

The Curious Implicatures of Optional Past Tense in Tlingit (and Other Languages)¹

Seth Cable

University of Massachusetts Amherst

ABSTRACT:

In many languages, past-marking on stative predicates has been reported to trigger an inference of ‘cessation’, that the past state in question does not extend into the present (Altshuler & Schwarzschild 2013, 2014). In English and many other languages, this inference can be shown to be defeasible, and so is therefore non-semantic. However, in other languages – such as the Tlingit language (Na-Dene; Alaska, British Columbia, Yukon) – the cessation inference of past-marked statives cannot be cancelled in the same way. This has lead some to propose that in these latter languages, the cessation inference is semantic, and is lexically encoded into the meaning of the past marker (Leer 1991, Copley 2005). Such a view would, of course, broaden the range of semantic tenses that exist in the world’s languages, to include a sub-category some have dubbed ‘Discontinuous Past’ (Plungian & van der Auwera 2006). Through in-depth investigation of one such putative ‘discontinuous past’ marker in the Tlingit language, I argue that – to the contrary – these morphemes are in their lexical semantics simply (plain) past tenses. On the basis of original field data I show that – while the cessation inferences of Tlingit are different from English-style ‘cessation implicatures’ – they are nevertheless still defeasible, and so non-semantic. I develop a formalized account of the cessation inference in Tlingit, whereby it arises from the optionality of the past-tense marker in question. I argue that this account should be extended to all putative instances of ‘Discontinuous Past’, since it would capture the fact that putative cases of ‘Discontinuous Past’ only ever arise in optional tense languages.

KEYWORDS:

Tlingit, tense, semantics, typology, discontinuous past, cessation implicature

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1. Introduction: Variation in Tense Semantics and Variation in Cessation Inferences

This paper seeks to advance understanding of cross-linguistic variation in tense semantics by investigating an alleged subspecies of past tense marking that has been reported for numerous languages across the world. The potential existence of this special sub-variety of past tense meaning directly impacts the following, overarching question in the cross-linguistic study of tense semantics.

(1) Overarching Question: What tense features does Universal Grammar (UG) allow for?

That is, taking for granted that UG permits languages to contain T(ense) P(hrases), the question naturally arises as to what tense *features* the T-heads of these phrases can bear. Decades of formal semantic study of familiar Indo-European languages has established that T-heads can bear the features ‘past’ [PST] and possibly ‘present’ [PRS].² More recently, in-depth theoretically informed investigation of superficially ‘tenseless’ languages such as Lillooet (Salish; BC) has strongly suggested that T-heads in some languages can bear a ‘non-future’ feature [NFUT] (Matthewson 2006). It is also widely reported in traditional descriptive literature that certain languages possess so-called ‘graded tenses’, morphemes that indicate *how far* into the past or future a particular eventuality occurs (Comrie 1985, Dahl 1985, Bybee *et al.* 1994). However, recent investigations by formal semanticists have shown that the status of these morphemes as true ‘tenses’ (T-heads) is potentially in doubt (Cable 2013; *cf.* Klecha & Bochnak (2015), Mucha (to appear)). It is therefore of acute interest whether there are any languages where T-heads can be shown to bear a feature other than [PST], [PRS], or [NFUT].

Bearing directly upon this question is a puzzle concerning the apparent variation across languages in the ability for past-marking to give rise to so-called ‘cessation inferences’. To begin, it has been observed in many languages that the use of a past-marked stative predicate can give rise in certain contexts (specified later in Section 4) to an inference that the state in question does not extend into the present. Such ‘cessation inferences’ have long been noted for English (Musan 1997, Magri 2011, Thomas 2014a, Altshuler & Schwarzschild 2013), as shown below.

(2) Cessation Inferences in English³

- | | | | | |
|----|------|-------------------|--|-------------------------------------|
| a. | (i) | <u>Dialog:</u> | Person 1: | Who wrote that song ‘Sledgehammer’? |
| | | | Person 2: | Oh, I knew this!... |
| | (ii) | <u>Inference:</u> | Person 2 does not currently know the answer. | |
| b. | (i) | <u>Dialog:</u> | Person 1: | How are you feeling? |
| | | | Person 2: | Well, I was nauseous. |
| | (ii) | <u>Inference:</u> | Person 2 is not currently nauseous. | |

² The status of ‘present’ as a tense feature (rather than simply the absence of a tense feature) remains controversial (Sauerland 2002, Thomas 2014b). Furthermore, I also follow much of the semantic literature on tense in the (controversial) assumption that [FUTURE] does not exist as a tense category in the languages of the world.

³ As indicated in (2), I assume that all the following are ‘statives’ in English: lexical statives (*know*), adjectival predicates (*nauseous*, *six feet tall*), progressive verbs (*be dancing*), and habitual/generics (*eats fish*).

- c. (i) Dialog: Person 1: Is Dave enjoying the party?
 Person 2: Well, he **was dancing**.
- (ii) Inference: Dave is not currently dancing.
- d. (i) Dialog: Person 1: Tell me something about Dave.
 Person 2: Well, he **was** six feet tall.
- (ii) Inference: Dave is dead.

Similar such inferences are reported for the Tlingit language (Na-Dene; Alaska, British Columbia, Yukon) by Leer (1991). In all the sentences below, the main verb bears past-marking, and Leer reports that the comments made by speakers indicate that the states in question are understood not to continue into the present. The accompanying English free translations are those provided by Leer (1991).

(3) Cessation Inferences in Tlingit

- a. Kuk'éiyeeen.^{4,5}
 IMPFV.good.weather.PST
The weather was nice (but turned bad) (Leer 1991: 464)
- b. Sheet'kax' áwé yéi xat téeyin at k'átsk'ux xat sateeyí.
 Sitka.at FOC IMPFV.1sgS.be.PST boy IMPFV.1sgS.be.SUB
I lived in Sitka when I was a child. (Leer 1991: 465)
- c. Xaxáyeen.
 3O.IMPFV.1sgS.eat.PST
I was eating it (but have stopped). (Leer 1991: 463)
- d. Xaxáa noojeen.
 3O.1sgS.eat HAB.PST
I would eat it (habitually in the past, but no longer) (Leer 1991: 463)

Furthermore, Leer (1991: 465) states regarding sentence (3a) that "...[This sentence] means that a specific situation, namely an instance of good weather, was true in the past and is not true now"

⁴ I provide only the roughest of glosses for individual Tlingit words, which can be morphologically quite complex. This simplification is most radical for verbs, as I provide glosses only for their lexical content, their agreement morphology, and their TAM morphology.

⁵ I employ the following glossing abbreviations: 1, 'first person'; 2, 'second person'; 3, 'third person'; AUX, 'auxiliary verb'; DET, 'determiner'; DUB, 'dubitative'; EMPH, 'emphatic'; EXCLM, 'exclamative'; FOC, 'focus particle'; FUT, 'future'; HAB, 'habitual'; HYPO, 'hypothetical/subjunctive particle'; IMPFV, 'imperfective'; Indef, 'indefinite'; INF, 'infinitival'; INST, 'instrumental'; LOCP, 'locative predication suffix'; NEG, 'negation'; NFUT, 'non-future'; NOM, 'nominalizer'; O, 'object'; OPT, 'optative'; PERF, 'perfect'; PFV, 'perfective'; pl, 'plural'; POSS, 'possessor'; POT, 'potential'; PRS, 'present'; PST, 'past'; Q, 'question/indefinite particle'; RECIP, 'reciprocal'; REFL, 'reflexive'; S, 'subject'; REL, 'relative clause marker'; sg, 'singular'; SUB, 'subordinator'.

(Leer 1991: 465), and regarding sentence (3b) that “...[This sentence] could be said by someone who left Sitka during childhood...”

It seems, then, that both English and Tlingit exhibit cessation inferences with past-marked statives. Importantly, however, it has long been recognized that in English, these inferences have the status of (conversational) implicatures (Musan 1997, Magri 2011, Thomas 2014a, Altshuler & Schwarzschild 2013). That is, in English, these cessation inferences are defeasible, as shown by the felicity of the conjunctions in (4).

(4) **Cancellation of Cessation Inferences in English**

- a. I **knew** this years ago, *and I still know it now.*
- b. I **was nauseous** this morning, *and I’m still nauseous now.*
- c. Dave **was dancing** an hour ago, *and he’s still dancing now.*
- d. Dave **was** six feet tall this morning, and (of course) he’s still six feet tall now.

Furthermore, there are certain contexts in English where past-marked statives do not give rise to a cessation inference. In particular, if prior discourse establishes a salient, topical past time, then the cessation inference is defeated. For example, in none of the sentences below, is the state generally understood to end prior to the time of the utterance.

(5) **English Cessation Inferences Do Not Arise If a Past Time is Contextually Salient**

- a. As soon as you asked me the question, I **knew** the answer.
- b. When the doctor saw me, I **was** (already) nauseous.
- c. I just saw Dave in the kitchen. He **was dancing**.
- d. I met this really cool guy named Dave yesterday. He **was** six feet tall.

Facts such as these establish that the cessation inferences of English past tense are non-semantic; they are not encoded as part of the lexical semantics of English past-marking.

Curiously, however, the cessation inferences found in Tlingit do not pass these important tests for implicature-hood. To begin, it is not possible in Tlingit to directly cancel the cessation inference in the way done in (4). To express conjunctions like those in (4), Tlingit requires the verbs of both conjuncts to be unmarked for tense. As shown below, use of the overt past-marking in the first conjunct results in infelicity.

(6) **Inability to Explicitly Cancel Cessation Inferences in Tlingit**

Scenario: Joe has been sleeping all day. He was sleeping this morning, and he’s still sleeping now.

- a. *Tlingit Sentence Offered:*

Tle	yá ts’ootaat dágáawé	tá	Joe.
then	this morning indeed	IMPFV.3sgS.sleep	Joe

Ch'a yeisú tá. (SE)⁶
 just still IMPFV.3sgS.sleep
This morning, Joe was indeed sleeping. He's still sleeping now.

- b. *Rejected Sentence, Containing Past Tense:*
 # Tle yá ts'ootaat dágaawé táyin Joe.
 then this morning indeed IMPFV.3sgS.sleep.PST Joe
 Ch'a yeisú tá.
 just still IMPFV.3sgS.sleep

Comments by Speakers:

- “No; -yin makes it past tense. But you're saying that he's still sleeping.” (SE)
- “No; [the sentence with past tense] means he's already slept and gone.” (WF)

(7) Inability to Explicitly Cancel Cessation Inferences in Tlingit

Scenario: The weather has been nice all day. It was nice this morning, and it's nice now.

- a. *Tlingit Sentence Accepted:*
 Yá ts'ootaat ch'a kuwak'éi. Ch'a yeisú kuwak'éi.
 this morning just IMPFV.good.weather just still IMPFV.good.weather
This morning, the weather was nice. It's still nice now. (C)
- b. *Rejected Sentence, Containing Past Tense:*
 # Yá ts'ootaat ch'a kuk'éiyin. Ch'a yeisú kuwak'éi.
 this morning just IMPFV.good.weather.PST just still IMPFV.good.weather

Comments by Speakers:

“I don't like kuk'éiyin. It's past tense. It means it's gone, the weather is gone. It's passed.” (SE)

Furthermore, while the cessation inference of English past tense disappears when there is a salient, topical past time (5), the cessation inferences of Tlingit still arise in such contexts. Consider the rejection of the past-marked sentences in (8) and (9) below.

⁶ I indicate whether a Tlingit sentence was (i) constructed by myself and judged by speakers to be acceptable, or (ii) actually spontaneously spoken by the consultants 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(s) who provided the sentence: (MD) for Margaret Dutson, (SE) for Selena Everson, (WF) for William Fawcett, (CM) for Carolyn Martin, (JM) for John Martin, and (HS) for Helen Sarabia. In addition, when I provide comments recorded from the speakers, I also provide the initials of the speakers who made the comments.

(8) **Tlingit Cessation Inferences Still Arise when Past Time is Salient**

Scenario: You walk by your friend Joe's house, and see him building a boat. A few minutes later, you bump into your friend Sue, and she asks what Joe has been up to. You want to tell her that, just a few minutes ago, you saw him working on his boat.

a. *Tlingit Sentence Offered:*

Dziyáak Joe xwasateení, du yaagú alyéix. (MD, SE, WF)
earlier Joe 3O.PFV.1sgS.see.SUB his boat 3O.IMPFV.3sgS.build
When I saw Joe earlier, he was building his boat.

b. *Rejected Sentence, Containing the Decessive:*

Dziyáak Joe xwasateení, du yaagú alyéixin.
earlier Joe 3O.PFV.1sgS.see.SUB his boat 3O.IMPFV.3sgS.build.PST

Comments by Speakers:

"No; that means he's not working on it now." (SE)

(9) **Tlingit Cessation Inferences Still Arise when Past Time is Salient**

Scenario: We're at a party. You spot your friend Joe in a corner. You see that he is singing. You then go into the kitchen. There, you hear your friend Sue say 'Oh, I wish I could hear Joe sing!' You want to mention that you just saw him singing. Naturally, you assume that he's still singing now, so Sue can go hear it.

a. *Tlingit Sentence Offered:*

Ch'a yeisú xwsiteen Joe. At shí. (SE, WF)
just just.now 3O.PFV.1sgS.see Joe IndefO.IMPFV.3sgS.sing
I saw Joe just now. He was singing.

b. *Rejected Sentence, Containing Past Tense:*

Ch'a yeisú xwsiteen Joe. At shíyin
just just.now 3O.PFV.1sgS.see. Joe IndefO.IMPFV.3sgS.sing.PST

Comments by Speakers:

"This one means that he's through singing, he had been singing." (SE)

In both (8) and (9), a preceding clause establishes a particular past time as topical/salient. Nevertheless, the rejection of (8b)-(9b) and the comments provided by the speakers indicate that use of an overtly past-marked stative triggers a cessation inference. In contrast, note that the English translations of (8a) and (9a) both contain past-marked statives, but are nevertheless felicitous in these scenarios, due to the cancellation of the English cessation implicature.

It should also be briefly noted that the speakers judging the sentences in (6)-(9) *do* readily accept the use of past-marked statives, just as long as the context makes clear that the associated cessation inference holds. This is illustrated by the felicity of the sentences in (10) below.

(10) Use of Past-Marked Statives When Cessation Inference Holds

- a. Yéi xat gusagéink'in. Yeedát ku yéi xat kuligéi. (SE)
 IMPFV.1sgS.small.PST now though IMPFV.1sgS.big
I used to be small. Now, though, I'm big.

- b. Yá ts'ootaat kuk'éiyin. Yeedát ku.aa tlél kushk'é. (SE)
 this morning IMPFV.good.weather.PST now though NEG IMPFV.good.weather
This morning, the weather was nice. Now, though, the weather is not nice.

- c. Gooshúk gaaw áwé ch'a yeisú táyin.
 nine hour FOC just still IMPFV.3sgS.sleep.PST

Yeedát ku kei wdzigit. (SE, WF)
 now though PFV.3sgS.wake.up.
At nine o'clock, he was still sleeping. Now, though, he's woken up.

- d. Scenario: You needed to get your sink fixed, 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.

I jeeyís áyá yéi nkwasaneiyin. (WF, SE)
 your hand.for FOC 3O.POT.1sgS.do.PST
I could have done it for you.

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

Yá ts'ootaat áwé Sheet'káadei kukkwatéenin. (WF, SE, MD)
 this morning FOC Sitka.to FUT.1sgS.travel.PST
This morning, I was going to travel to Sitka.

In summary, it seems that the cessation inferences associated with Tlingit past-marking do not behave like those associated with English past tense, and do not pass the tests in (4)-(5) for being implicatures. This, of course, raises the crucial question of *why*: why does this difference exist between the cessation inferences of Tlingit and English? One obvious possibility is that – while the cessation inference found in English is non-semantic – the cessation inference of Tlingit *is* semantic. That is, it could simply be that the past-tense marker in Tlingit has the cessation inference built into its very lexical semantics. Exactly this answer is put forth by Leer (1991), who claims that the marker in question “...means that (the sentence) was true at some time in the past, but is no longer true at present” (Leer 1991: 461).

The notion that past-marking in some languages might lexically encode a cessation inference has indeed been independently proposed multiple times. For example, Copley (2005) investigates and analyzes the past-marker *cem* in Tohono O’odham, and puts forth an analysis whereby this particle directly entails cessation when marking a stative predicate. Furthermore, Plungian & van der Auwera (2006) catalog numerous cases from around the world where past-

markers are reported to contribute ‘cessation’ as part of their lexical meaning, including such languages as Wolof (Niger-Congo; West Africa), Tokelauan (Polynesian; Tokelau), Lezgian (Nakh-Daghestanian; Dagestan), Sranan (Creole; Suriname), Bamana (Mande; Mali), and Washow (isolate; California). The abundance and similarity of such cases lead Plungian & van der Auwera (2006) to propose the existence of a special tense category, which they dub ‘discontinuous past’, defined for our purposes as in (11).

(11) **‘Discontinuous Past’ (Plungian & van der Auwera 2006)** ⁷

A past tense marker for which the cessation inference has become part of its conventionalized, lexicalized meaning.

Thus, Plungian & van der Auwera propose that languages like Tlingit, Tohono O’Odham, *etc.* all contain a special sub-variety of past tense – *discontinuous* past – which is distinguished semantically from the (plain) past tense of languages like English, in that only the former lexically encodes a cessation inference.

We find, then, that the behavior of cessation inferences in languages like Tlingit directly bears upon our overarching question in (1). If the reason for the contrasts between (4)-(5) and (6)-(9) is indeed that Tlingit possesses a special subcategory of past-marking (‘discontinuous past’) then this would suggest that the inventory of tense features allowable by UG should be expanded to include a ‘discontinuous past’ feature, [DisPST], one that is semantically stronger than (plain) [PST].

In this paper, however, I will argue against the existence of ‘discontinuous past’ as a distinct (sub)category of tense feature. More acutely, I will argue that despite the facts in (6)-(9), the cessation inference found in Tlingit is non-semantic; it is a pragmatic effect and is not encoded in the lexical semantics of the past-marker itself. As we will see, there are grammatical and contextual environments where the Tlingit past-marker does *not* give rise to a cessation inference, just as with English past tense. I will propose, however, that the cessation inference associated with Tlingit past-marking arises from different pragmatic mechanisms than the ones responsible for English cessation implicatures. In particular, I will develop a formal semantic/pragmatic analysis whereby the Tlingit cessation inference in (6)-(9) arises from two key factors: (i) the *optionality* of past-marking in Tlingit, and (ii) a special principle relating to the topicality of the utterance time. I will then go on to argue that this same analysis should be extended to all putative instances of ‘discontinuous past’. The principal argument for treating all cases of ‘discontinuous past’ in this manner is that it would capture the following striking fact: all reported instances of ‘discontinuous past’ are found in ‘optional tense’ languages, where they are the optional marker for past tense (Plungian & van der Auwera 2006). Consequently, I will conclude that there is yet no evidence for ‘discontinuous past’ as a separate (sub)category of tense feature, and so no evidence yet that UG permits any tense features other than [PST], [PRS], and [NFUT].

The remainder of this paper is structured as follows. In the following section, I provide some basic background concerning the Tlingit language and the nature of the Tlingit language data presented here. Section 3 then presents the paper’s main empirical arguments that Tlingit

⁷ As discussed in Section 5, Plungian & van der Auwera (2006) also identify a second characteristic property of their ‘discontinuous past’ category, namely, the inferences that are triggered when the marker appears with *perfect(ive)* predicates. I discuss these additional inferences in Section 5, and show that my proposed analysis can predict them as well.

cessation inferences are non-semantic, as they are absent in the following cases: (i) when the speaker explicitly asserts ignorance concerning the present, (ii) when the past-marked verb appears embedded below another past-marked verb, and (iii) when the utterance time is clearly not relevant to the discourse. Having shown that Tlingit does not contain a ‘discontinuous past’ as defined in (11), I then provide my typological argument against the notion that *any* language contains such a category of past marking. The conclusion of this argument is that all alleged instances of discontinuous past are, in their semantics, simply optional past tense markers. This raises the question of how such ‘optional pasts’ could come to trigger cessation inferences exhibiting the properties in (6)-(9). In Section 4, I present my proposed formal analysis of the semantics and pragmatics of these tense markers, whereby their cessation inferences are crucially tied to their optionality.

With the formal semantic/pragmatic analysis in place, I show in Section 5 that this analysis can capture one additional puzzling feature of these putative ‘discontinuous past’ markers: their interactions with *perfect(ive)* predicates. As we’ll see, in Tlingit and many other languages, optional past-marking on perfect(ive) predicates can give rise to two different, additional forms of inference: (i) that the state *resulting from* the described event fails to extend into the present, or (ii) that the described event failed to have some expected consequence. I will show that, given independent facts about perfect(ive)-marking in these languages, these facts will follow from the formal analysis put forth in Section 4.

2. Linguistic and Methodological Background Regarding Tlingit Language

The Tlingit language (Lingít; /ɬm.kít/) 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 larger Na-Dene language family (Campbell 1997, Mithun 1999, Leer *et al.* 2010). It is thus distantly related to the Athabaskan languages (e.g., Navajo, Slave, Hupa), and shares their complex templatic verbal morphology (Leer 1991). As mentioned in Footnote 4, I will largely be suppressing this complex 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: Margaret Dutson (Sháax’ Sáani), Selena Everson (Kaséix), William Fawcett (Kóoshdaak’w Éesh), Carolyn Martin (K’altseen), John Martin (Keihéenák’w), and Helen Sarabia (Kaachkoo.aakw). 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 elders were presented with various scenarios, paired with English sentences that could

feliculously describe those scenarios. The scenarios were described orally to the elders, all of whom are entirely fluent in English, and a written (English) description was also distributed. The elders were asked to freely describe the scenarios, as well as to translate certain targeted English sentences describing them. In order to more systematically study their semantics – and to obtain negative data – sentences containing past tense morphology were examined using truth/felicity judgment tasks, a foundational methodology of semantic fieldwork (Matthewson 2004). The elders were thus 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.

2.1 Further Background on Tlingit Past-Marking: The ‘Decessive Epimode’

The Tlingit sentences in (6)-(10) above were said to contain ‘past-marking’. The key morphology in question, however, is referred to by Tlingit language specialists as the ‘decessive epimode’. This morphological category is realized by two non-consecutive exponents: (a) the so-called ‘[-I]’ feature of the verbal classifier, and (b) a verbal suffix.⁸ The form of the verbal suffix depends upon the kind of clause headed by the verb. In a main clause, the decessive suffix is underlyingly *-een*, but phonological processes can cause it to surface as *-yeen*, *-éen*, *-yéen*, *-oon*, *-woon*, *-óon*, or *-wóon*. Furthermore, for speakers of the Northern Dialect of Tlingit, these allomorphs can all optionally contain short vowels (*-in*, *-yin*, *-ín*, *-yín*, *-un*, *-wun*, *-ún*, *-wún*). In a relative clause, however, the decessive suffix is underlyingly *-i*, and much the same phonological processes apply to generate varying allomorphs (*-yi*, *-u*, *-wu*). Finally, in all other subordinate clauses, the decessive is realized by the post-verbal particle *yéeyi*.⁹ Throughout the example sentences in this paper, the suffix realizing the decessive will be boldfaced for the reader.

In the earliest descriptive literature on Tlingit, the decessive is simply analyzed as an optional marker of past tense (Boas 1917: 84; Story 1966: 143). Later, in their extensive verbal dictionary for the language, Story & Naish (1973: 356) add the detail that the decessive “refer(s) to a time when the situation was other than it was, is, or will be.” This aspect of the decessive’s meaning is greatly expanded upon in the work of Leer (1991: 460-478), who – as noted above – proposed that the decessive lexically encodes a cessation inference.

In the following section, however, we will see that the Tlingit ‘decessive epimode’ is in its lexical semantics nothing more than an optional past tense. For this reason, in all the example sentences found here, I will gloss this morphology as a past tense (PST).

3. Evidence that the Cessation Inference in Tlingit is *Not* Semantic

In Section 1, we saw that the cessation inferences of the Tlingit decessive cannot be cancelled in the way that the cessation implicatures of English past tense can. This fact, however, doesn’t necessarily show that those inferences are lexically encoded in Tlingit. All we know for certain is

⁸ For more on the featural structure of Tlingit verbal classifiers, the reader is referred to Leer (1991).

⁹ The particle *yéeyi* can also modify nouns, in which case it means ‘former, ex’ (Leer 1991: 461). This fact is, of course, quite reminiscent of the so-called ‘nominal tense marker’ *-kue* of Guaraní (Tonhauser 2007) and Mbyá (Thomas 2014a), which can function as a verbal past tense in Mbyá (Thomas 2014a). I leave exploration of these potential connections to future research.

that they are not perfectly identical to English-style cessation implicatures; they could nevertheless be generated via other pragmatic processes. In this section, I will present evidence that this is indeed the case. That is, despite the facts in (6)-(9), Tlingit cessation inferences can be cancelled in certain environments, and so we must conclude that they are not part of the conventionalized, lexical content of the Tlingit decessive. Furthermore, once these facts are on the table, we will see that they call into question whether there is *any* language where cessation inferences are lexically encoded into the semantics of a past-marker (*cf.* Plungian & van der Auwera (2006)).

3.1 Absence of Cessation in Examples Taken From Naturally Produced Texts

As one would expect from the data in (6)-(10), within naturally produced Tlingit narratives, decessive-marked statives most commonly appears in contexts that support a cessation inference. However, upon further examination, this seems only to be a tendency. Within the published corpus of naturally produced Tlingit narratives, there are examples of decessive statives where a cessation inference is not contextually supported. Most importantly, there are even examples where such an inference would seem to be inconsistent with the surrounding context. For reasons of space, I will provide just one striking example.

In sentence (12) below, the narrator is referring to a petroglyph carved by Kaax'achgóok, a hero of the Kiks.ádi clan in Sitka, AK. This petroglyph is generally known to still exist in Sitka (Dauenhauer & Dauenhauer 1987: 330), and in the line immediately following (12), the narrator tells the addressee that they will go visit it later.

(12) Decessive Imperfective with No 'Cessation' Inference

Ch'a	yeisú	áa	yéi téeyin	du	ji.eetí.
just	still	there	3O.IMPRV.be.PST	his	hand.remnants

It was still there recently, the work of his hands.
 (Dauenhauer & Daunehauer 1987; 100: 359)

With all this in mind, the decessive stative in (12) does not seem to imply in its original context that the carving is no longer there. Consequently, we find that there are naturally produced examples of decessive statives lacking the cessation inference at play in (6)-(9), and so that inference cannot be encoded in the lexical semantics of the decessive.

3.2 Cancellation of Cessation Inference with Explicit Statements of Ignorance

In Section 1, it was shown that, unlike a cessation implicature in English, the cessation inference found in Tlingit is not cancelled simply by there being a contextually salient, topical past time. Importantly, however, it does seem that a Tlingit cessation inference can be cancelled by an explicit statement of ignorance concerning the present (i.e., the Utterance Time). That is, as shown by dialogs like the following, Tlingit speakers can use a decessive stative when they *don't know* whether the past state/event extends into the present.

(13) **Cancellation of Cessation Inference with Statement of Ignorance**

English Dialog to Translate:

Joe: “When I went to Sitka, I saw John.”

Sue: “Oh! John is in Sitka?”

Joe: “Well, he *was* in Sitka. I don’t know if he still is.”

Tlingit Translation Offered:

a. Joe: Sheet’kát kuxwatéeni, John xwasiteen. (SE)
Sitka.to PFV.1sgS.travel.SUB John 3O.PFV.1sgS.see
When I traveled to Sitka, I saw John.

b. Sue: O! John gé áwu hú Sheet’ká? (SE)
Oh John Q there.LOCP him Sitka
Oh, is John there in Sitka?

c. Joe: Ha, áa yéi teeyín.
EXCLM there.at IMPFV.3sgS.be.PST

Tlél xwasakú ch’a yeisú áa yéi teeyí (SE)
NEG 3O.PFV.1sgS.know just still there.at IMPFV.3sgS.be.SUB
Well, he was there. I don’t know if he’s still there.

In the dialog above, Joe explicitly states that he *doesn’t know* whether John is still currently in Sitka. Nevertheless, the decessive suffix appears in the translation under (13c): *Áa yéi teeyín* ‘he was there’. Since Joe admittedly doesn’t know whether John is still in Sitka, he could not be asserting in (13c) that John *is no longer* in Sitka. Thus, we find that the decessive stative in (13c) does not imply here that John is no longer in Sitka. Consequently, it seems that the cessation inference is cancelled in this context. Another example of such cancellation is given below.

(14) **Cancellation of Cessation Inference with Statement of Ignorance**

English Dialog to Translate:

John: “Is Tom still asleep?”

Mary: “Well, he *was* asleep earlier, but I don’t know if he still is.

Tlingit Translation Offered

a. John: Táam gé ch’a yeisú tá? (WF)
Tom Q just still IMPFV.3sgS.sleep
Is Tom still sleeping?

b. Mary: Yeisú dziyáak táayín.
still earlier IMPFV.3sg.sleep.PST

Hél xwasakú ch’a yeisú shákdé tá. (MD, WF)
 NEG 3O.PFV.1sgS.know just still DUB IMPFV.3sgS.sleep
Well, he was sleeping earlier. I don’t know if he is still sleeping.

In the dialog above, Mary doesn’t know whether a particular state (Tom’s sleeping) extends into the present or not. Nevertheless, in the Tlingit translations of their statements, they use the decessive suffix when describing those past states. It follows, then, that the decessive sentences in these dialogs cannot be asserting that the past states in question *fail* to extend into the present. We can therefore conclude that in these examples, the decessive suffix does not contribute a cessation inference.

In summary, it is possible after all to cancel the cessation inference of a past tense (decessive) stative in Tlingit. Although that inference is not cancelled merely by the existence of a topical past time (Section 1), it can be cancelled by an explicit statement of ignorance concerning the present. Consequently, that cessation inference is not a lexicalized part of the semantics of the past-marker.

3.3 Absence of Cessation Inference in Embedded Clauses

Further evidence for the non-semantic nature of the Tlingit cessation inference can be found in the behavior of past-marked verbs that are in the complement of a propositional attitude verb. The key generalization is as stated in (15) below.

- (15) **Decessive Statives in the Complement to Decessive Propositional Attitude Verbs**
 If a propositional attitude verb in Tlingit is past-marked, then the verb of its complement can also bear past-marking, *without contributing any cessation inference*.

To illustrate, consider the scenario in (16a), as well as the felicitous Tlingit sentence in (16b).

(16) Embedded Decessive Stative Lacking Cessation Inference

- a. Scenario: When I was a kid, my uncle would bring over all this really great food to our house. I naturally assumed that he made it, and that he was a really great cook. Turns out, though, that he just bought the food from restaurants downtown!
- b. Tlingit Sentence Offered:
Yéi xwajeeýín ax káak kúnáx k’idéin **at sa.éeyín.** (SE)
 3O.IMPFV.1sgS.think.PST my uncle very well 3sgS.IMPFV.cook.PST
I used to think that my uncle cooked really well.

What’s crucial here is that in scenario (16a), what the imagined speaker actually believed was “my uncle *cooks* really well”. They did not ever believe “my uncle used to cook really well, but doesn’t any longer.” Thus, the decessive suffix on the embedded imperfective verb *at sa.éeyín* ‘he cooked’ seems not to contribute a cessation inference in (16b).

One might nevertheless doubt whether cases like (16b) really provide convincing evidence that the cessation inference is not a part of the lexical semantics of Tlingit past-marking. To begin, let us note that in cases like (16), the embedded past-marking also seems not

to contribute an inference of *past-ness*; again, in scenario (16a), the speaker believed “my uncle *cooks* well”, not “my uncle *cooked* well.” With this in mind, the use of embedded past-marking in (16b) is quite reminiscent of the so-called ‘simultaneous readings’ of embedded past tense in languages like English, as illustrated by sentences like (17) in contexts like (16a).

(17) **Simultaneous Reading of Embedded Past Tense in English**

I **thought** that my uncle **cooked** really well.

Given the similarity between (16b) and (17), one might wonder whether Tlingit (16b) should receive the same general formal analysis as English (17). Now, the most successful analyses of simultaneous readings in English posit that the embedded past tense in sentences like (17) is not actually semantically interpreted (Abusch 1997, Kratzer 1998, von Stechow 2003). Therefore, one might wonder whether the possibility of (16b) is rather due to a general ‘semantic invisibility’ of the embedded past-marking, an analysis that would be consistent with that past-marking lexically encoding a cessation inference.

In response to this concern, it should be noted that – unlike cases of vacuous embedded past in English (17) – the embedded past-marking in (16b) is entirely optional. That is, along with (16b), the sentence in (18) is also reported to be acceptable in context (16a).

(18) **Optionality of Decessive Embedded Under Decessive**

Yéi xwajeeyín ax káak kúnáx k'idéin at sa.éeyi. (C)
 3O.IMPFV.1sgS.think.PST my uncle very well 3sgS.IMPFV.cook.SUB
I used to think that my uncle cooked really well.

Those analyses which treat cases like (17) in English as containing a vacuous past also predict that such instances of vacuous past are *obligatory* in these embedded environments. Furthermore, the possibility of both (16b) and (18) is instead quite reminiscent of the behavior of embedded past tense in (some dialects of) Modern Hebrew (Ogihara & Sharvit 2012).

(19) **Simultaneous Readings of Embedded Past in (Some Dialects of) Modern Hebrew**

- a. Yosef **xašav** še Mariam **ahava** oto
 Yosef **think-PST** that Marian **love-PST** him
 Yosef thought that Mariam loved him (i.e., Yosef thought, “Miriam loves me”)
- b. Yosef **xašav** še Mariam **ohet** oto
 Yosef **think-PST** that Marian **love-PRES** him
 Yosef thought that Mariam loved him (i.e., Yosef thought, “Miriam loves me”)

Ogihara & Sharvit (2012) argue that in Hebrew sentences like (19a), the embedded past *is* indeed interpreted, but undergoes a movement operation (*res*-movement) that results in it *seeming* to be semantically vacuous. Space precludes a detailed explanation of their analysis, but the key point here is that it would better to analyze Tlingit sentences like (16b) using the mechanisms proposed by Ogihara & Sharvit (2012) for Hebrew sentences like (19a). Since this treatment

assumes that embedded past *is* interpreted, we'd similarly conclude that the embedded past-marking in (16b) is interpreted as well. Consequently, we again come to the conclusion that the absence of the cessation inference with the embedded decessive in (16b) suggests that inference is not part of its lexical semantics.¹⁰

Some further data supporting the key generalization in (15) are presented in (20) below.

(20) Embedded Decessive Verb Lacking Cessation Inference

a. Scenario: When you were a child growing up in Southeast Alaska, Juneau seemed like a big city to you. Of course, as you got older and visited places like Seattle and San Francisco, you learned that Juneau wasn't so big after all.

b. Tlingit Sentences Offered:

(i) **Yéi xwajéeyin** Jónoo aan tlein_x áwé **satéeyin.** (WF)
 3O.IMPFV.1sgS.think.DEC Juneau city big FOC IMPFV.3S.be.DEC
I used to think that Juneau was a big city.

(ii) **Yéi xwajéeyin** Jónoo kúnáx **géiyin.** (MD)
 3O.IMPFV.1sgS.think.DEC Juneau really IMPFV.3S.big.DEC
I used to think that Juneau was big.

Again, in scenario (20a), what the imagined speaker believed was “Juneau *is* a big city”. They didn't ever hold the belief “Juneau *was* a big city, but isn't anymore.” Thus, again the past-suffix on the embedded imperfective verbs in (20b) seems not to contribute a cessation inference.

3.4 Absence of Cessation Inference in Contexts Where the Present is ‘Irrelevant’

A third environment where the Tlingit decessive seems not to trigger a cessation inference are contexts where the present is in a sense ‘not relevant’ to the purpose of the conversational exchange. Consider, for example, the context in (21a) and the Tlingit sentences in (21b).

(21) Decessive Without Cessation Inference

a. Scenario: You've lived your whole life here in Juneau. Someone is interested in what the Southeast was like in the 1950s. So, they ask you, “Where did you live in the 1950s?” You want to answer that you lived here.

b. Tlingit Sentences Offered:

(i) Jónoox' **yéi xat teeyín.** (CM)
 Juneau.at IMPFV.1sgS.be.PST
I lived in Juneau.

¹⁰ Again, space precludes a full discussion here, but it's important to note that only the *anteriority* (past) implication of the past-marker would be predicted by Ogihara & Sharvit (2012) to seem to disappear. If the cessation inference were part of the lexical semantics of the Tlingit past-marker, nothing in Ogihara & Sharvit's (2012) analysis would account for its absence in (16b).

- | | | |
|------|---|---------------------------|
| (ii) | Aa yéi xat teeyín,
there IMPFV.1sgS.be.PST
<i>I lived in Juneau.</i> | Jóonoo (SE)
Juneau |
|------|---|---------------------------|

The scenario above makes clear that the speaker has lived their whole life in Juneau, and has never moved away. Curiously, the Tlingit sentences offered for this scenario are headed by past-marked statives. It seems, then, that the past-marked verbs in (21b) don't in this context contribute an inference of cessation.

Why would the cessation inference be absent from these sentences? One possibility – predicted by the formal analysis proposed in Section 4 – is that in scenario (21a), the present time is wholly irrelevant. That is, the imagined interviewer is only interested in knowing where the speaker lived during the 1950s; whether the speaker currently lives in Juneau or not just isn't relevant to the purpose of the conversation.

Whether or not this is the right interpretation of these facts, they nevertheless present additional cases where use of Tlingit past-marking does not trigger an inference of cessation, suggesting that such inferences are not encoded in the lexical semantics of this marking.

3.5 Are There *Any* Languages Where the Cessation Inference is Semantic?

The preceding sections have demonstrated that despite the facts in (6)-(9), the cessation inference found with past-marking ('decessive epimode') in Tlingit is not a part of its lexical semantics, but is instead a defeasible, pragmatic effect. Thus, the Tlingit 'decessive epimode' is not an instance of 'discontinuous past', in the theoretically importance sense of (11). This, of course, raises the question of whether there are any other, clearer examples of such 'discontinuous past' in the languages of the world. In this section, I present some reasons for doubt.

First and foremost, it should be noted that – to my knowledge – no other alleged instances of discontinuous past have ever been tested in the environments in Sections 3.2 – 3.4. Since they provide the crucial evidence that Tlingit past-marking is not, after all, an instance of discontinuous past, any alleged cases of discontinuous past should be examined in those environments before we can be confident that their cessation inferences are indeed lexicalized.

Furthermore, as briefly mentioned in Section 1, Plungian & van der Auwera (2006) themselves note the following curious generalization regarding their putative cases of discontinuous past.

(22) A Curious Coincidence: 'Discontinuity' and Optionality

In all languages containing a 'discontinuous past', (i) there is no obligatory past tense morphology (*i.e.*, unmarked verbs can receive either past or present interpretation), and (ii) the 'discontinuous past' is the only morpheme that contributes past tense¹¹

¹¹ The principle potential exception to this generalization noted by Plungian & van der Auwera is that of Washow, a language which seems to have a discontinuous past (dubbed a 'defunctive' by specialists), but which also contains various 'graded pasts' (Jacobsen 1964). However, it should be noted that Washow does exhibit the first property in (22); verbs without tense marking can refer to past states/events (Bochnak 2015). As regards the (optional) graded pasts in the language, Cable (2013) argues that 'graded past' markers in other languages are not actually 'tenses', in the usual sense that semanticists give that term (see Section 4). Rather, such 'graded past' markers are actually modifiers within the Aspectual projection. Thus, it remains very much an open question whether Washow truly counterexemplifies the generalization in (22). Furthermore, Bochnak (2015) demonstrates that the cessation

According to the typological generalizations in (22), there are *no* languages containing both (i) a discontinuous past, and (ii) an optional ‘pure’ past tense (one for which the cessation inference is merely pragmatic). Similarly, there appears not to be any ‘obligatory tense’ language that also contains a discontinuous past marker, optional or obligatory. Relatedly, there does not appear to be any language with an obligatory discontinuous past marker; that is, in every language with a putative ‘discontinuous past’, the marker in question does not have to be used in contexts supporting a cessation inference.

These facts, of course, raise the question of why the typological pattern in (22) should hold. Importantly, this pattern is quite unexpected if ‘discontinuous past’ is simply another tense feature, on par with PAST, PRESENT, and FUTURE. Even the relatively rare ‘graded’ tense categories (such as ‘Hodiernal’ or ‘Hesternal’ Past) can (i) appear in obligatory tense languages, or (ii) co-occur with regular ‘pure’ past tense (Hayashi 2011, Cable 2013). Why, then, should a DISCONTINUOUS PAST feature be any different? Why should it seem to be incompatible with (i) its marker being obligatory, or (ii) there being a separate realization of ‘pure’ past tense?¹²

With these questions in mind, let us consider instead another possibility. Suppose that, despite the facts in (6)-(9), the Tlingit decessive – and by extension, all putative cases of ‘discontinuous past’ – is in its lexical semantics simply an optional, ‘pure’ past tense. That is, suppose that these markers only contribute the ‘anteriority’ semantics of English past tense. Let us also suppose that the cessation inference associated with these markers could somehow be derived as a pragmatic inference arising from the very properties invoked in (22). It would, of course, then trivially follow that only languages and morphemes exhibiting the properties in (22) would also trigger such special cessation inferences. That is, we would straightforwardly predict that these kinds of cessation inferences would be restricted to morphemes/languages for which (22) hold, and so the typological pattern would be accounted for.

For this reason, the typological facts in (22) provide some additional motivation for exploring an analysis where the special inferences associated with putative cases of ‘discontinuous past’ are not part of their lexical semantics, but are instead somehow derived via pragmatics. Let us now attempt to construct just such an account.

inference associated with Washow ‘defunctive’ is actually a defeasible pragmatic inference, and so is not encoded as part of the affix’s lexical semantics.

¹² Plungian & van der Auwera (2006: 344-345) speculate that there may be a kind of functional/historical answer to these questions:

“The question arises, whether a morphologically non-standard tense marker is always semantically non-standard, i.e. expresses a kind of discontinuous past value. Such a strong correlation would be tempting, though the data we dispose of are insufficient to prove or disprove it. Nevertheless, the correlation may be heuristically useful...

Generally speaking, this formal peculiarity of the discontinuous past markers can be accounted for as an iconical device reflecting their semantics. In fact, what the discontinuous markers do is change the default interpretation of the verbal form they apply to. This change amounts to introducing a temporal (or notional) break between the point of reference and the situation.” (Plungian & van der Auwera 2006: 344)

Their idea seems to be that the optionality of the tense marker iconically signals that its meaning is distinct from that of a typical, obligatory past tense. It’s unclear to me, however, how exactly the ‘discontinuity’ aspect of the meaning arises (rather than some other imaginable divergence from a ‘pure’ past tense interpretation). Nevertheless, the formal analysis proposed in Section 4 will follow Plungian & van der Auwera (2006) in attempting to derive the cessation inference from the optional status of the markers in question.

4. Cessation Inferences in English and in Tlingit

We have seen that, just like the cessation implicatures of English, the cessation inferences of Tlingit are non-semantic, and arise through some form of pragmatic reasoning. This, of course, re-raises the core question of why those inferences in Tlingit cannot be cancelled in the way that English cessation implicatures can be (4)-(9). Any answer to this question will necessarily assume some theory of how cessation implicatures arise in English. For this reason, I will begin here by laying out an analysis of the English data in (2)-(5). My account builds heavily upon the analysis of Altshuler & Schwarzschild (2013), though it differs from theirs in significant ways.

To begin, let us review some assumptions regarding the syntax and semantics of tense. Following much of the prior literature on tense (Abusch 1997, Kratzer 1998, Matthewson 2006, *inter multa alia*), I assume that syntactic T(ense)-heads function as temporal anaphors, directly referring to a so-called ‘Topic Time’ (TT). Tense features, such as PAST are thus pronominal features, and so introduce presuppositions that constrain the reference of the T-heads. These ideas can be formalized as in (23) below.

(23) Formal Semantics of Tense

- a. $[[[_{\text{Tense}} \text{PST }]_i]]^{w,t,g} = g(i), \quad \text{only if } g(i) < t; \text{ undefined otherwise}$
b. $[[[_{\text{Tense}} \text{PRES }]_i]]^{w,t,g} = g(i), \quad \text{only if } g(i) = t; \text{ undefined otherwise}$

As shown in (23a), a T-head bearing the feature PAST (PST) is a temporal pronoun, and so bears a pronominal index i . Relative to an evaluation world w , evaluation time t , and a variable assignment g , the denotation of such a T-head is simply the value of its index, $g(i)$, *just as long as that value $g(i)$ precedes the evaluation time t* . Consequently, if a T-heads bears PAST, it can only ever end up denoting times that are in the past of the evaluation time t . A similar semantics can be given for PRESENT (PRES) T-heads (23b), where they end up only ever denoting times that are equal to the evaluation time t .

In this way, the semantics in (23) instantiates Klein’s (1994) view that tense features serve to constrain the relation between the Topic Time (the denotation of the tense head) and the Utterance Time (the evaluation time of the matrix clause). I will also follow much of the prior literature on aspect by assuming the Kleinian hypothesis that aspectual features serve to constrain the relation between the Topic Time and the Event Time (Klein 1994). That is, as formalized in (24), Aspect heads take as argument a property of events (denoted by the VP), and return a property of times, ultimately predicated of the Topic Time denoted by the Tense head.

(24) Formal Semantics of Aspect

- a. $[[[_{\text{Aspect}} \text{IMPFV }]]]^{w,t,g} = [\lambda Q_{<e>} : [\lambda t' : \exists e. Q(e) \ \& \ t' \subseteq T(e)]]$
b. $[[[_{\text{Aspect}} \text{PFV }]]]^{w,t,g} = [\lambda Q_{<e>} : [\lambda t' : \exists e. Q(e) \ \& \ T(e) \subset t']]$

For example, an Aspect head bearing imperfective (IMPFV) will take as argument the denotation of the VP (Q) and will return a predicate that is true of the topic time t' *iff* there is an event e of the kind denoted by the VP, such that the topic time t' is contained within the Event Time of e ($T(e)$). Thus, IMPFV contributes the information that the TT is contained within the ET. A similar denotation is offered for perfective aspect (PFV) in (24b), which implements the classic notion that perfective aspect locates the ET within the TT.

(25) **The Syntax of Tense and Aspect, Part 1**

- $\exists e. \text{nauseous}(e) \ \& \ \text{Thm}(e) = \text{Scotty} \ \& \ g(i) \subseteq T(e)$
 ‘There is an eventuality e of Scotty being nauseous whose run-time $T(e)$ contains the topic time $g(i)$.’

(26) The Syntax of Tense and Aspect, Part 2

- $\exists t', t' < t \ \& \ \exists e. \text{nauseous}(e) \ \& \ \text{Thm}(e) = \text{Scotty} \ \& \ t' \subseteq T(e)$
 ‘There is a past time t' and there is an eventuality e of Scotty being nauseous
 whose run time $T(e)$ contains the past time t' .’

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(27) **Key Generalization about Cessation Implicatures in English**

In English, a cessation implicature is triggered when a past tense stative sentence is uttered in a context where there is no salient, topical past time

Note, for example, that in the dialogs in (2), the discourse-initial sentence does not set up a past time that the second, past-tense sentence can take as its Topic Time. Consequently, the past-tense statives in (2) are all uttered in contexts lacking a salient, topical past time.

Interestingly, this connection between cessation implicatures and the absence of past time antecedents can follow from the semantic system in (23)-(26), if we adopt the following crucial assumption, originally proposed by Altshuler & Schwarzschild (2013).

(28) **The Open Interval Hypothesis (Altshuler & Schwarzschild 2013)**

The run-time of a state is an open interval. That is, if e is a stative eventuality and t' is a temporal instant contained within $T(e)$ ($t' \subseteq T(e)$), then there is a temporal instant t'' such that $t'' < t'$ and t'' is also contained within $T(e)$ ($t'' \subseteq T(e)$).

According to the Open Interval Hypothesis above, there is no ‘first instant’ in the Event Time of any stative eventuality. For any temporal instant in the run-time of a state, there is always an (infinitesimally) prior temporal instant preceding it in the run-time.¹⁴ Note that, as discussed by Altshuler & Schwarzschild (2013), this in no way implies that stative eventualities do not have a ‘beginning’; indeed, it is difficult to find any truly substantive metaphysical consequences of the hypothesis in (28). Nevertheless, as first observed by Altshuler & Schwarzschild, this hypothesis does give us a possible explanation of the cessation implicatures in (2). In particular, it can derive them as simple cases of scalar implicature. To see this, let us compare the LF and truth-conditions in (26) to that of a (pragmatically competing) present tense sentence.

(29) **Present Tense Variant of (26a)**

a. Sentence: Scotty is nauseous.

b. LF of (29a): $[_{TP} [_T \text{PRES}]_i [_{\text{IMPFV}} [_{\text{Scotty be nauseous}}]]]$

c. Predicted Truth-Conditions:
 $[[(29b)]]^{\text{w,t,g}}$ is defined only if $g(i) = t$
if defined, is true *iff*

$\exists e. \text{nauseous}(e) \ \& \ \text{Thm}(e) = \text{Scotty} \ \& \ g(i) \subseteq T(e)$

‘There is an eventuality e of Scotty being nauseous whose run-time $T(e)$ contains the topic time $g(i)$ (which is equal to the utterance time t)’

¹⁴ Note that the Open Interval Hypothesis in (28) is intended to apply both to lexical statives (*love*, *be nauseous*) and to derived statives, such as progressives and generic/habituals. For purposes of simplicity, we will illustrate (28) with lexical statives, since it is straightforward to identify their ‘run-time’ in the truth-conditions that our semantics derives. As with Altshuler & Schwarzschild (2013), I must leave to future work the task of providing a semantics for ‘stativizing operators’ like PROG and GEN, which would permit an equally straightforward application of (28) to data like that in (2c). Nevertheless, I do share Altshuler & Schwarzschild’s view that the cessation inferences associated with progressives and generics do indeed follow from (28) in just the way laid out in (29).

Importantly, because of the Open Interval Hypothesis (28), the truth-conditions in (29c) are strictly stronger than the truth-conditions in (26b). Note that since the utterance time is (by common assumption) a temporal instant, (29c) and assumption (28) would together entail that there is a time t' prior to the utterance time t ($= g(i)$) such that $t' \subseteq T(e)$. But, this of course is simply what the truth-conditions in (26b) state. Those latter truth-conditions, however, in no way entail that the Event Time $T(e)$ encompasses the utterance time t as well as the past time t' .

Consequently, in contexts like (2), where there is no salient past Topic Time, a past tense stative will be *strictly weaker* than a corresponding present tense stative. For this reason, standard Gricean reasoning will lead to an inference that the present tense variant is *false* (or not known to be true).¹⁵ In this way, the assumptions in (23)-(28) can account for key generalization in (27). Importantly, they can also account for the cancellation of such implicatures in contexts like (5), where there *is* a salient past Topic Time. Note that in such contexts, the existential closure in (26) will not occur, and a past tense sentence will have the LF and truth-conditions in (25). Furthermore, the truth-conditions in (25c) are simply incompatible with the present-tense truth-conditions in (29c); the two sets of truth-conditions make incompatible demands of the Topic Time $g(i)$. Since the truth-conditions in (25c) and (29c) are incompatible, neither is stronger nor weaker than the other, and so no Gricean scalar inference will be triggered upon the utterance of (25a) in a context with a possible antecedent for $[_T \text{ PST}]_i$. We therefore predict the absence of the cessation implicature in such contexts.

With this as background, let us now turn our attention to languages with ‘optional past tense’, and let us see whether the special cessation inferences of such optional tenses can follow in a similarly principled way.

To begin, recall that in such languages, simple unmarked statives can describe states that held prior to the utterance time. Such uses of unmarked statives in Tlingit can be observed in sentences (6)-(9), and are further highlighted in (30a) below.

(30) Unmarked Statives in Tlingit Allow Either Past or Present Construal

- | | |
|--|---|
| <p>a. <u>Kuwak</u>'éi
 IMPFV.weather.be.nice
 <i>The weather is/was nice.</i></p> | <p>b. Kei <u>kukgwak</u>'éi
 FUT.weather.be.nice
 <i>The weather will be nice.</i></p> |
|--|---|

Note, however, that as in many such ‘superficially tenseless’ languages (Matthewson 2006), unmarked statives in Tlingit cannot be freely used to describe *future* eventualities. To describe states occurring in the future, Tlingit requires use of the so-called ‘future mode’ in (30b). Given facts such as these, I will follow the work of Matthewson (2006) and others by assuming that in Tlingit and other putative ‘optional tense’ languages, unmarked verbs actually contain a phonologically empty T-head, one whose featural value is NON-FUTURE (NFUT). This NFUT feature is given the semantics below.

(31) The Semantics of Non-Future Tense

$$[[[_{\text{Tense}} \text{ NFUT}]_i]]^{\text{w,t,g}} = \quad g(i), \quad \text{only if } \neg(t < g(i)); \text{ undefined otherwise}$$

¹⁵ Readers curious about the details of this pragmatic reasoning are referred to Altshuler & Schwarzschild (2013).

Thus, a T-head bearing NFUT will only ever denote temporal intervals that do not follow the evaluation time t . An immediate consequence of this semantics is that such NFUT T-heads can easily denote temporal intervals that *precede* the evaluation time t . They can also denote the evaluation time t itself. Thus, the semantics in (31) correctly predicts that ‘simple unmarked’ stative verbs in these languages can describe states holding either in the past or the present.

A second, more important consequence of (31), however, is that T-heads bearing NFUT are also predicted to denote temporal intervals covering *both* the utterance time t and a past time t' ; such intervals, after all, would not follow t , just as long as t were the final point in the interval. Such ‘past-cum-present’ intervals, however, could never serve as Topic Times in languages possessing only PAST and PRESENT, whose semantics in (23) would require the denotation of T to either strictly precede or be equal to the utterance time. Their surprising possibility in languages with ‘optional past tense’, however, is shown by Matthewson (2006), who observes that in contexts like (32a), speakers of Lillooet (Salish; British Columbia) accept sentences like (32b).

(32) **Topic Times Covering Both Past and Present in Lillooet (Matthewson 2006)**

- a. Scenario: Theresa threw up a few minutes ago. Charlie is throwing up now.
- b. wat'k' kw [**s-Theresa** **múta7 s-Charlie**].
 vomit.PFV DET **NOM-Theresa** **and** **NOM-Charlie**
 Theresa and Charlie threw up / are throwing up

Note that sentence (32b) has no straightforward English translation in context (32a). The issue is, of course, that while Theresa *did* throw up, Charlie *is currently* throwing up. Thus, to translate (32b) directly, we would have to simultaneously translate *wat'k'* ‘vomit’ as *threw up* (PAST) and *is throwing up* (PRESENT). Importantly, however, the semantics in (31) would easily predict the possibility of (32b) in scenario (32a). The predicted LF and truth-conditions of (32b) are as in (33) below.

(33) **Non-Future Topic Time in Lillooet**

- a. LF of (32b): $[_{TP} [_T \text{NFUT}]_i [_{PFV} [_{[Theresa \text{ and } Charlie]} \text{ vomit}]]]$
- b. Truth-Conditions:
 $[[[(33a)]]]^{w,t,g}$ is defined only if $\neg(t < g(i))$
 if defined, is true *iff*
- $\exists e. \text{ vomit}(e) \ \& \ \text{Ag}(e) = T+C \ \& \ T(e) \subseteq g(i)$
 ‘There is an event e of Theresa and Charlie throwing up whose run time $T(e)$ is contained in the topic time $g(i)$.’

Note that if $g(i)$ were a temporal interval covering the time of Theresa’s vomiting and extending up to the utterance time, it would both satisfy the presupposition of NFUT and render the truth-conditions in (33b) true.

We find, then, that the possibility of sentences like (32b) in contexts like (33a) lends important support to the notion that ‘optional past tense’ languages possess the peculiar NON-FUTURE tense in (31). It should be noted that parallel data can be found in Tlingit as well.

(34) Topic Times Covering Both Past and Present in Tlingit

- a. Scenario: You are watching two kids, Tom and Anne. Your friend Linda is downstairs reading. First, Tom starts jumping around the room. You tell him to stop, and he does. Soon, though, Anne starts jumping around the room. At this point, Linda opens the door and asks “What is all the noise up here?”
- b. Tlingit Sentence Offered:

Táam <u>ka</u> Anne	át has wujik’éin.	(MD)
Tom and Anne	PFV.3plS.jump.around	
<i>Tom and Anne jumped around/are jumping around.</i>		

This ability for the Topic Time of a sentence to be an interval containing *both* the Utterance Time and a past time will be a principle ingredient in our analysis of cessation inferences in Tlingit and other ‘optional past tense’ languages. To begin laying out that analysis, let us first note that if simple, unmarked statives in ‘optional past tense’ languages bear ‘NFUT’ (31), this raises a rather straightforward analysis of the optionality of past tense in those languages. Let us simply suppose that past tense morphology in those languages has precisely the same syntax and semantics as proposed for English past tense in (23)-(26). Note that PAST tense will effectively be ‘optional’ in these languages, merely because the additional existence of NON-FUTURE would entail that in sentences describing past eventualities, the T-head needn’t bear the ‘PST’ feature. That is, tense *per se* is not ‘optional’ in these languages, there is simply more than one tense allowing for the Topic Time to precede the Utterance Time.

But, if the past marking of Tlingit is no different in its syntax or semantics from that of English, what then accounts for the key contrasts in Section 1? Why do Tlingit speakers reject conjunctions like those in (6)-(7) or discourses like those in (8)-(9), when parallel structures are entirely acceptable in English? That is, why are the cessation inferences of Tlingit past marking not defeated in the environments in (6)-(9)? Recalling that our analysis of English cessation implicatures in (26)-(28) correctly predicts that they *are* defeasible in those contexts, we must conclude that the cessation inferences found with Tlingit past marking have a different nature, and are due to different pragmatic mechanisms.

With this in mind, let us further note that, as we saw in Section 3, the cessation inference of Tlingit can be cancelled if either (i) the speaker explicitly states that they are ignorant concerning the present (Section 3.2), or (ii) the present is not conversationally relevant (Section 3.4). This invites the following generalization concerning the contexts where Tlingit cessation inferences *do* arise.

(35) Key Generalization about Cessation Implicatures in Tlingit

In Tlingit, the cessation inference arises when (i) the present is conversationally relevant, and (ii) the speaker is (assumed/presented to be) knowledgeable about it.

Importantly, the environments in (6)-(9) – where we could not cancel the Tlingit cessation inference – all exhibit the two properties in (35). In sentences (6)-(7), the past-marked sentence is conjoined with a sentence concerning the present, and so the present is contextually relevant and the speaker is presenting themselves as knowledgeable about it. In (8)-(9), the speaker is presented as knowing (or strongly suspecting) that the event in question is still ongoing, and whether it is ongoing is of interest/relevance to the imagined addressee. Therefore, the generalization in (35) would correctly predict that the Tlingit cessation inference will still arise in the environments in (6)-(9), unlike the cessation implicatures found in English.

Let us, then, aim to develop an analysis that predicts the key generalization in (35). To begin, let us suppose that there exists in Tlingit a pragmatic principle that has the following crucial effect: whenever the Utterance Time (UT) is topical, the Topic Time (TT) must contain it. Importantly, since the past tense feature PST excludes the UT from the TT (23a), such a principle would preclude the use of PST in sentences like (6)-(9). On the other hand, the NFUT tense (31) would allow the TT to contain *both* the (topical) UT and a topical past time. Therefore, use of NFUT in (6)-(9) would allow for the imagined pragmatic principle to be satisfied. Finally, let us imagine that this hypothetical principle could be stated in a way that renders it vacuous in languages like English, where the inventory of tenses generally precludes any TT from containing both the UT and a past time. It would, of course, follow that in such English-like, ‘obligatory past tense’ languages, sentences like those in (4)-(5) would be entirely acceptable.

In this way, such a principle could explain why sentences like (6)-(9) are rejected by Tlingit speakers, while parallel sentences in English are entirely acceptable. For a concrete, formalized statement of this principle, let us consider the following:

(36) Include Topical UT inside the TT, Whenever Possible

If all the following conditions hold, then the speaker *must* use sentence S1, and not S2:

- a. Sentences S1 and S2 are identical except for their T-heads (T1 and T2).
- b. Both the Utterance Time t and some past time $t' < t$ are salient and relevant.
- c. $[[T1]]^{w,t,g}$ contains both t' and t , while $[[T2]]^{w,t,g} = t'$.
- d. Both S1 and S2 are ‘assertable’ (i.e., speaker’s knowledge entails them).

As we’ll see in a moment, principle (36) will derive the key generalization in (35). First, though, let us briefly note that (36) may itself be a specific subcase of an even more general principle.

(37) Include as Many Topical Times inside the TT as is Possible

If all the following conditions hold, then the speaker *must* use sentence S1, and not S2:

- a. Sentences S1 and S2 are identical except for their T-heads (T1 and T2).
- b. **Both the times t' and t'' are salient and relevant.**
- c. **$[[T1]]^{w,t,g}$ contains both t' and t'' , while $[[T2]]^{w,t,g} = t'$.**
- d. Both S1 and S2 are ‘assertable’ (i.e., speaker’s knowledge entails them).

The more general principle in (37) could account for the judgment in (38b), regarding the discourse in (38a).

- (38) a. Discourse: Dave jumped, then Fred jumped. **Mary was dancing.**
 b. Judgment: The time of Mary's dancing includes *both* jumping events.

Note that the first sentence in (38a) introduces the time of Dave's jumping and the time of Fred's jumping as salient, topical past times. The principle in (37) would therefore require the T-head of *Mary was dancing* in (38a) to be an interval containing *both* those past times, which accords with the intuition that the latter sentence places the time of both 'jumpings' with the Event Time of Mary's dancing. Be this as it may, since only the more specific principle in (36) is necessary for the proposed account, I will reserve judgment regarding (37).

Let us now observe how the principle in (36) can predict both the key generalization in (35) and the puzzling contrasts with English cessation implicatures observed in Section 1. To begin, the principle in (36) would derive a Tlingit cessation implicature as follows.

(39) **The Pragmatic Reasoning Generating Cessation Implicature in Tlingit**

Let us assume that the speaker has used a past tense stative in a context where the present (Utterance Time) t is topical/relevant/salient.

- a. By assumption, both Utterance Time t and past time $t' < t$ are salient and relevant. By assumption, the speaker has used a past tense sentence S2.
- b. *They did not use a non-future tense sentence S1, with a T-head denoting an interval covering both t' and t*
- c. S1 and S2 are identical except for the T-node (T1 and T2).
- d. $[[T1]]^{w,t,g}$ contains both t' and t , while $[[T2]]^{w,t,g} = t'$.
- e. Given (36), *it must be that the non-future sentence S1 is not assertable.*
- f. Past tense sentence S2 entails that there's a state of the relevant sort containing past time t'
- g. Non-Future tense sentence S1 entails that there's a state of the relevant sort containing past time t' and the utterance time t
- h. Therefore, the speaker's knowledge entails that that there is a state of the relevant sort containing past time t' but either:
 - (i) They don't know whether that past state continues into present, or
 - (ii) They know that the past state *doesn't* continue into present

Thus, the principle in (36) predicts that Tlingit speakers will infer from a past-marked stative that the past state in question does not extend into the present (39bii), *just as long as* either (i) the Utterance Time is equally topical and relevant, and (ii) the speaker is assumed to know whether the past eventuality extends into the present or not (39hi). Therefore, Tlingit speakers will *not* draw a cessation inference if either of these conditions do not hold, if either (i) the UT is *not* topical, or (ii) the speaker is *not* assumed to know whether the past eventuality extends into the present. In this way, the principle in (36) is able to capture the key generalization in (35).

Finally, since English (and other ‘obligatory tense’ languages) lack the NFUT tense of Tlingit, there is not an NFUT competitor (S1) to the use of a past tense sentence (S2) in a context where the present is salient and the speaker is knowledgeable about it. Therefore, even if we suppose that the principle in (36) (or (37)) is active in English, the reasoning in (39) will not go through for English speakers, and so cessation inferences will not be drawn for past-tense English sentences in such contexts. Consequently, English sentences like (4)-(5) will not be in any way anomalous, contrary to the structurally parallel Tlingit sentences in (6)-(9).

In summary, the formal semantic/pragmatic account proposed here can capture the key properties of and differences between the cessation implicatures of English and those of Tlingit. A crucial component of the account is the fact that Tlingit contains a weak ‘non-future’ (NFUT) tense, while English does not. If we assume that such NFUT tenses are a characteristic property of ‘optional tense languages’, we can straightforwardly extend this account to other optional tense languages. In this way, our account can capture the typological pattern in (22), that past-marking in ‘optional tense languages’ will exhibit the same peculiar cessation inferences found in Tlingit. Consequently, under this analysis, there need not be any ‘discontinuous past’ tense feature in the languages of the world; past-marking exhibiting the properties in (6)-(9) need not differ in its lexical semantics from English PST tense in (23a).

5. Extending the Account: The Special Inferences of Past Tense *Perfect(ive)*

Thus far, our discussion has focused upon the cessation inference associated with statives marked by optional past tense in Tlingit and other languages. However, as reported by both Leer (1991) and Plungian & van der Auwera (2006), there are yet other types of inferences that these optional past markers can trigger, when they combine with predicates bearing perfective (or perfect) aspect.

Leer (1991) identifies two kinds of inferences that can be contributed by the Tlingit ‘decessive epimode’ when it appears on a verb in so-called ‘perfective mode’. The first of these will be referred to as the ‘cancelled result’ inference, and is characterized by Leer as follows.

(40) The ‘Cancelled Result’ Inference (Leer 1991)

“Deccessive perfective means that the situation as well as the state of affairs resulting from it was true in the past, but that *the state of affairs resulting from the situation has ceased to be valid*” (Leer 1991: 468)

As his own examples make clear, this cancelled result inference is basically a species of cessation inference, one that concerns the *resulting state* of the past eventuality, rather than the past eventuality itself. For example, Leer reports that sentence (41a) below implies that the marriage – the state resulting from the event of being married – has ended by the Utterance

(41) **Illustrative Examples of ‘Cancelled Result’ Inferences (Leer 1991)**

- Further evidence for these cancelled result inferences can be found in contrasts like that in (42) below. In the scenario presented in (42a), the state resulting from the subject's death – his being dead – is known to still hold at the Utterance Time. Consequently, speakers report that only sentence (42b) – lacking optional past tense – is acceptable in this scenario.

a. Scenario:
A person has been killed, but through magic, he will be brought back to life.

b. *Tlingit Sentence Offered:*
Woonaa áwé. Tsu kúx̣dei gux̣dagóot. (MD)
PFV.3sgS.die FOC again back.to FUT.3sgS.go/walk
He died. But, he will come back again.

c. *Rejected Sentence, Containing Past Tense:*
Wunaayín áwé. Tsu kúx̣dei gux̣dagóot.
PFV.3sgS.die.PST FOC again back.to FUT.3sgS.go/walk

- “No.” [corrected to (42b)](SE)
- “No. The first one is better, I think.” (WF)
- “No.” [corrected to (42b)](MD)

(43) **The ‘Unexpected Result’ Inference (Leer 1991)**

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To illustrate, Leer (1991: 469) reports that in sentence (44a) below, “the expected result of the priest’s warning the newlywed husband not to touch a knife was that he would heed the warning, but this result was subsequently invalidated by the fact that the husband did touch a knife...” Similarly, Leer (1991: 469) reports that in sentence (44b), “the mother roasted some salmon for her son to eat, expecting that he would eat it, but he didn’t.”

(44) **Illustrative Examples of ‘Unexpected Result’ Inferences (Leer 1991)**

- a. Yéi iyaxwsakaayín “líl lítaax eeshéek.”
 thus 2sgO.PFV.1sgS.say.PST NEG knife 3O.2sgS.reach.OPT
I told you “don’t touch a knife” (but you did anyway) (Leer 1991: 468)
- b. Du x’éis áwé weit’át xwalawaasín.
 his mouth.for FOC that.thing 3O.PFV.1sgS.roast.PST
I roasted that for him (but he didn’t want to eat it). (Leer 1991: 469)

Importantly, these generalizations in (40) and (43) are not mere idiosyncracies of the Tlingit ‘decessive’, or Leer’s (1991) description of it.¹⁶ Indeed, similar effects have been widely reported for other languages with optional past tense. Observing this tendency, Plungian & van der Auwera (2006) ultimately include these inferences as part of their characterization of ‘discontinuous past’ markers, stating:

“... The combinations of perfective verbs and discontinuous past markers do exist. The meaning this combination yields can be characterized as **the non-existence of a consequent state at the moment of speech** (or its ‘current irrelevance’).”
 (Plungian & van der Auwera 2006: 324; emphasis theirs)

Plungian & van der Auwera illustrate their claim with data that are strikingly similar to the Tlingit data in (41) and (44). For example, the optional past-tense suffix *-oon* in Wolof appears in (45b) to trigger a ‘cancelled result’ inference, where the state resulting from the subject’s departure – their being absent – no longer holds at the Utterance Time (and thus the subject has returned).

(45) **Cancelled Result Inference with Optional Past Tense in Wolof**

- a. dem na
 go.PFV.3sgS
S/he has gone.
- b. dem-oon na
 go.PST.PFV.3sgS
S/he has gone (but is back) (Plungian & van der Auwera 2006: 332)

¹⁶ I have not been able to independently confirm with negative data the existence of ‘unexpected result’ inferences with Tlingit past-marked perfectives. This is principally due to the vagueness of what the ‘expected results’ of a given eventuality are. It is not possible to devise a context where *all* the expected results of a given eventuality hold, and where therefore an unexpected result inference would be infelicitous.

Furthermore, Plungian & van der Auwera (2006) report that in the Sranan sentence in (46), the presence of the optional past marker indicates that the *expected* result of the past speech event – that the subject would keep their promise – failed to occur. Thus, this usage of optional past in Sranan is quite reminiscent of the ‘unexpected result’ inference in Tlingit (44a).

(46) **Unexpected Result Inference with Optional Past in Sranan**

A **ben** taigi mi a o kon na fesisey baka
he **PST** tell me he FUT come to front.side again
He told me he would come back to the front again (but he disappeared).
(Plungian & van der Auwera 2006: 328)

In summary, the appearance of optional past tense on verbs bearing perfective (or perfect)¹⁷ aspect is reported in many languages to trigger one of the following inferences: (i) the state resulting from the event in question fails to hold at the UT, or (ii) some expected result of the event in question failed to occur. Just as with the cessation inferences discussed in Section 1, various prior authors have claimed that these special inferences are semantic in nature, and are somehow encoded directly in the lexical semantics of the optional past tense (Leer 1991; Copley 2005, Plungian & van der Auwera 2006; Kagan 2011). In this section, however, I will show that these facts can instead follow from the pragmatic principle in (36), and so needn’t be due to a special ‘discontinuous’ semantics for the tense-marker. Before I present this pragmatic analysis, however, I will first present empirical evidence that in the Tlingit language, both the cancelled result and unexpected result inferences are defeasible, and so are not directly encoded in the meaning of the Tlingit decessive.

5.1 Evidence that ‘Cancelled’ and ‘Unexpected’ Result Inferences are *Non-Semantic*

In Section 3, it was shown that the cessation inference associated with past-marked statives in Tlingit fails to arise in (i) certain textually attested examples, (ii) contexts where the speaker is ignorant of the present, (iii) clauses embedded under other past-marked predicates, and (iii) contexts where the present is not conversationally relevant. In this section, we will see that the cancelled result and unexpected result inferences found with past-marked perfectives in Tlingit also fails to arise in these four cases. On these grounds, it can be concluded that those inferences are in principle defeasible, and so are not directly encoded in the lexical semantics of the Tlingit decessive past-marker.

5.1.1 Absence in Examples Taken From Naturally Produced Texts

As was found for decessive statives, there are examples of decessive-marked perfective verbs in published Tlingit texts where either a cancelled result or an unexpected result inference would be

¹⁷ As reflected in their translations in (45)-(46), Plungian & van der Auwera (2006) are sometimes equivocal on whether the aspect in question is properly labeled ‘perfective’ or ‘perfect’. As we’ll see in Section 5.2, there is evidence that in Tlingit, the aspect in question is ambiguous, and can be interpreted as *either* a perfect or a perfective. Furthermore, the analysis put forth in Section 5.2 assumes that the special inferences in (40) and (43) arise when the morphology is interpreted as a perfect (rather than as a perfective).

(47) **Decessive Perfective with No ‘Cancelled / Unexpected Result’ Inference**¹⁸

- In the narrative from which (47) is taken, the narrator is explaining how her mother-in-law once showed her that the village of Taakw Aani, near Metlakatla, was originally Tlingit land (though it subsequently became Tsimshian territory). It is clear in the original narrative that the narrator continues to believe her mother-in-law's claim. Consequently, both the resulting states of the 'seeing' in (47a) and the 'coming to believe' in (47c) continue to hold at the time of speech. Thus, we can conclude that the decessive perfectives in (47a) and (47c) are not construed with 'cancelled result' implications. Furthermore, there is again in context no unexpected results of either the seeing event in (47a) or the 'coming to believe' event in (47c). It seems, then, that in their original context, the decessive perfectives in (47a) and (47c) don't contribute either of the special inferences in (40) or (43), and so those inferences cannot be part of the lexically encoded meaning of the Tlingit decessive.

Despite the anomaly of sentences like (42c), it is possible to use a past-marked perfective in Tlingit in contexts where the speaker explicitly *doesn't know* whether the result state of the past event extends into the present or not. The dialog in (48) illustrates

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(48) **Cancellation of Special Inferences about Present with Statement of Ignorance**

English Dialog to Translate:

Tom: “When I lived in Sitka, Joe married Anne.”

Sue: “Oh! Are Joe and Anne married?”

Tom: “Well, they *were* married. I don’t know if they still are.”

- a. Tom: Sheet’kax’ yéi xat teeyí,
Sitka.at IMPFV.1sgS.be.SUB

Anne ka Joe wooch has wudisháa. (SE, JM)
Anne and Joe RECIP.PFV.3plS.marry
When I lived in Sitka, Anne and Joe married each other.

- b. Sue: Ha! Ch’a yeisú gé wooch xáni yéi s ditee? (SE)
EXCLM just still Q RECIP.vicinity.at IMPFV.3plS.be
Oh! Are they still together?

- c. Tom: Ha, wooch has wudasháayin. (SE)
EXCLM RECIP.PFV.3plS.marry.PST

Tléil xwasakú ch’a yeisú wooch xáni gé yéi s ditee.
NEG 3O.PFV.1sgS.know just still RECIP.vicinity.at Q IMPFV.3plS.be
Well, they were married. I don’t know if they are still together.

In this dialog, Tom reports that he doesn’t know whether the state resulting from Anne and Joe’s marriage – their being married – still holds at present. Nevertheless, in the Tlingit translation of Tom’s statement, a decessive suffix is used in the description of that past marriage event. It follows, of course, that this suffix cannot in this dialog be triggering a ‘cancelled result’ inference, since Tom explicitly denies having such knowledge. Furthermore, there is in context (48) no ‘unexpected’ result of the marriage, and so an ‘unexpected result’ inference here would also be perceived as anomalous. We can therefore conclude that in cases like (48), use of the decessive does not trigger either a ‘cancelled result’ or an ‘unexpected result’ inference, and so those inferences are not directly encoded in the lexical semantics of the Tlingit decessive.

5.1.3 Absence of the Inferences in Certain Embedded Clauses

Like the cessation inferences with past-marked statives (Section 3.3), the cancelled result and unexpected result inferences with past-marked perfectives appear to be absent in certain embedded clauses. That is, the facts below will show that the generalization in (15) could be amended to the one in (49).

(49) **Decessive Verbs in the Complement to Decessive Propositional Attitude Verbs**

If a propositional attitude verb in Tlingit is past-marked, then the verb of its complement can also bear past-marking, without contributing any *cessation inference*, *cancelled result inference*, or *unexpected result inference*.

To illustrate, consider the scenario in (50a), as well as the felicitous Tlingit sentence in (50b).

(50) **Embedded Past Perfective Lacking ‘Cancelled/Unexpected Result’ Implication**

- a. Scenario: When you were kid, your other brother seemed to know the answer to every question. As you grew older, though, you learned that a lot of those answers were just made up, and he didn’t really know all that he seemed to know.
- b. Tlingit Sentence Offered:

Yéi xwajéeyin ax húnxw ldakát át awsakóowun. (MD)
3O.IMPFV.1sgS.think.PST my brother everything 3O.PFV.3sgS.learn.PST
I used to think that my brother knew (had come to know) everything.

In this scenario, what the speaker believed was simply “my brother knows (came to know) everything”; they did not ever believe “my brother knew everything, but has since forgotten it.” Consequently, the decessive suffix on the embedded perfective verb *awsakóowun* ‘he knew (had come to know) it’ seems not to contribute the cancelled result implication found in (41b). Similarly, in scenario (50a), the speaker did not ever believe that there was some kind of ‘unexpected result’ that followed from his brother’s knowledge. Consequently, the embedded decessive appears not to contribute in (50b) the unexpected result implication either. Thus, as stated in (49), in structures like (50b), the embedded decessive perfective seems not to trigger either of the inferences in (40) or (43).

There is also another embedded environment where Tlingit decessive perfectives seem not to contribute those special inferences: counterfactual conditionals. The key generalization here is as stated in (51) below.

(51) **Decessive Verbs in the Antecedent of Past Counterfactuals**

If the verb heading the main clause (consequent) of a counterfactual conditional bears decessive (and so is a ‘past counterfactual’), then the verb heading the antecedent must also bear decessive. *In such structures, the embedded decessive perfective does not trigger either a ‘cancelled result’ or an ‘unexpected result’ inference.*

Before illustrating the generalization in (51), let us first introduce the structure of past counterfactual conditionals in Tlingit. As shown below, such conditionals are formed from (i) a main clause (consequent) headed by a decessive verb (in ‘potential’ mode), and (ii) a subordinate clause (antecedent) headed by a verb also bearing decessive morphology (Leer 1991: 476-478).

(52) **Past Counterfactual Conditionals in Tlingit**

- a. Scenario: Your friend is complaining of a stomachache. You have medicine that works really well for stomachaches. You tell him to take it, but he doesn’t like medicine, and says ‘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

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

In addition to illustrating the general form of past counterfactuals in Tlingit, sentence (52b) also nicely illustrates the key generalization in (51). Note that the antecedent of the conditional in (52b) is a decessive perfective verb. Now, it is most natural to assume (at least, provisionally) that past counterfactuals in Tlingit have approximately the semantics of past counterfactuals in English. Consequently, a conditional like that in (52b) states (approximately) that in all the hypothetical situations where the antecedent clause is true, the consequent clause is also true (Ogihara 2000, Arregui 2009, Ippolito 2015). Thus, (52b) would state that in all the hypothetical situations where the antecedent is true, the addressee gets over their stomachache. Now, given the information in scenario (52a), the addressee gets better in those hypothetical situations where the medicine was drunk *and the resulting state / expected consequences of the drinking hold*. Therefore, the antecedent clause must be understood as contributing those kinds of situations. In particular, the antecedent could not be felicitously interpreted as contributing situations where the medicine was drunk and either (i) the resulting state of the consumption no longer holds, or (ii) the usual consequences of the consumption don't happen. Consequently, we must conclude that both the 'cancelled result' (40) and 'unexpected result' (43) inferences are not contributed by the decessive suffix in the antecedent of (52b).

To put it another way, if the inferences in (40) and (43) were semantic – if they were an obligatory part of the lexical semantics of Tlingit decessive – then the conditional in (52b) would mean something approximately like “If you had drunk this medicine, *and the normal result of the drinking either no longer held or never happened*, it would have helped you.” Clearly, such a conditional meaning would not be felicitous in scenario (52a), precisely because the medicine is assumed to be an effective cure for stomachaches. We must conclude, then, that those inferences in (40)-(43) are indeed not a part of the lexical semantics of the Tlingit decessive.¹⁹

¹⁹ However, one might again wonder whether the decessive morphology in the antecedent of (52b) is actually semantically interpreted. After all, there are semantic analyses of *present* counterfactuals, like (i) below, where the past tense in the antecedent is ‘semantically vacuous’ or undergoes a special reinterpretation where it no longer functions as a tense (Iatridou 2000, Arregui 2009).

(i) If Dave **was** in New York, he **would** be having a great time.

It's important to note, however, that Tlingit sentences like (52b) are in their semantics *past* counterfactuals, more akin to English sentences like (ii).

(ii) If Dave **had been** in New York, he **would have** had a great time.

Now, as has long been observed, such conditionals in English appear to have *two* layers of past tense in their antecedent: (a) the past morphology on the auxiliary *have*, (b) the perfect auxiliary *have*. While the former is commonly analyzed as ‘semantically vacuous’ like the past tense in (i), the latter is not, and is usually viewed as contributing to the truth-conditions of the construction (Ogihara 2000, Arregui 2009, Romero 2015). Finally, it should be noted that the decessive morphology in Tlingit conditionals like (52b) appears to correspond to the second, semantically interpreted layer of past tense in (ii). Note, for example, that *present* counterfactuals in Tlingit do not contain decessive morphology.

(iii) Ts'itskw óosh gé **xat sitee**, ch'a tlákw **ax toowú kei guxsagóo**.
 Bird HYPO 1sgS.IMPFV.be just always 1sgS.FUT.be.happy.
If I were a bird, I would always be happy. (SE)

The structure of conditionals like (iii) in Tlingit suggests that the language does not have the kind of ‘semantically vacuous’ conditional past tense that is found in languages like English. Thus, the decessive morphology in (52b) would seem to be semantically interpreted, and so would correspond semantically to the (interpreted) perfective auxiliary *have* in sentences like (ii).

Importantly, the reasoning just laid out regarding (52b) would appear to generalize beyond Tlingit, to putative instances of ‘discontinuous past’ in many other languages. Plungian & van der Auwera (2006) report that past counterfactual structures like (52b) are rather common in languages containing ‘discontinuous past’. That is, as illustrated below, putative cases of discontinuous past are often obligatory in the antecedent of past counterfactuals.

(53) **Discontinuous Past in Antecedent of Past Counterfactual Conditionals**

- a. Sranan (Plungian & van der Auwera 2006: 341)
 Efu unu **ben** tenapu luku, unu **ben** sa bori en leki mi
 If you **DisP** stand look you **DisP** POT cook it like me
*If you **had** stood and looked, you’d probably cook it like me.*
- b. Bamana (Plungian & van der Auwera 2006: 340):
 Su rX ni ne **tun** te de,
 night at if 1sgS **DisP** be.NEG EMPH

 faama **tun** be i kun ci ka i faga de
 king **DisP** IMPFV 2sg head cut INF 2sg kill EMPH
*If I **had** not been there in that night, the king **would have** cut your head off...*

Although Plungian & van der Auwera do not provide contexts for these sentences, their translations strongly suggest that the inferences in (40) and (43) are not contributed to the antecedents of these conditionals. Thus, these all appear to be cases where those inferences are not associated with use of a ‘discontinuous past’, and so support the view that in *all* putative cases of ‘discontinuous past’, the special inferences observed with those morphemes are pragmatic effects, and are not part of their lexical semantics.

5.1.4 **Absence of the Inferences in Contexts where the Present is ‘Irrelevant’**

A key prediction of our analysis in Section 4 is that decessive statives in Tlingit will not trigger cessation inferences in contexts where the present (Utterance Time) is not relevant to the purpose of the conversational exchange. The same seems to be true of the cancelled result and unexpected result inferences found with decessive perfectives. For example, in scenario (54a), the state resulting from the bridge’s being built – *i.e.*, its existence – still holds at the Utterance Time. Furthermore, there is in this scenario no identifiable ‘unexpected’ result of the bridge’s construction. Nevertheless, in sentence (54b), the perfective verb *wudulyeixin* ‘they built it’ bears the decessive suffix.

(54) **Past Perfective Without ‘Cancelled/Unexpected Result’ Inference**

- a. Scenario: Dave and Tom visited Juneau once about 10 years ago. Now they’re back in town again, noticing the things that have changed. Dave points to the Juneau-Douglas Bridge and says, “Hey, that bridge is new!” Tom replies that Dave is wrong; that bridge was there 10 years ago.

- b. Tléik'! Jinkaak táakw shákdé wudulyeixín. (WF)
 no ten year DUB 3O.PFV.IndefS.make.PST
 No! They built that bridge 10 years ago!

Thus, the decessive perfective in (54b) appears not to trigger either a cancelled result or an unexpected result inference in this scenario. Importantly, in this scenario, the present time isn't really on the speakers' minds nor is it relevant to their discussion. Rather, they are simply debating the time in the past that the bridge was built; the question of whether the bridge is still there isn't of relevance to the discussion. It seems, then, that in such contexts – where the present is not conversationally relevant – the inferences in (40) and (43) are cancelled, and so we can again conclude that they are not part of the lexical semantics of Tlingit optional past-marking.

5.2 Analysis of the Cancelled Result and Unexpected Result Inferences

The facts above strongly suggest that the cancelled result (40) and unexpected result (43) inferences are defeasible pragmatic effects, and are not semantically encoded in the lexical meaning of the optional past-marking in Tlingit. Furthermore, given our typological argument from Section 3.5 – as well as the facts concerning counterfactual conditionals in (53) – it is reasonable to conclude that these inferences are likewise pragmatic effects in the other languages where they are reported to occur.

But, if these inferences are indeed pragmatic, how exactly are they triggered? In this section, I argue that in the Tlingit language, they will follow from the general pragmatic principle in (36), given an important independent fact about Tlingit: its so-called 'perfective mode' can be interpreted as a perfect aspect. To put forth this account, I will begin in the following subsection by presenting the evidence that 'perfective' verbs in Tlingit are ambiguous, and can be interpreted as perfects.

5.2.1 'Perfective' in Tlingit (and in Other Languages) Can be Interpreted as a Perfect

Unlike in English, there is in Tlingit no morphological distinction between so-called 'perfect' and 'perfective' aspect. Rather, there is one morphological verb form – which specialists label 'perfective mode' – that can be used to translate either English perfective (simple past) or perfect (*have V-ed*). Importantly, there is evidence to suggest that this broad translational equivalence may be due to an actual ambiguity in the meaning of 'perfective mode' in Tlingit. That is, it seems that verbs in 'perfective mode' do sometimes have a meaning that is closer to that of a perfect than that of a (past) perfective (Leer 1991: 345, 366, 377).

One striking piece of evidence for this ambiguity concerns modification by the adverb *yedát* 'now'. As shown in (55) below, past perfectives generally cannot co-occur with an adverb meaning *now*. This is, of course, predicted by our semantics in (23)-(24); PAST would require the Topic Time to strictly precede the Utterance Time, while *now* would require the Topic Time to equal the Utterance Time.

(55) **Perfective vs. Present Perfective and Now**

- a. (i) Present Perfect: Dave was asleep, but now he's **woken** up.
(ii) Perfective (i.e., Simple Past): ?? Dave was asleep, but now he **woke** up.
- b. (i) Present Perfect:
Dave used to live with his father, but now he's **bought** a house.
(ii) Perfective (i.e., Simple Past):
?? Dave used to live with his father, but now he **bought** a house.

On the other hand, since a present perfect bears PRESENT there is no incompatibility with the adverb *now*.²⁰ With this in mind, let us observe that the Tlingit adverb *yedát* 'now' is entirely compatible with (morphologically) 'perfective' verbs. Note that in such cases the 'perfective' aspect is most naturally translated into English as a (present) perfect (see (10c) above, as well).

(56) **Tlingit Perfective Functioning as a Present Perfect**

- a. Jáan táayin. Yedát ku.aa shawdinúk (MD)
John IMPFV.3sgS.sleep.PST now though PFV.3sgS.wake.up
John was sleeping, but now he's woken up.
- b. Jáan du éesh xánx' áwé yéi teeyín.
John his father vicinity.at FOC IMPFV.3sgS.live.PST
- Yedát ku.aa hit awsi.oo. (WF)
now though house 3O.PFV.3sgS.bought
John used to live with his father, but now he's bought a house.

It seems, then, that Tlingit verbs in 'perfective mode' can be interpreted as present perfects, rather than as (past) perfectives. Furthermore, there is evidence that past-marked 'perfectives' in Tlingit (decessive perfectives) can be interpreted as past perfects (pluperfects). To begin, in languages that morphologically distinguish perfective and perfect aspect, past perfectives play a very different role in connected narratives from past perfects. That is, past perfectives serve to advance the events of the narrative, while past perfects introduce events that occur *prior* to the main events of the narrative. To illustrate, in the brief English narrative in (57a), the presence of past perfective in the second sentence places the event of Bill's sitting *after* the event of Dave's walking in the room. By contrast, in (57b), the use of past perfect in the second sentence places the event of Bill's sitting *prior* to Dave's walking in the room.

²⁰ I also assume, following most of the semantic and typological literature on aspect, that the tense feature PRESENT is incompatible with PERFECTIVE aspect. One popular explanation for this gap, formalized in a myriad of different ways, is that the combination of 'PRES' and 'PRV' would require the Utterance Time to contain the Event Time (23)-(24), which would be incompatible with the fact that UT is (or is at least 'conceived as') a temporal instant (Bennett & Partee 1978).

(57) Perfect vs. Perfective in Past Narratives

- a. Dave walked in the room. Bill **sat down**. (walking < sitting)
- b. Dave walked in the room. Bill **had sat down**. (sitting < walking)

Interestingly, in Tlingit narratives, it is quite common for decessive perfectives to introduce events occurring *prior* to the main events of the narrative, just like a past perfect. The following examples, taken from naturally produced texts, illustrate this usage. Each is paired with its original context, to demonstrate that the decessive perfective verb introduces an event preceding the main events of the past narrative. (Note also that in each example, the decessive perfective is translated into English as a past perfect.)

(58) **Use of Past ‘Perfectives’ in Tlingit Narratives**²¹

- a. Wudutaagéen áwé.
3O.PFV.IndefS.harpoon.PST FOC
*He **had been** harpooned.* (Dauenhauer & Dauenhauer 1987: 112; line 77)
Surrounding Context:
“As he was entering the house, he saw that man lying there. A harpoon point was stuck in him. It was a harpoon point. **He had been harpooned.**”
- b. Wé smallest ku.aa áwé axáa ash shóodei awusháadeen.
that smallest though FOC paddle his end.toward 3O.PFV.3S.grab.PST
*But the smallest one, the one who **had picked up** the paddle towards him...*
(Dauenhauer & Dauenhauer 1987; 120; line 198)
Surrounding Context:
“They crunched the boat between their jaws. Those things he carved were doing this. **But the smallest one, the one who had picked up the paddle towards him,** fell on a piece of the boat.”
- c. Ch’a wáa sá, ch’a néekwdein kudaanéiyin ch’a a yáx.
just how Q just painfully IndefO.PFV.3S.do.PST just it like
*Just as he **had done** painful things to them.* (Black *et al.* 2008: 365; line 657)
Surrounding Context:
“He was stabbed in the side with a spear by each man. **Just as he had done painful things to them.**”
- d. Ax ee’sh a yat x’awoo’lyoo’wun.
my father 3O.PFV.3S.adopt.PST
*My father **had adopted** her.* (Williams, Williams & Leer 1978: 112; line 234)
Surrounding Context:
“She would say to me – **my father had adopted her** – ‘my brother’s child’ that is how she would speak to me.”

²¹ It should also be noted that the decessive perfectives in these examples additionally seem to lack the ‘cancelled result’ and ‘unexpected result’ implications.

On these grounds, it appears that the so-called ‘perfective mode’ of Tlingit is ambiguous, and allows for interpretation as a (present or past) perfect. Interestingly, similar facts are reported by Plungian & van der Auwera (2006) for other languages allegedly exhibiting ‘discontinuous past’. That is, Plungian & van der Auwera (2006: 336-339) report that in the languages they have examined, discontinuous past ‘perfective’ is often used in narrative to introduce ‘out-of-sequence’ events, events that occur prior to the main events of the past narrative. They illustrate this point with the translation of a Bamana narrative, excerpted below. Following their notation, the translation of a (plain) perfective Bamana verb is underlined, while the translation of a ‘discontinuous past perfective’ is boldfaced.

(59) **Discontinuous Past Perfective in Bamana Marking ‘Out-of-Sequence’ Past Events**

So the girls came to pick her up. They came and found that her stepmother had made her work. The stepmother **had made** the girl pound the fonio, to pound her fonio first.
(Plungian & van der Auwera 2006: 338)

As indicated above, ‘discontinuous past’ is used to mark the perfective verb describing an event preceding the past event of the main narrative, exactly as past perfects do in the English translation.

It therefore seems that, just as in Tlingit, so-called ‘perfective’ morphology in these other ‘discontinuous past’ languages is ambiguous, and can be interpreted as a (past) perfect. It is perhaps significant, then, that Plungian & van der Auwera (2006) often vacillate between labeling the morphology in question as ‘perfective’ and as ‘perfect’, and often use the combined label ‘perfect(ive)’. In the following section, we will see how this ambiguity in so-called ‘perfective’ morphology can – when combined with the pragmatic principle in (36) – account for the cancelled result inference of optional-past marked ‘perfect(ive)s’.

5.2.2 Analysis of the ‘Cancelled Result’ Inference

In the preceding section, we found that so-called ‘perfective’ morphology in Tlingit and other ‘discontinuous past’ languages is ambiguous between a PERFECTIVE interpretation (24b) and an interpretation as PERFECT.²² But, what *is* the interpretation of PERFECT (PERF)? This is an extremely controversial question within the literature on aspect, and there are both several general hypotheses, as well as numerous ways of formalizing each one. Here, however, I will follow such works as Moens & Steedman 1988, Kamp & Reyle 1993, and Kamp *et al.* 2013, and adopt a ‘result-state’ approach to the perfect. Under this general approach, PERF aspect asserts that the TT strictly follows the ET, and is located within a state ‘resulting’ from the event in question (60a). Thus, a present perfect like *Dave has left* (60b) would entail that there is an event of Dave leaving that precedes the UT, and that the UT is located within some state ‘resulting’ from that leaving event (60c).

²² Such an ambiguity has even been proposed for English past perfectives, which have a wider distribution than past perfectives in other languages, and can be used in environments where other languages require use of the present perfect (Kratzer 1998).

(60) **Formal Analysis of Perfect Aspect**

- a. Semantics of ‘PERF’

$$[[\text{PERF}]]^{\langle w, t, g \rangle} = [\lambda Q_{\langle \langle t, t \rangle \rangle} : [\lambda t' : \exists e. Q(e) \ \& \ T(e) < t' \ \& \ t' \subseteq T(\text{RES}(e))]]]$$
- b. LF of ‘Dave has left’: $[_{TP} [_T \text{PRES}]_i [\text{PERF} [\text{Dave leave}]]]$
- c. Predicted Truth-Conditions:

$$[[(60b)]]^{\langle w, t, g \rangle} = \text{defined only if } g(i) = t, \text{ when defined, is } T \text{ iff}$$

$$\exists e. \text{leave}(e) \ \& \ \text{Agent}(e) = \text{Dave} \ \& \ T(e) < g(i) \ \& \ g(i) \subseteq T(\text{RES}(e))$$
‘There is an event of Dave leaving, whose ET precedes the UT, and the UT is contained with the time of the result state of e (T(RES(e)))’

Importantly, under this semantics, we can capture the ‘cancelled result’ inference in (40) as merely a specific subcase of cessation inference. To see this, let us first consider the truth-conditions predicted for a (‘discontinuous’) past perfect and for a NON-FUTURE perfect.

(61) **PAST vs. NON-FUTURE With Perfects**

- a. ‘Discontinuous’ Past Perfect
 (i) LF Structure: $[_{TP} [_T \text{PST}]_i [\text{PERF} [\text{Dave leave}]]]$
 (ii) Predicted Truth-Conditions:

$$[[(61ai)]]^{\langle w, t, g \rangle} \text{ is defined only if } g(i) < t; \text{ if defined, is True iff}$$

$$\exists e. \text{leave}(e) \ \& \ \text{Agent}(e) = \text{Dave} \ \& \ T(e) < g(i) \ \& \ g(i) \subseteq T(\text{RES}(e))$$
‘The TT is in the result of an event of Dave leaving’
- b. Non-Future Perfect
 (i) LF Structure: $[_{TP} [_T \text{NFUT}]_i [\text{PERF} [\text{Dave leave}]]]$
 (ii) Predicted Truth-Conditions:

$$[[(61bi)]]^{\langle w, t, g \rangle} \text{ is defined only if } \neg(t < g(i)); \text{ if defined, is True iff}$$

$$\exists e. \text{leave}(e) \ \& \ \text{Agent}(e) = \text{Dave} \ \& \ T(e) < g(i) \ \& \ g(i) \subseteq T(\text{RES}(e))$$
‘The TT is in the result of an event of Dave leaving’

Once again, the PST perfect in (61a) requires that the TT exclude the UT, while the NFUT perfect in (61b) allows the TT to contain the UT. Consequently, in a context where the UT is topical and salient, the principle in (36), repeated below as (62), will cause sentence (61a) to trigger the pragmatic reasoning in (63).

(62) **Include Topical UT inside the TT, Whenever Possible**

If all the following conditions hold, then the speaker *must* use sentence S1, and not S2:

- a. Sentences S1 and S2 are identical except for their T-heads (T1 and T2).
- b. Both the Utterance Time t and some past time $t' < t$ are salient and relevant.
- c. $[[T1]]^{w,t,g}$ contains both t' and t , while $[[T2]]^{w,t,g} = t'$.
- d. Both S1 and S2 are 'assertable' (i.e., speaker's knowledge entails them).

(63) **The Pragmatic Reasoning Generating the Cancelled Result Inference**

The speaker has used a past tense perfect in a context where the present (Utterance Time) t is topical/relevant/salient.

- a. By assumption, both Utterance Time t and past time $t' < t$ are salient and relevant. By assumption, the speaker has used a past perfect sentence S2.
- b. *They did not use a non-future perfect sentence S1, with a T-head denoting an interval covering both t' and t*
- c. S1 and S2 are identical except for the T-node (T1 and T2).
- d. $[[T1]]^{w,t,g}$ contains both t' and t , while $[[T2]]^{w,t,g} = t'$.
- e. Given (62), *it must be that the non-future perfect sentence S1 is not assertable.*
- f. Past perfect sentence S2 entails that **the result state of the event (RES(e))** contains the past time t'
- g. Non-Future perfect sentence S1 entails that **the result state of the event (RES(e)) contains the past time t' and the utterance time t**
- h. Therefore, the speaker's knowledge entails that there is a **result state** of the relevant sort containing past time t' but either:
 - (i) They don't know whether that result state continues into present, or
 - (ii) They know that the result state *doesn't* continue into present

As detailed in (63), the combination of the result-state semantics for Perfect aspect in (60a) and our semantic/pragmatic machinery from Section 4 will straightforwardly yield the 'cancelled result' inference of optional-past marked perfects. Such inferences directly follow as sub-cases of 'cessation inferences', following exactly the same line of pragmatic reasoning as sketched out earlier in (39). Furthermore, we correctly predict that these inferences will be cancelled in the exact same environments where the cessation inferences are cancelled: (i) in contexts where the speaker is explicitly ignorant about present (Section 5.1.2), and (ii) in contexts where the present is not relevant (Section 5.1.4).

5.2.3 Analysis of the ‘Unexpected Result’ Inference

Finally, let us consider the ‘unexpected result’ inferences in (43). As we will see presently, these inferences can also follow from the ability for morphologically ‘perfective’ verbs to be interpreted as bearing PERFECT (PERF) aspect.

Interestingly, the connection between ‘unexpected result’ inferences and past perfects was already drawn by Plungian & van der Auwera themselves. Citing earlier sources, Plungian & van der Auwera (2006: 335) note that various authors have ascribed ‘unexpected result’ inferences/usages to the past perfect (pluperfect) in different languages. For example, they cite the French data in (64), where a past perfect verb (*l’avait dit*) is reported to imply that the expected result of the past event – that the addressee would heed the warning – did not occur. Note that there is indeed a striking similarity between this example and the examples of ‘unexpected result’ inferences in Tlingit (44a) and Sranan (46).

(64) ‘Unexpected Result’ and the French Pluperfect

On	te	l’avait	dit!	
they	you	3sgO.PST.PERF	said	
<i>They had said it to you [≈ Didn’t I warn you?]</i> (Plungian & van der Auwera 2006: 335)				

The appearance of ‘unexpected result’ inferences with past perfects in obligatory tense languages like French establishes two important points. First, it shows us that unexpected result inferences are not necessarily tied to any special semantics for past-tense morphology *per se*. After all, past tense in French does not otherwise seem to be an instance of ‘discontinuous past’ as defined in (11). More importantly, the data in (64) show that these inferences can be observed for uncontroversial instances of (plain) past perfects. Thus, whatever their nature, they are a known pragmatic effect of past perfect in the languages of the world. Given that so-called ‘perfective’ morphology in Tlingit (and other alleged ‘discontinuous past’ languages) can be interpreted as perfect aspect (Section 5.2.1), we straightforwardly predict that ‘perfective’ verbs marked with (optional) past in such languages should in principle be associated such inferences as well.

Be this as it may, we may yet wonder exactly *how* these ‘unexpected result’ inferences get associated with past perfects. One possibility is suggested by the fact that, in all the attested examples of ‘unexpected result’ inferences in Tlingit (that I’m aware of), the unexpected result in question is explicitly mentioned in the surrounding discourse. Furthermore, for precisely this reason, the decessive ‘perfectives’ in such cases can be rather naturally translated into English as past perfects. The following English discourses illustrate.

(65) ‘Unexpected Result’ and the Pluperfect

- | | | |
|----|---|-------------|
| a. | I had roasted that for him, but he didn’t want to eat it. | (cf. (44b)) |
| b. | I had told you “don’t touch a knife”, but you did anyway. | (cf. (44a)) |
| c. | He didn’t show up. But, he had told me that he would return. | (cf. (46)) |

Furthermore, under our formal semantics for PERFECT (60a), the appearance of PERF in (64)-(65) is quite understandable. In these cases, the Topic Time of the sentence is the time of the unexpected consequence. Under the semantics in (60a), PERF would locate that time within

the resulting state of the described event. For example, the past perfect in (65c) would place the time of his not showing up within the result state of his having said he would return. The rhetorical effect of such an utterance, then, is to contrast the preceding event (*e.g.*, his having said that he would return) with the unexpected consequence (*e.g.*, his not actually returning).

With all this in mind, a rather simple explanation of the ‘unexpected result’ inference in (43) obviously emerges. Given that morphological ‘perfectives’ in these languages allow for an interpretation as a perfect, sentences such as (44a), (44b) and (46) may be no different in form or analysis from their English past perfect translations in (65). That is, the ‘unexpected result inference’ in (43) is actually nothing more than a rather typical rhetorical usage of the past perfect, whereby it positions some unexpected result within the result state of some prior past event, the very same event that causes the former to be ‘unexpected’.

In summary, we have seen that the unexpected result and cancelled result inferences can both follow from the hypothesis that so-called ‘perfective’ aspect in many languages is actually ambiguous, and can be interpreted as an instance of PERFECT. Combined with a result-state semantics for PERFECT (60a), the cancelled result inference follows as a subcase of the cessation inference, while putative instances of the unexpected result inference are, in actuality, simply instances of a fairly common rhetorical use of the past perfect. Most importantly, our analyses of these inferences all rest on the crucial assumption that these past-markers are semantically nothing more than simple (optional) PAST tense.

7. Conclusion

Thanks to the in-depth descriptive work of such scholars as Leer (1991) and Plungian & van der Auwera (2006), it appears that some languages possess a morpheme that combines the meaning of past tense with a variety of additional implications. This raises the question of whether those languages possess a distinct tense category – beyond merely ‘past’, ‘present’ and ‘future’ – one that could be dubbed ‘discontinuous past’ (Plungian & van der Auwera 2006). This question itself, though, amounts to the question of whether the additional implications of these past-markers are part of their *lexical semantics*, or whether they can be seen to follow via pragmatic inference from a (pure) past meaning. In this paper, we sought to address this latter question by careful exploration of the Tlingit ‘decessive epimode’, a morpheme with the characteristic properties of such ‘discontinuous pasts’.

We found that in Tlingit, the cessation inference associated with decessive statives cannot be cancelled in exactly the same manner by which the superficially similar cessation implicatures of English past-tense statives can be cancelled. While this would at first glance support the view that those inferences in Tlingit are indeed semantic, we also saw that a variety of other facts point in the opposite direction. That is, contrary to prior formal analyses of such ‘discontinuous past’ morphemes (Copley 2005), the special inferences associated with ‘decessive’ in Tlingit do seem to be cancellable in certain environments, and so cannot be part of the lexical semantics of the Tlingit morpheme. We also saw that some of the evidence for this can be found in other languages appearing to exhibit ‘discontinuous past’, which strongly suggests that in all such cases of ‘discontinuous past’, the special inferences are (somehow) pragmatic.

One striking feature of these putative ‘discontinuous pasts’ is that they are all found in ‘optional tense languages’, languages where unmarked verbs can be used to describe either present or past eventualities. This again strongly suggests an analysis whereby the special inferences associated with these morphemes are pragmatically derived from (i) the PAST meaning

in (23a) and (ii) the fact that the PAST tense in question is ‘optional’. We developed one such account, building upon prior semantic research into ‘optional tense’ languages (Matthewson 2006). The proposed account is able to derive the special inferences of optional past tenses via a pragmatic principle requiring that the Utterance Time be included within the Topic Time, whenever the grammar of the language and the context of utterance allow for it. Furthermore, our account correctly predicts crucial differences between the cessation inferences found with optional past tenses and the superficially similar cessation implicatures found in ‘obligatory tense’ languages like English. Finally, we’ve seen that it correctly predicts the environments where the special implicatures of optional past tense can be cancelled.

In summary then, we have found that there is most likely no distinct category of ‘discontinuous past’. Rather, putative instances of this category are simply instances of (optional) PAST tense. This result nicely aligns with emerging evidence that the only true ‘tenses’ across languages are (at most) PAST, PRESENT, FUTURE, and NON-FUTURE (Cable 2013).²³

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²³ Note, however, that it is quite likely that of these four categories, only PAST is truly a ‘tense’ (in the sense commonly intended by semanticists). Sauerland (2002) argues that ‘present’ tense morphology is semantically vacuous. Many authors have argued that ‘future’ morphology is not properly speaking a ‘tense’, but instead is a modal operator (Abusch 1997, Kratzer 1998, Matthewson 2006). Finally, Matthewson (2006) notes that the special presupposition of NON-FUTURE might actually just be an inherent property of the T-head, it being the case that T-heads in general cannot denote times that follow the local evaluation time (Abusch 1997). In the end, then, it may be that there is only one ‘true’ tense (i.e., presuppositional feature of the T-head): PAST.

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