

Grammaticalization of the verb *tək* ‘scatter’ in Poshkart Chuvash: semantics and selectional restrictions

Fedor V. Golosov, University of Maryland, College Park;
fgolosov@umd.edu

The paper is dedicated to the semantics and the distribution of the light verb *tək* in Poshkart Chuvash. In its lexical usage, the verb *tək* means ‘scatter’, i. e., denotes a series of throwing events distributed over time. This verb is grammaticalized into an aspectual modifier (light verb) that forms telic pluractional complex predicates in combination with lexical verbs with an external argument. Any event denoted by a complex predicate with *tək* should consist of a number of subevents that is larger than the contextually relevant standard. Besides that, the light verb *tək* shows controversial behavior with respect to the well-known opposition between event-internal and event-external pluractionals. According to the tests provided in [Henderson 2012], the light verb *tək* shows split behavior and cannot be assigned to one of the classes. Namely, complex predicates with *tək* pattern with event-external pluractional predicates in that they can be formed from lexical verbs of various actional classes, can denote events with large breaks between their subevents and have the extension which is a subset of the extension of their base predicate. On the other hand, complex predicates with *tək* pattern with event-internal pluractionals in that they do not denote habitual events and require the denoted subevents to be of a large number and have a shared endpoint. It will be shown, however, that despite the similarity observed with the event-internal pluractionals, the light verb *tək* can still be analyzed as an event-external pluractional — and such an analysis is presented in the paper.

Keywords: Chuvash language, light verbs, complex predicates, typology of pluractionality, formal semantics

ГРАММАТИКАЛИЗАЦИЯ ГЛАГОЛА ТӘК ‘РАЗБРОСАТЬ’ В МАЛОКАРАЧКИНСКОМ ГОВОРЕ ЧУВАШСКОГО ЯЗЫКА: СЕМАНТИКА И СЕЛЕКТИВНЫЕ ОГРАНИЧЕНИЯ

Голосов Фёдор Валентинович, Университет Мэриленда, Колледж-Парк;
fgolosov@umd.edu

Статья посвящена семантике и дистрибуции легкого глагола *tək* ‘разбросать’ в малокарачкинском говоре чувашского языка. Как лексический глагол, *tək* имеет значение ‘разбросать’, т. е. описывает ситуации идущих друг за другом множественных бросков. Этот глагол также используется как аспектальный показатель (легкий глагол): сочетаясь лишь с непацентивными лексическими глаголами, он образует сложные предикаты с предельной интерпретацией, обозначающие множественные события. Всякое событие, описываемое таким сложным предикатом, должно состоять из серии идущих друг за другом подсобытий, число которых превышает ожидаемое количество. Кроме того, *tək* интересен в плане разделения показателей глагольной множественности на внешнесобытийные и внутрисобытийные, поскольку с точки зрения тестов, предложенных в [Henderson 2012], не может быть однозначно отнесен ни к одной из групп. Однако, как будет представлено в статье, те свойства, которые, на первый взгляд, сближают *tək* с показателями внутрисобытийной множественности, не являются атрибутами внутрисобытийности сами по себе. В работе также предложен формальный анализ легкого глагола *tək* как показателя внешнесобытийной глагольной множественности.

Ключевые слова: чувашский язык, легкие глаголы, сложные глаголы, типология глагольной множественности, формальная семантика

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1. Introduction

Chuvash features complex predicates — constructions consisting of two verbal forms (a converb and a main verb), but denoting a single event, see, for instance, (1):

(1) POSHKART CHUVASH

væə jid-a tap-sa tək-rʲ-ə
 V. dog-OBJ kick-CV_SIM scatter-PST-3SG
 ‘Vasya kicked the dog (with many kicks).’

In (1), there is a complex predicate *tapsa tək* ‘kick (with many kicking events)’, which consists of two verbal forms. The converb form of the verb *tap* ‘kick’ is a so-called lexical verb: it is responsible for the lexical content of the whole event denoted by the complex predicate. The main verb *tək* ‘scatter’ is a so-called light verb¹: it is a grammaticalized verb which functions as a semantic modifier of the lexical verb. As I will show in this paper, the light verb *tək* is a pluractional and telicizing operator: in (1), it forms a complex predicate denoting a large number of kicking events exceeding the contextually relevant standard.

In Chuvash, as in other Turkic languages [Grashchenkov 2015], many verbs grammaticalized into different aspectual, directive or valency-changing operators, see for instance a general review in [Lebedev 2016]. My paper is dedicated to the grammaticalization of the verb *tək* ‘scatter’ in Poshkart dialect of Chuvash. The aim of my research is to give a more detailed description of the semantics and selectional restrictions of the light verb than presented in literature and offer the first formal semantic analysis of *tək* predicting the described data.

The structure of my paper is as follows. After the introductory section, there is a literature review of previous studies on the light verb *tək*. Then, in the third section I will give a detailed description of the collected data. The fourth section is dedicated to the formal semantic analysis of the light verb. The final, fifth section contains conclusions of my research.

2. Literature review

This light verb appears in the grammars later than many other light verbs and is less thoroughly described. The first mention of the light verb *māk*² probably belongs to Nikolay Ashmarin [1923]. According to the author, this light verb “creates an idea of formless mass appeared as a result of the action”³. Lebedev [2016] writes that the light verb denotes “actional meaning of intensity”⁴ and that in many cases there is “a meaning of action fullness”⁵. According to Lebedev, the light verb *māk* combines with transitive telic verbs of active action, such as *шӑл* ‘sweep away’ or *ятла* ‘scold.’

Thus, what we can get from the literature on the topic is that the light verb is probably an aspectual operator which combines with transitive verbs and forms complex predicates denoting intensive telic events. However, none of the described features are proved with the corresponding example, and the features itself are not fully explained: it is not clear, for example, what does it mean for an event to be intensive. In my own research, I will give a more detailed description of the light verb’s behavior, based on collected positive and negative data, and offer a formal analysis of its semantics, which will predict all the described properties.

3. Data

The data were collected via elicitation method during fieldwork in the Chuvash village Poshkart (Maloye Karachkino) in March 2020 and during online sessions with the native speakers of this village in 2020—2021. The work with consultants was organized in two ways: I either asked them to translate a sentence in Russian into Chuvash or gave them already constructed or asked Chuvash stimuli and asked whether they are grammatical. Each sentence was checked with at least 3 consultants. The notations of grammaticality I use in my work gener-

¹ I use the terms “light verb” and “complex predicate” following the tradition established in works dedicated to analogous constructions in South Asian languages, see, for instance, [Butt 1995; Ramchand 2008].

² The previous works mentioning the Chuvash light verb *tək* ‘scatter’ are dedicated to the Standard Chuvash, while this work is dedicated to the Poshkart idiom only. To explicitly distinguish the description of the light verbs from different variants of Chuvash, I will use traditional Chuvash Cyrillic alphabet for light verbs from Standard Chuvash and our fieldwork team’s IPA-oriented transcription for the Poshkart data.

³ «Создает представление о бесформенной массе, явившейся в результате действия» [Ashmarin 1923: 50].

⁴ «Акционсартовое значение интенсивности» [Lebedev 2016: 106].

⁵ «Смысл полноты совершения действия» [ibid.: 107].

ally follow the fieldwork standards: **unmarked** sentences are grammatical, * marks ungrammatical sentences, ? is used for sentences which are not perfectly natural, but also are not completely ungrammatical, % stands for sentences which are grammatical only in approximately half of the checked idiolects, and **ok** marks contrasting grammatical sentences.

The light verb *tək* is one of the telicizing operators in Poshkart Chuvash, together with the light verbs *pərak* ‘throw’ [Golosoov 2020], *lart* ‘seat’ [Golosoov 2021], *kaj* ‘go’, *jer* ‘send’ [Golosoov 2019] and possibly some others [Lebedev 2016]. It forms complex predicates belonging to the class <ES, ->⁶ in the notation of Sergei Tatevosov [2016], which is shown in (2):

- (2) a. *vacə jid-a pilək minut-ra tap-sa tək-ri-ə* / **tap-ri-ə*
 V. dog-OBJ 5 minute-LOC kick-CV_SIM scatter-PST-3SG kick-PST-3SG
 ‘Vasya kicked the dog in five minutes (having reached an excessive number of kicks).’
 b. *vacə jid-a pilək minut tap-ri-ə* // **tap-sa tək-ri-ə*
 V. dog-OBJ 5 minute kick-PST-3SG kick-CV_SIM scatter-PST-3SG
 Intended: ‘Vasya kicked the dog for five minutes.’
 c. *pək, vacə jid-a tab-at*
 look V. dog-OBJ kick-NPST.3SG
 ‘Look, Vasya is kicking the dog.’
 d. *pək, vacə jid-a tap-sa tək-at*
 look V. dog-OBJ kick-CV_SIM scatter-PST-3SG
 ‘Look, Vasya will kick the dog.’
 *‘Look, Vasya is kicking the dog.’

In (2), the light verb *tək* combines with the atelic lexical verb *tap* ‘kick’, which itself can combine only with time-measure adverbials, as in (2a), but not with time-span adverbials, as in (2b). In addition, it can occur in the progressive form, as shown in (2c).

In contrast, the resulting complex predicate has only telic interpretations in the diagnostic contexts, which is shown by adverbial test in (2a, 2b) and interpretation of the non-past form in (2d), which can only refer to the future, and not to the present time.

This light verb has some selectional restrictions on the thematic role of the subject. More detailed research is needed, but in general, *tək* combines with agentive verbs (transitive or intransitive) but does not combine with patientive verbs.

The light verb *tək* shares two properties mentioned above — the telicizing function and the sensitivity to the thematic role of a subject — with the aforementioned light verbs [Golosoov 2019; 2020; 2021], but it also has a unique property — sensitivity to the pluractionality of the event denoted by the lexical verb. Namely, the light verb *tək* requires an event to consist of many subevents distributed over time, consider the contrasts in (3):

- (3) a. *vacə vərəm-dona-ja vėler-tə-ě* / **vėler-ze tək-ri-ə*
 V. long-leg-OBJ kill-PST-3SG kill-CV_SIM scatter-PST-3SG
 ‘Vasya killed a mosquito.’
 b. Scenario 1. Vasya killed ten mosquitoes one after another.
 *Scenario 2. Vasya killed ten mosquitoes simultaneously.
vacə vonə vərəm-dona-ja vėler-ze tək-ri-ə
 V. ten long-leg-OBJ kill-CV_SIM scatter-PST-3SG
 ‘Vasya killed ten mosquitoes.’

As seen from (3a), the light verb *tək* cannot form complex predicates denoting a single and atomic event of killing a mosquito. Moreover, the light verb *tək* can be used in (3b) only if the killing events happen one after another, but not simultaneously⁷.

⁶ One should read this notation the following way: in the diagnostic perfective forms, the predicate has the telic interpretation “entering the state”, and it cannot be used in the diagnostic imperfective forms (in a progressive context). For more details see [Tatevosov 2016]. Following [Shluinsky 2006], I take past tense forms on *-r-* as diagnostic perfective forms and non-past tense forms as diagnostic imperfective forms.

⁷ Of course, the lexical verb *vėler* ‘kill’ alone is felicitous in both contexts:

- (i) *vacə vonə vərəm-dona-ja vėler-tə-ě*
 V. ten long-leg-OBJ kill-PST-3SG
 ‘Vasya killed ten mosquitoes (simultaneously or one after another).’

In (3), the object of the event is plural. However, the light verb *tək* is insensitive to this parameter: as examples in (4) show, it can occur in the contexts where the object is not plural.

- (4) a. *væə listə-ja (*ɛorma-la) paj-la-za tək-rʲ-ə*
 V. list-OBJ half-ATTR part-VBZ-CV_SIM scatter-PST-3SG
 ‘Vasya divided a list into (*two) pieces.’
 b. *væə jid-a tap-sa tək-rʲ-ə*
 V. dog-OBJ kick-CV_SIM scatter-PST-3SG
 ‘I kicked the dog excessively.’

In (4a), the complex predicate *pajlaza tək* can refer only to such events of dividing a list that consist of many atomic subevents: it cannot be used in a context when the list was divided a single time, shown by its incompatibility with the adverbial *ɛormala* ‘in a half.’ Note that in this case, the object is single at the beginning of the action, although divided into parts at the end. In (4b), the complex predicate denotes an event of kicking the dog, emphasizing the large number of kicking subevents, while the object is single throughout the whole event.

In the typology of pluractionals, there is a distinction between event-internal and event-external pluractionals independently introduced in works [Cusic 1981] and [Khrakovsky 1989], see also [Shluinsky 2005] for a general overview. This distinction is based on the notion of occasion: event-internal pluractionals denote a chain of subevents forming a single episode, while event-external pluractionals denote a series of independent events. One of the most detailed formal semantic descriptions of the different types of pluractionals is given in the work [Henderson 2012], where the author describes semantics of the event-internal and event-external pluractional suffixes in a Mayan language Kaqchikel. Comparing the two pluractionals, Henderson formulates six parameters according to which they are different [ibid.: 34—38]:

- 1) **Compatibility with verbs of different actional classes.** Event internal pluractionals mostly combine with accomplishments and achievements, while event external pluractionals can combine with a wider range of actional classes.
- 2) **The number of occasions.** Events described by event internal pluractionals must take place in a single occasion, while event external pluractionality does not have such a restriction.
- 3) **The number of subevents.** Event internal pluractionals require a high cardinality of subevents, while event external pluractionals allow low cardinality of them.
- 4) **The duration of a break between events.** Event internal pluractionals require very short break between subevents, while event external pluractionals allow longer breaks.
- 5) **Shared telos or theme.** Event internal pluractionals describe a set of events that share the same telos or theme and location, while event external pluractionals can describe a set of independent events.
- 6) **Entailment of the base predicate.** Event internal pluractionals form predicates that do not entail base predicates, while event external pluractionals necessarily entail base predicates.

I will now discuss the parameters in detail and classify the light verb *tək* according to them.

The first mentioned parameter distinguishing different types of pluractionals is sensitivity to the actional class of the base verb:

- 1) **Compatibility with verbs of different actional classes.** Event internal pluractionals mostly combine with accomplishments and achievements, while event external pluractionals can combine with a wider range of actional classes.

Henderson [2012] argues that such a tendency comes from the restriction on the subevents of event-internal pluractionality to be contiguous and occur in a single occasion. Semelfactives inherently fit this restriction, since they denote single events which do not culminate [Smith 2013], and hence the repetition is possible right after the previous event.

The light verb *tək* is event-external with respect to that parameter, since it combines with achievements and accomplishments and hence does not require coercion into semelfactives:

(5) SEMELFACTIVES

- a. *væə jid-a tap-sa tək-rʲ-ə*
 V. dog-OBJ kick-CV_SIM scatter-PST-3SG
 ‘I kicked the dog (with too many kicks).’
 b. *saltak gitlër-a tɛol-ba per-ze tək-rʲ-ə*
 soldier H.-OBJ stone-INS throw-CV_SIM scatter-PST-3SG
 ‘A soldier pelted Hitler with stones.’

- c. *vaɛə itla numaj sek-se tək-ri-ə*
 V. too much jump-CV_SIM scatter-PST-3SG
 ‘Vasya jumped too much.’

(6) ACHIEVEMENTS

- a. *vaɛə pədēm ʃarig-a sek-ter-ze tək-ri-ə*
 V. all balloon-OBJ burst-CAUS-CV_SIM scatter-PST-3SG
 ‘Vasya burst all the balloons.’
- b. *vaɛə pədēm tɛaʃkə ɛəmər-ze tək-ri-ə*
 V. all cup break-CV_SIM scatter-PST-3SG
 ‘Vasya broke all the cups.’
- c. *vaɛə vonə vərəm-dona-ja vələr-ze tək-r-ə*
 V. 10 long-leg-OBJ kill-CV_SIM scatter-PST-3SG
 ‘Vasya killed ten mosquitoes.’

(7) ACCOMPLISHMENTS

- a. *vaɛə pədēm omla-ja tibət-se tək-ri-ə*
 V. all apple-OBJ dry-CV_SIM scatter-PST-3SG
 ‘Vasya dried all the apples.’
- b. *vaɛə por kēbe-je=de ɛu-za tək-ri-ə*
 V. all shirt-OBJ=ADD wash-CV_SIM scatter-PST-3SG
 ‘Vasya washed all the shirts.’
- c. *vaɛə numaj kēnege vula-za tək-sa*
 V. many book read-CV_SIM scatter-CV_SIM
 ‘Vasya read many books.’

On the other hand, the issue is that the light verb *tək* nevertheless has a semantic restriction on the atomic events, since it combines with achievements, accomplishments and semelfactives, but generally does not combine with activities and states:

(8) ACTIVITIES

- a. *vaɛə ɛner itla numaj magər-tɛ-ə / ??magər-za tək-ri-ə*
 V. yesterday too much cry-PST-3SG cry-CV_SIM scatter-PST-3SG
 ‘Vasya cried too much (times) yesterday.’
- b. *vaɛə ɛner numaj xot tɛop-ri-ə / ??tɛop-sa tək-ri-ə*
 V. yesterday many time run-PST-3SG run-CV_SIM scatter-PST-3SG
 ‘Vasya ran yesterday many times.’

(9) STATES

- a. **vaɛə pajan pilək xot ɛur-za tək-ri-ə*
 V. today five time sleep scatter-PST-3SG
 Intended meaning: ‘Vasya slept five times today.’
- b. *vaɛə ɛner numaj xor-lan-tɛ-ə / *xor-lan-za tək-ri-ə*
 V. yesterday many hurt-VBZ-PST-3SG hurt-VBZ-CV_SIM scatter-PST-3SG
 ‘Vasya yesterday sorrowed a lot.’

Accomplishments, achievements and semelfactives are similar in that they are quantized⁸ predicates: achievements and accomplishments are telic, while semelfactives are momentary. In contrast, activities and states usually are non-quantized, and their combination with *tək* is impossible. An indirect argument for the sensitivity of the light verb to the quantized nature of a predicate denoting a single event is that consultants sometimes explain the impossibility of forming complex predicates from atelic predicates arguing that the atomic actions have not reached their end, which is important for *tək*.

In fact, there is at least a single stative, *kor* ‘see’, that can combine with the light verb *tək*, as in (10):

⁸ The notion “quantized” was introduced in [Krifka 1992]. A predicate P is quantized iff for any event e falling under its truth conditions there is no such an event e’ which is a proper part of e and also falls under the truth conditions of P. For instance, predicate *John wrote an essay* is quantized because each event of John’s writing an essay consists of unique parts where the specific part of the essay is written, hence any subpart of this event is crucial. In contrast, the predicate *John walked* is not quantized, since any event of John’s walking consists of parts which also can be described by this predicate.

- (10) *vaɛə ɛner itlaʃi numaj kor-za tək-ri-ə*
 V. yesterday too much see-CV_SIM scatter-PST-3SG
 ‘Vasya saw too much (things) yesterday.’

However, the presence of the example (10) does not contradict the generalization. In (10), the verb *kor* is used in its inchoative variant, exactly as the English verb *see* does in (11):

- (11) *I came in and saw a ghost.*

In (11), the event of seeing is not represented as durative: instead, the subject enters the state of seeing the ghost.

Thus, in addition to the stative interpretation, verbs *see* and *kor* also have an inchoative interpretation, associated with a momentary entering the state. Such interpretation corresponds to a quantized predicate and hence falls under the conditions of the light verb *tək*. Probably some other stative verbs should also have inceptive readings, since verbs of inceptive-stative class <ES S, S> are shown to be widespread in different languages (see the work [Tatevosov 2016] dedicated to the typology of actional classes). This hypothesis needs more empirical data.

Thus, despite the fact that the light verb *tək* is like an **event-external pluractional** in that it does not require a predicate of a single event to be semelfactive⁹, it yet requires the predicate to be quantized and therefore differs from the Kaqchikel event-external pluractionals, which can combine with activities.

Let us move on to the next property distinguishing the different types of pluractionality — the number of occasions:

- 2) **The number of occasions.** Events described by event internal pluractionals must take place in a single occasion, while event external pluractionality does not have such a restriction.

The problem with this test is that the notion of occasion is slightly informal, which Henderson [2012] himself admits. Nevertheless, he argues that if the pluractional requires an event to take place in a single occasion, it will surely not be able to license habitual contexts. In Kaqchikel, the event-internal pluractional is indeed infelicitous in habitual contexts, in contrast to its event-external counterpart:

- (12) a. EVENT-INTERNAL PLURACTIONAL

Context: Suppose you see Juan every day and he gives you a dirty look.

#A *Xwan x-i-ru-tz'et-etz'a.*

CLF Juan COM-A1s-E3s-look.at-Ca'

‘Juan keeps looking at me.’

SPEAKER COMMENT: No, it would have to be like this speaker turns his head a bit and shoots a glance over and over [Henderson 2012: 104].

- b. EVENT-EXTERNAL PLURACTIONAL

La achin la' n-Ø-xub'an-alöj.

DEM man DEM ICP-A3s-whistle-löj

‘That man is always whistling’ [ibid.: 56].

Applying this test to the Chuvash light verb *tək* is even more problematic because it is a telicizing operator. The impossibility of examples like (13a), where I tried to use *tək* as a habitual operator, can be explained by independent reasons. However, there is indirect evidence that the light verb should be classified as an event-internal operator in this respect: a complex predicate with *tək* can be itself habitualized, as in (13b).

- (13) a. *vaɛə atɛa tɛok-n-e numaj ʃa kër-ze / *kër-ze tək-sa*
 V. child time-P_3-OBJ much water.OBJ enter-CV_SIM enter-CV_SIM scatter-CV_SIM
 ‘Vasya often bathed (lit. entered water) as a child.’
 b. *vaɛə tɛastə xəj-ən jid-in-e tap-sa təg-at*
 V. often self.3-GEN dog-P_3-OBJ kick-CV_SIM scatter-NPST.3SG
 ‘Vasya often makes a series of kicks to his dog.’
 # ‘Vasya often makes a single kick to his dog.’

⁹ Strictly speaking, an alternative scenario is that the light verb *tək* can have both event-internal and event-external pluractional usages. In this case, we expect that in addition to its free compatibility with accomplishments, achievements and semelfactives, it can optionally coerce subevents into semelfactives. I am very grateful to Maria Kholodilova for this comment. However, I will further show that this scenario is wrong because it cannot explain why semelfactivization is not possible to avoid contradiction in example (*), dedicated to another test but also applicable here.

As shown by the translation, the only possible interpretation of (13b) is where the chain of kicking events itself falls under the scope of the habitual operator¹⁰. Thus, although the test cannot be applied to the light verb directly, there is an indirect argument to consider the light verb *tək* an **event-internal** pluractional operator according to this test. Note, however, that if an event can be habitualized it does not automatically mean that it itself denotes a single occasion — it just means that we need a stricter definition of what the occasion is. As you will see below, the light verb *tək* cannot be simply considered as an event-internal operator with respect to two other occasion-oriented tests — duration of the break between subevents and sharing the same theme or location.

The next test considers parameters such as the number of subevents pluractionals can refer to:

- 3) **The number of subevents.** Event internal pluractionals require a high cardinality of subevents, while event external pluractionals allow low cardinality of them.

This test is tricky since, as Henderson admits himself, the borders of high and low cardinality are very plausible and contextual. In Kaqchikel, both pluractionals cannot be used when the predicate denotes a chain of only two events. However, as Henderson notes, the event-external pluractional in Kaqchikel can be used in contexts where the number of events is several, but the event-internal pluractional requires a markedly large number of subevents [ibid.].

The light verb *tək* behaves more as an **event-internal** pluractional according to this test, since it requires the number of subevents to be higher than a contextually relevant standard, as shown in (14):

- (14) a. *papi pilëk kogəli virən-ni-a vonə kogəli pëzər-ze tək-ri-ə*
 grandma five pie place-P_3-OBJ ten pie cook-CV_SIM scatter-PST-3SG
 ‘Grandma cooked ten pies instead of five.’
 b. *#papi eerëm kogəli virən-ni-a vonə kogəli pëzər-ze tək-ri-ə*
 grandma twenty pie place-P_3-OBJ ten pie cook-CV_SIM scatter-PST-3SG
 Intended meaning: ‘Grandma cooked ten pies instead of twenty.’

As (14) shows, the same number of pies can be represented as relatively high (14a) or relatively low (14b), and only the first variant is fine with the light verb *tək*. Interestingly, for some speakers the light verb *tək* can be used even in the context where two events are represented as markedly high, which is not typical for both the types of pluractionals:

- (15) *%væə për arbus virən-ni-a igë arbus ei-ze tək-ri-ə*
 V. one watermelon place-P_3-OBJ two melon eat-CV_SIM scatter-PST-3SG
 ‘Vasya ate two watermelons instead of one.’

Note, however, that the sentence (15) is ungrammatical for some speakers, and they explain its infelicity by too small a number of subevents.

The next test appeals to the downtime between the subevents — parameter the event-internal pluractionals are sensitive for:

- 4) **The duration of a break between events.** Event-internal pluractionals require very short break between events pluralized, while event-external pluractionals allow longer breaks.

Henderson [ibid.] explains this difference by the idea of “semelfactive centism” of event-internal pluractionals: since events are atomic, the downtime between them should be very short to count an event chain as a single occasion. In contrast, event-external pluractionals do not have such a problem since they are not restricted to a single occasion.

The light verb *tək* behaves as an **event-external operator** with respect to this test, since it allows longer breaks between subevents, as seen in (16):

- (16) a. *jep ɛoldalək xoş-in-dze ěne-zen-e sot-sa tək-r-əm*
 1SG year period-P_3-LOC cow-PL-OBJ sell-CV_SIM scatter-PST-1SG
 ‘I sold the cows in a year.’
 b. *væə aləg-a ɛoldalək xoş-in-dze ɛëmër-ze tək-ri-ə*
 V. door-OBJ year period-P_3-LOC break-CV_SIM scatter-PST-3SG
 ‘Vasya broke the door completely in a year.’

¹⁰ The verb *tap* ‘kick’ can itself refer to a single kick. For instance, (i) has a reading with a single kick habitualized:

- (i) *væə tæstə xəj-ən jid-in-i-e tab-at*
 V. often self-GEN kick-P_3-OBJ kick-NPST.3SG
 ‘Vasya often kicks his dog.’

- c. *vaɕə jal-d-i alək-sen-e ɕəmër-ze tək-sa*
 V. village-LOC-NMZ door-PL-OBJ break-CV_SIM scatter-CV_SIM
 ‘Vasya broke the doors in the village.’

The complex predicate in (16a) denotes a plurality of selling events distributed throughout the year. The length of a single selling event is obviously significantly shorter than the year, so even if there were many selling events, an average downtime between them should be very long and even longer than each event itself. The same is true for the breaking events in (16b). The situation in (16c) is slightly different, since there is no temporal adverbial establishing an appropriate scale, but it is pragmatically clear that breaking the doors in the whole village needs long downtime periods for moving from one house to another.

The fifth parameter reveals sensitivity of the event-internal pluractionals to the shared endpoint and location of the subevents:

- 5) **Shared telos or theme.** Event internal pluractionals describe a set of events that share the same telos or theme and location, while event external pluractionals can describe a set of independent events.

A common typological feature distinguishing event-internal and event-external pluractionals (see [Henderson 2012] and literature cited there) is that the former requires an event to consist of subevents containing the same theme argument and the same location and forming a chain of events sharing the same telos (if the pluractional is used in a telic context). In contrast, event-external pluractionals do not have such restrictions and can denote logically independent subevents with different patients and locations.

The light verb *tək* shows tricky behavior with respect to this test. On the one hand, it forms telic complex predicates that denote a moment of reaching a contextually relevant number of quantized subevents, so in a sense this moment is a shared telos of the whole event, as in (17):

- (17) a. *vaɕə jid-a tap-sa tək-ri-ə*
 V. dog-OBJ kick-CV_SIM scatter-PST-3SG
 ‘Vasya kicked the dog (reaching an excessive number of kicks).’
 b. *vaɕə vonə vərəm-dona-ja vëler-ze tək-ri-ə*
 V. 10 long-leg-OBJ kill-CV_SIM scatter-PST-3SG
 ‘Vasya killed ten mosquitoes.’

The telos of the event in (17a) is a contextually relevant moment where too many kicks have taken place. The endpoint of the event in (17b) is the moment when all the ten mosquitoes were killed.

On the other hand, the event in (17b), as well as many other events denoted by complex predicates with *tək*, consists of subevents which have their own “local” telos — the natural endpoint of a single event denoted by the same predicate. In fact, what makes the light verb *tək* telic is not a sort of resultant state of one of the arguments taking place after the whole chain of subevents, but rather the fact that there is a high number of subevents reached. Even in cases with semelfactives, atomic events, as in (17a), the endpoint is independent from the state of the patient: for instance, consultants say that dog is not necessarily affected after the event denoted by the complex predicate in (17a).

All the other parameters relevant for this test — singularity of location and a theme — clearly classify *tək* as an **event-external** operator, because both the place of the event and its internal argument can be many. For example, in (16c), the event of breaking the doors in the village consists of subevents occurring in different places in the village and happening with different patients.

Let us move on to the final difference between the two pluractionals mentioned in [ibid.] — entailment of the base predicate:

- 6) **Entailment of the base predicate.** Event-internal pluractionals form predicates that do not entail base predicates, while event external pluractionals necessarily entail base predicates.

Henderson [ibid.] argues that the event-internal pluractionals sometimes do not entail the base predicates, because subevents are coerced into semelfactives. Since this test is quite complex, let me demonstrate how it is applied to Kaqchikel data:

- (18) *X-Ø-in-ch'ar-ach'a' ri tros, po man x-Ø-ch'ar ta.*
 COM-A3s-E1S-split-Ca' the stump but NEG COM-A3s-split.PAS IRR
 ‘I kept chopping at the stump, but it didn’t split’ [ibid.: 102].

Sentence (18) shows that a sentence with the derived pluractional verb can still be true if we negate the corresponding base predicate. As Henderson mentions, this is possible because the pluractional coerces the accom-

plishment *ar* ‘chop’ into a semelfactive, and the resultant state comes out of the predicate denotation. In other words, this verb *ar* ‘chop’ starts meaning ‘do a single contact action identical to what we see in chopping but without the corresponding result’ to fulfill the requirements of the pluractional, and then this coerced semelfactive event is pluralized. Since the resultant state is now out of the structure of the event denoted by an atomic predicate, there is no controversy with negation of the base predicate in (18), which still contains the resultant state in its event structure: the sentence denotes a set of momentary activities not leading to a corresponding result.

If the base predicate does not undergo coercion, it does not change its truth conditions, and negation of the corresponding base predicate is no longer possible, as, for instance, in (19):

- (19) #*X-Ø-u-pitz’-ipa’* *ri pix, po man x-Ø-u-pitz’* *ta.*
 COM-A3s-E3s-look.at-Ca’ the tomato but NEG COM-A3s-E3s-squeeze IRR
 ‘She kept squeezing the tomato, but she didn’t squeeze it’ [ibid.: 102].

The verb *pitz’* ‘squeeze’, in contrast to *ar* ‘chop’, denotes a kind of semelfactive event, which already fits the requirements of the pluractional. Hence, no coercion takes place, and the atomic events of the pluractional are the same as the ones denoted by the base predicate. As a sequence, the negation of the base predicate in the same sentence with affirmed pluractional becomes contradictory.

In contrast, the event-external pluractional in Kaqchikel does not require a base predicate to be semelfactive, pluralizing events in its base truth conditions, hence the derived predicate always entails the corresponding base predicate, as in (20):

- (20) a. *Xch’analöj => Xch’ane* [ibid.: 67].
 b. *X-Ø-ch’an-alöj.*
 COM-A3s-naked-löj
 ‘He got naked repeatedly’ [ibid.].
 c. *X-Ø-ch’an-e.’*
 COM-A3s-naked-iv
 ‘He got naked’ [ibid.].

In (20b), the pluractional does not delete the resultant state from the denotation of the verb *an* ‘be naked’ and pluralizes only events falling under the truth conditions of (20c), hence the formula in (20a) is true.

As we have already seen above, the light verb *tək* does not require a lexical verb to be semelfactive or semelfactivized, hence no coercion of that kind must take place. Thus, we did not expect it to form complex predicates which would not entail the lexical verb. And indeed, the negation of the base predicate and affirmation of the complex predicate in the same sentence is impossible even if the lexical verb is an accomplishment or an achievement with a resultant state, as shown in (21):

- (21) a. #*vaæ æerëm tæşkə eu-za tək-rj-ə, no eu-za æid-er-i-me-rj-ë*
 V. 20 cup wash-CV_SIM scatter-PST-3SG but wash-CV_SIM reach-CAUS-POT-NEG-PST-3SG
 Intended: ‘Vasya washed the 20 cups a bit but did not finish any of them.’
 b. #*vaæ petj-ən këp-n-e æët-se tək-rj-ə, no æët-me-rj-ë*
 V. P-GEN shirt-P_3-OBJ tear-CV_SIM scatter-PST-3SG but tear-NEG-PST-3SG
 Intended meaning: ‘Vasya slightly tore Petya’s shirt but did not finish it.’

If *tək* could behave as a Henderson’s event internal operator with respect to the entailment test, it would delete the resultant states of the atomic events in (21a) and (21b), and the sentences would not be contradictory — but this is not the case. Note also that examples in (21) are relevant for the first test — compatibility with verbs from different actional classes — because they show that the option of semelfactivization is not accessible to the light verb *tək* at all.

Thus, according to the sixth test, the light verb shares the properties of the **event-external** pluractionals. It is worth noting here, however, that subevents of the complex predicates with *tək* can be out of the extension of the base verb. Namely, *tək* combines with lexical verbs which denote an event consisting of many subevents but cannot denote an atomic event by themselves. For example, the verb *xie* ‘scratch’ (22a) can denote only a set of subevents, but not an atomic event of scratching — for this interpretation, the semelfactive complex predicate *xiesil* is used (22b). Nevertheless, the light verb *tək* can form complex predicates from *xie*, as in (22c)¹¹:

¹¹ One can offer an alternative explanation of this phenomenon, saying that an atomic event which is pluralized is not a single motion of scratching, but rather an atomic event which is in the extension of the predicate denoted by the lexical verb *xie*, i. e., an event of few scratching moves. However, the problem of this explanation is that the predicate in (22a) is not quantized, while the light verb *tək* cannot combine with other non-quantized predicates.

- (22) a. *væə suzər-a xiε-rʲ-ə*
 V. wound-OBJ scratch-PST-3SG
 ‘Vasya scratched the wound.’
- b. *væə suzər-a pēr xot ??xiε-rʲ-ə// okxiε-s=il-tε-ě*
 V. wound-OBJ one time scratch-PST-3SG scratch-CV_SIM=take-PST-3SG
 ‘Vasya scratched the wound a single time.’
- c. *væə suzər-a xiε-sa tək-rʲ-ə*
 V. wound-OBJ scratch-CV_SIM scatter-PST-3SG
 ‘Vasya scratched the wound (many times).’

Existence of such complex predicates, formed from “lexically” pluractional verbs, shows that the light verb *tək* does not actually pluralize the events denoted by the lexical verb, so it cannot be a pluractional operator. Instead, *tək* functions as a pluractional filter¹²: it checks whether the verbal phrase headed by the lexical verb already denotes an event contextually divisible into subevents.

Note that such complex predicates still imply the truth of the corresponding lexical verbs: for instance, although a single subevent of scratching cannot be referred to by the verb *xiε* ‘scratch’, the complex predicate *xiεsa tək* denotes a high cardinality of such atomic events, which is more than enough for the chain of subevents to be in the extension of the verb *xiε* as well.

Overall, what we can see is that the light verb *tək* behaves inconsistently with respect to the tests proposed in [Henderson 2012] for the split between event internal and event external pluractionals, see the table below:

Test	Result for <i>tək</i>
Compatibility with verbs of different actional classes	Event-external (but only with quantized base predicates)
Number of occasions	Event-internal (indirectly)
Number of subevents	Event-internal
Duration of a break between events	Event-external
Shared telos or theme	Event-internal wrt telos, event-external wrt theme and location
Entailment of the base predicate	Event-external

Note, however, that the three tests which classify *tək* as an event-internal pluractional (number of occasions, number of subevents and sharing the same telos) do not a priori show the event-internal behavior of the light verb. First, as I discussed in the corresponding section, the fact that the predicates denoted by complex predicates with *tək* can be scoped over the habitual operator, does not imply these events are not themselves sets of occasions. Second, the fact that the light verb requires the number of subevents to be higher than the standard does not say anything about the entire structure of the events: they can be either a set of independent events or a chain of subevents forming a single occasion. The same logic is applicable to the telicity of the complex predicates with *tək*: the shared endpoint is the moment when the number of subevents is higher than the standard, so these events do not necessarily have a shared effect on the world, which event-internal telicity probably requires.

In contrast, the parameters that classify the light verb *tək* as an event-external pluractional are more telling. First, the compatibility of *tək* with verbs from different actional classes (although only ones that denote quantized predicates) and entailment of the base predicate imply that the light verb does not require a verb to undergo semelfactivization. Second, the complex predicates with *tək* can denote a chain of subevents with significant downtime between them, which does not combine perfectly with the restriction on a single occasion.

Overall, despite the split behavior of the light verb with respect to the tests offered in [ibid.], there are more reasons for classifying *tək* as an event-external pluractional operator, although with some specific properties and restrictions. Keeping this in mind, I will show you in the next section that the semantic analysis for the Kaqchikel event-external pluractional *-lōj* in [ibid.] can also be applied to the Poshkart Chuvash light verb *tək*, although with some changes.

¹² The opposition between pluralizing operators and plural filters was proposed in [Kuhn 2019]. The author gives the following definitions for each type:

- (i) a. **Pluralizing operators** sum together the objects in a set:
 $\{a, b, c\} \Rightarrow \{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}.$
- b. **Plural filters** restrict a set to only its plural objects:
 $\{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\} \Rightarrow \{a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$ [ibid.: 6].

4. Analysis

To formalize the semantics of the event-external pluractional in Kaqchikel, Henderson [ibid.: 63] offers the corresponding formula:

$$(23) [[-lōj]] = \lambda V_{et} \lambda e [V(e) \wedge \exists P [\text{Part}(P, \tau(e)) \wedge \forall t \in P \exists e' [\tau(e') = t \wedge e' \leq e \wedge \text{atom}(e') \wedge \in(\tau(e))(t)]]].$$

To understand the formula in (23), one should be aware of the specific logical operators used in the work [ibid.]. Let me start with the notion of temporal trace which is denoted by the letter τ . The temporal trace $\tau(e)$ is a function from event that returns a set of the moments the event e spans on the timeline¹³. For instance, if John walked from 2 PM to 4 PM, the temporal trace of this event is an interval $[t_1, t_2]$, where t_1 is 2PM and t_2 is 4PM. As I will show later, the notion of temporal trace is important for the analysis because it allows Henderson to make the subevents necessarily happen in different time intervals.

The next notation which needs an explanation is the function *Part*, which is defined as follows [ibid.: 63—64]:

$$(24) \text{Part}(P, x) \text{ iff}$$

- a. $\bigoplus P = x$
- b. $\forall x \in P \neg \exists y [y \in P \wedge x \circ y]$.

As Henderson explains, the formula in (24) “says that P is a partition of x just in case P is a set of non-overlapping entities that sum to x ” [ibid.: 64]. In the case of pluractionality, the aim of the formula is to introduce P — a set of non-overlapping time subintervals of the event e .

The function $\text{atom}(e)$ requires an event e' to be atomic, i. e., to be inseparable into two other events of the same kind. Note that an atomic event does not always correspond to a quantized predicate: for instance, a single (finished) event of walking is atomic (it is indivisible in two full-fledged events of walking) but it does not correspond to a quantized predicate (the subparts of walking are also in the extension of the verb *walk*). This function allows the pluractional to combine with verbs of any actional class, except statives, which, according to Henderson [ibid.: 69—70], do not denote atomic events due to their homogeneity.

Finally, the function $\in$ borrowed by Henderson [ibid.] from the work [Champollion 2010] “maps a comparison class to a predicate of individuals very small relative to some measure and the members of the comparison class” [Henderson 2012: 63]. In the formula in (23), it returns a predicate of time intervals very small relative to the temporal trace of the event e , i. e., its whole duration.

Let me finally translate the meaning of the formula into English. The pluractional takes predicate V and event e (from the VP it attaches to) which adhere to the following conditions. First, the predicate V should be true of e , i. e., the event e is in the extension of the predicate. Second, the time interval of the event e should be separated into a set of non-overlapping relatively very small subintervals, each of which corresponds to an atomic event e' which is a part of e .

The analysis correctly predicts the semantic and selectional properties of the Kaqchikel event-external pluractional, as proved in [ibid.]. Let us see how this analysis deals with the data on the Poshkart Chuvash light verb *tək* ‘scatter.’

On the one hand, most restrictions presented in the formula in (23) are also necessary for the semantics of the light verb. Namely, the formula correctly predicts that the light verb forms complex predicates denoting events consisting of many subevents happening one after another, possibly with a long break between each two of them. The only condition which needs replacement (or, in fact, refinement) is the condition on atomicity of the subevent e' . The problem is that the light verb *tək* combines only with the verbs that denote quantized atomic events and does not combine with activities, in contrast to the Kaqchikel suffix *-lōj*. Thus, I need to replace the restriction on atomicity with the test on whether the subevent is quantized.

It is worth noting here that there are two different types of quantized predicates distinguished in [Tatevosov 2015]: strongly quantized and weakly quantized predicates. A formula for the strongly quantized predicates and its translation into English are as follows:

$$(25) \text{ a. } P(e) \text{ is strongly quantized iff } \forall e' [e' < e] \neg P(e').$$

- b. A predicate P which is true of an event e is strongly quantized iff it is false of all e' such that e' is a part of e .

An illustrative example of a strongly quantized predicate is provided in (26):

$$(26) \text{ John run 10 kilometers.}$$

¹³ The formulation of my definition is borrowed from [Pasternak 2019].

Let us imagine that John spent an hour running 10 kilometers, e. g., from 17:00 to 18:00. It is true that whichever proper part of this running event is taken, this subevent does not fall under the truth conditions of the sentence in (26): the distance which is run during this subevent will be inevitably shorter than the 10 kilometers.

This is an example of a proper, strongly quantized predicate. Most telic predicates, however, are weakly quantized, see the formula and its translation in (27):

- (27) a. For any P and e, P(e) is weakly quantized iff $\exists e' [P(e) \wedge e' < e \rightarrow \neg P(e')]$.
 b. A predicate P which is true of an event e is weakly quantized iff there is an event e' which is a proper part of the event e and does not fall under the truth conditions of P.

An illustrative example of a weakly quantized predicate is provided in (28):

- (28) *John built his house.*

In (28), the sentence denotes an event of building a house. Let us imagine it takes place for a year: from August 2020 till August 2021. The non-ideal quantized nature of the predicate in (28) is mirrored in the fact that if we take a subevent which holds from the beginning of the building to the last stage of the event, say, July 2021, it could be the case that what is made by then can already be called a house. Thus, this subevent in principle also falls under the truth conditions of the sentence in (28). However, there are still many subevents which do not: for example, a process which took place from September 2020 to October 2020, when only initial stages of building happened, obviously does not fall under the truth conditions of (28).

Complex predicates are formed from different telic predicates, including those that are weakly quantized, such as *pəzər* 'cook' or *eu* 'wash.' Thus, I propose that one of the requirements of the light verb *tək* is that the atomic subevent should be weakly quantized. I will formalize this requirement using the function QUANT, which is very similar to the function QUANTIZE introduced in [Tatevosov 2009: 127], but is oriented to the weak quantized predicates and thus works as follows:

- (29) $\text{QUANT}(P, e) \Leftrightarrow \exists e' [P(e) \wedge e' < e \rightarrow \neg P(e')]$.

This function will take a predicate P and an event e and return true only in cases when the predicate P is weakly quantized. Thus, all atelic inferences of atomic subevents, if any, will be filtered out by this condition.

However, even the refinement of the function responsible for the atomic events does not solve all the problems: the analysis is still too weak. The first, most obvious condition which the analysis (23) lacks is the requirement on the presence of the initiator in the event. As we see from the analysis part, the light verb cannot combine with patientive verbs, which lack such an initiator:

- (30) a. *vaɛə pədēm tɛaʃkə ɛəmər-ze tək-rʲ-ə*
 V. all cup break-CV_SIM scatter-PST-3SG
 'Vasya broke all the cups.'
 b. *vaɛə numaj kənege vula-za tək-sa*
 V. many book read-CV_SIM scatter-CV_SIM
 'Vasya read many books.'
 c. *vaɛə itla numaj sek-se tək-rʲ-ə*
 V. too many jump-CV_SIM scatter-PST-3SG
 'Vasya jumped too much.'
 d. **pədēm vərəm-dona vil-ze tək-rʲ-ə*
 all long-leg die-CV_SIM scatter-PST-3SG
 Intended: 'All the mosquitoes died.'

To solve this problem, I need to add one more required variable x in the denotation of the light verb, which is responsible for the discussed argument, and modify the presupposition with the corresponding condition: the argument should be semantically non-patientive. Since the exact semantic restriction is not known, but certainly present, I will introduce a conventional filter $\text{NPAT}(x, e)$ ¹⁴ which takes two arguments — the individual and the event — and is true if and only if the individual x is a (conventionally speaking) non-patientive participant of the event. The exact semantic restrictions on the role of the participant x need further research.

Another problem Henderson's analysis does not solve comes from the sensitivity of the light verb *tək* to the context. Namely, the complex predicates are fine only in the context where the number of subevents is higher than a contextually relevant standard, see again the contrast from (14), repeated here as (31):

¹⁴ NPAT stands for "non-patientive".

- (31) a. *papi pilëk kogalı virän-ni-a vonə kogalı pëžer-ze tək-ri-ə*
 grandma five pie place-P_3-OBJ ten pie cook-CV_SIM scatter-PST-3SG
 ‘Grandma cooked ten pies instead of five.’
 b. *#papi ɛrēm kogalı virän-ni-a vonə kogalı pëžer-ze tək-ri-ə*
 grandma twenty pie place-P_3-OBJ ten pie cook-CV_SIM scatter-PST-3SG
 Intended meaning: ‘Grandma cooked ten pies instead of twenty.’

In (31), the same event of cooking ten pies is represented differently: in (31a), the cardinality of the subevents is higher than the expected one, while in (31b), it is lower. Nothing in Henderson's analysis can explain that because his formula is not sensitive to the context.

To solve this problem, I will offer two modifications of Henderson's analysis. First, I will introduce a contextual variable n_s which will contain a contextual standard cardinality of the temporal traces of subevents. Second, I will use the function *card* from [Lasersohn 1995], which takes a set of individuals and returns its cardinality, to count the cardinality of the set P of the temporal traces of the subevents, and check whether this number exceeds the standard.

Thus, considering the mentioned modifications and renaming some of the notations according to my convention, I propose the following semantic formula for the light verb *tək* (all the modifications are in bold):

- (32) $[[tək]] = \lambda P \lambda e [\exists x [\text{EXT}(x, e)]] . P(e) \wedge \exists T [\text{Part}(T, \tau(e)) \wedge \forall t \in T \exists e' [\tau(e') = t \wedge e' \leq e \wedge P'] [\text{QUANT}(P', e')]] \wedge \epsilon \in (\tau(e)) (t) \wedge \text{card}(T) > n_s]]$.

In addition to the modifications mentioned before, I renamed the predicate variable V with P and partition set P with T (T stands for temporal, since it is a set of temporal intervals). Since the function *QUANT*, in contrast to the function *atom*, requires both an event and a predicate, I introduced a predicate P' which predicates over the event and is quantized. Note that P' need not be identical to P , although of course it can be. Otherwise, the complex predicates formed from inherently pluractional lexical verbs, such as *xie* ‘scratch (more than a single time)’, cannot be formed, since a single, atomic event of scratching is not in the extension of the lexical verb, see (22), repeated here as (33):

- (33) a. *vacə suzər-a xie-ri-ə*
 V. wound-OBJ scratch-PST-3SG
 ‘Vasya scratched the wound.’
 b. *vacə suzər-a pēr xot ??xie-ri-ə// okxie-s=il-te-ë*
 V. wound-OBJ one time scratch-PST-3SG scratch-CV_SIM=take-PST-3SG
 ‘Vasya scratched wound a single time.’
 c. *vacə suzər-a xie-sa tək-ri-ə*
 V. wound-OBJ scratch-CV_SIM scatter-PST-3SG
 ‘Vasya scratched the wound (many times).’

Note also that the formula in (32) automatically predicts that the complex predicate will be quantized in its episodic reading. The reason for that is the presence of the specific number of the temporal traces of subevents. Namely, we always can take a proper part of the pluractional event which contains a smaller number of subevents, or even such number that is less or identical to the contextual standard, and these smaller chains of subevents will not fall under the extension of the complex predicate.

A possible question regarding the new formula is whether we still need a conjunct $\epsilon \in (\tau(e)) (t)$ in the denotation. Recall that its aim in Henderson's analysis was to provide a high cardinality of subevents: if a subevent takes a significantly little time of the whole subevent, then the number of subevents should be high enough to keep that proportion. At the first glance, it seems that this function is covered by the new conjunct $\text{card}(T) > n_s$.

However, there is a slight difference between their truth conditions. Namely, there could be a situation where the contextual standard number of subintervals is relatively low — in such a case, the restriction on the relatively small temporal traces of subevents should crash the derivation. Imagine, for example, a situation when someone's son Vasya, who usually eats a single patty with potatoes, once unexpectedly ate two patties. For some consultants, it is still impossible to use *tək* in a sentence describing such a context:

- (34) *%vacə pēr kogalı virän-ni-a igë kogalı ɛi-ze tək-ri-ə*
 V. one pie place-P_3-OBJ two pie eat-CV_SIM scatter-PST-3SG
 ‘Vasya ate two pies instead of a single pie.’

The consultants that found this sentence ungrammatical said explicitly that two is not a worthy number of eaten pies, instead of, for instance, ten or more.

Thus, although conditions $\in (\tau(e)) (t)$ and $\text{card}(T) > n_s$ are similar in their function, their truth conditions are not identical, and if any of conditions is false, the use of the light verb is impossible¹⁵.

5. Conclusions

Let me summarize the results of my research. The aims of my work were to give a more detailed description of the light verb *tək* than presented in the previous research and to offer a formal analysis predicting the described data. As I can hope, both the aims were reached. First, I showed that the light verb *tək* is a telicizing operator forming pluractional complex predicates from quantized predicates containing a non-patientive subject. I also showed that the light verb requires a plural event to consist of a number of subevents, exceeding the contextually relevant standard number. Second, I discussed the behavior of the light verb with respect to event internal/event external distinction of the pluractionals well studied in the typological and formal literature. Precisely, I showed that *tək* demonstrates split behavior with respect to the tests offered in [Henderson 2012] — but the tests which classify it as an event-external operator are more telling. Finally, I offered a formal semantic analysis of the light verb *tək* based on the analysis of the event-external pluractional suffix *-lōj* in Kaqchikel [ibid.].

Before finishing this paper, I would like to mention that it is interesting whether the analysis offered here for the light verb *tək* ‘scatter’ can be expanded to the corresponding grammaticalized verbs in other languages, especially in other languages from the Turkic family, which have similar productive light verb systems [Grashchenkov 2015]. The other language of the specific interest is Hill Mari, see the work [Kashkin 2018] where the author in detail describes the behavior of the light verb *kăškăš* ‘throw, scatter’ and shows that it is also grammaticalized into a telicizing operator forming pluractional complex predicates. Since Chuvash and Hill Mari are neighboring languages and have similar light verb systems [Golosoov 2019], it would be interesting to check to which extent the light verbs *tək* and *kăškăš* are similar.

List of glosses

1, 3 — persons	NPST — non-past tense
CAUS — causative	OBJ — objective case (a contamination of accusative and dative)
CV_SIM — simultaneity converb (also used as a finite past tense form)	P_3 — third person possessive
EN — genitive	PL — plural number
LOC — locative	POT — potential
NEG — negation	PST — past tense
NMZ — nominalization	SG — singular number
	VBZ — verbalizer

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¹⁵ Probably, for those consultants who nevertheless accept sentence (42) the condition $\in (\tau(e)) (t)$ is not established in the formal semantics of the light verb *tək*.

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