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# SIMULTANEITY  AND  EPISTEMIC  ACCESS
# IN  KAZYM  KHANTY  TEMPORAL  SUBORDINATION

**Abstract.** This paper explores two non-finite temporal adverbial constructions, V-*m/t-* + *măr* and V-*t-* + *sa*, in the Kazym dialect of Khanty spoken in Kazym village, Khanty-Mansi autonomous region, Russia. The V-*t-* + *sa* construction expresses the meaning of point simultaneity ('when'), whereas the V-*m/t-* + *măr* construction is mainly used in the meaning of interval simultaneity ('while'). Yet, a more detailed look at these constructions reveals an additional discourse-level contrast in the direct accessibility of the main event. V-*t-* + *sa* describes simultaneously occurring events directly attested by the Speaker, whereas the use of V-*m/t-* + *măr* is preferred in evidential, modal and other subjective contexts where the presence of the main event is subject to the Speaker's inference, hearsay, conjecture or imagination. Although the Speaker's point of view is default, there are certain contexts in which the perspective switches to some other participant of the discourse. The behavior of V-*m/t-* + *măr* and V-*t-* + *sa* is modelled in the cognitive framework of Mental Spaces Theory.

**Keywords:** Khanty, temporal constructions, simultaneity, mental spaces, evidentiality, perspective.

## 1. Introduction

Human languages have various grammatical means of expressing subjective experience, reasoning, inference, epistemic evaluation and other cognitive processes that define how we handle information in general. The most widely studied grammatical phenomena of this kind are mood and modality, evidentiality, complex adverbial and complement constructions. Temporal adverbial clauses, which normally express objective relations between events on a time scale, cannot be considered among such. Surprisingly, though, an example of subjective contrast in temporal constructions is found in Kazym Khanty. Partially synonymous simultaneity constructions such as V-*m/t-* + *măr* and V-*t-* + *sa* exhibit nontrivial semantic distribution apparently based on the accessibility of the rendered information for the Speaker. Although there is a large body of research on morphology, syntax and semantics of converbs (de Groot 1995; Цыпанов 1998; Ylikoski 2001; Некрасова 2015; Georgieva 2018 etc.), temporal adverbial clauses in Uralic languages have rarely been in the focus of detailed

investigation; among the few exceptions are Черемисина, Соловар 1991 on Northern Khanty adverbial clauses, Schön 2017 on Khanty postpositions with a chapter about temporal postposition + participle constructions, and Томмола 2009 on the means of expressing temporal relations in Finnish.

Thus, the purpose of the present study is to provide a detailed semantic description of these two constructions and to offer a cognitive analysis of the data using the framework of Mental Spaces Theory (MST). The data for the study was collected in fieldtrips to Kazym village in the Khanty-Mansi autonomous district, Russia (2018, 2019) and mainly comes from elicitation, though corpus examples from the Khanty field corpus[1] are also used in Section 2 to illustrate other constructions. The test examples were translated from Russian stimuli in collaboration with a native speaker, providing two versions with each construction type followed by a grammatical evaluation of both choices. Each example contained the left and/or right context clarifying the contents of the sentence. The survey was conducted on 18 fluent native speakers of Kazym Khanty aged 42 to 75 years.

The paper is organized as follows. Section 2 contains an overview of the Kazym Khanty adverbial subordination system and a brief semantic description of the V-*m*/*t*- + *măr* and V-*t*- + *sa* constructions, and outlines the main research questions. Section 3 presents an analysis of the discourse properties of the above constructions in terms of MST. Section 4 discusses the results of the study and suggests some areas of future research. Section 5 summarizes the study and presents a conclusion.

## 2. Simultaneity constructions in Kazym Khanty

### 2.1. Adverbial subordination in Kazym Khanty

Kazym Khanty has a broadly non-finite, participle-based system of adverbial subordination with a past participle -(*∂*)*m*- and a non-past participle -(*∂*)*t*(*i*)- (Черемисина, Соловар 1991 : 758—781; Nikolaeva 1999a : 46—49; Валь-гамова, Кошкарева, Онина, Шиянова 2011 : 180—182). Both participles have a wide range of syntactic uses, such as marking the head of a relative clause (*χɔλλ∂-ti ńawrɛm* 'a crying child', *jŏχ∂t-∂m amp* 'a dog that came') or a complement clause (*ŭw-ti pit∂s* 's/he started shouting'), predicative use (*λanjiŋk kaw∂rt-∂m* 'the soup is cooked'), and even as a fully finite verb with person and number inflection (*χŏjat jŏχ∂t-m-aλ* 'somebody came'). In the adverbial function the -(*∂*)*m*- (1) and -(*∂*)*t*(*i*)- (2) forms require either a locative case marker or a postposition. Locative marked participles convey the temporal meaning of simultaneity and add the obligatory subject-agreement markers of possessive origin.

(1) [*wewλi  j ŭ w - m - e w - ∂ n*]     *pŭt wɛr-s-∂w*
    tired     come-PTCP.PST-1PL-LOC  pot make-PST-1PL
    'When we got tired we cooked soup' (Khanty corpus, In autumn, 13)

(2) [*ma năŋ∂t    jăm-a     w ɔ x - t - ɛ m - ∂ n*]
    I   you.ACC good-ADV call-NFIN.NPST-1SG-LOC
    *ănt  ji-s-∂n,     pa  šǫš-a*
    NEG come-PST-2SG ADD walk-IMP[SG]

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[1] The Khanty text corpus was developed by E. Kashkin under the RAS project "Corpus Linguistics" (2012—2014).

'When I was calling you kindly, you didn't come, so go your way' (Khanty corpus, Pashit-Wort 29)

Postpositional constructions with participles express a broad variety of temporal relations including anteriority, posteriority and more fine-grained subtypes of simultaneity, and non-temporal adverbial relations, cf. (Schön 2017 : 247—299). Examples (3) and (4) illustrate anteriority (V-*m/t-* + *jŭpi*), simultaneity (V-*t-* + *sa*) and purpose (V-*t-* + *păta*) constructions.

(3) [*ike-λ*          *m ă n - ə m j ŭ p i j - ə n*] *aj   pŏχ-ije tăj-əs*
husband-POSS.3SG go-PTCP.PST after-LOC     little boy-DIM have-PST[3SG]
'After her husband left she gave birth to a child' (Khanty corpus, The golden horse, 47)

(4) [*m ă n - t - a λ    s a*]     *weλ-ti       nŏməs   wɛr-əs*,
go-NFIN.NPST-3SG moment kill-NFIN.NPST thought make-PST[3SG]
[*λŭw wɔš-əλ-a        ănt ɔ m ə s - t i   p ă t a*]
he   city-POSS.3SG-DAT NEG sit-NFIN.NPST for
'As he was going there, he decided to kill the boy lest he comes to rule his city' (Khanty corpus, The warrior, 30)

Another non-finite form, the simple converb -*man* is a contextually dependent semantically vague form expressing a variety of relations, such as anteriority, simultaneity, attendant circumstance and manner. The anteriority (5) and manner (6) functions are illustrated below.

(5) *măttirən i   sŭλt   păλat χŏla-mali* [*tŭt ă λ - m a n*] *ɔməs-əλ*
turns.out one spark size   Hula-Mali fire light-CVB    sit-NPST[3SG]
'As it turns out, spark-sized Hula-Mali has lit a fire and is sitting down there' (Khanty corpus, The golden horse, 52)

(6) *mitχɵ* [*a m ə t - m a n*] *śi   art-ən   χiw-ɛm-əs*
servant rejoice-CVB    DEM time-LOC shout-MOM-PST[3SG]
'The servant meanwhile shouted with joy' (Khanty corpus, A clever servant of the king, 93)

The two exceptions to the otherwise fully non-finite adverbial inventory are the temporal conjunction *χɵn* 'when' (7) and the conditional particle *ki* 'if' (8).

(7) *śiti     śi  jăŋχ-λ-əw*,
this.way FOC walk-NPST-1PL
[*x ɵ n mɔs-əλ           kŭr-ən   jăŋχ-ti*]
when be.necessary-NPST[3SG] foot-LOC walk-NFIN.NPST
'So we walk like this, when we have to walk' (Khanty corpus, The hunter without a gun, 17)

(8) [*ăn k i   măn-λ-ən*], *jɵr-ən   part-λ-ɛm*
NEG COND go-NPST-2SG force-LOC order-NPST-1SG.SG
'If you don't go, I'll force you' [Khanty corpus, The fisherman and the fish, 134]

In the next section of the paper a closer look will be taken at two postpositional constructions, V-*t-* + *sa* and V-*m/t-* + *măr*, expressing similar yet distinct varieties of the simultaneity relation.

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## 2.2. The simultaneity constructions V-*t*- *sa* and V-*m/t*- *măr*

The Khanty text corpus contains examples of six productively used constructions denoting simultaneous relations between events:

- V-*m/t*- + *pŏrajən* 'when, within a broad period of time or habitually'
- V-*m/t*- + *măr* 'while, within a shorter period of time'
- V-*t*- + *saχət/sati/sa* 'when, at a certain moment of time'
- V-*t*- + *kŭtən* 'when, between some event(s) or portions of an event'
- V-*t*- + *artən* 'when, at a certain moment of time or immediately after'
- V-*t*- + *kaša* 'when, within a broad period of time'

Though, as shown by by Kazym field data, the latter two are not attested in everyday use. If we further reduce the remaining list of four constructions by excluding V-*m/t*- + *pŏrajən*, which sets a generic or remote past time frame, and V-*t*- + *kŭtən*, which has a special meaning of intermediacy, we are left with two comparable constructions describing an episodic simultaneous relation between events: V-*m/t*- + *măr* and V-*t*- + *sa* illustrated in (9) and (10) below. These two constructions will now be discussed in further detail.

(9) [*šaj jăńś-ə m măr-ew-ə n*]
    tea drink-PTCP.PST time-1PL-LOC
    *jetn-a śi ji-ti pit-əs*
    evening-DAT FOC come-NFIN.NPST fall-PST[3SG]
    'When we were drinking tea, it started getting dark' (Khanty corpus, On the river bank, 10)

(10) *šɔwər-lɛ* [*pɛsəλ λɛ-t-a λ s a*]
    hare-DIM sedge eat-PTCP.NPST-3SG moment
    *tŏrp-əλ pɛsəλ tij-ən waś-s-a*
    lip-POSS.3SG sedge tip-LOC cut-PST-PASS[3SG]
    'Bunny cut his lip while eating sedge' (Khanty corpus, Bunny, 2)

The postposition *sa* has longer variants *saχət* and *sati* used in the same function with a considerable variation across speakers and dialects. According to Steinitz (DEWOS 1384), these variants come from the same diachronic source, which suggests that they represent different stages of phonological erosion. Besides, they do not attach nominal morphology, which might suggest the loss of nominal properties by what originally could have been a relational noun. For that reason, possessive marking signalling subject agreement appears only on the participle form. In turn, *măr* 'time' displays a more nominal behaviour by attaching pronominal agreement markers (an alternative version of (9) is *jăś-m-ew măr-ən* with 1PL possessive suffix *-ew* on the participle) and a locative case ending.

Semantically, both constructions express a simultaneous relation between the coded event and the main event. More precisely, V-*m/t*- + *măr* matches S i m u l t a n e i t y  D u r a t i o n type (Kortmann 1998), or L e n g t h  o f  t i m e (The Semantics of Clause Linking 2009), while V-*t*- + *sa* fits S i m u l t a n e i t y  O v e r l a p type (Kortmann 1998), or P o i n t  o f  t i m e (The Semantics of Clause Linking 2009). The difference can be seen in contexts where two parallel durative events take place, like in sentences (11) and (12) below. Here the only fully grammatical option is the V-*m/t*- + *măr* construction, whereas V-*t*- + *sa* is only marginally acceptable.

(11) [*păsan-ən ɔ m s - ə m  m ă r - e w - ə n*] *ńawrɛm-ət jŏnt-s-ət*
　　　table-LOC sit-PTCP.PST time-1PL-LOC　children-PL play-PST-3PL
　　　'When we were sitting at the table, the children were playing'

(12) <sup>??</sup>[*păsan-ən ɔ m ə s - t - e w  s a*]　　　*ńawrɛm-ət jŏnt-s-ət*
　　　table-LOC sit-PTCP.NPST-1PL moment children-PL play-PST-3PL
　　　'When we were sitting at the table, the children were playing'

Yet the validity of these labels for the V-*m/t-* + *măr* and V-*t-* + *sa* constructions is questionable, as these are equally grammatical in another frequent context — a punctual event on a durative background, as shown in (13, 14).

(13) [*păsan-ən ɔ m s - ə m  m ă r - e w - ə n*] *pɛťaj-en　　jŏχt-əs*
　　　table-LOC sit-PTCP.PST time-1PL-LOC　Pete-POSS.2SG come-PST[3SG]
　　　'When we were sitting at the table, Pete arrived'

(14) [*păsan-ən ɔ m ə s - t - e w  s a*]　　　*pɛťaj-en　　jŏχt-əs*
　　　table-LOC sit-PTCP.NPST-1PL moment Pete-POSS.2SG come-PST[3SG]
　　　'When we were sitting at the table, Pete arrived'

Note that sa requires the non-past participle form in all contexts, whereas *măr* is compatible with both past and non-past participles, depending on the temporal reference of the dependent event. The non-past (habitual or future) version of the above sentences will be as follows:

(15) [*păsan-ən ɔ m ə s - t i  m ă r - e w - ə n*] *pɛťaj-en　　jŏχət-əλ*
　　　table-LOC sit-PTCP.NPST time-1PL-LOC　Pete-POSS.2SG come-NPST[3SG]
　　　'When we sit at the table, Pete arrives'
　　　'When we will be sitting at the table, Pete will arrive'

(16) [*păsan-ən ɔ m ə s - t - e w  s a*]　　　*pɛťaj-en　　jŏχət-əλ*
　　　table-LOC sit-PTCP.NPST-1PL moment Pete-POSS.2SG come-NPST[3SG]
　　　'When we sit at the table, Pete arrives'
　　　'When we will be sitting at the table, Pete will arrive'

Although at first sight the V-*m/t-* + *măr* and V-*t-* + *sa* constructions in (13—16) seem to be identical in meaning, speakers' comments suggest that they have different nuances of interpretation. Using the V-*t-* + *sa* construction implies that Pete's arrival was noticed by the speaker (and his/her companions), while the use of V-*m/t-* + *măr* has some sort of evidential meaning, as in this case Pete is unlikely to attract the speaker's attention at that moment. Replacing the General Past tense form in the main clause with Evidential Past supports this observation, as the construction V-*t-* + *sa* in (18) turns out to be only marginally grammatical.

(17) [*păsan-ən ɔ m s - ə m  m ă r - e w - ə n*] *pɛťaj-en　　jŏχt-əm-aλ*
　　　table-LOC sit-PTCP.PST time-1PL-LOC　Pete-POSS.2SG come-EV.PST-3SG
　　　'When we were sitting at the table, Pete arrived (it turns out)'

(18) <sup>??</sup>[*păsan-ən ɔ m ə s - t - e w  s a*]　　*pɛťaj-en　　jŏχt-əm-aλ*
　　　table-LOC sit-PTCP.NPST-1PL moment Pete-POSS.2SG come-EV.PST-3SG
　　　'When we were sitting at the table, Pete arrived (it turns out)'

Counter to the purely semantic explanation of the above contrast one can notice that evidential forms are, in fact, finite uses of participle forms (Nikolaeva 1999b : 132). Given this, one might expect a tense concord such that the main clause past form in -*m*- obligatorily matches the dependent past

participle in -*m*-. However, the following examples prove that it is not the past evidential form itself that V-*t*- + *sa* cannot combine with, but rather the underlying meaning of unwitnessed information. The same incongruence appears in (20), where the sentence with V-*t*- + *sa* (cf. 19 with V-*m/t*- + *măr*) is additionally commented with a phrase *ma ăn χǫλsɛm* 'I didn't hear it'.

(19) [*ma  λ ɛ w-ə m   m ă r-ɛ m-ə n*]
    I    eat-PTCP.PST  time-1SG-LOC

    *pɛtʼaj-en    ɔw-ɛm        sɛŋk-ɛm-əs,     (ma ăn  χǫλ-s-ɛm)*
    Pete-POSS.2SG door-POSS.1SG knock-MOM-PST[3SG] I    NEG hear-PST-1SG.SG

    'When I was eating Pete knocked at the door, but I didn't hear it'

(20) [*ma  λ ɛ-t-ɛ m       s a*]
    I    eat-PTCP.NPST-1SG moment

    *pɛtʼaj-en    ɔw-ɛm        sɛŋk-ɛm-əs,     (\*ma ăn  χǫλ-s-ɛm)*
    Pete-POSS.2SG door-POSS.1SG knock-MOM-PST[3SG] I    NEG hear-PST-1SG.SG

    'When I was eating Pete knocked at the door, but I didn't hear it'

Furthermore, the same contrast can be seen with modal adverbials such as *mɔsəŋ* 'probably' (21, 22), which suggests that the contrast should be regarded not as evidential but as more broadly epistemic.

(21) [*ma  ŏ λ-ə m     m ă r-ɛ m-ə n*] *pɛtʼaj-en    (mɔsəŋ)    jŏχt-əs*
    I    sleep-PTCP.PST time-1SG-LOC     Pete-POSS.2SG probably come-PST[3SG]

    'It's possible that Pete came when I was asleep'

(22) [*ma  ŏ λ-t-ɛ m        s a*]     *pɛtʼaj-en    (\*mɔsəŋ)    jŏχt-əs*
    I    sleep-PTCP.NPST-1SG  moment Pete-POSS.2SG probably  come-PST[3SG]

'    It's possible that Pete came when I was asleep'

This contrast is nontrivial in the context of what is known about both epistemic semantics and temporal adverbial constructions because one would not expect the former to be coded with the latter. Yet, it suggests that a full understanding of how temporal constructions are interpreted requires not only a basic description of their meaning but also uncovering and analyzing hidden discourse-level semantics. In the following section I present an attempt to analyze the meaning of the V-*t*- *sa* and V-*m/t*- *măr* constructions in terms of MST, which has been specially designed to deal with discourse-level categories.

## 3. A cognitive account of the Kazym Khanty constructions

After briefly introducing the framework of Mental Spaces Theory (3.1) I will outline the basic principles of modeling the simultaneity constructions in question, taking evidential contexts as a starting point (3.2). Further on, I will extend the analysis onto other kinds of epistemic contexts (3.3). Finally, I will touch on the problem of perspective, which plays a major role in the functioning of any discourse-level category.

## 3.1. The Mental Spaces model

As I have noted in the preceding section, analyzing the usage of V-*t*- *sa* and V-*m/t*- *măr* in purely temporal and aspectual terms proves insufficient for a proper understanding of their interpretation because these constructions also differ in their discourse function, more specifically with respect to how the

information about the main event is obtained. Understanding this means, first, understanding who is in charge of getting information, i.e. perspective, and, second, how this person acquires the information through perception and conceptualization. This brings us to the domain of cognitive linguistics and the framework of Mental Spaces Theory introduced by Fauconnier (1985; see also Fauconnier 1997; Fauconnier, Sweetser 1996; Dancygier, Sweetser 2005). MST, like its formal cousin called Discourse Representation Theory (Kamp 1981), was originally designed to cope with the increasing amount of contradictory examples that could not be explained using classical logic models. As an example, consider the following sentence cited in the introduction to (Fauconnier 1994 : 62):

(23) *In Len's painting, the girl with blue eyes has green eyes*

According to traditional models of logic, this example contains a contradiction: the two properties of the referent, "having blue eyes" and "having green eyes" are mutually exclusive and cannot be simultaneously interpreted as true. MST avoids this problem by partitioning the world into two separate temporary discourse domains, or mental spaces (represented with circles) one of them being the speaker's reality and another, the daughter space, representing the imaginary world depicted in the painting. The second space is introduced with an adverbial expression in the picture serving as a space-builder, identical referents across spaces (the girl in the Base (G) and in the Picture (G')) are linked with connectors.



*Fig. 1.* **The mental space representation of sentence (23).**
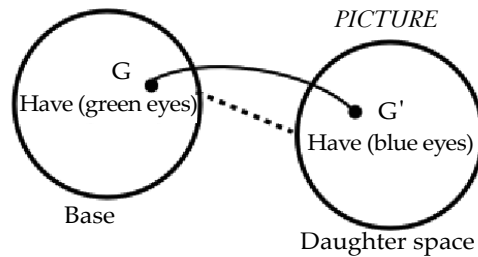
Since its appearance MST has been widely used to analyze a number of reference and perspective phenomena, such as modality, evidentiality, deixis, conditional and causal constructions. Of primary importance for the purposes of the current study is the treatment of evidential categories denoting indirect access to the information supplied. In his doctoral dissertation Kwon (2012) analyzes the Korean verbal form *-napɔ* as expressing inferential evidentiality, as in example (24) below.

(24) *Chelswu-ka    cikum selkeci-lul        ha-napɔ-a*
    Chelswu-NOM now   dishwashing-ACC do-EV.INFR-INDIC
    'Chelswu's doing the dishes now' (Kwon 2012 : 158)

For sentences like (24) Kwon suggests a set-up of three spaces (cf. the diagram below): Base space, Subjective experience space, a subpart of the Base,[2] and an indirectly triggered Speaker's inference space. The key idea is that of the two speech act participants only the Speaker has access to the second

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[2] In addition to simple mental space embedding, Kwon (2012 : 135, 141—142, 173—174) introduces two new ways of space elaboration: Backgrounded Information Accommodation (BIA) and Indirect Epistemic Space Triggering (IEST). BIA occurs when the Speaker makes an evidential utterance sharing his/her subjective experience with the adressee as a backgrounded information. IEST is a way to express the idea that the inference about some event is made based on some stimulus which acts as a trigger.

space, his/her memory, and indirectly through some perceived stimulus to the third space containing the knowledge about Chelswu's washing the dishes.



*Fig. 2.* **The mental space representation of sentence (24).**
S — Speaker, H — Hearer, Evid — perceived stimulus, C — Chelswu.
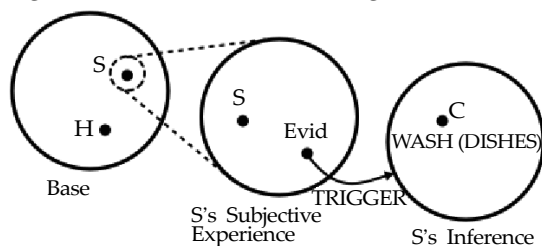
The same analysis can be applied to evidentiality in Kazym Khanty. In (25) with the General Past form, the coding of the knocking event is neutral with respect to the information source with a possibility that knocking was directly attested by the Speaker at some point in the past. In (26), with the Evidential Past form, the coding of the main predicate signals that the conclusion about the knocking taking place in the past is based on the Speaker's perception of some secondary piece of evidence.

(25) *pɛtʼaj-en        ɔw-ɛm        sɛŋk-ɛm-əs*
     Pete-POSS.2SG door-POSS.1SG knock-MOM-PST[3SG]
     'Pete knocked at the door'

(26) *pɛtʼaj-en        ɔw-ɛm        sɛŋk-m-aλ*
     Pete-POSS.2SG door-POSS.1SG knock-EV.PST-3SG
     'Pete knocked at the door'

In MST terms the former example can be represented with a simple two-space setup, as for the blue/green-eyed girl sentence in Fig. 1, whereas the latter example requires a three-space setup, as does the Korean example in Fig. 2.

## 3.2. Modelling simultaneity constructions in MST

Consider now another minimal pair of the constructions V-*t*- *sa* (27) and V-*m/t*- *măr* (28). At first glance, the mental space setup evoked by these two utterances should look identical. The use of General Past here suggests that in both cases we have the Focal Event space directly embedded under the Base space. The Focal Event space is supported by a temporal clause, which serves as a space-builder anchoring the focal event in the discourse.

(27) [*ma   λ ɛ - t - ɛ m        s a*]
     I    eat-PTCP.NPST-1SG  moment

     *pɛtʼaj-en        ɔw-ɛm        sɛŋk-ɛm-əs*
     Pete-POSS.2SG door-POSS.1SG knock-MOM-PST[3SG]
     'When I was eating, Pete knocked at the door'

(28) [*ma   λ ɛ w - ə m    m ă r - ɛ m - ə n*]
     I    eat-PTCP.PST  time-1SG-LOC

     *pɛtʼaj-en        ɔw-ɛm        sɛŋk-ɛm-əs*
     Pete-POSS.2SG door-POSS.1SG knock-MOM-PST[3SG]
     'When I was eating, Pete knocked at the door'

The basic mental space set-up corresponding to both sentences can be represented in Fig. 3 consisting of a double-layered space branching from the Base space. The outer layer corresponds to the Temporal Framing Event (TEMP), which serves as a space-builder for the Focal Event (FE) located within TEMP.

*Fig. 3.* **The partial mental space represen-
tation of sentences (27) and (28).**
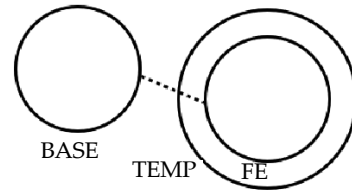
Discourse participants are represented as entities in the Base space and
their counterparts in the spaces which follow. Both Pete and the Speaker are
contextually given and thus initially present in the Base. In addition, Pete is
also present in the Focal Event space containing the knocking event while the
Speaker is present in the supporting Temporal space containing the eating
event. Recall from the previous discussion that the two constructions have a
crucial difference in interpretation as the V-*t*- *sa* construction indicates direct
access of the Speaker to the Focal Event, whereas the construction V-*m/t*- *măr*
indicates a lack thereof. The question arises how MST can account for the
apparent difference in meaning between the two examples in question.

The most natural solution is to assume that in this context the Speaker takes
the role of an experiencing Origo, that is the discourse participant whose point
of view is expressed in the utterance.[3] This means that the Speaker is respon-
sible for the truth value of all events that s/he is reporting and by default
witnesses them personally. As a consequence, s/he is implicitly present in every
mental space in the setup including the Focal Event space in the above exam-
ples. This is exactly what happens in the case of the V-*t*- *sa* construction: the
Speaker has direct evidence for all the events described and, thus, has counter-
parts in all mental spaces in the setup (see Fig. 4; P = Pete, Or = Origo). Thus,
the function of V-*t*- *sa* can be described as building a t r a n s p a r e n t Focal
Event space accessible from outside. By contrast, the V-*m/t*- *măr* construc-
tion appears to be semantically evidential because the Speaker is involved in
the main event of eating and can only infer the presence of the knocking
event based on some evidence received afterwards. In line with Kwon's eviden-
tial model (Fig. 2 above), copies of the Speaker are present in all mental spaces
except the Focal Event space, which is indirectly triggered, although the Subjec-
tive experience space as a source of the trigger is not profiled in the utter-
ance (see Fig. 5). Hence the function of V-*m/t*- *măr* is building an o p a q u e
Focal Event space of which the Origo has only indirect knowledge.

Profiling the Subjective experience space can be achieved by replacing the
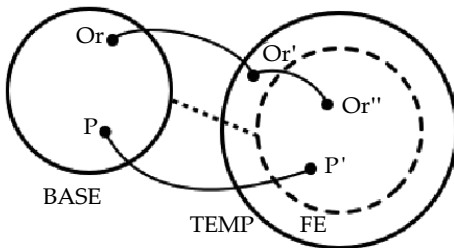General Past form by Evidential Past, similar to what was done to (13) and (14).



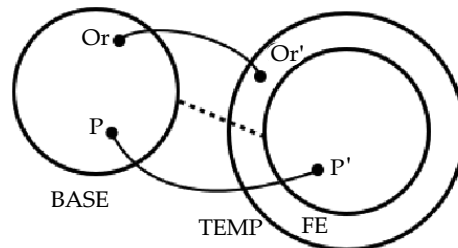*Fig. 4.* **The mental space representation
of sentence (27) with V-*t*- *sa*.**



*Fig. 5.* **The mental space representation
of sentence (28) with V-*m/t*- *măr*.**

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[3] Origo is Bühler's (1934) term for "the HERE, the NOW and the ME of the speech
situation" which is now widely used in cognitive analyses of evidential categories.

(29) [*ma  λ ε w - ə m   m ǎ r - ε m - ə n*]
    I    eat-PTCP.PST  time-1SG-LOC

    *pεtʼaj-en*    *ɔw-εm*        *sεŋk-m-aλ*
    Pete-POSS.2SG door-POSS.1SG knock-EV.PST-3SG

    'When I was eating, Pete knocked at the door'

(30) ??[*ma  λ ε - t - ε m*      *s a*]
    I    eat-PTCP.NPST-1SG moment

    *pεtʼaj-en*    *ɔw-εm*        *sεŋk-m-aλ*
    Pete-POSS.2SG door-POSS.1SG knock-EV.PST-3SG

    'When I was eating, Pete knocked at the door'

The resulting sentences (29) and (30) combine the above temporal framing setup with the evidential setup discussed before. The combination in (29) works perfectly, as shown in Fig. 6. The Focal Event space contains no Speaker counterpart both because the V-*m/t- mǎr* temporal frame prevents it and because the use of Evidential Past makes the Focal Event space just an inference triggered by a directly perceived stimulus in the accommodated Subjective Experience space. On the contrary, the combination in (30) clashes, as shown in Fig. 7, because the V-*t- sa* temporal frame allows a copy of the Speaker in the Focal Event space, whereas the Evidential Past form excludes this possibility.
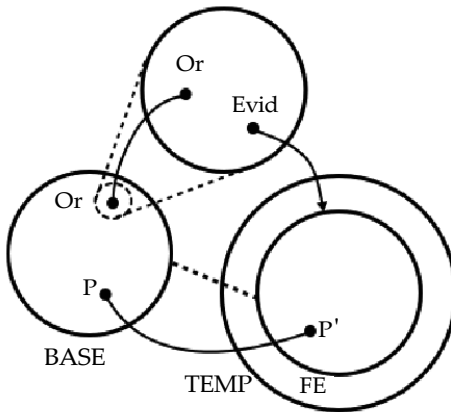


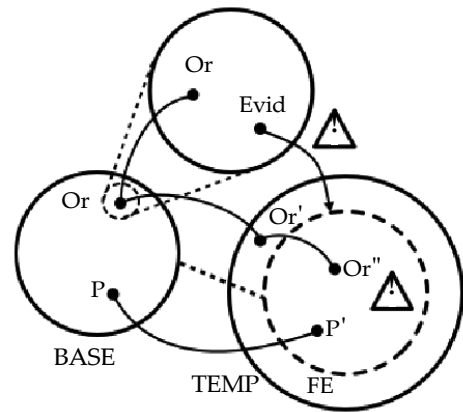*Fig. 6.* **The mental space representation of sentence (29) with V-***m/t-* ***mǎr.***

*Fig. 7.* **The mental space representation of sentence (30) with V-***t-* ***sa.***

Thus, both the V-*t- sa* and V-*m/t- mǎr* constructions serve as space builders for the Focal Event space, locating the main event in time, while the major semantic difference between them can be formulated in terms of the accessibility of the main event for the Speaker and, consequently, the presence of his/her copy in the Focal Event space. V-*t- sa* builds a transparent Focal Event space and, based on this, the construction can be said to have a semantic function of transparent simultaneity, while V-*m/t- mǎr* builds an opaque Focal Event and accordingly has a function of opaque simultaneity.

## 3.3. Opaque/transparent contrast beyond evidential contexts

As was shown earlier in examples (21, 22), inferential reasoning about the main event is not the only possible condition for the opaque setup and the exclusive use of V-*m/t- mǎr*. A similar contrast is observed in the context of

epistemic evaluation introduced with the epistemic adverbial phrase *mɔsəŋ* 'probably'. In the repeated examples below it is perfectly compatible with V-*m/t- mǎr* (31) but blocks the use of V-*t- sa* (32).

(31) [ma  ŏ λ - ə m      m ǎ r - ɛ m - ə n] pɛt′aj-en    mɔsəŋ    jŏχt-əs
       I    sleep-PTCP.PST time-1SG-LOC    Pete-POSS.2SG probably come-PST[3SG]
       'It's possible that Pete came when I was asleep'

(32) *[ma  ŏ λ - t - ɛ m        s a]    pɛt′aj-en    mɔsəŋ    jŏχt-əs
       I    sleep-PTCP.NPST-1SG moment Pete-POSS.2SG probably come-PST[3SG]
       'It's possible that Pete came when I was asleep'

In MST terms (see Fig. 8, 9) *mɔsəŋ* serves as an additional space builder (PROBABLY) introducing an opaque space which is subject to the Speaker's epistemic evaluation as opposed to the "real world" state of affairs. This space is the same space as anchored by the temporal clause. The opacity of *mɔsəŋ* clashes with the transparency of V-*t- sa*, hence the ungrammaticality of the latter.
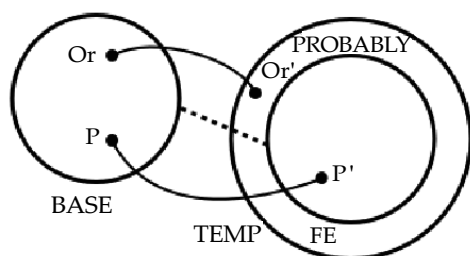


*Fig. 8*. **The mental space representation of sentence (31) with** V-*m/t- mǎr*.
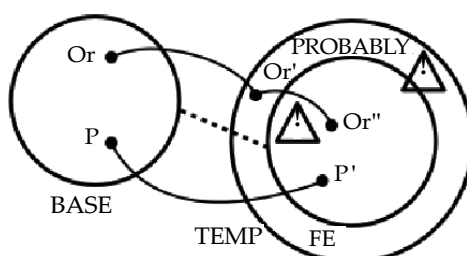
*Fig. 9*. **The mental space representation of sentence (32) with** V-*t- sa*.

Another way to introduce epistemic evaluation, as shown in the sentence pair (33, 34) below, is to use a complement construction with *nɔməsti* 'think' as a matrix predicate of opinion.

(33) *ma nɔməs-s-əm*, [*mŭŋ  p ŏ t ə r t - ə m    m ǎ r - e w - ə n*]
       I    think-PST-1SG we    talk-PTCP.PST        time-1PL-LOC
       *pɛt′aj-en      mǎn-əs*
       Pete-POSS.2SG go-PST[3SG]
,      'I thought that Pete left, when we were talking'

(34) *\*ma nɔməs-s-əm*, [*mŭŋ  p ŏ t ə r t - t - e w    s a*]
       I    think-PST-1SG we    talk-NFIN.NPST          moment
       *pɛt′aj-en      mǎn-əs*
       Pete-POSS.2SG go-PST[3SG]
       'I thought that Pete left, when we were talking'

The MST representation of these examples (see Figs 10, 11) also profiles the Speaker's epistemic evaluation space itself (EPIST) in which s/he makes the judgement about the main event (*ma nɔməssəm* 'I thought').

The same line of reasoning can be easily carried over to contexts where it is in principle impossible for an external participant to have direct evidence, as in the case of cognitive processes, such as thinking, understanding or dreaming, which unlike physical events are only accessible by their subject. As a consequence, such events with a third party subject, such as 'learn', are better compatible with V-*m/t- mǎr* (35), as they pass unnoticed by the Speaker.
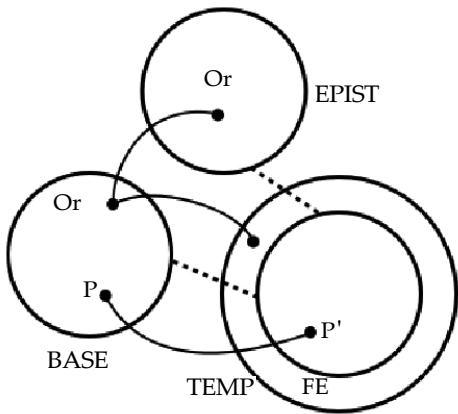
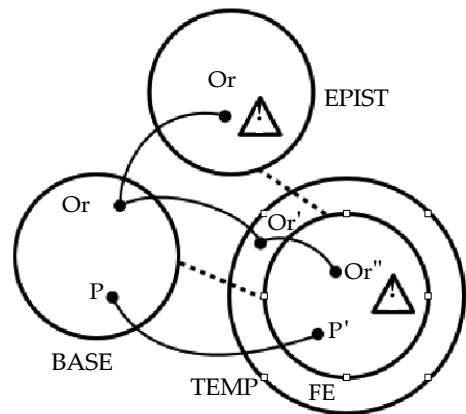*Fig. 10.* **The mental space representation of sentence (33) with** V-*m/t- măr.*

*Fig. 11.* **The mental space representation of sentence (34) with** V-t- sa.

(35) *pɛt′aj-en*    [*r ǫ p i t -ə m   m ă r -ə λ -ə n*]
Pete-POSS.2SG work-PTCP.PST   time-3SG-LOC
*mŏλti*      *ŏš-a*      *wɛr-əs*
what.INDEF mind-DAT do-PST[3SG]
'When Pete was working he learned something'

(36) ??*pɛt′aj-en*    [*r ǫ p i t -t -a λ    s a*]      *mŏλti*    *ŏš-a*      *wɛr-əs*
Pete-POSS.2SG work-PTCP.NPST-3SG moment what.INDEF mind-DAT do-PST[3SG]
'When Pete was working, he learned something'

Yet, V-*t- sa* is preferred in cases when a cognition event can be construed as having some concomitant external reaction or even a spoken phrase, such as the remembering event in (37, 38) below.

(37) *pɛt′aj-en*    [*r ǫ p i t -t -a λ    s a*]      *mŏλti*    *nǫmǝλm-əs*
Pete-POSS.2SG work-PTCP.NPST-3SG moment what.INDEF remember-PST[3SG]
'When Pete was working, he remembered something'

(38) ??*pɛt′aj-en*    [*r ǫ p i t -ə m   m ă r -ə λ -ə n*]
Pete-POSS.2SG work-PTCP.PST time-3SG-LOC
*mŏλti*      *nǫmǝλm-əs*
what.INDEF remember-PST[3SG]
'When Pete was working, he remembered something'

In the case of dreaming specific dreams while sleeping, as shown in (39, 40) below, the access to the content of the dream is also limited to the dreaming subject and requires an opaque setup.

(39) *pɛt′aj-en*    [*ŏ λ -ə m    m ă r -ə λ -ə n*] *wǫn χǝt    wǫλmij-əs*
Pete-POSS.2SG sleep-PTCP.PST time-1SG.LOC      big   house dream-PST[3SG]
'When Pete was sleeping, he dreamt of a big house'

(40) *\*pɛt′aj-en*    [*ŏ λ -t -a λ        s a*]    *wǫn χǝt    wǫλmij-əs*
Pete-POSS.2SG sleep-PTCP.NPST-1SG moment big   house dream-PST[3SG]
'When Pete was sleeping, he dreamt of a big house'

Still, as can be seen from (41, 42), if the content of a dream is not specified and only the fact of dreaming is stated, no restrictions are observed, which may be simply due to the triviality of this pair of events.

(41) *pɛtʹaj-en* [ŏ λ - ə m    m ă r - ə λ - ə n] *wọλəm wọλmij-əs*
Pete-POSS.2SG sleep-PTCP.PST time-3SG-LOC    dream dream-PST[3SG]
'When Pete was sleeping, he had a dream'

(42) *pɛtʹaj-en* [ŏ λ - t - a λ       s a]    *wọλəm wọλmij-əs*
Pete-POSS.2SG sleep-PTCP.NPST-3SG moment dream dream-PST[3SG]
'When Pete was sleeping, he had a dream'

To conclude, the opacity/transparency distinction governing the use of V-*m*/*t*- *măr* and V-*t*- *sa* is not merely a matter of the (in)directness of evidence but is more broadly tied to (not) having direct access to the information in the main clause. Restricted access can have various causes, subjective or objective, the former having to do with unwitnessed physical events and the latter with cognition events that cannot simply be witnessed.

### 3.4. Opaque/transparent contrast and perspective

Like most discourse-level phenomena, such as modality or evidentiality, the simultaneity constructions under consideration are by default Speaker-oriented. Normally, it is the Speaker who has direct access to the main event in the transparent setup and lacks it in the opaque setup. Thus in (37), repeated below in (43), s/he simply reports the events without participating in any of them, and in (14), repeated in (44), s/he takes part in a dependent event, yet reporting only the main event.

(43) *pɛtʹaj-en* [r ọ p i t - t - a λ    s a]    *mŏλti    nọməλm-əs*
Pete-POSS.2SG work-PTCP.NPST-3SG moment what.INDEF remember-PST[3SG]
'When Pete was working, he remembered something'

(44) [*păsan-ən ɔ m ə s - t - e w    s a*]    *pɛtʹaj-en    jŏχt-əs*
table-LOC    sit-PTCP.NPST-1PL moment Pete-POSS.2SG come-PST[3SG]
'When we were sitting at the table, Pete arrived'

The Speaker can also participate in the main event, which under normal conditions grants him/her direct access to it. However, as can be seen from (45, 46, a reversed setting of the earlier examples 19 and 20), this does not result in any restrictions on the use of V-*m*/*t*- *măr*, both constructions remain grammatical. The most plausible explanation for this is that here we are dealing with a shift in perspective: the Speaker reports the events not from his/her own point of view but from the perspective of an external participant, who also happens to be the local protagonist (Pete). This finds further support in the incompatibility of the transparent V-*t*- *sa* construction with the adverbial phrase *λŭw ăn χọλsəλλe* 'he did not hear'.

(45) [*pɛtʹaj-en*    λ ɛ w - ə m    m ă r - a λ - ə n]
Pete-POSS.2SG eat-PTCP.PST    time-3SG-LOC
*ma ɔw-əλ    sɛŋk-s-ɛm*    (*λŭw ăn    χọλ-s-əλλe*)
I    door-3SG knock-MOM-PST-1SG.SG    he    NEG hear-PST-1SG.SG
'When Pete was eating, I knocked at the door (he did not hear it)'

(46) [*pɛtʹaj-en*    λ ɛ - t - a λ       s a]
Pete-POSS.2SG eat-PTCP.NPST-3SG moment
*ma ɔw-əλ    sɛŋk-s-ɛm*    (??*λŭw ăn    χọλ-s-əλλe*)
I    door-3SG knock-MOM-PST-1SG.SG    he    NEG hear-PST-1SG.SG
'When Pete was eating, I knocked at the door (he did not hear it)'

The MST diagrams for V-*m/t- măr* (Fig. 12) and V-*t- sa* (Fig. 13) here will be almost identical to the diagrams for (27) and (28), except that Pete and the Speaker switch roles and it is Pete (Origo) whose access to the Focal Event space is in question (Or = Pete, Sp = Speaker).
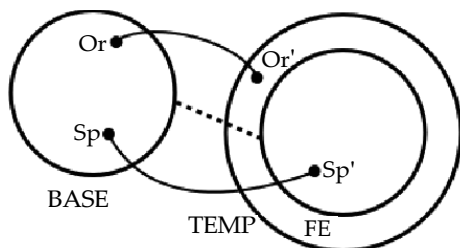
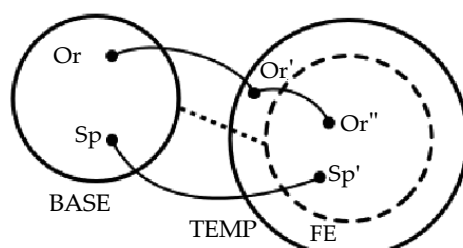Fig. 12. **The mental space representation of sentence (39) with** V-*m/t- măr*.  Fig. 13. **The mental space representation of sentence (40) with** V-*t- sa*.

Interestingly enough, participating in both events does not necessarily make the Speaker aware of the main event taking place. In (47) and (48), the Speaker is involved in some event as the Subject but performs it unconsciously, hence the marginal acceptability of V-*t- sa*.

(47) *ma* [*r ǫ p i t -ə m  m ă r - ɛ m -ə n*] *mil-ɛm     wǫtšə-s-ɛm*
   I   work-PTCP.PST time-1SG-LOC   hat-POSS.1SG lose-PST-1SG.SG
   'When I was working, I lost my hat'

(48) [??]*ma* [*r ǫ p i t - t - ɛ m    s a*]  *mil-ɛm     wǫtšə-s-ɛm*
   I   work-PTCP.NPST-1SG moment hat-POSS.1SG lose-PST-1SG.SG
   'When I was working, I lost my hat'

In (47) presented in Fig. 14, the Speaker identity is split between the actual Speaker unconsciously involved in losing their hat while working and the Origo, who reports these events having had direct access only to the latter event.
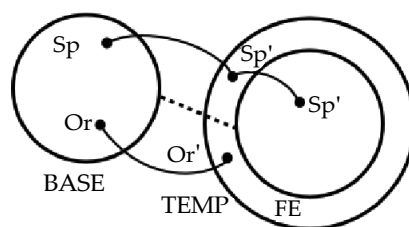
Fig. 14. **The mental space representation of sentence (47) with** V-*m/t- măr*.

To sum up, both V-*m/t- măr* and V-*t- sa* typically involve the Speaker's perspective. However, if the Speaker happens to be consciously involved in the main event, the perspective may shift to some other participant in the discourse, especially if this participant plays the Protagonist role.

## 5. Conclusions

This paper discussed the discourse properties of Kazym Khanty temporal adverbial constructions V-*m/t-* + *măr* and V-*t-* + *sa*. Alongside trivial aspectual differences these constructions also display a difference in the percep-

tual accessibility of the main event. In the case of V-*t*- + *sa* the Origo (typically the Speaker) has direct evidence of both the main and the dependent event, whereas in V-*m/t*- + *măr* s/he has direct access only to the dependent event but not to the main event which is supposed to have taken place based on inference, hearsay, conjecture or imagination. The indirectness of access is expressed either with a specialized Evidential Past form or lexically by using epistemic verbs or adverbs. Cognition events compared to physical events tend to be inherently inaccessible. In most cases the Origo coincides with the Speaker, unless the Speaker is consciously participating in the main event, in which case the perspective shifts to the Protagonist or some other contextually given participant.

The findings of this study are important in several respects. First, they provide an added dimension to studies on the semantics of adverbial subordination from both a theoretical and a typological perspective. It continues the discourse line of research (e.g. Longacre 2007 : 379—380, Givón 2001 : 330), though concentrating on the cognitive aspects of the functioning of adverbial constructions, including perception, conceptualization and reasoning, by introducing the cognitive linguistic methodology to approach the data in question. The revealed opaque/transparent contrast in simultaneity constructions also brings new insights into the typology of temporal adverbial relations. It offers a new angle for looking at such semantically close temporal subordinators as the English *when* and *while*, Russian *когда* and *пока*, German *als* and *während*, which pairs presumably display a similar difference in meaning as V-*m/t*- *măr* and V-*t*- *sa*.

Furthermore, the findings demonstrate that discourse-level semantics is not only a feature of modal, evidential or otherwise inherently deictic categories but may also be involved in any meaningful grammatical or lexical category of a language. This is not unique for Khanty and is found in various parts of the language system across languages. For instance, the Kalmyk Causative can be used to maintain the perspective of the most prominent participant in discourse (Say 2009) and the use of the Kham Perfective also includes cases of implicit discovery of the coded event (Watters 2004 : 259—260). The existence of such examples suggests that the semantic analysis of any aspect of language must take into account the behavior of this aspect in discourse.

Last but not least, it is another revealing example of a MST analysis of grammar linking language-specific categories and their meanings to the universal principles of human cognition. The Mental Spaces model proves a valuable tool for a uniform description and explanation connecting the temporal meanings of the constructions in question to a vast array of language phenomena, such as deixis, perspective, modality, evidentiality, adverbial relations, perception and cognition predicates allowing us to look for and discover various effects of their interplay.

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**Abbreviations**

**ACC** — accusative, **ADD** — additive, **ADV** — adverbializer, **COND** — conditional, **CVB** — converb, **DAT** — dative, **DEM** — demonstrative, **DIM** — diminutive, **EV** — evidential, **FOC** — focus, **IMP** — imperative, **INDEF** — indefinite, **INDIC** — indicative, **INFR** — inferential, **LOC** — locative, **MOM** — momentative, **MST** — Mental Spaces Theory, **NEG** — negation, **NFIN** — non-finite, **NOM** — nominative, **NPST** — nonpast, **POSS** — possession, **PST** — past, **PTCP** — participle, **PL** — plural, **SG** — singular, **V** — verb.

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## ОДНОВРЕМЕННОСТЬ И ДОСТУП К ИНФОРМАЦИИ В ТАКСИСНЫХ КОНСТРУКЦИЯХ КАЗЫМСКОГО ДИАЛЕКТА ХАНТЫЙСКОГО ЯЗЫКА

В статье рассматриваются две нефинитные таксисные конструкции V-*m/t*- + *măr*
и V-*t*- + *sa* в казымском диалекте хантыйского языка (с. Казым, Ханты-Мансий-
ский автономный округ, Россия). Конструкция V-*t*- + *sa* выражает значение
точечной одновременности ('когда'), а конструкция V-*m/t*- + *măr* — значение
интервальной одновременности ('пока'). Однако более подробный взгляд на эти
конструкции выявляет дополнительное дискурсивное различие в наличии у
говорящего прямого доступа к информации, передаваемой главным событием.
V-*t*- + *sa* описывает одновременность двух напрямую доступных для говоря-
щего событий. В свою очередь, использование V-*m/t*- + *măr* предпочтительно в
модальных, эвиденциальных и других похожих контекстах, в которых нали-
чие главного события восстанавливается говорящим косвенным образом через
пересказ другого лица, логический вывод, догадку или воображение. Хотя точка
зрения говорящего является дефолтной, в некоторых контекстах её носителем
могут выступать и другие участники дискурса. Также предложен анализ семан-
тики V-*m/t*- + *măr* и V-*t*- + *sa* в Теории ментальных пространств.

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## SAMAAEGSUS JA EPISTEEMILINE STAATUS
## HANDI KEELE KAZÕMI MURDE ALISTAVATES TEMPORAALTARINDITES

Artiklis on analüüsitud handi keele Kazõmi murde kaht infiniitset temporaaltarin-
dit. Konstruktsioon V-*t*- + *sa* väljendab hetkelist samaaegsust ja V-*m/t*- + *măr* pea-
miselt mingite vahemike samaaegsust. Nende konstruktsioonide lähemal vaatlemi-
sel ilmnes, et neid eristab ka see, kas kõnelejal on pealauses väljendatu kohta ot-
sest või kaudset infot. Konstruktsiooni V-*t*- + *sa* kasutatakse siis, kui kahe samaaegse
sündmuse tunnistajaks on kõneleja ise, konstruktsiooni V-*m/t*- + *măr* eelistatakse
aga evidentsiaalsetes, modaalsetes ja muudes subjektiivsetes kontekstides, kus kõ-
neleja lähtub pealauses väljendatu puhul järeldustest, oletustest, kujutlusvõimest
või millestki, mida ta on mujalt kuulnud. Mõlemat konstruktsiooni on vaadeldud
ka vaimse ruumi teooria kognitiivses raamistikus.