Dual-Viewpoint Gestures in Hul'q'umi'num' Storytelling[1]

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Abstract: This paper investigates the strategies used to indicate viewpoint in Hul'q'umi'num' co-speech gestures. Speakers can express events from different perspectives, or viewpoints, such as that of a character enacting the event or an observer watching it take place. This is often conveyed through manual gestures or gaze. Speakers are also able to convey multiple viewpoints simultaneously in what are called dual-viewpoint gestures. Dual-viewpoint gestures are understudied, and in previously studied narratives occur very rarely, but the Hul'q'umi'num' narratives studied here contain dual-viewpoint gestures at a relatively high frequency. This research enriches the existing work on viewpoint by highlighting the number of dual-viewpoint gestures used in Hul'q'umi'num' narratives, proposing a type of dual-viewpoint combination not previously considered, and exploring the connections between Hul'q'umi'num' gestures and communicative strategies used in signed languages.

Keywords: gesture, viewpoint, role shift, gaze, Hul'q'umi'num'

1   Introduction

Storytellers in Hul'q'umi'num' (Salish, British Columbia) make extensive use of gestures during narratives, particularly in action scenes or highly descriptive recollections of personal experiences.[2] The research I present here is part of a larger project that studies Elders performing stories in order to assist younger speakers in their goal of learning authentic Hul'q'umi'num'. This project is the first comprehensive work on gestures in a Salish language. In the study at hand, I examine gestural strategies used in Hul'q'umi'num' to indicate *viewpoint*, that is, the perspective from which an event or scene is viewed or expressed. I focus on instances where multiple viewpoints are expressed simultaneously as dual-viewpoint gestures, a topic that is relatively under-researched in gesture studies.

The following questions are addressed in the present study: (1) how is Hul'q'umi'num' similar to other languages with respect to gestural viewpoint, and (2) how is it different? Preliminary work has led to the formation of additional questions, such as (3) why does Hul'q'umi'num' show a relatively high number of dual-viewpoint gestures, and (4) how does the distribution of these gestures compare to previous work (McNeill 1992; Parrill 2009)?

We might ask why gestures and gestural viewpoint are worth studying. Gesturing while speaking or signing aids in comprehension and production, and it stands to reason that understanding the viewpoint of these gestures will play its own part in facilitating comprehension and production as well (Dargue & Sweller 2020b, 2020a; Goldin-Meadow 1999; Hostetter & Alibali 2008; Stec 2012). Gestures are used to track referents in discourse and can be affected by the discourse status of referents, information which also aids in comprehension and disambiguation (Debreslioska et al. 2013; Koike 2001). This is particularly utile for language learners, and

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[2] For linguistic analysis of Hul'q'umi'num', see Gerdts (2016) and Hukari & Peter (1995).

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gesturing has been integrated into language learning pedagogies with the aim of facilitating production as well.[3] Studying and understanding how Hul'q'umi'num' speakers use viewpointed gestures and then applying these strategies in language learning classes will hopefully prove a valuable teaching and acquisition tool to aid speakers on their path to fluency.

Section 2 provides the necessary background information on strategies relevant to viewpoint in gesture and signed languages and discusses some salient properties of gestures in Hul'q'umi'num'. Section 3 covers the methods of this study, while Section 4 presents key examples and data. Section 5 considers the answers to the questions posed and the implications these results might have for cross-linguistic typologies and future work. I conclude in Section 6 and comment on some challenges of this study as well as how this research may progress.

2   Background

Within the study of gestures and perspective, a distinction is made between *character viewpoint* (C-VPT) and *observer viewpoint* (O-VPT), terms which come from McNeill (1992). In C-VPT gestures, the speaker maps the character's body onto their own, with first-person perspective re-enactments, on a life-sized scale. O-VPT gestures, by contrast, are schematic and show the scene to the audience as if from afar, in third-person perspective (Stec 2012).

The choice of one viewpoint over another has the potential to be modulated by speech. Parrill's 2010 study asks if transitivity or event structures predispose narrators to use a particular viewpoint in their gestures. McNeill (1992) claims that transitive events evoked more C-VPT gestures while intransitive events had more O-VPT gestures, and Parrill addresses this question again with a larger corpus and provides a more detailed account. She also looks at the influence that event structure may have on gestural viewpoint. For example, events describing an entity's trajectory bias towards O-VPT depictions, while events in which a character is holding an object or instrument are accompanied by more C-VPT gestures (Parrill 2010).[4]

In addition to representations of simply C-VPT or O-VPT, it is also possible to combine viewpoints. Although combined gestures have not been the subject of many studies, they are the focus of this paper, and so I start with an overview of works on this topic.

2.1   Dual-viewpoint gestures and body partitioning

Dual viewpoint (D-VPT) gestures arise when multiple viewpoints are expressed simultaneously, either as a combination of Character + Character or Character + Observer viewpoints (McNeill 1992; Parrill 2009). As Parrill notes, gestures that have two characters represented through O-VPT are not D-VPT (Observer + Observer) combinations, as only one point of view is involved in the gesture event (Parrill 2009:278). This would include, for example, a gesture in which each of the

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[3] See, for example, the Accelerative Integrated Method (AIM) developed by Wendy Maxwell (Maxwell 2017), and the Where Are Your Keys (WAYK) program developed by Evan Gardner (Gardner & Ciotti 2018). Downriver Halkomelem (hən̓q̓əmin̓əm̓) teacher Victor Guerin has been using this method in his Simon Fraser University courses.

[4] Other work on interactions between gestural viewpoint and accompanying discourse includes Debreslioska et al. (2013), which addresses questions of how referents are tracked throughout narratives and how this is reflected in what gestural viewpoint is chosen. I have done preliminary research on referent accessibility and its influence on gestural viewpoint in Hul'q'umi'num' storytelling, which is outside the scope of this paper, and as such I will not report it here.

speaker's articulators represents one character in O-VPT. Example 1 below shows gestures of this type, (1a) with two fingers on one hand, and (1b) with two hands.

Example 1: Two characters represented through O-VPT gestures

Figure 1a: Two-finger handshape with two characters

'i ts'u yu hwu'a'lum' kwus wulh m'i yu hwu'a'lum' tun'ni' 'u tthu tsetsuw' 'uw' yu kwun'atul' 'u thu skw'uyuths.
One day, she was coming back home, coming from the beach, together with her slave.
(SG 11.1:36)[5]

Figure 1b: One-finger handshape with one character per hand

'i' wulh hwthqw'ustul 'u tu'inulh yu 'i'mush.
They met up with someone walking.   (SG 12.1:42)

While these gestures represent two characters, they are both seen by the observer from the same perspective, and as such are not D-VPT gestures.

When viewpoints are combined, one or multiple articulators can be used. Table 1 below comprises the possible viewpoint combinations identified in McNeill (1992) and Parrill (2009), with a final type I propose. The numbers associated with each type are my addition, and the types are slightly reorganized from Parrill's paper.

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[5] All examples are given with metadata in the format (StoryAbbreviation line-number(s).gesture start time).

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Table 1: Viewpoint combinations

Articulators	Type	Viewpoints	Description
One articulator	1	O + C	Character + same character's trajectory
	2	O + C	Character + another character's trajectory
	3	C + C	Chimera (two different characters)
	4	C + C	Chimera with point
Two articulators	5	O + C	Character + same character's trajectory
	6	O + C	Same character trajectory + manner
	7	O + C	Character + another character's trajectory
	*8	C + C	Chimera (two different characters)

Types 1, 3, and 4, when one articulator is used, are the combinations that McNeill discusses in his 1992 book, though he makes a distinction between Type 3 (*chimeras*, representations of multiple characters) used by children and those used by adults. This was because he did not see any uses of Type 3 by adults, only Type 4 chimeras which involve pointing gestures rather than the enactment gestures typical of children (McNeill 1992). Parrill's data include an example of a Type 3 gesture produced by an adult, and in numbering these combinations I collapsed the age distinction. The paper by Parrill introduces viewpoint combinations using two articulators and adds Types 5–7 to the typology, and also identifies Type 2 as a possible combination, though they do not observe any instances of this latter type.

In addition to the seven viewpoint combinations in Table 1, I propose an additional combination, Type 8. This combination could be called a chimera using two articulators. Type 8 is not a part of Parrill's extended typology of viewpoint combinations, but I do not see a valid reason to exclude it. An ASL signer can produce an utterance during which one hand represents one character's hand, and the other a different character's hand, both engaged in a distinct and semantically meaningful action. One example of this is a signer's description of driving down the highway and being told to move off the road. The signer's right hand was in C-VPT miming gripping a steering wheel, while her left hand, also in C-VPT, was showing a police officer waving and motioning the car to move to the side (Terry Janzen, personal communication, December 2020). We see that Type 8 combinations — using multiple articulators where each articulator represents a different character, both seen from C-VPT — are well-formed in ASL (see also Dudis (2004)). Gestures of this type are also seen in the narratives I studied, and therefore this combination should be included in the typology of D-VPT combinations.

When multiple articulators are used, the D-VPT is accomplished through *body partitioning*, which is when part of the body represents one entity, and another part represents a different entity (Dudis 2004). Dudis proposes four main partitionable zones: the two manual articulators (hands), the oral articulators, and facial expression. Though less explicitly stated, Dudis provides examples in which the body, and gaze as divided from the rest of the facial expression, are also partitionable zones. This is a key assumption that will become important to the account of D-VPT gestures I present here. Additionally, in Parrill's account, she includes an example of a speaker's legs acting as a partitioned articulator (Parrill 2009:282). Body partitioning, though introduced by Dudis in respect to ASL, can easily be applied to gesture studies as well, as he himself acknowledges. The

availability of multiple partitionable zones of the body is not limited to sign language users, and similar strategies are used in both gesture systems as well as signed languages. Certain parts of the human body have "functional autonomy", as Dudis says, and all speakers and signers take advantage of this.

Previous accounts skirt around the connection between these D-VPT combinations and the use of body partitioning in signed languages, but they fall short of developing a satisfying discussion. Parrill (2009:287) acknowledges in the conclusion of her paper that body partitioning may be "another avenue of research," though does not do this herself. Quinto-Pozos and Parrill (2015), makes explicit mention of the fact that American Sign Language users combine certain classifiers in O-VPT with depictions in which their bodies are C-VPT stand-ins for characters, but do not call these combinations dual-viewpoint nor even address this as a possibility. I question why this has not been done, and I hope to further explore the relationship between strategies typically used in signed languages and those used in gesture.

One reason previous authors have not done this could be the relative rarity of D-VPT gestures in the existing literature; with so little data it is possible that this comparison would not be fruitful. Another factor may be the properties of the D-VPT gestures themselves. The corpus used by Parrill either does not contain speakers' use of classifiers, or if they do exist, she does not mention it in her work. This lack of classifiers may result in a smaller number of D-VPT gestures. However, the data I am working with have a unique advantage in both of these factors. In Section 2.3 I will show that the speaker does appear to use classifier forms, and we will see in Section 4 that the number of D-VPT gestures is much higher than in other gesture studies. First, I outline select strategies used in sign languages that will be relevant to the discussion of Hul'q'umi'num' co-speech gestures.

2.2   From signed languages: classifiers and role shift

Two communicative features used in signed languages are strongly reflected in the storytelling I study, and I cover their foundations before turning to how they appear in my research.

Classifiers

Simultaneity is often thought to be a property unique to signed languages. This refers to the expression of multiple, distinct pieces of information across different articulators, e.g. each hand (Vermeerbergen et al. 2007). Sign language users can achieve simultaneity in a variety of ways by combining manual articulators, or by using oral and manual articulators together (Perniss 2007; Sáfár & Crasborn 2013; Sandler 2009; Vermeerbergen & Demey 2007). Spoken languages, by contrast, generally have sequentially organized components. However, when we consider co-speech gestures alongside utterances, some of the ways in which signed languages utilize simultaneity can be applied to our discussion as well. In particular, I focus on manual simultaneity and the ways classifiers are used.

In signed languages, classifiers are nominal or predicational expressions of entities or referring expressions (Leeson & Saeed 2012; Suppalla 1986; Swabey 2002). Broadly speaking, they can identify and then optionally say something about some entity or entities. These can be subdivided into classifier *handshapes*, or classifier *constructions*. Classifier handshapes act as pronouns to previously established discourse referents and can function similarly to a point, or as a placement of or reference to an object or entity. Classifier constructions, on the other hand, are an expression of both the entity and a predicate; they are verb constructions using a classifier handshape (Barberà & Quer 2018). Example 2 shows a classifier construction used in both American Sign Language and British Sign Language, for the sign FALL (appears as figures 9a and 9b in Cormier et al. 2012).

Example 2: Classifier construction in ASL/BSL (Cormier et al. 2012:337)

Figure 2: Biped /V/ entity handshape used in ASL/BSL sign FALL

Figures 3a and b: Lexical sign FALL in ASL/BSL

The image in Figure 2 shows the inverted V handshape used in ASL and BSL originally to represent two-legged entities, which is extended to refer to other objects or entities when used in the sign FALL. Articulation of this sign is shown in Figure 3, where the signer moves their hand in this classifier handshape down and outwards from their body, iconically depicting something falling.

Use of classifiers in signed languages is sometimes tied to notions within Information Structure, namely referent accessibility and discourse status, though this falls beyond the scope of the current paper; but see for instance Barberà and Quer (2018), Janzen (2007, 2020), and Swabey (2002). The status of classifiers has been debated in signed language linguistics (see, e.g. Schembri (2003)), but this debate does not affect my work and as such I will continue to use this terminology when discussing my data.[6]

Role Shift

While not related to simultaneity or D-VPT gestures, *role shift* is another way that signers express viewpoint in their utterances which we can apply to the discussion of gesture as well. *Role shift* (also called referential shift, constructed action, or surrogate blends) is one of the ways signed

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[6] At issue is whether classifiers and classifier constructions in signed languages are linguistic or gestural, or if they can be compared to classifier systems in spoken languages.

languages represent a change in point of view (Earis & Cormier 2013). In role shift utterances, the "signer imitates typically a human or animate referent by taking on one or more attributes of that referent, such as facial expression and/or body position" (Loew 1984 via Earis & Cormier 2013:314). This is usually marked through a physical shifting of the body, most commonly the torso, or through movement of gaze. Role shift can be thought of as a type of C-VPT depiction of the referent that is being represented, as the signer takes on that entity's perspective. These same concepts hold in co-speech gestures (Koike 2001; Stec et al. 2017), and I see this strategy used in my research as well.

2.3   A brief overview of gestures in Hul'q'umi'num'

My study of Hul'q'umi'num' gestures comprises four narratives told by the late Kwa'mutsun elder Sti'tum'at, Dr. Ruby Peter.[7] These stories (Peter 2011a, 2011b, 2011c, 2011d) were filmed in August 2011 in Duncan, British Columbia. Transcriptions and translations are by Dr. Peter and Donna Gerdts. Jason Loutitt did the filming, Zoey Peterson the video post-production, and Donna Gerdts the sub-titles.[8] As this research is still in the early stages, it is important to note that the gesture patterns I present here are tendencies noticed in only one speaker's narratives. Future work remains to be done on different genres of speech and with different speakers.

In Dr. Peter's storytelling, some of the most salient gesture strategies she uses are consistent with cross-linguistic research on gesture. She frequently repeats a gesture when it occurs with an action or event that is distributed over some amount of time.[9] This repetition can refer to either short-term repeated events, such as a character leaving threads of a shawl on tree branches to form a trail, or more habitual actions, such as a character regularly bathing her son with a balsam branch and shaking it out into a stream. Of note is that I did not find any instances where the number of repetitions of a gesture was meaningful, in that the actions or entities she describes in her speech never had a discreet, countable number of iterations (but see Schlenker (2020) for example and discussion of this). Often, but not always, her speech contains a repetition of the verb or phrase as well.

One type of gesture seen frequently in Dr. Peter's narratives involves specific handshapes, reminiscent of the classifiers discussed above. There are two handshapes I see in the narratives I study; one where Dr. Peter's hand is closed with only her index finger extended, used when characters are walking or when small creatures are flying, and the other where her hand is flat, fingers held together, which can also be used when human characters are walking but is primarily used when larger creatures are flying. When consulting with Dr. Peter about some of her gestures, I asked if the index-extended handshape could be used with a large bird character in a particular story, and she offered a comment on the CL1 versus CLF handshape indicating a size distinction. Examples of both handshapes are given below in Example 3; in my coding, I have labelled the former handshape CL1[10] and the latter one CLF.

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[7] Dr. Peter learned these stories from her parents Xitsulenuhw, Basil Alphonse, and Qwulsimtunaat, Cecilia Alphonse.

[8] All four stories can be found at the following link, with videos and Hul'q'umi'num' transcripts with English translations: http://saalhsqwal.hwulmuhwqun.ca/ruby-peters-stories/.

[9] See e.g. Huijsmans & Mellesmoen (2021) for discussion of pluractionals in ʔayʔaǰuθəm, a Central Salish language.

[10] Note that this is the same as a handshape in BSL which is used to represent an upright person or stick-like entities (Cormier et al. 2012:332).

Example 3: Classifier handshapes in Dr. Peter's narratives

   3a: CL1 – index finger extended

Figure 4: Little Wren going for a walk (LW 1:40)

3b: CLF – hand flat

Figure 5: CLF; Thunderbird Flying (TO 13:10)

Every time CL1 is used for Little Wren, Dr. Peter is implicitly encoding semantic information about the size and shape of him (small and humanoid), though this is not reflected in the speech. A kind of simultaneity here is possible by use of the classifier, like what is seen in signed languages, by combining modalities. We might ask then what kind of information, if any, is simultaneously represented when CL1 is used for a human referent as they are not small in the same way Little Wren is. I am curious also as to what CLF is doing, and if there is more to simultaneity here, since it seems to be less strictly governed and is not as iconic in appearance compared to CL1.

    With one exception, all of the gestures I have seen using these handshapes are like classifier constructions, expressing the entity in question and some type of action, as opposed to a classifier handshape that simply represents the referent without any predication (Barberà & Quer 2018). The choice between these two handshapes is not always clear, but some tendencies certainly arise, based on aspects such as size of character and type of motion. On some occasions it can be difficult to tell

whether Dr. Peter is using a CLF handshape or is simply gesturing with an open hand, as she often depicts the landscape or points to locations with the same basic handshape. In these cases, it can usually be told from surrounding discourse context as well as preceding gestures if she is indeed gesturing with the CLF handshape.

Dr. Peter's use of gaze is usually relatively subtle. Her resting gaze is typically slightly downward and to the left, and she rarely looks to the audience, which in this case is only one person, linguist Donna Gerdts. Gaze is used meaningfully in some D-VPT gestures (discussed further in Section 5.1) and in sequences of dialogue between two characters. This latter use is of particular interest to me. There is relatively little gesturing with the hands during dialogue compared to the rest of the stories; Dr. Peter's hands are almost unnaturally in resting position, contrasting with the frequency with which she gestures outside of dialogue. In sequences of dialogue, rather than an overt type of body shift (e.g. leaning or repositioning self), Dr. Peter's gaze moves left and right as characters take turns in conversation. Her gaze appears directed towards the addressee, with Dr. Peter's body standing in for the speaker as opposed to looking towards the speaker. We can identify that she is embodying the speaker rather than the addressee based on where she has set up the referents in space prior to the dialogue. An example of gaze change is given in Example 4.

Example 4: Gaze change in a dialogue sequence

Figures 6a–c: Gaze switching from right to left and to right again

wulh m'i tetsul tthu shhwum'nikws, "ha'! tuw' swuy'qe' wa'!"
Her uncle arrived, "Hey, that's maybe a boy!"

"'a.a.a! 'uwu! 'uwu, shmuthi'elh. slhelhni' thunu qeq!"
"No, no, Uncle. My baby is a girl!"

"a.a.a! shme'tth'un'qun ch, na'ut 'uw' sxuxits tthu shqwultuns."
"You are lying, I can tell by the sound of his cry."   (QS 25–30.4:19–4:45)

This sequence comes from the story *Q'ise'q and the Stoneheads*. In these lines, a young woman and her uncle are talking. The young woman is located to the right in the story space, and the uncle to the left. These locations for the referents were set up at their first introductions a number of lines earlier.

In shorter sequences of dialogue, referent location and switches are not always well-established, but the longer the dialogue is, the clearer Dr. Peter's gaze change is. Similarly, the longer the dialogue is, the more aligned her gaze changes seem to be with the characters switching back and forth, though it still is not always perfect and may move early in anticipation of the next line. Of additional note is that in these longer sequences of dialogue between two characters, called

closed conversation (Dooley & Levinsohn 2001:50), the linguistic content of Dr. Peter's utterances features fewer markers of who is speaking. She omits mention of the character's names and uses fewer or no speech-reporting verbs. This omission of speech verbs is common in closed conversations in Hul'q'umi'num' narratives, and switches between characters' lines may also be marked by prosody such as vowel lengthening and intonation changes (Gilkison 2020). In Dr. Peter's case, she seems to rely more heavily on her gaze change to signal which character is speaking at that moment.

Additional gesture strategies Dr. Peter uses that fall beyond the scope of this paper include geographically grounding her gestures to real-world spaces (e.g. by gesturing leftwards for places that are east of her, and rightward for west, as she is sitting facing south[11]) and partitioning her body and signing space into two separate sides for two different locations in the story (e.g. gesturing with her left hand when the characters are in one location and her right hand when they are in another).

3   Methods

Three of Dr. Peter's stories have been fully annotated and coded in ELAN (2021), a free video annotation program. The three narratives are "*yu 'um'mush tthu t'ut'um'*", Little Wren Goes Hunting (abbreviated LW), "*s-hwuhwa'us 'i' lhu q'ullhanumutsun*", Thunderbird and Orca (abbreviated TO), and "*q'ise'q 'i' tthu munmaanta'qw*", Q'ise'q and the Stoneheads (abbreviated QS).[12] I annotated all manual gestures but have not looked at facial gestures. Facial gestures are used very subtly by Dr. Peter, and I do not yet know enough about how Hul'q'umi'num' speakers in general use facial gestures to provide confident annotations. As such, this remains to be done in future work.

The final narrative was used as a source on which to base a wider descriptive account of gesture patterns in Hul'q'umi'num' storytelling, as seen above in Section 2.3 and later in Section 5. As my research progresses, this story will also be fully annotated and coded in ELAN in the same fashion.
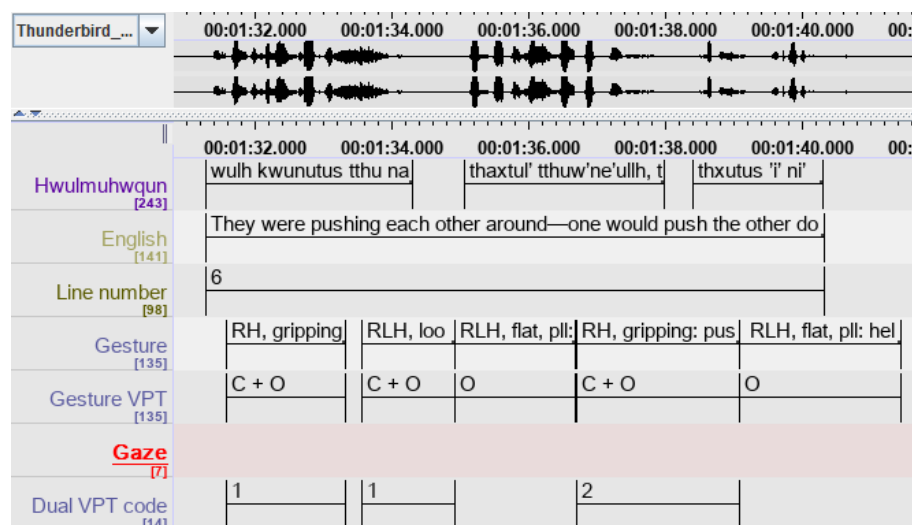
3.1   Annotation and coding scheme

In my annotations, the Hul'q'umi'num' lines are transcribed in the language's orthography, with an English translation and the corresponding transcript line number. Gestures are coded for which hand(s) are active, the handshape, if the gesture is repeated, and, if two hands are active, whether they are moving in parallel or mirrored to each other. The gesture is described briefly in this tier as well. Gesture start time is identified as when the hands begin to move from resting position (which is typically one hand cupped in the palm of the other, or hands clasped together), or when they begin a new path of motion from the preceding gesture. The end time of gesture events is determined by either a return to rest position, if a path of motion comes to a stop, or the start of a new motion. The screenshot below of the ELAN user interface shows an example of the tiers used, taken from the *Thunderbird and Orca* narrative.

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[11] See Haviland (2010) for similarities in pointing gestures in Guugu Yimithirr (Australian).
[12] The remaining narrative is titled "*tse'yul'lhtum' ts'u thu q'e'mi'*", (Snotboy Saves the) Sequestered Girl (abbreviated SG).

Figure 7: ELAN user interface showing tiers used in annotation and coding

Gesture viewpoint is coded as Character, Observer, Dual, or No Viewpoint. A tier is added for gaze, which is annotated only for sequences in which it is used meaningfully (e.g. for role shift), as either Left or Right. Finally, for cases of Dual Viewpoint gestures, they are given a number depending on what type of combination they are, following Table 1. The full set of abbreviations used in annotations is given in the appendix.

Regarding the classifications of No Viewpoint: Parrill identifies certain gestures in her study that lacked motion event content and coded these as No Viewpoint. Her criteria included "rhythmic beat gestures, metaphoric gestures, deictic gestures, or iconic gestures that simply traced shapes" (Parrill 2009:278). In my coding, I similarly assigned N-VPT to beat gestures, deictic gestures (of which there are very few), and iconic gestures tracing shapes clearly not being described by a character, in addition to culturally specific gestures (such as raising the hands palms up when saying "thank you" or talking about one's family and ancestors; or rotating hands back and forth when people are talking). In some cases, there is potential ambiguity between gestures that could be coded as O-VPT and those that are No-VPT. When possible, this is disambiguated by discourse context, or elements in the utterances themselves, like mentions of characters, objects, or locations. It is worth noting that my counts may be impacted slightly by this ambiguity, but I am unable to consult with Dr. Peter further to help with disambiguation, and as such this will remain one potential weakness of this research.

4   Data

In this section I present four key examples and give the breakdown of all gestures coded in the three narratives. The story name and time of start of gesture are given below the images, as well as the Hul'q'umi'num' utterance, English translation, and a description of the gesture as it appears in ELAN.

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4.1   Examples of single- and dual-viewpoint gestures

Dr. Peter displays five out of the eight possible viewpoint combinations in her narratives, but for the sake of space I include examples of only two of these types; the most common type (Type 7), and the novel type I propose to include in the typology (Type 8). First, I show two examples of single-viewpoint gestures common in Dr. Peter's narratives.

Example 5: Single character viewpoint, one articulator

This example, taken from *Little Wren Goes Hunting*, shows Dr. Peter using a C-VPT gesture to represent the character Little Wren using his knife to cut up another character's insides. The gesture is repeated three times in this line.

Figures 8a and b: Single articulator in C-VPT

> yu lhilhuts'utus, yu lhilhuts'utus.
> *And he was slicing with his knife.*
> Gesture: RH, gripping: move from above R shoulder down and L to chest, rep. (LW 37.4:45)

Gestures of this type, using an instrument or holding an object in her hand(s), are conventionally called *handling gestures* and are pervasive in Dr. Peter's narratives. Dr. Peter is right-hand dominant which is likely why most of these handling C-VPT gestures are done with her right hand.

Example 6: Single observer viewpoint, two articulators

In this gesture from *Thunderbird and Orca*, Dr. Peter uses her right hand to represent the character Thunderbird plunging into a creek, represented by her left hand. As mentioned above, since this is two entities in O-VPT, it does not count as a D-VPT gesture but is instead a single O-VPT gesture using two articulators.

Figures 9a and b: Two articulators in O-VPT

sis nem' 'uw' lhakw' sis nem' 'uw' nuqum 'i' 'uwu m'iis tl'e' p'ukw nilh nuw' sht'es 'ul.
He flew and dove into the creek and he never surfaced again.
Gesture: RH, CLF: raise up to R, hold briefly, shoot downwards underneath LH.
  LH, open, palm facing R: hold low slightly to L.   (TO 90.15:00)

While both of Dr. Peter's hands appear to be in the same handshape, I code her right as CLF based on the fact that just earlier in the story, she has been using the same hand and handshape when talking about Thunderbird flying around; this is in contrast to her left hand, which is simply the creek's flat surface.

Example 7: Dual viewpoint, C-VPT + O-VPT, two articulators

Gestures of this type (Type 7 in the typology given in Table 1) were the most common D-VPT in *Little Wren Goes Hunting*. Dr. Peter's hand represents the character Little Wren in O-VPT and her body is a C-VPT stand-in for the character Moose. In this sequence in the story, Wren is flying in and out of Moose's body as he attacks him from the inside. There are two separate gesture events over these two lines, but they both take the same form.

Figures 10a and b: Type 7 dual-viewpoint gesture

"nem' tsun p'e' nuw'ilum 'u tthun' muqsun. nus nem' 'uw' nuw'ilum 'u kwthun' q'uq'i'."
"I'm going to go into your nostril. And I will go through your innards."
Gesture 1: RH, CL1: point to R of nose, move R and D to chin.
Gesture 2: RH, CL1: point to R side of face, trace path R and D to chest.   (LW 28–29.3:48)

This line has two accompanying gestures. Gesture 1 was articulated along with the first sentence in which Little Wren describes going into Moose's nostril, and Dr. Peter's hand in CL1 moves around her nose but no further. In the second sentence, when describing the path Little Wren will take through Moose's body, Dr. Peter's hand then moves further down her chest.

Example 8: Dual viewpoint, C-VPT + C-VPT, two articulators

This final example is the C-VPT + C-VPT combination of the sort I do not see mentioned in Parrill 2009, taken from *Thunderbird and Orca*. Dr. Peter is talking about the young boy, who is to become the character Thunderbird, who was injured and now shoots fire and thunderbolts out of his eyes whenever he opens them. His parents try to help and protect him by covering his eyes with cloth.

Figures 11a and b: Type 8 dual-viewpoint gesture

'a.a.a, tl'i' ni' sht'es, sus 'uw' kwunutum 'i' ni' hwtqetum thu qulum's.
Oh, they were so afraid that they took him and covered his eyes.
Gesture: RLH, open: bring to eyes, palms inward, hold, move mirrored to wrap
          around back of head.   (TO 23.3:57)

Here, Dr. Peter's head, eyes, and facial expression are representing the young Thunderbird, while her hands are C-VPT gestures of his parents. While she is using both hands, they are operating together, and I take them to be acting as one whole articulator. For most of Dr. Peter's narratives, her facial expression is neutral or changes very subtly, but in these lines, she is visibly frowning and scrunching her eyes closed. She does the same thing in slightly earlier lines when the boy's eyes are first injured, another sequence in which her hands represent a different character in C-VPT. I take this to be a definitive example of two articulators depicting two different characters. These Type 8 D-VPT gestures were the most frequent in the *Thunderbird and Orca* narrative compared to other stories.

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4.2　Viewpoint combinations

Basing my coding on the typology from McNeill (1992) and Parrill (2009) as discussed in Section 2.1, I identified the following viewpoint distributions and combinations in the three videos I annotated. In Table 2 below I give counts of each classification of viewpoint, and further break down D-VPT into the types from Table 1.

Table 2: Gesture distributions by narrative and type

	LW	TO	QS	**Total**
Gestures	105	142	165	**412**
N-VPT	22	48	69	**139 (33.7%)**
C-VPT	39	25	45	**109 (26.5%)**
O-VPT	31	55	48	**134 (32.5%)**
D-VPT	13	14	3	**30 (7.3%)**
Type 1	1	2	–	**3**
Type 2	–	1	–	**1**
Type 3	–	–	–	**–**
Type 4	–	–	–	**–**
Type 5	–	3	–	**3**
Type 6	–	–	–	**–**
Type 7	12	2	3	**17**
*Type 8	–	6	–	**6**

D-VPT made up just over 7% of the total manual gestures in the three narratives, and gestures using multiple articulators (Types 5–8) were the most common by far, comprising 86% of all D-VPT gestures. This latter number is in line with Parrill's results, as 95% of the D-VPT gestures in her data were using multiple articulators (Parrill 2009:279). However, the number of D-VPT gestures as a whole greatly differed. In my smaller set of data of only 412 gestures, 30 were D-VPT, or 7.3%; in Parrill's corpus of over 4200 gestures, she found only 18 D-VPT gestures, or 0.4% (Parrill 2009:279) — this is a remarkable difference.

5　Discussion

In this section I aim to situate the frequencies as given above within wider patterns seen in Dr. Peter's gestures and other cross-linguistic work on gestures. I first approach the initial questions that began this study before moving to the specific questions regarding dual viewpoint.

5.1　Distributions of viewpoint

The questions addressed in this section are:

- What are the viewpoint distributions and patterns seen in Hul'q'umi'num' gestures?

- How is Hul'q'umi'num' similar to other languages with respect to gestural viewpoint?

- How is it different?

For the most part, viewpoint in Dr. Peter's narratives is shown through manual gestures, though there are some cases in which gaze is a meaningful and significant articulator. As mentioned above in Section 2.3, in longer sequences of dialogue, gaze is used as the sole articulator to indicate switches between two characters. This is reminiscent of role-shift strategies in signed languages. In these sequences of dialogue, without gaze change to mark changes in which character is speaking, it could become taxing to track who is saying which lines. It appears Dr. Peter is using gaze quite effectively to mark these rapid changes in perspective. Use of gaze in this way has also been looked at for co-speech gestures in other languages (Earis & Cormier 2013; Koike 2001; Stec & Sweetser 2016).

While some authors have found similar results to my own, other accounts show little consistency in speakers' use of gaze. For example, in Earis and Cormier's 2013 study, a comparison is drawn between British Sign Language users and English-speaking storytellers. The speakers were not found to use gaze as a reliable marker of role shift, whereas the signers were. Speakers did not set up particular locations in space for characters in the story, and did not consistently use a given location or direction of eye gaze when denoting a given character (Earis & Cormier 2013). With respect to this study, Dr. Peter's use of eye gaze patterns much more similarly to the signers, rather than the English speakers. Koike reports a complex combination of strategies to indicate role shift in her 2001 study of Japanese conversational storytelling, including the use of eye gaze. She speculates that the speaker may be employing these strategies to disambiguate whose speech is being reported, as conversational Japanese tends to omit the subject of quotations (Koike 2001:391). I believe that Dr. Peter is utilizing eye gaze at least in part for the same reason.

The types of gesture viewpoints that Dr. Peter uses with certain event structures aligns with previous studies by Parrill (2010) and Quinto-Pozos & Parrill (2015). These authors suggest that the event structure of narratives can strongly predispose the narrator to a particular viewpoint (Parrill 2010 p. 663). Namely, events which involve handling of items or instruments tend to bias towards use of C-VPT gestures, while events depicting motion trajectories of characters or other objects tend to bias towards O-VPT gestures (Parrill 2010; Quinto-Pozos & Parrill 2015). Although I do not give the full breakdown of event structure and gestural viewpoint in this paper, these patterns are robustly reflected in Dr. Peter's storytelling.

As seen in the data, the O-VPT gestures slightly outnumbered the C-VPT gestures, which is consistent with previous studies (McNeill 1992; Parrill 2009). In *Little Wren Goes Hunting* there was only a slight difference, similar to what Parrill (2009) saw in her data. In *Thunderbird and Orca* the difference was much greater, with O-VPT gestures occurring almost 2.5 times more often than C-VPT gestures. One possibility is that since Dr. Peter's telling of *Thunderbird and Orca* has many descriptions of thunderbolts coming out of Thunderbird's eyes and scenes of him flying around, both events that indicate some sort of trajectory, these may have biased use of O-VPT gestures. Whereas in *Little Wren Goes Hunting*, there was more of a balance between events with a trajectory, like Wren flying around, and handling-prominent events like holding a knife or knitting.

In *Q'ise'q and the Stoneheads*, the difference between number of C- and O-VPT gestures was marginal, with slightly more O-VPT gestures. What stands out most about the distribution in *Q'ise'q and the Stoneheads* is the total number of gestures. *Q'ise'q and the Stoneheads* is twice as long as *Little Wren Goes Hunting*, but the number of gestures does not scale up quite the same. *Q'ise'q and the Stoneheads* only has around 20 more gestures than *Thunderbird and Orca*, but is one third again as long — why do we not see a higher overall number of gestures in *Q'ise'q and the Stoneheads*? Similarly, the jump in approximately 40 additional gestures in *Thunderbird and Orca* compared to *Little Wren Goes Hunting*, with only an additional three minutes, is also

surprising. One possible reason for this could be that *Little Wren Goes Hunting* and *Q'ise'q and the Stoneheads* both contain more scenes of dialogue between characters than *Thunderbird and Orca*. As I have already discussed, Dr. Peter's manual gestures decrease or sometimes stop entirely during these dialogue sequences. It could be that this affects the total number of gestures in these two narratives.

Most of the D-VPT gestures Dr. Peter uses are accomplished with multiple articulators, which is the same as in Parrill (2010). As we have seen, the greatest differences in Dr. Peter's gestures are the distribution of D-VPT gestures, as well as the use of classifier constructions. These will be discussed in the following subsection. There may also be a difference in genre or culture, though the way this might be reflected in the gesture patterns is difficult to identify in any great detail.[13] The genres of Parrill's 2009 study and my own are not entirely different, but they also are not entirely the same. Parrill's corpus features elicited narratives that speakers told after watching cartoon clips; Dr. Peter was also telling narratives, though without any stimuli, and perhaps cannot be directly compared to Parrill's data. However since Parrill's is the only systematic study of D-VPT gestures, I must content myself with comparing my research to it as best as possible.

5.2   Frequencies and types of dual-viewpoint gestures

In this section I address the following questions:

- Why does Hul'q'umi'num' show a higher number of dual-viewpoint gestures?

- How does the distribution of these gestures compare to previous work?

In general, D-VPT gestures were seen much more than in Parrill (2009); this was my intuition before beginning to code them and is reflected in my findings. This is substantial given the size of my data set; I am working from a corpus of 412 gestures from a single speaker, while Parrill's corpus contains over 4200 gestures from 131 speakers. I have a few thoughts as to why the difference in numbers is so great between my data and Parrill's, and contentions to raise with some points she puts forward. Part of the difference here may be due to the articulators active in the D-VPT gestures I identify. While the basis of Parrill's extensions to McNeill's work on D-VPT gestures rests on including gestures in which "the body takes on one [point of view] and the hands another" (2009:276), in later examples in the paper, they disregard cases in which the body acts as one C-VPT articulator and the hand(s) as another C-VPT articulator for a different character. One of their arguments for excluding facial gestures and gaze is because the relationship between the hands and body and facial gestures does not have well-established coding schemes, but I find this dissatisfying. The face is an articulator in signed languages, and additionally both speakers and signers use facial gestures alongside their utterances (Barberà, 2012; Dudis, 2004; Sandler, 2009; Vermeerbergen & Demey, 2007). There is no reason why the face should not be considered in D-VPT gesture studies as well. There are multiple examples of D-VPT gestures in the narratives I study here in which it would be difficult to deny that the head/body are representing a different character than the hand(s). Additionally, the use of classifier constructions could be affecting the

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[13] Storytelling for Dr. Peter was central to her traditional culture, and she was known to be a particularly effective storyteller in her community. It is possible that her gesture patterns are modulated by this cultural difference (see e.g. Marentette et al. 2004 via Earis & Cormier 2013:318), as compared to Parrill's data, though I cannot be certain, as I do not know the details about the speakers from Parrill's study. In order to say anything conclusive, I need to not only know the background of speakers in other studies better, but also learn more about the culture of storytelling and gesturing in Hul'q'umi'num' itself.

number of D-VPT gestures. There is an increased potential for D-VPT gestures if the speaker can represent an entire character in O-VPT on one hand, particularly once we take the face and body into account as articulators.

I found only one instance of what may be a Type 2 D-VPT gesture, while neither Parrill (2009) nor McNeill (1992) had this combination in their data.

Example 9: Type 2 (O + C, character + another character's trajectory)

Figures 12a–c: Type 2 dual-viewpoint gesture

wulh kwunutus tthu na'nuts'a' kwus thaxtul' tthuw'ne'ullh, thaxtul' ni.i.i thxutus 'i'
   ni' wutl'uts'.
They were pushing each other around—one would push the other down and then he
   would get up and push the other down.
Gesture: RH, gripping: push forward and then down.   (TO 6.1:36)

Dr. Peter first pushes her hand outwards from her, before quickly dropping it down. This could be a depiction of her right hand in C-VPT representing one boy's hand pushing the others, while her dropping her hand down shows in O-VPT the trajectory of a boy who has fallen down. The gesture event was very quick and this is the sole example of its type, and while it looks like it could be Type 2, I am hesitant to say this definitively. No previous work includes a Type 2 combination, but I believe this is what the combination may look like.

As mentioned in Section 4.2, the majority of D-VPT gestures in my data used multiple articulators (86%, n=26), comparable to Parrill's 95% (n=17) (Parrill 2009). In Parrill's results, Type 6 were the most common (O + C, same character trajectory & manner decomposition, n=9) followed by Type 7 (O + C, character + another character's trajectory, n=5). I found no examples of Type 6 in Dr. Peter's stories, but Type 7 were the most frequent (n=17), followed by Type 8 (C + C, two different characters, n=6).

Perhaps there is something particularly salient about a D-VPT combination conveying the location and trajectory of two different characters. It may be more efficient to represent these kinds of events simultaneously, or more visually descriptive and easier to perceive and understand rather than a single-viewpoint gesture or a D-VPT combination of another type. The perceptual and cognitive implications of gesture use are factors I have not delved into yet in my study, and this remains a potential avenue for future research.[14]

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[14] But see Goldin-Meadow (1999), Hostetter and Alibali (2008), Kita (2010), and So et al. (2009).

6 Conclusion

The research presented here has shed a lot of new light on how gestures are used in Hul'q'umi'num' storytelling and provides a foundation on which to build more thorough studies. Hul'q'umi'num' is an under-documented language, like many Indigenous languages; this is doubly true for gesture studies, as my work is the first project on gesture in any Salish language. This study contributes to the cross-linguistic picture of how gesture and gestural viewpoint are utilized. Gesture use in the narratives I studied resembles that of other languages in many ways, but also differs in a few key factors.

The use of classifier-like constructions in Dr. Peter's storytelling stands out from previous work on gesture, especially within discussion of D-VPT gestures. The similarity between certain types of O-VPT and C-VPT gestures has been likened to the use of both entity and handling classifiers by signers (Cormier et al. 2012; Quinto-Pozos & Parrill 2015), but there is not much work discussing speaker's "classifier" gestures in detail. The two constructions seen in Dr. Peter's gestures, using CL1 and CLF handshapes, add to the larger picture of strategies shared across signed languages and co-speech gestures. Dr. Peter's gesturing also shows a consistent use of gaze changes for role shift as compared to previous work. Perhaps the most notable part of this research was the frequency at which D-VPT gestures occur in Dr. Peter's storytelling. D-VPT gestures make up 7.3% of Dr. Peter's gestures, compared to the 0.4% of Parrill's (2009) study of a much larger corpus and many speakers. Explanations for this may connect to Dr. Peter's classifier constructions, and my proposed inclusion of a type of D-VPT combination not present in previous work, one in which different parts of the body represent multiple characters through C-VPT. This combination is justified by analogy to constructions in signed languages that use the same strategy. The data also show a sole example of a possible D-VPT combination that Parrill identified, despite her not finding any uses of it (Parrill 2009).

6.1 Challenges

One of the major difficulties I ran into doing this research was how subjective some gestures can be to code. I encountered ambiguity in whether some gestures were those of a character in the story or were Dr. Peter's additions as a narrator. While I was able to consult with her for some of these cases I did not have the chance to go through each of her narratives with her. Where possible, these were disambiguated by surrounding discourse context and accompanying speech.

Due to time constraints, I have yet to code the fourth narrative in the corpus, and there are several sequences in this narrative that include CL1 classifier constructions, some of which are in D-VPT. There are also some gestures that use the CLF handshape when referring to humans moving, which is seen very rarely in the other narratives; it is instead used for creatures who, though humanoid, can fly. There is much potential here for discussion, which will come in time as I continue my research.

Another challenge is the lack of work focused on D-VPT gestures to compare my results to; Parrill's (2009) study has been of great assistance in researching D-VPT, though ideally there would be studies from other languages to consult. The conclusions I draw are therefore preliminary but nevertheless make a contribution to the cross-linguistic study of gestures.

6.2 Future directions

Following up on this work, I intend to go through more of the gestural viewpoint literature hoping to find more discussion of "classifiers" or equivalent strategies and then to see if these studies

contain gestures that could be D-VPT gestures.[15] If the Type 8 combination that I propose is taken to be valid, I am interested to see if it arises in other languages as well. It is possible that languages will show more D-VPT gestures than initially thought if Type 8 D-VPT gestures are indeed added to the typology. In addition to analyzing other narratives by Dr. Peter, I hope to begin looking at narratives by other speakers as well as other genres.

However, more importantly, I intend to find a way to make the research done here available and useful for speakers of Hul'q'umi'num' who are becoming fluent storytellers. According to Claxton (2020), following manual gestures and gaze helped her to learn and perform one of Dr. Peter's stories. Dr. Peter's use of gestures aided Claxton in tracking locations and characters, and visualizing actions that the characters undertake. Claxton talks about how learning through actions has been a part of her language learning since she was young. Stewart (2019) also points out the importance for gestures in language learning. She addresses how the language methodology AIM (Accelerative Integrated Methodology, developed by Wendy Maxwell) was adapted and implemented for teachers and learners of Upriver Halq'eméylem, a sister dialect to Hul'q'umi'num'. This methodology uses gestures to scaffold and facilitate second language learning, and educational kits are available for multiple languages.[16] Stewart found that some gestures needed to be modified from their forms in the database to be culturally appropriate, and new gestures needed to be developed for high frequency words of Upriver Halq'eméylem.[17] With the knowledge gained from my work on Hul'q'umi'num' gestures, it will be possible to develop a database of culturally-specific and familiar gestures that would benefit language learners on their path to becoming authentic Hul'q'umi'num' storytellers.

Acknowledgements

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[15] See (Cormier et al. 2012; Quinto-Pozos & Parrill 2015) for some discussion in this direction.

[16] Further information is available at https://www.aimlanguagelearning.com/.

[17] This was done through collaborative discussions with students enrolled in an Upriver Halq'eméylem Learning Focus group.

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Appendix

Table 3: Abbreviations used in annotation and coding

Gesture			
RH	right hand	mir	mirrored
LH	left hand	pll	parallel
RLH	right and left hands	rep	repetition
R	right/rightward	L	left/leftward
U	up/upward	D	down/downward
CL1	handshape; index finger extended, rest of hand closed	CLF	handshape; palm flat with fingers held straight, close together
Viewpoint			
C	character	O	observer
D	dual	N	none