

Two Paths to Habituality: The Semantics of ‘Habitual Mode’ in Tlingit

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1. Introduction

(1) Two Interrelated Puzzles

a. Simple Verbs in English Can Express ‘Habituals’:

The English sentence below has a very simple form, but seems to express a very complex claim about the subject’s habits, propensities, dispositions, *etc.* **HOW??**

(i) My father **eats** salmon.

b. Imperfective Verbs & Habitual Verbs in Tlingit

There are two means for translating the English habitual sentence in (1a) into Tlingit (Na-Dene; Alaska, British Columbia, Yukon).

(i) *Imperfective Mode*

A \underline{x}	éeshch	t’á	axá. ¹	
1sgPOSS	father.ERG	king.salmon	3O.IMPRV.3S.eat	
	<i>My father eats</i>	<i>king salmon</i>		(MD) ²

(ii) *Habitual Mode*

A \underline{x}	éesh	xáat	uxáaych.	
1sgPOSS	father	salmon	3O.HAB.3S.eat	
	<i>My father eats</i>	<i>salmon.</i>		(SE)

c. Questions:

(i) What is the morphosyntactic & morphosemantic difference (if any) between the two Tlingit verbal forms in (1b)?

(ii) How does either of these verbal forms in Tlingit compare syntactically / semantically to the simple English verb form in (1a)?

¹ I employ the following glossing abbreviations, based on those originally developed by Crippen (2013): 1, ‘first person’; 2, ‘second person’; 3, ‘third person’; ØCONJ, Ø-conjugation marker; COMPL, ‘completive’; COP, ‘copula’; d, ‘D-prefixed classifier’; DEM, ‘demonstrative’; DIST, ‘distributive’; ERG, ‘ergative postposition’; EXH, ‘exhaustive’; FOC, ‘focus particle’; FUT, ‘future mode’; HAB, ‘habitual mode’; I, ‘I-feature of classifier’; IMPRV, ‘imperfective mode’; Indef, ‘indefinite’; INST, ‘instrumental’; naCONJ, *na*-conjugation marker; O, ‘object’; PART, ‘partitive’; pl (PL) ‘plural’; POSS, ‘possessive prefix’; PRO, ‘pronoun’; PROG, ‘progressive’; PRV, ‘perfective mode’; REL, ‘relative clause suffix’; REP, ‘repetitive’; S, ‘subject’; s, ‘S-series classifier’; sg, ‘singular’; STEM.FORM, ‘marker of the stem form’; SUB, ‘subordinate clause suffix’.

² 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 constructed and offered 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: (LA) for Lillian Austin, (IC) for Irene Cadiente, (MD) for Margaret Dutson, (SE) for Selena Everson, (CM) for Carolyn Martin, and (JM) for John Martin.

(2) **Broader, Overarching Questions:**

- a. What do the answers to the questions in (1a) and (1c) tell us about how habituality / genericity is encoded/expressed in natural language? (Filip & Carlson 1997)
- b. How well does the answer to (1c) (regarding Tlingit) generalize to what seem to be similar cases in other languages of the world? (Carlson 2012)

(3) **Two Ways to Express Habituals in African American English (Green 2000)**

- a. Bruce **sing**. ‘Bruce sings’ b. Bruce **be singing**. ‘Bruce sings’

(4) **Two Ways to Express Habituals in Czech (Filip 2018)**

- a. Honza **sedí** v hospodě b. Honza **sedává** v hospodě
John sit.**IMPRV** in pub John sit.**HAB** in pub
John sits in a pub *John sits in a pub.*

(5) **Two Ways to Express Habituals in Hebrew (Boneh & Doron 2008)**

- Ya’el { **nas’a** / **hayta** **nosa’-at** } la-’avoda ba-’otobus
Yael go.PAST **HAB.PAST** go-PTCPL to-work by-bus
Yael went (used to go) to work by bus.

(6) **Preview of the Major Claims**

- a. There are important semantic and (morpho-)syntactic differences between ‘imperfective habituals’ in Tlingit (1bi) and ‘habitual-marked habituals’ (1bii).

(i) Form of Imperfective Habituals (1bi)

Habitual semantics is directly contributed by the imperfective aspect, which has a modal semantics (Arregui *et al.* 2014, Ferreira 2016, *inter alia*)

[_{TP} T [_{AspP} **IMPRV**_{HAB} [_{VP} my father eat salmon] ...]

(ii) Form of Habitual-Marked Habituals (1bii)

Habitual-marking is licensed by the presence of a local, c-commanding *temporal quantificational adverb*, which may be implicit / covert

- (akin to a ‘temporal anaphor’ or ‘temporal dependent indefinite’)

[_{TP} **TempQuant** [_{TP} T [_{AspP} ASP [_{VP} my father eat salmon] ...]

- b. [Cable (2020)] Simple verbs in English (1a) can underlyingly have the structure of *either* a Tlingit imperfective (6ai) or a Tlingit habitual (6aii).

(7) **Outline of the Talk**

- a. Section 2: Background on Tlingit language and fieldwork methodology
 - b. Section 3: Three key inflections in Tlingit: Perfective, Imperfective, Habitual
 - c. Section 4: Formal semantic background: Perfective, Imperfective, Tense
 - d. Section 5: Proposed Analysis of Tlingit Habitual Mode
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2. Linguistic and Methodological Background

(8) **The Tlingit Language (*Lingít*): A Few Bullet Points**

- Traditional language of the Tlingit people of Southeast Alaska, Northwest British Columbia, Southwest Yukon Territory (shaded area in map below) ³



- Member of the Na-Dene language family; distantly related to Athabaskan languages (e.g. Navajo, Slave, Hupa). Shares the complex templatic morphology of this family.
- Highly endangered; ≤ 200 speakers, all over 70. Several fluent/near-fluent second language learners; a few raising their children in the language.

³ Map graphic by X'uncel Lance Twitchell. Available at <http://tlingit.info/>.

(9) **Notes on the Data and the Methodology**

- Unless otherwise noted, all data below were obtained through interviews with native speakers of Tlingit (2016, 2017, 2019)
- Eight fluent elders have participated; all are residents of Juneau, AK; all are speakers of the ‘Northern Dialect’ of Tlingit

Lillian Austin (Yax̄dulákt)	Selena Everson (K̄aséix)
Irene Cadiente (Jigeit Tláa)	William Fawcett (Kóoshdaak’w Éesh)
George Davis (Kaxwaan Éesh)	Carolyn Martin (K’altseen)
Margaret Dutson (Shak’sháani)	John Martin (Keihéenák’w)

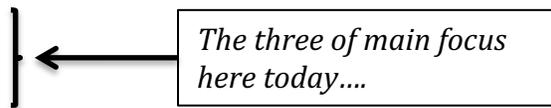
- Interviews lasted two hours and were held in a classroom at the University of Alaska Southeast; 2-4 elders were present at each interview.
- Speakers were asked to translate English sentences paired with particular ‘scenarios’, as well as to judge the ‘correctness’ (broadly speaking) of constructed Tlingit sentences relative to those ‘scenarios’ (Matthewson 2004).
- The scenarios were described to speakers in English, both orally and with accompanying written text.

3. Basic Description of Tlingit Imperfective, Perfective, and Habitual Modes

(10) **The ‘Declarative Modes’ of Tlingit (Leer 1991)**

A verb heading a declarative (main) clause can appear in one of the following five (temporal/aspectual) inflections ^{4, 5}

- a. Future
- b. Potential
- c. **Perfective**
- d. **Imperfective**
- e. **Habitual**



In the following subsections, I will provide a relatively informal overview regarding the form and semantics of these three inflections in (10c, d, e)....

⁴ In addition to these five, Leer (1991) also identifies a now-defunct ‘Realizational’ mode, which seems to have left the language in the past few hundred years, but is preserved in certain narratives and songs.

⁵ For more information on the ‘Future’ and ‘Potential’ modes, their form and semantics, see Cable (2017a).

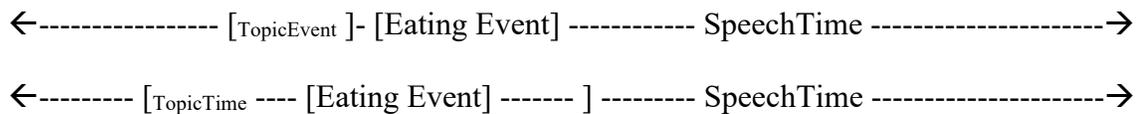
3.1 The Perfective and Imperfective Modes of Tlingit

(11) Tlingit Perfective Mode: Morpho-Phonology and Basic, Informal Semantics

- a. Morpho-phonology of Tlingit Perfective Mode: Perfective prefix *wu-*
- | | | | | |
|-----------------|------------|-----|----------|---------------|
| A _{x̄} | tláach | wé | sakwnéin | aawaxáa. |
| A _{x̄} | tláa-ch | wé | sakwnéin | a-wu-Ø-yaxáa |
| 1sgPOSS | mother-ERG | DEM | bread | 3O-PRV-3S-eat |
- My mother ate the bread.* (MD)

b. Semantics of Tlingit Perfective Mode (Informal Description):

- (i) (In a main clause) generally describes events taking place in the past
- (ii) Indicates that the event occurs **at** or **within** a particular (topical) time



(12) Tlingit Imperfective Mode: Morpho-Phonology

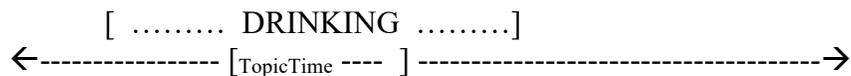
- Imperfective mode is generally signaled through the *absence* of any aspectual prefixes (plus particular stem form).

A _{x̄}	éesh	káaxwee	adaná
A _{x̄}	éesh	káaxwee	a-Ø-daná
1sgPOSS	father	coffee	3O-3S-drink

My father drinks coffee. / My father is drinking coffee. (MD)

(13) Tlingit Imperfective Mode: Basic, Informal Semantics

- a. Can be used to describe events taking place in the past *or the present*.⁶
- b. As with ‘imperfective aspect’ across languages, there are three principle meanings that imperfective mode can contribute:
- (i) Ongoing Event (Progressive):
With eventive verbs, indicates that the event described is occurring *throughout* a particular (topical) time.



⁶ To describe a future eventuality, a verb in Tlingit must bear either the ‘future mode’ or the ‘potential mode’ (Cable 2017a, 2017b, *to appear*).

- (ii) Ongoing State:
With stative verbs, indicates that the state described holds *throughout* a particular (topical) time.

[..... LOVING]
 ←----- [TopicTime ----] -----→

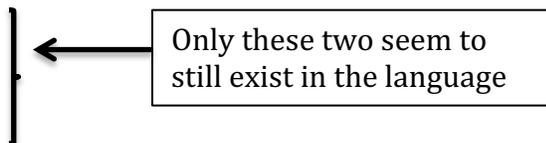
- (iii) Habitual:
With eventive verbs, indicates that there was throughout a particular (topical) time a general habit, propensity, disposition, for events of the kind described to occur.

[... HABIT-OF-DRINKING ...]
 ←----- [TopicTime ----] -----→

3.2 Habitual Mode(s)

(14) The Sub-Types of Habitual Mode in Tlingit (Leer 1991)

- a. **Habitual Perfective**
- b. **Habitual Imperfective**
- c. Habitual Future



- Leer (1991: 417) already reports the ‘habitual future’ (14c) as ‘very rare’
- No elder I worked with used ‘habitual future’ or recognized constructed forms
- **Consequently, I will set aside such forms and focus on the first two (14a,b)**

(15) Tlingit ‘Habitual Perfective’ Mode: Morpho-Phonology

- Habitual Perfective mode is generally signaled through the habitual suffix *-ch*

A _{x̄}	éesh	x̄áat	ux̄áay ch .
a _{x̄}	éesh	x̄áat	a-u-Ø-x̄áa- ch
1sgPOSS	father	salmon	3O-PRV-3S-eat- HAB

My father eats salmon.

(SE)

(16) **Tlingit ‘Habitual Imperfective’ Mode: Morpho-Phonology**

- a. Regular imperfective-mode form of the verb (13)
- b. Verb directly followed by the auxiliary/particle *nooch*

A _x	tláa	x’úx’	ahóon	nooch.	
1sgPOSS	mother	book	3O.IMPRV.3S.sell	HAB	

My mother sells books. (LA)

(17) **Meaning of Habitual Mode Verbs in Tlingit (Informal Description)**

Verbs bearing habitual mode receive a reading akin to the habitual construal of imperfective verbs (13biii).

- *Neither of the other readings of imperfective verbs are available to them.*

a. Habitual Mode Does Not Get ‘Ongoing Event’ Reading

Scenario: Some dogs are barking outside. You want to remark on this.

(i) Yeedát gáanx’ áwé asháa wé keitl.
now outside.at FOC IMPRV.3S.bark DEM dog
Dogs are barking outside now. (C)⁷

(ii) # Yeedát gáanx’ áwé asháa **nooch** wé keitl.
now outside.at FOC IMPRV.3S.bark **HAB** DEM dog
Some dogs often/always/regularly bark outside.

Judgments: Not acceptable in this scenario. (MD)(LA)(SE)

Speaker Comment: “*Nooch* means ‘sometimes’” (SE)

b. Habitual Mode Does not Get ‘Ongoing State’ Reading

(i) A_x éesh asixán a_x tláa
1sgPOSS father 3O.IMPRV.3S.love 1sgPOSS mother
My father loves my mother. (SE)

(ii) # A_x éesh a_x tláa asixán nooch
1sgPOSS father 1sgPOSS mother 3O.IMPRV.3S.love **HAB**
My father often/always/regularly loves my mother. (C)

Speaker Comment: “[Sentence (17bii)] means my dad loves my mom occasionally or intermittently.” (JM)

⁷ As will be seen through other examples in this handout, NPs marked by demonstratives in Tlingit do not appear to be inherently definite. In particular, they can introduce new entities into the discourse.

(18) **Habitual Perfective vs. Habitual Imperfective (Informal Description)**

- Following Leer (1991), the exact contrast between ‘habitual perfective’ and ‘habitual imperfect’ is only really detectable in connected discourse, or with temporal adverbs
 - It will be easier to state exactly what this contrast is once we have a formal semantics for tense and aspect (Section 4)

An Analogous Contrast in English:

- a. Whenever we arrive at his house, he **sings**.

Description: The (recurring) time of his singing *is at / follows* our arrival

←----- [arrival] [SINGING] -----→

- b. Whenever we arrive at his house, he **is singing**.

Description: The (recurring) time of his singing *holds throughout* our arrival

[..... SINGING]
←----- [arrival] -----→

Illustration of the Contrast in Tlingit

- c. *Scenario:* Whenever we arrive at his house, he then sings for us (18a)

Tlákʷ du xánt wutu.ádi, yak’éiyi shí
always 3POSS vicinity.to PRV.1plS.walk.SUB IMPRV.3S.good.REL song

áwé du x’éidáx daak **us.áxch.**
FOC 3POSS mouth.from out 3O.HAB.PRV.3S.sing.prolonged
Whenever we come to him, he sings out a good song. (JM)

- d. *Scenario:* Whenever we see him, he’s always in the middle of singing (18b)

Wutusateení, ch’a tlákʷ **at shée** **nooch.**
PRV.1plS.see.SUB just always IMPRV.3S.sing HAB
Whenever we see him, he’s always singing. (SE)

SPOILER ALERT:

The use of habitual mode in sentences like (18c,d) – *and the contrast between these two aspectual subtypes* – is going to be a major factor in the development of our formal analysis

3.3 Expressing Habituality With Imperfective vs. Habitual Mode

(19) A Natural Hypothesis:

- Perhaps habitual mode has a ‘more specific’ meaning than imperfective mode?
- **Perhaps habitual mode unambiguously expresses the habitual construal that imperfective mode can express?**

There is, however, one significant difference in meaning between habituals expressed with imperfective mode and ones expressed with habitual mode...

- **... a difference that surfaces in a variety of languages that have specifically habitual markers alongside less-marked / more general (imperfective-like) morphology**

(20) Imperfective Mode and the ‘Actualization’ of Habits

If a capacity/function/occupation is described by an imperfective mode verb, then that capacity/function/occupation *need not have been ‘actualized’ yet*.

a. Scenario (Based on Green 2000):

We just bought a new coffee machine. **It’s never before been used.** But, this is a great model of coffee machine. Everyone agrees that this model makes great coffee.

Yá yées aa washéen kúnáx linúktsi coffee áwé
DEM new PART machine very IMPRV.3S.sweet.REL coffee FOC

al.úkx

3O.IMPRV.3S.boil.REP

This new machine boils very sweet coffee.

(SE)

b. Scenario (Based on Boneh & Doron 2008):

My dad has just signed a contract with the school. He’s officially their employee now. **His first shift isn’t until next week, though.**

Wé sgóon jeeyís áwé yéi jiné yeedát.
DEM school for FOC IMPRV.3S.work now

My dad works for the school now.

(JM)

(21) **Habitual Perfective Mode and the Actualization of Habits**

Capacities/functions/occupations that have *not* been actualized yet *cannot* be described by verbs in the habitual perfective mode.

- a. Scenario (Based on Green 2000): (Same as (34a))

?? Yá yées aa washéen kúnáx linúktsi coffee áwé
DEM new PART machine very IMPRV.3S.sweet.REL coffee FOC

ool.úkch
3O.HAB.PRV.3S.boil (C)
Speaker Comment: “No. That means that you’ve used it.” (SE)

- b. Scenario (Based on Boneh & Doron 2008): (Same as (34b))

?? Ax éesh wé sgóonx’ áwé yéi jinanéich yeedát
1sgPOSS father DEM school.at FOC HAB.PRV.3S.work now (C)

(22) **Habitual Perfective and Imperfective Mode with Actualized Habits**

Capacities/functions/occupations that *have* been actualized can be described with either the imperfective or habitual modes.

- a. Scenario: We have an old coffee machine, which we’ve used for years. This coffee machine always makes great coffee.

(i) Yá ch’áagu aayí ch’a yeisú k’idéin
DEM ancient PART just still well

linúktsi al.úkx
IMPRV.3S.sweet.REL 3O.IMPRV.3S.boil.REP
This old one still boils sweet (coffee) well. (SE)

(ii) Yá ch’áagu aayí ch’a yeisú k’idéin
DEM ancient PART just still well

linúktsi ool.úkch
IMPRV.3S.sweet.REL 3O.HAB.PRV.3S.boil
This old one still boils sweet (coffee) well. (SE)

This same general pattern has also been reported for habitual marking in many other, unrelated languages of the world (Carlson 2012)...

(23) **Simple Verbs vs ‘Habitual *Be*’ in African American English (Green 2000)**

Scenario: We’ve just bought a new printer. It’s never been used. But, it has the capacity to print a hundred pages a minute.

- a. This printer **print** a hundred pages a minute.
b. # This printer **be printing** a hundred pages a minute.

(24) **Simple Verbs vs. ‘Periphrastic Habituals’ in Hebrew (Boneh & Doron 2008)**

Scenario: Dan was employed by the university as a professor. However, in no semester during his time there, were there ever enough registered students for him to teach a class.

- a. Dan **limed** b-a-’universita.
Dan teach.PAST in-the-university
Dan taught at the university.
- b. # Dan **haya melamed** b-a-’universita.
Dan **HAB.PAST** taught-PTCPL in-the-university

(25) **Imperfective vs. Habitual in Czech (Filip 2018)**

Scenario: This machine has been designed to crush oranges. However, we’ve never actually used it yet.

- a. Tento stroj **drťí** pomeranče
this machine crush.IMPRV oranges
This machine crushes oranges.
- b. # Tento stroj **drťívá** pomeranče
this machine crush.HAB oranges

(26) **Another Tendency for Specifically ‘Habitual’ Forms: Intermittency with Statives**

- When combining with stative predicates, the habitual constructions above imply the existence of multiple, *temporally disconnected* states
- Thus, such forms are generally infelicitous with semi-permanent ‘I-level’ statives...

a. Tlingit: *See sentence (17bii) above, and reported judgment.*

b. Hebrew (Boneh & Doron 2008)
* Hor-ay **hayu yod’im** carfatit.
parents-my **HAB.PAST know** French

Obvious Questions:

- What is the nature of this ‘actualization’ condition on the Tlingit habitual perfective?
- Can the explanation be extended to parallel facts in other, unrelated languages?

(27) **Additional Complexity: Habitual *Imperfective* Mode and Actualization of Habits**

Unlike what we saw with habitual *perfective* (21), capacities/functions/occupations that haven't been actualized *can* be described by verbs in the habitual *imperfective* mode.

Scenario (Based on Green 2000):

We just bought a new rice cooker. **It's never before been used.** But, this machine is designed to cook rice.

a. Wé kóox a káx' **dus.ée.**
DEM rice 3O.inside 3O.IMPRV.IndefS.cook
People cook rice in it. (IC)

b. Wé kóox a káx' **dus.ée nuch.**
DEM rice 3O.inside 3O.IMPRV.IndefS.cook **HAB**
People cook rice in it. (C)

(28) **Conclusion**

- The puzzling contrasts between (20) [imperfective], (21) [habitual perfective], and (27) [habitual imperfective] should follow from the *interaction* between the semantics of the habitual marker and the semantics of the aspect it combines with.
- Ideally, a similar story should be possible for the parallel facts in (23)-(26)....

4. **Formal Semantics of Perfective Aspect, Imperfective Aspect, and Tense**

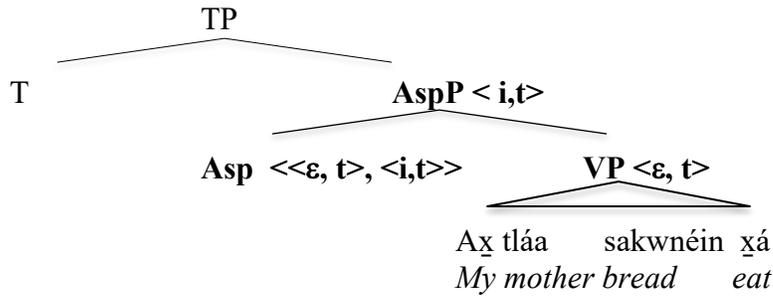
This section presents the assumed formal semantics for VPs, Aspect, and Tense (Bennett & Partee 1978, Klein 1994, Abusch 1997, Kratzer 1998, Kusumoto 2005, Matthewson 2006, *et al.*)

(29) **VPs are Predicates of Eventualities (Events and States)**

a. $[[[_{VP} a\bar{x} \text{ tláa } [_{VP} \text{ sakwnéin } [_{V} \bar{x}\acute{a}]]]]]^{w,t,g} =$
my mother bread eat
 $[\lambda e : \text{eat}(e,w) \ \& \ \text{Agent}(e,w) = \text{my mother} \ \& \ \exists y . \text{bread}(y,w) \ \& \ \text{Theme}(e,w) = y]$

b. $[[[_{VP} a\bar{x} \text{ tláa } [_{VP} a\bar{x} \text{ éesh } [_{V} \text{ s-}\bar{x}\acute{a}\acute{n}]]]]]^{w,t,g} =$
my mother my father love
 $[\lambda e : \text{love}(e,w) \ \& \ \text{Exp}(e,w) = \text{my mother} \ \& \ \text{Theme}(e,w) = \text{my father}]$

(30) **Aspect Maps Predicates of Eventualities (VPs) to Predicates of Times (AspPs)**



(31) **Semantics of Perfective Aspect**

a. Informal Semantics for Perfective (11):

Indicates that the event described occurs **at** or **within** a particular (topical) time ⁸

←----- [TopicEvent]- [Eating Event] ----- SpeechTime -----→

←----- [TopicTime ---- [Eating Event] -----] ----- SpeechTime -----→

b. Formal Semantics for Perfective:

- The two ‘construals’ of perfective above are typically captured within a single, unified semantics for the aspect (Hinrichs 1986, Kamp *et al.* 2011)
- To abstract away from the complexities of such unified treatments, I will adopt (as a kluge) the following two lexical entries

(i) PRV Places Eventuality-Time Within Topical Time Interval:

$$[[\text{PRV}_1]]^{w,t,g} = [\lambda P_{\langle \epsilon, t \rangle} : [\lambda t' : \exists e . P(e) \ \& \ T(e) \subseteq t']]$$

(ii) PRV Places Eventuality-Time Just After Topical Time Interval:

$$[[\text{PRV}_2]]^{w,t,g} = [\lambda P_{\langle \epsilon, t \rangle} : [\lambda t' : \exists e . P(e) \ \& \ t' \supset \supset T(e)]]$$

(32) **Illustration: Tlingit Perfective**

a. $[[[_{\text{AspP}} \text{PRV}_1 [_{\text{VP}} \text{ax tláa} [_{\text{VP}} \text{sakwnéin} [_{\text{V}} \text{xá}]]]]]]^{w,t,g} =$

my mother bread eat

b. $[\lambda t' : \exists e . T(e) \subseteq t' \ \& \ \text{eat}(e,w) \ \& \ \text{Agent}(e,w) = \text{my mother} \ \& \ \exists y . \text{bread}(y,w) \ \& \ \text{Theme}(e,w) = y]$

⁸ The typical ‘past orientation’ of a perfective verb in a matrix clause (11) is generally viewed as a kind of pragmatic effect (Bennett & Partee 1978), and so is not encoded here as part of its semantics

(35) **Semantics of IMPRV_{OG}**

a. $[[\text{IMPRV}_{\text{OG}}]]^{w,t,g} = [\lambda P_{\langle \varepsilon, t \rangle} : [\lambda t' : \exists e . P(e) \ \& \ t' \subseteq T(e)]]^9$

b. Illustration in Tlingit:

$[[[_{\text{AspP}} \text{IMPRV}_{\text{OG}} [_{\text{VP}} \text{ax} \ \text{tláa} [_{\text{VP}} \text{sakwnéin} [_{\text{V}} \text{xá}]]]]]]^{w,t,g} =$
my mother bread eat

$[\lambda t' : \exists e . t' \subseteq T(e) \ \& \ \text{eat}(e,w) \ \& \ \text{Agent}(e,w) = \text{my mother} \ \& \ \exists y . \text{bread}(y,w) \ \& \ \text{Theme}(e,w) = y]$

(36) **Semantics of IMPRV_{HAB}**

The following needs much refinement, but broadly keeps with the modal analyses of habituals put forth by Greenberg (2007), Arregui *et al.* (2014), Ferreira (2016), *et alia*...

a. Key Ingredient: The ‘HABIT’ Modal Base (Boneh & Doron 2008):

$\text{HABIT}(w,t) = \{ w' : \text{the ‘habitualities’ existing in } w \text{ at } t \text{ are realized in } w' \}$

b. $[[\text{IMPRV}_{\text{HAB}}]]^{w,t,g} =$

$[\lambda P_{\langle s, \langle \varepsilon, t \rangle \rangle} : [\lambda t' : \forall w' \in \text{HABIT}(w,t') . \exists e . P^*(w')(e) \ \& \ t' \subseteq T(e)]]$

c. Illustration in Tlingit:

$[[[_{\text{AspP}} \text{IMPRV}_{\text{HAB}} [_{\text{VP}} \text{ax} \ \text{tláa} [_{\text{VP}} \text{sakwnéin} [_{\text{V}} \text{xá}]]]]]]^{w,t,g} =$
my mother bread eat

$[\lambda t' : \forall w' \in \text{HABIT}(w,t') . \exists e . t' \subseteq T(e) . * \text{eat}(e,w') \ \& \ * \text{Agent}(e,w') = \text{my mother} \ \& \ \exists y . \text{bread}(y,w') \ \& \ * \text{Theme}(e,w') = y]$

*In all the worlds where the habitualities at t' are realized,
t' is contained within a plurality of events of my mom eating bread*

(37) **Key Prediction of the Semantics in (36)**

- Note that the *actual* (evaluation) world w need not be a world where the habitualities existing at (w,t') are realized.
 - After all ‘habitualities’ include things like my assigned duties, and the actual world might be one where I don’t actually carry those out.
- **Thus, the predicate in (36c) will not require that that any events of the kind described by the VP occur in the actual world (20)**

⁹ It is broadly recognized that both the ‘ongoing event’ and ‘ongoing state’ readings of imperfective aspect also involve an important modal component (Dowty 1979, Deo 2009, Arregui *et al.* 2014, Ferreira 2016). Again, for purposes of simplicity, I abstract away from that additional complication here.

4.1 Some Assumptions Regarding Temporal Quantificational Adverbs

As previewed in Section 1, I will propose that there is a connection between the Tlingit habitual modes and temporal quantificational adverbs (e.g. ‘*every Tuesday*’ / ‘*whenever we arrived*’)

- I will therefore lay out here some key background assumptions regarding such expressions

(38) The Syntax and Semantics of Temporal Quantificational Adverbs (Heim 1994)

a. Syntax: Temporal quantificational adverbs *bind* the T-head of a sentence.

(i) *Sentence*: My mother ate bread **every Tuesday**.

(ii) *Structure*:

[_{TP} [every Tuesday]_j [[_T PST]_j [_{AspP} PRV₁ [_{VP} my mother eat bread]...]

c. Semantics: Temporal quantificational adverbs are type $\langle\langle i,t \rangle, t \rangle$

[[every Tuesday]]^{w,t,g,c} = [$\lambda P_{\langle i,t \rangle} : \forall t' . \text{Tuesday}(t') \ \& \ t' \in C_c \rightarrow P(t') = 1$]

d. Predicted Truth-Conditions: [[(38a_{ii})]]^{w,t,g,c} = 1 *iff*

$\forall t' . \text{Tuesday}(t') \ \& \ t' \in C \ \& \ t' < t \rightarrow$

$\exists e . \mathbf{T}(e) \subseteq t' \ \& \ \text{eat}(e,w) \ \&$

$\text{Agent}(e,w) = \text{my mother} \ \& \ \exists y . \text{bread}(y,w) \ \& \ \text{Theme}(e,w) = y$

Important Note:

The restriction to *past* Tuesdays in (38c) is due to the **PST** feature on the T-head in (38a_{ii}), via ‘local accommodation’ (Heim 1994).

(39) Semantics of Other Quantificational Adverbs:

a. [[always]]^{w,t,g,c} = [$\lambda P_{\langle i,t \rangle} : \forall t' . t' \in C_c \rightarrow P(t') = 1$]

b. [[sometimes]]^{w,t,g,c} = [$\lambda P_{\langle i,t \rangle} : \exists t^* . t^* \in C_c \ \& \ \forall t' . t' \in t^* \rightarrow P(t') = 1$]

c. Clausal Temporal Quantificational Adverbs

[[always when my father made dinner]]^{w,t,g,c} =

[[whenever my father made dinner]]^{w,t,g,c} =

[$\lambda P_{\langle i,t \rangle} : \forall t' . t' \in C_c \ \& \ \exists e . \mathbf{T}(e) = t' \ \& \ \text{make.dinner}(e) \ \& \ \text{Ag}(e) = \text{my father} \rightarrow P(t') = 1$]

(40) **Illustration of Clausal Temporal Quantificational Adverbs:**

- a. Sentence: Always/whenever my father made dinner, my mother ate bread.
- b. Syntax: [TP [*always/whenever my father made dinner*]_i
[[T T_j PST] [AspP **PRV**₂ [VP *my mother eat bread*]...]
- c. Predicted Truth-Conditions: [[(40b)]]^{w,t,g,c} = 1 *iff*
- $\forall t'. t' \in C_c \ \& \ t' < t \ \& \ \exists e. T(e) = t' \ \& \ \text{make.dinner}(e) \ \& \ \text{Ag}(e) = \text{my father} \ \rightarrow$
 $\exists e' . t' \supset C T(e') \ \& \ \text{eat}(e,w) \ \& \ \text{Agent}(e,w) = \text{my mother}$
 $\ \& \ \exists y . \text{bread}(y,w) \ \& \ \text{Theme}(e,w) = y$

For every time t' in the past that is the 'Event Time' of my father making dinner, t' is 'directly followed' by an event of my mother eating bread...

(41) **Curious Feature of Temporal Quantificational Adverbs: They Can Be 'Implicit'**

- a. Illustrative Dialogs: (i) Person 1: What did Dave do every Tuesday?
Person 2: **He baked a pie.**
- (ii) Person 1: Every Tuesday, Dave visited his mom
Person 2: **He also baked a pie.**
- b. Key Observation
Despite their not containing any overt temporal quantifier, the boldfaced sentences in (41a) are interpreted *as if they are in the scope of 'every Tuesday'...*
- c. Parallel Phenomenon?: 'Telescoping' (Keshet 2008)
(i) [**Each male student**]_i walked in from the right hand of the stage.
(ii) **He**_i took **his**_i diploma from the Dean and returned to **his**_i seat.
- d. Key Conclusion:
Natural languages (like English) possess some means by which sentences without an overt temporal quantificational adverb are understood as lying within the scope of one
- e. Crude 'Kluge' For This Talk: Implicit / Elided Adverbs Present Underlyingly
[TP [~~every Tuesday~~]_i [[T T_j **PST**] [AspP **PRV**₁ [VP *he baked a pie*]...]

(42) **Curious Feature of Temporal Quant. Adverbs: Interactions with I-Level Statives**

When I-level stative verbs are in the scope of a temporal quantificational adverbs, there is an anomalous inference of ‘intermittency’ (De Swart 1993, Fernald 2000)

- a. # My mother loved my father **every Tuesday**
 - b. # My mother **always** loved my father **when he made dinner.**
 - c. # My mother loved my father **whenever he made dinner.**
- Each of (42a-c) implies that the ‘loving’ state did not hold at other times, and this is inconsistent with our knowledge of ‘love’ as an I-level state...
 - **Both De Swart (1993) and Fernald (2000) derive this from a ‘Plurality Condition’ on quantificational adverbs (but the full account will be left aside)**
-
-

5. The Semantics of the Tlingit Habitual Mode(s), Part 1

Thus far, I’ve presented a semantics for the Perfective and Imperfective Modes of Tlingit...

But what about the Habitual Modes (Habitual (Im)Perfective)?

(43) **Observation: Habitual Mode and Quantificational Adverbs, Part 1**

One common syntactic environment where verbs in Habitual Mode are found is within the scope of various temporal quantificational adverbs.

“[There is a] pronounced preference for Habitual forms in the presence of a temporal adverbial which imposes a condition on the instances of the habitual occurrence.” [Leer 1991: 405]

(44) **Illustration of Connection Between Habitual Mode and Quantificational Adverbs**

- a. Wáa nganeen sáwé **yéi yanduskéich** “I káani áwé...”
sometimes 3O.HAB.PRV.IndefS.tell 2sgPOSS brother-in-law COP
Sometimes they would say to him, “it was your brother in law...”
(Dauenhauer & Dauenhauer 1990: 294, line 176)
- b. Tlák̄w woosh eetéex̄ **yaa gas̄itch** áx’
always RECI after HAB.PRV.breed there
They (always) multiply one generation after another over there.
(Dauenhauer & Dauenhauer 1987: 262, line 38)
- c. Yóo dikée kei xtu.áadín áwé, s du yeegáa áa **xtookéech.**
DEM above up CONT.1plS.go FOC PL.3O.for there HAB.PRV.1plS.sit
Whenever we had gotten way up high, we sat there waiting for them.
(Leer 1991: 407)

(48) **Alternative, Related Perspective: Habitual Mode as ‘Dependent Indefinite’**

- Although I don’t assume it here, another popular analysis of tense views it as a kind of *temporal indefinite* (von Stechow 2009)

a. Quantificational, Indefinite Semantics for Tense:

$$[[[T \text{ PST}]]]^{w,t,g} = [\lambda P_{\langle i,t \rangle} : \exists t . t \in C_c \ \& \ t' < t \ \& \ P(t') = 1]$$

- Under this view, the generalization in (46) would suggest that habitual mode in Tlingit is a kind of *temporal dependent indefinite* (Farkas 1997)

b. Dependent Indefinites in Romanian (Brasoveanu & Farkas 2011):

(i) Fiecare baiat a recitat **cîte** un poem
 Every boy has recited **DEP** a poem
Every boy received a (different) poem.

(ii) * **Cîte** un student a plecat.
DEP a student has left

(49) **Illustration, Part 1: Semantics of Habitual Perfective**

Scenario: Whenever we arrive at his house, he then sings for us

a. Tlákw du xánt _____ wutu.ádi, yak'éiyi shí
 always 3POSS vicinity.to PRV.1plS.walk.SUB IMPRV.3S.good.REL song

áwé du x'éidáx daak **us.áxch.**
 FOC 3POSS mouth.from out 3O.HAB.PRV.3S.sing.prolonged
Whenever we come to him, he sings out a good song. (JM)

b. (i) *Proposed LF*

[_{TP} [_{AdvP} Tlák w du xánt wutu.ádi]_j [_{TP} T_j [**PRV**₂ [_{VP} yak'éiyi ... s-áx] ...]

always when we go to his house he sings a good song

(ii) *Predicted Truth-Conditions*

$\forall t' . t' \in C_c \ \& \ \exists e . T(e) = t' \ \& \ go.to.his.house(e,w) \ \& \ Ag(e,w) = us \ \rightarrow$
 $\exists e' . t' \supset T(e') \ \& \ sing(e,w) \ \& \ Agent(e,w) = him$
 $\ \& \ \exists y . good.song(y,w) \ \& \ Theme(e,w) = y$

*Every time t' that is the time of an event our going to his house
 is directly followed by (PRV₂) the time of an event of him singing*

(50) **Illustration, Part 2: Semantics of Habitual Imperfective**

Scenario: Whenever we see Tom, he's always in the middle of singing

- a. Wutusateení, ch'a tlákw at shée nooch.
 PRV.1plS.see.SUB just always IMPRV.3S.sing HAB
Whenever we see him, he's always singing. (SE)

- b. (i) *Proposed LF*

[_{TP} [_{AdvP} Tlákw wutusateení]_j [_{TP} T_j [IMPRV_{OG} [_{VP} at shi]...]
always when we see him he sing

- (ii) *Predicted Truth-Conditions*

$\forall t' . \exists e . T(e) = t' \ \& \ see(e,w) \ \& \ Ag(e,w) = us \ \& \ Theme(e,w) = \text{“him”} \rightarrow$
 $\exists e . t' \subseteq T(e) \ \& \ sing(e,w) \ \& \ Agent(e,w) = \text{“him”}$

*Every time t' that is the time of an event our seeing him
 is contained within the time of an event of him singing.*

(51) **Some Accurate Morphosyntactic Predictions**

- ‘Habitual Mode’ should be able to co-occur with aspectual heads ([PRV], [IMPRV])
 - In this sense, ‘Habitual’ is a ‘*sui generis*’ category (Filip & Carlson 1997)
- ‘Habitual Mode’ should be realized as either a **suffix** or a **post-verbal particle**
 - The only other realization of [T] in Tlingit is an (optional) past tense marker (Cable 2017b)
 - This marker also surfaces as either a **suffix** or a **post-verbal particle**

(52) **Immediate Major Issues and Questions for This Account**

- a. What about sentences where the verb is in habitual mode, *but there is no temporal quantifier* (1bii), (45)?
- b. How does the proposed account in (47) help us understand the key differences between Habitual Perfective and Imperfective Mode noticed in Section 3.2-3.3?
- (i) The interactions between Habitual Mode and stative verbs (17b)
- (ii) **The actuality entailments with Habitual Perfective verbs (20)-(22)**

(55) **Solution for Issue (52bi): Interactions Between Statives and Temporal Quantifiers**

- Under our account, a stative verb in Habitual Mode like (55a) would have a syntax/semantics akin to a temporally quantified stative in English (55b).
- **Thus, just like the latter (42), the former will imply that the state holds intermittently, which will lead to anomaly with I-level statives.**

- a. # A_x éesh a_x tláa asixán nooch
1sgPOSS father 1sgPOSS mother 3O.IMPRV.3S.love **HAB**
My father often/always/regularly loves my mother. (C)

Speaker Comment: “[Sentence (55a)] means my dad loves my mom occasionally or intermittently.” (JM)

- b. Sentence: # Every summer, my father loves my mother.
(Implies the father doesn’t love the mother at other times...)

Some more examples of these Stative-Habitual interactions – along with some suggestive speaker comments – are provided below...

(56) **More Examples of ‘Intermittance’/ ‘Discontinuity’ Inference with Habitual Statives**

- a. # A_x éesh káax **nasteech.**
1sgPOSS father man.at **HAB.PRV.3S.be**
My father is (usually, sometimes, often) a man. (C)
Speaker Comments: <Laughter> “He’s a man once in a while!” (MD)

- b. # Góon **diyéshk** nooch.
gold **IMPRV.3S.rare** **HAB**
Gold is (usually, sometimes, often) rare. (C)
Speaker Comment: “No; it’s rare all the time” (SE)

- c. Has **shayadihéin** **nooch** wé táax’aa
PL.IMPRV.3S.be.many **HAB** DEM mosquito
Mosquitos are (usually, sometimes, often) numerous. (C)
Speaker Comments: “It’s okay if you restrict it.” <Offers (56d) instead> (SE)

- d. Kutaanx’ **has shayadihéin** **nooch** wé táax’aa
summer.in PL.IMPRV.3S.be.many **HAB** DEM mosquito
Mosquitos are numerous in the summer. (SE)

(57) **Actuality Entailments for Tlingit Habitual Perfective Mode**

A sentence with Habitual Perfective does not contain any modal quantification over other possible worlds. **Therefore, Habitual Perfectives entail the existence of VP-events in the actual world!**

a. Habitual Perfective Sentence (21a):

Yá yées aa washéen kúnáx linúktsi coffee áwé
DEM new PART machine very IMPRV.3S.sweet.REL coffee FOC

ool.úkch

3O.HAB.PRV.3S.boil

(C)

This new machine boils great coffee.

(Sentence entails that the machine has been used before (21a))

b. Proposed LF: [TempQuant₁ [T₁ [PRV₁ [*this machine boil great coffee*]]]]

c. Predicted Truth-Conditions:

$\forall/\exists t' . \varphi(t') : \exists e. T(e) \subseteq t' \ \& \ \text{boil}(e,w) \ \& \ \text{Ag}(e,w) = \text{this.machine} \ \& \\ \exists y . \text{good.coffee}(y,w) \ \& \ \text{Thm}(e,w) = y$

*At some / every relevant time t', there is an event **in the actual world w** of this machine boiling good coffee.*

(58) **No Actuality Entailments for Tlingit Imperfective Mode**

However, since [IMPRV_{HAB}] introduces quantification over alternate worlds, plain imperfective sentences (with habitual construals) don't entail any actual VP-events

a. Imperfective Sentence, with Habitual Construal (20a):

Yá yées aa washéen kúnáx linúktsi coffee áwé
DEM new PART machine very IMPRV.3S.sweet.REL coffee FOC

al.úkx

3O.IMPRV.3S.boil.REP

(SE)

This new machine boils great coffee.

(Sentence consistent with machine never having been used before (20a))

b. Proposed LF: [T₁ [IMPRV_{HAB} [*this machine boil great coffee*]]]

c. Predicted Truth-Conditions:

$\forall w' \in \text{HABIT}(w, g(1)) . \exists e. g(1) \subseteq T(e) \ \& \ * \text{boil}(e,w') \ \& \\ * \text{Ag}(e,w') = \text{this.machine} \ \& \ \exists y . \text{good.coffee}(y,w') \ \& \ \text{Thm}(e,w') = y$

*In all the worlds w' where the 'habits' in w at g(1) are satisfied, g(1) is surrounded by a bunch of events **at w'** of this machine boiling great coffee.*

(59) **No Actuality Entailments for Tlingit Habitual Imperfective Mode**

- A habitual *imperfective* sentence like (27b)/(59a) below, however, will allow a reading where its AspP is headed by IMPRV_{HAB} (59b).
- **Under such a parse, [IMPRV_{HAB}] again introduces quantification over alternate worlds, and so the sentence does *not* entail the existence of VP-events!**

a. Wé kóox a káx' **duś.ée** **nuch.**
 DEM rice 3O.inside 3O.IMPRV.IndefS.cook **HAB**
People cook rice in it. (C)

b. [TempQuant₁ [T₁ [IMPRV_{HAB} [*people cook rice (in it)*]]]]

c. $\forall/\exists t' . \varphi(t') : \forall w' \in \text{HABIT}(w, t') . \exists e . t' \subseteq T(e) \ \& \ *cook(e, w') \ \& \ \exists x . \text{Agent}(e, w') = x \ \& \ \exists y . \text{rice}(y, w') \ \& \ \text{Thm}(e, w') = y$

Some / every relevant time t' is such that in all the worlds w' where the 'habits' in w at t' are satisfied, t' is surrounded by a bunch of events at w' of people cooking rice (in the rice cooker).

6. **Extending the Account to Habitual Marking in Other Languages**

(60) **Obvious Question:**

How well does our analysis of the actuality entailments for Tlingit Habitual (Perfective) in (57) extend to other languages where habituais are observed to have such entailments?

a. Habitual 'Be' in African American English (Green 2000):

(i) Bruce **sing**. 'Bruce sings' (ii) Bruce **be singing**. 'Bruce sings'

b. Habitual Suffix in Czech (Filip 2018):

Tento stroj { **drťí** / **drťívá** } pomeranče
 this machine crush.IMPRV crush.HAB oranges
This machine crushes oranges.

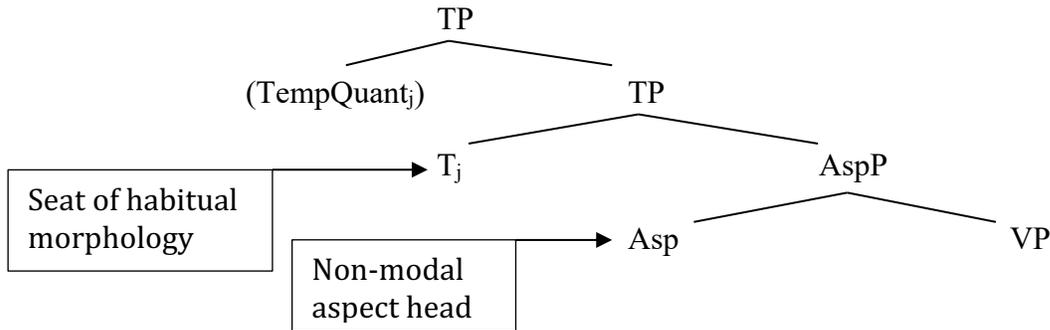
c. Perphrastic Habituals in Hebrew (Boneh & Doron 2008)

Ya'el { **nas'a** / **hayta** **nosa'-at** } la-'avoda ba-'otobus
 Yael go.PAST **HAB.PAST** go-PTCPL to-work by-bus
Yael went (used to go) to work by bus.

(61) **Some Remarks on the Generality of Our Analysis**

- What's key to our account of the actuality entailments (57) is that the habitual-marker involves (i) quantificational binding of tense, with (ii) a non-modal aspect

a. General Form of a Habitual Construction With Actuality Entailment



- **This story could fit with the morpho-syntax of the other constructions in (60)**
 - In AAE (60a), the habitual marker is an AUX *be*, with PROG in its scope
 - **PROG aspect in English does not have the habitual reading of IMPRV**
 - In Hebrew (60c), the habitual marker is an AUX, with a participle in its scope
 - In Czech (60b), [more of a stretch, but...] the habitual marker is a ‘higher aspect’, taking an IMPRV-marked V in its scope...
 - **Perhaps this lower IMPRV in Czech habituals must be IMPRV_{OG} ?**

8. Conclusions

(62) **‘Habitual’ Morphology as Quantificationally Dependent Tenses**

Some languages specially mark sentences when the tense is quantificationally bound (e.g. Tlingit and its Habitual Mode(s))

- In sentences where there is no *overt* temporal quantifier, this can lead to the impression that the marking itself contributes such quantification
 - (And thus contributes a ‘habitual’ semantics...)
- A possible hallmark of such marking may be that it requires events of the kind described by the VP to have actually occurred (when no modals are present)...
 - (... as well as infelicity with semi-permanent, I-level statives...)

(63) **Two Paths to Habituality**

- In sum, there are (at least) two syntactic/semantic paths to a verbal form being ‘habitual’, which can be distinguished overtly (Tlingit) [or not (English)].
 - a. Habituality Through a Modal Generic/Habitual IMPRV Head:
[_{TP} T [_{AspP} **IMPRV_{HAB}** [_{VP} my father eat salmon] ...]
 - b. Habituality Through an Implicit Quantifiers, with PRV or IMPRV_{OG} Aspect
[_{TP} **TempQuant** [_{TP} T [_{AspP} PRV / IMPRV_{OG} [_{VP} my father eat salmon] ...]
- **Consequently, ‘habituality’ (so-called) is a semantically and syntactically heterogeneous phenomenon...**
- **Similarly, ‘habituality’ is *sui generis* and is not a simple dimension or subcategory of some broader grammatical phenomenon (Filip & Carlson 1997, Filip 2018)**

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