, tale'

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[7] Tarpent (1987:634–638), for Nisg̱a'a, proposes that -T has both intransitive and transitive uses, while Rigsby (1986:337,340) attributes these properties to two different *t*-shaped morphemes in Gitksan. Across the two languages, the intransitive construction in question provides a 'passive of state' (Rigsby 1986:337) or 'resultative state' (Tarpent 1987:635) interpretation, illustrated in (i).

(i) Aksthl   gudats'i'y.
     aks-**t**=hl   gudats'-'y
     water-T?=CN   jacket-1SG.II
     'My coat is wet.'   (Hunt 1993:17)

What motivates grouping this intransitive morpheme as another instance of -*T*? Tarpent's (1987) proposals regarding the connection were supported by both morphemes' participation in the *t*/vowel alternation across clause types. Example (ii) illustrates how the Nisg̱a'a intransitive -*t* exhibits the same alternation as in transitives from (8). Although in isolation the intransitive stem might have a final -*t*, this -*t* alternates with a vowel when followed by an agreement suffix, as in (ii).

(ii) Hlaa kw'as**i**hl   tgwa.
      hlaa kw'as-T-t=hl   tgwa
      now   broken-T-3.II=CN   glass
      'Now the glass is broken.' (cf. *kw'ast* 'broken')   *Nisg̱a'a*; (Tarpent 1987:637)

Rigsby (1986) does not unite the transitive -*T* and intransitive -*t* partially because his description did not identify transitive -*T*; this was established slightly later for Gitksan by Hunt (1993). However, it also seems that intransitive -*t* does not actively alternate with a vowel in Gitksan; when followed by a suffix, the suffix instead deletes, as illustrated in (iii).

(iii) a. Lukw'il ts'eet'iks**t**hl   hlguuhlxwi'y.
           lukw'il ts'eet'iks-t=hl   hlguuhlxw-'y
           very   dirty-PASS.OF.STAT?=CN   child-1SG.II
           'My child is so dirty.'   (VG)

       b. Hlaa   ts'eet'ikshl   hlguuhlxwi'y.
           hlaa   ts'eet'iks(-t??)-t=hl   hlguuhlxw-'y
           INCEP dirty(-PASS.OF.STAT??)-3.II=CN child-1SG.II
           'My child is now dirty.' (**ts'eet'iksihl*)   (VG)

Pending further investigation, this might present a basis to conclude that unlike in Nisg̱a'a, the Gitksan intransitive construction is derived from a distinct morpheme, synchronically. Regardless, the productivity and precise semantic contribution of the intransitive -*t* construction have yet to be deeply investigated.

Second, the morpheme *-T* can be conditioned to appear on roots that do not normally require it, when used in conjunction with certain preverbal modifiers (Hunt 1993; Rigsby 1986). Below, the verb *gup* 'eat' normally appears as a bare transitive (10a). When the modifier *his* 'pretend' is used, it requires the addition of the morpheme *-T*, resulting in the complete expression *his gup-T-* 'pretend to eat', as in (10b).

(10) a. Gubis   Maryhl   hun.
        gup-i-t=s   Mary=hl hun
        eat-TR-3.II=DN Mary=CN fish
        'Mary ate the fish.'

    b. Am his   **gupd**is   Maryhl   hun.
        am   his   gup-**T**-i-t=s   Mary=hl hun
        only pretend eat-T-TR-3.II=DN
        'Mary only pretended to eat the fish.'   (Hunt 1993:237)

Third, *-T* sometimes also seems to appear when code-switching or mixing verbs from English (Tarpent 1987:647).

(11)   ... dim ant   fill**d**ihl   positions.
       ... dim an=t   *fill*-T-t=hl   *positions*
       ... PROSP AX=3.I fill-T-3.II=CN positions
       '...who will fill the positions.'   (LW)

Tarpent (1987) glosses the morpheme as 'definite medial', making events more 'definite'; this could potentially correlate to event boundedness or some other type of aspect.[8] What is clear is that this morpheme, in addition to being morphophonologically complex, has several functions that vary in their productivity, which may or may not be semantically contentful.

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[8] Peterson (2019) suggests it could historically derive from a grammatical applicative, presenting evidence that the presence or absence of *-T* corresponds to the appearance of an oblique argument, as in (i).

(i) a. Mahl**d**is   Mark **ahl**   **gimxdit**   dim wil saa daa'whlt go'ohl
      mahl-T-i-t=s   Mark a-t=hl   gimxdi-t   dim wil saa daa'whl-t g̲o'o-t=hl
      tell-T-TR-3.II=DN Mark PREP-3.II=CN cross.sibling-3.II PROSP COMP away leave-3.II LOC-3.II=CN
          la**x**mo'on.
          lax-mo'on
          on-salt
      'Mark told his sister that he would leave to go to the coast.'

    b. Mahlis   Mark dim wil saa daa'whlt...
      mahl-i-t=s   Mark dim wil saa daa'whl-t
      tell-T-TR-3.II=DN Mark PROSP COMP away leave-3.II
      'Mark said he would leave...'   (Peterson 2019:5)

However, I have been unable to replicate this alternation with the speakers I work with; as illustrated in (9a), the morpheme *-T* is used regardless of the presence of an oblique. It is possible this indicates a divergence or development in the meaning or usage of *-T*; in §5.2 I suggest that *-T* contributes some kind of complexity in the structure of events with respect to a figure/ground relation, even if it does not directly act as an applicative by introducing an argument or oblique.

2.2.4 -in

The morpheme -*in* is strictly a causative; Belvin (1997) reports that it contributes event causation. This morpheme is used both with roots that appear bare as intransitives (12), and with roots that take the -*xw* morpheme in order to surface as intransitives (12).

(12) a. Bu<u>x</u>whl   maaxws la<u>x</u> s<u>g</u>a'nist.
          bu<u>x</u>w=hl   maaxws la<u>x</u> s<u>g</u>a'nist
          spread.in.air=CN snow   on mountain
          'Snow blew on the mountaintop.'   (VG)

    b. Bu<u>x</u>winthl   maaxws.
          bu<u>x</u>w-**in**-i-t=hl   maaxws
          spread.in.air-CAUS-TR-3.II=CN snow
          'He's blowing the snow.' (with a snowblower)   (VG)

(13) a. Dim ii mitxwhl   <u>g</u>alts'ap tun   ahl   aks.
          dim ii mit-**xw**-t=hl   <u>g</u>alts'ap t=xwin   a-t=hl   aks
          PROSP and fill-NACT-3.II=CN village   DN=DEM.PROX PREP-3.II=CN water
          'And this village will fill up with water.'   (BS)

    b. <u>G</u>aniwilat   luu midinhl   ts'ak't.
          <u>g</u>ani-wila=t   luu mit-**in**-t=hl   ts'ak'-t
          continually-MANR=3.I in fill-CAUS-3.II=CN bowl-3.II
          'And he kept refilling his bowl.'   (BS)

Although Rigsby (1986:341) reports that this morpheme conveys causation "by one's own hand or action", it has a secondary use as a causative which derives experiencer predicates from adjectives (Belvin 1997; Tarpent 1987). These cases, illustrated in (14), do not involve direct action, but instead describe a mental state of the external argument.

(14) a. Asgihl   s<u>g</u>abihlee'ediit.
          asgi=hl   s<u>g</u>a-bahl-ee'e-diit
          ugly=CN blocking-spread-ANTIP-3PL.II
          'Their curtains are ugly.'

    b. Asgidini'yhl   s<u>g</u>abihlee'e.
          asgi-**in**-i-'y=hl   s<u>g</u>a-bahl-ee'e
          ugly-CAUS-TR-1SG.II=CN blocking-spread-ANTIP
          'I didn't like the curtains.' *(Not 'I find the curtains ugly.')*   (HH)

It is unclear whether these two uses should be treated distinctly, or if an analysis of -*in* can derive both with the same semantics.

2.2.5 di-

This prefix is a relatively productive transitivizer. It is most frequently used with verbs that convey directional events. Most verbs of motion are able to use it to form a comitative transitive construc-

tion, as illustrated in (15), where the external argument accompanies an internal argument in the moving event.

(15) a. Dim yeet g̲a'ahl Gitsegukla.
        dim yee-t g̲a'a-t=hl Gitsegukla
        PROSP go-3.II LOC-3.II=CN Gitsegukla
        'He is going to Gitsegukla.' (HH)

    b. Woy ii dip diyeet go'ohl jayn dipun...
        woy ii dip **di**-yee-t go'o-t=hl jayn dip=xwin
        so and 1PL.I COM-go-3.II LOC-3.II=CN Chinese ASSOC=DEM.PROX
        'And we went to the Chinese... (to sell it)'
        Lit: 'And we took it to the Chinese/went to the Chinese with it' (VG)

The prefix is not used exclusively with verbs of motion. As noted by Rigsby (1989:344), some other examples include *dimootxw* 'save, cure' (from *mootxw* 'heal, be healthy') and *didalk̲* 'talk to' (from *dalk̲* 'speak'). However, these predicates still seem to be directional, or asymmetric. Tarpent (1987:552) further notes an additional use, wherein a clausal argument can appear as the transitive object, creating a while-phrase interpretation. This use is also available in Gitksan, as illustrated in (16), although the speaker who provided this example (VG) notes it as being old language from the feast hall.[9]

(16) Di'wiiyitxwithl limixt.
    di-'wiiyitxw-i-t=hl limx-t
    COM-cry-TR-3.II=CN song-3.II
    'S/he cried while singing.' (VG)

A possible analysis of this morpheme is perhaps then as some sort of applicative, perhaps a comitative applicative. In a typical case like (15), an object is introduced as the internal argument, and accompanies the subject through a directional action. In the older while-phrase case like (16), a (possibly-reduced) clause is introduced as the internal argument, and receives a simultaneity reading.

2.2.6 sil

While the transitivizers discussed have been classed as verbal prefixes and suffixes, the following two are of a slightly different morphological class: preverbals which do not always prosodically attach to the root. They have quite productive meanings, and can be used with a variety of roots.

The preverb *sil*, sometimes used in conjunction with the distributive marker *g̲a-*, is a comitative. Like the morpheme *di-*, discussed above, *sil* is able to transitivize an intransitive predicate by introducing a second argument which performs the action or is subject to the state "along with" the first, as illustrated in (17) and (18). Unlike *di-*, events which involve *sil* need not be directional. Note that an adverb intervenes between *sil* and the verb root.

---

[9] Another speaker (HH) translates these constructions with a nominalized object clauses, e.g. *'She cried her song'*, rather than a while phrase. Further investigation is required to determine the nature of the object 'clause' in this construction, including whether it is still robustly used.

(17) Yukw na sil   sa'ap   yeehl   ansiip'insxwi'y.
     yukw na **sil** sa'ap   yee-t=hl   an-siip-in-asxw-'y
     IPFV 1.I COM without.purpose   go-3.II=CN NMLZ-ache-CAUS-ANTIP-1SG.II
     'I am walking with my friend.'   (BS)

(18) Sil   gasgootxwit.
     sil ga-sgoo-xw-i-t
     COM   DISTR-amount.MASS-NACT-TR-3.II
     'S/he is the same size (or shape) as him/her.'   (Rigsby 1986:347)

The use of *sil* does not obligatorily transitivize a root; it can also be used with intransitive predicates taking plural arguments, as in (19).

(19) Silga   ama'mast   Sue gans   Mary.
     sil-ga   ama-'mas=t   Sue gan-t=s   Mary
     COM-DISTR   well-grow=DN   Sue and-3.II=DN Mary
     Prompt: 'Sue is as pretty as Mary.'
     Lit: *'Sue and Mary are both pretty.'*   (VG)

The precise contribution of *sil* with respect to syntactic transitivization is then somewhat unclear.

2.2.7 gun

This well-studied preverb is known as an indirect causative which provides the typical meaning of 'make someone do X', or also 'tell someone to X' (Belvin 1997; Peterson 2006; Rigsby 1986). It can be added to an intransitive to create a simple transitive predicate, as in (20b).

(20) a.   Ts'inhl   hanak'.
          ts'in=hl   hanak'
          enter=CN   woman
          'The woman came in.'

     b.   Gwints'inis   Gwenhl   hanak'.
          gun-ts'in-i-t=s   Gwen=hl   hanak'
          CAUS-enter-TR-3.II=DN Gwen=CN   woman
          'Gwen had the woman come in.'   (Peterson 2007:10)

Gun can also be added to transitive predicates, in which case the *-T* suffix will also be triggered on the predicate. The original subject may or may not be present as an oblique, following the theme direct object.

(21) a.   T'amis   Billhl   ha'niilitsxxw   siwatdihl...
          t'am-i-t=s   Bill=hl   ha-'nii-litsx-xw   si-wa-t-i-t=hl
          write-TR-3.II=DN   Bill=CN   INS-on-read-NACT   CAUS-name-T-TR-3.II=CN
          'Bill was writing a book called ...'   (VG)

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b. **Gun** t'am**d**i'yhl   letter aloos   Barbara.
   gun   t'am-T-i-'y=hl   *letter* a-loo-t=s   Barbara
   CAUS write-T-TR-1SG.II=CN letter PREP-OBL-3.II=DN Barbara
   'I told Barbara to write a letter.'
   'I had Barbara write a letter.'   (Rigsby 1986:349)

This morpheme is quite productive, and may combine with any predicate where the existing subject acts with volition. It may combine with transitive and unergative predicates, but not unaccusative predicates, which lack volitional subjects.

2.2.8 Labile alternations

Finally, as in most languages of the world, Gitksan has a number of labile roots which can appear morphologically bare either as intransitives or transitives. No affixes are required for either interpretation, as demonstrated in (22).
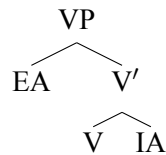
(22) a. Duxwt'akwhl   anlip'insxwi'y.
          CVC~**t'akw**=hl an-lip-in-asxw-'y
          PL~twist=CN   NMLZ-sew-CAUS-ANTIP-1SG.II
          'My thread twisted (many times).'   (Hunt 1993:158)

      b. Ii   daayimaahl wili'y   gan   wina   sgat'akwhl   aats'ip.
          ii   daa=imaa=hl wil-'y   gan   wil=na sga-**t'akw**-t=hl   aats'ip
          and SPT=EPIS=CN do-1SG.II reason do=1.I block.way-twist-3.II=CN door
          'And I don't know why I locked the door.'   (BS)

The availability of a zero-strategy for transitivization is not particularly surprising, but serves as a reminder that not all structure can be detected through overt morphology.
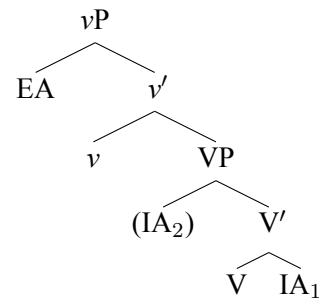
3   Theoretical context

The split-V hypothesis, under which verbs are decomposed into distinct syntactic and semantic levels, has been proposed by multiple authors on the basis of a variety of facts (Hale and Keyser 1993a; Kratzer 1996; Larson 1988). It became particularly necessary after the general adoption of the VP-internal subject hypothesis, a structure which more broadly allows for the derivation of VSO word orders. If the external argument is introduced within the VP, then there are only two VP-internal argument positions, as demonstrated in (23). Assuming the binary branching hypothesis, also widely adopted at the time, a single V projection is unable to accommodate the properties of ditransitive verbs and applicatives, which involve multiple internal arguments. A verb phrase broken into multiple projections is able to do so, as illustrated in (24).
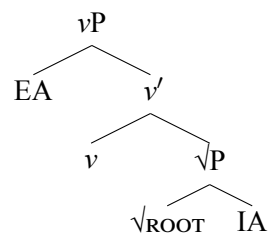
(23)

```
          VP
        /    \
      EA      V′
             /  \
            V    IA
```

(24)

```
          vP
        /    \
      EA      v′
             /   \
            v     VP
                 /    \
              (IA₂)    V′
                      /  \
                     V    IA₁
```

A split VP furthermore reflects properties that crosslinguistically differentiate *internal* and *external* arguments, such as the common exclusion of external arguments from idioms. These properties previously received a natural explanation when the base position of the external argument was in TP/IP.

Distributed Morphology in particular assumes that the lower of the two projections in the verb is a category neutral Root which provides encyclopedic lexical content guiding the interpretation of the rest of the structure. The Root typically introduces the internal argument as its complement. The higher of the projections is *v*, which in the simplest possible structure introduces the external argument. A transitive structure would therefore have the structure in (25).

(25)

```
              vP
            /    \
          EA      v′
                 /   \
                v     √P
                     /   \
                  √ROOT   IA
```

The *v* projection is responsible for a number of discrete operations besides external argument introduction (Harley 2017). It **verbalizes** the √P, neccesitating that subsequent structure be verbal/clausal; alternately a little *n* head can nominalize √P, producing complex nominalizations like *the growth of the flower* from √GROW and its internal argument *the flower*. The head *v* can also **causativize** the Root, adding such possible semantics as causation, agency, or volition. A root like √EAT is interpreted agentively both in transitives like *Jane ate salmon* and passive intransitives like *Salmon was eaten*. Finally, *v* also **assigns case** in transitives, or is responsible for agreement; classically, a transitive *v* is responsible for accusative case assignment, deriving the tight relationship between the presence of an external argument and accusative case on the internal argument, both of which are lacking in passives (Burzio's Generalization: Burzio 1986; Kratzer 1996). It has also been argued that *v* engages in ergative agreement or case assignment with the external argument in ergative/absolutive languages (e.g. Coon 2017; Woolford 1997, 2006).

In examining an individual verb, then, from the syntactic perspective it is expected that the verb can be decomposed into multiple pieces: verbal structures, and particularly transitive verbs, are inherently structurally complex (that is, all predicates are 'complex predicates'). Distributed Morphology also provides the additional assumption that individual terminal nodes in syntactic structure are associated with discrete morphemes. These two ideas coupled together lead to the natural prediction that structurally complex verbs will often be *morphologically* complex.

This presents a guiding framework for the investigation of morphologically complex verbs. When faced with different morphological transitivizers, there are several possibilities to explore. Different morphological forms might be associated with different 'flavors' of v with distinct semantic properties; for example, Folli and Harley (2007) discuss the distinction between v_{CAUSE} and v_{DO} in Romance *faire*-causatives, both of which introduce causation in the event but only the latter of which requires volition and agency on the part of the external argument causer.

Another possibility when faced with multiple morphological transitivizers is allomorphy. The same underlying instance of v might contribute the same syntactic and semantic information, but have distinct allomorphs conditioned on the basis of the Root that they attach to; some examples are given in (26). Harley (2008) argues that lexical causation in Japanese is reflected by distinct allomorphs for different Roots, as illustrated in (26). Roots which do not demand a specific allomorph of this low causative head use the default morpheme, *-(s)ase*, also used in productive causatives.

(26)
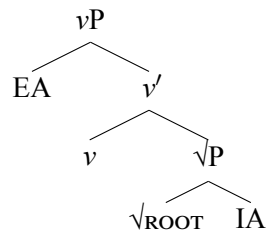| *Root*	*Intransitive*	*Transitive*	*Gloss*
hag	hag-**e**-ru	hag-u	'peel off'
ak	ak-u	ak-**e**-ru	'open'
ag	ag-**a**-ru	ag-**e**-ru	'rise'
hasam	hasam-**ar**-u	hasam-u	'catch between'
hana	hana-**re**-ru	hana-**s**-u	'separate from'
ka	ka-**ri**-ru	ka-**s**-u	'borrow/lend'
hekom	hekom-u	hekom-**as**-u	'dent'
bar	bar-**e**-ru	bar-**as**-u	'come/bring to light'
ak	ak-**i**-ru	ak-**as**-u	'tire'
obi	obi-**e**-ru	obi-**(y)akas**-u	'take fright/frighten'
wak	wak-**are**-ru	wak-**e**-ru	'divide'

Japanese (Harley 2008:13–14)

A final possibility is that differences in the form of transitivizers can be attributed to a difference in syntactic function and/or category. Applicatives, which may transitivize a predicate by introducing additional internal arguments, are typically represented with a distinct category Appl.[10] In addition, Pylkkänen (2002) proposes that the aforementioned functions of v are distributed in some languages across two projections: v and Voice. In the remaining sections, I argue that the distinction drawn in Gitksan between transitivizing morphology and transitive inflection is a reflection of precisely this property. I propose that Gitksan is a language where semantic and formal transitivity are split across the heads v and Voice. Transitive inflection such as the transitive vowel discussed in §2.1 is a realization of Voice; the seven transitivizers discussed in §2.2 are possible realizations of v. I argue that none of these transitivizers are in an obvious allomorphic relation to one another; all seem to contribute distinct semantics.

---

[10] In addition, Key (2013) proposes that differences in the form and function of some causatives in Turkish are better accounted for by distinguishing the multifunctional projection v_{CAUS} from a non-iterable projection Caus. With this distinction, he draws a crisp picture of Turkish causative morphology and spellout through reference to the two possible heads v_{CAUS} versus Caus. One might assume a similar possibility for applicatives: the insertion of internal arguments might be conducted by morphemes of the category Appl or a specific flavor of v_{APPL}.
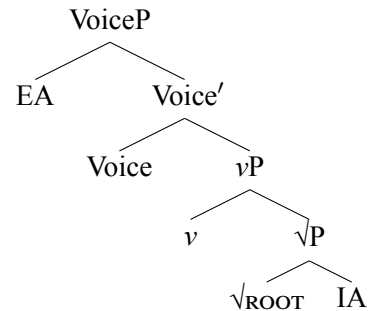
4 On Voice: A split *v*P/VoiceP

Assuming that languages vary parametrically in whether formal transitivity is composed across a single head (*v*) or two heads (*v* and Voice), there are two possible structures for transitive verbs, crosslinguistically. These are illustrated in (27).

(27) a. *Bundled vP*
```
              vP
            /    \
          EA      v′
                /    \
               v      √P
                    /    \
                √ROOT    IA
```

b. *Split vP*
```
                VoiceP
               /      \
             EA       Voice′
                     /      \
                 Voice       vP
                            /   \
                           v     √P
                                /   \
                            √ROOT   IA
```

In so-called 'bundled-*v*P' languages, represented by the tree in (27a), semantic causation, agentivity and the merge of the external argument are conducted by the same head, *v*. In so-called 'split-*v*P' languages, represented by the tree in (24), *v* is a projection responsible for the semantic composition and verbal character of the predicate, including the introduction of causation and agentivity. (It is generally assumed that *v* projections may iterate.) Voice is a strictly non-iterable projection that selects *v*P as its complement, merges the external argument in its specifier, and assigns transitive case (ACC and/or ERG).

Bundled *v*P languages consequently have a very tight relationship between the use of a transitivizer or causative (*v*) and the appearance of the external argument. In split-*v*P languages, this relation is more indirect; transitivizers or causatives may be used (*v*), but Voice is the locus of syntactic transitivity. Passive constructions provide a diagnostic for differentiating the two types of language, because they involve the addition of agentive or causative semantics even in the absence of syntactic transitivity.
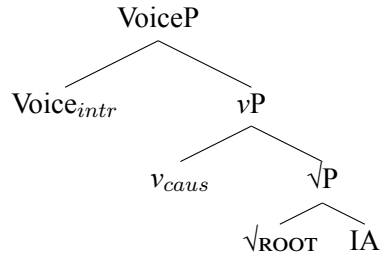
In Distributed Morphology, for a bundled-*v*P language, a passive structure involves a causative *v* which does not merge an external argument, as illustrated in (28). The existence of the causer can be inferred and retrieved from the causative semantics of *v*. Crucially, this might be morphologically instantiated by a causative morpheme, or an intransitive/passive morpheme, but not both.

(28)
```
                vP
              /    \
       v_{caus,intr}   √P
                      /    \
                  √ROOT    IA
```
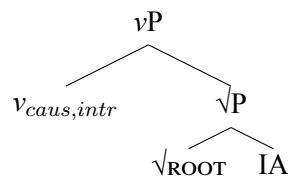
In a split-*v*P language, passivization (like transitivization) proceeds in two distinct steps: *v* introduces causative semantics and agentivity, and intransitive Voice does not merge an external argument, as illustrated in (29). Each of these steps can be morphologically instantiated: *v* as a causative morpheme, and Voice as a passive. Split languages can therefore be diagnosed where intransitive or passivizing morphology stacks outside an overt morphological causative or transitivizer.

(29)

```
                              VoiceP
                         ╱──────────╲
                   Voice_intr        vP
                               ╱──────────╲
                          v_caus          √P
                                     ╱────────╲
                                 √ROOT        IA
```

One crucial assumption of the Distributed Morphology framework is *monotonicity*: syntactic structure only adds material; it cannot delete it. This means that transitive structures can be built upon non-transitive ones, but non-transitive structures cannot be built from transitive ones. Once a DP has been added to a structure, there is no way for it to be deleted. In languages where causative morphology appears inside of the passive morpheme, it cannot be the case that the projection hosting the causative morpheme is the point where the causer DP is merged, because that DP would subsequently have to be deleted in order for the construction to be passivized.

In Gitksan, we find that causative and passive morphology can be stacked, in the manner expected of split-*v*P languages. Overtly causative verbs like *jiks-in* 'wet, moisten' can be used as transitives as in (30), or be morphologically passivized with *-xw* as in (31).[11]
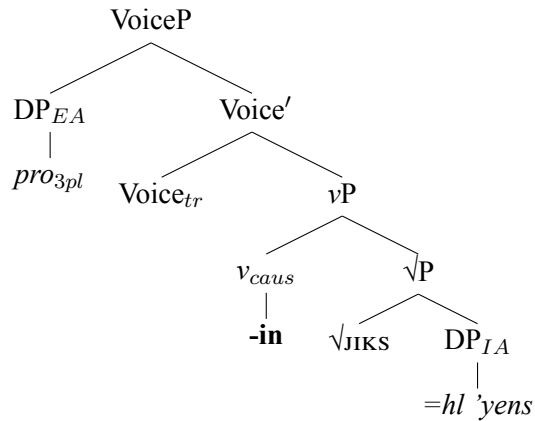
(30) Hliwaay'ildiithl   bilaas ganhl   aks   iit   jiksindiithl   'yens...
      hliwaax-'l-diit=hl   bilaas gan-t=hl   aks   ii=t   jiks-**in**-diit=hl   'yens
      mix-COMPL-3PL.II=CN syrup and-3.II=CN water and=3.I wet-CAUS-3PL.II=CN leaf
      'They stir together the syrup and water and they wet the thimbleberry leaves...'   (VG)

(31) Huxwdii jiksintxwhl   ksuu'w.
      huxw=dii jiks-**in**-**xw**-t=hl   ksuu'w
      also=FOC wet-CAUS-NACT-3.II=CN hemlock.bark
      'The ksuu'w (hemlock inner bark) is also moistened.'   (VG)
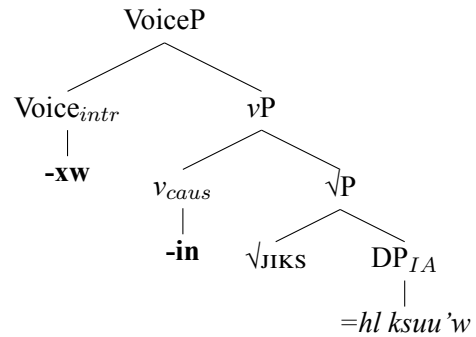
This is consistent with an analysis of Gitksan as a split-*v*P language. I consequently propose the following structures: a transitive construction like (30) can be represented with a causative *v* *-in*, topped by a transitive Voice head which merges the external argument, as in (32), while a passivized construction like (31) can be represented with the same causative *v* topped by an intransitive Voice head, as in (33).

---

[11] It has been noted that Gitksan does not have a 'syntactic' passive, in the sense that the external argument is suppressed or realized in a PP and the internal argument is promoted to subject position (Hunt 1993:68; Rigsby 1986:334). The lack of internal argument promotion is incidental to the analysis of *-xw* here as a passive morpheme or realization of Voice. Promotion of arguments to 'grammatical subject' position is governed by properties of T/Infl, not by Voice; there is no obvious evidence for a grammatical subject position at the T/Infl level in Gitksan, or other types of A-movement. It is also uncommon for the Gitksan passive agent to be expressed, even as an oblique PP, but this is again incidental, given that passive *by*-phrases are not taken to be derivationally connected to the absence of the external argument. Instead they are simply adjuncts.

(32) *Transitive: '=t jiksindiithl 'yens' (30)*

```
                    VoiceP
                   /      \
              DP_EA        Voice'
               |          /      \
            pro_3pl   Voice_tr    vP
                             /        \
                        v_caus        √P
                          |          /    \
                         -in    √JIKS    DP_IA
                                           |
                                        =hl 'yens
```

(33) *Passive: 'jiksintxwhl ksuu'w' (31)*

```
                  VoiceP
                 /      \
          Voice_intr     vP
              |         /    \
             -xw    v_caus    √P
                      |      /    \
                     -in  √JIKS   DP_IA
                                    |
                                 =hl ksuu'w
```

The use of the causative morpheme *-in* does not correlate directly to the merge of the external argument DP. What instead correlates to external argument merge and grammatical transitivity is, in independent clauses, the transitive vowel, and in dependent clauses, ergative clitics, as stated in §2.

I propose the following possible instantiations of Voice. For intransitives, Voice is typically zero; in passives it is the morpheme *-xw*. The instantiation of transitive Voice varies based on clause type. In independent clauses, the inflectional transitive vowel marks transitive Voice; in dependent clauses the ergative clitics mark transitive Voice—specifically, agreement that transitive Voice undergoes with the ergative subject, presumably through spec-head agreement (Coon 2017; Woolford 1997, 2006). This aligns with the intuitions of earlier analyses where the transitive vowel was directly glossed as 'ergative case', even though it is part of the verbal complex (Hunt 1993; Jelinek 1986); in both clause types, these morphemes have the tightest relation to an ergative DP.[12] Forbes (2018) presents some discussion on implementing the difference between the two clause types; there I suggest that in independent clauses, ergative agreement features are transfered to a higher head (where Series II suffixal agreement takes place), and transitive Voice is consequently impoverished. The Series II suffixes shift to an ergative pattern, and the impoverished transitive Voice is realized as the transitive vowel.

To summarize, I have proposed that morphological transitivity in Gitksan is distributed across two projections: *v*, for verbalization and semantic causation; and Voice, for external argument merge and grammatical transitivity including ergative agreement. Below both of these projections is the lexical Root. Having attributed the transitive vowel morpheme from §2.1 to Voice, it follows that all other 'transitivizers' discussed in §2.2 should be located at the level of *v*P. The next section examines this result in greater detail.

---

[12] Hunt (1993) proposed a TransitiveP (TrP) to host these morphemes; in her analysis, the transitive vowel is located in the head of TrP while the Series I ergative clitics are located in the specifier. The Voice projection I propose here is essentially a combination of Hunt's TrP (locus of transitive vowel and ergative agreement) and higher VP (where the external argument is merged), motivated by the crosslinguistic literature on VoiceP. In this Voice analysis, the external argument is merged in spec-Voice, and the head of Voice conducts ergative agreement and may be spelled out as ergative clitics or the transitive vowel.

5 On the *v*P-level

If the previously described transitivizing morphemes (*si-*, *-xw*, *-T*, *-in*, *di-*, *sil*, *gun*) are inserted at the *v*P level, what are their underlying morphosyntactic representations? Are some of these morphemes semantically and syntactically distinct, in which case they should be modeled as distinct flavors of *v*, or are some of these morphemes semantically identical, standing in an allomorphic relation with one another? Below, I argue that all the transitivizing morphemes I discuss are distinct flavors of *v* associated with different semantics or argument structure; none are allomorphs of the same head conditioned by specific Roots. However, this does not mean their semantic contributions can be easily pinned down. In §5.1 I point out some areas where use of the transitivizers triggers distinct interpretive effects for the same root. In §5.2 I discuss constructions where multiple transitivizers are used at one time, sometimes to no obvious semantic effect.

5.1 Distinct semantic flavors and argument structure

The semantic contrast between the three causatives *si-*, *-in*, and *gun* has already been established (Belvin 1997; Peterson 2006): *si-* selects states while the other two select events, and only *gun* requires a volitional complement. In addition, *si-* seems to place some sort of restriction on possible causers; as illustrated in (34), books are unable to cause someone to sleep if the verb *si-wok̲* 'make sleep' is used (34a), but this is perfectly acceptable with the verb *wog̲ -an* 'make sleep' (34b). [13]

(34) a.　Woganhl　　　　　　ha'niilitsx̲xw　'nii'y.
　　　　wok̲-**in**-i-t=hl　　　ha-'nii-litsx̲xw　'nii'y
　　　　sleep-CAUS-TR-3.II=CN　INS-on-read　　1SG.III
　　　　'The book put me to sleep.'　　　　　　　　　　　　　　　　　　(HH)

　　 b.　#Siwog̲ohl　　　　　ha'niilitsx̲xw　'nii'y.
　　　　si-wok̲-i-t=hl　　　ha-'nii-litsx̲xw　'nii'y
　　　　CAUS-sleep-TR-3.II=CN　INS-on-read　　1SG.III
　　　　Prompt: 'The book put me to sleep.'
　　　　HH: It's like the book has arms, it's more physical.　　　　(HH)

Several of the other morphemes can be distinguished by virtue of being able to attach to the same root. Even the two comitatives can both combine with the root *yee* 'walk, go', as demonstrated in (35).

---

[13] This restriction is not simply an animacy restriction; as shown in (i), cold air is a possible causer when something is made to freeze with *si-daw*.

(i)　Sidawihl　　　　　sag̲am　　bahasxwhl　　majag̲alee.
　　si-daw-i-t=hl　　　sak̲-m　　bax̲-asxw=hl　majag̲alee
　　CAUS-ice-TR-3.II=CN　cold-ATTR　run-ANTIP=CN　flower
　　'The cold wind froze the flower.'　　　　　　　　　　　　　　　　(BS)

Perhaps a better restriction would be one of teleological capacity, as proposed by Folli and Harley (2008). This requires additional investigation.

(35) a. Woy ii dip diyeet g̲o'ohl jayn dipun...
    woy ii dip **di-yee**-t g̲o'o-t=hl jayn dip=xwin
    so and 1PL.I COM-go-3.II LOC-3.II=CN Chinese ASSOC=DEM.PROX
    'And we went to the Chinese with it...'   (VG)

b. Yukw na sil sa'ap yeehl ansiip'insxwi'y.
    yukw na **sil** sa'ap **yee**-t=hl an-siip-in-asxw-'y
    IPFV 1.I COM without.purpose go-3.II=CN NMLZ-ache-CAUS-ANTIP-1SG.II
    'I am walking with my friend.'   (BS)

This demonstrates that it is not strictly the property of the root as being *directional* or *non-directional* which conditions the difference between *di-* and the more general *sil*.

Morphemes which provide the same root with distinct interpretations must themselves be distinct syntactic and/or semantic entities. The examples below demonstrate that the root *bax̲* can be combined with *-in* (36a), *di-* (36b), and *-xw* (36c), to different interpretive and argument structural effect. In the latter two cases, part of the interpretation is also contributed by directional preverbs.

(36) a. Yukwhl dim bahani'mhl aks.
    yukw=hl dim **bax̲-in**-'m=hl aks
    IPFV=CN PROSP run-CAUS-1PL.II=CN water
    'We will run the water.'   (VG)

b. T'aahlakw dim dip k̲'ali dibahan goohl Gisbayakws...
    t'aahlaxw dim dip k̲'ali **di-bax̲** -n goo=hl Gisbayakws
    tomorrow PROSP 1PL.I upstream COM-run-2SG.II LOC=CN Kispiox
    'It's tomorrow that we'll run you up to Kispiox...'   (Rigsby 1986:293)

c. 'Nii bax̲xwihl kyaahl gan.
    'nii **bax̲-xw**-i-t=hl kyaa=hl gan
    on run-NACT-TR-3.II=CN car=CN tree
    'The car ran into the tree.'   (BS)

The first of these is a causative, wherein a causer acts upon a causee; the second is a comitative (I suggest a comitative applicative), wherein an actor undergoes motion with an accompanying object; and in the last a figure takes a position against a ground, which serves as the object.

A further contrast using the root *t'aa* 'sit' can be drawn between the suffixes *-xw* (37a) and *-T* (37b).

(37) a. Gipaykwhl ts'uuts' lax̲'u'y iit 'niit'aatxwhl gan.
    gipaykw=hl ts'uuts' lax̲-u-'y ii=t 'nii=**t'aa-xw**-t=hl gan
    fly=CN bird on-top-1SG.II and=3.I on=sit-NACT-3.II=CN tree
    'The bird flew over and landed in the tree.'   (VG)

b. Ii yukwt 'nii t'aadihl hlgu t'ihlxw goohl lax̲ se'et k'i'ihl sa.
    ii yukw=t 'nii **t'aa-T**-t=hl hlgu t'ihlxw goo=hl lax̲ se'e-t k'i'y=hl sa
    and IPFV=3.I on sit-T-3.II=CN small child LOC=CN on leg-3.II one=CN day
    'One day he took a little child on his lap.'   (BS)

The morpheme *-xw* again triggers the appearance of a figure (ergative) adopting a position against a ground (object), while *-T* denotes a more complex version of this event, where a causer (ergative) organizes the placement of the figure (object) against the ground.

For these, it is possible that some conditions on the appearance of *-xw* and *-T* might include complex prepositional structures below the level of *v*, as in analyses of resultatives and Germanic particle verbs (McIntyre 2007, 2015; Milway 2013). It may not be the content of the root, but instead these structures which condition a difference between these two morphemes. In general, a wider dataset is necessary to come to a clear account of these morphemes and their conditions for appearance.

5.2 Multiple morphemes and semantic redundancy

An important property of these transitivizing morphemes is the fact that several can be used on a root simultaneously. For example, all three causatives can attach to the compatible root *wilaax* 'know', as in (38).

(38) Gwinsiwilaayins   Billhl   Gitxsanimx   as   Gwen.
      gun-si-wilaax-**in**-t=s   Bill=hl   Gitxsan-mx   a-t=s   Gwen
      CAUS-CAUS-know-CAUS-3.II=DN Bill=CN Gitxsan-language PREP-3.II=DN Gwen
      'Bill had Gwen teach the Gitksan language.'
      'Bill had Gwen make someone learn Gitksan.'   (Peterson 2012:9)

Belvin (1997:41) analyzes parallel examples in Nisg̱a'a as having, at least historically, three distinct causative event layers. The innermost is *siwilaax* 'learn', a transitive causative verb which he proposes had a reflexive interpretation: 'make (oneself) know'. Next is the transitive doubly-causativized verb *siwilaayin~siwilaak'in* 'teach', in which one causes someone to learn ('make themself know') a subject. Finally, *gun* contributes the final layer of 'having someone teach' the subject.

However, while (38) can potentially be analyzed as having multiple causation events, there are some instances of multiple causatives or multiple transitivizers where this is not possible. The use of two transitivizers—two causatives in (39), and a causative and comitative in (40)—result in only a simple transitive, near-identical in interpretation to a construction where only one of those morphemes is used.

(39) a. Woganhl   ha'niilitsxxw   'nii'y.
          wok̲-**in**-i-t=hl   ha-'nii-litsx̲xw 'nii'y
          sleep-CAUS-TR-3.II=CN INS-on-read   1SG.III
          'The book put me to sleep.'   (HH)

      b. Si-woganhl   ha'niilitsxxw   'nii'y.
          si-wok̲-**in**-i-t=hl   ha-'nii-litsx̲xw 'nii'y
          CAUS-sleep-CAUS-TR-3.II=CN INS-on-read   1SG.III
          'The book put me to sleep.'   (HH)

(40) a. Suu k'eeganhl   ushl   gibuu.
         suu   k'ee<u>k</u>-**in**-t=hl   us=hl   gibuu
         away flee-CAUS-3.II=CN dog=CN wolf
         'The dog chased/scared the wolf away.'   (HH)

    b. Suu dik'eeganhl   ushl   gibuu.
         suu   **di**-k'ee<u>k</u>-**in**-t=hl   us=hl   gibuu
         away COM-flee-CAUS-3.II=CN dog=CN wolf
         'The dog chased the wolf away.'   (HH)

For a simple causative, an argument is introduced to cause some event; in a simple comitative, an argument is introduced to accompany another argument in some event. In a double causative construction, then, the expected interpretation is a complex event wherein A makes B act on C.[14] In a causative + comitative construction, the expected interpretation is one where A is accompanied by B in acting on C, or perhaps A causes B to accompany C in some event. Instead, in both of the examples above, both the causative and comitative semantics map onto an event which involves only two participants, A and B. For the causative + comitative construction, in particular, the interpretation is of A (the dog) causing B (the wolf) to undergo an event *by means of accompaniment*.

This is puzzling from a perspective under which each morpheme participates in the construction of the event through the addition of a new argument or distinct event. Rather, the contributions of each morpheme are more subtle, and seem to challenge assumptions about morphosyntactic mapping.[15] However, these facts remain in support of the general view that semantic transitivity and the business of predicate construction (at the level of *v*P) should be differentiated from grammatical transitivity (at the level of VoiceP).

6 Conclusion

In this paper I have presented description and analysis of 'transitive' morphology in Gitksan, reflecting on the morphosyntactic makeup of transitivity in this language. I have argued that Gitksan is a 'split'-*v*P language in the sense of Pylkkänen (2002), wherein transitivity is distributed across the two projections *v* and Voice. Transitive inflectional marking and ergative agreement occurs at the level of Voice, while an array of transitivizing morphemes, including causative, comitative, and spatial transitivizers surface lower at the level of *v*.

I have suggested that these various lower transitivizers are, by and large, not surface allomorphs of one another, but instead differ in their underlying representation and contribute distinct syntactic and/or semantic information to the Roots to which they attach. However, their precise contributions require further investigation. Relevant to such investigation is not only their semantic contribution

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[14] These examples are not amenable to some earlier accounts of semantically redundant multiple-causation in languages like Japanese or Turkish, in which the causative morpheme is iterated. This iteration has been treated as focal reduplication (Key 2013). The reduplication approach does extend to a situation where multiple causation is conducted by morphologically distinct causativizers. See Peterson (2012) for further discussion on multiple causation in Tsimshianic and Tarascan.

[15] Notably, it seems as if the contributions of each morpheme might not strictly be additive. Recall that the morpheme *si-* from (34b) seemed to place an animacy or volitional restriction on its causer; this is circumvented when *si-* and *-in* are used together in (39b).

when combined with a Root, but also the ways that these morphemes interact with one another, which may more broadly inform our understanding of morphosyntactic and morphosemantic mapping.

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