

# The implicatures of optional past tense in Tlingit and the implications for ‘discontinuous past’

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**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 hold at the present (Altshuler and 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 led 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 and 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 an 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].<sup>1</sup> 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 and Bochnak 2016; Mucha 2016). 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 Sect. 4) to an inference that a state of the kind described by the predicate does not exist at present. Such ‘cessation inferences’ have long been noted for English (Musan 1997; Magri 2011; Thomas 2014a; Altshuler and Schwarzschild 2013).

(2) **Cessation inferences in English<sup>2</sup>**

- a. (i) Dialog: Person 1: Who wrote that song ‘Sledgehammer’?  
 Person 2: Oh, I **knew** this! . . .
- (ii) Inference: Person 2 does not currently know the answer.

<sup>1</sup>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.

<sup>2</sup>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*).

- b. (i) Dialog: Person 1: How are you feeling?  
Person 2: Well, I **was** nauseous.  
(ii) Inference: Person 2 is not currently nauseous.
- 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** from Montana.  
(ii) Inference: Dave is not currently from Montana (and so 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'éiyeen.<sup>3,4</sup>  
IMPFV.good.weather.PST  
'The weather was nice (but turned bad).' (Leer 1991:464)
- b. Sheet'kák' áwé yéi xat téeyin at k'átsk'ux  
Sitka.at FOC IMPFV.1sgS.be.PST boy  
xat sateeyí.  
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 noojéen.  
3O.1sgS.eat HAB.PST  
'I would eat it (habitually in the past, but no longer).' (Leer 1991:463)

<sup>3</sup>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.

<sup>4</sup>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'.

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” (Leer 1991:465), and regarding sentence (3b) that “. . . [This sentence] could be said by someone who left Sitka during childhood. . .”<sup>5</sup>

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 and Schwarzschild 2013). That is, in English, these cessation inferences are defeasible, as shown by the felicity of the conjunctions in (4).

- (4) 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** from Montana this morning, and (of course) he's still from there 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 topical past time—i.e., a past ‘Topic Time’—then the cessation inference is defeated (Klein 1994). For example, in none of the sentences below, is the state generally understood to end prior to the time of the utterance.

- (5) 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** from Montana.

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.

<sup>5</sup>It should be noted, however, that Leer (1991:464–465) goes on to state that the sentences in (3) are actually consistent with states of the relevant sort holding at present, as long as those present states are not continuous with the states holding the past:

“[Sentence (3b)] could be said by someone who left Sitka during childhood *and has since moved back*. . . [Sentence (3a)] could be said at a time when the weather was nice. . . because if the weather turned nice again, this constitutes a different instance of good weather. . .” (Leer 1991:464–465).

Therefore, it seems that the cessation inference reported for Tlingit by Leer (1991) is *weaker* than that reported for English by (e.g.) Altshuler and Schwarzschild (2013) and illustrated in (2).

Importantly, we will see in Sect. 4 that the analysis developed there indeed predicts this subtle difference between the cessation inferences of Tlingit and English. However, I have not myself been able to construct a convincing independent test of whether this difference reported by Leer (1991) indeed holds. I must therefore leave to future research the testing of this subtle and important prediction.

(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)<sup>6</sup>  
 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 dágáawé táayin 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) 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  
 this morning just IMPFV.good.weather just still  
kuwak'éi.  
 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  
 this morning just IMPFV.good.weather.PST just still  
kuwak'éi.  
 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)

<sup>6</sup>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.

Furthermore, while the cessation inference of English past tense disappears when there is a past Topic 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.

(8) **Tlingit cessation inferences still arise with past Topic Time**

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

b. *Rejected Sentence, Containing Past Tense:*

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

*Comments by Speakers:*

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

(9) 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.  
 just just.now 3O.PFV.1sgS.see. Joe  
 At shíyin.  
 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—the time of the speaker seeing Joe—as the Topic Time (Klein 1994). 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 never-

theless 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) 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  
 this morning IMPFV.good.weather.PST now though NEG  
 kushk'é. (SE)  
 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 wdzigít. (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 nkwasaneiyín. (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) and (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 and 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 Washo (isolate; California). The abundance and similarity of such cases lead Plungian and 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 and van der Auwera 2006)<sup>7</sup>**

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

Thus, Plungian and 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) and (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 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

<sup>7</sup>As discussed in Sect. 5, Plungian and 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 Sect. 5, and show that my proposed analysis can predict them as well.



(Plungian and 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.

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 cessation inferences are non-semantic, as they are absent in the following cases: (i) in certain naturally occurring corpus data, (ii) in elicited examples where the speaker asserts ignorance concerning the present, and (iii) in elicited examples where the past-marked verb appears embedded below another past-marked verb. 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 Sect. 4, I present my proposed analysis of the semantics and pragmatics of these tense markers, whereby their cessation inferences are crucially tied to their optionality.

With the semantic/pragmatic analysis in place, I show in Sect. 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 analysis put forth in Sect. 4.

## 2 Linguistic and methodological background regarding Tlingit language

The Tlingit language (Lingít; ʼAᵐ.kítʼ) 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 fn. 3, 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 (Shaksháani), 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 felicitously 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.<sup>8</sup> 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*.<sup>9</sup> Throughout the example sentences in this paper, the suffix realizing the decessive will be boldfaced for the reader.

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

<sup>9</sup>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 (Tonhauer 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.

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 and 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 Sect. 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 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 and 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 appear 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, an ancestral hero of the Kiks.ádi clan in Sitka, AK. This petroglyph is generally known to still exist in Sitka (Dauenhauer and Dauenhauer 1987:330), and in the line immediately following (12), the narrator tells the addressee that they will go visit it later.

- (12) 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 and Dauenhauer 1987:100: ln. 359)

With all this in mind, the decessive stative in (12) does not seem to imply in its original context that the carving no longer exists or has moved from its former location. 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 Sect. 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 past Topic 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  
 NEG 3O.PFV.1sgS.know just still there.at  
 yéi teeyí. (SE)  
 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) English dialog to translate: John: Is Tom still asleep?  
 Mary: He *was* asleep earlier; 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.3sg.sleep  
 'Is Tom still sleeping?'
- b. Mary: Yeisú dziyáak táayin.  
 still earlier IMPFV.3sg.sleep.PST  
 Héł xwasakú ch'a yeisú shákdé  
 NEG 3O.PFV.1sgS.know just still DUB  
 tá. (MD, WF)  
 IMPFV.3sg.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 translation of her statement, she uses the decessive suffix when describing that past state. It follows, then, that the decessive sentence in this dialog cannot be asserting that the past state in question *fails* to extend into the present. We can therefore conclude that in this example, the decessive suffix does not contribute a cessation inference.

In summary, it is possible after all to cancel the cessation inference of a decessive stative in Tlingit. Although that inference is not cancelled merely by the existence of a past Topic Time, 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 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) 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!



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

Similarly, while sentence (19bi)—with embedded past—is accepted by Hebrew speakers for context (19a), such speakers also readily accept sentence (19bii), which lacks embedded past.

- (19) a. Context: Yosef thought to himself (quote), “Miriam loves me.”
- b. (i) Yosef **xašav** še Mariam **ahava** oto.  
 Yosef **think-PST** that Mariam **love-PST** him  
 ‘Yosef thought that Mariam loved him.’  
 (Ogihara and Sharvit 2012)
- (ii) Yosef **xašav** še Mariam **ohvet** oto.  
 Yosef **think-PST** that Mariam **love-PRES** him  
 ‘Yosef thought that Mariam loved him.’  
 (Ogihara and Sharvit 2012)

In Ogihara and Sharvit’s (2012) account, languages exhibiting this behavior are not ones where embedded past tense can be semantically uninterpreted. Rather, they are languages where a fully interpreted embedded past tense allows for a special *de re* construal, one that renders them acceptable in contexts like (16a) and (19a). Adopting their approach, we would conclude that the embedded decessive marking in Tlingit (16b) is semantically interpreted, but given a *de re* construal. Consequently, the lack of an (embedded) cessation inference in (16b) cannot be due to the embedded decessive marker not being semantically interpreted. We therefore again conclude that the failure of the embedded decessive marker in (16b) to trigger a cessation inference suggests that such inferences are not encoded within the lexical semantics of the decessive.<sup>10</sup>

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

- (20) 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.

<sup>10</sup>Of course, this still leaves open the question of *why* the embedded past marking in (16b) does not trigger the cessation inference found in (6)–(9). In Sect. 4.1 below, I show that the analysis proposed in Sect. 4, when combined with the theory of Ogihara and Sharvit (2012), indeed predicts the absence of cessation in cases like (16b). As we will see, this explanation will crucially rest upon the assumption that the ‘decessive epimode’ of Tlingit is in its semantics nothing more than a past tense.

b. Tlingit sentences offered:

- (i) **Yéi xwajéeyin** Jónoo aan tlein<sub>x</sub> áwé  
 3O.IMPFV.1sgS.think.PST Juneau city big FOC  
**satéeyin.** (WF)  
 IMPFV.3S.be.PST  
 ‘I used to think that Juneau was a big city.’
- (ii) **Yéi xwajéeyin** Jónoo kúnáx  
 3O.IMPFV.1sgS.think.PST Juneau really  
**géiyin.** (MD)  
 IMPFV.3S.big.PST  
 ‘I used to think that Juneau was big.’

### 3.4 Consequences for the existence of ‘discontinuous past’ across languages

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.<sup>11</sup> Thus, the Tlingit ‘decessive epimode’ is not an instance of ‘discontinuous past,’ in the theoretically important 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 Sects. 3.2–3.3. Since they provide the crucial evidence that Tlingit past-marking is not, after all, an instance of discontinuous past, any alleged cases of discontinuous

<sup>11</sup>Further evidence for this conclusion might come from examples like the following. Given contexts/scenarios like those in (i), speakers will produce sentences like those in (ii), which contain the decessive suffix.

- (i) 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.
- (ii) Jónoox’ yéi xat teeyin. (CM)  
 Juneau.at IMPFV.1sgS.be.PST  
 ‘I lived in Juneau.’

Given that the scenario in (i) makes clear that the speaker has lived their whole life in Juneau, and has never moved away, the acceptability of (ii) shows that the decessive suffix in this context does not trigger a cessation inference.

One notable difference between the context in (i) and the discourses where the cessation inference is triggered (6)–(9) is that in the latter, the present time is explicitly ‘on the minds’ of the speaker and the addressee. The sentences in (6) and (7) contain assertions about the present, and in scenarios (8a) and (9a), the addressee is interested in whether the state in question holds at present. In the scenario in (i), however, it is not of interest to the addressee whether the state in question holds at present—only whether it held in the 1950s—and the speaker’s answer is not addressing any questions about the present. In this sense, what distinguishes contexts like (i) seems to be that in such contexts, the present is not ‘relevant’ to the conversational participants.

Developing this intuition into a fully predictive account of the facts in (i) and (ii), however, would take our discussion rather far afield. For this reason, although these data support the claim that the Tlingit decessive does not lexically encode a cessation inference, I must leave an account of them for future research.



past should be examined in those environments before we can be confident that their cessation inferences are indeed lexicalized.

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

(21) **‘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 tense<sup>12</sup>

According to the typological generalizations in (21), 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 (21) 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 less frequent ‘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?<sup>13</sup>

<sup>12</sup>The principle potential exception to this generalization noted by Plungian and van der Auwera is that of Washo, 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 Washo does exhibit the first property in (21); verbs without tense marking can refer to past states/events (Bochnak 2016). 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 Sect. 4). Rather, such ‘graded past’ markers are actually modifiers within the Aspectual projection. Thus, it remains very much an open question whether Washo truly counterexamples the generalization in (21). Furthermore, Bochnak (2016) demonstrates that the cessation inference associated with Washo ‘defunctive’ is actually a defeasible pragmatic inference, and so is not encoded as part of the affix’s lexical semantics.

<sup>13</sup>Plungian and 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 iconic 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 intro-

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 predicted as a pragmatic inference arising from the very properties invoked in (21). It would, of course, then trivially follow that only languages and morphemes exhibiting the properties in (21) 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 (21) hold, and so the typological pattern would be accounted for.

For this reason, the typological facts in (21) 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 predicted via pragmatics. Let us now attempt to construct just such an account.

#### 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 Althuler and 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 (Klein 1994; 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 (22) below.

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

As shown in (22a), 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

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ducing a temporal (or notional) break between the point of reference and the situation.” (Plungian and 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 analysis proposed in Sect. 4 will follow Plungian and van der Auwera (2006) in attempting to predict the cessation inference from the optional status of the markers in question.

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-head 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 (22b), where they end up only ever denoting times that are equal to the evaluation time  $t$ .

In this way, the semantics in (22) instantiates Klein's (1994) view that tense features serve to constrain the relation between the Topic Time (denoted by 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 (23), 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.

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

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 (23b), which implements the classic notion that perfective aspect locates the ET within the TT.

The denotations in (22) and (23) fit most naturally within a syntax where the Aspectual Projection is complement to the Tense head, as is illustrated by the LF in (24b) below.

- (24) a. Sentence: Scotty was nauseous.  
 b. LF of (24a), in a context with past Topic Time:  
 $[[_{\text{TP}} [_{\text{T}} \text{PST} ]_i [ \text{IMPFV} [ \text{Scotty be nauseous} ] ] ] ]$   
 c. Predicted Truth-Conditions:  
 $[[ (24b) ] ]^{w,t,g}$  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  $g(i)$ .'

As shown in (24c), in contexts where there is a past Topic Time  $g(i)$ , sentence (24a) is predicted by our semantics to be true iff there is an eventuality (state) of Scotty being nauseous which contains the TT. What, though, of contexts where there *isn't* any past Topic Time? That is, what about contexts like those in (2), where the past tense sentence is uttered in a context where there is no contextually given past time yet in the discourse? I will assume that in such contexts—i.e., when there is no antecedent available for a tense head—a special 'rescuing' operation of existential closure can

apply and bind the T-head (Ogihara and Sharvit 2012). The intended LF and predicted truth-conditions are as represented in (25a,b) below.

- (25) a. LF of (24a), in a context with no past Topic Time:  
 $[\text{TP } \exists_i [\text{TP } [\text{T PST } ]_i [ \text{ IMPFV } [ \text{ Scotty be nauseous } ] ] ] ]$
- b. Predicted Truth-Conditions:<sup>14</sup>  
 $[[ (25a) ] ]^{\text{w,t,g}}$  is true *iff*  
 $\exists t'. t' < t \ \& \ \exists e. \text{nauseous}(e) \ \& \ \text{Thm}(e) = \text{Scotty} \ \& \ t' \subseteq T(e)$   
 ‘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  $t'$ .’

Thus, in a context such as (2b), sentence (24a) is predicted to assert that there *is some* past time  $t'$  at which Scotty is nauseous. Now, notice that it is exactly in such contexts that cessation implicatures are triggered in English. That is, following Musan (1997) and others, I make the following assumption regarding where English-style cessation implicatures are triggered.

(26) **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 past Topic Time.

Note, for example, that in the dialogs in (2), the discourse-initial sentence does not introduce 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 past Topic Time.

Interestingly, this connection between cessation implicatures and the absence of past time antecedents can follow from the semantic system in (22)–(25), if we adopt the following crucial assumption, originally proposed by Altshuler and Schwarzschild (2013).

(27) **The Open Interval Hypothesis (Altshuler and 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.<sup>15</sup> Note that, as discussed by Altshuler and Schwarzschild (2013), this in no

<sup>14</sup>Note that when a pronoun is existentially bound, its presuppositional features effectively serve to place additional restrictions on the existential quantification (Cable 2013).

<sup>15</sup>Note that the Open Interval Hypothesis in (27) 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 (27) with lexical statives, since it is straightforward to identify their ‘run-time’ in the truth-conditions that our semantics derives. As with Altshuler and Schwarzschild (2013), I must leave to future work the task of providing a semantics for ‘stativizing operators’ like PROG and GEN, which

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 (27).<sup>16</sup> Nevertheless, as first observed by Altshuler and 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 (25) to that of a (pragmatically competing) present tense sentence.

- (28) a. Sentence: Scotty is nauseous.
- b. LF of (28a):  $[_{TP} [_T \text{PRES}]_i [_{IMPV} [_{\text{Scotty be nauseous}}]]]$
- c. Predicted Truth-Conditions:  
 $[[ (28b) ] ]^{w,t,g}$  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  $t$ )’

Importantly, because of the Open Interval Hypothesis (27), the truth-conditions in (28c) are strictly stronger than the truth-conditions in (25b). Note that since the utterance time is (by common assumption) a temporal instant, (28c) and assumption (27) 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 (25b) 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 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).<sup>17</sup> In this way, the assumptions in (22)–(27) can account for key generalization in (26). Importantly, they can also account for the cancellation of such implicatures in contexts like (5), where there *is* a past Topic Time. Note that in such contexts, the existential closure in (25) will not occur, and a past tense sentence will have the LF and truth-conditions in (24). Furthermore, the truth-conditions in (24c) are simply incompatible with the present-tense truth-conditions in (28c); the two sets of truth-conditions make incompatible demands of the Topic Time  $g(i)$ . Since the truth-conditions in (24c) and (28c) are incompatible, neither is stronger nor weaker than the other, and so no Gricean scalar inference will be triggered upon the utterance of (24a) in a context with a possible antecedent for ‘ $[_T \text{PST}]_i$ ’. We therefore predict the absence of the cessation implicature in such contexts.

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would permit an equally straightforward application of (27) to data like that in (2c). Nevertheless, I do share Altshuler and Schwarzschild’s view that the cessation inferences associated with progressives and generics do indeed follow from (27) in just the way laid out in (28).

<sup>16</sup>For a more detailed discussion of this point, the reader is referred to Altshuler (2016:100–101).

<sup>17</sup>Readers curious about the details of this pragmatic reasoning are referred to Altshuler and Schwarzschild (2013).



- 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.' (Matthewson 2006)

Note that sentence (31b) has no straightforward English translation in context (31a). The issue is, of course, that while Theresa *did* throw up, Charlie *is currently* throwing up. Thus, to translate (31b) directly, we would have to simultaneously translate *wat'k'* 'vomit' as *threw up* (PAST) and *is throwing up* (PRESENT). Importantly, however, the semantics in (30) would easily predict the possibility of (31b) in scenario (31a). The predicted LF and truth-conditions of (31b) are as in (32) below.

- (32) a. LF of (31b): [<sub>TP</sub> [<sub>T</sub> NFUT ]<sub>i</sub> [ PFV [ [Theresa and Charlie] vomit ] ] ]  
 b. Truth-Conditions:  
 [[(32a)]]<sup>w,t,g</sup> 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 (32b) true. We find, then, that the possibility of sentences like (31b) in contexts like (31a) lends important support to the notion that 'optional past tense' languages allow the denotation of a (non-past) T-node to be an interval containing both past times and the UT. It should be noted that parallel data can be found in Tlingit as well.

- (33) 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 ka Anne át has wujik'éin. (MD)  
 Tom and Anne PFV.3plS.jump.around  
 'Tom and Anne jumped around/are jumping around.'

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' (30), 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 (22)–(25). 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 Sect. 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 (25)–(27) 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 Sect. 3, the cessation inference of Tlingit is cancelled if the speaker explicitly states that they are ignorant concerning the present (Sect. 3.2). This invites the following generalization concerning the contexts where Tlingit cessation inferences *do* arise.

(34) **Key generalization about cessation implicatures in Tlingit**

In Tlingit, the cessation inference arises for a past-marked stative whenever the speaker is (assumed / presented to be) knowledgeable about whether the past state in question extends into the present.

Importantly, the environments in (6)–(9)—where we could not cancel the Tlingit cessation inference—all exhibit the key property in (34). In sentences (6) and (7), the past-marked sentence is conjoined with a sentence asserting that the past state continues to hold at present. Therefore, the speaker in these cases is presenting themselves as knowledgeable about whether the past state extends into the present. Furthermore, in the contexts under (8)–(9), the speaker is again presented as knowing (or strongly suspecting) that the event in question is still ongoing. Therefore, the generalization in (34) 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 (34). To begin, let us suppose that there exists in Tlingit a principle that has the following crucial effect: if the speaker *can* assert a sentence where the Topic Time (TT) contains the Utterance Time (UT), then they *must* assert that sentence. Put more precisely, let us imagine that the principle enforces the following:

(35) **Include UT inside the TT, whenever possible**<sup>19</sup>

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.  $[[T1]]^{w,t,g}$  contains both  $t'$  and  $t$ , while  $[[T2]]^{w,t,g} = t'$ .
- c. Both S1 and S2 are 'assertable' (i.e., speaker's knowledge entails them).

<sup>19</sup>An anonymous reviewer asks what the architectural status of the imagined principles at work in (35) (and (36)) is. I assume that it would have a status akin to that of 'Maximize Presupposition' (Heim 1991).



As we'll see in a moment, principle (35) will predict the key generalization in (34). First, though, let us briefly note that (35) may itself be a specific subcase of an even more general principle.

(36) **Make the TT as large as 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.  $[[T1]]^{w,t,g}$  contains both  $t'$  and  $t''$ , while  $[[T2]]^{w,t,g} = t'$ .
- c. Both S1 and S2 are 'assertable' (i.e., speaker's knowledge entails them).

The more general principle in (36) could account for the judgment in (37b), regarding the discourse in (37a).

- (37) 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 (37a) introduces both the time of Dave's jumping and the time of Fred's jumping as possible antecedents for the past T-head of the second sentence of (37a). The principle in (36) would therefore require that the second sentence's T-head denote an interval encompassing *both* those antecedent past times, rather than just one of them. Consequently, it would predict the intuition in (37b) that *Mary was dancing* places the time of both 'jumpings' within the Event Time of Mary's dancing. Be this as it may, since only the more specific principle in (35) is necessary for the proposed account, I will reserve judgment regarding (36).

Let us now observe how the principle in (35) can predict both the key generalization in (34) and the puzzling contrasts with English cessation implicatures observed in Sect. 1. To begin, the principle in (35) would yield a Tlingit cessation implicature as follows.

(38) **The pragmatic reasoning generating cessation implicature in Tlingit**

Let us assume that the speaker has used a past tense stative sentence S2, whose T-node denotes a past time  $t'$ .

- a. *By assumption, the speaker did not use a non-future tense sentence S1, with a T-head denoting an interval covering both  $t'$  and the present time  $t$ .*
- b. S1 and S2 are identical except for the T-node (T1 and T2).
- c.  $[[T1]]^{w,t,g}$  contains both  $t'$  and  $t$ , while  $[[T2]]^{w,t,g} = t'$ .
- d. *Given (35), it must be that the non-future sentence S1 is not assertable.*
- e. Past tense sentence S2 entails that there's a state of the relevant sort containing past time  $t'$
- f. Non-Future tense sentence S1 entails that there's a state of the relevant sort containing past time  $t'$  and the utterance time  $t$

---

If we choose to dub the latter a 'pragmatic principle'—as many do—then the same would be true of the principle in (35) (and (36)). Either way, I assume that this principle is post-semantic, in as much as it assumes calculation of the 'assertability' of candidate sentential structures.

- g. Therefore, the speaker's knowledge entails 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 (35) predicts that Tlingit speakers will infer from a past-marked stative that the past state in question does not extend into the present (38gii), *just as long as* the speaker is assumed to know whether the past eventuality extends into the present or not (38gi).<sup>20</sup> Therefore, Tlingit speakers will *not* draw a cessation inference if the speaker is *not* assumed to know whether the past eventuality extends into the present. In this way, the principle in (35) is able to capture the key generalization in (34).<sup>21</sup>

Furthermore, 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 speaker can be presumed to know whether the past state in question extends into the present. Therefore, even if we suppose that the principle in (35) (or (36)) is active in English, the reasoning in (38) will not go through for English speakers, and so Tlingit-like cessation inferences will not be drawn for past-tense English sentences in such contexts. Consequently, English sentences like (4) and (5) will not be in any way anomalous, contrary to the structurally parallel Tlingit sentences in (6)–(9).

In summary, the 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 allows the Topic Time of a sentence to cover both a past time  $t'$  and the present  $t$ , while English does not. If we assume that such 'past-cum-present' TTs are a characteristic property of 'optional tense languages,' we can straightforwardly extend this account to other such languages. In this way, our account can capture the typological pattern in (21): past-marking in 'optional tense languages' will exhibit the same peculiar cessation inferences found in Tlingit. Consequently, under this analysis, there needn't be any 'discontinuous past' tense 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 (22a).

<sup>20</sup>Observe, however, that such speakers need not infer that at present  $t$  there is *no* state fitting the description of the stative predicate, only that the past state invoked by S2 does not extend to  $t$ . Thus, the cessation inference predicted in (38) is weaker than that predicted for English in (25)–(28). As discussed in fn. 5, Leer's (1991) description of cessation in Tlingit would support this prediction, though it has yet to be independently confirmed.

<sup>21</sup>An anonymous reviewer asks whether inferences of the kind in (38) should truly be referred to as 'implicatures,' since they do not follow from the maxims as formulated by Grice (1975). I use the label 'implicature' here to refer to non-semantic inferences made by a listener and based upon alternative utterances that the speaker could have made. Thus, inferences based in 'Maximize Presupposition' (Heim 1991; Singh 2011) would under this use qualify as 'implicatures.' I leave to the judgment of others whether such usage is an abuse of terminology or not.





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.

- (42) a. Scenario: A person has died, but through magic, he will be brought back to life.
- b. *Tlingit Sentence Offered*:  
 Woonaa áwé. Tsu kúxdei guxdagóot. (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 kúxdei guxdagóot.  
 PFV.3sgS.die.PST FOC again back.to FUT.3sgS.go/walk  
*Comments by Speakers*: "No." [corrected to (42b)] (SE), (MD)  
 "No. The first one is better, I think." (WF)

In addition to these cancelled result inferences, Leer (1991) reports that perfective verbs bearing optional past tense in Tlingit can trigger an inference that I will refer to as the 'unexpected result inference.' Leer characterizes this inference as follows.

(43) **The 'unexpected result' inference (Leer 1991)**

A 'decessive perfective' in Tlingit can be used to indicate that some "expected result" (Leer 1991:468) failed to occur.

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."<sup>23</sup>

- (44) 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 wéit'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 idiosyncrasies of the Tlingit 'decessive,' or Leer's (1991) description of it.<sup>24</sup> Indeed, similar ef-

<sup>23</sup>As reported by Kagan (2011), the particle *bylo* in Russian appears to trigger similar such 'unexpected result' inferences. Again, I leave to future research the possible connections between these phenomena.

<sup>24</sup>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 'ex-





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.

### 5.1.2 Cancellation with statements of ignorance

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

- (48) English dialog to translate: Tom: When I lived in Sitka, Joe married Anne.  
 Sue: Oh! Are Joe and Anne married?  
 Tom: They *were* married. I don't know if they still are.
- a. Tom: Sheet'kax' yéi xat teeyí, Anne ka Joe  
 Sitka.at IMPFV.1sgS.be.SUB Anne and Joe  
 wooch has wudisháa.  
 RECIP.PFV.3plS.marry  
 'When I lived in Sitka, Anne and Joe married each other.'  
 (SE)
- b. Sue: Ha! Ch'a yeisú gé wooch xáni  
 EXCLM just still Q RECIP vicinity.at  
 yéi s ditee?  
 IMPFV.3plS.be  
 'Oh! Are they still together?'  
 (SE)
- c. Tom: Ha, wooch has wudasháayin.  
 EXCLM RECIP.PFV.3plS.marry.PST  
 Tléil xwasakú ch'a yeisú wooch xáni  
 NEG 3O.PFV.1sgS.know just still RECIP.vicinity.at  
 gé yéi s ditee.  
 Q IMPFV.3plS.be  
 'Well, they were married. I don't know if they are still together.'  
 (SE)

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





(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) 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  
 this medicine HYPO 3O.PFV.2sgS.drink.PST you.to  
**gwadasheeyín**. (SE)  
 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; Romero 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.<sup>27</sup>

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 and van der Auwera (2006) report that in many languages containing ‘discontinuous past,’ the putative ‘discontinuous past’ morpheme must appear in the antecedent of past counterfactuals.

(53) a. Sranan (Plungian and van der Auwera 2006:341):

Efu unu **ben** tenapu luku, unu **ben** sa bori en leki  
 If you **DisP** stand look you **DisP** POT cook it like  
 mi.  
 me  
 ‘If you **had** stood and looked, you’d probably cook it like me.’

b. Bamana (Plungian and 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. . .’

<sup>27</sup>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’ítskw 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).

Although Plungian and 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.

## 5.2 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 Sect. 3.4—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 principle in (35), 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.’ First, let us note that in discourses like those in (54a,b), English speakers report a contrast in acceptability between the use of ‘now’ with present perfect and its use with past perfective (simple past).<sup>28</sup>

<sup>28</sup>These judgments summarize the results of a sentence rating study carried out with 16 native speakers of English. Participants were asked to rate the sentences in (54) on a scale from 1 (awful) to 7 (perfect). The mean and median scores of the sentences above were as follows:

- |     |                   |                  |                  |
|-----|-------------------|------------------|------------------|
| (i) | Sentence (54ai):  | Mean Rating: 6.3 | Median Rating: 7 |
|     | Sentence (54aii): | Mean Rating: 4.6 | Median Rating: 5 |
|     | Sentence (54bi):  | Mean Rating: 6.9 | Median Rating: 7 |
|     | Sentence (54bii): | Mean Rating: 4.1 | Median Rating: 4 |

Consequently, conforming to the judgment of the author, sentences (54ai) and (54bi) were felt to be ‘near perfect,’ while sentences (54aii) and (54bii) were felt to be ‘off’ (but not terrible). Thus, I have marked those sentences with the diacritic ‘??’ in (54) above.

(54) **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.

This contrast would follow from our semantics in (22)–(23), if we assume that the understood pragmatic function of ‘now’ in these sentences is to signal that the Topic Time of the second sentence is the present (i.e., now). Given our semantics in (22), such use of ‘now’ would only be consistent with present tense, since past tense requires that the Topic Time is a time in the past.<sup>29</sup>

With this in mind, let us observe that the Tlingit adverb *yeedát* ‘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).<sup>30</sup>

<sup>29</sup>However, it has also been widely observed that within richer narrative structures, ‘now’ does not necessarily signal that the Topic Time is the present (i.e., the Utterance Time). Building upon prior literature, Altshuler (2016) documents many naturally produced examples of ‘now’ co-occurring with past tense, such as the following:

- (i) ... (A) huge male tiger... emerged from behind some rocks and bushes and lay down in a clearing close beside her. The tigress **now got up** again as if in a half daze... (Altshuler 2016:28)

On the other hand, given the judgments reported in fn. 28, it seems that the narrative contexts in (54) are not sufficient to license such uses of ‘now.’ However, the ability to imagine those sentences embedded within contexts that *would* license these special narrative uses of ‘now’ perhaps slightly improves speakers’ ratings of them, which is why they are only perceived as being ‘off,’ rather than entirely ungrammatical. Either way, the fact remains that English speakers do find the use of ‘now’ with past perfectives in structures like (54a) and (54b) to be anomalous.

<sup>30</sup>However, one might worry whether the Tlingit adverb *yeedát* is entirely equivalent to English ‘now,’ and whether it would also be expected to require the Topic Time to equal the Utterance Time in sentences like (55a,b). In response to this, it should be noted that in a survey of the Tlingit narratives collected in Dauenhauer and Dauenhauer (1987), 21/23 instances of *yeedát* appear within sentences translated as present tense English sentences. Of the remainder, one appears in an imperative, and just one appears within a sentence translated with a past tense:

- (i) **Yeedát** ku.aa de wé haanaa yaa akunalséin.  
 now though already DEM nearby PROG.3sgS.near  
 ‘But now it was near, getting closer.’ (Dauenhauer and Dauenhauer 1987:248)

It thus seems that like English ‘now,’ Tlingit *yeedát* can be used in richer narrative contexts with sentences describing past events, but its principle use is to denote the present time. I therefore conclude that it is warranted to assume that the conditions allowing Tlingit *yeedát* in non-present sentences are akin to those in English (if not even stricter).

- (55) a. Jáan táayin. **Yeedát** ku.aa  
 John IMPFV.3sgS.sleep.PST **now** though  
**shawdínúk.** (MD)  
**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  
**Yeedát** ku.aa hít **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.<sup>31</sup> 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 (56a), 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 (56b), the use of past perfect in the second sentence places the event of Bill’s sitting *prior* to Dave’s walking in the room.

- (56) 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.)<sup>32</sup>

- (57) a. Wudutaag<sup>één</sup> áwé.  
 3O.**PFV.IndefS.harpoon.PST** FOC  
 ‘He **had been** harpooned.’  
 (Dauenhauer and Dauenhauer 1987:112; line 77)

<sup>31</sup>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 (22), (23), which would be incompatible with the fact that UT is (or is at least ‘conceived as’) a temporal instant (Bennett and Partee 1978).

<sup>32</sup>It should also be noted that the decessive perfectives in these examples additionally seem to lack the ‘cancelled result’ and ‘unexpected result’ implications.

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  
that smallest though FOC paddle his end.toward  
awusháadeen.

## 3O.PFV.3S.grab.PST

‘But the smallest one, the one who **had picked** up the paddle towards him...’ (Dauenhauer and 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  
just how Q just painfully IndefO.PFV.3S.do.PST just  
a yáx.  
it like

‘Just as he **had done** painful things to them.’

(Dauenhauer et al. 2008:365; ln 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 et al. 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.”

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 and van der Auwera (2006) for other languages allegedly exhibiting ‘discontinuous past.’ That is, Plungian and 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.

- (58) 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.

(Translation from Bamana; Plungian and 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 and 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 (35)—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 (23b) and an interpretation as PERFECT.<sup>33</sup> 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 and Steedman (1988), Kamp and 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 (59a). Thus, a present perfect like *Dave has left* (59b) 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 (59c).

- (59) a. Semantics of ‘PERF’  
 $[[ \text{PERF} ]]^{\text{w,t,g}} =$   
 $[ \lambda Q_{\langle \text{et} \rangle} : [ \lambda t' : \exists e. Q(e) \ \& \ T(e) < t' \ \& \ t' \subseteq T(\text{RES}(e)) ] ]$
- b. LF of ‘Dave has left’:  $[_{\text{TP}} [_{\text{T}} \text{PRES} ]_i [ \text{PERF} [ \text{Dave leave} ] ] ]$
- c. Predicted Truth-Conditions:  
 $[[ (59b) ]]^{\text{w,t,g}} =$  defined only if  $g(i) = t$ , when defined, is T 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.

<sup>33</sup>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) a. 'Discontinuous' past perfect  
 (i) *LF Structure*:  $[_{TP} [_{T} \text{PST}]_i [ \text{PERF} [ \text{Dave leave} ] ] ]$   
 (ii) *Predicted Truth-Conditions*:  
 $[[ (60ai) ] ]^{w,t,g}$  is defined only if  $g(i) < t$ ; 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*:  
 $[[ (60bi) ] ]^{w,t,g}$  is defined only if  $\neg(t < g(i))$ ; 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 (60a) requires that the TT exclude the UT, while the NFUT perfect in (60b) allows the TT to contain the UT. Consequently, in a context where the speaker is assumed to know whether (60b) is true, the principle in (35)—repeated below as (61)—will cause sentence (60a) to trigger the pragmatic reasoning in (62).

(61) **Include 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.  $[[ T1 ] ]^{w,t,g}$  contains both  $t'$  and  $t$ , while  $[[ T2 ] ]^{w,t,g} = t'$ .
- c. Both S1 and S2 are 'assertable' (i.e., speaker's knowledge entails them).

(62) **The pragmatic reasoning generating the cancelled result inference**

Let us assume that the speaker has used a past tense perfect sentence S2, whose T-node denotes a past time  $t'$ .

- a. *By assumption, the speaker did not use a non-future perfect sentence S1, with a T-head denoting an interval covering both  $t'$  and the present time  $t$ .*
- b. S1 and S2 are identical except for the T-node (T1 and T2).
- c.  $[[ T1 ] ]^{w,t,g}$  contains both  $t'$  and  $t$ , while  $[[ T2 ] ]^{w,t,g} = t'$ .
- d. Given (61), *it must be that the non-future perfect sentence S1 is not assertable.*
- e. Past perfect sentence S2 entails that **the result state of the event (RES(e)) contains the past time  $t'$ .**
- f. Non-Future perfect sentence S1 entails that **the result state of the event (RES(e)) contains the past time  $t'$  and the utterance time  $t$ .**
- g. 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 (62), the combination of the result-state semantics for Perfect aspect in (59a) and our semantic/pragmatic machinery from Sect. 4 will straightforwardly yield the ‘cancelled result’ inference of optional-past marked perfects.<sup>34</sup> Such inferences directly follow as sub-cases of ‘cessation inferences,’ following exactly the same line of pragmatic reasoning as sketched out earlier in (38).<sup>35</sup> Furthermore, we correctly predict that these inferences will be cancelled in the exact same environments where the cessation inferences are cancelled: in contexts where the speaker is explicitly ignorant about present.

### 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 and van der Auwera themselves. Citing earlier sources, Plungian and 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 (63), 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).

- (63) On te l’avait dit!  
 they you 3sgO.PST.PERF said  
 ‘They had said it to you [≈ Didn’t I warn you?].’  
 (French; Plungian and 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

<sup>34</sup>An anonymous reviewer notes that this analysis assumes that ‘result states’ like RES(e) in (59)–(62) are what Parsons (1990) refers to as ‘target states.’ However, Parsons (1990) argues that the English perfect doesn’t refer to such ‘target states,’ but rather to more abstract ‘resultant states.’ Of course, one possibility is that the Tlingit PERF operator differs from English in this respect. I must leave exploration of this question to future work.

<sup>35</sup>Grønn (2003, 2007, 2008) derives the similar ‘annulled result’ inference for past imperfectives in Russian as a result of competition with the past perfective. Under his analysis, past perfectives are a more ‘canonical’ form for past events that have culminated. Consequently, the use of a past *imperfective* to describe a culminated past event signals that that event is somehow ‘non-canonical,’ and the listener infers that this ‘non-canonicity’ consists in the result of the event no longer being ‘relevant.’ Note that to extend this analysis to the similar inferences in Tlingit (and other languages with putative ‘discontinuous past’), we would have to assume that past *perfective* in Tlingit is not the canonical means for describing culminated past events, contrary to fact.

It’s also worth noting that under the analysis of Kagan (2011), the ‘cancelled result’ inference associated with the Russian particle *bylo* is encoded in the particle’s lexical semantics. Given the facts discussed in Sect. 5.1, such an analysis could not be extended to the cancelled result inferences associated with the Tlingit decessive, nor other languages where putative ‘discontinuous past’ appears within the antecedents of past counterfactual conditionals.

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 (63) 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 (Sect. 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.

- (64) 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”, and you did anyway. (cf. (44a))  
 c. He didn’t show up. **He had told** me that he would return. (cf. (46))

Furthermore, under our formal semantics for PERFECT (59a), the appearance of PERF in (63)–(64) is quite understandable. In these cases, the Topic Time of the sentence is the time of the unexpected consequence. Under the semantics in (59a), PERF would locate that time within the resulting state of the described event. For example, the past perfect in (64c) 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 (64). 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 (59a), 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.

## 6 Conclusion

Thanks to the in-depth descriptive work of such scholars as Leer (1991) and Plungian and 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 and 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 (22a) 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 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).<sup>36</sup>

<sup>36</sup>Note, however, that it is quite likely that of these four categories, only PAST and NON-FUTURE are truly ‘tenses’ (in the sense commonly intended by semanticists). Sauerland (2002) argues that ‘present’

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tense morphology is semantically vacuous, and 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).

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