THE IMPERFECTIVE SEMANTICS OF DURATIVE GEMINATION IN NORTHERN PAIUTE

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Like other Numic languages (Uto-Aztecan), Northern Paiute has a morphological process of durative gemination, which conveys some type of aspect. I describe the semantics of durative gemination in Northern Paiute, locating it within a typology of imperfective aspect emerging from the formal semantics literature. Like the imperfective aspect in other languages, durative gemination has an event-in-progress interpretation in addition to a number of other interpretations. Somewhat unexpectedly, one of these does not depict the internal structure of an event, but rather the event as a whole. I identify parallels between this completed interpretation for durative gemination in Northern Paiute and similar interpretations for the imperfective aspect in better-studied languages.

[KEYWORDS: Uto-Aztecan; aspect; imperfective; Aktionsart; semantics; Northern Paiute (pao)]

1. Introduction. There is a morphological process in the Numic branch of Uto-Aztecan languages, traditionally called “durative gemination,” which applies to verbs. In Northern Paiute (ISO code: pao), for instance, the verb *hibi* ‘drink’, whose basic form is illustrated in (1a–b), undergoes durative gemination to become *hipi*, as in (1c).

1 This paper is dedicated to the memory of Edith McCann (1925–2016), my language teacher and friend, whose commitment and patience made this work possible. I am also greatly indebted to Grace Dick and Madeline Stevens, who have continued to teach me about their language over the years. I thank Pranav Anand, Isabelle Charnavel, Sabine Iatridou, Andrés Salanova, Tim Thornes, and Sergei Tatevosov, as well as two anonymous reviewers and Editor David Beck, for their helpful questions and suggestions. I have learned a lot from audience members at the annual meeting of the Society for the Study of Indigenous Languages of the Americas in Portland and the Semantics of Under-Represented Languages in the Americas 8 conference at the University of British Columbia, as well as at Boston University and the University of California (Berkeley and Santa Cruz).

2 Transcriptions use the International Phonetic Alphabet, except that lenis *b*, *d*, *g*, *dz*, *m*, *n*, and *z* are [b ~ β], [d ~ r], [ɡ ~ γ], [dz ~ z], [m], [n], and [z ~ c], fortis *p*, *t*, *k*, *ts*, *mm*, *nn*, and *s* are [pʰ], [tʰ], [kʰ], [ʦː], [mː], [nː], and [ɕː], voiced fortis *bb*, *dd*, *gg*, and *dzː* are [bː h], [dː h], [ɡːh], and [ʣː], ‘ is [ʔ], and *y* is [j]. Any other double letters represent long vowels.

In the interliners, I use the following abbreviations: ACC = accusative, ADV = adverbial, COM = comitative, CONJ = conjunctive subject, CONT = continuous aspect, DEM = demonstrative, Dm = diminutive, DL = dual, DUR = durative gemination, EMPH = emphatic particle, EXCL = exclusive, F = feminine, GEN = genitive, HAB = habitual aspect, IMPF = imperfective aspect, INCEP = inceptive, INSTR = instrumental, INT = intensive, IP = instrumental prefix, LOC = postposition, NEG = negation, NMZ = nominalizer, NOM = nominative, PASS = passive, PAST = past tense, PERF = perfect aspect,
Despite its name, durative gemination is actually a fortition process for most verbs: if the onset of the final syllable is lenis (e.g., b, d, g), it becomes fortis (e.g., p, t, k). In terms of its meaning, this process likely conveys aspect. It is in complementary distribution with affixal aspect morphology, such as the perfective suffix (1a) and the progressive suffix (1b) (Snapp et al. 1982:63; Thornes 2003:414). Moreover, as shown by comparing (1c) with (1b), durative gemination can have the same event-in-progress reading that the progressive has.

To my knowledge, there has been no in-depth investigation of the semantics of durative gemination in any Numic language. In his grammar of Northern Paiute, Thornes (2003:413) describes the process as “typically interpreted as durative,” though something must be added to this description. Verbs such as pidɨ ‘arrive’ in (2a) can undergo durative gemination, as in (2c), even though they describe an instantaneous event without any duration.

(2a) Su=mogo’ni pidɨ–hu.
   NOM=woman arrive–PFV
   ‘The woman arrived.’
   (elicitation, EM, BP44-5, 33:41)

(2b) *Su=naatsi’i pidɨ–winni.
   NOM=boy arrive–PROG
   Intended: ‘The boy is arriving.’
   (elicitation, EM, BP44-4, 1:27:59)

Fieldwork data is also annotated with the relevant metadata: (i) how the data were collected (in a dialogue, through elicitation, in a narrative, or in a prompted narrative), (ii) the initials of the speaker who uttered the example or provided a judgement for the example (EM or MS), (iii) a number (starting with BP) identifying the source recording for the example, and (iv) the example’s location in the source recording (either a line number in the corresponding transcription of the recording or a timestamp). The source recordings and transcriptions are not currently available to the public at the request of the speakers, as they contain culturally sensitive and personal content.

PFV = perfective, PL = plural, PROG = progressive aspect, PROSP = prospective aspect, PRS = present tense, PTC = discourse particle, QUOT = quotative, REFL = possessive reflexive anaphor, SEQ = sequential suffix, SG = singular, SIM = simultaneous suffix, SUBJ = indicative subject.
Strikingly, when the verb *pidi* ‘arrive’ undergoes durative gemination, it conveys that the event of arriving has been completed. Unlike *hibi* ‘drink’, its interpretation in (2c) more closely parallels the interpretation it has with the perfective suffix in (2a). In fact, *pidi* ‘arrive’ is incompatible with the progressive suffix (2b).

Here, I provide a semantic description of durative gemination in Northern Paiute, locating it within a typology of imperfective aspect that emerges from the literature in formal semantics (Bonomi 1997; Cipria and Roberts 2000; Deo 2009; Arregui et al. 2014). After providing some background in 2 on tense and aspect in Northern Paiute, I show in 3 that durative gemination has much the same range of readings as the imperfective aspect in the better-studied Romance and Slavic languages. In addition to the event-in-progress reading illustrated in (1c), it also has a continuous reading and a habitual reading. It does not have the event-in-preparation reading that is available for the imperfective in some languages (e.g., French and other Romance languages).

Then, in 4, I identify another reading for durative gemination, which appears most plainly with achievement predicates that describe an instantaneous change-of-state event, such as *pidi* ‘arrive’ in (2a). This completed reading is also available with verbs that describe an event with duration, as I argue in 5, though it is only manifested in the interpretation that durative gemination receives in narrative discourse. It might seem easy to dismiss the completed reading as an idiosyncratic property of durative gemination in Northern Paiute since it deviates so significantly from the event-in-progress reading, which often is taken to exemplify the imperfective aspect. I conclude in 6 by drawing parallels between the completed reading that durative gemination has in Northern Paiute and similar well-documented, but seldom studied, readings for the imperfective aspect in Romance and Slavic languages.

The data in this paper come primarily from my fieldwork on the variety of Northern Paiute spoken at Mono Lake in eastern California and immediately to the north in Bridgeport and Coleville, California, and Sweetwater, Nevada. There are speakers of Northern Paiute in many other communities across, and immediately adjacent to, the Great Basin, including in western Nevada (Fallon, Lovelock, McDermitt, Pyramid Lake, Reno-Sparks, Winnemucca, Walker River, and Yerington), northeastern California (Fort Bidwell), southeastern Oregon (Burns, Warm Springs), and southern Idaho (Fort Hall). Although there is some variation across these dialects (Babel et al. 2012, 2013), they are largely mutually intelligible.

For all dialects, there are probably no more than 700 speakers today (Golla 2011:174). For the Mono Lake dialect, there are probably no more than five
speakers with varying levels of proficiency. In this paper, I have included both elicited and spontaneous speech from the two eldest, most fluent speakers of this dialect. I also present felicity judgements from the same speakers since they are necessary for investigating the subtle semantic interactions among verbs, aspectual morphology, and temporal expressions. Wherever possible I present spontaneously produced speech data.

2. Aspect in Northern Paiute. I start this investigation of durative gemination by surveying the other aspectual categories that Northern Paiute has in 2.1. Then, in 2.2, I discuss how tense is realized in Northern Paiute since tense and aspect often interact morphologically. Finally, in 2.3, I move on to durative gemination and its distribution relative to other aspectual morphology.

2.1. A brief survey of aspectual morphology. Northern Paiute primarily conveys aspect with the verbal affixes shown in table 1. When more than one form is listed, the primary one is from the Mono Lake dialect; the parenthetical form represents the Oregon dialect (Thornes 2003:398). These affixes were originally identified by Snapp et al. (1982:73–74) and Thornes (2003:398), though I have renamed some for clarity or based on my own analysis. The perfective is their “punctual” or “momentaneous,” the perfect is Thornes’s “perfective,” and the continuative is his “perfective-stative.”

<table>
<thead>
<tr>
<th>Affix</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>I –hu</td>
<td>perfective</td>
</tr>
<tr>
<td>–huka (–kuha)</td>
<td>inceptive</td>
</tr>
<tr>
<td>–pi</td>
<td>perfect</td>
</tr>
<tr>
<td>–pinni</td>
<td>continuative</td>
</tr>
<tr>
<td>–winni</td>
<td>progressive</td>
</tr>
<tr>
<td>II –dapi</td>
<td>’while lying down’</td>
</tr>
<tr>
<td>–kati</td>
<td>’while sitting’</td>
</tr>
<tr>
<td>–mi’a</td>
<td>’while going’</td>
</tr>
<tr>
<td>–nimmi</td>
<td>’while walking’</td>
</tr>
<tr>
<td>III –haggwi (–’yakwi)</td>
<td>habitual</td>
</tr>
<tr>
<td>–kwi</td>
<td>prospective</td>
</tr>
</tbody>
</table>

3 At the time of writing, Edith McCann was 90 years old and Madeline Stevens was 94 years old. They learned Northern Paiute as their first language and were introduced to English when they started school. Both trace their ancestry to Bridgeport, though they also have family from Mono Lake (Lee Vining) and Sweetwater. There are only a few differences in their speech; these consist entirely of very small lexical differences that reflect minor historical variation amongst the communities in the Mono Lake dialect area (e.g., tiba’a ‘pinenut’ in Lee Vining, but tiba elsewhere).
These aspectual affixes fall into three classes. The first class includes the perfective and the progressive suffixes, illustrated in (1a–b) above. These are in complementary distribution with one another, as well as with the perfect suffix –pi (3a), the inceptive suffix –huka (3b), and the continuative suffix –pinni, which can be glossed roughly as ‘still’ (3c).

(3a) Su=nana tɨbuni–hu. Ti=kaadzi madabbui–pi.
    NOM=man wake.up–PFV REFL=car fix–PERF
    ‘The man woke up. He had fixed his car.’
    (elicitation, EM, BP55-3, 32:59)

(3b) Su=naatsi’i ti=kaadzi madabbui–huka.
    NOM=boy REFL=car fix–INCEP
    ‘The boy started fixing his car.’
    (elicitation, EM, BP50-1, 37:27)

(3c) Su=naatsi’i ti=kaadzi madabbui–pinni.
    NOM=boy REFL=car fix–CONT
    ‘The boy is still fixing his car.’
    (elicitation, EM, BP50-1, 39:38)

Durative gemination also belongs to this class of aspectual morphemes, as I discuss in 2.3, though it does not involve affixation.

In the second class, postural and motion verbs in their durative form are joined to the verb, including –katɨ ‘while sitting’ (4a), –dapi ‘while lying down’ (4b), –mi’a ‘while going’ (4c), and –nimmi ‘while walking’ (4d).4

(4a) Su=mogo’ni hubia–du–kati.
    NOM=woman song–make–sit:DUR
    ‘The woman is sitting and singing.’
    (elicitation, EM, BP55-1, 4:03)

(4b) Su=mogo’ni hubia–du–dapi.
    NOM=woman song–make–lie.down:DUR
    ‘The woman is lying down and singing.’
    (elicitation, EM, BP55-1, 9:23)

(4c) Su=mogo’ni hubia–du–mi’a.
    NOM=woman song–make–leave:DUR
    ‘The woman is going and singing.’
    (elicitation, EM, BP56-3, 9:13)

4 Thornes (2003:420–21) argues that these are verbal suffixes and not just members of verb-verb compounds because valence-changing morphology can intervene between them and the verb stem.
(4d) Su=mogo’ni hubia–du–nimmi.
   NOM=woman song–make–walk:DUR
   ‘The woman is walking around singing.’
   (elicitation, EM, BP56-3, 9:42)

These are generally taken to contribute some kind of aspectual meaning, though they still entail a postural or motion component of meaning (Thornes 2003:416, 2009:309–10, 2011:38). For instance, –kati ‘while sitting’ cannot be used felicitously in a context where the woman is not sitting. (For the original data in this paper, ‘#’ indicates that speakers judged a sentence infelicitous in the context given.)

(5) Context: A woman is standing and singing.
   #Su=mogo’ni hubia–du–kati.
   NOM=woman song–make–sit:DUR
   ‘The woman is sitting and singing.’
   [EM: ‘[. . .] would be she’s sitting down and singing [. . .] instead of standing.’]
   (elicitation, EM, BP55-1, 7:17)

The progressive suffix arose diachronically from a postural verb of this kind (Thornes 2003:409). It is homophonous with the durative form of the verb wɨnɨ ‘stand’, though, as shown in (6), it no longer conveys any postural meaning.

(6) Context: The boy is sitting down in a chair and singing.
   Su=naatsi’i hubia–du–wɨnnɨ.
   NOM=boy song–make–prog
   ‘The boy is singing.’
   (elicitation, EM, BP55-1, 0:21)

A verb with the progressive suffix can describe an event that is not a standing event, suggesting that it has been grammaticized as a purely aspectual morpheme.

In the third class, aspectual suffixes co-occur with the perfective and progressive suffixes. The habitual suffix –heggwi (7) and the prospective suffix –kwɨ (8) can appear outside both the perfective and progressive suffixes.

(7a) Su=mogo’ni hubia–du–hu–heggwi.
   NOM=woman song–make–PFV–HAB
   ‘The woman sings now and then.’
   (elicitation, EM, BP52-6-s, 6)

(7b) Su=mogo’ni hubia–du–winni–heggwi.
   NOM=woman song–make–PROG–HAB
   ‘The woman sings now and then.’
   (elicitation, EM, BP56-3-s, 1)
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(8a) Su=nana  ti=kaadzi  madabbui–hu–kwɨ.
   NOM=man  REFL=car  fix–PFV–PROSP
   ‘The man is going to work on his car.’

(8b) Su=nana  ti=kaadzi  madabbui–winni–kwɨ.
   NOM=man  REFL=car  fix–PROG–PROSP
   ‘The man is going to work on his car.’

Thornes (2003:404–5) argues that –kwɨ conveys prospective aspect, as opposed to future tense, because it “functions equally well to mark impending events in a narrative set squarely in the past,” as in the passage below.

(9) Nɨmmi, ni=himma  tsa–hani–kwɨ–si,
   nimmi  na–pa–gia–kwɨ–si,  yaisi  usu
   mi=oo  aata–di  hayu  ni=nimai–’yakwi,
   PL=DEM  sit:PL–NMZ  how  1Pl:excl:ACC=tell–HAB
   “Talk English! Talk English!”
   ‘When we were taking off our things and were about to bathe, then that one of those were sitting there somehow kept telling us, “Talk English! Talk English!”’

(narrative, Thornes 2003:537)

In (9), the two clauses containing the prospective aspect describe events that take place not in the future of the time of utterance, but in the future of the past events.

2.2. Northern Paiute as a tenseless language. Verbs in Northern Paiute inflect for aspect, but not for tense (Thornes 2003:396; Toosarvandani 2016), as in Yukatec Maya (Bohnemeyer 2002), Kalaallisut (West Greenlandic: Shaer 2003; Bittner 2005), and Paraguayan Guaraní (Tonhauser 2011). Sentences do, however, get a default temporal interpretation that depends on aspect: present for the progressive (10a) and past for the perfective (10b).

(10a) Su=nana  ti=kaadzi  madabbui–winni.
   NOM=man  REFL=car  fix–PROG
   ‘The man is fixing his car.’
   [EM: “Yeah, he’s working on it now.”]

(elicitation, EM, BP46-3, 33:44)
(10b) Su=nana ti=kaadzi madabbui–hu.
    NOM=man REFL=car fix–PFV
    ‘The man fixed his car.’
    [MS: “He finished it, madabbuihu.”]
    (elicitation, EM and MS, BP44-4, 4:05)

This default interpretation can be overridden or reinforced with temporal
adverbials.

(11a) Mino’o ti=kaadzi madabbui–winni.
    now REFL=car fix–PROG
    ‘He is fixing his car now.’
    (elicitation, EM, BP50-1-s, 7)

(11b) Mino’o ti=kaadzi madabbui–hu.
    now REFL=car fix–PFV
    ‘He just fixed his car now.’
    (elicitation, EM, BP50-1-s, 10)

(12a) Idzi’i ti=kaadzi madabbui–winni.
    yesterday REFL=car fix–PROG
    ‘He was fixing his car yesterday.’
    (elicitation, EM, BP44-4, 8:00)

(12b) Idzi’i ti=kaadzi madabbui–hu.
    yesterday REFL=car fix–PFV
    ‘He fixed his car yesterday.’
    (elicitation, EM, BP44-4-s, 4)

The adverb mino’o ‘now’ locates the time of a sentence at the utterance time,
regardless of aspect (11a–b). Similarly, idzi’i ‘yesterday’ locates it at a time
prior to the utterance time (12a–b).

In this respect, durative gemination often patterns like the progressive as-
pect. It can receive a default present interpretation (13), though this is re-
inforced or overriden by temporal adverbials (14a–b).

(13) Su=nana ti=kaadzi madabbu’i.
    NOM=man REFL=car fix:DUR
    ‘The man is fixing his car.’
    [MS: “That’s he’s doing it now [. . .]” EM: “Means he’s fixing
    his car now.”]
    (elicitation, EM and MS, BP44-4, 3:34)

(14a) Mino’o su=nana ti=kaadzi madabbu’i.
    now NOM=man REFL=car fix:DUR
    ‘The man is fixing his car now.’
    (elicitation, EM, BP55-1, 31:55)
(14b) \(\text{Idzi’i} \quad \text{su=nana} \quad \text{ti=kaadzi} \quad \text{madabbu’i}.\)
\text{yesterday} \quad \text{NOM=man} \quad \text{REFL=car} \quad \text{fix:DUR}

‘The man was fixing his car yesterday.’

(elicitation, EM, BP55-1, 32:22)

Crucially, in (11), (12), and (14), the form of the verb does not change: the temporal interpretation of these sentences is constrained entirely by the temporal adverbial.

2.3. The distribution of durative germination. With this background in place, the only remaining aspectual morphology to be considered is durative gemination. In the broader Numic literature, it is usually characterized as a stem alternation: see Lamb (1957:246) on Mono, Crum and Dayley (1993:94) on Shoshoni, Dayley (1989:63) on Timbisha, Charney (1993:149) on Comanche, and Zigmond et al. (1990:96) on Kawaiisu. For Northern Paiute, however, Snapp et al. (1982:63–64) and Thornes (2003:413–14) show that it is a more general process that applies to verbs whenever it can.

When a verb bears an aspectual suffix, such as the perfective suffix in (15a–c), it appears in its basic form.

(15a) **Nɨɨ habi–hu.**
\text{1sg:nom lie.down–pfv}

‘I lay down.’

(elicitation, EM, BP45-5, 13:55)

(15b) **Nɨɨ tɨ=ddoogga mayɨ–hu.**
\text{1sg:nom refl dog find–pfv}

‘I found my dog.’

(elicitation, EM, BP49-5, 1:25:50)

(15c) **Su=nana tɨ=kaadzi madabbui–hu.**
\text{nom=man refl=car fix–pfv}

‘The man fixed his car.’

(elicitation, EM and MS, BP44-4, 4:04)

When there is no aspectual suffix present, as in (16a–c), the verb must undergo durative gemination instead (Snapp et al. 1982:63; Thornes 2003:414).

(16a) **Nɨɨ hapi.**
\text{1sg:nom lie.down:dur}

‘I’m lying down.’

(elicitation, EM, BP46-7, 1:00:42)

(16b) **Nɨɨ ti=ddoogga ma’yi.**
\text{1sg:nom refl=dog find:dur}

‘I found my dog.’

(elicitation, EM, BP51-4, 00:50)
(16c) Su=nana ti=kaadzi madabbu’i.
    NOM=man REFL=car fix:DUR
    ‘The man is fixing his car.’
    (elicitation, EM, BP44-4-s, 1)

The actual form that durative gemination takes is conditioned by the phonological shape of the verb (Snapp et al. 1982:63). When the onset of the final syllable is a lenis stop or fricative, it becomes fortis (16a). When the onset of the final syllable is a glide, a glottal stop is inserted instead (16b). This also happens when there is no onset (16c).

Some verbs do not undergo durative gemination. When the onset of the final syllable is already fortis, or if it is a consonant that does not exhibit a fortis-lenis contrast (i.e., the glottal segments ’ and h), then the verb has the same form both with an aspectual suffix (17a) and without it (17b) (Thornes 2003:23).

(17a) Su=mogo’ni ka=poo wokwopa–hu.
    NOM=woman ACC=road cross–PFV
    ‘The woman crossed the road.’
    [EM: “Means she’s already through. She already crossed the road.”]
    (elicitation, EM, BP56-1, 54:11)

(17b) Su=mogo’ni ka=poo wokwopa.
    NOM=woman ACC=road cross:DUR
    ‘The woman is crossing the road.’
    [EM: “Yeah, she’s still doing it.”]
    (elicitation, EM, BP56-1, 54:00)

Even when wokwopa ‘cross’ occurs without any overt aspectual morphology, as in (17b), it still expresses aspect. Given the translation and the speaker’s comments, this is likely the same type expressed by durative gemination (Thornes 2003:23).

Durative gemination is not just a stem alternation in Northern Paiute: it targets the final syllable of the verb, even if this is in a suffix (Snapp et al. 1982:63–64). For instance, one class of motion suffixes, including the motion away suffix –gaa, undergoes durative gemination in lieu of the verb stem

5 In Numic languages, consonants in word-medial position contrast in complex ways according to their manner of articulation. In the Mono Lake dialect of Northern Paiute, which I report on here, plosives and affricates exhibit a three-way contrast between lenis (short voiced unaspirated: i.e., b, d, g, dz), fortis (long voiceless aspirated: i.e., p, t, g, ts), and voiced fortis (long voiced aspirated: i.e., bb, dd, gg, ddz); fricatives exhibit a two-way contrast between lenis (short voiced: i.e., z) and fortis (long voiceless: i.e., s); and nasals exhibit a two-way contrast between lenis (short: i.e., m, n) and fortis (long: i.e., mm, nn) (Babel et al. 2012).
(18b–c). Of course, without this motion suffix, it is the verb stem itself that undergoes the process (19a–b).

(18a) Nɨɨ ka=tɨhɨdda nagi–gaa–hu.
1SG:nom acc=deer chase-away:pfv
‘I chased the deer away.’
(elicitiation, EM, BP56-3, 3:35)

(18b) Nɨɨ ka=tɨhɨdda nagi–gaa’a.
1SG:nom acc=deer chase-away:dur
‘I am chasing the deer away.’
(elicitiation, EM, BP51-1-s, 1)

(18c) *Nɨɨ ka=tɨhɨdda naki–gaa.
1SG:nom acc=deer chase:pfv
‘I chased the deer.’
(elicitiation, EM, BP56-3, 1:43)

(19a) Nɨɨ ka=tɨhɨdda nagi–hu.
1SG:nom acc=deer chase:pfv
‘I chased the deer.’
(elicitiation, EM, BP56-3, 0:51)

(19b) Nɨɨ ka=tɨhɨdda naki.
1SG:nom acc=deer chase:dur
‘I am chasing the deer.’
(elicitiation, EM, BP56-3, 0:29)

Taken together, these data show that durative gemination in Northern Paiute is a general process that applies to verbs whenever it can. Given its complementary distribution with aspectual suffixes, it is likely that durative gemination conveys aspect. In 3, I describe what type of aspect this is.

3. The semantics of durative germination. There is little discussion of the semantics of durative gemination in the Numic literature. It is usually described as drawing attention to the length of an event. For Northern Paiute, Thornes (2003:413) only says that the process conveys “[a]n aspectual distinction typically interpreted as durative.” By this description, durative gemination most closely resembles the imperfective aspect, which according to Comrie’s (1976:4) traditional characterization “make[s] explicit reference to the internal temporal constituency of the situation.” In this regard, the imperfective aspect contrasts with the perfective aspect, which again according to Comrie “presents the totality of the situation referred to” (p. 4).

There are many theories of imperfective aspect. At the risk of oversimplifying, I adopt a generalized version of several related theories of imperfective aspect within formal semantics (Bonomi 1997; Cipria and Roberts 2000; Deo

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2009; Arregui et al. 2014). Although the details of their implementation differ, they all assume that the imperfective, like other types of aspect, maps a situation described by the predicate to a contextually salient time interval (or to a parallel object with temporal extent). For ease of discussion, I refer to this as the “topic time,” following Klein, who describes it as “the time span to which the speaker’s claim on this occasion is confined” (1994:4). 6 The topic time need not overlap the actual time of speaking. This can be shown with temporal adverbs, such as yesterday in (20), which constrain the location of the topic time (Partee 1984:257).

(20) Yesterday, she arrived in France.

When this sentence is uttered, the topic time must be some time interval in the day before the time of utterance.

Within this framework, the imperfective aspect has different readings depending on how a situation described by the predicate is related to the topic time. At the very least, the imperfective “allows reference to incomplete or ongoing situations” (Deo 2009:475) because it has an event-in-progress reading, which it shares with the progressive aspect. Unlike the progressive, however, the imperfective has other readings, each corresponding to a different mapping between a situation and the topic time. In Romance (French, Italian, Spanish) and Slavic (Russian) languages, the imperfective can have a habitual reading (Bonomi 1997; Cipria and Roberts 2000; Deo 2009), a continuous reading (Cipria and Roberts 2000; Deo 2009), and an event-in-preparation reading (Arregui et al. 2014).

Importantly, the imperfective does not have each of these readings in every language. To account for the uniformity in its meaning, while still allowing for variation across languages, formal semantic theories seek to identify a shared semantic core for the imperfective aspect, which can be filled in pragmatically to produce different mappings between a situation described by a predicate and the topic time. Languages differ in how they allow the context to supplement the semantics in this way, giving rise to the observed cross-linguistic variation in the readings that are available.

I characterize the different readings of the imperfective aspect more precisely below, identifying which of them durative gemination in Northern Paiute has. In addition to the event-in-progress reading (3.1), it has the continuous reading (3.2) and the habitual reading (3.3). Durative gemination does not have the event-in-preparation reading that is found with the imperfective in Romance languages (3.4). There is an additional reading for durative

6 Klein’s notion of a topic time is related, though not identical, to the notions of a “reference time” (Reichenbach 1947) or “topic situation” (Kratzer 2014). For present purposes, the differences are not relevant.
3.1. The event-in-progress reading. The most canonical reading for the imperfective aspect—the one that Comrie (1976) characterizes above—is the event-in-progress reading. Under this reading, an event described by the predicate does not terminate within the topic time and is in progress throughout that time. This is illustrated in (21), where \( e \) stands for the event and \( t \) for the topic time. (The open and close parentheses indicate the beginning and end points, respectively, of an event.)

\[
(21)
\]

The event-in-progress reading arises with accomplishment and activity predicates. Verbs from these \textit{Aktionsart} classes all describe events with duration: whereas accomplishments are telic and have an inherent end point, activities are atelic, lacking an inherent end point (Vendler 1957:146).

Importantly, under the event-in-progress reading, the imperfective exhibits Dowty’s (1979:133) imperfective paradox. With accomplishment predicates, it does not require the event to culminate within the actual world (Cipria and Roberts 2000:324; Arregui et al. 2014:327). The branching timeline in (21) represents the possible ways that the world could develop after the topic time. Along some of them—any of which might correspond to what really happens—the event never reaches its natural end.

Since English does not have the imperfective aspect, I use Romance languages to illustrate the event-in-progress and other readings. In the French sentences in (22a–b), the imperfective has an event-in-progress reading because it describes an event that does not terminate within the topic time. It is hence compatible with a continuation asserting that the event is still ongoing at some subsequent time.

\[
(22a) \quad \text{L’été passé ils bâtiss–aient une cabine; peut-être qu’–ils la batiss–ent encore.}
\]

‘Last summer they were building a cabin; perhaps they are still building it.’
(22b) Ce matin elle chantait; peut-être qu’–elle chant–e encore
‘This morning she was singing; perhaps she is still singing.’

(23) Le chien traversait la route, quand il s’est fait écraser par un autobus.
‘The dog was crossing the street when it was run over by a bus.’

There might be some possible states of affairs in which the dog successfully reaches the other side of the street—for instance, ones in which there is no bus or the dog is moving just a bit faster—but the imperfective does not require our world to be one of them.

Durative gemination in Northern Paiute has an event-in-progress reading with accomplishment and activity verbs. For both, it is compatible with a continuation asserting that the event is still ongoing. 7

(24a) Amamu’a su=nana ti=kaadzi madabbui. Yaisi mino’o tiggwisu madabbui–winni.
‘This morning, the man was fixing his car. He is sill fixing it now.’


7 It is possible to identify the underlying Aktionsart of predicates in Northern Paiute using several diagnostics that are described elsewhere (Toosarvandani 2014).
‘Yesterday, the boy was singing. He is still singing.’
[EM: “Probably sing all night, init?” MS: “That’s what it sounds like.”]

(elicitation, EM, BP47-9, 30:54)

For the accomplishment predicate $tɨ=kaadzi maddabui$ ‘fix one’s car’ in (24a), durative gemination does not require the event to culminate since it is not contradictory to then assert that the event of fixing the car is still going on. For the activity verb $hubiadu$ ‘sing’ (lit. ‘song make’) in (24b), durative gemination is compatible with an interpretation in which the singing continues without interruption until the present time.

In this respect, durative gemination parallels the progressive aspect. It, too, is compatible with an assertion of continuation for both accomplishments (25a) and activities (25b). Again, for the latter, the progressive can describe a singing event that continues uninterrupted until the present time.

(25a) Amamu’a su=nana ti=kaadzi madabbui–winni. Yaisi
tɨ=kaadzi maddabui–wɨnnɨ. Yaisi
morning NOM=man REFL=car fix–PROG PTC

mino’o tiggwisu madabbui–winni.
now still make–PROG

‘This morning, the man was fixing his car. He is still fixing it now.’
(elicitation, MS, BP46-7, 3:10)

(25b) Idzi’i su=naatsi’i hubia–du–winni. Yaisi
tɨggwisu
yesterday NOM=boy song–make–PROG PTC still

hubia–du–winni.
song–make–PROG

‘Yesterday, the boy was singing. He is still singing.’
[EM: “He sang all night long.”]
(elicitation, EM, BP47-9, 33:00)

By contrast, verbs in the perfective aspect—which describe an event in its totality, including its end point—behave differently when followed by an assertion that the event continues.

(26a) Amamu’a su=nana ti=kaadzi madabbui–hu. #Yaisi
morning NOM=man REFL=car fix–Pfv PTC

mino’o. tiggwisu madabbui–winni.
now still fix–PROG

Intended: ‘This morning, the man fixed his car. He’s still fixing it now.’

[MS: “No, he don’t cuz he’s already finished it, and then. . . .”
EM: “Yeah, he already done it in the morning, so. . . He finished it in the morning.”]
(elicitation, MS and EM, BP46-7, 2:09)
Idzi’i su=naatsi’i hubia–du–hu. Yaisi tiggwisu yesterday NOM=boy song–make–PFV PTC still
hubia–du–wɨnnɨ.
song–make–PROG
‘This morning, the boy finished singing. He’s still singing (again).’
[EM: “He sang yesterday, then he started to sing again, today.”]
(elicitation, EM, BP47-6, 4:06)

For the accomplishment predicate in (26a), the perfective aspect describes an entire fixing event that culminates, producing a contradiction with the assertion that the event is still in progress at a later time. For the activity predicate in (26b), it can only describe a singing event that is completed, since the continuation describes another singing event, which begins later.

Durative gemination also does not require the event described by an accomplishment predicate to culminate in the actual world.

Context: The woman is making a basket. When she is halfway done, someone sets it on fire and it burns up.

Su=mogo’ni ka=opo madabbu’i. Yaisi ne–hu.
NOM=woman ACC=basket make:DUR PTC burn–PFV ‘The woman was making the basket. It burned up.’
(elicitation, EM, BP56-1, 1:06:42)

Su=mogo’ni ka=opo madabbui–wɨnnɨ. Yaisi ne–hu.
NOM=woman ACC=basket make–PROG PTC burn–PFV ‘The woman was making the basket. It burned up.’
(elicitation, EM, BP56-1, 1:03:59)

Su=mogo’ni ka=opo madabbui–hu. Yaisi ne–hu.
NOM=woman ACC=basket make–PFV PTC burn–PFV ‘The woman made the basket. It burned up.’
[EM: “She finished it, and then it got burnt.”]
(elicitation, EM, BP56-1, 1:08:00)

The sentence with durative gemination in (27a) is felicitous even though the event of the woman making a basket never culminates, because it burns up before it has been finished. Again, this matches the behavior of the progressive aspect (27b). As expected, a parallel sentence with the perfective aspect, which requires the event to actually culminate, is infelicitous in the same context (27c).

A final piece of evidence shows that durative gemination has an event-in-progress reading. Since this reading requires the topic time to be contained within the event, a temporal adverbial that delimits or frames the topic time should be able to describe a time interval that is contained within the event (Cover and Tonhauser 2015). Indeed, the temporal adverbial wahaggwe ‘at
two o’clock’ identifies a point in time, which can be located within the event described by a verb that has undergone durative gemination.

(28) Context: The man started fixing his car at 1:00; he finished fixing it at 3:00.

\[ \text{Waha–ggwe su=nana ti=kaadzi madabbu’i.} \]
\[ \text{two–LOC NOM=man REFL=car fix:DUR} \]

‘At two o’clock, the man was fixing his car.’
( elicitation, EM, BP51-5, 7:02)

The sentence in (28) is felicitous in a context where the fixing event extends through two o’clock. This again parallels the behavior of the progressive (29a), but not the perfective (29b).

(29a) Context: The boy started fixing his car at 1:00; he finished fixing it at 3:00.

\[ \text{Waha–ggwe su=naatsi’i ti=kaadzi madabbui–winni.} \]
\[ \text{two–LOC NOM=boy REFL=car fix–PROG} \]

‘At two o’clock, the boy was fixing his car.’
( elicitation, EM, BP50-2, 45:33)

(29b) \#\[ \text{Waha–ggwe su=nana ti=kaadzi madabbu–hu.} \]
\[ \text{two–LOC NOM=man REFL=car fix–PFV} \]

Intended: ‘At two o’clock, the man fixed his car.’
( elicitation, EM, BP51-6, 38:00)

The parallel sentence with the progressive aspect in (29a) is judged felicitous in a context where the event extends from one to three o’clock. In contrast, since the perfective aspect requires the topic time to contain the event, it is infelicitous in the same context (29b). The entire event of fixing the car would have to be contained within the two o’clock time, which is not possible given how the world works.

3.2. The continuous reading. The imperfective aspect also has what is called a “continuous” reading with stative predicates. States are situations with undifferentiated internal structure and without inherent initial or end points (Smith 1997:32). Under the continuous reading of the imperfective, a state simply holds throughout the topic time (Cipria and Roberts 2000:323; Deo 2009:476; Arregui et al. 2014:319).

\[ \text{(30)} \]
\[ \text{s} \]
\[ \text{t} \]

In (31), again from French, the verb in the imperfective describes a state of indeterminate length that holds during a past time interval.
‘Martha was living in Paris.’

(Smith 1997:200)

To get a better sense for the continuous reading, compare this French sentence with its English translation. This paraphrase is not, in fact, adequate. It uses the progressive aspect, which lacks the continuous reading, and hence describes a situation of living that “is temporally contingent and subject to change” (Deo 2009:478). The original French, which uses the imperfective, does not describe such a transitory state.

Durative gemination in Northern Paiute has the same continuous reading with stative predicates, such as pisabi ‘like’.

(32) Su=naatsi’i ti=ddoogga pisapi.
NOM=boy refl=dog like:DUR
‘The boy likes his dog.’

[EM: “He likes it now. Well, he likes it all the time, I guess.”] (elicitation, EM, BP46-2, 30:18)

This contrasts with the parallel sentence in (33), which uses the progressive and describes a liking state that is temporally contingent and subject to change. Speakers report that it only lasts for a short period of time.

(33) Su=naatsi’i ti=ddoogga pisabi–winni.
NOM=boy refl=dog like–PROG
‘The boy is liking his dog.’

[EM: “Pisabiwinni would be just for a short time, yeah [. . .]”] (elicitation, EM, BP52-4, 9:28)

By comparison, from the speaker’s comments in (32), it is clear that durative gemination has a continuous reading in which the state holds for an indeterminate amount of time.

3.3. The habitual reading. In many languages, the imperfective aspect has a habitual reading, which describes what typically happens. Under one characterization of this reading, all typical events within the topic time are events described by the predicate (Cipria and Roberts 2000:325; Arregui et al. 2014:317).

(34) $e \quad e \quad e$

$\leftarrow \rightarrow \leftarrow \rightarrow$

The typical events—the ones that are characteristic, normal, or usual—are determined jointly by the context and the content of the utterance. In (35)
(French), the mother typically tells fairy tales to her son in the evening during the topic time, which is some contextually salient time period in the past.

(35) Sa mère lui rancont–ait des contes de fées tous les soirs.
his mother him tell–3SG:PAST:IMPF some tales of fairies all the evenings

‘His mother would tell him fairy tales every evening.’

(Smith 1997:199)

In English, this kind of meaning is conveyed by the modal auxiliary would, as in the translation above, and by adverbs such as typically, normally, characteristically, or usually.

Durative gemination in Northern Paiute has a habitual reading. Speakers use it voluntarily to translate sentences in English that describe an event that occurs typically.

(36) Yonona=sabbɨ nɨɨ sa’a.
evening=only 1SG:NOM cook:DUR

‘I cook only in the evenings.’

(elicitation, MS, BP12-5-s, 1)

In addition, in response to a question about what the woman generally does on Sundays, it is possible to answer felicitously as in (37), with a verb in its durative form.

(37) Q: Hau su=mogo’ni managgwi–heggwi a=nadzaddii–no’o?
how NOM=woman do–HAB 4.GEN=Sunday–LOC

‘What does the woman do on Sundays?’

A: Su=mogo’ni hubia–tu.
NOM=woman song–make:DUR

‘The woman sings.’

(elicitation, EM, BP56-1, 1:15:49)

By contrast, the progressive aspect is infelicitous in response to the same question, as the first answer in (38) shows. Based on the speaker’s comments, the progressive can only express a statement about a single occurrence of an event. As the second answer in (38) shows, the perfective aspect also does not allow a habitual reading.

(38) Q: Hau su=mogo’ni managgwi–heggwi a=nadzaddii–no’o?
how NOM=woman do–HAB 4.GEN=Sunday–LOC

‘What does the woman do on Sundays?’
nom=woman song–make–prog  
Intended: ‘The woman sings.’  

[EM: “Well, what she’s doing right now, I guess. Hubiaduwinni, she’s singing.”]

(elicitation, EM, BP56-4, 28:41)

A2: #Su=mogo’ni hubia–du–hu.  
nom=woman song–make–pfv  
Intended: ‘The woman sings.’  

[EM: “Means just once that she sang.”]

(elicitation, EM, BP56-1, 1:17:20)

In addition to the event-in-progress and continuous readings, then, durative gemination has a habitual reading as well.

3.4. The event-in-preparation reading.  In some languages, the imperfective aspect also allows for an event-in-preparation reading. This reading describes an event whose preparatory stages overlap with the topic time; if the event begins at all, it does so after the topic time (Arregui et al. 2014:327).

(39)

\[
\begin{array}{c}
\vline \\
\hline
\text{t} \\
\hline
\vline \\
\end{array}
\]

In (40), from Spanish, the verb in the imperfective describes some preparatory period before a going-to-the-beach event, which holds during some past time. In this case, the event never actually occurs, as the second clause explicitly asserts.

(40) Hasta ayer, ibamos a la playa de vacaciones,  
until yesterday, go:past:impf:1pl to the beach on vacation  
pero hoy Pepa dijo que no hay dinero para eso.  
but today Pepa say:past:pfv:3sg that not exist:prs money for that  
‘Up until yesterday we were going to the beach on vacation, but today Pepa said that there is no money for that.’  

(Cipria and Roberts 2000:300)

Whereas the event-in-preparation reading is common for the imperfective in Romance languages, it is either not mentioned in descriptions of Slavic languages or it is explicitly described as impossible (Arregui et al. 2014:322).
Like the imperfective in Slavic languages, durative gemination in Northern Paiute does not have an event-in-preparation reading. In a context where a woman prepares to climb a mountain but never actually does so, durative gemination is infelicitous (41a). To convey the intended meaning, speakers instead offered a parallel discourse with the prospective aspect, as in (41b).

(41a) Context: The woman was ready to climb the mountain. The day before she started, she had a heart attack and died.

#Mu’a su=mogo’ni ka=kaiba pu’ya. Idzi’i
tomorrow NOM=woman ACC=mountain climb:DUR yesterday
u=bbiwi kati–hu–si, ya’i–hu.
3SG:GEN=heart sit–PFV–SEQ die–PFV

Intended: ‘The woman was going to climb the mountain tomorrow. Yesterday, she had a heart attack and died.’

(elicitation, EM, BP55-1, 1:10:20)

(41b) Mu’a su=mogo’ni ka=kaiba puya–kwɨ. Idzi’i
tomorrow NOM=woman ACC=mountain climb–PROSP yesterday
u=bbiwi kati–hu–si, ya’i–hu.
3SG:GEN=heart sit–PFV–SEQ die–PFV

‘The woman was going to climb the mountain tomorrow. Yesterday, she had a heart attack and died.’

(elicitation, EM, BP55-1, 1:11:05)

Since durative gemination cannot be used to describe the preparatory stages before an event begins, it does not have the event-in-preparation reading.

4. Another reading for durative gemination. We saw above that durative gemination in Northern Paiute has much the same range of readings as the imperfective aspect in other languages: event-in-progress, continuous, and habitual. There is, however, another reading for durative gemination, one that is most clearly available with verbs such as mayɨ ‘find’.

(42) Nɨɨ ti=ddoogga ma’yɨ.
1SG:NOM refl=dog find:DUR
‘I found my dog.’

[EM: “You already found him.”]

(elicitation, EM, BP51-4, 0:50)

For now, looking just at the translation and the speaker’s comments, the sentence in (42) can have a reading other than the habitual because it can describe a single finding event. This is not a continuous reading, however, since mayɨ ‘find’ does not describe a state. Nor is it an event-in-progress reading: the finding event is not described as ongoing.
Instead, when *mayɨ* ‘find’ undergoes durative gemination, it has what I call a “completed” reading. In this it is not alone, as other achievement verbs can have the same reading. Predicates from this *Aktionsart* class describe an instantaneous change-of-state event in which the patient goes from not having some property to having it. This can be the property of being found, another physical property, or simply the property of being in a certain location or position (Vendler 1957:147; Dowty 1979:77).

In 4.1, I provide a characterization of the completed reading for durative gemination in terms of how the event is related to the topic time. This correctly predicts that, with at least some achievement predicates, durative gemination entails that the event culminates. Somewhat mysteriously, other achievement predicates do not have a culmination entailment when they undergo durative gemination. I argue in 4.2 that there are multiple classes of achievements in Northern Paiute, some of which allow for one of durative gemination’s other readings, in addition to the completed reading. Finally, in 4.3, I examine the availability of the completed reading with predicates from other *Aktionsart* classes.

4.1. The completed reading. As a first approximation, I propose that when durative gemination has the completed reading, the topic time contains the event in its entirety. This contrasts with the event-in-progress and continuous readings, which locate the topic time within an event or state. The completed reading is illustrated in (43) for the instantaneous change-of-state event described by an achievement verb such as *mayɨ* ‘find’.

(43)

```
\begin{tikzpicture} 
\node (e) at (0,0) {
\textit{e} \hspace{1cm} \textit{t}};  
\end{tikzpicture}
```

This mapping is identical to the mapping imposed by the perfective aspect (Kratzer 1998:107). Consequently, under the completed reading, a verb describes roughly the same state of affairs when it undergoes durative gemination as when it bears the perfective suffix.

The completed reading can be demonstrated directly with temporal adverbials that constrain the topic time. In (44), *wahaggwe* ‘two o’clock’ restricts the topic time to the two o’clock time, which is able to contain the entire instantaneous change-of-state event described by *mayɨ* ‘find’.

(44)

```
\begin{minipage}{\textwidth} 
\textbf{Waha--ggwe} su=naatsi’i ka=ddoogga \textbf{ma’yi}. 
\hspace{1cm} \textbf{two–LOC} \textit{nom}=boy \textit{acc}=dog \textbf{find:DUR} 
\end{minipage} 
```

‘At two o’clock, the boy found his dog.’

*(elicitation, EM, BP49-6, 25:25)*

In addition, when *mayɨ* ‘find’ undergoes durative gemination, it gives rise to what Altshuler (2010:9) calls a “culmination entailment.” It necessarily expresses that the event culminates, as shown in (45).
northern paiute durative gemination

(45) Su=naatsi’i ti=ddoogga ma’yɨ. #Yaisi kaisu
\[\text{NOM}=\text{boy} \quad \text{REFL}=\text{dog} \quad \text{find:DUR} \quad \text{PTC} \quad \text{not.yet}\]
\[\text{u}=\text{mayi–maggwɨ–hu.} \quad \text{3SG:ACC}=\text{find–finish–PFV}\]

‘The boy found his dog. He hasn’t found it yet.’

[EM: “It don’t make sense [. . .] he’s already found the dog.”]
(elicitation, EM, BP56-1, 46:52)

The finding event described by the first sentence necessarily culminates because it is incompatible with an assertion of noncompletion. This culmination entailment arises because mayi ‘find’ can only have the completed reading, not the event-in-progress or continuous reading. When it undergoes durative gemination, the topic time invariably contains the entire finding event, including its culmination.

Not all achievement predicates behave in exactly the same way when they undergo durative gemination. On the one hand, verbs such as tsibui ‘emerge’ describe an event that can be contained in its entirety within the topic time (46a); it does not, however, give rise to a culmination entailment (46b).

(46a) Waha–ggwe su=naatsi’i nabagia–na–ggwe tsibu’i.
\[\text{two–LOC} \quad \text{NOM}=\text{boy} \quad \text{bathe–NMZ–LOC} \quad \text{emerge:DUR}\]

‘At two o’clock, the boy got out of the bathtub.’

(elicitation, EM and MS, BP47-3, 44:06)

(46b) Su=naatsi’i nabagia–na–ggwe tsibu’i. Yaisi kaisu
\[\text{NOM}=\text{boy} \quad \text{bathe–NMZ–LOC} \quad \text{emerge:DUR} \quad \text{PTC} \quad \text{not.yet} \quad \text{tsibui–maggwɨ–hu.} \quad \text{emerge–finish–PFV}\]

‘The boy was getting out of the bathtub. He hasn’t gotten out yet.’

(elicitation, EM, BP52-5, 48:10)

On the other hand are verbs that appear, at first glance, to behave just like mayi ‘find’. The verb mia ‘leave (to go away)’ describes an event that can be contained within the topic time (47a) and gives rise to a culmination entailment (47b).

(47a) Waha–ggwe su=mogo’ni mi’a.
\[\text{two–LOC} \quad \text{NOM}=\text{woman} \quad \text{leave:DUR}\]

‘At two o’clock, the woman left.’

(elicitation, EM, BP51-5, 17:27)
(47b) Amamu’a su=naats’i’ mi’a. #Yaisi kaisu
morning NOM=boy leave:DUR PTC not.yet
mia–maggwi–hu.
leave–finish–PFV
‘This morning, the boy left. He hasn’t left yet.’
[EM: “The boy left this morning. Kaisu miamaggwihu . . . well, sound like that he’s not gone yet [. . .] It don’t make sense.”]
(elicitation, EM, BP51-1, 2:00)

However, when mia ‘leave (to go away)’ undergoes durative gemination, it also allows for the topic time to be located after the change-of-state event (48a). By contrast, the topic time cannot be located after the finding event for mayɨ ‘find’ (48b) or after the emerging event for tsibui ‘emerge’ (48c).

(48a) Context: The woman left at 1:00. She reached her destination at 3:00.
Waha–ggwe su=mogo’ni mi’a.
two–LOC NOM=woman leave:DUR
‘At two o’clock, the woman was going away.’
(elicitation, EM, BP51-5, 10:47)

(48b) Context: The woman found her dog at 1:00.
#Waha–ggwe su=mogo’ni ti=dduisi ma’yɨ.
two–LOC NOM=woman REFL=pet find:DUR
Intended: ‘At two o’clock, the woman had found her pet.’
[EM: “ Probably that’s not true. She can’t find him at one, then two again. She already found it.”]
(elicitation, EM, BP51-5, 13:50)

(48c) Context: The old man got out of the bathtub at 1:00.
#Waha–ggwe su=wa’itsi nabagia–na–ggwe tsibu’i.
two–LOC NOM=old man bathe–NMZ–LOC emerge:DUR
Intended: ‘At two o’clock, the old man had gotten out of the bathtub.’
[EM: “[. . .] well I thought he got out at one.”]
(elicitation, EM, BP53-4, 46:20)

I gloss mia as ‘leave (to go away)’ because the topic time can contain the leaving event (47b) or be located after this event at a time when the leaver is going away (48a). Next, I argue that the somewhat variable behavior of achievement verbs when they undergo durative gemination arises from whether or not they lexically encode another event component in addition to a change-of-state event.

4.2. Three classes of achievements in Northern Paiute. I call these predicates “achievements” because they describe an instantaneous
change-of-state event—a finding event, an emerging event, a leaving event. This is most clear from the interpretation they receive with the inceptive suffix –huka, which picks out the initial point of an event. With canonical durative predicates, such as the activity in (49a) or the accomplishment in (49b), the inceptive suffix is compatible with an assertion of noncompletion.

(49a) Su=mogo’ni hubia–du–huka. Yaisi kaisu
NOM=woman song–make–INCEP PTC not.yet
song–make–finish–PFV
‘The woman started singing. She hasn’t finished singing yet.’
(elicitation, EM and MS, BP53-4, 32:50)

(49b) Su=nana ti=kaadzi madabbui–huka. Yaisi kaisu
NOM=man REFL=car fix–INCEP PTC not.yet
u=madabbui–maggwɨ–hu.
3SG:ACC=fix–finish–PFV
‘The man started to fix his car. He hasn’t finished fixing it yet.’
(elicitation, MS and EM, BP53-4, 33:05)

By contrast, this kind of continuation is contradictory for the achievement verbs mayɨ ‘find’ (50a), tsibui ‘emerge’ (50b), and mia ‘leave (to go away)’ (50c).

(50a) Su=naatsi’i ti=ddoogga mayɨ–huka. #Kaisu
NOM=boy REFL=dog find–INCEP not.yet
u=mayɨ–maggwɨ–hu.
3SG:ACC=find–finish–PFV
‘The boy found his dog. He hasn’t finished finding it.’
[MS: “Means he thought he found it, and then he didn’t find it.”]
(elicitation, MS, BP53-8, 41:00)

(50b) Su=wa’itsi nabagia–na–ggwe tsibui–huka. #Yaisi kaisu
NOM=old.man bathe–NMZ–LOC emerge–INCEP PTC not.yet
tsibui–maggwɨ–hu.
emerge–finish–PFV
‘The old man got out of the bathtub. He hasn’t gotten out yet.’
[EM: “He got out already, and he can’t just be getting out.”]
(elicitation, EM and MS, BP53-4, 38:10)

(50c) Su=mogo’ni mia–huka. #Yaisi kaisu mia–maggwɨ–hu.
NOM=woman leave–INCEP PTC not.yet leave–finish–PFV
‘The woman left. She hasn’t left yet.’
[EM: “She left already, and then you said that she didn’t leave yet.”]
(elicitation, EM, BP53-4, 36:25)
The inceptive suffix conveys that an event has started. With achievements, it must also convey that the event has culminated, since an assertion of continuation is contradictory. This can only be possible if all achievement predicates describe an instantaneous change-of-state event whose initial point is also its end point.

That being said, I propose that there are at least three distinct classes of achievements predicates in Northern Paiute. The first, which includes the verb *mayi* ‘find’, just describes an instantaneous change-of-state event.

(51) Achievement class I

By contrast, the other two classes of achievements encode an additional meaning component, to which durative gemination and other expressions are sensitive. The second class includes the verb *tsibui* ‘emerge’ and describes the preparatory process that culminates in the change-of-state event, much like some achievements in English (Rothstein 2004:55).

(52) Achievement class II

The third class describes a change-of-state event plus a post-state component, much like achievements in Japanese (Ogihara 1998) or “inceptive statives” in Skwxwú7mesh (Bar-el 2005). For the verb *mia* ‘leave (to go away)’, the state that follows the leaving event is the state of going away.

(53) Achievement class III

Representative verbs for each of these classes are listed in table 2.

The additional meaning components encoded by the second and third classes of achievements are not visible to every type of aspect. For this reason, I indicate them with dashed lines in the diagrams above. The inceptive suffix –*huka*, for instance, does not see either the preliminary process or post-state. It treats all achievements as the same, as shown in (50a–c) above, picking up solely on the instantaneous change-of-state event they all describe. This differentiates achievements in Northern Paiute from accomplishments and other *Aktionsart* classes. These additional meaning components are, however, visible to other aspects, including durative gemination.

4.2.1. Durative gemination and the second class of achievements. When *tsibui* ‘emerge’ undergoes durative gemination, the topic time can
northern paiute durative gemination

contain the instantaneous change-of-state event, as shown in (46a). The topic time can also be contained just within the preparatory process leading up to the change-of-state event.

(54) Context: The man started getting out of the bathtub at 1:45. He got completely out by 2:15.

\[ \text{Waha–ggwe } su=wa’itsi \quad tsibu’i. \]
\[ \text{two−LOC } \text{NOM=old.man } \text{emerge:DUR} \]

‘At two o’clock, the old man was getting out of the bathtub.’

(elicitation, EM, BP56-1, 8:31)

In (54), tsibui ‘emerge’ has a “slow motion” reading, in which the event appears to be stretched out. The instantaneous change-of-state event—when the man goes from being in the bathtub to being out of it—is preceded by a long preparatory process. The topic time, restricted to the two o’clock time, is located just within this process component.

(55)

For achievements from the other classes—such as mayi ‘find’ and mia ‘leave (to go away)’—it is not even possible to construct realistic contexts where the change-of-state is preceded by such a lengthy preparatory process.

When the topic time is contained in the process component described by tsibui ‘emerge’, durative gemination has the event-in-progress reading. As a consequence, achievement verbs in this second class do not give rise to a culmination entailment, as shown in (56), repeated from (46a) above.
(56) Su=naatsi’i nabagia–na–ggwe tsibu’i. Yaisi kaisu
    NOM=boy bathe–NMZ–LOC emerge:DUR PTC not.yet

tsibui–maggwi–hu.
emerge–finish–PFv
‘The boy is getting out of the bathtub. He hasn’t gotten out yet.’
[EM: “He’s getting out of the tub, but he’s still getting out of the tub.”]
(elicitation, EM, BP52-5, 48:10)

Since there is a reading available for tsibui ‘emerge’ where the end point of
the event is not located within the topic time, it is possible to assert felicitously
that the event has not yet culminated at some later time.

By contrast, verbs from the first class only have a completed reading with
durative gemination because they describe just an instantaneous change-of-
state event. They consequently do give rise to a culmination entailment, as
shown for ma’yi ‘find’ in (57), repeated from (45) above.

(57) Su=naatsi’i ti=ddoogga ma’yi. #Yaisi kaisu
    NOM=boy ACC=dog find:DUR PTC not.yet
    3SG:ACC=find–finish–PFv
‘The boy found his dog. He hasn’t found it yet.’
[EM: “It don’t make sense [. . .] he’s already found the dog.”]
(elicitation, EM, BP56-1, 46:52)

The topic time must contain the change-of-state event, yielding a contradic-
tion with a continuation that asserts noncompletion.

4.2.2. Durative gemination and achievements from the third
class. When an achievement verb from the third class undergoes durative
gemination, the topic time can be located after the change-of-state event, as
shown in (58), repeated from (48a).

(58) Context: The woman left at 1:00. She reached her destination at 3:00.
    Waha–ggwe su=mogo’ni mi’a.
    NOM=woman leave:DUR
    two–LOC NOM=woman leave:DUR
‘At two o’clock, the woman was going away.’
[EM: “Then she’s still going till three o’clock.”]
(elicitation, EM, BP51-5, 10:47)

To account for this fact, I am proposing that mi’a ‘leave (to go away)’ also
encodes a stative component—the post-state of going away that follows leav-
ing—inside of which the topic time can be located.
Importantly, the topic time cannot be located just anywhere after the leaving event. As shown in (60), it is infelicitous for the topic time to be located after the going away has stopped.

(60) Context: The woman left at 9:00. She reached her destination at 12:00.

\#Waha–ggwe su=mogo’ni mi’a.
\textit{two–LOC NOM=woman leave:DUR}

Intended: ‘At two o’clock, the woman had finished going away.’

[EM: “That would \textit{isaya’e} ‘lying’ [. . .] cuz she only walked nine to twelve, not to two.”]

(elicitation, EM, BP51-5, 38:09)

This additional meaning component is only found with achievements from the third class. Neither mayi ‘find’ nor tsibui allows for the topic time to follow the change-of-state event, as we saw in (48–c) above.

Two things need to be clarified about what I am calling a post-state. First, what follows the change-of-state event for a verb such as \textit{mia ‘leave (to go away)’} might alternately be analyzed as a process, or an event with duration. It is actually quite difficult to distinguish between these two alternatives, and I do not attempt to do so here. I nonetheless continue to call this additional meaning component a post-state. What matters most here is that achievement verbs from the third class encode it, whereas other achievements do not.

Second, it would be difficult not to notice that the verbs in the third class are all motion or posture verbs. In many languages, including English, verbs in this semantic domain (e.g., \textit{stand, sit, lie down}) are ambiguous between an achievement meaning, describing an instantaneous change-of-state, and an activity meaning, describing a process. In Northern Paiute, these verbs are not ambiguous. If they had an independent activity meaning, we would expect them to also pattern with activities, but they never do. With the inceptive suffix, for instance, \textit{mia ‘leave (to go away)’} is incompatible with an assertion of noncompletion (50c), unlike an activity predicate (49a).

Even though achievement verbs from the third class encode an additional meaning component, they give rise to a culmination entailment when they undergo durative gemination, as shown in (61), repeated from (47b) above.

(61) Amamu’a su=naatsi’i mi’a. #Yaisi kaisu
\textit{morning NOM=boy leave:DUR PTC not.yet}

\textit{mia–maggwi–hu. leave–finish–PFV}

‘This morning, the boy left. He hasn’t left yet.’

[EM: “The boy left this morning. \textit{Kaisu miamaggwihu} . . . well, sound like that he’s not gone yet [. . .] It don’t make sense.”]

(elicitation, EM, BP51-1, 2:00)
With \textit{mia} ‘leave (to go away)’, durative gemination can have the completed reading, as in (47a). It can also have the continuous reading when the topic time is contained in the post-state, as in (58). Durative gemination still gives rise to a culmination entailment with this verb, though, because it encodes a post-state, not a preparatory process. The topic time either contains the change-of-state event or is located after it, producing the contradiction in (61).

4.2.3. Additional evidence for the three-way classification of achievements. There are two additional pieces of evidence for identifying three classes of achievements in Northern Paiute. First, verbs from neither the first class (62a) nor the third class (62c) are felicitous with the progressive suffix.\footnote{While \textit{mayi} ‘find’ definitely cannot describe a single event that is in progress, it may have a different interpretation when it bears the progressive suffix: “[In (62a), ]that means more than one little dog . . . it’s gotta be more than one” (elicitation, MS, BP49-5, 1:25:29). The speaker here suggests that this verb can describe multiple events of finding distributed across individuals described by the object. Similarly, \textit{mia} ‘leave (to go away)’ may be able to describe multiple events distributed across individuals, though individuals described by the subject, when it bears the progressive suffix: “A lot of people \textit{miiawin}, means they are all leaving” (elicitation, EM, BP46-8, 12:41). Further investigation, which I leave for the future, is needed to corroborate these comments.}

\begin{align*}
(62a) & \quad *\text{Nii ti/ddoogga mayi–winni.} \\
& \quad 1\text{SG:NOM REFL=dog find–PROG} \\
& \quad \text{Intended: ‘I am looking for my dog.’} \\
& \quad \text{(elicitation, EM and MS, BP49-5, 1:25:29)}
\end{align*}

\begin{align*}
(62b) & \quad *\text{Su=nana mia–winni.} \\
& \quad \text{NOM=man leave–PROG} \\
& \quad \text{Intended: ‘The man is leaving.’} \\
& \quad \text{(elicitation, EM, BP44-7, 1:24:13)}
\end{align*}

If these predicates do not encode a process component, they cannot describe an event with enough duration to contain the topic time, as required by the progressive, which only has an event-in-progress reading. By contrast, achievements from the second class are compatible with it.

\begin{align*}
(63) & \quad \text{Su=naatsi’i nabagia–na–ggwe tsibui–winni.} \\
& \quad \text{NOM=boy bathe–NMZ–LOC emerge–PROG} \\
& \quad \text{‘The boy is getting out of the bathtub.’} \\
& \quad \text{[EM: “He’s slowly getting out of the tub.”]} \\
& \quad \text{(elicitation, EM, BP56-4, 2:18)}
\end{align*}

In (63), \textit{tsibui} ‘emerge’ again has the same “slow-motion” interpretation that it has with durative gemination in (54). The progressive, then, can also locate the topic time within the preparatory process encoded by this verb.

\footnote{While \textit{mayi} ‘find’ definitely cannot describe a single event that is in progress, it may have a different interpretation when it bears the progressive suffix: “[In (62a), ]that means more than one little dog . . . it’s gotta be more than one” (elicitation, MS, BP49-5, 1:25:29). The speaker here suggests that this verb can describe multiple events of finding distributed across individuals described by the object. Similarly, \textit{mia} ‘leave (to go away)’ may be able to describe multiple events distributed across individuals, though individuals described by the subject, when it bears the progressive suffix: “A lot of people \textit{miiawin}, means they are all leaving” (elicitation, EM, BP46-8, 12:41). Further investigation, which I leave for the future, is needed to corroborate these comments.}
Second, the second and third classes of achievements are felicitous with tɨggwisu ‘still’ when they undergo durative gemination.

(64a) Su=naatsi’i nabadgiana–ggwe tɨggwisu tɨsibu’i.  
NOM=boy bathtub–LOC still emerge:DUR  
‘The boy is still getting out of the tub.’  
(elicitation, EM, BP52-2, 42:30)

(64b) Su=naatsi’i tɨggwisu mi’a.  
NOM=boy still leave:DUR  
‘The boy is still going away.’  
(elicitation, EM, BP47-2, 9:35)

This adverb only occurs with predicates that encode a state or event with duration, such as the process component of tɨsibui ‘emerge’ (64a) or the post-state encoded by mia ‘go away’ (64b). The first class of achievements, which encodes neither of these meaning components, is simply incompatible with tɨggwisu ‘still’.

(65) #Su=naatsi’i tɨ=ddoogga tɨggwisu ma’yɨ.  
NOM=boy refl=dog still find:DUR  
Intended: ‘The boy had still found/is still looking for his dog.’  
[EM: “That don’t sound right. He found his dog already, he can’t find him again.” MS: “He would be like tɨ=ddoogga tɨggwi wati ['still looking for his dog’].”]  
(elicitation, EM and MS, BP49-6, 27:45)

This follows if ma’yɨ ‘find’ describes just an instantaneous change-of-state event, which lacks any duration.

I have remained silent here on why the additional meaning components encoded by the second and third classes of achievement verbs are only visible to some aspects (durative gemination and progressive aspect), and not to others (inceptive aspect). Achievements of the second class are commonly found in other languages, including in English (e.g., The climber is reaching the summit). Under one common analysis, such achievements describe as their basic meaning an instantaneous change-of-state event. They can be coerced, however, into an activity to make them compatible with aspects, such as the progressive, that require an event with some duration (Rothstein 2004:56–58). The question then becomes why only some aspects can trigger this coercion. 9 A similar question would arise for achievements from the third class, if a parallel analysis were advanced for them.

9 Alternately, these achievement predicates might be treated as very short accomplishments that do not truly describe an instantaneous change-of-state event (Verkuyl 1989:55–58). Under
It is clear that the class of achievement predicates in Northern Paiute is heterogenous, resulting in their varied ability to give rise to a culmination entailment. Achievements that only have a completed reading, such as *mayi* ‘find’, give rise to a culmination entailment because the topic time always contains the instantaneous change-of-state event. Achievements that encode a post-state, such as *mia* ‘leave (to go away)’, also give rise to a culmination entailment because the topic time must either contain the change-of-state event or be located after it. Only achievements that encode a preparatory process, such as *tsibui* ‘enter’, do not give rise to a culmination entailment: they can have an event-in-progress reading, where the change of state is not located inside the topic time.

4.3. A prediction about semelfactive predicates. Although the completed reading may appear most obviously with achievements, it should be available with predicates from other *Aktionsart* classes, as long as there is no incompatibility with their lexical semantics. With semelfactive predicates—predicates describing an instantaneous event that does not result in a change of state—durative gemination expresses that just a single occurrence of the event took place. For *akwisiye* ‘sneeze’, durative gemination consequently has an interpretation (66a) that is identical to the perfective (66b). These both contrast with this verb’s interpretation in the progressive (66c).

\[(66a)\]
\[
\begin{array}{ll}
1sg:nom & akwisiya'e.\\
sneeze:dur &
\end{array}
\]
\`
I sneezed (once).
``
(elicitiation, EM, BP45-5, 1:44:35)

[EM: “You’re sneezing.” MT: “Am I sneezing once or over and over again?” EM: “Just once.”]

\[(66b)\]
\[
\begin{array}{ll}
1sg:nom & akwisiye–hu.\\
sneeze–pfv &
\end{array}
\]
\`
I sneezed (once).
``
[MS: “Somebody sneezed.” EM: “Just one time, though.”]
(elicitiation, EM and MS, BP44-4-s, 22)

---

10 The durative form for *akwisiye* ‘sneeze’ is *akwisiya’e*. The final vowel *e* of the basic form has a variable pronunciation that not infrequently shades into a diphthong: *e ~ ae ~ ai*. This is the Numic “sixth vowel,” which may come from Proto-Numic *ai* (Nichols 1974:39–50). If this is correct, although durative gemination operates opaquely for this verb, it would have been historically more predictable: *akwisiya'i* → *akwisiya'i* (> *akwisiya’e*).
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(66c) Nii akwisiye-winni.
1SG:NOM sneeze-PROG
‘I am sneezing (over and over again).’
[EM: “Akiwisiyewinni means you sneeze a lot of times.”]
(elicitation, EM, BP45-5, 1:45:04)

Since the progressive only has an event-in-progress reading, it requires an event with duration. Semelfactives are consequently coerced into describing an iterative event, just as in English (e.g., John is sneezing).

When they undergo durative gemination, semelfactives can describe a single event because they have a completed reading: the topic time contains the sole event. This can be confirmed using a temporal adverbial.

(67) Context: The boy sneezed once at 2:00.
Waha-gwe su-naatsi’i akwisiya’e.
two–LOC noM=boy sneeze:dur
‘At two o’clock, the boy sneezed.’
(elicitation, EM, BP51-1, 40:59)

Under the completed reading for durative gemination, the sneezing event in (67) is located entirely within the two o’clock time.

Since semelfactives are punctual predicates, it is perhaps not surprising that they have a completed reading. There should also be nothing preventing durative predicates, such as activities and accomplishments, from having a completed reading when they undergo durative gemination. It is more difficult to show this, but I believe that it is possible.11 In 5, I argue that the completed reading is found with durative predicates based on how they are interpreted in narrative discourse.

5. Durative gemination in discourse. In many languages, when a sequence of sentences is understood as a narrative discourse, it is interpreted as “forward moving” in time. Aspect plays a crucial role in this narrative progression (Kamp and Rohrer 1983; Partee 1984; Hinrichs 1986, among others). The temporally forward moving sequence of sentences in (68) is entirely in the perfective.12

11 In particular, temporal adverbials prove to be of no use. Since activity and accomplishment predicates have an event-in-progress reading with durative gemination, it would not be possible to tell whether a sentence was judged felicitous because the entire event was contained within the time delimited by the adverbial, or whether just part of it was.

12 The final clause in (68) contains the sequential suffix –si, which conveys that this clause temporally precedes the unmarked clause that occurs linearly before it (Toosarvandani 2016). This lexical material overrides the default interpretation that arises from narrative progression.
‘The dog ran to the other side of the rock. Then the deer ran away, because he got scared of them.’

(prompted narrative, EM, BP25-2-t1, 91–93)

Each sentence in (68) is interpreted as taking place in close temporal succession after the preceding sentence. The event of the deer leaving takes place immediately after the event of the dog running to the other side of the rock. By contrast, the progressive aspect does not push the time of the narrative forward.

The second sentence in (69) describes an event of the deer looking at the boy and dog. It is in the progressive and is interpreted as temporally overlapping the event of their falling into the pond described by the preceding sentence. The Aktionsart class of a predicate also contributes to narrative progression: like verbs in the progressive, stative predicates are generally interpreted as temporally overlapping the events described in the preceding discourse.

In Northern Paiute, durative gemination need not advance the time of a narrative. As shown in (70), it can receive the same interpretation in discourse as the progressive.

(prompted narrative, MS, BP25-2-t2, 72–73)

The second sentence in (69) describes an event of the deer looking at the boy and dog. It is in the progressive and is interpreted as temporally overlapping the event of their falling into the pond described by the preceding sentence. The Aktionsart class of a predicate also contributes to narrative progression: like verbs in the progressive, stative predicates are generally interpreted as temporally overlapping the events described in the preceding discourse.

In Northern Paiute, durative gemination need not advance the time of a narrative. As shown in (70), it can receive the same interpretation in discourse as the progressive.
The last two sentences—both containing verbs that have undergone durative gemination—describe events that overlap temporally with the closest preceding clause in the perfective aspect. The events of the boy’s looking for the frog and the prairie dog’s laughing take place at the same time as the event of the beehive falling from the tree.

However, like the perfective aspect, durative gemination can sometimes advance the time of the narrative. This is particularly common with achievement predicates.

(71) Su=naatsi’i=bɨno’o u–ma si’e–hu–si, yaa
nom=boy=ptc 3sg–loc get.scared–pfv–seq there
poyoha–ga’a. Yaa hibbi tibbi–ma kati pita–ga,
runc-away:dur there thing rock–loc sit:dur below–loc
su=naatsi’i u–ma si’e–hu–si. O=ddoogga–tsi
nom=boy 3sg–loc get.scared–pfv–seq 3sg:acc=dog–dim
yaa–su hapı–’yu yaa tiipi–na.
there–adv lie.down:dur–dur there earth–loc

‘The boy got scared of him and ran away. The boy sat down on the rock below, because he got scared of him. The dog laid down on the ground.’

(prompted narrative, EM, BP25-2-t1, 86–87)

In the discourse in (71), the event of the dog lying down, which is described by the third sentence, immediately follows the event of the boy sitting down on the rock, which is described by the main clause of the preceding sentence. This event in turn immediately follows the event of the boy running away, described in the first sentence.13

Given these facts, narrative progression cannot depend directly on whether a clause is in the perfective or the progressive aspect. While the perfective

13 Both kadi ‘sit down’ and habi ‘lie down’ are achievements from the third class and thus have continuous readings when they undergo durative gemination. Under this reading, we would expect both the last two sentences to temporally overlap the event of the boy running away. However, the discourse in (71) is part of a narrative that was prompted using a wordless picture book, Mercer Mayer’s Frog, Where Are You? (NY: Dial Books, 1969). The event of the boy getting onto the rock is depicted in one drawing. It clearly temporally precedes the event of the dog lying down next to him, which is depicted in the next drawing.
pushes the time of the narrative forward and the progressive does not, durative gemination can behave like both. Instead, following a suggestion by Arregui et al. (2014:337–38), we can take narrative progression to depend on the mapping between the event and the topic time. When the topic time contains the event, as in the perfective aspect, a sentence is interpreted as temporally following preceding discourse. By contrast, when it is properly contained within the event, as in the progressive, a sentence is interpreted as temporally overlapping preceding discourse. Durative gemination allows both mappings, so it can, but need not, advance the time of the narrative.

Using narrative progression, we can test whether durative predicates have a completed reading with durative gemination. Indeed, activities and accomplishments can also temporally advance the narrative.

(72) Yaisi su=Padua’a yaisi ini sita’a. Yaisi siku
PTC NOM=Bear PTC very get.mad:DUR PTC PTC
mi=naki yaisi mii, ka=tihdda. Yaisi siku
2/3Pl:ACC=chase:DUR PTC QUOT ACC=deer PTC PTC
isu Wassa yaisi siku paa’a–ggimai–ba, paba huupei.
this:NOM Crane PTC PTC water–LOC–LOC big river
Yaisi siku paba–’yu huupei ini huu–winni–na, yaisi
PTC PTC big–NOM river very flow–PROG–SIM PTC
siku imi yaisi kai pisa u–kuba–ggwe mi’a.
PTC 3Pl:NOM PTC NEG good 3SG–LOC–LOC leave:DUR
Ka=paa’a–di kai pisa manni. Yaisi su=Wassa,
ACC=water–LOC NEG good cross:DUR PTC NOM=Crane
imi u=ddiikwi’i, “U–hu su=Padua’a
3Pl:NOM 3SG:ACC=tell:DUR 3SG–EMPH NOM=Bear
ni=naki, ni=patsa–kwi–si,” mii
yaisi.
PTC

‘Bear got very mad. They say that she chased them, the deer. Crane was by the water, by the big river. The big river was running swiftly, and they couldn’t cross it [lit. go through it]. They couldn’t cross it. They said to Crane, “Bear is chasing us in order to kill us.”’

(narrative, MS, BP43-1-t1, 15–20)

In (72), the verbs nagi ‘chase’ and tiikwi ‘tell’, which describe events with duration, push the time of the narrative forward. The event of Bear chasing
the deer takes place immediately after the event of her getting mad, which is described in the preceding sentence; the event of the deer asking Crane to cross the river takes place immediately after this. Similarly, in (73), the verbs *tsoba* ‘pick up’ and *hani* ‘do’ advance the narrative temporally when they have undergone durative gemination.

(73) Saa’a *o-agي–hu–si=bino’o,* yaisi *eho–gga–na,*
later 3SG:ACC=open–PFV–SEQ=PTC PTC pinenut.hook–have–SIM
widi–ggu kudu’u–gga–na, o–ma–ma yaisi siku
long–ACC stick–have–SIM 3SG:INSTR–INSTR PTC PTC
agi–na  wi–ta’ni. Yaisi
open–NMZ long.thing[ip]–shake:DUR PTC
u=namaya–ki–na u–hu
3SG:ACC=gather–toward–SIM 3SG:ACC=EMPH
yadda–we–tu hanni, u=ddzopa.
winnowing.basket–LOC–LOC do:DUR 3SG:ACC=pick.up:DUR
Yaisi ka=wono–ga–na wono–we–tu
PTC ACC=burden.basket–have–SIM burden.basket–LOC–LOC

hanni.
do:DUR

‘Later, when they have opened up, you have a pinenut hook, a long stick, and you shake out the open ones with it. And then, when you are gathering them, you put them in the winnowing basket. Then, if you have a burden basket, you put them in it.’
(procedure, MS, BP09-1-t4, 23–24)

The event of putting the open pine cones in the burden basket takes place immediately after the event of gathering them in the winnowing basket, which in turn takes place immediately after the event of shaking them out of the tree. (In both examples, there are intermediate clauses that describe states, which temporally overlap these events.)

In Northern Paiute, then, predicates that describe events with duration can have a completed reading when they undergo durative gemination. They do not give rise to a culmination entailment because they can also have an event-in-progress reading. Just like achievement predicates, however, they can move the time of the narrative forward.

6. Conclusion. The semantics of durative gemination in Northern Paiute has not received much attention until now. I proposed that it conveys imperfective aspect, with many of the same readings it has in better-studied languages. This includes the event-in-progress, continuous, and habitual readings.
In addition, I identified another reading for durative gemination. Under the completed reading, it gives rise to a culmination entailment with some, though not all, achievement predicates. When durative gemination has a completed reading, it can also advance the time of the narrative with durative predicates.

It might seem unexpected that durative gemination in Northern Paiute has a completed reading. The properties it gives rise to, however, have been reported for the imperfective aspect in other languages. In Russian and other Slavic languages, for instance, the imperfective has a konstatacija fakta or “statement of fact” use, in which achievement predicates give rise to a culmination entailment (Altshuler 2010, 2014). The examples in (74a–b) are in Russian.

(74a) K nam priežža–l otec domoi, (#no on ne to us arrive:IMPF–PAST father home but he not
    smog najti naš dom.)
    smog najti our house
    ‘Father came to see us at home, but was unable to find our house.’
    (Altshuler 2014:742)

(74b) Ja e–l tort, no ego ne s’–e–l.
    I eat:IMPF–PAST cake but it not Pfv–eat–PAST
    ‘I ate cake, but did not finish it.’
    (Altshuler 2014:760)

In (74a), the achievement predicate is incompatible with an assertion of non-completion because it describes a completed event. By contrast, an activity predicate in the imperfective is compatible with such an assertion, as shown in (74b), presumably because it can have an event-in-progress reading.

Similarly, although it is sometimes claimed that the imperfective in French cannot trigger narrative progression (see, for example, Kamp and Rohrer 1983:258), there is a use of the imperfective—the imparfait narratif—that does advance the time of the narrative (Imbs 1960:92; Grévisse 1980:835), as in (75). (It is attested in other Romance languages as well; see Arregui et al. 2014:334–39 for discussion and references.)

(75) A huit heures, les voleurs entr–aient dans la banque. Ils discut–aient avec un employé puis se dirige–aient vers le guichet principal.
    the bank they discuss–3pl:past:imperf with a clerk then 3 move–3pl:past:imperf toward the desk main
    ‘At eight, the robbers entered the bank, they discussed with a clerk, then they moved towards the main desk.’
    (Jayez 1999:159–60)
Here, the sequence of three sentences in the imperfective describes a sequence of events, with each one taking place immediately after the other: first the event of entering, then the event of speaking, and finally the event of moving.

There are many theories of the imperfective aspect. To date, these have relied primarily on data from well-studied languages, such as French and Russian. By examining the semantics of the imperfective aspect in a lesser-studied language, I hope it will clarify what these theories need to account for. In particular, giving rise to a culmination entailment or triggering narrative progression are sometimes taken to be exceptional properties of the imperfective aspect when they show up in a language. For French, traditional grammarians, such as Imbs and Grévisse, have assumed that the *imparfait narratif* does not need to be unified with the more canonical event-in-progress reading. More recently, accounts of the imperfective in both Romance and Slavic take it to be either underspecified or substantially disjunctive in its meaning (Jayez 1999; Borik 2002; Grønn 2003, 2008). However, the existence of both properties with durative gemination in Northern Paiute—a genetically and geographically distinct language—supports attempts to unify the completed reading with the other readings for the imperfective aspect (Labelle 2003; Altshuler 2010, 2014; Arregui et al. 2014).

REFERENCES


