The imperfective semantics of durative gemination in Northern Paiute*

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Abstract

Like other Numic languages (Uto-Aztecan), Northern Paiute has a morphological process of DURATIVE GEMINATION, which conveys some type of aspectual category. I describe the semantics of durative gemination in Northern Paiute, locating it within an emerging formal typology of imperfective aspect. 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.

There is a morphological process in most Numic languages (Uto-Aztecan) that is traditionally called DURATIVE GEMINATION. It applies to verbs and is most commonly realized as fortition (or gemination\(^1\)) of the final syllable’s onset. In Northern Paiute (ISO code: pao), for instance, the durative form of *hibi* ‘drink’ is *hipi* \(^{(1a)}\)\(^2\)

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\(^1\)In the 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), fortis (long voiceless aspirated), and voiced fortis (long voiced aspirated), while other stops and fricatives exhibit a two-way contrast between lenis (short) and fortis (long) \(\{\text{Babel et al.}2012\}\).

\(^2\)The data in this paper comes primarily from my own fieldwork on the variety of Northern Paiute spoken at Mono Lake in eastern California (Lee Vining, California) and immediately to the north in Bridgeport and Coleville, California and Sweetwater, Nevada. In addition to the Mono Lake dialect, there are several other closely related dialects spoken across, and immediately adjacent to, the Great Basin. These dialects are all mutually intelligible; the variation amongst them is primarily phonological and lexical (see \(\text{Babel, Houser, and Toosarvandani}\,2012\) and \(\text{Babel, Garrett, Houser, and Toosarvandani}\,2013\) for details). To a lesser extent, I have also drawn on data from the Burns, Oregon variety \(\text{Thornes}2003\).
Durative gemination is in complementary distribution with aspectual morphology. A verb can occur with the progressive or perfective suffix only in its bare form (1b–c). It is thus likely that the process conveys some sort of aspectual distinction.

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.” But something must be added to this description. There are verbs like pidi ‘arrive’ that can undergo durative gemination, but which are achievement predicates describing instantaneous change-of-state events without any duration.

Northern Paiute is severely endangered. For all dialects, there are probably no more than 300 fluent speakers today [Golla 2011:174]. For the Mono Lake dialect specifically, there are around five speakers, with varying levels of proficiency. The fieldwork data I present here comes entirely from the two oldest, most fluent speakers of the Mono Lake variety. 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).

Examples from other sources receive the usual parenthetical citation. Examples from my own fieldwork are annotated with relevant metadata: (i) how the data was 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 (iii) the example’s location in the source recording (either a line number in the corresponding transcription of the recording or a times-tag). The source recordings and transcriptions are not available to the public, at the request of the speakers, because they contain culturally sensitive and personal content.

I use the following abbreviations in this paper: ACC = accusative, ADV = adverbial, COM = comitative, CONT = continuous aspect, DEM = demonstrative, DIM = 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 = locative postposition, MOT = motion suffix, NEG = negation, NMZ = nominalizer, NOM = nominative, PASS = passive, PAST = past tense, PERF = perfect aspect, PFV = perfective, PL = plural, PROG = progressive aspect, PROSP = prospective aspect, PTC = discourse particle, QUOT = quotative, REFL = possessive reflexive anaphor, SEQ = sequential suffix, SG = singular, SIM = simultaneous suffix, TNS = ‘general tense’ [Thornes 2003:398].
Intended: ‘The boy is arriving.’ (elicitation, EM, BP44-4, 1:27:59)

c. Su=mogo’ni pidi-hu.
NOM=woman arrive-PFV
‘The woman arrived.’ (elicitation, EM, BP44-5, 33:41)
[EM: “Pidihu means she just came in, init?”]

In its durative form, the verb *pidi* ‘arrive’ conveys that the event of arriving has been completed (2a). This parallels its interpretation in the perfective aspect (2c); it is ungrammatical in the progressive aspect (2b). On the surface, this contrasts strikingly with *hibi* ‘drink’, which receives roughly the same interpretation when it undergoes durative gemination as in the progressive aspect (1b), not the perfective aspect (1c).

Here, I provide a semantic description of durative gemination in Northern Paiute, locating it within an emerging typology of imperfective aspect. Within formal semantics, there is a prominent strand of research that posits a shared semantic core for the imperfective aspect across languages (Bonomi 1997, Cipria and Roberts 2000, Deo 2009, Arregui et al. 2014). It has different interpretations across languages depending on how each language allows this semantics to be filled in by the context. After providing some background in Section 1 on tense and aspect in Northern Paiute, I show in Section 2 that durative gemination in the language has much the same range of interpretations as the imperfective aspect in the better-studied Romance and Slavic languages. In addition to the EVENT-IN-PROGRESS interpretation, illustrated in 1a, it also has a CONTINUOUS interpretation and an HABITUAL interpretation. It does not have the EVENT-IN-PREPARATION interpretation that is available for the imperfective in some languages, e.g. French and other Romance languages.

Then, in Section 3 I identify another interpretation for durative gemination in Northern Paiute. This COMPLETED interpretation appears most plainly with some achievements predicates, such as *pidi* ‘arrive’, that describe an instantaneous change-of-state event (2a). Since the completed interpretation seems to deviate so significantly from the more canonical event-in-progress interpretation, it would be easy to dismiss it as an idiosyncratic property of Northern Paiute. But as I discuss in Section 4, the completed interpretation is also attested for the imperfective aspect in Romance and Slavic languages, though it can be manifested in slightly different ways.

1. Background on tense and aspect in Northern Paiute

While Northern Paiute lacks tense (see also Thornes 2003:396), it has a rich aspectual system with morphology conveying perfective aspect (3a) and progressive aspect (3b), among other categories.

(3) a. Su=nana ti=kaadzi madabbui-winni.
NOM=man REFL=car fix-PROG
‘The man is fixing his car.’ (elicitation, EM, BP46-3, 33:44)
[EM: “Yeah, he’s working on it now.”]

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

Since tense and aspect are intimately connected, I first discuss in Section 1.1 why I treat Northern Paiute as a tenseless language. Then, in Section 1.2 I survey the primary aspectual categories in
Northern Paiute, which in the ensuing description I will be comparing the semantics of durative gemination to. Finally, before moving on to that description, I discuss in Section 1.3 the distribution of durative gemination with respect to other aspectual morphology.

1.1. Northern Paiute as a tenseless language

Northern Paiute lacks overt morphology conveying ABSOLUTE TENSE, which would mark the relation between the time at which a clause is interpreted and the utterance time (Comrie 1985:36), cf. Yukatec Maya (Bohnhemeyer 2002), Kalaallisut (West Greenlandic: Shaer 2003, Bittner 2005), and Paraguayan Guarani (Tonhauser 2011). As in other tenseless languages, sentences in Northern Paiute get a default temporal interpretation that depends on aspect: present for the progressive (3a) and past for the perfective (3b). This default interpretation can be overridden or reinforced with temporal adverbials.

(4) a. Mino’o ti-kaadzi madabbui-winni.
   now REFL=car fix-PROG
   ‘He is fixing his car now.’ (elicitation, EM, BP50-1-s, 7)
   [EM: “Now, he’s working on his car.”]
   b. Mino’o ti-kaadzi madabbui-hu.
   now REFL=car fix-PFV
   ‘He just fixed his car now.’ (elicitation, EM, BP50-1-s, 10)
   [EM: “He’s through with his car now. . . He’s done right now.”]

(5) a. Idzi’i ti-kaadzi madabbui-winni.
   yesterday REFL=car fix-PROG
   ‘He was fixing his car yesterday.’ (elicitation, EM, BP44-4, 8:00)
   b. 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 (4a–b). Similarly, idzi’i ‘yesterday’ locates it at a time prior to the utterance time (5a–b).

In this respect, durative gemination often patterns like the progressive aspect. It receives a default present interpretation (6), though this can be reinforced or overriden by temporal adverbials (7a–b).

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

(7) a. 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)
   [EM: “He’s fixing his car now.”]
   b. Idzi’i su=nana ti=kaadzi madabbu’i.
   yesterday NOM=man REFL=car fix-DUR
   ‘The man was fixing his car yesterday.’ (elicitation, EM, BP55-1, 32:22)
Crucially, in 4–5 and 7, the form of the verb does not change: the temporal interpretation of the sentence is constrained entirely by temporal adverbials.

The mere absence of overt tense morphology may be insufficient to diagnose a language as tenseless. Matthewson (2006) argues that St’át’imcets (Lillooet; Salishan: British Columbia) has a phonologically null marker of nonfuture tense. While sentences in the language are compatible with temporal adverbials that describe a present (8a) or past (8b) time, they are incompatible with ones describing a future time (8c).

(8) *St’át’imcets*

a. Táyt-kan lhkúnsa.

hungry-1SG.SUBJ now

‘I am hungry now.’

b. K’ác-an’-lhkan i-nátcw-as.

dry-DIR-1SG.SUBJ when.PAST-one.day.away-3.CONJ

‘I dried it yesterday.’

c. * Táyt-kan natcw.

hungry-1SG.SUBJ one.day.away

‘I will be hungry tomorrow.’ (Matthewson 2006:677)

In work elsewhere (Toosarvandani 2014b), I report that sentences like 8c are unequivocally good in Northern Paiute, concluding that it does not even have a non-overt tense morpheme. But after further consultation with speakers, I have found that there is some individual variation on this point.

(9) a. Mu’a su=nana ti=kaadzi madabbui-kwi.

tomorrow NOM=man REF=car fix-PROSP

‘Tomorrow, the man will fix his car.’ (elicitation, EM and MS, BP50-1, 48:56)

b. ?? Mu’a su=nana ti=kaadzi madabbui-winni.

tomorrow NOM=man REF=car fix-PROG

Intended: ‘Tomorrow, the man will be fixing his car.’

[EM: “Tomorrow, he’s fixing his car[…]mu’a ti=kaadzi madabbui-winni.”] (elicitation, EM, BP44-4, 8:17)

[MS: “No, it didn’t happen yet. Madabbui-winni would be he’s doing it now.”] (elicitation, MS, BP50-1, 49:01)

c. ?? Mu’a su=nana ti=kaadzi madabbui-hu.

tomorrow NOM=man REF=car fix-PFV

‘The man will fix his car tomorrow.’

[EM: “Mu’a tomorrow, yeah[…]he fixes his car.”] (elicitation, EM, BP44-4, 6:52)

[MS: “He doesn’t know whether he finished it, started it yet.”] (elicitation, MS, BP50-1, 1:00:46)

In sentences containing the future temporal adverbial mu’a ‘tomorrow’, both speakers I work with allow the prospective aspect suffix -kwi (9h). It locates events in the future of some contextually
salient time interval, which need not be the time of utterance (Thornes 2003:404f.). But only one speaker (EM) allows the verb to occur without this suffix, judging from her comments in 9b–d. The other speaker (MS) does not.

I do not think these facts are by themselves probative. Like Northern Paiute, Paraguayan Guaraní (Tupí-Guaraní: Paraguay) lacks all markers of tense. It never allows sentences to have a future interpretation in an out-of-the-blue context (10a).

(10) **Paraguayan Guaraní**

a. # Ko’éro a-jahu.
   tomorrow A1SG-bathe
   Intended: ‘Tomorrow, I am going to bathe.’ (Tonhauser 2011:271)

b. A-jahú-ta ha (upéi) a-jupi kolektivo-pe.
   A1SG-bathe-PROSP and then A1SG-get.on bus-at
   ‘I’m going to shower and then I’ll get on the bus.’ (Tonhauser 2011:273)

But Tonhauser (2011:273ff.) shows that, in an appropriate context, sentences *can* have a future interpretation. In 10b, for instance, the first coordinate in the coordination structure contains the prospective aspect, which permits the second coordinate to describe a future event of getting on the bus.

In Northern Paiute, too, it is possible for sentences to have a future interpretation, as long as the preceding discourse establishes an appropriate context.

(11) a. “Yaisi ní timabu’a-kwi. Yaisi ti=kaupa yaisi siku paa’a-guba-ggwe
   PTC 1SG.NOM help-PROSP   PTC REFL=leg PTC PTC water-LOC-LOC
   hannī.”
   do.DUR
   ‘[Crane said:] “I will help. I will put my leg over the water.”’ (narrative, MS, BP43-
   l-t1, 21–22)

b. Yaisi tiwaa, aaa, ii tiwau, uu yigwi-si, yaisi tiwau,
   PTC also ahh 2SG.NOM also thus do-SEQ PTC also
   u=ma-sikidu-kwi.
   3SG.ACC=IP.hand-form-PROSP 2SG.GEN=hand-INSTR

3For instance, the prospective aspect can be used in a personal narrative that discusses a series of events that took place in the past.

(i) Nimmi, ni=himma tsa-hani-kwi-si, nimmi
   1PL.EXCL.NOM 1PL.EXCL.GEN=thing IP.fingers-do-PROSP-SEQ 1PL.EXCL.NOM
   na-pa-gia-kwi-si, yaisi usu mi=oo aata-di hayu ni=nimai-’yakwi,
   PASS-water-give-PROSP-SEQ PTC DEM.NOM PL=DEM si.PL-NMZ somehow 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)

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.
[u=]ma-ssikidu-na tiwau aa ka=pisa ti=tabitiwa punni. 3SG.ACC=IP.hand-shape-SIM also ahh ACC=good REFL=sunshine see.DUR
1i paba-u pahiba una u=wi-pada-si, u-kuba yaisi 2SG.NOM big-ACC canvas DEM 3SG.ACC=IP.long-spread-SEQ 3SG-LOC then
noo-ko mi=hanni, tiuna-na; all-ACC 2/3PL=do.DUR place-SIM

“There, too, once you have done so, then (you) will shape that (into patties); with your hands, make patties (of the crushed berries), when the sun is shining nicely. Once you have spread out a big canvas, then place all of it/them on top, putting (them, the patties) here and there.” (narrative, [Thornes 2003:525]

In [11a], for instance, the second sentence in the direct speech report has a future interpretation relative to the time of Crane’s speaking, even though it does not contain the prospective aspect. Similarly, in [11b], the first sentence in this procedural narrative establishes a context that allows for the subsequent sentences to have a future interpretation.

Sentences in Northern Paiute, which lack any tense marking, can have a future interpretation in an appropriate context, suggesting that the language truly does not have absolute tense. We might wonder why, then, sentences in an out-of-the-blue context are not able to describe future events. Tonhauser (2011:289f.) proposes for Paraguayan Guaraní that future temporal adverbials differ in one important way from their non-future counterparts. They directly constrain the time of an event, as opposed to restricting the topic time (see Section 2 for what this is), and consequently are only possible in environments that make available a future topic time. An out-of-the-blue context is not such an environment. It remains to be seen whether this kind of explanation can be extended to account for the interspeaker variation that is observed for Northern Paiute.

1.2. Other aspectual morphology

Northern Paiute has a complex grammatical system for conveying aspect with several different categories of aspectual morphology. Setting aside durative gemination, the primary opposition is between the perfective and the progressive (12a–b). In complementary distribution with these, there is also a perfect suffix (12a), an inceptive suffix (12b), and a continuitive suffix (12c).

   NOM=man wake.up-PFV REFL=car fix-PERF
   ‘The man woke up. He had fixed his car.’ (elicitation, EM, BP55-3, 32:59)
   [EM: “When he wakes up, well he’s already through with his car.”]

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

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

In addition, there are some aspectual categories that cooccur with the perfective and progressive suffixes. For instance, the habitual suffix -heggwi can, but need not, appear outside both the perfective and progressive suffixes (13a–c).
The progressive suffix is homophonous with a main verb: it is identical to the durative form of the verb *wini* ‘stand’. There are other postural and motion verbs that can appear as suffixes on the verb as well.

Despite this formal similarity, there is evidence that the progressive suffix has truly been grammaticized as an aspectual morpheme. It no longer has its postural meaning. By contrast, the other verbs still entail their postural or motion component of meaning, e.g. *kati* ‘sit’ (16).

For the progressive suffix, the event described by the verb does not also have to be a standing event, suggesting that its semantics only includes an aspectual component.
1.3. The distribution of durative gemination

With this background in place, we can now turn to durative gemination. In the 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. When a verb bears an aspectual suffix, such as the perfective suffix in (17a), (18a), and (19a), it appears in its bare form.

\[(17)\]
\[
a. \text{Nii } \text{habi-hu.} \\
1\text{SG.NOM } \text{lie.down-PFV} \\
\text{‘I lay down.’ (elicitation, EM, BP45-5, 13:55)}
b. \text{Nii } \text{hapi.} \\
1\text{SG.NOM } \text{lie.down.DUR} \\
\text{‘I’m lying down.’ (elicitation, EM, BP46-7, 1:00:42)}
\]

\[(18)\]
\[
a. \text{Nii } \text{ti-} \text{ddoogga mayi-hu.} \\
1\text{SG.NOM } \text{REFL=dog find-PFV} \\
\text{‘I found my dog.’ (elicitation, EM, BP49-5, 1:25:50)}
b. \text{Nii } \text{ti-} \text{ddoogga ma’yi.} \\
1\text{SG.NOM } \text{REFL=dog find.DUR} \\
\text{‘I found my dog.’ (elicitation, EM, BP51-4, 00:50)}
\]

\[(19)\]
\[
a. \text{Su=nana } \text{ti-} \text{kaadzi madabbui-hu.} \\
\text{NOM=man } \text{REFL=car fix-PFV} \\
\text{‘The man fixed his car.’ (elicitation, EM and MS, BP44-4, 4:04)}
b. \text{Su=nana } \text{ti-} \text{kaadzi madabbu’i.} \\
\text{NOM=man } \text{REFL=car fix.DUR} \\
\text{‘The man is fixing his car.’ (elicitation, EM, BP44-4-s, 1)}
\]

When there is no aspectual suffix present, the verb undergoes durative gemination, as in (17b), (18b), and (19b). Crucially, it is impossible for them to cooccur. (Snapp et al. 1982:63, Thornes 2003:414).

\[(20)\]
\[
* \text{Nii } \text{hapi-hu.} \\
1\text{SG.NOM } \text{lie.down.DUR-PFV} \\
\text{(elicitation, EM, BP45-5, 14:01)}
\]

The actual form that durative gemination takes is conditioned by the phonological shape of the verb. When the onset of the final syllable is a lenis (short voiced) stop or fricative, it becomes fortis (long voiceless) (17b). (See Babel et al. 2012 for a phonetic description of the lenis-fortis-voiced fortis opposition in Northern Paiute.) But when the onset of the final syllable is a glide, a glottal stop is inserted instead (18b). This also happens when there is no onset to begin with (19b). As far as I can tell, the process is completely general. Every verb that can undergo durative gemination phonologically does so.

There are some verbs that cannot—at least not visibly—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 (namely, the glottal segments ‘ and h), then the verb has the same form both with an aspectual suffix (21a) and without it (21b).
a. Su=mogo’ni ka=poo wokwopa-hu.
   NOM=woman ACC=road cross-PFV
   ‘The woman crossed the road.’ (elicitation, EM, BP56-1, 54:11)
   [EM: “Means she’s already through. She already crossed the road.”]

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

While the morphological opposition between the bare and durative forms is neutralized for these verbs, the semantic opposition is not. For verbs that do have a distinct durative form, the bare form can never occur on its own in nonmodal contexts: compare [22] to [17]–b (Toosarvandani 2014b).

(22) * Niŋi habi.
    1SG.NOM lie.down
    (elicitation, EM, BP45-5, 13:16)

However, verbs that do not have a distinct durative form, such as wokwopa ‘cross’, can occur without any overt aspectual morphology, as in [21b]. When this is the case, they must still be expressing an aspectual category of some kind. Given the translation and the speaker’s comments, it is likely the same category that durative gemination expresses.

Durative gemination is more productive in Northern Paiute than in other Numic languages (see also Thornes 2003:413 fn. 27). It is not just a stem alternation: it targets the final syllable of the verb, even when this is contained in a verbal suffix. For instance, there is a class of motion suffixes, including the motion away suffix -gaa, which undergo durative gemination in lieu of the verb stem (23b–c).

(23) a. Niŋi ka=tihidda nagi-gaa-hu.
    1SG.NOM ACC=deer chase-MOT-PFV
    ‘I chased the deer away.’ (elicitation, EM, BP56-3, 3:35)

    1SG.NOM ACC=deer chase-MOT.DUR
    ‘I am chasing the deer away.’ (elicitation, EM, BP51-1-s, 1)

c. * Niŋi ka=tihidda naki-gaa.
    1SG.NOM ACC=deer chase.DUR-MOT
    (elicitation, EM, BP56-3, 1:43)

    1SG.NOM ACC=deer chase-PFV
    ‘I chased the deer.’

b. Niŋi ka=tihidda naki.
    1SG.NOM ACC=deer chase.DUR
    ‘I am chasing the deer.’

Of course, without this motion suffix, it is the verb stem itself that undergoes durative gemination (24a–b).
I conclude that durative gemination conveys an aspectual category, since it is in complementary distribution with the perfective and progressive suffixes. Further evidence for this analysis comes from the dialect of Northern Paiute spoken immediately around Mono Lake in eastern California. In the speech of one of my consultants, whose family comes originally from Mono Lake, durative gemination is optionally accompanied by an overt suffix, -'yu (25a). Another consultant, whose ancestry lies entirely farther to the north, never uses this suffix (25b).

    1SG.NOM little-ACC dog see.DUR-DUR  
    ‘I see a small dog.’ (elicitation EM, BP57-4-s, 2)

       b. Niï ka=tiïitsi-ggu toogga punni.  
    1SG.NOM ACC=little-ACC dog see.DUR  
    ‘I see the small dog.’ (elicitation MS, BP32-3-s, 13)

If the -'yu suffix is an additional marker of the aspectual category conveyed by durative gemination in the Mono Lake dialect, then it should not be able to occur with the perfective and progressive suffixes.

(26) a. * Su=mogo’ni hubiadu-winni-’yu.  
    NOM=woman sing-PROG-DUR  
    (elicitation, EM, BP56-3, 1:00:04)

       b. * Su=mogo’ni hubiadu-hu-’yu.  
    NOM=woman sing-PFV-DUR  
    (elicitation, EM, BP56-3, 1:05:25)

This is indeed the case, confirming that durative gemination conveys an aspectual category. In the next section, I describe the type of aspect this is.

2. The semantics of durative gemination

There is little discussion of the semantics of durative gemination in the Numic literature. Usually, it is simply 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 one traditional characterization, “make[s] explicit reference to the internal temporal constituency of the situation” (Comrie 1976:4). In this regard, the imperfective aspect is usually taken to contrast with the perfective aspect, which again according to Comrie, “presents the totality of the situation referred to.”

*In addition, this suffix is documented in Sydney Lamb’s field notes from a meeting with Minnie Mike of Lee Vining, California, which is adjacent to Mono Lake. (While he carried out fieldwork primarily on Mono, a small percentage of his field notes include data from several dialects of Northern Paiute.)

(i) Pahi-’yu puggwa-mmo’o ~ puggwa-mmo’o-’yu.  
    three-NOM lie.down.PL-walk.PL.DUR lie.down.PL-walk.PL-DUR-DUR  
    ‘Three lie.’ ['Three are lying around.'](Lamb 1954–1955:119)

There are only a few forms and many uncertainties remain about the data, but a few things are clear. The suffix -'yu is present in Mike’s speech, and it can occur optionally on verbs that have undergone durative gemination.
There are many theories of the imperfective aspect. Within formal semantics, there is a consensus that it “allows reference to incomplete or ongoing situations” (Deo 2009:475). It shares this EVENT-IN-PROGRESS interpretation with the progressive aspect. But the imperfective conveys a wider range of interpretations than the progressive. In the languages that have been studied from this perspective — primarily, Romance (French, Italian, Spanish) and Slavic (Russian) languages — this includes HABITUAL, CONTINUOUS, and EVENT-IN-PREPARATION interpretations (Bonomi 1997, Cipria and Roberts 2000, Deo 2009, Arregui et al. 2014). Not all languages necessarily have the same range of interpretations for the imperfective aspect, though they must at least have the event-in-progress interpretation.

The theories of imperfective aspect identified above differ in important details, but they share a single goal. They seek to identify a shared semantic core for the imperfective aspect across languages, which can be filled in pragmatically to produce its different interpretations. At the most basic level of description, we might say that the imperfective aspect — like other types of aspect — maps an event described by the predicate to the time at which the sentence is interpreted, or TOPIC TIME in Klein’s (1994) terms. Depending on the mapping that is provided by the context, the imperfective aspect has different interpretations. Not all languages allow the same mappings for the imperfective aspect, giving rise to the observed crosslinguistic variation in the interpretations that are available in individual languages.

Here, I will situate durative gemination within this typology of the imperfective aspect from the formal semantics literature. As we will see below, durative gemination in Northern Paiute has an event-in-progress interpretation (Section 2.1), as well as a continuous interpretation (Section 2.2) and an habitual interpretation (Section 2.3). It does not, however, have an event-in-preparation interpretation (Section 2.4). There are additional interpretations for durative gemination, which more closely resemble the perfective aspect, that I take up in the following section.

2.1. The event-in-progress interpretation

The most canonical interpretation for the imperfective aspect is the EVENT-IN-PROGRESS interpretation. It shares this interpretation with the progressive aspect, e.g. The woman was crossing the street. For eventive predicates that have duration — activities and accomplishments — it conveys that the event does not terminate within the topic time, and hence is still in progress. In other words, the topic time overlaps with a proper subpart of the event.

(27) French

Quand l’oncle Jean a frappé à sa porte à minuit, Chantal lisait.

when the.uncle John has knocked at her door at midnight Chantal read.IMPF

‘When Uncle John knocked at her door at midnight, Chantal was reading.’

(Smith 1997:198)

For instance, in (27) from French, the subordinate clause identifies a time interval as a reference point during which the event described by the main clause, which is in the imperfective, is still ongoing. Chantal has not yet finished reading when her uncle knocks on the door.

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12

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5This is a simplistic description because one strand of this literature assumes a somewhat richer ontology for language that includes situations (Cipria and Roberts 2000, Arregui et al. 2014). Under this view, events can be thought of as a type of situation, so that the imperfective aspect maps a situation that exemplifies the predicate to another situation, the topic situation, which serves the role of the topic time.
Durative gemination in Northern Paiute has an event-in-progress interpretation. In their durative forms, both activity and accomplishment predicates are compatible with an assertion of noncompletion.\footnote{Smith 1997:63f.}

(28) a. Amamu’a su=naatsi’i $\mathbf{hubiatsu}$. Yaisi kaisu hubiadu-maggwi-hu. morning NOM=boy sing.DUR PTC not.yet sing-finish-PFV

‘Yesterday, the boy was singing. He hasn’t finished singing yet.’ (elicitation, MS, BP47-6, 9:45)

b. Amamu’a su=nana ti=kaadzi $\mathbf{madabbui’i}$. Yaisi kaisu madabbui-maggwi-hu. morning NOM=man REFLECT=car fix.DUR PTC not.yet fix-finish-PFV

‘This morning, the man was fixing his car. He hasn’t finished fixing it yet.’ (elicitation, EM, BP47-8, 17:06)

For the telic predicate $\mathbf{ti=kaadzi maddabui}$ ‘fix one’s car’ in (28)b, durative gemination describes the event as not having yet culminated, since it is possible to assert in a noncontradictory fashion that the event is still going on.

In this respect, durative gemination parallels the progressive aspect. It, too, is compatible with an assertion of noncompletion, for both activities (29a) and accomplishments (29b).

(29) a. Amamu’a su=naatsi’i $\mathbf{hubiadu-winni}$. Yaisi kaisu hubiadu-maggwi-hu. morning NOM=boy sing-PROG PTC not.yet sing-finish-PFV

‘This morning, the boy was singing. He hasn’t finished singing yet.’ (elicitation, MS, BP47-6, 12:30)

b. Amamu’a su=nana ti=kaadzi $\mathbf{madabbui-winni}$. Yaisi kaisu morning NOM=man REFLECT=car fix-PROG PTC not.yet madabbui-maggwi-hu.

fix-finish-PFV

‘This morning, the boy was fixing his car. He hasn’t finished fixing it yet.’ (elicitation, EM, BP47-8, 21:16)

(30) a. Amamu’a su=naatsi’i $\mathbf{hubiadu-hu}$. #Yaisi kaisu hubiadu-maggwi-hu. morning NOM=boy sing-PFV PTC not.yet sing-finish-PFV

‘This morning, the boy finished singing. He hasn’t finished singing yet.’ (elicitation, EM, BP47-6, 11:50)

[EM: “He stopped singing in the morning, and then next day he started singing again.”]

b. Amamu’a su=nana ti=kaadzi $\mathbf{madabbui-hu}$. #Yaisi kaisu morning NOM=man REFLECT=car fix-PFV PTC not.yet madabbui-maggwi-hu.

fix-finish-PFV

‘This morning, the boy fixed his car. He hasn’t finished fixing it yet.’ (elicitation, EM and MS, BP47-8, 19:17)

[MS: “Amamu’a madabbui-maggwi husi, yaisu hausu duadzu uka kaisu mamaggwi hu?]

\footnote{It is possible to identify the underlying aktionsart of predicates in Northern Paiute using several diagnostics that I describe elsewhere (Toosarvandani 2014a).}
['If he finished fixing it in the morning, how did he not finish it yet?']’” [laughter]
EM: “Yeah, it don’t make sense, init.”]

In this respect, durative gemination and the progressive aspect contrast with the perfective aspect \(30\text{a–b}\). It describes an event in its totality, including its end point, and hence results in a contradiction with assertions of noncompletion.

If durative gemination has the event-in-progress interpretation, the topic time should be able to be contained within the event \(\text{Cover and Tonhauser 2015}\). To test this, the topic time can be restricted by temporal adverbials, such as \text{wahaggwe} ‘at two o’clock’, which delimit (or frame) a time interval. When the topic time is restricted in this way, it can indeed be located inside the event described by a verb that has undergone durative gemination.

\(31\) Context: The boy started fixing his car at 1:00; he finished fixing it at 3:00.
\[
\text{Waha-ggwe }\text{su=nana }\text{ti=kaadzi madabbu’i}.
\]
\[
\text{two-LOC }\text{NOM=man REFL=car fix.DUR}
\]
‘At two o’clock, the man was fixing his car.’ (elicitation, EM, BP51-5, 7:02)
[EM: “That would be okay. He worked all the way through.”]

The sentence in \(31\) is judged true in a context where the event extends throughout the two o’clock time interval. This parallels the progressive aspect in \(32\text{a}\). In contrast, the perfective aspect does not allow for the topic time to be contained within the event. The sentence in \(32\text{b}\) is judged false because the entire event of fixing the car must instead be contained within the two o’clock time interval, which is not possible given how the world works.

\(32\) Context: The boy started fixing his car at 1:00; he finished fixing it at 3:00.
\[
\begin{align*}
\text{a. } & \text{Waha-ggwe }\text{su=naatsi’i ti=kaadzi madabbui-winni}. \\
& \text{two-LOC }\text{NOM=boy REFL=car fix-PROG}
\end{align*}
\]
‘At two o’clock, the boy was fixing his car.’ (elicitation, EM, BP50-2, 45:33)
\[
\begin{align*}
\text{b. } & \# \text{Waha-ggwe }\text{su=nana ti=kaadzi madabbui-hu}. \\
& \text{two-LOC }\text{NOM=man REFL=car fix-PFV}
\end{align*}
\]
Intended: ‘At two o’clock, the man was fixing his car.’ (elicitation, EM, BP51-6, 38:00)

Finally, under the event-in-progress interpretation, the imperfective aspect exhibits the so-called imperfective paradox \(\text{Dowty [1979]:133}\). The ongoing event does not have to culminate in the actual world, e.g. \text{The woman was crossing the street. She was hit by a bus}. The precise characterization of this property, and how it might arise from the mapping between the event and the topic time, has been the subject of much debate \(\text{Dowty [1977, 1979]:133–192, Landman [1992, Portner [1998]}\). But in Northern Paiute, it is clear that durative gemination exhibits the imperfective paradox.

\(33\) Context: The woman is making a basket. When she is halfway done, someone sets it on fire and it burns.
\[
\begin{align*}
\text{a. } & \text{Su=mogo’ni ka=opo madabbu’i}. \text{Yaisi ne-hu}. \\
& \text{NOM=woman ACC=basket make.DUR PTC burn-PFV}
\end{align*}
\]
‘The woman was making the basket. It burned.’ (elicitation, EM, BP56-1, 1:06:42)
b. Su=mogo’ni ka=opo madabbui-winni. Yaisi ne-hu.
   NOM=woman ACC=basket make-PROG PTC burn-PFV
   ‘The woman was making the basket. It burned.’ (elicitation, EM, BP56-1, 1:03:59)

c. #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.’ (elicitation, EM, BP56-1, 1:08:21)

The sentence in 33a is judged true in a context where the event of the woman making a basket never culminates in the actual world, because it burns before it is finished. This is again just like a sentence with the progressive aspect (33b). As expected, the parallel sentence with the perfective aspect in 33c is judged false in the same context, since it requires the event to culminate in the actual world.

2.2. The continuous interpretation

The imperfective aspect also has a CONTINUOUS interpretation with stative predicates. It can describe states as simply holding throughout the topic time. In 34, again from French, the verb in the imperfective simply describes that a somewhat extended state holds throughout some past time interval.

(34) French
   Martha vivait à Paris.
   Martha lived.IMPF at Paris
   ‘Martha was living in Paris.’ (Smith 1997:200)

The English translation using the progressive here is inadequate: unlike the original, it conveys that the state was more transitory (Dowty 1979:173–180).

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

(35) Su=naatsi’i ti=ddogga pisapi.
   NOM=boy REFL=dog like.DUR
   ‘The boy likes his dog.’ (elicitation, EM, BP46-2, 30:18)
   [EM: “He likes it now. Well, he likes it all the time, I guess.”]

This contrasts with the progressive aspect, which describes a state that holds only temporarily, for a short period of time.

(36) Su=naatsi’i ti=ddogga pisabi-winni.
   NOM=boy REFL=dog like-PROG
   ‘The boy is liking his dog.’ (elicitation, EM, BP52-4, 9:28)
   [EM: “Pisabiwinni would be just for a short time, yeah[... ]”]

From the speaker’s comments in 35 it is clear that durative gemination has a continuous interpretation in which the state can hold for an extended time.
2.3. The habitual interpretation

In many languages, the imperfective aspect has a HABITUAL (or characterizing) interpretation, which expresses an exception-tolerating generalization about events. In [37] the imperfective is used to convey that his mother generally, though perhaps not always, tells him fairy tales in the evening.

(37)  *French*

Sa mère lui rancontait des contes de fées tous les soirs.

*His mother would tell him fairy tales every evening.*  

The mapping between the event and topic time that gives rise to the habitual interpretation is not easy to characterize, nor unify with the mappings that are responsible for the other interpretations (Bonomi [1997], Cipria and Roberts [2000], Deo [2009]).

But durative gemination in Northern Paiute does have an habitual interpretation. Speakers use it voluntarily to translate sentences in English that describe generalizations about events (38).

(38)  *Yonona=sabbi nii sa’a.*

‘I only cook in the evenings.’  

In addition, in response to a question about what the woman generally does on Sundays, it is possible to answer felicitously, as in [39b], with just a verb in its durative form.

(39)  a.  *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?’

b.  *Su=mogo’ni hubiatu.*

   NOM=woman sing.DUR

   ‘The woman sings.’

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

This can be contrasted with the progressive suffix, which is infelicitous in response to the same question (40b). Based on the speaker’s comments, it can only express a statement about a single occurrence of a singing event.

(40)  a.  *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?’

b.  # *Su=mogo’ni hubiadu-winni.*

   NOM=woman sing-PROG

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

c.  # *Su=mogo’ni hubiadu-hu.*

   NOM=woman sing-PFV

   Intended: ‘The woman sings.’  
   [EM: “Means just once that she sang.”]
Predictably, the perfective suffix also does not allow a habitual interpretation (40c). So, in addition to the event-in-progress and continuous interpretations, durative gemination has a habitual interpretation.

### 2.4. The event-in-preparation interpretation

Finally, in some languages, the imperfective aspect allows for an EVENT-IN-PREPARATION interpretation, in which the event has not yet been initiated. In [41] from Spanish, the going-to-the-beach event described by the verb in the imperfective must not yet have begun, because the second clause explicitly asserts that it is not possible.

(41) **Spanish**

Hasta ayer, **íbamos a la playa de vacaciones**, pero hoy Pepa dijo que no hay dinero para eso. 

‘Up until yesterday we were going to the beach on vacation, but today Pepa said that there is no money for that.’

While the event-in-preparation interpretation 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 interpretation.

(42) **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 u=bbiwi kati--hu-si, ya’i-hu.

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

In the context in [42] where the woman prepares to climb a mountain but never actually does, durative gemination is infelicitous. This suggest that it does not have an event-in-preparation interpretation.

### 3. Another interpretation for durative gemination

We saw above that durative gemination in Northern Paiute has much the same range of interpretations as the imperfective aspect in other languages: event-in-progress, continuous, and habitual. But with some predicates, such as **mia** ‘go away’, it does not appear to have any of these interpretations (43a).

(43) a. **Su=nana** **mi’a.**

NOM=man **go.away.DUR**
‘The man went away.’ (elicitation, EM, BP46-7, 57:40)  
[EM: “The man is walking. Yeah, right now.”]

b. Su=nana mia-hu.  
NOM=man go.away-PFV  
‘The man went away.’ (elicitation, EM, BP44-7, 1:22:09)  
[EM: “The man left. The man is gone or something.”]

c. * Su=nana mia-winni.  
NOM=man go.away-PROG  
Intended: ‘The man was going away.’ (elicitation, EM, BP44-7, 1:24:13)

When it undergoes durative gemination, *mia ‘go away’* does not have an habitual interpretation: it describes a single event. It also does not obviously have a continuous interpretation, since it is not a stative predicate. Nor does *mia ‘go away’* appear to have an event-in-progress interpretation; it is incompatible with the progressive suffix (43c).7

Instead, when *mia ‘go away’* undergoes durative gemination, it gives rise to what Altschuler (2010:9) calls a CULMINATION ENTAILMENT: it necessarily expresses that the event has culminated. In [43a], the event of the man going away is completed, since the speaker describes him as already walking away. This is parallel to its interpretation with the perfective suffix (43b). Accordingly, *mia ‘go away’* is incompatible with an assertion of noncompletion both in its durative form (44a) and with the perfective suffix (44b).

(44)  

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

b. Amamu’a su=mogo’ni mia-hu. #Yaisi kaisu mia-maggwi-hu.  
morning NOM=woman leave-PFV PTC not.yet leave-finish-PFV  
‘This morning, the woman left. She hasn’t left yet.’ (elicitation, EM, BP57-1, 8:30)  
[EM: “No, it don’t [make sense... She just left this morning.”]

I will call this interpretation for durative gemination, which gives rise to the culmination entailment, the COMPLETED interpretation.

In Section 3.1 I provide a characterization of the completed interpretation for durative gemination: the topic time contains the entire event, including its end point. This gives rise to a culmination entailment with some achievement predicates, such as *mia ‘go away’* above. Somewhat mysteriously, other achievement predicates do not have a culmination entailment when they undergo durative gemination. I argue in Section 3.2 that there are multiple subclasses of achievements in Northern Paiute, some of which allow for another interpretation in addition to the completed in-

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7Interestingly, while *mia ‘go away’* cannot have an event-in-progress interpretation with the progressive suffix (43c), it becomes felicitous when the subject is plural: “A lot of people *miawinni*, means they are all leaving” (elicitation, EM, BP46-8, 12:41). The progressive aspect requires a durative predicate, which apparently can coerce *mia ‘go away’* into a plural event interpretation that is distributed across individuals. Presumably, this is because, unlike a semelfactive predicate, the same individual cannot leave over and over again.
terpretation. Finally, in Section 3.3 I examine the availability of a completed interpretation with predicates from other aktionsart classes.

### 3.1. The completed interpretation

When durative gemination has a completed interpretation, I propose that the topic time contains the event *in its entirety*, including its end point. This interpretation is most clearly available with achievement predicates. In (45a–c), the topic time is constrained to the two o’clock time interval by a temporal adverbial; the change-of-state events they describe are entirely contained within this time.

(45)

<table>
<thead>
<tr>
<th>a.</th>
<th><strong>Waha-ggwe su=mogo’ni mi’a.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>two-LOC NOM=woman go.away.DUR</strong></td>
</tr>
<tr>
<td></td>
<td>‘At two o’clock, the woman left.’ (elicitation, EM, BP51-5, 17:27)</td>
</tr>
<tr>
<td></td>
<td>[EM: “Yeah, she left at two.”]</td>
</tr>
<tr>
<td>b.</td>
<td><strong>Waha-ggwe su=naatsi’i nabagia-na-ggwe tsibu’i.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>two-LOC NOM=boy bathe-NMZ-LOC emerge.DUR</strong></td>
</tr>
<tr>
<td></td>
<td>‘At two o’clock, the boy got out of the bathtub.’ (elicitation, EM and MS, BP47-3, 44:06)</td>
</tr>
<tr>
<td></td>
<td>[MS: “Means the little boy got out of the tub…” EM: “…bathtub at two o’clock.”]</td>
</tr>
<tr>
<td>c.</td>
<td><strong>Waha-ggwe su=naatsi’i ka=ddogga ma’yi.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>two-LOC NOM=boy ACC=dog find.DUR</strong></td>
</tr>
<tr>
<td></td>
<td>‘At two o’clock, the boy found his dog.’ (elicitation, EM, BP49-6, 25:25)</td>
</tr>
<tr>
<td></td>
<td>[EM: “Two o’clock he found the dog.”]</td>
</tr>
</tbody>
</table>

The completed interpretation parallels the mapping between the topic time and event that is imposed by the perfective aspect ([Kratzer 1998] 107). It contrasts with the event-in-progress interpretation, in which the topic time overlaps with a *proper subpart* of the event.

If achievement predicates describe just an instantaneous change-of-state event — just a culmination, in other words — the completed interpretation should always give rise to a culmination entailment with them. This is certainly true for *mia ‘go away’* (46a) and *mayi ‘find’* (46c), but not for all achievements. The verb *tsibui ‘emerge’* is *compatible* with an assertion of noncompletion (46b).

(46)

| a. | **Amamu’a su=naatsi’i mi’a.** #Yaisi kaisu mia-maggwi-hu. |
|    | **morning NOM=boy go.away.DUR PTC not.yet leave-finish-PFV** |
|    | ‘This morning, the boy left. He hasn’t left yet.’ (elicitation, EM, BP51-1, 2:00) |
|    | [EM: “The boy left this morning. Kaisu miamaggwihu…well, sound like that he’s not gone yet[...] It don’t make sense.”] |
| b. | **Su=naatsi’i nabagia-na-ggwe tsibu’i.** Yaisi kaisu tsibui-maggwi-hu. |
|    | **NOM=boy bathe-NMZ-LOC emerge.DUR PTC not.yet emerge-finish-PFV** |
|    | ‘The boy is getting out of the bathtub. He hasn’t gotten out yet.’ (elicitation, EM, BP52-5, 48:10) |
|    | [EM: “He’s getting out of the tub, but he’s still getting out of the tub.”] |
| c. | **Su=naatsi’i ti=ddogga ma’yi.** #Yaisi kaisu u=mayi-maggwi-hu. |
|    | **NOM=boy REF=dog find.DUR PTC not.yet 3SG.ACC=find-finish-PFV** |
‘The boy found his dog. He hasn’t found it yet.’ (elicitation, EM, BP56-1, 46:52) [EM: “Cuz he already found the dog.”]

To add to the mystery, for some of these predicates but not others, the topic time does not always have to stand in the same relation to the event. With *tsibui* ‘emerge’, the topic time can also be located *inside* the change-of-state event, which takes place over an unusually extended time period (47). By contrast, for *mia* ‘go away’ and *mayi* ‘find’, it is impossible even to construct realistic contexts with speakers where the transition from one state to another is stretched out in this way.

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

Waha-ggwe su=wa’itsi tsibu’i.
two-LOC NOM=old.man emerge.DUR
‘At two o’clock, the old man was getting out of the bathtub.’ (elicitation, EM, BP56-1, 8:31)

In addition, for *mia* ‘go away’, the topic time can be located *after* the culmination of the event (48a). This is not possible for either *tsibui* ‘emerge’ (48b) or *mayi* ‘find’ (48c).

(48) a. 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 go away.DUR
‘At two o’clock, the woman was going away.’ (elicitation, EM, BP51-5, 10:47) [EM: “Then she’s still going till three o’clock.”]

b. 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.’ (elicitation, EM, BP53-4, 46:20) [EM: “[…]well I thought he got out at one.”]

c. Context: The woman found her dog at 1:00.

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

This suggests that achievements predicates may be more heterogenous in Northern Paiute than it first appears. Indeed, as I will show next, they can differ in whether they lexically encode other event components in addition to a change-of-state. As a consequence, while they can all have a completed interpretation, some are also compatible with another interpretation for durative gemination. Depending on what this is, these predicates do not give rise to a culmination entailment.
3.2. Three classes of achievements in Northern Paiute

All achievement predicates in Northern Paiute share at least one property. The inceptive suffix -huka picks out the initial point of an event. With durative predicates, activities (49a) and accomplishments (49b), the inceptive suffix is compatible with an assertion of noncompletion.

(49)  

\[ \text{a. Su=mogo’ni hubiadu-huka. Yaisi kaisu hubiadu-maggwi-hu.} \]
\[ \text{NOM=woman sing-INCEP PTC not.yet sing-finish-PFV} \]
\[ \text{‘The woman started singing. She hasn’t finished singing yet.’ (elicitation, EM and MS, BP53-4, 32:50)} \]

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

By contrast, when achievements take the inceptive suffix, including mia ‘go away’ (50a), tsibui ‘emerge’ (50b), and mayi ‘find’ (50c), such a continuation is contradictory.

(50)  

\[ \text{a. Su=mogo’ni mia-huka. #Yaisi kaisu mia-maggwi-hu.} \]
\[ \text{NOM=woman leave-INCEP PTC not.yet leave-finish-PFV} \]
\[ \text{‘The woman left. She hasn’t left yet.’ (elicitation, EM, BP53-4, 36:25)} \]
\[ \text{[EM: “She left already, and then you said that she didn’t leave yet.”]} \]

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

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

From this, we can conclude that these achievement predicates must all describe change-of-state events that can simultaneously be both an end point and an initial point. The inceptive suffix conveys that these events have started, and hence also culminated.

But there is evidence for at least three distinct subclasses of achievement predicates in Northern Paiute (Toosarvandani 2014a). Summarized in Table 1, they diverge based on whether they lexically encode another meaning component in addition to a change-of-state. Consider the interpretation of the three predicates above more closely when they undergo durative gemination.

(51)  

\[ \text{a. Su=nana mi’a.} \]
\[ \text{NOM=man go.away.DUR} \]
\[ \text{‘The man is going.’ (elicitation, EM, BP46-7, 57:40)} \]
\[ \text{[EM: “The man is walking. Yeah, right now.”]} \]

21
b. Su=nts’i nabagia-na-ggwe tsibu’i.
NOM=boy bathe-NMZ-LOC **emerge.DUR**
‘The boy is getting out of the bathtub.’ (elicitation, EM, BP56-4, 3:01)
[EM: “Probably slowly getting out of the tub.”]

c. Nii ti=ddogga ma’yi.
1SG.NOM REFL=dog **find.DUR**
‘I found my dog.’ (elicitation, EM, BP51-4, 00:50)
[EM: “You already found him.”]

In [51a], based on the speaker’s comments, the verb mia ‘go away’ can also describe the result of leaving, or in other words, the state of walking away. In [51b], tsibui ‘emerge’ can have a “slow motion” reading, in which the emerging event is stretched out over an extended duration. By contrast, mayi ‘find’ in [51c] does not obviously have either of these readings.

For the first class of achievement predicates, which includes mia ‘go away’, I propose they encode, not just an instantaneous change-of-state event, but also the resulting state, cf. achievements in Japanese (Ogihara 1998) or ‘inceptive statives’ in Skwxwú7mesh (Bar-el 2005). For mia ‘go away’, this would be the state of walking away, which results from a event of leaving. Consequently, when it undergoes durative gemination, it can have a completed interpretation, as in [45a]. It can also have a continuous interpretation, as in [48a]. Though this predicate is not strictly speaking stative, it does encode a stative component — the result state — within which the topic time can be located.

Achievements of the second class that allow a slow motion reading, such as tsibui ‘emerge’, are common in other languages, e.g. The critic is noticing the new picture (Rothstein 2004:55). This is usually taken to have one of two sources. First, these achievement predicates might really just be very short accomplishments — they would not actually describe an instantaneous change-of-state event — that revealed their process component only in the appropriate grammatical construction (Verkuyl 1989:55–58). This would include durative gemination because it has an event-in-progress interpretation. Alternately, there might be a type shifting operation that turns these achievement predicates into activities (Rothstein 2004:56–58). Once they had been shifted in this way, they would be compatible with durative gemination under its event-in-progress interpretation. Presumably, this type shifting operation would be freely available with achievements as long as the resulting meaning was compatible with world knowledge.

In contrast to the first and second classes of achievements, the third class, which includes mayi ‘find’, does not encode either a result state or a process component, just an instantaneous change of state. This three-way division for achievement predicates is supported by a few pieces of evidence. First, neither the first class (52a) nor the third class (52c) is felicitous with the progressive suffix. If these predicates do not encode a process component (whether inherently or through type shifting), they cannot describe an event with a duration long enough to be ongoing.

(52) a. * Su=nana mia-winni.
NOM=man **go.away-PROG**
Intended: ‘The man is going away.’ (elicitation, EM, BP44-7, 1:24:13)

\[8\]Again, mayi ‘find’ is possible in the progressive aspect as long as it has a plural interpretation: “That means more than one little dog...it’s gotta be more than one” (elicitation, MS, BP49-5, 1:25:29).
Table 1: The three classes of achievement predicates in Northern Paiute

<table>
<thead>
<tr>
<th>Class</th>
<th>Predicates</th>
<th>Lexical Semantics</th>
<th>Durative Gemination</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>mia ‘go away’</td>
<td>change-of-state and result state</td>
<td>completed (45a)</td>
</tr>
<tr>
<td></td>
<td>habi ‘lie down’</td>
<td></td>
<td>continuous (48a)</td>
</tr>
<tr>
<td></td>
<td>kadi ‘sit down’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wini ‘stand up’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>tsibui ‘emerge’</td>
<td>process and change-of-state</td>
<td>completed (45b)</td>
</tr>
<tr>
<td></td>
<td>puya ‘climb’</td>
<td></td>
<td>event-in-progress (47b)</td>
</tr>
<tr>
<td></td>
<td>sita ‘get angry’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>mayi ‘find’</td>
<td>change-of-state only</td>
<td>completed (45c)</td>
</tr>
<tr>
<td></td>
<td>kadoma’e ‘destroy’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wadzimia ‘escape’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>pidi ‘arrive’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In contrast, achievements from the second class are compatible with the progressive (52b), giving rise to the same event-in-progress interpretation they can have with durative gemination. Second, with the first class (53a) and the second class (53b) of achievements, durative gemination is compatible with an assertion of continuation that contains tiggwisu ‘still’ and the predicate in its durative form. Since mia ‘go away’ encodes a result state, it can have a continuous interpretation that locates that topic time inside the result state, which can continue at a later time. Similarly, because tsibui ‘emerge’ is able to describe a process component, it allows for an event-in-progress interpretation that does not require the event to culminate; it can thus be continued later.

Finally, the first and second classes of achievements are felicitous with tiggwisu ‘still’ when they undergo durative gemination (53a–b). This adverb only occurs with predicates that encode a state or event with duration, such as the result state encoded by mia ‘go away’ or the process
component of tsibui ‘emerge’. The third class of achievements, which has neither of these meaning components, is simply incompatible with tiggwisu ‘still’.

(54) * Su=naatsi’i ti=toogga tiggwisu ma’yi.
    NOM=boy REFL=dog still find.DUR

    Intended: ‘The boy had still found/is still looking for his dog.’ (elicitation, EM and MS, BP49-6, 27:45)

    [EM: “That don’t sound right. He found his dog already, he can’t find him again.” MS: “He would be like ti=ddogga tiggwi wati [‘still looking for his dog’].”]

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 interpretation, such as mayi ‘find’, give rise to a culmination entailment because the topic time always contains the event’s culmination. Achievements that encode a result state, such as mia ‘go away’, also give rise to a culmination entailment because the topic time must either contain the event culmination or be located after it in the result state. Only achievements that encode a process component, such as tsibui ‘enter’, do not give rise to a culmination entailment: they can have an event-in-progress interpretation in which the event has not yet terminated, and so they are compatible with an assertion of noncompletion.

3.3. A prediction about semelfactive predicates

While the completed interpretation 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 a semelfactive predicate like akwisiye ‘sneeze’, which describes a nonculminating instantaneous event, durative gemination expresses that a single event of sneezing took place:

(55) a. Niï akwisiya’e.
    1SG.NOM sneeze.DUR

    ‘I sneezed (once).’ (elicitation, EM, BP45-5, 1:44:35)

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

b. Niï akwisiye-winni.
    1SG.NOM sneeze-PROG

    ‘I am sneezing (over and over again).’ (elicitation, EM, BP45-5, 1:45:04)

    [EM: “Akiwisiyewinni means you sneeze a lot of times.”]

This contrasts with the interpretation of semelfactive predicates in the progressive aspect. Since the progressive only has an event-in-progress interpretation, it requires an event with duration. Consequently, semelfactives are coerced into describing an iterative event (55b).

---

9The durative form of akwisiye is akwisiya’e. The final vowel e in the bare stem has a variable pronunciation that not infrequently shades into a diphthong, i.e. e ~ ae ~ ai. This is the so-called Numic “sixth vowel”, which may come from Proto-Numic *ai (Nichols 1974:39–50). Thus, durative gemination may actually operate in a fairly regular way, modulo the historical opacity of this vowel.
When they undergo durative gemination, semelfactives can describe a single event because they have a completed interpretation: the topic time contains the sole event. This can be confirmed using a temporal adverbial.

(56) Context: The boy sneezed once at 2:00.
Waha-ggwe su-naatsi’i akwisya’e.
two-LOC NOM=boy sneeze.DUR
‘At two o’clock, the boy sneezed.’ (elicitation, EM, BP51-1, 40:59)

Under the completed interpretation for durative gemination, the sneezing event in 56 is located entirely within the two o’clock time interval.

Since semelfactives are punctual predicates, it is not perhaps not surprising that they can have a completed interpretation when they undergo durative gemination. But there should be nothing that prevents durative predicates, such as activities and accomplishments, from also having a completed interpretation. It is more difficult to show this, but I believe that it is possible.\footnote{In particular, temporal adverbials prove of no use. Since activity and accomplishment predicates have an event-in-progress interpretation with durative gemination, it would not be possible to tell whether a sentence was judged true because the entire event was contained within the time interval delimited by the adverbial, or whether just part of it was.}

In the next section, I argue that the completed interpretation is found with these durative predicates, based on how they are interpreted in narrative discourse.

4. The imperfective aspect in discourse

It might seem a bit surprising that durative gemination in Northern Paiute has a completed interpretation. But in fact, similar interpretations have been reported for the imperfective aspect in other languages. For instance, in Russian and other Slavic languages, the imperfective has a so-called konstatacija fakta, or ‘statement of fact’ use, in which achievement predicates necessarily convey that the event has culminated (Altshuler 2010, 2014).

(57) Russian
a. K nam priežza-l otec domoj, (#no on ne smog najti naš dom).
to us arrive.IMPF-PAST father home but he not able find our house
‘Father came to see us at home, but was unable to find our house.’

b. Ja e-l tort, no ego ne s’-e-l.
I eat.IMPF-PAST.1SG cake but it not PFV-eat-PAST.1SG
‘I ate cake, but did not finish it.’

In 57a, the achievement predicate describes a completed event because it is incompatible with an assertion of noncompletion, cf. durative gemination in Northern Paiute (44a). By contrast, an activity predicate in the imperfective is compatible with such an assertion, as shown in 57b, presumably because it can have an event-in-progress interpretation.

The imperfective does not, however, give rise to a culmination entailment in every language. In the literature on French, for instance, achievements are reported to have an event-in-progress, or possibly event-in-preparation, interpretation in the imperfective (Jayez 1999:148).
Arregui et al. (2014) attribute this crosslinguistic variation to the semantics of imperfective aspect itself (see Altshuler 2010, 2014 as well). While the imperfective in Russian allows for the topic time to contain the entire event—it can, in other words, have a completed interpretation—French does not. Consequently, achievements in French never give rise to a culmination entailment.

But this difference between languages like Northern Paiute or Russian, on the one hand, and French, on the other hand, should perhaps not be hard wired into the semantics of the imperfective aspect. We can infer that, if achievements give rise to a culmination entailment with the imperfective in a given language, then it has completed interpretation. But the inverse inference is invalid. Even if the imperfective in a given language has the completed interpretation, achievement predicates will not necessarily give rise to a culmination entailment. They may simply allow for one of the other interpretations of the imperfective aspect, such as the event-in-progress interpretation, making them compatible with an assertion of noncompletion.

In particular, as we saw above for Northern Paiute, achievement predicates can lexicalize different components of an event. When their lexical semantics encodes a process component, as _tsibui_ ‘emerge’ does (whether inherently or through type shifting), they permit an event-in-progress interpretation. Consequently, they do not give rise to a culmination entailment: see 46b above, which parallels the behavior of _partir_ ‘leave’ in 58. The difference between languages like Northern Paiute and those like French, then, might lie in how frequent or common achievement predicates that lexicalize a process component are—not in the interpretations that are available for the imperfective aspect.

Even though the imperfective in French does not obviously give rise to a culmination entailment, there might be some reason to think that it, too, allows for a completed interpretation, like Northern Paiute and Russian. In Section 4.1, I argue that the completed interpretation for durative gemination in Northern Paiute also reveals itself in the temporal interpretation of narrative discourse. Just like the perfective aspect, durative gemination can advance the narrative with predicates from all aktionsart classes. This narrative progression is, as I discuss in Section 4.2, also found with the imperfective in French, suggesting that it also can have a completed interpretation. Finally, in Section 4.3 I speculate about why the imperfective in Russian, which must have a completed interpretation because it gives rise to a culmination entailment with achievements, might not advance the narrative.

4.1. Narrative progression with durative gemination

In many languages, when a sequence of sentences is understood as a narrative discourse, it is interpreted as “forward moving” (Kamp and Rohrer 1983, among others). The sentences in 59 are interpreted as taking place in close temporal succession. The event of the deer going away is interpreted as taking place _immediately after_ the event of the dog running to the other side of the
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)

Usually, aspect is assumed to play a crucial role in narrative progression (Kamp and Rohrer 1983, Partee 1984, Hinrichs 1986). The forward moving sequence of sentences in 59 is entirely in the perfective aspect. The progressive aspect does not advance the narrative.

'The boy and the dog fell into the pond. The deer was standing there looking at them.' (prompted narrative, MS, BP25-2-t2, 72–73)

The second sentence in 60, which is in the progressive aspect, describes an event of the deer looking at the boy and dog. It temporally overlaps the event of their falling into the pond described by the preceding sentence in the perfective. Lexical aspect plays a significant role as well, since stative predicates also do not advance the narrative.

In Northern Paiute, durative gemination does not have to advance the narrative; it can, in other words, behave like the progressive aspect. In 61, for instance, the last two sentences describe events — the boy’s looking for the frog and the prairie dog’s laughing — that overlap temporally with the closest preceding clause in the perfective aspect. This describes the event of the beehive falling from the tree.

‘. . . the bees went everywhere. The boy is still looking all over, looking all over for the frog. The prairie dog is peeking out at them and laughing.’ (prompted narrative, MS, BP25-2-t2, 43–45)

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

11 The final clause in 59 contains the sequential suffix -si, which conveys that it temporally precedes the unmarked clause that occurs before it. This lexical material overrides the default interpretation that arises from narrative progression.
The boy got scared of him and ran away. The boy sat down on the rock, because he got scared of him. The dog laid down on the ground.' (prompted narrative, EM, BP25-2-t1, 86–87)

In (62) 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 in the preceding sentence. This event in turn immediately follows the event of the boy running away described in the first sentence.

Given these facts, narrative progression cannot depend directly on aspectual category. While the perfective aspect advances the narrative and the progressive aspect does not, durative gemination behaves like both of them. Instead, following a suggestion by [Arregui et al. (2014:337f.)], 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, the narrative is interpreted as forward moving. By contrast, when it is properly contained within the event, as in the progressive, the narrative does not advance. Durative gemination allows both mappings — under the event-in-progress and completed interpretations, respectively — and so it can, but need not, advance the narrative.

Using narrative progression, we can test whether non-achievement predicates can have a completed interpretation with durative gemination. Indeed, durative predicates — activities and accomplishments — can also advance the narrative.

(63) a. Yaisi su=Padua’a yaisi ini sita’a. Yaisi siku mi=naki

P TC NOM=Bear P TC very get.mad.DUR P TC P TC 2/3PL.ACC=chase.DUR

yaisi mii, ka=tihidda. Yaisi siku isu Wassa yaisi siku paa’a-ggimai-ba,
P TC QUOT ACC=deer P TC P TC this.NOM Crane P TC P TC water-LOC-LOC

paba huupi. Yaisi siku paba-’yu huupi ini huu-winni-na, yaisi siku ini

big river P TC P TC big-NOM river very flow-PROG-SIM P TC P TC 3PL.NOM

yaisi kai pisa u-kuba-ggwe mi’a. Ka=paa’a-di kai pisa

P TC NEG good 3SG-LOC-LOC go.away.DUR ACC=water-LOC NEG good

manni. Yaisi su=Wassa, ini u=ddiikwi’i, “U-hu
cross.DUR P TC NOM=Crane 3PL.NOM 3SG.ACC=tell.DUR 3SG-EMPH

su=Padua’a ni=naki, ni=patsa-kwi-si,” mii

NOM=Bear 1PL.EXCL.ACC=chase.DUR 1PL.EXCL.ACC=kill-PROSP-SEQ QUOT

yaisi.
P TC

‘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)
b. Saa’a o=agi-hu-si=bino’o, yaisi eho-gga-na, widi-ggu
later 3SG.ACC=open-PFV-SEQ=PTC PTC pinenut.hook-have-SIM long-ACC
kudu’u-gga-na, o-ma-ma yaisi siku agi-na
stick-have-SIM 3SG-INSTR-INSTR PTC PTC open-NMZ
wi-ta’ni. Yaisi u=namaya-ki-na u-hu
1P.long.thing-shake.DUR PTC 3SG.ACC=gather-MOT-SIM 3SG.ACC-EMPH
yadda-we-tu hanni, u=ddzopa. Yaisi
winnowing.basket-LOC-LOC do.DUR 3SG.ACC=pick.up.DUR PTC
ka=wono-ga-na wono-we-tu hanni.
ACC=burden.basket-have-SIM burden.basket-LOC-LOC 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)

In [63a], the verbs nagi ‘chase’ and tiikwi ‘tell’, which describe events with duration, advance the
narrative. The event of Bear chasing the deer takes place immediately after the event of her getting
mad described by sita ‘get angry’, an achievement in the preceding sentence; and, the event of the
deer asking Crane to cross the river takes place immediately after this. Similarly, in [63b], the verbs
tsoba ‘pick up’ and hani ‘do’ advance the narrative in their durative forms. The event of putting the
open pine cones in the burden basket takes place immediately after the event of gathering them in
them winnowing basket, which in turn takes place immediately after the event of shaking them out
of the tree. (In both examples, there are clauses with stative predicates in between that temporally
overlap these events.)

In Northern Paiute, then, predicates that describe events with duration can have a completed
interpretation when they undergo durative gemination. They do not give rise to a culmination en-
tailment because they can also have an event-in-progress interpretation. But just like achievement
predicates, they can trigger narrative progression. As I discuss next, the imperfective aspect in
French also can advance the narrative, even though it does not typically give rise to a culmination
entailment with achievements.

4.2. The imperfective aspect and narrative progression

It is sometimes claimed that the imperfective in French cannot trigger narrative progression (see,
for example, Kamp and Rohrer [1983:258]). It is certainly true that it does not have to advance the
narrative. In [64], the event of Marie calling someone is interpreted as overlapping with the event of
Pierre entering, as indicated by its translation in English with the progressive.

(64) French
Pierre entra. Marie téléphonait.
Pierre entered.PFV Marie called.IMPF
‘Pierre entered. Marie was calling someone.’ (Kamp and Rohrer [1983:253)

But there is a use of the imperfective — the so-called imparfait narratif — that does advance the
narrative (Imbs [1960:92, Grévisse [1980:835]). It is attested in other Romance languages as well
(see Arregui et al. [2014:334–339 for discussion and references).
At eight, the robbers entered the bank, they discussed with a clerk, then they moved towards the main desk.‘At eight, the robbers entered the bank, they discussed with a clerk, then they moved towards the main desk.’ (Jayez 1999:159f.)

Here, the sequence of three sentences in the imperfective describes a sequence of events, each taking place immediately after the preceding one. First the event of entering, then the event of speaking, and finally the event of moving.

In traditional grammars, this use of the imperfective is sometimes described as conveying a sense of immediacy. For instance, according to Imbs (1960:92), it “evokes individual events in sequence, though their internal structure is visible[...]: the events are described at the same time they are observed.” Grévisse (1980:835) writes that “Brunetière judiciously remarks, ‘the imperfective here serves to prolong the duration of the action expressed by the verb, immobilizing it in some sense before the reader’s eyes.’”

These descriptions seem to suggest that when the imperfective in French advances the narrative it does not have a completed interpretation. There are, however, a couple pieces of evidence that it participates in narrative progression because it allows the topic time to contain the event.

First, Labelle (2003:172) observes that a sequence of sentences in the past imperfective (imparfait) can be replaced by parallel sentences in the past perfective (passé simple) without affecting their meaning in any apparent way (see also Guenthner et al. 1978:33). A narrative in the imperfective (66a) is truth conditionally equivalent to a parallel one in the past perfective (66b).

    ‘The next day, Jean handed in his resignation and left for Paris.’

b. Le lendemain, Jean donna sa démission et partit pour Paris.
    ‘The next day, Jean handed in his resignation and left for Paris.’

Second, with some achievement predicates, the topic time can contain the event, when it is constrained by a temporal adverbial.

(67) En 1492, Christophe Colomb découvrait l’Amérique.
    ‘In 1492, Christopher Columbus discovered America.’

In 67, the entire event of Columbus discovering America is contained within the time interval delimited by the year 1492.

I conclude that the imperfective in French can also have a completed interpretation. Even though it does not give rise to a culmination entailment with achievements — or at least, it does not very often — it can advance the narrative. Assuming that narrative progression is sensitive to

12These translations from the French are my own.
the mapping between the topic time and event, rather than to aspektual categories themselves, the 
imperfective in French must allow for the topic time to contain the entire event. In this respect, it 
is identical to the imperfective in Russian, as well as to durative gemination in Northern Paiute.

4.3. Crosslinguistic variation in narrative progression

We saw above that the imperfective in Russian has a completed interpretation because it gives 
rise to a culmination entailment with achievements. Somewhat surprisingly, however, it does not 
participate in narrative progression (see Grønn [2008] and Altshuler [2012] on Russian, as well as 
Arregui et al. [2014]:335 on other Slavic languages).

(68)  
Russian

Nedelju nazad Marija po-celova-l-a Dudkina. On dari-l  
daj   
week ago Maria PFV-kiss-PAST.3SG-F Dudkin he give.IMPF-PAST.3SG her  
cvety i priglaša-l ee v teatr.  
flowers and invite.IMPF-PAST.3SG her to theater  
‘A week ago, Maria kissed Dudkin. He had given her flowers and had invited her to the 
theater.’ (Altshuler 2012:61)

For [68] Altshuler (2012:60) writes that “the most salient interpretation,” of the two sentences in 
the imperfective, “is one in which the flower-giving and the theatre-inviting preceded the kissing 
event.” That is, not only does the imperfective fail to advance the narrative, it requires the event to 
temporally precede the event described by an earlier sentence.

Broadly speaking, there are two strategies for dealing with this fact about the imperfective 
in Russian. First, its interpretation in discourse might arise from language-specific aspects of its 
semantics. Arregui et al. (2014:330–334) adopt this approach, proposing that the imperfective in 
Russian can have a resultative interpretation that is not found in other languages. This would locate 
the topic time after an event in the state resulting from its completion. Consequently, with this 
interpretation, the imperfective would not be able to advance the narrative. Like other states, this 
result state would have to temporally overlap a preceding event, so that its own event would be 
located even earlier in time. Under this view, the culmination entailment for achievements would 
not actually arise from the completed interpretation of the imperfective in Russian, but rather from 
a distinct resultative interpretation it has only in that language.

Second, it is possible to treat the Russian imperfective’s particular interpretation in narratives as 
orthogonal to its core semantics. That is, it could have solely the interpretations that the imperfec-
tive has in other languages — e.g. event-in-progress, completed, etc. — but it has an idiosyncratic 
property that produces a reverse temporal interpretation in discourse. Altshuler (2012) proposes a 
“two-coordinate” account along these lines. In addition to establishing some relation between the 
event and the topic time, the imperfective in Russian introduces a result state that must temporally 
overlap a contextually salient time interval. Thus, the completed interpretation of imperfective as-
pect in Russian, along with the culmination entailment it gives rise to with achievements, does not 
depend on its behavior in discourse. The presence of the additional result state overrides the default 
rules of narrative progression that make reference to the relation between the event and topic time.

I will not attempt here to decide between these two alternatives. But based on this investigation 
durative gemination in Northern Paiute, I suspect that the second approach is on the right track. 
Like Russian, it gives rise to a culmination entailment with achievements. If this arose invariably
from a hypothetical resultative interpretation for the imperfective aspect, then durative gemination should not participate in narrative progression. Yet, it does, just like French. This suggests instead that both narrative progression and the culmination entailment with achievements have the same source—a completed interpretation for the imperfective—though this may be obscured in Russian for independent reasons.

5. Conclusion

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

The same morphological process of durative gemination is attested in most other Numic languages, including Mono (Lamb 1957:246), Timbisha (Dayley 1989:63), Shoshoni (Crum and Dayley 1993:94), Comanche (Charney 1993:149), and Kawaiisu (Zigmond et al. 1990:96). But in these languages, it may possibly be much more restricted, applying solely to a handful of motion and postural verbs. In Colorado River Numic (Southern Paiute and Ute), it frequently occurs with other aspectual morphology, and only sometimes by itself (Sapir 1930–1931:167). I hope that this in-depth study of the semantics of durative gemination in Northern Paiute will lead to a better understanding of its meaning and function in the other Numic languages, as well as its historical origins.

There are many theories of the imperfective aspect, which to date 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 become more clear what these theories need to account for. In particular, the completed interpretation is sometimes taken to be an exceptional property of the imperfective aspect when it shows up in a language. At least for French, traditional grammarians, such as Imbs and Grévisse, have assumed that it does not need to be unified with the more canonical event-in-progress interpretation. More recently, for both Romance and Slavic, there are accounts of the imperfective that take it to be either underspecified or substantially disjunctive in its meaning (Jayez 1999, Borik 2002, Grønn 2003, 2008). But, the existence of the completed interpretation with durative gemination in Northern Paiute—a genetically and geographically distinct language—supports attempts to unify the completed interpretation with the other interpretations for the imperfective aspect (Labelle 2003, Altschuler 2010, 2014, Arregui et al. 2014).

References


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