

ILLUSTRATIONS OF THE IPA

Gitksan

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Gitksan (git) is an Interior Tsimshianic language spoken in northwestern British Columbia, Canada. It is closely related to Nisga'a, and more distantly related to Coast Tsimshian and Southern Tsimshian. The specific dialect of Gitksan presented here is what can be called Eastern Gitksan, spoken in the villages of Kispiox (Ansbayaxw), Glen Vowell (Sigit'ox), and Hazelton (Git-an'maaxs), which contrasts with the Western dialects, spoken in the villages of Kitwanga (Gitwingax), Gitanyow (Git-anyaaw), and Kitseguecla (Gijigyukwhla). The primary phonological differences between the dialects are a lexical shift in vowels and the presence of stop lenition in the Eastern dialects. While there exists a dialect continuum, the primary cultural and political distinction drawn is between Eastern and Western Gitksan. For reference, Gitksan is bordered on the west by Nisga'a, in the south by Coast Tsimshian and Witsuwit'en, in the east by Dakelh and Sekani, and in the north by Tahltan (the latter four of these being Athabaskan languages).

The primary reference on the Gitksan language is Bruce Rigsby's Gitksan Grammar (Rigsby 1986). Earlier work on the phonetics and phonology of the language includes Rigsby (1967, 1986), Wickstrom (1974), Hoard (1978), Ingram & Rigsby (1987), Rigsby & Ingram (1990), and more recently Brown (2008a, b, 2010). The Gitksan orthography presented below was first developed by Bruce Rigsby and Lonnie Hindle in their Short Practical Dictionary of the Gitksan Language (Hindle & Rigsby 1973), with orthographic contributions from Powell & Stevens (1977) in their language learning textbooks.

This Illustration provides an outline of the more prominent features of the phonetics and phonology of Gitksan. Further details of the language can be found in Rigsby (1986) and Brown (2008a). The data presented here are based on the speech forms of two female Gitksan speakers: Barbara Sennott and the late Doreen Jensen, sisters who grew up speaking Gitksan with their parents at home, regularly spoke Gitksan growing up in the village of Kispiox, and the surviving sister continues to do so with other speakers of the language today. The speech of both sisters is representative of the Eastern dialect. The examples presented throughout the text are spoken by Ms. Sennott, with two tokens for each form. The narrative at the end of the text is told by Mrs. Jensen.

Consonants

	Bilabial	Alveolar	Palatal	Pre-velar	Labialized velar	Uvular	Glottal
Plosive	p	t		k ^j	k ^w	q	?
Affricate		îs					
Glottalized plosive	p'	ť'		k ^j '	k ^w '	q'	
Glottalized affricate		îs'					
Glottalized lateral affricate		îł'					
Nasal	m	n					
Fricative		S		X ^j	x ^w	χ	h
Lateral fricative		4					
Approximant			j		W		
Lateral approximant		1					
Glottalized nasal	²m	[?] n					
Glottalized approximant		[?] 1	²j		[?] W		

Gitksan has a rich set of consonants, including a set of glottalized plosives and affricates, and a set of glottalized sonorants. In the notation used here, glottalization is indicated following the segment for plosives and affricates, and preceding the segment for sonorants. This convention partially reflects timing properties, not necessarily a fundamental difference in segment type with respect to ejectives versus glottalized sonorants (see Carlson, Esling & Fraser 2001 for the phonetics of Nuuchahnulth, and Howe & Pulleyblank 2001 generally), and is consistent with the representation of glottalization in the Gitksan practical orthography.

While there do not exist many true minimal pairs, the vast majority of consonants can be shown to contrast in word-initial, prevocalic position. Exceptions are [x] and $[x^w]$, which are partially neutralized with [j] and [w] respectively in word-initial position: the former set only occur before obstruents and the latter set only before vowels. Also, the voiceless plosives and affricates are allophonically voiced prevocalically, thus leaving only pre-consonantal or word-final forms as examples below (voiced allophones will be transcribed throughout). There are no instances of $[^7l]$ in word-initial position (see Krauss & Leer 1981), which may be an accidental gap.

The plain 'velar' plosives and fricatives are usually phonetically prevelar in their place of articulation, though the labialized velar versions are produced slightly more posterior at the velum. Velar versions of the plain stops occur only before [s], [4], which has led Rigsby (1986:

157–159) to suggest that the underlying forms are the prevelars, with a process of velarization that takes place in the environments before an [s] or [1] (see Tarpent 1987 for a similar treatment of Nisga'a). The prevelar variants will be represented with the superscript [1].

The affricate [tt²] is rare in the language, in contrast to other language families in the Pacific Northwest, where the segment type is fairly common. The glottalized plosives and affricates are characterized by glottal closure preceding the oral closure, with ejective allophones in word-initial position. Also in contrast to other language families of the area, including most languages of the Na-Dene stock (Athabaskan and Tlingit) to the north and east, as well as the Wakashan and Salish languages to the south and west, is the lenis nature of these ejective allophones, which can cause them to be perceived as voiced stops and affricates by researchers (see discussion in Ingram & Rigsby 1987, Rigsby & Ingram 1990). These lenis ejectives are also incidentally found in the adjacent Athabaskan language Witsuwit'en (Wright, Hargus & Davis 2002, Hargus 2007). There is an obvious connection between the tendency towards decomposition of glottalized stops into glottal-stop—plosive sequences and their lenis quality. The sonorants are uniformly preglottalized, even in word-initial position. While the raised glottal stop [²] has been used to indicate glottalization for sonorants, the implementation can range from a full glottal stop to creaky voicing during the sonorant (Um 1998: Chapter 5).

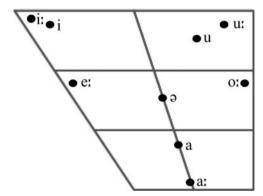
The list below includes examples of each consonant in the environment of a low vowel. Some consonants, namely the voiceless plosives and affricates as mentioned above, do not appear in prevocalic position, and so words were selected in which they appear in postvocalic position. In the list, voiced allophones of stop and affricate phonemes are also presented and exemplified (e.g. [p] followed by [b]). In the orthography, underlining indicates a uvular consonant.¹

	IPA	ORTHOGRAPHY	GLOSS
p	dap	dap	'liver, measure'
[b]	ba:sx ^j	baasx	'to fear'
t	?a:t	aat	'ashes'
[d] k ^j	da:x ^j	daax	'circumference, outer surface'
$\mathbf{k}^{\mathbf{j}}$	łak ^j	hlak	'to bend (vt)'
[g ^j]	g ^j axx ^w	gya <u>x</u> xw	'last night'
$\mathbf{k}^{\mathbf{w}}$	bak ^w	bakw	'to arrive, come from (pl)'
$[g^{w}]$	g ^w a:sx ^w	gwaasxw	'to borrow'
q	?a:q	aa <u>k</u>	'mouth (outer opening), lips'
[G]	Ga:k ^w	gaakw	'sinew'
?	?aks	aks	'water'
\widehat{ts}	bats	bats	'to lift (vt)'
$[\widehat{dz}]$	dzam	jam	'to cook, boil'
p'	'gojp'aχ	goyp'ax	'be bright (of sunlight or light)'
ť'	t'a:p	t 'aap	'to hammer'
$\mathbf{k}^{\mathbf{j}}$,	k ^j 'a:ŀ	ky'aahl	'aside, to one side (verb proclitic)'

Morpheme glosses are based on the Gitxsan Online Dictionary conventions, and are as follows: I = Series I person marker, II = Series II person marker, III = Series III person marker, 1 = first person, 2 = second person, 3 = third person, ANTIP = antipassivizer, ASSOC = associative, ATTR = attributive, AX = A = (transitive subject) extraction marker, CAUS = causative, CL.CNJ = clausal conjunction, CN = common noun connective, CNTRST = contrastive, COMP = complementizer, DEM = demonstrative, DETR = detransitivizer, DIST = distal, DISTR = distributive, EMPH = emphatic, FOC = focus, INCEP = inceptive, INDP = independent, IPFV = imperfective, NEG = negation, NMLZ = nominalizer, PASS = passivizer, PH.CNJ = phrasal conjunction, PL = plural, PN = proper noun connective, PREP = preposition, PROSP = prospective aspect, RESTR = restrictive, SG = singular, SX = S = (intransitive subject) extraction marker, T = 'T' suffix, TR = transitive, VI = intransitive verb, VT = transitive verb. A hyphen (-) marks an affix boundary and an equals sign (=) a clitic boundary.

kw,	k ^w 'ast	kw'ast	'to be broken'
$\frac{q'}{ts'}$	q'a:x ^j	<u>k</u> 'aax	'wing, feather'
îs'	îs'al	ts'al	'half-smoked salmon'
Îł'	îtl'o:kj'	tl'ook'	'mud'
m	ma:ks	maaks	'to wash clothes'
n	naχ	nax	'snowshoe'
S	sa:k ^j	saak	'oolichan'
X	?a¹na:x ^j	anaax	'bread'
$\mathbf{x}^{\mathbf{w}}$	dax ^w	daxw	'to die (pl)'
χ	χatx ^w	<u>x</u> atxw	'to be cold (of a person)'
h	ha:t	haat	'intestines, guts'
ł	ła:	hlaa	'incep'
j	jats	yats	'to hit'
W	wa	wa	'name'
1	la:x ^w	laaxw	'trout'
[?] m	[?] mal	ʻmal	'canoe'
[?] n	³naχ	'nax	'bait'
[?] 1	łi'ba [?] l	hliba'l	'to rub'
²i	[?] jaq	ʻyak	'to set (a snare), to be hanging'
$^{?}j_{^{?}w}$	[?] wa	'wa	'to find, to get to (someplace)'

Vowels



The phonological inventory of vowels for Eastern Gitksan is given above. The inventory for Western Gitksan is slightly different, as it can be argued that an additional long/short contrast for the mid vowels is historically emerging (Rigsby 1986: 202).

There is a great deal of variation in the production of vowels; for instance, the mid front vowel space often overlaps with that of the high front vowels, and the high back vowels can be found in a more high-central position. Variation in low vowel production ranges from the back of the vowel space to the front. The vowels which are phonologically contrastive in stressed position (all except /ə/) are listed here:

	IPA	ORTHOGRAPHY	GLOSS
i:	di:k ^w	diikw	'woman's sister'
i	as'g ^j i	asgi	'to be ugly'
e:	je:	yee	ʻgo (VI SG)'
a:	a:q	aa <u>k</u>	'mouth (outer opening), lips'
a	aks	aks	'water, to drink, be wet'

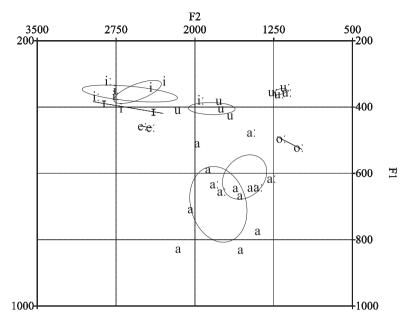


Figure 1 F1 imes F2 plots for Gitksan vowels. Ellipses define one standard deviation. The grid lines mark intervals of 750 Hz for F2 and 200 Hz for F1.

```
'to move in water, to swim (of fish)
      d<sub>1</sub>0:
                  gyoo
      g<sup>j</sup>u:
                  gyuu
                               'beads'
11:
      q<sup>j</sup>uks
                               'to jump (of fish)'
                  gyuks
```

The reduced vowel /ə/ appears in affixes and some function words, and is subject to a great deal of colouring by the neighboring consonantal environment. Adjacent to larvngeal or uvular consonants, /ə/ surfaces as a low vowel [a]:

```
halayt
                              'Indian doctor, shaman'
/həlajt/
          [haˈlajt]
```

In most other contexts, it tends to surface as [1]:

```
/dəm/
       [dim]
             dim
                     'PROSP'
```

Since schwa exhibits such variation (including further variation, to be discussed in the next section), it has been placed in an idealized central location in the vowel chart above.

The qualities for each of the above vowel examples (including the allophones of schwa), as well as the examples illustrating the vowel length contrast below, are illustrated in Figure 1, with ellipses defining one standard deviation.

Vowel length is contrastive, and there are minimal pairs to illustrate this:

```
is
                 'soapberries'
                                                          'necklace'
       [?is]
                                       iis
                                                [?i:s]
t'a
       [t'a]
                'louse'
                                       t'aa
                                                [t'a:]
                                                          'sit'
                'bounce (VT SG)'
dus
       [dus]
                                       duus
                                               [du:s]
                                                          'cat'
```

There are short mid vowels that occur as allophones of the long vowels in positions preceding a sonorant (Rigsby 1986: 199-203). This results in allophonic short mid vowels in Eastern Gitksan (Rigsby notes a few exceptions with either short mid vowels NOT preceding a sonorant, and long mid vowels preceding a sonorant). The following alternations illustrate this shortening:

```
[madzaga'le:]
                                          'flower'
majagalee
majagalee-t
                       [madzaga'le:t]
                                          'his/her flower'
flower-3.II
                       [madzaga'len]
majagalee-n
                                          'your flower'
flower-2sg.II
                       [iuk<sup>w</sup>l t'a:t]
yukw=hl t'aa-t
                                          'he/she is sitting'
IPFV=CN sit-3.II
vukw=hl t'aa-n
                       [iuk<sup>w</sup>l t'an]
                                          'you're sitting (SG)'
IPFV=CN sit-2SG.II
```

Unlike nearby Tlingit, vowel length does not interact with vowel quality, e.g. giving rise to a subsidiary tense-lax distinction (e.g. as reported by Boas 1917; Maddieson, Smith & Bessell 2001 characterize the short vowels as being more centralized). The lack of a vowel quality enhancement based on this contrast makes the distinction more difficult to perceive for researchers working on the language.

Conventions

There are numerous instances of consonant-vowel interactions in the language. As mentioned above, there is a pervasive rule of voicing, whereby plosives and affricates that precede a vowel become voiced. This is illustrated with the following sets of alternations:

```
'he/she ate it'
[qup]
           'to eat (VT)'
                               [ˈqubɪt]
[nɪˈbɪp]
           'maternal uncle'
                               [nɪˈbɪbɪn]
                                            'vour (SG) maternal uncle'
```

While the voicing process affects both plosives and affricates, it does not affect fricatives. Hence, the process provides evidence for the class of plosives and affricates in the language (i.e. as a phonological class of 'stops'). While the fricatives are immune to the prevocalic voicing that affects plosives and affricates, there is a lenition process that affects the voiced uvular plosive [G], optionally rendering it as a voiced uvular fricative [B]; for example, bogabaga 'kiss' is optionally realized as [bogabaga] ~ [,boka'baka]. This optional lenition only affects the uvular plosives (see Rigsby 1967, 1986: 154).

There is also a process that shifts the timing of lip rounding from labialized velar plosives to a following vowel. As Rigsby (1986: 162–164) has pointed out, sequences of an underlying labialized plosive followed by a high front unrounded vowel surface as a plain plosive followed by a high back rounded vowel. The same process applies to schwa, as illustrated below with the alternation found in gipaykw 'fly' and gipaygum jixts'ik 'airplane'. In this example, the epenthetic schwa that occurs between the root and the suffix is rounded to [u].

```
/k<sup>j</sup>əphajk<sup>w</sup> /
                                                          [g<sup>j</sup>1'pajk<sup>w</sup>]
/k<sup>j</sup>əphajk<sup>w</sup>-m
                             tsəx<sup>j</sup>ts'ik<sup>j</sup>/
                                                          [g<sup>i</sup>ɪˈpajgum dzɪxˈts'ɪk]
                                                                                                           'airplane'
fly-ATTR
                                vehicle
```

There is thus neutralization between high front vowels, high back vowels, and schwa following a labialized plosive.

There is pervasive spirantization of velars present in the language, which is also the most prominent phonological feature of the Eastern dialects versus Nisga'a and the Western dialects. As pointed out by Rigsby (1967, 1986), this spirantization is especially evident in postconsonantal plosives, which become fricatives: /qal-ksə/ [galxsə] 'through a corridor or passageway'.

Finally, there is a process of vowel lowering in the language. Within roots, only low or mid vowels are allowed adjacent to uvular and laryngeal consonants (with some exceptions; see Brown 2008a). In morphological contexts, such as affixes and reduplicants, this consonantal effect on the vowel is grammaticized, resulting in an active lowering process whereby a vowel of any height will become a low vowel (see Tarpent 1983 and Shaw 1987 for similar observations on Nisga'a). This is illustrated with the prefix /sə-/ 'pick, gather':

```
[sɪ-ˈmaː²i]
             'pick berries'
                                   [si-ts'aq']
                                                  'dig, gather clams'
[sa-'?is]
              'pick soapberries'
                                   [sa-'Gasx]
                                                  'dig wild rice'
```

The same phenomenon can be shown with reduplication, where reduplicant vowels (reduplicants are prefixes) surface as [u] adjacent to (underlying) labials, as [a] adjacent to uvulars or laryngeals, and as [1] elsewhere.

Adjacent to labials:	[gup]	[g u p-'gup]	'to eat (VT)'
Adjacent to uvulars/laryngeals:	[dzoq] [gos] [hets] [?os]	[dzax-'dzoq] [gas-'gos] [has-'hets] [?as-'?os]	'to camp' 'to jump' 'to send' 'dog(s)'
Elsewhere:	[dzam]	[d͡zɪm-ˈd͡zam]	'to cook, boil (VT)'

Stress

Rigsby (1986: 213–217) is responsible for the primary observations on Gitksan stress. He notes that in lexical words (verbs, nouns, and adjectives), stress falls on the rightmost vowel of the root. Examples include [Ga'ni:s] 'dog salmon' /qəni:s/ and ['la:Galdi'ij] 'I examined it' /la:q-əl-tə-²j/ (examine-?-T-1sg.II) (Rigsby 1986: 213). In compounds stress is found on the rightmost root-vowel of the rightmost member of the compound. In contrast, in preverbs, which have some lexical content, stress is on the leftmost vowel. Phrasal stress in Gitksan falls on the rightmost root-vowel of the head word. Suffixes are invisible to stress assignment (Rigsby 1986: 216 notes only two exceptions).

Syllable structure

The word-level prosodic structure of Gitksan has been previously treated in Wickstrom (1974) and most completely in Rigsby (1986). The syllable template of Gitksan allows for clusters of consonants in onset or coda position, though it does not allow for adjacent heterosyllabic vowels, or major processes of diphthongization (with vowel hiatus resolved through glide formation). Some examples of words with initial consonant clusters include:

```
Word-initial consonant clusters
                                   'clan'
plosive-plosive
                       [pde:q]
plosive-fricative
                                   'grey clay'
                       [psa]
fricative-plosive
                       [x^w dax^j]
                                   'hungry'
fricative-fricative
                       [xwsit]
                                   'autumn'
                                   'meat, flesh; black bear'
fricative-sonorant
                      [smax<sup>j</sup>]
```

Three-member clusters and larger are also found. The following clusters are in word-final position, which, because of consonantal suffixes, is a richer context for clustering:

```
Word-final consonant clusters
```

```
[\chial do:kwt]
plosive-plosive
                                              'his medicine'
                                                                        /xalto:kw-t/
plosive-fricative
                          fts'amtx<sup>j</sup>]
                                              'electricity, flash'
fricative-plosive
                          [kw'ast]
                                              'to be broken'
fricative-fricative
                          [<sup>?</sup>masx<sup>w</sup>]
                                              'to sting'
sonorant-plosive
                          [?ant]
                                              ^{\circ}AX=3.1^{\circ}
                                                                        /2an=t/
sonorant-fricative
                          [sgenx<sup>j</sup>]
                                              'little finger'
```

An example of a larger cluster, involving five consonants in word-final position and derived from affixation is [dzilkstł daw]/tsilks-t=ltaw/(melt-PASS=CN ice) 'the ice is melted'. More detailed discussion of consonant clusters and syllable structure constraints can be found in (Rigsby 1986, Brown 2008b).

Plosive—sonorant clusters (in that sequence), whether heterosyllabic or tautosyllabic, are nonexistent in the lexicon of the language. The mirror image sonorant—plosive sequence is, however, acceptable, whether across a syllable boundary or tautosyllabically in syllable coda position:

```
alp'a ['?al.p'a] 'RESTR' an=t [?ant] 'AX=3.I'
```

This results in a curious gap in consonant cluster sequences in the language. The ban on stop—sonorant clusters does not follow from the sonority hierarchy in onset position (as stop—fricative and fricative—sonorant clusters are allowed), and thus differs from neighboring Salish languages (which strictly obey the hierarchy), as well as from Wakashan and neighbouring Athabaskan languages, which generally allow no complex onsets at all (aside from Witsuwit'en, which does allow limited complex onsets; Hargus 2007: Chapter 19).

Transcription

The narrative text that follows is an adaptation of 'The North Wind and the Sun', which could be appropriately titled 'The Wind and the Sun', spoken by the late Doreen Jensen. The broad transcription and the orthographic version (with morpheme breakdowns) of the text follow.

Broad transcription

juk^wt lə'se:x^wł ba:sx^w Ganł łoxs naːł k^j'a: daχ'g^jadıt as [?]ni'di:t / naːł k^j'a: daχ'g^jadıt dɪs / juk^wt dɪ'se:x^wł di:tł na: dɪm k^j'a: daχ'g^jadıt / dɪs wił 'hag^wɪn [?]witx^wł lixs'g^jadıt i:t ho:xł [?]wi: g^wi'la / i: sa'Go:tx^ws dɪ'pu:st sa'Go:tx^wda: naːł k^j'a: daχ'g^jadıt dɪm ant sa:'gu:dɪːł (g^wɪ'da lɪx) [?]wi: g^wɪ'lał lɪxs'g^jadit gi dɪm 'ho:x^jdi:tł andaχ'g^jatdi:t dɪm i:t sa:'gu:tdi:tł g^wɪ'lał / lɪxs'g^jadıt gi / i: sɪm daχ'g^jatx^wł 'ba:sx^w as sɪm'swanıt / daχ'g^jatx^w [?]nit swan / i: ła: a:mł Ga'[?]nag^wut i: i: het / ne: ap 'łgux^wsɪn^²j / ne:'di:t ne:'di: 'hats' ɪm Gaj dax' juk^wdɪł g^jat lɪxs'g^jadıt gɪł g^wɪ'lat wɪl xatx^j wɪl t'isł 'bahasx^w / i: ła a:mł Ga'[?]nag^wɪt i: het / woj [?]ni:n an'di:t baqt / woj ła di: si't'a:[?]maːł ło:xs gi i: sɪm'g^jamks wɪl wɪl xsa'ʔa:?ixst / i: ła a:mł Ga'[?]nag^wit i:t sa:'gu:dɪł lɪxs'g^jadɪt

gıł 'wi: gwi'lat wıl gjamkt i: / i: heł 'bahasxw / woj 'ni:nł kj'a: dax'gjadıt wıl 'ni:n ant sa: gu:dıł gwı'lał lıxs'gjadıt

Orthographic transcription with interlinear English gloss

The top line of each entry is an orthographic representation. The second line indicates where the affix and clitic boundaries are within words.

```
Yukwt
          laseexwhl
                        bahasxw
                                     ganhl
                                                  hloxs
vukw=t
          laseexw=hl
                        bax-asxw
                                     gan=hl
                                                  hloxs
IPFV=3.1
          discuss=CN
                        run-ANTIP
                                     PH.CNJ=CN
                                                  sun
naahl
           ky'aa
                   daxgyadit
                                          'nidiit,
                               as
naa=hl
           ky'aa
                   daxgyat-it
                                          'nidiit
                               a=s
                                          3PL.III
who=CN
           most
                   strong-SX
                               PREP=PN
```

'The wind and the sun were discussing amongst themselves who was the strongest of them.'

```
naahl ky'aa daxgyadit dis...
naa=hl ky'aa daxgyat-it dis
who=CN most strong-SX time
(false start)
```

Yukwt laseexwdiit dim ky'aa daxgyadit naa yukw=t laseexw-diit naa dim ky'aa daxgyat-it IPFV=3.Idiscuss-3PL who PROSP most strong-SX 'They were discussing who was the strongest.'

```
dis
                                          lixsgyadit
       wihl
                   hagwin
                             'witxwhl
                                                               iit
dis
       wil=hl
                   hagwin
                             'witxw=hl
                                          lixs-gyat-it
                                                               ii=t
                                          different-person-SX
time
      COMP=CN
                   toward
                             come=CN
                                                               CL.CNJ=3.I
```

hooxhl 'wii gwila. hoox=hl 'wii gwila use=CN big blanket

'Just then a stranger arrived wearing a big blanket.'

```
Ιi
                                dipust,
         sagootxws
                                                   sagootxwda
                                                                           naahl
ii
         sa-goot-xw=s
                                dip=ust
                                                   sa-goot-xw-da
                                                                           naa=hl
CL.CNJ
         CAUS-heart-PASS=PN
                                ASSOC=DEM.DIST
                                                   CAUS-heart-PASS-INDP
                                                                           who=CN
ky'aa
        daxgyadit
                                                           'wii
                    dim
                                              guudihl
                                                                  gwilahl
                             ant
                                      saa
ky'aa
        daxgyat-it
                    dim
                                      saa
                                              gii[t]-i=hl
                                                           ʻwii
                                                                  gwila=hl
                             an=t
most
        strong-SX
                    PROSP
                             AX=3.1
                                      awav
                                              take-T=CN
                                                           big
                                                                  blanket=CN
lixsgyaditgi,
                           dim
                                   hooxdiithl
                                                  andaxgyatdiit
                                                                      dim
lixs-gyat-it=gi
                           dim
                                    hoox-diit=hl
                                                   an-daxgyat-diit
                                                                      dim
                           PROSP
                                                   NMLZ-strong-3PL
different-person-SX=DIST
                                   use-3PL=CN
                                                                     PROSP
                                      gwilahl
iit
             saa
                     guutdiithl
                                                    lixsgyaditgi
ii=t
```

ii=t saa guu[t]-diit=hl gwila=hl lixs-gyat-it=gi CL.CNJ=3.I away take-3PL.II=CN blanket=CN different-person-SX=DIST 'And then they decided, they had the idea that whoever was the strongest would make the stranger take off his big blanket, using their power to make him take it off.'

Ii sim daxgyatxwhl bahasxw, sim swanit, daxgyatxw 'nit swan. ii sim daxgyat-xw=hl bax-asxw sim swan-i-t daxgyat-xw 'nit swan CL.CNJ truly strong-PASS=CN run-ANTIP truly blow-TR-3.II strong-PASS 3SG.III blow 'So the wind tried really hard, he really blew at him. He blew very hard.'

```
Ιi
         hlaa
                                               ii
                                                         het:
                  amhl
                              ga'nagwit
ii
         hlaa
                  am=hl
                              ga-'nakw-it
                                               ii
                                                         he-t
                              DISTR-long-SX
         INCEP
                  good=CN
                                                         say-3.II
                                               CL.CNJ
'But after a while, he said:
'Nee.
                hlguxwsin'y.'
        ap
nee
        ap
                hlgu-xw-s-in-'y
        EMPH
NEG
                small-PASS-PASS-CAUS-1SG.II
"I can't do it".'
needii
            hats'im
                                 daxyukwdihl
                                                       lixsgyaditgihl
                       gay
                                 dax-yukw-t-i=hl
                                                       lixs-gyat-it=gi=hl
nee=dii
            hats'im
                       gay
NEG=FOC
            iust
                       CNTRST
                                 firm-hold-T-TR=CN
                                                       different-person-SX=DIST=CN
                                 wil
                                          t'ishl
gwilat
              wil
                      xatxwt
                                                     bahasxw.
                                 wil
                                          t'is=hl
gwila-t
              wil
                      xatxw-t
                                                    bax-asxw
blanket-3.II
             COMP
                      cold-3.II
                                 COMP
                                          big=CN
                                                    run-ANTIP
'The stranger held his blanket back tightly because he was cold, since the wind
was blowing so much.'
Ιi
         hlaa
                              ga'nagwit
                                               ii
                                                         het:
                  amhl
ii
         hlaa
                  am=hl
                              ga-'nakw-it
                                               ii
                                                         he-t
CL.CNJ
         INCEP
                  good=CN
                              DISTR-long-SX
                                               CL.CNJ
                                                         say-3.II
'So a while later, the wind said, he said:
'Woy,
        'niin
                 andiit
                                 bakt.'
woy
        'niin
                 an=dii=t
                                 bak-t
        2sg.iii
                 AX=FOC=3.I
                                 try-3.II
okay
"Okay, it's your turn to take the blanket off the stranger"."
Woy,
       hlaadii
                      sit'aa'ma
                                                             sim
                                       hloxsgi,
                                                    ii
                                                                     gyamks
                      si-t'aa-'ma
woy
       hlaa=dii
                                       hloxs=gi
                                                    ii
                                                             sim
                                                                     gyamk-s
okay
       INCEP=FOC
                      CAUS-sit-DETR
                                       sun=DIST
                                                    CL.CNJ
                                                             truly
                                                                     heat.up-PASS
wil
              aat'ixst.
        xsa
wil
        xsa
              aat'ixs-t
COMP
        out
              come-3.II
'Well, so then the sun started and it got really hot when he came out.'
Ιi
         hlaa
                  amhl
                              ga'nagwit
                                               iit
                                                                     guudihl
                                                             saa
ii
         hlaa
                  am=hl
                              ga-'nakw-it
                                               ii=t
                                                             saa
                                                                     guu[t]-i=hl
         INCEP
                  good=CN
                              DISTR-long-SX
                                               CL.CNJ=3.I
                                                                     take-T=CN
CL.CNJ
                                                             away
lixsgyaditgihl
                                 ʻwii
                                        gwilat
                                                      wil
                                                              gyamkt
lixs-gyat-it=gi=hl
                                 ʻwii
                                                      wil
                                       gwila-t
                                                              gyamk-t
different-person-SX=DIST=CN
                                 big
                                        blanket-3.II
                                                     COMP
                                                              heat.up-3.II
'A little while later, the stranger took off his big blanket, because it was hot.'
Ιi
                    bahasxw:
         hehl
ii
         he=hl
                    bax-asxw
CL.CNJ
         say=CN
                    run-ANTIP
'The wind said:
'Woy,
                      ky'aa
                                                    'niin
        'niinhl
                              daxgyadit
                                           wil
                                                             ant
woy
        'niin=hl
                      ky'aa
                              daxgyat-it
                                           wil
                                                    'niin
                                                             an=t
```

most

strong-SX

COMP

2sg.iii

AX=3.I

2sg.iii=cn

okay

```
guudihl
                                       lixsgyadit.'
                       gwilahl
saa
        guu-[t]-i=hl
                                       lixs-gvat-it
saa
                       gwila=hl
```

different-person-SX take-T=CN blanket=CN away

"Okay, you're the strongest, because it was you who got the blanket off the stranger"."

Acknowledgements

Many thanks go to our Gitksan consultants and teachers, especially the late Doreen Jensen. Thanks to Molly Babel, Clarissa Forbes, Karsten Koch, Zoe Lippsett, Douglas Pulleyblank, Alyssa Satterwhite, and especially to Bruce Rigsby for commenting on an earlier draft. Thanks also to two anonymous reviewers and to Adrian Simpson for extensive comments and guidance. Funding for this project was made possible by a Phillips Fund for Native American Research grant and a Jacobs Fund grant awarded to the first author. Any errors are the responsibility of the authors.

References

Boas, Franz. 1917. Grammatical notes on the language of the Tlingit Indians (University of Pennsylvania Museum Anthropological Publications 8(1)). Philadelphia, PA: University of Pennsylvania Museum.

Brown, Jason. 2008a. Theoretical aspects of Gitksan phonology. Ph.D. thesis, University of British Columbia.

Brown, Jason. 2008b. An unexpected gap in Gitksan consonant cluster phonotactics. In Christiana Christodoulou & John M. Lyon (eds.), Papers for the 43rd International Conference on Salish and Neighbouring Languages (University of British Columbia Working Papers in Linguistics), 14-21. Vancouver: University of British Columbia.

Brown, Jason. 2010. Gitksan phonotactics. Munich: Lincom Europa.

Carlson, Barry F., John H. Esling & Katie Fraser. 2001. Nuuchahnulth. Journal of the International Phonetic Association 31(2), 275-280.

Hargus, Sharon. 2007. Witsuwit'en grammar: Phonetics, phonology and morphology. Vancouver: University of British Columbia Press.

Hindle, Lonnie & Bruce Rigsby. 1973. A short practical dictionary of the Gitksan language. Northwest Anthropological Research Notes 7, 1-60.

Hoard, James E. 1978. Obstruent voicing in Gitksan: Some implications for distinctive feature theory. In Eung-Do Cook & Jonathan Kaye (eds.), Linguistic studies of Native Canada, 111–119. Vancouver: University of British Columbia Press.

Howe, Darin & Douglas Pulleyblank. 2001. Patterns and timing of glottalisation. Phonology 18(1), 45-80. Ingram, John & Bruce Rigsby. 1987. Glottalic stops in Gitksan: An acoustic analysis. 11th International Congress of Phonetic Sciences (ICPhS XI), Talinn, Estonia, 134–137.

Krauss, Michael E. & Jeff Leer. 1981. Athabaskan, Eyak, and Tlingit sonorants (Alaska Native Language Center Research Papers 5). Fairbanks: Alaska Native Language Center.

Maddieson, Ian, Caroline L., Smith & Nicola Bessell. 2001. Aspects of the phonetics of Tlingit. Anthropological Linguistics 43(2), 135–176.

Powell, J. V. & Russell Stevens. 1977. Gitxsanimx: Gitksan language, Books 1 & 2. Kispiox: Kispiox Band.

Rigsby, Bruce. 1967. Tsimshian comparative vocabularies with notes on Nass-Gitksan systematic phonology. Presented at the International Conference on Salish Languages.

Rigsby, Bruce. 1986. Gitksan grammar. Ms., University of Queensland.

Rigsby, Bruce & John Ingram. 1990. Obstruent voicing and glottalic obstruents in Gitksan. International Journal of American Linguistics 56(2), 251–263.

Shaw, Patricia. 1987. Nonconservation of melodic structure in reduplication. In Anna Bosch, Barbara Need & Eric Schiller (eds.), Papers from the Twenty-third Regional Meeting, Chicago Linguistic Society (CLS 23), 291–306. Chicago, IL: Chicago Linguistic Society.

- Tarpent, Marie-Lucie. 1983. Morphophonemics of Nisgha plural formation: A step towards Proto-Tsimshian reconstruction. *Kansas Working Papers in Linguistics* 8 (Studies in Native American Languages II), 123–214.
- Tarpent, Marie-Lucie. 1987. A grammar of the Nisgha language. Ph.D. dissertation, The University of Victoria.
- Um, Hye-Young. 1998. Laryngeals and laryngeal features. Ph.D. dissertation, The University of Texas at Austin.
- Wickstrom, Ronald William. 1974. A phonology of Gitksan, with emphasis on glottalization. MA thesis, University of Victoria.
- Wright, Richard, Sharon Hargus & Katherine Davis. 2002. On the categorization of ejectives: Data from Witsuwit'en. *Journal of the International Phonetic Association* 32(1), 43–77.