The Expression of Modality in Tlingit:
A Paucity of Grammatical Devices [1]

Seth Cable
University of Massachusetts, Amherst

ABSTRACT:
This paper provides in-depth description of the expression of modal categories in Tlingit (Na-Dene; Alaska). Epistemic, deontic, and circumstantial modal statements are examined, and for each I examine statements with strong and weak modal force. A notable feature of the Tlingit system is that – compared to other languages of the Pacific Northwest (Peterson 2010, Matthewson 2013) – Tlingit exhibits a striking paucity of grammaticalized modal expressions, and only a limited subset of the aforementioned modal categories can be expressed by the conventionalized, truth-conditional semantics of a statement. Nevertheless, speakers employ a variety of pragmatic strategies to communicate information about other modal categories. This situation is rather similar to that reported for Nez Perce (Deal 2011), but rather different from cases like St'át'imcets (Rullmann *et al* 2008) or Washo (Bochnak, *to appear*), where modals exhibit a context-dependent meaning, allowing for a small set to denote all logically possible modal categories.

1. Introduction

This paper provides an in-depth description of the expression of modal categories in Tlingit, a Na-Dene language of Alaska, British Columbia, and the Yukon (Leer 1991). As detailed here, a notable feature of the Tlingit modal system is that – compared to other languages of the Pacific Northwest, such as Gitksan (Peterson 2010, Matthewson 2013) or St'át'imcets (Rullmann *et al.* 2008) – Tlingit exhibits a striking paucity of grammaticalized modal expressions. There seem to be only three morphemes with a dedicated modal semantics: dubitative particles, so-called 'potential mode', and so-called 'future mode'. Furthermore, each of these has a rather narrow modal meaning: (i) epistemic possibility for the dubitative particles, (ii) circumstantial (metaphysical) possibility for the potential mode, and (iii) circumstantial (metaphysical) necessity for the future mode. This raises the question of how other modal categories – especially epistemic necessity and deontic possibility/necessity – are expressed in Tlingit. As documented here, Tlingit speakers employ a variety of rhetorical strategies for communicating these modal properties, but none invoke modality at the level of their (conventionalized) truth-conditions, a situation very similar to that reported for Nez Perce by Deal (2011). This is rather different from languages like St'át'imcets (Rullmann *et al* 2008) or Washo (Bochnak, *to appear*), where modal expressions are reported to have a more 'flexible', context-dependent meaning, which allows for all logically possible modal categories to be expressed at a truth-conditional level. Indeed, certain similarities between the (meta)linguistic responses offered by Tlingit speakers and those

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reported by Deal (2011) for Nez Perce speakers suggest that there exists a real typological difference between these languages and languages like St'át'imcets or Washo.

This paper is structured as follows. Section 2 provides some basic background on the Tlingit language and the methodology used in this study. Following this, I review key concepts in the theory of modal semantics, and provide an initial description of the three Tlingit modal morphemes documented here: dubitative particles, 'future' mode, and 'potential' mode.

With this background in place, the remainder of the paper examines how six categories of modality are expressed in Tlingit: (i) epistemic possibility, (ii) epistemic necessity, (iii) circumstantial possibility, (iv) circumstantial necessity, (v) deontic possibility, and (vi) deontic necessity. Epistemic possibility and necessity are covered in Section 3, which also contains a short discussion of the Tlingit reportative evidential particle *yóo.á*. Circumstantial modality is discussed in Section 4, which also provides evidence that the so-called 'future' mode of Tlingit is – despite its name – a modal expression rather than a tense. The varied expressions of deontic modality in Tlingit are covered in Section 5. Finally, Section 6 summarizes the key patterns documented here, and discusses their theoretical and typological import.

2.   Background on Tlingit and the Cross-Linguistic Semantics of Modality

2.1   The Tlingit Language and Semantic Fieldwork Methodology

The Tlingit language (Lingít) is the traditional language of the Tlingit people of Southeast Alaska, Northwest British Columbia, and Southwest Yukon Territory. It is the sole member of the Tlingit language family, a sub-branch of the Na-Dene language phylum (Campbell 1997, Mithun 1999). It is thus distantly related to the Athabaskan languages (e.g., Navajo, Slave, Hupa), and shares their complex templatic verbal morphology (Leer 1991). As explained in Section 2.2, I will largely be suppressing this complex morphological structure in my glossing of Tlingit verbs.

Tlingit is a highly endangered language. While there has been no official count of fully fluent speakers, it is privately estimated by some that there may be less than 200 (James Crippen (Dzéiwsh), Lance Twitchell (X'unei), p.c.). Most of these speakers are above the age of 70, and there is likely no native speaker below the age of 50. There are extensive, community-based efforts to revitalize the language, driven by a multitude of Native organizations and language activists too numerous to list here. Thanks to these efforts, some younger adults have acquired a significant degree of fluency, and there is growing optimism regarding a new generation of native speakers.

Unless otherwise noted, all data reported here were obtained through interviews with native speakers of Tlingit. Six fluent Tlingit elders participated: Selena Everson (Kaséix), William Fawcett (Kóoshdaak'w Éesh), Carolyn Martin (K'altseen), John Martin (Keihéenák'w), Helen Sarabia (Kaachkoo.aakw), and one elder who preferred to remain anonymous. All six were residents of Juneau, AK at the time of our meetings, and are speakers of the Northern dialect of Tlingit (Leer 1991). Two or three elders were present at each of the interviews, which were held in classrooms at the University of Alaska Southeast in Juneau, AK.

The linguistic tasks presented to the elders were straightforward translation and judgment tasks. The translation tasks were of two types: (i) translations of single sentences, relative to a context, and (ii) translations of extended stories, via the use of 'storyboards'. The translation tasks involving single sentences proceeded as follows. Prior to the interviews, I designed a

number of 'scenarios', described in short English sentences. Accompanying each scenario was an English sentence labeled 'Sentence to Translate', which was true and felicitous in the paired scenario. At the interviews, I would read a scenario out loud to the elders, and then ask them for the best Tlingit translation of the paired English sentence, one that would naturally fit the scenario described.

The translation tasks involving so-called 'storyboards' followed the usual methodology for this elicitation instrument (TFS 2016). Working with Matthew Rolka, an undergraduate linguistics major at UMass Amherst, I designed a number of stories for the Tlingit elders to narrate. These stories were designed in such a way that their narrations in Tlingit would likely include epistemic and deontic modal expressions. Once these stories were written, Mr. Rolka illustrated them using simple, evocative pictures. These storyboards, devoid of any English text, were used to present the stories to the Tlingit elders during the interview sessions. Each elder received a copy of each storyboard, and looked through it as I read the English narration of the story aloud. Having heard the English version of the story, the elders were then asked to tell the story in Tlingit, working page-by-page through the storyboard. The storyboards used in this study are publicly archived and available at the Totem Fields Storyboards website (TFS 2016).[2]

In order to systematically study their semantics – and to obtain negative data – Tlingit sentences were also tested using truth/felicity judgment tasks, a foundational methodology of semantic fieldwork (Matthewson 2004). The elders were asked to judge the 'correctness' (broadly speaking) of various Tlingit sentences relative to certain scenarios. The sentences evaluated were either ones offered earlier by the speakers for other scenarios, or ones constructed by myself and judged by the speakers to sound natural and correct for other scenarios. Unless otherwise indicated, all speakers agreed upon the reported status of the sentences presented here.

2.2   Background on Modality in the Tlingit Language

The term 'modal' is used by linguists to refer to morphemes that cause the sentence to describe purely hypothetical (or yet unrealized) scenarios. In English, such expressions include the modal auxiliary verbs *can, may, might, must, have to, going to,* and *will*. For centuries, logicians and philosophers have been fascinated with modals, and a conceptually rich theory of their semantics has developed (Portner 2009, von Fintel & Heim 2011, Kratzer 2012). In recent years, this theory has been significantly impacted by technically sophisticated field research on the modals of Native American languages (Rullmann *et al.* 2008, Peterson 2010, Deal 2011, Matthewson 2013, Bochnak 2015). This research has targeted two key parameters in the semantics of a modal expression – the so-called 'force' of the modal and its 'base'.

The 'force' of a modal is – very roughly speaking – whether the modal expression concerns *necessities* or (mere) *possibilities*. For example, the modal auxiliaries *can*, *may*, and *might* in English form sentences that only describe what is *possible,* not what is *necessary*. Thus, a sentence like (1) below only asserts that it is *possible* for Dave to leave at 6PM, not that it is *necessary* for him to leave at that time.

(1)   Dave **can** leave at 6PM.

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[2]The three storyboards used are: (i) "Tom and Mittens" (http://totemfieldstoryboards.org/stories/tom_and_mittens/), (ii) "Basketball Brothers" (http://totemfieldstoryboards.org/stories/bball_bros/), and (iii) "Party Food" (http://totemfieldstoryboards.org/stories/party_food/).

For this reason, modals such as *can, may, might* are said to have 'weak force', and to be 'weak modals.' In contrast, the modal auxiliaries *must, have to, going to*, and *will* form sentences that describe what is *necessary*. Thus, a sentence like (2) below asserts that it is *necessary* for Dave to leave at 6PM.

(2)   Dave **must** leave at 6PM.

For this reason, modals such as *must, have to, going to*, and *will* are said to have 'strong force', and to be 'strong modals'.

      The 'base' of a modal is – again, very roughly speaking – the *kind* of necessity or possibility that the modal expression concerns. For example, in sentence (3a) below, the modal auxiliary *may* is most naturally understood as relating to what is *possibly true (right now) in light of the evidence or knowledge that we have*. By contrast, in sentence (3b), the modal auxiliary *can* is most naturally understood as relating to what is *allowable in light of the rules or laws*. Finally, in sentence (3c), the modal auxiliary *might* is most naturally understood as relating to *possible futures, in light of the current facts and circumstances*.

(3)   a.   <u>Epistemic Base (Possible/Necessary in Light of Evidence)</u>
              Dave **may** be out fishing now. (After all, his boat is gone, along with all his gear.)

       b.   <u>Deontic Base (Possible/Necessary in Light of Rules/Laws)</u>
              Dave **can** vote in this year's election. (After all, he is 18, and is registered.)

       c.   <u>Circumstantial Base (a Possible Future, in Light of the Facts/Circumstances)</u>
              Dave **might** go fishing later. (After all, he loves fishing, and he has the day off.)

As noted in (3), linguists have a different label for each of these kinds of 'modal bases'. An 'epistemic' base is one like (3a), where the modal statement concerns what is necessary/possible in light of our knowledge or evidence. A 'deontic' base is one like (3b), where the statement concerns what is necessary/possible in light of the rules or laws (or sometimes goals).[3] Finally, a 'circumstantial base is one like (3c), where the statement concerns what is a necessary/possible future in light of the current circumstances or facts.

      Given these assumptions regarding the general semantics of modal expressions, it follows that an adequate semantic description of a modal must specify both its observed force(s) and its observed base(s). For example, as the reader can confirm, the modal *can* in English has weak force, and allows only deontic and circumstantial bases. In this spirit, several recent works on the semantics of modals in Native American languages have focused upon their observed force and base (Rullmann *et al.* 2008, Peterson 2010, Deal 2011, Matthewson 2013). A major result of this research is the discovery that languages vary in the degree to which the force and base of their modals are determined by the conversational context. In major European languages, like English, modal expressions tend to have a lexically fixed modal force, while their modal base can vary with context. Note again that the English modal *can* always has weak force, but takes either a

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[3] Possibility and necessity with respect to goals is sometimes distinguished as a 'bouletic base'. However, many linguistics – including myself – find this distinction somewhat dubious, and prefer to group 'bouletic' modals under the more general heading of deontic modals.

deontic or a circumstantial base, depending upon context. Importantly, however, the inverse pattern has been discovered in certain languages of the Pacific Northwest, such as St'át'imcets (Rullmann *et al.* 2008). In such languages, modals tend to have a lexically fixed *base*, while their *force* can vary with context. For example, the modal particle *k'a* in St'át'imcets always has an epistemic base, but can function either as a strong or weak epistemic modal, depending upon the context (Rullmann *et al.* 2008). Furthermore, in yet other languages of North America, it has been found that weak modals need not be paired with strong counterparts. For example, the Nez Perce language contains a single deontic/circumstantial particle *oq'a*, which Deal (2011) shows to be weak in its force. Interestingly, due to its lack of strong deontic/circumstantial modals, Nez Perce speakers sometimes use this weak modal in contexts where English would require a strong modal. On the surface, then, Nez Perce seems at first to be a language like St'át'imcets, where modals have flexible, context-dependent force; nevertheless, Deal (2011) shows through a variety of sophisticated tests that *oq'a* is indeed inherently weak in its meaning.

　　Given these important results, I sought to investigate the allowable modal forces and bases of the three main types of modal expression in Tlingit: (i) the dubitative particles *gwál, shákdé*, and *gíwé*; (ii) the 'potential' mode; (iii) the 'future mode'.

　　As detailed by Leer (1991), the 'future' mode of a verb is formed by adding the following affixes to the lexical theme:[4] (i) the Position 17 conjugation class proclitic, (ii) the Position 7 prefix *ga-*, (iii) the Position 6 prefix *w-*, (iv) the Position 4 prefix *ga-*, (v) the [-I] variant of the classifier, and finally (vi) the '-:' stem variant suffix. To illustrate, (4) presents the morphological decomposition of a verb in future mode; prefixes realizing the mode are boldfaced.[5, 6]

(4)　　Yei kkwasatéen.

yei	**ga-**	**w-**	**ga-**	xa-	s	**a-**	tin	**-:**
Pos17.CONJ	**GCNJ**	**IRR**	**GMOD**	1sgS	CL	**[-I]**	see	**VAR**
I will see it.				(Leer 1991: 293)				

In contrast, the 'potential' mode of a verb is formed by adding the following affixes: (i) the Position 7 / Position 5 conjugation class prefix, (ii) the Position 6 prefix *u-*, (iii) the Position 4 prefix *ga-*, (iv) the [+I] variant of the classifier, and finally (v) the '-h' stem variant suffix. To illustrate, (5) below presents the morphological decomposition of a potential-inflected verb.

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[4] Templatic prefix position names are as in Crippen 2013, as are nearly all prefix names and glosses. The only exception is that I gloss the Position 17 conjugation proclitics as 'Pos17.CONJ'.

[5] Throughout this report, I employ the following glossing abbreviations, originally developed by Crippen (2013): 1, 'first person'; 2, 'second person'; 3, 'third person'; CL, 'classifier'; COND 'conditional marker'; DUB, 'dubitative particle'; ERG, 'ergative case'; EXCLM, 'exclamative'; EXH, 'exhaustive'; FOC, 'focus particle'; FUT, 'future mode'; GCNJ, 'position 7 *ga* prefix'; GCNJ, 'position 5 *ga* prefix'; GMOD, 'position 4 *ga* prefix'; HAB, 'habitual mode'; HORT, 'hortative mode'; HYPO, 'hypothetical/subjunctive particle'; [+/- I], 'I-feature of classifier'; IMPFV, 'imperfective mode'; IMP, 'imperative mode'; Ind, 'indefinite'; IRR, 'position 6 prefix'; LOCP, 'locative predication suffix'; NEG, 'negation'; NOM, 'nominalizer'; O, 'object'; PFV, 'perfective mode'; PHIB, 'prohibitive mode'; pl, 'plural'; Pos17CONJ, 'position 17 conjugation proclitic'; POT, 'potential mode'; PRO, 'pronoun'; PROG, 'progressive'; PST, 'past tense'; Q, 'question/indefinite particle'; REL, 'relative clause suffix'; S, 'subject'; sg, 'singular'; SUB, 'subordinate clause suffix'; VAR, 'stem variation suffix'.

[6] All Tlingit data in this paper are presented in the 'Alaskan Orthography'. A correspondence between this orthography and IPA is provided in the Appendix.

(5)   Ḵwaaḵasiteen.

u-	ga-	ga-	xa-	s	i-	tin	-h
IRR	**GCONJ**	**GMOD**	1sgS	CL	**[+I]**	see	**VAR**

I may see it.   (Leer 1991: 293)

Since the morphological composition of these inflections is not central to the ensuing discussion, I will suppress it from this point on. I will not provide morphological analyses of the complex verbal forms in the Tlingit sentences below. Instead, as shown in (6), I will provide only very rough glosses for Tlingit verbs, where the gloss 'FUT' is given for future-inflected verbs, while 'POT' is given for potential-inflected verbs.

(6)   a.   Yei kkwasatéen.   b.   Ḵwaaḵasiteen.
             FUT.1sgS.see   **POT**.1sgS.see
             I will see it.   *I may see it.*

        Leer (1991: 381-392) provides an informative, informal description of the semantics of the future and the potential modes. Although he does not explicitly employ the concepts of modal 'force' and 'base', Leer's semantic description amounts to the following claims: (i) the future mode has strong modal force, (ii) the potential mode has weak force, (iii) future mode allows for both circumstantial and deontic bases, and (iv) potential mode allows for (only) circumstantial base. Curiously, however, certain textual examples seem at first glance to challenge some of these claims. First, there are naturally produced texts containing sentences where future-inflected verbs are translated into English with *weak* modals (7), and where potential-inflected verbs are translated via *strong* modals (8).

(7)   a.   Ishagóogu   aagaa, tsá   a káa   **yei kginóok.**
             IMPFV.2sgS.know.how.SUB then   then   it surface.at **FUT**.1sgS.sit
             *You **can** sit on it (a skin sled) only if you know how.*   (Leer 1991: 382)

        b.   K'wát yáx   áwé   **kagaxyisahánt.**
             egg   like   FOC   **FUT**.2plS.cut
             *You **can** cut them in a circular motion.*
             (Dauenhauer & Dauenhauer 1987: 92; line 214)

(8)   a.   Ch'a goot'a gáan sá   tsá   **yéi nkwasinee.**
             one.of.these.days   then   **POT**.1sgS.do
             *One of these days, I **will** do it.*   (Leer 1991: 386)

        b.   Ch'a   áa   **ngwaanaawu**   yéidei   gíwé.
             just   it.at   **POT**.3sgS.die.REL   place.to   DUB
             *Maybe to wherever he **would** die.*
             (Dauenhauer & Dauenhauer 1987: 120; line 218)

Of course, many factors beyond literal, 'truth-conditional' meaning play a role in the free translation of Tlingit discourse into English. Nevertheless, facts such as these do highlight the

importance of a more focused and systematic investigation of the modal force and base of these Tlingit inflections.

The third class of modal expressions detailed here are the so-called 'dubitatives'. Leer (1991: 29-32) documents a number of these particles, whose core characteristic is that they express some degree of 'doubt' – or lack of certainty – concerning the proposition conveyed by the sentence. In this study, I focus upon the most frequently used of these: *gwál*, *shákdé*, and *gíwé*.[7] Leer (1991) offers the following information regarding their meaning, which accords well with the usage and translations I've encountered in my own work.[8]

(9)   a.   *shákdé*   Implies likelihood; 'perhaps', 'probably'.   (Leer 1991: 30)
       b.   *gíwé*   Does not imply likelihood: 'perhaps', 'I guess'   (Leer 1991: 30)
       c.   *gwál*   'perhaps'   (Leer 1991: 32)

As shown in (9), Leer (1991) translates each of these particles with the English adverb *perhaps*. Native speakers of Tlingit will also tend to translate these particles using *maybe*, particularly for *gwál* and *gíwé*. Given that *maybe* and *perhaps* in English are epistemic possibility modals, this immediately raises the question of whether such an analysis would also be applicable to the Tlingit dubitatives, a question that will be addressed in the following section.

3.   Epistemic Modality in Tlingit

3.1   The Expression of Epistemic Possibility

Epistemic possibility concerns those things that *might* be true, given *the speaker's knowledge*. Thus, the quintessential epistemic possibility expression in English is the adverb *maybe*. As shown below, Tlingit speakers generally express epistemic possibility through the dubitatives in (9). In each of the examples below, the scenario presents some proposition as being (merely) consistent with the speaker's knowledge. Moreover, the English sentence targeted for translation contains an unambiguous expression of epistemic possibility. Thus, the appearance of dubitatives in these sentences supports their status as weak epistemic modals. For reasons of space, I give just a few examples below; further examples of this use of Tlingit dubitatives are collected in the Appendix.[9]

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[7] Leer (1991) analyzes the particle *gíwé* as consisting of a dubitative root *gí*, which may be followed by any of the four demonstrative enclitics (*yá*, *wé*, *yú*, *hé*). In my own work, however, I've only ever encountered this particle in the form *gíwé*; I've not myself encountered the other three expected forms (*gíyá*, *gíyú*, *gíhé*). In addition, I don't believe that the postulated dubitative root *gí* can ever appear alone in the sentence. For these reasons, my discussion will treat the particle *gíwé* as a single morpheme.

[8] In addition to their semantic differences, Leer (1991: 29-32) documents some syntactic differences between these particles. For reasons of space, their syntactic behavior will not be reviewed here.

[9] Throughout this report, I will indicate whether a Tlingit sentence was (i) constructed by myself and judged by the elders to be acceptable, or (ii) actually spontaneously spoken by the elders themselves. In the former case, the sentence will be followed by a '(C)', for 'constructed'. In the latter case, I will write the initials of the speaker who provided the sentence: (SE) for Selena Everson, (WF) for William Fawcett, (CM) for Carolyn Martin, (JM) for John Martin, (HS) for Helen Sarabia, and (A) for the elder who wished to remain anonymous.

(10)   Scenario: We're at a party, and we're looking at our friend across the room. We're wondering what he's eating. Whatever it is, it's white. It looks kind of like herring eggs, which someone did bring to the party. We make the guess that it's herring eggs.

English Sentence to Translate: "He might be eating herring eggs."

Tlingit Translation Offered: **Gwál** gáax'w   a<u>x</u>á.   (HS)
                                      DUB herring.eggs   3O.IMPFV.3sgS.eat
                                      Maybe he's eating herring eggs.

(11)   Scenario: Your friend didn't come to work today. Usually, if he's not in, he has a very good reason. Someone asks you why your friend didn't come in. You make a wild guess.

English Sentence to Translate: "Maybe he's sick."

Tlingit Translations Offered:
a.   **Gwál** yanéekw.   (A, HS, WF)
         DUB IMPFV.3sgS.sick
         Maybe he's sick.

b.   Yanéekw   **shakdé**wé.   (WF)
         IMPFV. 3sgS.sick   **DUB**.FOC
         Maybe he's sick.

(12)   Scenario: You are looking for your cat, who is hiding in one of three baskets: a red one, a yellow one, or a blue one. You haven't checked any baskets yet, and you make a wild guess that he might be in the red one.

English Sentence to Translate: "He might be in the red basket."

Tlingit Translations Offered:
a.   **Gwál** <u>x</u>'aan yá<u>x</u> yateeyi   <u>k</u>ákw yíkx' awdlisín.   (WF)
         DUB red   IMPFV.3S.be.REL basket inside PFV.3sgS.hide
         Maybe he hid in the basket that is red.

b.   Yá <u>x</u>'aan yá<u>x</u> yateeyi   aa **gíwé** a tóox' **shákdé** awdlisín.   (SE)
         that   red   IMPFV.3S.be.REL one **DUB** in.it   **DUB**   PFV.3sgS.hide
         Maybe he hid in the red one.

c.   Yá <u>x</u>'aan yá<u>x</u> yateeyi   aa **gíwé** a tóox' awdlisín.   (SE)
         that   red   IMPFV.3S.be.REL one **DUB** in.it   PFV.3sgS.hide
         Maybe he hid in the red one.

Note that in (12b), the dubitative *gíwé* co-occurs with another dubitative particle, *shákdé*.[10] Such stacking of epistemic possibility expressions is not unusual, and can be seen in colloquial English as well (*e.g.,* "Maybe he could be out fishing."). Whether such stacking occurs with particles other than *gíwé* is an open question.

Of the modal expressions documented here, only dubitatives are able to express epistemic possibility. Although the potential mode is able to express *circumstantial* possibility (Section 4.1), it cannot express epistemic possibility, as the contrast between (10) and (13) demonstrates.

(13) Scenario: (Same as in (10))

English Sentence to Translate: "He might be eating herring eggs."

Rejected Tlingit Translation: # Gáax'w   **agwaaxaa.**   (C)
                                  herring.eggs 3O.**POT**.3sgS.eat
Speaker Comments:
- "No"   (WF, A)
- "You're saying he's going to eat herring eggs. He might eat them."   (HS)

This conclusion is further supported by the contrasts in (14)-(15) below. To begin, notice that the English sentence in (14) and (15), "Your dog could have chewed up my flowers," has two possible interpretations. The first is an *epistemic* interpretation, brought out by the scenario in (14), and paraphrasable as "Given what I know now, it's possible that your dog chewed up my flowers." The second is a *circumstantial* one, brought out by the scanrio in (15), and paraphrasable as "If things had happened differently, then your dog might have ended up chewing my flowers."

(14) Scenario: One morning, you wake up to find that your garden flowers are all chewed up. You think that my dog might have done it, and you want to tell me so.

English Sentence to Translate: "Your dog could have chewed up my flowers."

a.   Tlingit Translation Offered:
        Gwál i   keidlí ax x'eikaxwéini yax ayawsixáa.   (WF)
        DUB your dog   my flowers   3O.PFV.3sgS.eat.EXH
        Maybe your dog ate up all my flowers.

b.   Rejected Tlingit Translation
        # I   keidlí   ax x'eikaxwéini   **agwaxaayín**!   (C)
         your   dog   my flower   3O.**POT**.3sgS.eat.PST
        - "No." (WF, A)
        - "That's 'he was ready to eat them'." (HS)

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[10] A similar example, where *gíwé* co-occurs with dubitative *gwál*, appears in (A4) in the Appendix.

(15)   Scenario: You have a very nice garden. One day, my dog gets loose from my backyard, and runs over to your yard. You run outside, though, and chase him off. I come over, and ask you why you chased my dog out of your yard.

English Sentence to Translate: "Your dog could have chewed up my flowers."

a.   Tlingit Translation Offered:
I   keidlí   ax̲ x̲'eikax̲wéini   **agwax̲aayín**!   (HS, A)
your dog   my flower   3O.**POT**.3sgS.eat.PST
Your dog could have eaten my flowers.

b.   Rejected Tlingit Translation
Gwál   i   keidlí ax̲ x̲'eikax̲wéini yax̲ ayawsix̲áa.   (C)
  DUB   your dog   my flower   3O.PFV.3sgS.eat.EXH
•   "No." (WF, A)
•   "That's 'maybe your dog ate up all my flowers'." (HS)

Importantly, the epistemic modal statement in (14) can only be expressed in Tlingit using a dubitative particle (*gwál*) and a perfective verb (see (14a) vs. (14b)), while the circumstantial modal statement in (15) can only be expressed using a verb in the potential mode bearing a past-tense suffix (see (15a) vs. (15b)).[11] This contrast provides further evidence that (i) only dubitatives – and not the 'potential' mode – can take an epistemic base, and (ii) dubitatives can only take an epistemic base (and not a circumstantial one).
    We have also just seen in (14) that in order to express the epistemic possibility of a past event (i.e., *given what I know now, it's possible this happened*), Tlingit speakers use a dubitative particle with a verb in the perfective mode. This pattern is further illustrated in (16)-(17) below.

(16)   Scenario: When you get up in the morning, you notice that the ground outside looks like it might be wet, and there seem to be puddles. You guess that it may have just rained.

English Sentence to Translate: "It may have rained earlier."

Tlingit Translation Offered: **Gwál** seew   **daak wustaanín**.   (A)
                              DUB rain   PFV.3S.begin.to.precipitate.PST
                              Maybe it rained.

(17)   Scenario: We walk outside your house, and see that your mailbox is lying on the ground. I immediately think that the neighborhood kids vandalized it, and accuse them. You remember, though, that the neighborhood dog loves to jump on people's mailboxes, and so there's a chance that the dog did it.

English Sentence to Translate: "The dog might have done it."

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[11] For more on the semantics and pragmatics of optional past tense in (14b) and (15a), see Cable (2016a). Note that Tlingit specialists refer to this morphology as the 'decessive epimode'.

Tlingit Translation Offered: **Gwál** yú   keitlch   **gíwé   yéi wusné.**   (SE)
                               DUB that dog.ERG **DUB** 3O.**PFV**.3S.do
                               Maybe the dog did it.

Thus, whether we're speaking of events that may have happened in the past or ones that may be happening now, such epistemic possibilities are expressed in Tlingit using the dubitatives.

3.1.1   The Expression of Epistemic *Impossibility:* Negation of Epistemic Possibility

Besides expressing that something is possible in light of what they know, speakers might also wish to express that it is *impossible* in light of what they know. Such a statement would be the negation of an epistemic possibility statement, and so would express epistemic *impossibility*. In English, such statements can be expressed through the negative modal auxiliaries *can't* and *couldn't*, as shown below.

(18)   a.   Tom: "Bill might be out fishing."
       b.   Joe: (i)   Bill **can't** be out fishing! His boat is broken.
                   (ii)   Bill **couldn't** be out fishing! His boat is broken.

In Tlingit, however, there doesn't appear to be a straightforward way to negate an epistemic possibility statement. Recall from the previous section that such statements are made via dubitative particles. These particles, however, cannot be in the scope of negation in Tlingit. Such negations have never before been documented, and their impossibility is supported via the fact that (18b) cannot be translated as in (19b).

(19)   a.   Tom: **Gwál** ast'eix   **gíwé**   wookoox.   (SE)
                   DUB fishing   **DUB**   PFV.3sgS.go.by.vehicle
                   Maybe he went fishing.

       b.   Joe: Tléik'!   # **Tlél gwál** ast'eix **gíwé** wookoox.   (C)
                   No   **NEG DUB** fishing **DUB** PFV.3sgS.go.by.vehicle

Given that epistemic possibility statements like (19a) cannot be directly negated, how does one in Tlingit express their negations? When asked directly to translate sentences like (18b) into Tlingit, speakers generally just remove the dubitative particle and negate the sentence.

(20)   Scenario: Your friend says 'Tom is asleep in the next room'. But you can hear him singing.

       English Sentence to Translate: "Tom can't be asleep!"

       Tlingit Translation Offered:
       Tléil   utá.   Ch'a   yeisú   satuwa.áxch.   (JM)
       NEG   IRR.IMPFV.3sgS.sleep.   just   still   voice.IMPFV.1plS.hear
       Tom isn't asleep. We still hear his voice.

This translation strategy suggests that the Tlingit language doesn't allow for the direct translation of epistemic impossibility statements. After all, an epistemic impossibility statement (weakly) entails the negation of the statement itself; that is, "Tom can't be asleep" implies "Tom isn't asleep." Therefore, if the former cannot be expressed in the language, the latter offers a close equivalent in meaning.

Finally, let us note here that epistemic impossibility also cannot be expressed by the *tlél aadé … yé* construction (Section 4.1.1). Although this construction can express the negation of *deontic* and *circumstantial* possibility (see Sections 4.1.1 and 5.1.1 below), it cannot be used to express the negation of epistemic possibility, as shown in (21).

(21)   Scenario: (Same as in (20))

English Sentence to Translate: "Tom can't be asleep!"

Rejected Tlingit Translation   # Tlél   aadé   ngwataayi   yé.   (C)
                                            NEG   to.it   POT.3sgS.sleep.REL   way
                                            There's no way he can sleep.

Speaker Comments: "This means he can't sleep. It doesn't fit here."   (SE)

3.2   The Expression of Epistemic Necessity

Epistemic necessity concerns those things that *must* be true, given *the speaker's knowledge*. In English, this modal category can be expressed via the modal auxiliary *must* and the verbal construction *have to*. As with expressions of epistemic impossibility, it seems that there are in Tlingit no direct equivalents of epistemic necessity statements. This is not to say that speakers lack strategies for translating such statements. As shown below, speakers often make use of the dubitatives *gwál*, *shákdé*, and *gíwé* in the translation of epistemic necessity.

In each of the examples below, the scenario presents some proposition as being entailed by the speaker's knowledge. Moreover, the English sentence targeted for translation contains the auxiliary *must*, which conveys epistemic necessity. In (22)-(25), speakers translate these sentences using one of the three dubitatives. Again, for reasons of space, further examples appear in the Appendix.

(22)   Scenario: We're at a party, and we're looking at our friend across the room. We're wondering what he's eating. Whatever it is, it's white. It looks like herring eggs, which someone did bring to the party. We look at the table, and it seems that the only white food is herring eggs. So, we conclude that's what it is.

English Sentence to Translate: "He must be eating herring eggs."

Tlingit Translation Offered: **Gwál** gáax'w   axá.   (HS)
                                            DUB   herring.eggs   3O.IMPFV.3sgS.eat
                                            He must (might) be eating herring eggs.

Additional Comment: "Yeah… But he's still thinking about it, though."   (A)

(23)   Scenario: At work, one of your friends is coughing really badly. He also seems really tired, and is kind of pale.

English Sentence to Translate: "He must be sick."
Tlingit Translations Offered:
a.   Yanéekw   **shakdé**wé.   (HS)
        IMPFV.3sgS.sick   **DUB**.FOC
        He must (might) be sick.

b.   **Gwál** yanéekw.   (C)
        DUB   IMPFV.3sgS.sick
        He must (might) he's sick.   (Accepted as possible here by HS, WF, A)

(24)   Scenario: You are looking for your cat, who is hiding in one of three baskets: a red one, a yellow one, or a blue one. You've checked the red one and the yellow one, and he isn't hiding there. The only remaining possibility is that he's hiding in the blue basket.

English Sentence to Translate: "He must be in the blue basket."

Tlingit Translations Offered:
a.   X'éishx'w   kákw yíkx' **shákdé**   awdlisín   (WF)
        blue   basket inside **DUB**   PFV.3sgS.hide
        He must (might) have hidden in the blue basket.

b.   **Gwál** wé   x'éishx'w   kákw   a tóot   áa.   (HS)
        DUB   that   blue   basket inside.it   IMPFV.3sgS.sit
        He must (might) be sitting in that blue basket.

(25)   Scenario: We go over to our friend Joe's house. He's not answering the door, and so we go around back. We notice that his boat is gone, and all his fishing gear is taken from his shed. You conclude that he's gone out fishing.

English Sentence to Translate: "He must be out fishing."

Tlingit Translation Offered:
Ast'eix   **gíwé**   daak uwakúx.   (WF)
fishing   **DUB**   PFV.3sgS.go.out.by.vehicle
He must (might) be out fishing

Given the use of the dubitatives in these scenarios, one might conclude that these particles can also express epistemic necessity. However, certain facts push against this. First, when asked to translate these particles into English, speakers invariably choose *weak* modals, usually the adverb *maybe*. Most importantly, though, when asked to carefully review translations like (22)-(25) – paying careful attention to the *certainty* offered by the paired scenario – speakers also typically retract their use of the dubitative particles. In their place, speakers offer simple assertions without any modal expressions whatsoever (26d,e). This pattern is illustrated below.

(26) Scenario: (Same as in (24))

English Sentence to Translate: "He must be in the blue basket."

Rejected Tlingit Translations:
a.   # **Gwál**   wé   x'éishx'w   kákw   a tóot   áa.   (cf. (24b))
      DUB   that   blue   basket inside.it   IMPFV.3sgS.sit
      He must (might) be sitting in that blue basket.

b.   # X'éishx'w   kákw yíkx' **shákdé**   awdlisín   (cf. (24a))
      blue   basket inside **DUB**   PFV.3sgS.hide
      He must (might) have hidden in the blue basket.

c.   # X'éishx'w   kákw yíkx' **gíwé** awdlisín   (C)
      blue   basket inside **DUB** PFV.3sgS.hide
      He must (might) be in the blue basket.

Speaker Comments:
- "Wait, *might* be in it? *Gwál* is 'maybe'. Or are you certain? You're certain he's in there? *Gwál a toot áa* means *maybe* he's sitting in it." (HS)
- "No." [(26a) corrected to (26e)]. "That's being definite. *Gwál* is a question." (SE)
- "When we're absolutely sure, you don't *gwál*." (SE)
- [When asked about (26b)] "No. You know he's there. Unless he had another hiding place…" (SE)
- [When asked about (26c)] "No. You're almost positive…. No *gíwé*." (SE)
- [When asked about (26b,c)] "No *gíwé*. No *shákdé*, either." (CM)

Corrected Translations Offered:
d.   Wéidu   hú!   (WF)
      there.LOCP   3.PRO
      He's in there!

e.   X'éishx'w yáx yateeyi   aa   a tóox' awdlisín.   (JM)
      blue   IMPFV.3sgS.be.REL one   in.it   PFV.3sgS.hide
      He hid in the blue one!

We therefore find that, although Tlingit speakers sometimes translate epistemic necessity statements using dubitatives, they also perceive that such translations are not exact, and lack the 'certainty' encoded in the English sentence. Here, it's also worth noting the additional comment offered by the speaker in (22), which conveys a *lack* of certainty regarding the proposition in question (*i.e.*, the speaker is 'still thinking' about it).[12] Thus, although these translations match the English originals in their invocation of epistemic modality, they do seem to differ in regards to the *strength* of that modality.

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[12] Similarly, note the uncertainty implied by the speaker's comment regarding (A5), in the Appendix.

It appears, then, that in the Tlingit language, there are no expressions encoding epistemic necessity. Consequently, when asked to translate such expressions into Tlingit, speakers employ one of two strategies. The first is to translate the epistemic necessity expression as an epistemic *possibility* expression (22)-(25). Such a translation preserves the invocation of epistemic modality, but differs in its modal force. The second strategy is to simply omit the epistemic modal from the translation (26d,e). Such a translation may not invoke the modality of the source sentence, but like that sentence, it can be used in cases where the speaker's certainty is high.

This is interestingly similar to what has been found for other languages lacking necessity modals. As mentioned in Section 2, Deal (2011) documents the lack of deontic necessity modals in the Nez Perce language. Given the absence of such expressions, the translation of English deontic necessity statements into Nez Perce presents a challenge to speakers. Interestingly, the strategies pursued by speakers of Nez Perce are rather similar to those documented above for Tlingit. In particular, speakers of Nez Perce at first translate English deontic necessity statements as deontic possibility statements (Deal 2011: 562-564). However, when asked to review those translations, "speakers do not feel that the translation is perfectly accurate" (Deal 2011: 565), and remark that they are better translated back into English as deontic possibility statements (Deal 2011: 564-566). The parallels here with the judgments offered by the Tlingit speakers in (22) and (26) are rather striking.

Let us also note here that the future mode of Tlingit – which can express circumstantial necessity (Section 4.2) – cannot be used to express epistemic necessity.

(27)   Scenario: (Same as in (22))

        English Sentence to Translate: "He must be eating herring eggs."

        Rejected Tlingit Translation: # Gáax'w   **akgwaxáa.**   (C)
                                            herring.eggs   **FUT.3sgS.eat**
        Speaker Comments:
        • "This means he hasn't eaten them yet."   (WF)
        • "This means he's going to eat them."   (A)

Finally, it should be noted that the lack of epistemic necessity expressions (and deontic necessity expressions (Section 5)) in no way means that Tlingit is any sense 'less expressive' than English. As we have seen, there are means within the language for (broadly) communicating the speaker's epistemic certainty regarding a proposition (26d,e). Furthermore, it should be remembered that there are many other semantic domains in which Tlingit makes *more* distinctions than are encoded by English – *e.g.*, the demonstrative system, alienable vs. inalienable possession, secondary imperfectives, handling verbs, etc. (Leer 1991). Every human language fails to grammatically encode *some* distinctions that are encoded in other languages; for Tlingit, one such area is epistemic (and deontic) necessity.

3.2.1   The Negation of Epistemic Necessity

Given its lack of epistemic necessity modals, it is difficult in Tlingit to express the *negation* of epistemic necessity. Such negations are expressed in English via the negation of the construction *have to*, as shown below.

(28)   a.   Tom: "Bill must be out fishing."
        b.   Joe: "No. Bill **doesn't have to** be out fishing. Maybe he's out at the store!"

When asked to translate dialogs like the one above, speakers of Tlingit generally find it rather challenging. One method of approximating the meaning of (28b) is illustrated in (29). Note that the Tlingit sentence in (29) doesn't actually contain any modal expressions, epistemic or otherwise.

(29)   Scenario: We go over to our friend Joe's house. He's not answering the door. It's Saturday, and one thing Joe likes to do on Saturdays is go fishing. So, I say "Well, Joe has to be out fishing." But, you don't agree. You think that he might also be out shopping.

English Sentence to Translate: "Joe doesn't *have* to be fishing."

Tlingit Translation Offered:
Hél   ch'as   ast'ei<u>x</u>   áwé   yéi adaa.uné.   (SE)
NEG   just   fishing   FOC   IMPFV.3sgS.do
It's not just fishing that he's doing.

3.3   Evidentiality in Tlingit and the Reportative Particle *Yóo.á*

In many languages of the Americas, epistemic modals encode not only that something is 'possible/necessary, given what we know', but also *where we obtained that knowledge*. Such expressions are commonly referred to as 'evidentials' (Rullmann *et al.* 2008, Matthewson 2010, Matthewson 2013). As discussed in numerous works, evidentials can encode that the knowledge (or evidence) was gained through (i) direct visual perception, (ii) direct non-visual perception, (iii) indirect evidence, (iv) hearsay from other individuals, (v) general 'world-knowledge', etc.
        Tlingit does not appear to contain the rich system of evidentials found in other languages of the Pacific Northwest (Matthewson *et al.* 2007). Its dubitative particles – the primary means for expressing epistemic modality – are not described by Leer (1991) as encoding the evidential source of the information in question. Speaker judgments confirm this, as well. As shown below, the dubitatives *gwál* and *gíwé* can be used when the evidence for the proposition is taken from direct non-visual perception (30), or through indirect evidence / world-knowledge (31)-(32).

(30)   Scenario: You're inside the house. The curtains are drawn, and so you can't see outside. You begin to hear what sounds like the tapping of raindrops on the roof and the window. You guess that it's raining.

English Sentence to Translate: "It might be raining."

Tlingit Translations Offered / Accepted:
a.   **Gwál**   daak wusitán   (HS, A)
      DUB   PFV.3S.begin.to.precipitate
      Maybe it's raining.

16

b.   **Gíwé** daak wusitán   (C)
           DUB PFV.3S.begin.to.precipitate
           Maybe it's raining.

(31)   <u>Scenario:</u> You are inside the grocery story shopping. You notice that people are now coming in soaking wet. You figure that it must be raining now.

        <u>English Sentence to Translate:</u>   "It must be raining."

        <u>Tlingit Translations Offered:</u>
        a.   **Gwál** <u>k</u>úná<u>x</u> daak wusitán   yeedát.   (A)
            DUB really PFV.3S.begin.to.precipitate now
           It must (might) really be raining now.

        b.   <u>K</u>úná<u>x</u> **gíwé** daak wusitán   (C)
            really **DUB** PFV.3S.begin.to.precipitate
           It must (might) really be raining.

(32)   <u>Scenario:</u> When you get up in the morning, you notice that the ground outside looks like it might be wet, and there seem to be puddles. You guess that it may have just rained.

        <u>English Sentence to Translate:</u>   "It may have rained earlier."

        <u>Tlingit Translation Offered:</u> **Gwál** seew daak wustaanín.   (A)
                            DUB rain PFV.3S.begin.to.precipitate.PST
                            It might have rained.

Similar data were also observed earlier. In scenarios (10), (16), (25), the epistemic possibility claim is based upon indirect evidence, while in scenarios (11), (14), and (17), it is based upon general world-knowledge. For all these scenarios, speakers can use *gwál, gíwé*, or *shákdé*.

       Although its dubitatives are not aptly described as 'evidentials', there *is* one expression in Tlingit that seems to act as a so-called 'reportative evidential'. As illustrated below, the particle *yóo.á* 'it is said' conveys that the speaker learned of the information in question via communication with another person.

(33)   <u>Scenario:</u> I've been told that when I was a baby, I cried all the time. Of course, I have no direct memory of it myself, but that's what all my relatives tell me.

        <u>English Sentence to Translate:</u>   "When I was a baby, I cried all the time."

        <u>Tlingit Translations Offered / Accepted:</u>
        a.   T'ukanéiyi<u>x</u>   <u>x</u>at sateeyi,   tlákw   <u>x</u>agáa<u>x</u>.   (HS)
            baby   IMPFV.1sgS.be.SUB always IMPFV.1sgS.cry
           When I was a baby, I was always crying.

b. T'ukanéiyi<u>x</u> <u>x</u>at sateeyi, tlákw <u>x</u>agáa<u>x</u>. ***yóo.á*** (C)
   baby IMPFV.1sgS.be.SUB always IMPFV.1sgS.cry **REPORT**
   When I was a baby, I was always crying (so I hear).

<u>Speaker Comments on (33b):</u> "Uh huh; that means 'that's what they said'." (A)

(34) <u>Scenario:</u> While out walking in the morning, you bump into your neighbor's kid. He should be at school already, and so you ask him where he's going. He tells you "I'm going to school," and then walks on. A few minutes later, your neighbor walks by. He asks, "Do you know where my kid is?"

<u>English Sentence to Translate:</u> "He's walking to school."

<u>Tlingit Translation Accepted:</u> Shgóondei yaa nagút ***yóo.á*** (C)
   school.to PROG.3sgS.walk **REPORT**
   He's going to school (so I hear).

<u>Speaker Comments:</u> "Yeah; it's the same as adding *yéi yaawaka<u>a</u>* [he said]." (A)

Although *yóo.á* does not have the morphological form of a verb, it does appear to contain the preverb *yóo* (allomorph of *yéi*), commonly found with verbs of speech and thought.

While there is much work yet to be done on the syntax and semantics of this particle, it exhibits two properties worth noting here, both of which are of interest to the study of evidentials across languages (Matthewson 2010, 2013). First, as can be seen from the acceptability of both (33a) and (33b), the reportative evidential *yóo.á* is never obligatory. One doesn't have to use *yóo.á* when the information was obtained from some other person (33a). Secondly, as shown below, *yóo.á* can be used even when the speaker *doesn't believe* the information in question.

(35) <u>Scenario:</u> While out walking in the morning, you bump into your neighbor's kid. He should be at school already, and so you ask him where he's going. He tells you "I'm going to school," and then walks on. **You don't believe him, and you're pretty sure he's skipping school.** A few minutes later, your neighbor walks by. He asks, "Do you know where my kid is?"

<u>English Sentence to Translate:</u> "He's walking to school, he said, but I don't believe him."

<u>Tlingit Translation Offered:</u>
Shgóondei yaa nagút ***yóo.á***,
school.to PROG.3sgS.walk **REPORT**

hél du <u>x</u>'éik' <u>k</u>u <u>x</u>waheen (WF)
NEG his mouth though IMPFV.1sgS.believe
He's going to school (so he said), but I don't believe him.

As we see in (35), if *yóo.á* is added to a sentence, the speaker is no longer necessarily understood to be asserting the prejacent proposition. Rather, that proposition is merely presented as

18

something the speaker was told, which they might actually disagree with. Thus, *yóo.á* behaves like the reportative evidential of the Quechua language (Matthewson 2010), and unlike the reportative evidential of the nearby Gitksan language (Matthewson 2013). It also behaves exactly like a regular verb of speech or thought, such as the Tlingit verb *yéi yaawakaa* 'he said' (see the comment in (34)). The precise semantic relationships between these expressions must be left to future research, but facts like (35) suggest that *yóo.á* is rather different in meaning from an epistemic possibility modal.

4.   Circumstantial Modality in Tlingit

4.1   The Expression of Circumstantial Possibility

Circumstantial possibility concerns propositions that *might* be true in the future*, given *the current circumstances (or facts).* One common means of expressing circumstantial possibility in English is the auxiliary *might*, as in *Dave might go fishing later* (3c). As shown below, there are two ways in which speakers of Tlingit translate circumstantial possibility statements: (i) the combination of a dubitative with a future-inflected verb, and (ii) the potential mode.

In each of the examples below, the scenario presents some proposition as potentially holding in the future, given the current circumstances. Moreover, the English sentences targeted for translation contain the auxiliary *might*, conveying circumstantial possibility. As shown in (36)-(37), speakers can translate such sentences via the use of a dubitative particle and a future-inflected verb. (For reasons of space, additional examples are provided in the Appendix.)

(36)   Scenario: We are at a party. Our friend will be coming later. At the party, they are serving herring eggs. Our friend kind of likes herring eggs. When he shows up later, there's a chance that he'll eat some of the herring eggs.

   English Sentence to Translate: "He might eat some herring eggs."

   Tlingit Translation Offered: **Gwál** gáax'w   **akgwaxáa.**   (HS)
                                         DUB herring.eggs   3O.**FUT**.3sgS.eat
                                         Maybe he'll eat some herring egss.

(37)   Scenario: Your friend is complaining of a stomachache. You have some medicine that sometimes works for stomachaches (but not always). It might get rid of his stomachache. You want to tell him about it.

   English Sentence to Translate: "If you take this medicine, you might get better."

   Tlingit Translation Offered:
   Gwál idanáyi   yá náakw,   i.ée   **kei kgwak'éi.**   (SE)
   DUB IMPFV.2sgS.drink.SUB   this medicine   you.at   **FUT**.3S.good.
   Maybe, if you drink this medicine, you will become well.

In addition to this strategy, speakers also translate circumstantial possibility statements using the potential mode, as shown below.

(38)   Scenario: (Same as (36))

        English Sentence to Translate: "He might eat some herring eggs."

        Tlingit Translation Offered: Gáax'w   **agaaxaa**.   (HS) [13]
                                                   herring.eggs   3O.**POT**.3sgS.eat
                                                   He might eat herring eggs.

(39)   Scenario: (Same as (37))

        English Sentence to Translate: "If you take this medicine, you might get better."

        Tlingit Translation Offered:
        Idanáyi   yá náakw,   i eet   **gwadishee**   (SE)
        IMPFV.2sgS.drink.SUB this medicine   you.to **POT**.3S.help
        If you drink this medicine, it might help you.

(40)   Scenario: You are watching me place an antenna on my roof. I've put the antenna right at
        the edge of the roof. You notice that it's hanging right over a spot where the kids often
        play. You want to warn me of the possibility that the antenna might fall…

        English Sentence to Translate: "What out! That might fall!"

        Tlingit Translation Offered:
        Dlookát latín! Aax   **daak gwaaxeex**.   (A)
        watch.out   there.from   **POT**.3S.fall
        Watch out! It might fall!

    Although both the strategies in (36)-(37) and (38)-(40) are used to translate English
circumstantial possibility statements, there is evidence that they are not perfectly equivalent in
meaning, and that only the use of the potential in (38)-(40) directly expresses circumstantial
possibility. First, note that neither a dubitative alone (41) nor the future mode alone (42) can
translate circumstantial possibility.

(41)   Scenario: (Same as in (36))

        English Sentence to Translate: "He might eat some herring eggs."

        Rejected Tlingit Translation: # **Gwál**   gáax'w   axá.   (C)
                                             DUB   herring.eggs   3O.IMPFV.3sgS.eat
        Speaker Comments:
        •   Corrected to (38)   (HS)
        •   "This one is maybe he eats it sometimes."   (WF)

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[13] Note that, following Leer's (1991) description, the expected potential form for this verb would be *agwaaxaa*.
Nevertheless, HS pronounced the form in (38) with no labialization of the uvular stop *g*.

(42)   Scenario: (Same as in (40))

English Sentence to Translate: "What out! That might fall!"

Rejected Tlingit Translation:
Dlookát latín!   Aax   **daak gugwaxéex**.   (C)
   watch.out   there.from   **FUT**.3S.fall
Watch out! It's going to fall!

Speaker Comments:
• "No. Here you're saying that it's *going* to fall." (SE)
• "No. Doesn't fit this."   (A)

Moreover, throughout this paper, we will see that – except for the translations in (36)-(37) – dubitatives in Tlingit only ever express *epistemic* possibility, while future mode only ever express circumstantial *necessity*. How, then, is the combination of these two expressions functioning in (36)-(37) as a translation of an English circumstantial possibility statement?

To understand what might be going on here, let us first observe that the combination of epistemic possibility (contributed by the dubitative) and circumstantial necessity (contributed by the future) could be paraphrased as follows: *Given what we know, it's **possible** that X **will** (definitely) happen in the future.* Thus, a more literal translation of the Tlingit sentence in (36) might be something like '*It may be that he will (necessarily) eat herring eggs.*' Finally, let us note that such epistemic uncertainty about the future holds *exactly* when there are several different possible futures – that is, in cases of *circumstantial possibility* (see Condoravdi (2002: 79)). Thus, even though the Tlingit sentences in (36)-(37) may not directly express circumstantial possibility – but only epistemic possibility regarding circumstantial necessities – such statements would generally be true whenever circumstantial possibility statements are, and so would generally suffice as translations thereof (Condoravdi 2002).

Further evidence supporting this view can be found in the translation of *past tense* circumstantial possibility. Such statements, illustrated by (15) above, concern things that *were* possible future outcomes *in the past*, and can be paraphrased as '*Given the circumstances in the past, X was one possible future outcome then.*' Importantly, something may have been a possible outcome in the past without our ever having known anything about it at that time. Thus, the English sentence in (15) – *Your dog could have chewed up my flowers* – cannot be felicitously paraphrased using an epistemic possibility modal, as in '*Given what we **knew**, it was **possible** that my dog (definitely) **would** chew up your flowers.*' With this in mind, let us recall that such past tense circumstantial possibility statements are only ever expressed in Tlingit with the potential mode, as illustrated below (a repetition of (15)).

(43)   Scenario: You have a very nice garden. One day, my dog gets loose from my backyard, and runs over to your yard. You run outside, though, and chase him off. I come over, and ask you why you chased my dog out of your yard.

English Sentence to Translate: "Your dog could have chewed up my flowers."

a. Tlingit Translation Offered:
I   keidlí   ax x'eikaxwéini   **agwaxaayín**!   (HS, A)
your dog   my flower   3O.**POT**.3sgS.eat.PST
Your dog could have eaten my flowers.

b. Rejected Tlingit Translation
\# **Gwá**l   i   keidlí ax x'eikaxwéini yax ayawsixáa.   (C)
   DUB   your dog   my flower   3O.PFV.3sgS.eat.EXH
• "No."   (WF, A)
• "That's 'maybe your dog ate up all my flowers'."   (HS)

As shown above, when asked to translate past tense circumstantial possibility statements, Tlingit speakers always use a construction like (43a), where the verb bears both the potential mode and the past-tense suffix. Speakers never attempt to translate such sentences using a dubitative and the future mode together, as in (36)-(37). It seems fair to conclude, then, that the dubitative sentences in (36)-(37) do not literally express circumstantial possibility, but rather only epistemic possibility. Furthermore, we can conclude that the potential mode in (38)-(40) is indeed a literal expression of circumstantial possibility in Tlingit. Additional examples of the potential mode used to express (past tense) circumstantial possibility appear in the Appendix.

4.1.1 Circumstantial *Impossibility*: The Negation of Circumstantial Possibility

We've just seen that speakers of Tlingit translate circumstantial possibility either with (i) the combination of a dubitative particle and a future-marked verb, or (ii) a potential-marked verb. Given that dubitative particles cannot be negated (Section 3.1.1), one might then expect that the *negation* of circumstantial possibility – that is, circumstantial *impossibility* – can only be expressed through a negated potential-marked verb. Interestingly, however, such structures cannot in fact express circumstantial impossibility. Rather, as first reported by Leer (1991: 388-389), such verbs can only express the circumstantial possibility of a *negative* proposition. That is, the sentence in (44a) has only the meaning in (44b), and not the meaning in (44c).

(44) a. Tlél   kwaakasiteen.
          NEG   **POT**.1sgS.see
          I might not see it.   (Leer 1991: 388)

      b. Possible Interpretation: Circumstantial Possibility of a Negative Proposition
          Given the circumstances, it **is possible** in the future that I **don't** see it.

      c. Not a Possible Interpretation: Negation of a Circumstantial Possibility
          \# Given the circumstances, it is **not possible** in the future that I see it.

How, then, does one express circumstantial impossibility in Tlingit? As reported by Leer (1991: 392), this can be expressed via the *tlél aadé ... yé* construction. This construction consists of a relative clause headed by a potential-marked verb, modifying the noun *yé* 'way', and preceded by negation. As shown in (45) below, the entire phrase can be translated as *there is no way X might happen*, and so can be used to express the negation of circumstantial possibility.

22

(45)   Scenario: Tom drank too much coffee, and is now not physically able to fall asleep.

English Sentence to Translate: "Tom can't sleep."

Tlingit Translation Offered:
Tlél   aadé   **ngwataayi**   yé.   (SE)
NEG   to.it   **POT**.3sgS.sleep.REL way
There's no way he can sleep.

4.2   The Expression of Circumstantial Necessity

Circumstantial necessity holds of propositions that *must* be true in the future*, given the current circumstances (or facts)*. In English, the preferred means for expressing circumstantial necessity are (i) the construction *be going to* (as in, *I'm **going to** sneeze*), or (ii) the future auxiliary *will* (as in, *Dave **will** come to the party*). In Tlingit, the primary means for expressing circumstantial necessity is the so-called 'future mode'.
         In each of the examples below, the scenario presents some proposition as necessarily holding in the future, given the current circumstances. Moreover, the translated English sentence contains either the construction *be going to* or the auxiliary *will*. As shown below, speakers regularly translate such sentences into Tlingit via the future mode. (See the Appendix for further examples.)

(46)   Scenario: You are watching me place an antenna on my roof. I didn't do a good job placing the antenna, and it looks really wobbly. As I'm walking back, the antenna starts to tilt over, and now it's dangling over the side of the roof. You want to warn me that the antenna is about to fall off the roof…

English Sentence to Translate: "Watch out! That's going to fall!"

Tlingit Translation Offered:
Dlookát latín! Aax   **daak gugwaxéex**.   (WF)
watch.out   there.from   **FUT**.3S.fall
Watch out! It's going to fall!

(47)   Scenario: Your friend is complaining of a stomachache. You have some medicine that you know works really well for stomachaches. It will definitely get rid of his stomachache. You want to tell him about it.

English Sentence to Translate: "If you take this medicine, it will help you."

Tlingit Translation Offered:
Idanáyi   yá náakw,   i eedéi   **guxdashée**   (SE)
2sgS.3O.drink.IMF.SUB this medicine you.to   **FUT**.3S.help.
If you drink this medicine, it will help you.

23

Although the potential mode can express circumstantial *possibility* (Section 4.1), it is unable to express circumstantial necessity, as the judgments below indicate.

(48)   Scenario: (Same as in (46))

   English Sentence to Translate: "Watch out! That's going to fall!"

   Rejected Tlingit Translation:
   # Dlookát latín!   Aax   **daak gwaaxeex**.   (C)
      watch.out   there.from   **POT**.3S.fall

   Speaker Comments:
   • "This says 'it *might* fall', not 'it's going to fall'."   (SE)
   • "No. Doesn't fit this."   (A)

(49)   Scenario: (Same as in (47))

   English Sentence to Translate: "If you take this medicine, it will help you."

   Rejected Tlingit Translation:
   # Idanáyi   yá náakw,   i eet   **gwadishee**   (C)
      IMPFV.2sgS.drink.SUB this medicine   you.to **POT**.3S.help

   Speaker Comments
   • "This sentence says *maybe* it'll help you. It *might*, it *may*. It's not definite."   (SE)
   • "No. Doesn't fit."   (A)

Given our earlier discussion of past circumstantial possibility, one might wonder how Tlingit expresses past tense circumstantial *necessity*. Such statements concern things that *were* necessary future outcomes *in the past*. In English, there are two varieties of such statements. The first, expressed via past tense *was going to*, describes events that were underway, but which were interrupted. The second, expressed via the modal auxiliary construction *would have*, describes things that would have occurred had other facts been different (and so are often labeled 'counterfactuals'). Interestingly, this division of labor is also reflected in the grammar of Tlingit. The former kind of past circumstantial necessity – expressed by *was going to* in English – is expressed in Tlingit via the combination of future mode and the (optional) past tense suffix.

(50)   Scenario: I was supposed to leave for Sitka this morning. When I got to the airport, though, I saw that my flight was cancelled!

   English Sentence to Translate: "This morning, I was going to go to Sitka."

   Tlingit Translation Offered:
   Yá   ts'ootaat   áwé   Sheet'káadei   **kukkwatéenin**.   (WF)
   this   morning   FOC   Sitka.to   **FUT**.1sgS.travel.**PST**
   This morning, I was going to travel to Sitka.

(51)   Scenario: Earlier today, it got really cloudy. The wind kicked up. It got really cold. It felt like it was about to rain, but it never actually did."

English Sentence to Translate: "It was going to rain."

Tlingit Translation Offered: **Daak guxsatáanin.**   (A)
                                      FUT.3S.begin.to.precipitate.**PST**
                                      It was going to rain.

The second kind of past circumstantial necessity statement – expressed in English via *would have* – is translated into Tlingit using the combination of the *potential* mode and the past-tense suffix, as shown below.

(52)   Scenario: Your friend is complaining of a stomachache. You have some medicine that you know works really well for stomachaches. It will definitely get rid of his stomachache. You tell him to take some, but he doesn't like medicine, and tells you "no". Later on, he starts complaining about his stomachache again. Of course, he wouldn't be feeling bad if he had just taken the medicine…

English Sentence to Translate:
"If you had taken this medicine, you would have gotten better."

Tlingit Translation Offered:
Yá náakw   óosh gé   yidanaayín,   i.éet   **gwadasheeyín.**   (SE)
this medicine HYPO   PFV.2sgS.drink.PST   you.to   **POT**.3sgS.help.**DEC**
If you had drunk this medicine, it would (could) have helped you.

(53)   Scenario: Today, a cougar escaped from the local zoo. At one point, it got downtown and cornered a young man. It was bearing down on him, and was about to pounce. Just in the nick of time, though, the police shot the cougar, saving the young man.

English Sentence to Translate:
"If they hadn't shot that cougar, it would have killed someone."

Tlingit Translation Offered:
Tlél   óosh gé wdu.óonin   wé haadaadóoshi, **kugwajaagín**.   (WF)
NEG   HYPO   PFV.3sgS.shoot.PST that cougar   IndefO. **POT**.3sgS.kill.**PST**
If they hadn't shot that cougar, it would (could) have killed somebody.

The appearance of the potential mode in (52)-(53) is quite surprising, given that we've just seen in (48)-(49) that it cannot on its own express circumstantial necessity. Moreover, recall that we've seen in (43) that the combination of the potential mode and the past suffix is also used to express past circumstantial *possibility*. It would appear, then, that the combination of the potential mode and the past suffix is used to express both past circumstantial possibility (43) and past circumstantial necessity (52)-(53).

25

Does this mean, though, that verbs marked with both potential and past morphology (henceforth 'past potentials') are ambiguous between the two kinds of meanings? Importantly, there is reason to suspect not. First, it simply seems unlikely that the potential mode would only be able to express circumstantial necessity when accompanied by a past tense suffix; such a grammatical rule would be highly unusual, and should only be proposed for Tlingit if there are no other analytic options. Secondly, there is a way of understanding the data in (52)-(53) without assuming that the potential mode in these examples truly expresses circumstantial necessity. This alternative proposal is that the past potentials in (52)-(53) actually all express past circumstantial *possibility*, equivalent to English *could have* (and in accordance with their usage in (43)). The use of past potentials in Tlingit to translate English *would have* might follow from the fact that Tlingit simply lacks an expression that perfectly translates the kind of past circumstantial necessity expressed by *would have*. Recall that the combination of the future mode (circumstantial necessity) and the past suffix expresses an interrupted past event (50)-(51), like English *was going to*. If Tlingit indeed lacks a means for perfectly translating the (strong) English modal *would have*, then the closest approximation in Tlingit to such '*would have*' necessity statements would be the (weak) past circumstantial *possibility* statements expressed by past potential verbs.

Importantly, there is a way to test this proposal, originally developed by Deal (2011) for Nez Perce. To begin, let us consider the Tlingit sentence in (54).

(54)   <u>Scenario:</u> Our friend Bill threw a party last night, but you couldn't go. You ask your friend Tom, who did go to the party, what kind of food they had. It turns out that, because of your allergies, some of the food there would have really made you sick (*s'áaw* 'crab', *shaaw* 'gumboots', *etc.*). You couldn't have eaten any of that. However, there was some other food there that you definitely could have eaten and enjoyed: *t'á* 'king salmon', *gáax'w* 'herring eggs', *kóox* 'rice', *yaaw* 'herring', and *saak* 'hooligan'. You ask your friend Tom what he ate, and he answered, "*T'á, gáax'w, kóox, yaaw, saak.*" So, he ate everything that you could have eaten. You want to tell him this.

       <u>English Sentence to Translate:</u>   "You ate everything I could have eaten!"

       <u>Tlingit Translation Offered:</u>

Ldakát	kwaxaayi	át	ax yaysixáa.	(SE)
all	**POT**.1sgS.eat.**PST**.REL	thing	PFV.2sgS.eat.exhaustive.	

       You ate up everything that I could have eaten.

In the Tlingit sentence above, the past potential verb *kwaxaayi* 'could have eaten' appears inside a relative clause in the immediate scope of the quantifier *ldakát* 'all/every', producing the phrase *ldakát kwaxaayi át* 'everything I **could have** eaten'. As shown above, the sentence *Ldakát kwaxaayi át ax yaysixáa* 'You ate up everything I could have eaten' is reported to be true in the scenario under (54), where the addressee ate everything that the speaker *had the ability* to eat.

Now, note that if past potentials indeed only ever express (weak) circumstantial possibility, then *ldakát kwaxaayi át* in (54) will only ever mean 'everything I **could have** eaten'; it couldn't be used to mean 'everything I **would have** eaten'. Next, note that the things one *could* have eaten can be a *strict superset* of the things one *would* have eaten; this is the case, for example, in the scenario under (55) below. Consequently, a quantificational statement

concerning 'everything I **could have** eaten' can be false in a scenario where the corresponding statement concerning 'everything I **would have** eaten' would be true. In particular, in the scenario under (55) below, the proposition 'You ate everything I **would have** eaten' is true, while the proposition 'You ate everything I **could have** eaten' is false. Finally, with all this in mind, let us observe that the Tlingit sentence in (54) is indeed *rejected* for scenario (55).

(55)   Scenario: Our friend Bill threw a party last night, but you couldn't go. You ask your friend Tom, who did go to the party, what kind of food they had. Turns out that, because of your allergies, some of the food there would have really made you sick (*s'áaw* 'crab', *shaaw* 'gumboots', *etc.*). You couldn't have eaten any of that. However, there was also some other food there that you would have been able to eat: *t'á* 'king salmon', *gáax'w* 'herring eggs', *kóox* 'rice', *yaaw* 'herring', and *saak* 'hooligan'. You could have eaten all of that. **However, you also don't really like rice (too bland) or hooligan (too greasy). So, even though you could have eaten all those other foods, you probably would only have eaten the king salmon, the herring eggs, and the herring.** You ask your friend Tom what he ate, and he answered, "*T'á*, *gáax'w*, *yaaw*." So, he ate everything that you **would** have eaten. You want to tell him this.

English Sentence to Translate: "You ate everything I would have eaten!"

Tlingit Translation Offered:

Ldakát	ax x'éi	yak'éiyi	aa	áwé	ax yaysixáa	(SE)
all	my mouth.at	3S.good.REL	ones	FOC	PFV.2sgS.eat.exhaustive.	

You ate up everything that I liked the best.

Rejected Tlingit Translation:

# Ldakát	kwaxaayi	át	ax yaysixáa.	(C)
all	**POT**.1sgS.eat.**PST**.REL	thing	PFV.2sgS.eat.exhaustive.	

Speaker Comments:
• [Corrected sentence to the translation offered above]   (SE)
• "That's almost the same… the ones that you could have eaten."   (SE)
• "Maybe you could say it here. But it's different [from the English target]   (SE)

Following the logic laid out above, if past potential verbs could truly be interpreted as past circumstantial necessity statements, then the NP *ldakát kwaxaayi át* could be interpreted as 'everything I **would** have eaten', and so the Tlingit sentence in (54) should also be acceptable in the scenario under (55). Since it is not, this indicates that past potentials are indeed only ever interpreted as past circumstantial possibility statements, and so supports the 'pragmatic' analysis of (52)-(53) proposed here.

In summary, the only means for expressing circumstantial necessity in Tlingit is the future mode; the potential mode is only used to express circumstantial possibility.

4.2.1 The Negation of Circumstantial Necessity

Since circumstantial necessity is expressed in Tlingit via the future mode (Section 4.2), we might expect that the negation of a circumstantial necessity statement would be expressed through the negation of a future-marked verb. However, as with the English futurate expressions *be going to* and *will*, the negation of a future-marked verb in Tlingit cannot actually express the negation of circumstantial necessity, but rather the circumstantial necessity of a *negative* proposition.[14] That is, like the English sentence *He's not going to come*, a negated future sentence in Tlingit (e.g., *Tlél haadéi kgwagóot* 'He's not going to come') expresses that it's a necessary future outcome that he doesn't come (Leer 1991: 388). Such a sentence cannot express the weaker statement that it's *not a necessary* future outcome that he arrives.

So how does Tlingit express the weaker statement that something is not a necessary future outcome? First, note that if something is not a necessary future outcome, then it's a *possible* future outcome that that thing *doesn't* happen. That is, 'X isn't necessarily going to happen' is logically equivalent to 'X might not happen'. Now, recall from Section 4.1.1 that Tlingit can express that something *might not happen* via the negation of a potential-marked verb (44). Thus, the most practical means for expressing the negation of circumstantial necessity in Tlingit is actually through the negation of a *potential*-marked verb.

4.2.2 Tlingit 'Future Mode' is *Not* a Tense

Propositions that are 'circumstantially necessary' are ones that that will definitely happen in the future. Consequently, expressions of circumstantial necessity can often be confused for future tenses. This has indeed been the case for major European languages like English, where the modal auxiliary *will* is often informally described as being a 'future tense'. In the discussion above, however, the Tlingit 'future mode' has been assumed to have a modal meaning, and not to have the lexical semantics of a future tense. As we will see in this section, this assumption is indeed accurate; the Tlingit future mode exhibits properties that are indicative of a modal, rather than a (purely) temporal, semantics.

First and foremost, we have already seen that is possible for 'future mode' morphology to co-occur with past tense marking (50)-(51). Assuming that a single verb cannot have conflicting values for tense, we must conclude that one of these two morphemes is not a true tense marker. Given the evidence that the past-marking suffix in (50)-(51) is indeed a past tense (Cable 2016a), it follows that the future mode morphology cannot be a tense.[15]

In addition, there are usages of future mode in Tlingit that are indicative of a modal, rather than a temporal, meaning.[16] First, like the English auxiliary *will*, it is possible to use the Tlingit future mode to make offers.

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[14] It is interesting here to note the similarity with negated potential verbs (Section 4.1.1), which cannot express the negation of circumstantial possibility, but rather the circumstantial possibility of a negative proposition.

[15] It should be noted that this general form of argument is now quite common in the literature on tense, aspect, and modality, and has been used for numerous languages to establish that apparent cases of 'future tense' are not actually tenses (Abusch 1997, Matthewson 2006, Matthewson 2013).

[16] These usages would therefore also argue against an analysis of Tlingit future mode as a so-called 'prospective aspect'. Note, moreover, that the usages detailed here are not possible for English *be going to*, which has sometimes been categorized as a prospective aspect (Brisard 2001).

(56)　Scenario: It's the birthday of our friend Joe, and we're all planning a surprise party for him. In order for our surprise party to work, we need someone to take him out to lunch. No one has offered yet, and you want to volunteer.

English Sentence to Translate:　　　"I'll eat lunch with Joe!"

Tlingit Translation Offered:　　　Yei kkwa.éex'.　　At gaxtooxáa.　　　(SE)
　　　　　　　　　　　　　　　　　3O.**FUT**.1sgS.invite　IndefO.**FUT**.1plS.eat
　　　　　　　　　　　　　　　　　I'll invite him! We'll eat!

In the scenario in (56), the speaker is not predicting that they will invite Joe or eat lunch with him. After all, in this scenario, it's not yet determined that the speaker will indeed be the person to take Joe to lunch; rather, they are simply voicing their willingness to be that person. The ability for future mode to be used in this scenario thus indicates that it need not necessarily receive a purely temporal interpretation.[17]

　　　In addition to making offers, the Tlingit future mode can be used to describe simple 'dispositions'. For example, future mode can be used in contexts like the following.

(57)　Scenario: Our families are going to have dinner together, and we're planning out the menu. I'd like to make gumboots, but I don't know whether your kids like gumboots at all. Your kids love gumboots, though. You want to tell me that they do eat gumboots.

English Sentence to Translate:　　　"My kids will eat gumboots."

Tlingit Translation Offered:　　　Shaaw　　has akgwaxáa.　　　　(SE)
　　　　　　　　　　　　　　　　　gumboots　3O.**FUT**.3plS.eat
　　　　　　　　　　　　　　　　　They will eat gumboots.

In the scenario in (57), the speaker is again not predicting that their kids definitely will eat gumboots; after all, in this scenario, the imagined addressee has not actually yet chosen gumboots as a menu item. Rather, the speaker is simply expressing a disposition (or willingness) for their children to eat gumboots. Nevertheless, like the English modal *will*, the Tlingit future mode is possible here, and so it does not behave as a true future tense would be expected to.[18]

　　　Finally, let us observe that Tlingit future mode is used in purely hypothetical (subjunctive) conditionals, as illustrated in (58) below.

(58)　Scenario: We're talking about the kinds of animals we'd like to be. You always wanted to fly like a bird. So, you imagine that if you were a bird, you'd be so happy.

Tlingit Sentence Offered:
Ts'ítskw　　óosh gé　　xat sitee,　　ch'a tlákw　　ax toowú kei guxsagóo.
bird　　　　HYPO　　　1sgS.IMPRV.be　just always　　1sgS.**FUT**.be.happy
If I were a bird, I would always be happy.　　　　　　　　　　　　　(SE)

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[17] It is useful to compare here the anomaly in this context of the English sentence *I'm going to eat lunch with Joe!*

[18] And, again, it also does not behave like English *be going to*, which is anomalous in scenarios like (57) (#*My kids are going to eat gumboots*).

As the scenario in (58) makes clear, the Tlingit sentence above in no way commits the speaker to the future occurrence – or even possibility – of their being a bird (and therefore always being happy). Indeed, the kind of meaning that semanticists would attribute to such a sentence is a purely modal one, involving quantification over the metaphysically possible worlds/situations where the speaker is a bird (Kratzer 2012). It therefore again appears that the future mode is contributing a purely modal – rather than temporal – meaning.[19]

        One these grounds, one can conclude that the 'future mode' of Tlingit possesses a modal semantics, and so the facts from Section 4.2 indicate that it expresses circumstantial necessity.

5.   Deontic Modality in Tlingit

5.1   The Expression of Deontic Possibility

Deontic possibility concerns propositions that are *allowable,* given *the current laws, rules, goals, etc.* In English, the modal auxiliaries 'can' and 'may' both express deontic possibility, as in sentences like *Dave can/may vote in this year's election* (3b).

        Tlingit speakers generally communicate deontic possibility via the construction *tlél/hél wáa sá utí…* 'it is okay…' In each of the scenarios below, some proposition is consistent with the given laws, rules, goals, *etc.* Moreover, the English sentences targeted for translation contain the auxiliaries *can* or *may*, expressing deontic possibility. As seen below (and in the Appendix), speakers translate such sentences via the construction *tlél/hél wáa sá utí*.

(59)   Scenario: You're at a party. Your son is asking to try some of the herring eggs. One of the other adults asks whether he's allowed to try them. You want to say that he can.

        English Sentence to Translate: "He can eat some herring eggs."

        Tlingit Translation Offered:
        Hél   wáa   sá   utí   gáax'w   awuxaayí.   (HS)
        NEG how   Q   IMPFV.3S.be herring.eggs   PFV.3sgS.eat.SUB
        It's OK if he eats herring eggs.
        (Lit. '*That he eats herring eggs is not any (particular) way.*' [i.e., nothing especially bad or good about it]).

(60)   Scenario: Our friend Joe rents a house. He doesn't like the color of the house. He's asked his landlord for a long time if he can paint it, but the landlord has said 'no'. Finally, just today, the landlord changed his mind, and decided that Joe *can* paint his house.

        English Sentence to Translate: "Joe can paint his house."

        Tlingit Translation Offered:
        Tlél   wáa   sá   utí   du   hídi   awunéegwál'i.   (SE)
        NEG how   Q   IMPFV.3S.be   his   house PFV.3sgS.paint.SUB
        It's OK if he paints his house.

---

[19] Once again, this is in contrast with English *be going to*, which does not allow such usages (# *If I were a bird, then I am/was going to always be happy*.)

It should be noted, however, that while *tlél waa sá utí* 'it is okay' can be used to translate deontic possibility, it does not seem to have an inherently modal meaning. It can freely predicate NPs denoting entities, and generally means simply that its argument is 'not bad'.

(61)   Scenario: Some food is in front of us. It's not particularly good, but it's not really bad either. It's just so-so.

Tlingit Sentence Offered:	Tlél	wáa sá	utí	(WF)
	NEG	how Q	IMPRV.3S.be	

It's not bad. (Lit. *It's not any (particular) way*)

Furthermore, none of the modal expressions discussed in Sections 3 or 4 can express deontic possibility. As shown in (62)-(63), neither the dubitative particles, which express epistemic possibility, nor the potential mode, which expresses circumstantial possibility, can express deontic possibility.

(62)   Scenario: (Same as in (59))

English Sentence to Translate: "He can eat some herring eggs."

Rejected Tlingit Translation:	# **Gwál**	gáax'w	a<u>x</u>á.	(C)
	DUB	herring.eggs	3sgS.IMPFV.eat	

Speaker Comment:
- "That's not giving permission." (A)

(63)   Scenario: (Same as in (60))

English Sentence to Translate: "Joe can paint his house."

Rejected Tlingit Translation:	# Joe	du	hídi	**oongaanéegwál'.**	(C)
	Joe	his	house	3sgS.**POT**.paint	

Speaker Comments:
- "No; this means 'maybe he'll paint it.'   (SE)
- "I would be thinking this says 'he might accidentally paint his house'."   (SE)

It appears, then, that there is not an inherently modal expression in Tlingit that can express deontic modality. Nevertheless, the fact that a given proposition (or situation) is 'allowable' can be communicated by stating that it is okay / not bad (*tlél/hél wáa sá utí…*).

5.1.1   The Expression of Deontic *Impossibility:* The Negation of Deontic Possibility

Let us now consider how the Tlingit language expresses that something is '*not* allowable', *i.e.*, statements of deontic *impossibility*. Because Tlingit does not allow double negation (Cable 2016b), speakers cannot simply negate the already negative construction *tlél/hél wáa sá utí* 'it is okay'. Instead, they make use of the *tlél aadé … yé* construction, discussed in Section 4.1.1.

(64) Scenario: Our friend Tom is starting to fall asleep. However, he has to go pick up his dad soon, and so he *can't* fall asleep.

English Sentence to Translate: "Tom can't fall asleep!"

Tlingit Translation Offered:

Tlél	aadé	táach	**gwaajaagi**	yé,	(SE)
NEG	to.it	sleep.ERG	**POT**.3sgS.kill.REL	way	

There's no way he can fall asleep. (Lit. '*There's no way that sleep can kill him.*')

The use of this construction to express deontic impossibility is a bit surprising, given that the potential mode cannot on its own express deontic possibility (63). Nevertheless, such usage seems to be robust; as shown in (65), one can find instances of it in naturally produced texts.

(65) Textual Context: The character speaking the sentence below has just sat down, and been asked to move. They are certainly physically able to move, but simply do not wish to.

Tlél	aadéi	aax	gunayéi	**kwaanoogu**	yé
NEG	to.it	it.from	begin	**POT**.1sgS.sit.REL	way

No way I can start sitting (elsewhere) from here.   (Nyman & Leer 1993: 2)

It's also worth noting here the speaker's comment regarding the rejected translation below.

(66) Scenario: (The conversation in (18)-(19))

English Sentence to Translate: "Joe couldn't be fishing!" (epistemic impossibility)

Rejected Tlingit Translation:

# Tlél	aadéi	ast'eix	**daak gwaakooxi**	yé	(C)
NEG	it.to	fishing	**POT**.3sgS.go.out.by.vehicle.REL	way	

No way he can be out fishing.

Speaker Comments:
- "Doesn't fit; **[this sentence says]** you're <u>forbidding</u> him to be fishing."   (SE)

Thus, despite the inability for potential mode to generally take a deontic base, it can take such a base when participating in the *tlél aadé ... yé* construction. However, since this construction is clearly a lexicalized idiom (Leer 1991: 392), it should indeed be able to (holistically) contribute a meaning that its individual parts would otherwise be unable to.

Finally, if one wishes to express that something is not allowable for the person they are addressing, then one can also use a negative imperative, which in Tlingit is expressed via the so-called 'prohibitive mode'. An example of this appears below and in the Appendix.

(67)   Scenario: Our friend Tom is starting to fall asleep. However, he has to go pick up his dad
        soon, and so he *can't* fall asleep. You want to tell him he can't fall asleep.

        English Sentence to Translate: "You can't fall asleep!"

        Tlingit Translation Offered:
        Tlél   táach   ijákik.   I   éesh gaa   kgeekóox   (SE)
        NEG   sleep.ERG   2sgO.3sgS.kill.**PHIB** your father for   FUT.2sgS.go.by.vehicle
        Don't fall asleep! You're going to go get your dad.

5.2   The Expression of Deontic Necessity

Expressions of deontic necessity concern those things that are *necessary (or required),* given *the
current laws, rules, goals, etc*. In English, the modal auxiliaries *must* and *have to* both express
deontic necessity, as in sentences like *Dave must / has to return his library book*. In Tlingit,
however, just as with epistemic necessity (Section 3.2), it seems that there are no expressions
that perfectly capture deontic necessity. Nevertheless, there are a variety of methods used by
speakers of Tlingit to translate English deontic necessity statements.

        In each of the examples below, the scenario presents some proposition as being entailed
by the current laws, rules, goals, *etc*. Moreover, the English sentence targeted for translation
contains either the auxiliary *must* or *has to*, conveying deontic necessity. As shown below, one
method for translating such deontic necessity statements into Tlingit is to use the hortative mode
(further examples appear in the Appendix).

(68)   Scenario: We're at a potluck. Tom's wife made the herring eggs. Even though he doesn't
        usually like herring eggs, since his wife made them, he's got to try some of them.

        English Sentence to Translate: "He has to eat the herring eggs."

        Tlingit Translation Offered: Gáax'w   **agaxáa.**   (HS)
                                            herring.eggs   **HORT**.3sgS.eat
                                            May he eat the herring eggs!

        One should observe, however, that Tlingit hortative sentences differ in a rather
fundamental way from the deontic necessity statements they translate. English deontic necessity
statements are declarative in force; they can be true or false. For example, one could object to the
deontic necessity statement in (69a) by saying 'that's not true', as in (69bi). Furthermore, it is
anomalous to object to such a statement by saying 'he doesn't want to', as in (69bii).

(69)   a.   He has to eat the herring eggs.   b.   (i)   No. **That's not true.**
                                                      (ii)   # No. **He doesn't want to.**

This is quite different from sentences with imperative force, like English imperatives. Notice
below that one cannot object to an imperative by saying 'that's not true', though one can object
by saying 'I don't want to.'

(70) a.   Eat the herring eggs!   b.   (i)   # No. **That's not true.**
                                                 (ii) No. **I don't want to.**

Now let's consider Tlingit sentences with declarative force. As shown below – and as we'd expect – one can object to a Tlingit declarative with the expression *tlél ayáx̱ áwé* 'that's not true' (Lit. 'It's not like that.').

(71) a.   Tlél   k'idéin   k̲aa ee at ultóow.   (WF)
            NEG   well   IndefO.IMPFV.3sgS. teach
            She doesn't teach well.

      b.   Tléik'! **Tlél   ayá̱x   áwé!**   (HS)
            no   **NEG   like.it FOC**
            No! That's not true!   (Lit. '*No! It's not like that!*')

Finally, let us consider hortative sentences in Tlingit. As shown below in (72), unlike declarative sentences (71a), one cannot object to a hortative using *tlél ayá̱x áwé* 'that's not true'. However, like English imperative sentences, one can object using *tlél du tuwáa ushgú* 'he doesn't want to'.

(72) a.   G̲áax'w   **agaxáa.**   (HS)
            herring.eggs   **HORT**.3sgS.eat
            May he eat the herring eggs!

      b.   (i)   # Tléik'!   **Tlél   ayá̱x   áwé!**   (C)
                  no   **NEG   like.it FOC**

            (ii) Tléik'! **Tlél   du tuwáa ushgú**.   (WF, HS, A)
                  no   **NEG   IMPFV.3sgS.want**
                  No. He doesn't want to.

Thus, we find that hortative translations like (68) differ in their illocutionary force from the deontic necessity statements they translate. For this reason, we should conclude that the Tlingit hortative mode doesn't *exactly* express deontic necessity, although it does in many cases provide a sufficiently close approximant.

      Is there in Tlingit a structure that *does* directly signal deontic necessity? There seems not. Speakers generally report finding it difficult to translate English deontic necessity statements into Tlingit. They report "getting stuck" on the translation of English *has to* in sentences like (68) ("I'm stuck at '*has to*'"), and that such statements are "difficult to tell in Tlingit." Some other methods for translating such statements include using the construction *a eetéená̱x yatee* 'to need' (lit., 'to be in need of') and the verb *yéi ya-sa-k̲a* 'to tell/order'. The sentences in (73)-(74) below (and in the Appendix) illustrate.

(73) Scenario: Your car is broken, and won't run. You've got to get it fixed, so that you can get into work on time.

      English Sentence to Translate: "I have to get my car fixed."

Tlingit Translation Offered:
Kúnáx **a eetéenáx xat yatee**   a daa   yéi jiwduneiyí.   (SE)
really **need.of.it IMPFV.1sgS.be** it around   PFV.IndS.work.SUB
I'm really in need of someone working on my car.

(74)   Scenario: Our friend Joe has just received a notice from the city. It says that he has to paint his house, or else he's going to get a fine. Joe is upset about all this, and I ask you why. You want to tell me that he's being made to paint his house.

English Sentence to Translate: "Joe has to paint his house."

Tlingit Translation Offered:
Yéi yawdudzikaa   du   hídi   anganéegwál'   (SE)
PFV.IndefS.told   his   house HORT.3S.paint
He was told to paint his house.

Another method used for translating deontic necessity involves the predicate *yak'ei* 'good', as shown below (see the Appendix as well).

(75)   English Sentence to Translate: "You have to read the book."

Tlingit Translation Offered
Kúnáx **yak'éi**   yitóowu   wé   x'úx'   (WF)
very **IMPFV.3S.good**   PFV.2sgS.read.SUB   that   book
It's very good if you read that book.

Yet another method is illustrated in (76) below. In these examples, the speakers were asked to translate English deontic necessity statements describing the conditions someone must meet before they would be allowed to do something (*i.e.*, play on the basketball team). In the translations offered below, these deontic necessity statements were rendered into Tlingit as descriptions of the ways in which the person in question *fell short* of those conditions.[20]

(76)   Scenario: Your little brother wants to play on the basketball team with you. You're telling him the reasons why he can't.

   a.   English Sentence to Translate: "You have to be taller."

         Tlingit Translation Offered:
         Tlél   ayáx   i koolgé.   (WF)
         NEG   enough   IMPFV.2sgS.big
         You aren't big enough.

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[20] As one speaker said for these cases, "I know how to say it in the negative, but I'm having a hard time with the positive." Again, this gives further indication that there is not in Tlingit a perfect means for translating deontic necessity statements.

b.   <u>English Sentence to Translate:</u>   "You have to run fast."

Tlingit Translation Offered:
Tlél   ayáx̱   eegóot.   (A)
NEG   enough   IMPFV.2sgS.go.fast
You don't go fast enough.

Despite their being useful as translations of deontic necessity, none of the Tlingit sentences in (73)-(76) seem to actually invoke deontic modality in their truth-conditions. Sentence (74) is an indirect speech report. Sentence (75) simply states that a particular situation type would be 'good'. Sentence (76) describes the respects in which the subject falls short of the current laws, rules, goals. The Tlingit sentence that seems most likely to truly have a deontic modal meaning is that in (73), containing the verbal theme *a eetéenáx̱ yatee* 'to be in need of'/'to be lacking'. It should be noted, however, that this predicate can also take NP (entity) arguments, in which case it means that the subject lacks the argument.

(77)   Héen   eetéenáx̱   x̱at yatee.
        water   need.of   IMPRV.1sgS.be
        I am in need of water.   (Dauenhauer & Dauenhauer 2000)

It remains unclear, then, to what extent sentences like (73) truly have a deontic modal meaning.
       Finally, speakers of Tlingit will occasionally employ the future mode in either naturally produced statements of deontic necessity or translations of such statements.[21] The sentences in (78) are taken from naturally produced texts, and in their original context function much like deontic necessity statements, as their English translations indicate.

(78)   a.   **Yaa gax̱yeeyaá,**   yee   wóowu   sákw   áwé
              FUT.2plS.carry.in.pack   your   lunch   for   FOC
              *You **must** carry it in your pack; it is to be your lunch.*   (Leer 1991: 383)

        b.   Tlél   lítaa   aadéi   **gax̱yishée**.
              NEG   knife   to.it   **FUT**.2plS.touch
              *You **must** not touch a knife for four days.*   (Leer 1991: 383)

        c.   **Kḵwagóot**   dei.
              FUT.1sgS.go.by.foot   now
              *I **have to** go now.*   (Dauenhauer & Dauenhauer 2000)

Such uses of the future mode appear to be most natural when either (i) the speaker is describing their own obligations, which they intend to meet in the future (78c), or (ii) the speaker is describing obligations that they themselves are placing, either on the addressee or on a third person (78a,b). Further, elicited examples of this usage of the future appear below.

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[21] Leer (1991) refers to these as 'prescriptive' uses of the future mode.

(79)   Scenario: (Same as (76))

    a.   English Sentence to Translate: "You have to be taller."

       Tlingit Translation Offered: Ayáx   **i kugaxlagéi.**   (HS)
                                             enough   **FUT**.2sgS.big
                                             You will / have to be big enough.

    b.   English Sentence to Translate: "You have to run fast."

       Tlingit Translation Offered: Ayáx   **kei kgeegóot**   (A)
                                             enough   **FUT**.2sgS.go.fast
                                             You will / have to go fast enough.

However, outside of the contexts mentioned above, such 'prescriptive' uses of the future seem to be rather marginal. Speakers will sometimes offer a translation containing the future mode, only to then retract it upon further consideration. This is illustrated in (80)-(81), and in the Appendix.

(80)   Scenario: (Same as in (74))

    English Sentence to Translate: "Joe has to paint his house."

    Tlingit Translation Offered and Retracted   # Du   hídi   **akgwanéegwál'**   (SE)
                                                           his   house 3sgS.**FUT**.paint
                                                           He is going to paint his house.
    Later Speaker Comments
    •   "That's saying he's going to paint his house; doesn't say he was ordered."   (SE)

(81)   Scenario: The speed limit on this road is just 10mph.

    English Sentence to Translate: "On this road, people have to drive very slowly."

    Tlingit Translation Offered and Retracted
    # Kaldaagéináx   **at gageekóox**   yá   déi   yíkx'.   (SE)
      slowly   **FUT**.2sgS.drive   this   road   inside.at
    On this road, you're going to drive slowly.

    Later Speaker Comments
    •   "Not really correct here; this means 'he will drive slowly on this road'.   (SE)
    •   "No; this is just a description of how a person drives."   (A)

Furthermore, as illustrated in (82), whenever I presented a constructed example using future to translate deontic necessity, that example was invariably rejected (similar data is in the Appendix).

(82)   Scenario: Your car is broken, and won't run. You've got to get it fixed, so that you can get into work on time.

English Sentence to Translate: "I have to get my car fixed."

Rejected Tlingit Translation: # A daa   **yéi jigaxdunéi**   (C)
                                         it around   **FUT**.IndS.work.

Speaker Comments: "That means that they're gonna work on it."   (SE)

Bearing in mind all the facts in (78)-(82), it would be wrong to say that Tlingit future mode can directly express deontic necessity. Rather, future mode always expresses *circumstantial* necessity (Section 4.2). In cases like (78)-(79), however, the circumstantial necessity statement is understood in context to be made on the basis of (i) the *obligations* at play on either the speaker, the addressee, or some other salient individual, and (ii) the assumption that they will meet them. For example, in (78a), the speaker is literally saying that the addressee is *will* carry his lunch in his pack. In context, however, it is understood that the speaker is saying this because he believes that the obligations he is placing on the addressee will be met. Consequently, sentence (78a) can function to convey the obligations being placed on the addressee, and so functions pragmatically as a deontic necessity statement, even though deontic necessity is not part of the literal meaning of (78a).

It seems, then, that there are no structures in Tlingit that express deontic necessity at the level of their literal, truth-conditional meaning. However, as we've seen, this doesn't imply that speakers of Tlingit are simply unable to talk about deontic necessity. Rather, there are a variety of means by which speakers can, with additional contextual understanding, communicate facts about what is required by the rules, laws, goals, etc. What seems to be absent from Tlingit is simply a deontic necessity modal with the exact meaning of English *must* or *have to*. As mentioned in Section 2, this gap is by no means unprecedented. In particular, Deal (2011) reports that the Nez Perce language also lacks deontic necessity expressions. Interestingly, speakers of Nez Perce use many of the same methods above to communicate about deontic necessity: (i) sentences with imperative force (Deal 2011: 577), (ii) a verb meaning 'tell/order' (Deal 2011: 578), (iii) future morphology (Deal 2011: 578). Thus, we find that in both Tlingit and Nez Perce, the lack of deontic necessity modals doesn't deeply impact the language's overall 'expressivity'.

5.2.1   The Negation of Deontic Necessity

Although there are no expressions in Tlingit that directly express deontic necessity, it is possible to directly express the *negation* of deontic necessity. Recall from Section 4.2.1 that 'not necessarily' is logically equivalent to 'possibly not'. That is, the negation of a deontic necessity statement (e.g., *You don't have to go*) is equivalent in meaning to a deontic possibility statement regarding a negative proposition (e.g., *It's possible for you not to go*). Consequently, when asked to translate negated deontic necessity statements into Tlingit, speakers offer sentences containing the expression *tlél/hél wáa sá utí…* 'it is okay', as shown below.

(83)   English Sentence to Translate: "You don't have to read the book."

Tlingit Translation Offered:

Hél	**wáa sá**	**utí**	hél	yitóowu	(WF)
NEG	**how Q**	**IMPFV.3S.be**	NEG	PFV.2sgS.read.SUB	

It's alright if you don't read it.

6.   Summary: The Expression (and Translation) of Modality in Tlingit

The chart under (84) below summarizes all that we've seen in this paper. In this chart, boldfaced 'YES' means that we've seen positive evidence that the morphology/construction in that row *can* express the modality in that column. Similarly, a boldfaced 'NO' means that we've seen negative evidence that the morphology/construction in that row *cannot* express the modality in that column. Finally, an italicized '*No*' indicates that – although we currently have no actual evidence one way or another – it is *highly unlikely* that the morphology/construction in that row expresses the modality in that column.[22]

(84)   **The Expression of Modality in Tlingit**

	Epistemic (Im)Possibility	Epistemic Necessity	Deontic (Im)Possibility	Deontic Necessity	Circums. (Im)Possibility	Circums. Necessity
Dubitatives (*gwál, gíwe, shákdé*)	**YES**	**NO**	**NO**	*No*	**NO**	*No*
Potential Mode	**NO**	*No*	**NO**	*No*	**YES**	**NO**
Future Mode	*No*	**NO**	*No*	**NO**	**NO**	**YES**
"*Tlél aadé…yé*" Construction	**NO**	*No*	**YES** (impossibility only)	*No*	**YES**	*No*

---

[22] To briefly corroborate the claims represented by the italicized '*No*' boxes in (84), let us recall the following. First, for dubitatives, we've seen that although they express epistemic possibility, they do not express epistemic necessity, deontic possibility, or circumstantial possibility. Thus, it is highly unlikely that they express deontic necessity, or circumstantial necessity.

Secondly, for the potential, we've seen that although it expresses circumstantial possibility, it does not express circumstantial necessity, deontic possibility, or epistemic possibility. Thus, it is highly unlikely that it can express deontic necessity or epistemic necessity.

Thirdly, for the future, we've seen that although it expresses circumstantial necessity, it does not express circumstantial possibility, deontic necessity, or epistemic necessity. Thus, it is highly unlikely that it can express deontic possibility or epistemic possibility.

Finally, for the *tlél aadéi…yé* construction, because the potential mode is only ever found to function as a possibility modal, it is highly unlikely that this construction (build upon a potential-inflected verb) can express the negation of a necessity claim. Thus, it is highly unlikely that this construction can express the negation of epistemic, deontic, or circumstantial necessity.

Looking across the rows, this chart summarizes the following generalizations, which we've established in the Sections above.

(85)   **Generalizations Concerning the Dubitative Particles (*Gwál, Gíwe, Shákdé*)**

        a.   <u>Modal Force of the Dubitatives</u>
                Dubitative particles only ever have **weak force**. That is, they only ever express possibilities (Section 3.1), never necessities.

        b.   <u>Modal Base of the Dubitatives</u>
                Dubitative particles only ever have an **epistemic modal base** (Section 3.1). They cannot have a deontic or circumstantial base.

(86)   **Generalizations Concerning the Potential Mode**

        a.   <u>Modal Force of the Potential Mode</u>
                The potential mode only ever has **weak force**. That is, potential-inflected verbs only ever express possibilities (Section 4.1), never necessities.

        b.   <u>Modal Base of the Potential Mode</u>
                The potential mode (in a main clause) only ever has **circumstantial base** (Section 4.1). Potential-inflected verbs cannot have an epistemic or deontic base.

(87)   **Generalizations Concerning the Future Mode**

        a.   <u>Modal Force of the Future Mode</u>
                The future mode only ever has **strong force**. That is, future-inflected verbs only ever express necessities (Section 4.2), never (mere) possibilities.

        b.   <u>Modal Base of the Future Mode</u>
                The future mode only ever has **circumstantial base** (Section 4.2). Future-inflected verbs cannot have an epistemic or a deontic modal base.

(88)   **Generalizations Concerning the *Tlél Aadé…Yé* Construction**

        The *tlél aadé…yé* construction can be used to express circumstantial impossibility (Section 4.2.1) and deontic impossibility (Section 5.2.1). It cannot be used to express epistemic impossibility.

As to the claim in (87a) that the future mode only ever has 'strong force', and so can never be used to express (mere) possibilities, the data in (89) below provide further support.

(89)   Scenario: Your friend is complaining of a stomachache. You have some medicine that
        sometimes works for stomachaches (but not always). It might get rid of his stomachache.
        You want to tell him about it.

        English Sentence to Translate: "If you take this medicine, you might get better."

        Rejected Tlingit Translation:
        # Idanáyi   yá náakw,   i eedéi   **guxdashée**   (C)
        3O.IMPFV.2sgSdrink.SUB   this medicine you.to   **FUT**.3S.help.

        Speaker Comments:
        •   "Doesn't fit this story; this sentence is definite, it *will* help you."   (SE)

Furthermore, as to the claim in (87b) that the future mode only ever has a circumstantial base,
and cannot ever have an epistemic base, the data in (90) below provide additional support.

(90)   Scenario: We go over to our friend Joe's house. He's not answering the door, and so we
        go around back. We notice that his boat is gone, and all his fishing gear is taken from his
        shed. You conclude that he's gone out fishing.

        English Sentence to Translate: "Joe must be fishing."

        Rejected Tlingit Translation: # Ast'eix   **daak gugwakóox.**   (C)
                                              fishing   **FUT**.3sgS.go.out.by.vehicle

        Speaker Comments: "This one means that he hasn't left yet."   (WF)

        Looking down the columns of (84), we find that there does not seem to exist in the
Tlingit language expressions that directly encode (i) epistemic necessity, (ii) deontic possibility,
or (iii) deontic necessity. We've already seen that this does not deeply impact the overall
'expressivity' of the language, since there are various pragmatic, rhetorical strategies speakers
use to convey information about what is deontically possible or deontically/epistemically
necessary. We've also seen that these kinds of 'gaps' within a language's inventory of modal
expressions are by no means unprecedented, especially not in North America (Deal 2011).
        Furthermore, we've seen that although dubitatives in Tlingit can be used to communicate
both epistemic possibility and necessity, this is not due to their having a 'flexible' or context-
dependent modal force. Therefore, despite their initial, surface similarity to the modal
expressions of St'át'imcets (Rullmann *et al.* 2008) or Washo (Bochnak 2015), Tlingit dubitatives
do have a lexically fixed (weak) modal force. It seems, then, that there is a real typological
difference between languages like St'át'imcets and Washo on one hand, and languages like
Tlingit and Nez Perce on the other. Future semantic fieldwork work on modality should be
careful to acknowledge this difference. In particular, if a language exhibits a modal expression
that can be used to translate either weak or strong modal force, the linguist should be careful to
determine whether (i) that modal has 'context dependent' modal force, or (ii) that modal is
inherently weak, but the language lacks a strong counterpart.

Similarly, we've also seen that although future-inflected verbs in Tlingit can be used to communicate deontic necessity, this is not due to their actually being able to take a deontic modal base. This appears to be in striking contrast with the related language Navajo, where future mode is freely and generally used by speakers to express deontic necessity (Bogal-Allbritten 2016). Consequently, there again seems to be an important typological divide among languages that might appear on the surface to show an identical grammatical pattern. Furthermore, given the rather frequent occurrence of this particular pattern in the languages of world (Matthewson 2013), it is of some import that languages do indeed differ in whether the use of 'future' morphology to express deontic necessity reflects a semantic or a pragmatic phenomenon.

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Appendix: Additional Sentences Illustrating Modal Phenomena in Tlingit

A.   Examples Relating to the Expression of Epistemic Modality in Tlingit

(A1)   **Use of Dubitative *Gwál* to Express Epistemic Possibility**

Scenario: You are inside the house, and the curtains are drawn. You start to hear what sounds like rain outside, and you guess that it might be raining.

English Sentence to Translate: "Maybe it's raining."

Tlingit Translation Offered: **Gwál**   seew   daak wusitán.   (A)
                                         DUB   rain   PFV.3S.begin.to.precipitate
                                         Maybe it's raining.

(A2)   **Use of Dubitative *Gwál* to Express Epistemic Possibility**

Scenario: We go over to our friend Bill's house. We knock and knock on his door, but he doesn't answer. Seems like he isn't home. Where could he be? You make a wild guess…

English Sentence to Translate: "He might be out fishing."

Tlingit Translation Offered:

Gwál ast'ei<u>x</u>   gíwé   woo<u>k</u>oo<u>x</u>.   (SE)
DUB fishing   DUB   PFV.3sgS.go.by.vehicle
Maybe we went fishing.

(A3)   **Use of Dubitatives *Gwál* and *Shákdé* to Express Epistemic Possibility**

Scenario: You are looking for your glasses. You know that you either left them on your dresser, or you left them on the table. You haven't checked either one yet.

English Sentence to Translate: "My glasses might be on the table."

Tlingit Translations Offered:

a.   **Gwál** nadáakw kát   kala.át   a<u>x</u>   waa<u>k</u>dáanaayi (SE)
        DUB table   surface.at IMPFV.3S.lie my   glasses
        Maybe my glasses are lying on the table.

b.   A<u>x</u> waa<u>k</u>dáanaayi   **shákdé** nadáakw   kát   kala.át.   (SE)
        my glasses   **DUB**   table   surface.at   IMPFV.3S.lie
        My glasses are probably lying on the table.

(A4)   **Use of Dubitative *Gíwé* to Express Epistemic Possibility**

Scenario: We go over to our friend Bill's house. We knock and knock on his door, but he doesn't answer. Seems like he isn't home. Where could he be. You make a wild guess…

English Sentence to Translate: "He might be out fishing."

Tlingit Translation Offered:

Gwál ast'ei<u>x</u>   **gíwé**   woo<u>k</u>oo<u>x</u>.   (SE)
DUB fishing   **DUB**   PFV.3sgS.go.by.vehicle
Maybe we went fishing.

(A5)   **Use of Dubitatives *Gwál* and *Shákdé* to Translate Epistemic Necessity**

Scenario: You are inside the grocery story shopping. You notice that people are now coming in soaking wet. You figure that it must be raining now.

English Sentence to Translate: "It must be raining."

Tlingit Translations Offered:

a.   **Gwál** <u>k</u>úná<u>x</u> daak wusitán   yeedát.   (A)
        DUB really PFV.3S.begin.to.precipitate now
        It must (might) really be raining now.

b. Kúná<u>x</u> **shákdé**   daak wusitán   (WF)
    really **DUB**   PFV.3S.begin.to.precipitate
    It must (might) really be raining.

Additional Comment:
"The reason why you're wondering is that they're all soaked."   (A)

B. Examples Relating to the Expression of Circumstantial Modality in Tlingit

(B1) Use of Dubitative and Future to Translate Circumstantial Possibility

Scenario: You are reading the weather report in the newspaper. It says that there is a 50% chance of rain today. It might rain, but it might also be a sunny day. You look outside, and there are some clouds, but it doesn't look too bad.

English Sentence to Translate: "It might rain today."

Tlingit Translations Offered:

a. Séew **shákdé**   **daak gu<u>x</u>satáan**   yáa yagiyee.   (SE)
    rain **DUB**   FUT.3S.begin.to.precipitate   today
    It's probably going to rain today.

b. **Gwál** séew   **daak gu<u>x</u>satáan**   yáa ts'ootaat.   (SE)
    DUB rain   FUT.3S.begin.to.precipitate   this morning
    It's maybe going to rain this morning.

c. **Gwál daak gu<u>x</u>satáan**   yá yakyee.   (A)
    DUB FUT.3S.begin.to.precipitate   today
    Maybe it will rain today.

(B2) Past Tense Circumstantial Possibility Expressed Only Through the Potential Mode

Scenario: You needed to get your sink fixed this morning, and you called a plumber. But, I know a lot about plumbing, and could have fixed your sink for you. When I find out you paid for a plumber, I want to tell you that I could have done it for you.

English Sentence to Translate: "I could have done that for you!"

Tlingit Translation Offered:
I   jeeyís   áyá   **yéi n<u>k</u>wasaneiyín.**   (WF)
your   hand.for   FOC   **POT**.1sgS.do.PST
I could have done it for you.

45

(B3) **Past Tense Circumstantial Possibility Expressed Only Through the Potential Mode**

Scenario: I see some salmon in the back of your fridge and get it out. Right as I'm about to eat it, though, you stop me. Turns out that salmon is a few weeks old, and is probably spoiled. It's a good thing you stopped me, because I could have gotten sick from eating it.

English Sentence to Translate: "I could have gotten sick!"

Tlingit Translation Offered: **Xat guxsanéegun**.   (A)
                                 POT.1sgS.sicken.PST
                                 It could have gotten me sick.

(B4) **Use of the Future to Express Circumstantial Necessity**

Scenario: The weather report says that it definitely will rain all day today.

English Sentence to Translate: "It will rain today."

Tlingit Translation Offered: **Daak guxsatáan**   yáa yakyee.   (A)
                                FUT.3S.begin.to.precipitate   today
                                It's going to rain today.

(B6) **Past Circumstantial Necessity (*Would Have*) Translated with Potential and Past**

Scenario: Your dog is sniffing around some chocolate. You snatch it away at the last minute, just as he's about to eat it.

English Sentence to Translate: "If he had eaten that, he would have gotten sick."

Tlingit Translation Offered:
Awuxaayi   kát,   **kúnáx ash guxsanéegun**.   (A)
PFV.3sgS.eat.SUB COND   really 3O.**POT**.3sgS.sicken.**PST**
If he had eaten that, it would (could) have made him sick.

(B7) **Past Circumstantial Necessity (*Would Have*) Translated with Potential and Past**

Scenario: We went to a party last night where they were serving herring eggs. Our friend really loves herring eggs, but he didn't come to the party. It's a shame; if he had come, he would have eaten some of the herring eggs.

English Sentence to Translate: "If he had come, he would have eaten the herring eggs."

Tlingit Translation Offered:
Haat   wugoodi   kát,   kúnáx áwé **agwaxaayín**   wé   gáax'w
here.to PFV.3sgS.go. SUB COND   really FOC **POT**.3sgS.eat.**PST** those herring.eggs
If he had come, he would (could) have really eaten those herring eggs.   (HS)

C.   Examples Relating to the Expression of Deontic Modality in Tlingit

(C1)   **Use of *Tlél / Hél Wáa Sá Utí* to Express Deontic Possibility**

Scenario: Our friend Joe has wanted to move to Sitka for a long time. However, his job has kept him in Juneau. But, just today, he's gotten word that there's a position open in Sitka that he can have. He's really happy about this, and I ask you why. You want to tell me that he's now able to move to Sitka.

English Sentence to Translate: "Joe can move to Sitka."

Tlingit Translation Offered:
Tlél   wáa   sá utí   Sheet'káadei   wultsóowu   (SE)
NEG   how   Q IMPFV.3S.be   Sitka.to   PFV.3sgS.move.house.SUB
It's OK if he moves to Sitka.

(C2)   **Use of *Tlél / Hél Wáa Sá Utí* to Express Deontic Possibility**

Scenario: The speed limit on this road is 70 miles per hour.

English Sentence to Translate: "On this road, people can drive very fast."

Tlingit Translation Offered:
Yá   dei   yíkx',   **tlél   wáa sá utí**   tláakw at wukooxú.   (SE)
this   road   inside.at **NEG how Q IMPFV.3S.be**   fast   PFV.3sgS.drive.SUB
It's OK if one drives fast on this road.

(C3)   **Use of *Tlél / Hél Wáa Sá Utí* to Express Deontic Possibility**

Scenario: You want to grant someone permission to read this book.

English Sentence to Translate: "You may read the book."

Tlingit Sentence Offered:
Tlél   wáa sá utí   yitóowu   wé   x'úx'.   (WF)
NEG   how Q IMPFV.3S.be   PFV.2sgS.read.SUB   that   book
It's OK if you read that book.

(C4)   **Prohibitive Mode Used to Deny Permission to Addressee**

Scenario: You want to tell someone they are not allowed to read the book

English Sentence to Translate: "You may not read the book."

Tlingit Translation Offered:

Tlél	itóowu**k**		wé	x'úx'.	(WF)
NEG	2sgS.read.**PHIB**		that	book	

Don't read that book.

(C5)   **Use of Hortative Mode to Translate Deontic Necessity**

Scenario: Your car is broken, and won't run. You need to get it fixed, so that you can get into work on time.

English Sentence to Translate: "I have to get my car fixed."

Tlingit Translation Offered: A daa   **yéi jinaxduneiyí**   (SE)
                                    it around   **HORT**.IndS.work.SUB [23]

Someone has to work on it.
(≈ '*May someone work on it.*')

(C6)   **Use of *Yéi Ya-Sa-Ka* 'To Tell/Order' to Translate Deontic Necessity**

Scenario: Our friend Joe has a job that moves him around a lot. He lives in Juneau now, and loves it. However, he just got word that his job is going to force him to move to Sitka. He's upset about this, and I ask you why. You want to tell me that he's being made to move to Sitka.

English Sentence to Translate: "Joe has to move to Sitka."

Tlingit Translation Offered:

Sheet'káadei	ngaltsóow	**yéi yawdudzikaa**	Joe.	(SE)
Sitka.to	HORT.3sgS.move.house.	**PFV.IndefS.told**	Joe	

Joe has been told to move to Sitka.

(C7)   **Use of *Yak'ei* 'Good' to Translate Deontic Necessity**

English Sentence to Translate: "You should read the book."

Tlingit Translation Offered:

Yak'éi	yitóowu	wé	x'úx'	(WF)
IMPFV.3S.good	PFV.2sgS.read.SUB	that	book	

It's good if you read that book.

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[23] The appearance of the subordinate suffix *–í* in the verb *yéi jinaxduneiyí* 'may someone work on it' is surprising here. It may be an instance of 'insubordination' (Cable 2011).

(C8)   **Use – and then Retraction – of the Future Mode to Translate Deontic Necessity**

Scenario: (Same as in (C6))

English Sentence to Translate: "Joe has to move to Sitka."

Tlingit Translation Offered and Retracted: # Sheet'káadei **kei guxlagáas'**   (A)
                                           Sitka.to   **FUT**.3sgS.move
                                           He is going to move to Sitka.

Later Speaker Comments:
• "No." (A)
• That doesn't really put in 'has', 'he was commanded', though it can be understood.
  'Has to move' isn't in there. That's just 'he's moving to Sitka'." (SE; 2012).

(C9)   **Rejection of the Future Mode as a Translation of Deontic Necessity**

Scenario: We help out at a school. The teacher just told you that it's time for the kids to
go outside. I didn't hear, and you want to tell me that the kids have to go outside.

English Sentence to Translate: "The kids have to go outside now."

Rejected Tlingit Translation: # Gáandei   **has gugwa.áat.**   (C)
                                       outside.to   **FUT**.3plS go.by.foot

Speaker Comments: "This just means 'they're going outside'."   (SE)

D.   IPA Values of Characters in Alaskan Tlingit Orthography

Alaskan Tlingit Orthography   International Phonetic Alphabet

Alaskan Tlingit Orthography	International Phonetic Alphabet
d	t
t	t^h
t'	t'
n	n
s	s
s'	s'
dz	$\widehat{ts}$
ts	$\widehat{ts}^h$
ts'	$\widehat{ts}$'
sh	ʃ
j	$\widehat{tʃ}$
ch	$\widehat{tʃ}^h$

ch'	$\widehat{t\int}$'
l	ɫ
l'	ɫ'
dl	$\widehat{t\textfl}$
tl	$\widehat{t\textfl}^h$
tl'	$\widehat{t\textfl}$'
y	j
g	k
k	k^h
k'	k'
x	x
x'	x'
gw	k^w
kw	k^{hw}
k'w	k'^{w}
xw	x^w
x'w	x'^{w}
w	w
g̱	q
ḵ	q^h
ḵ'	q'
x̱	χ
x̱'	χ'
g̱w	q^w
ḵw	q^{hw}
ḵ'w	q'^{w}
x̱w	χ^w
x̱'w	χ'^{w}
.	ʔ
h	h
a	a
aa	aː
i	i
ee	iː
e	e

ei	eː
u	u
oo	uː

In the Alaskan Tlingit Orthography, acute accents indicate high tone. Vowels without accent are low tone.