

## Causality of passive and paradigmatic gaps

**Overview** In this project I investigate the passive morpheme *-gda* in Buryat (Mongolic). Apart from deriving standard passives from transitive verbs, it also attaches to unaccusatives, in which case it introduces an event of causation and an  $\exists$ -closed Agent. This behavior can be straightforwardly explained, if we assume that the morpheme in question is an overt realization of a special flavor of *v*. The properties of the Buryat passive showcase a puzzle for *v*-theories: what makes varieties of *v* obligatory or unavailable depending on the verb class in a given language? If the unavailability of *v* can in principle be explained by *v*'s selectional restrictions, I argue that the obligatoriness of it can be understood as a consequence of Maximize Presupposition principle from Heim (1991).

**Passive as *v*** Since Harley (1997), it has been proposed to analyze passive morphology as an overt realization of a special flavor of *v*. The semantic contribution of active *v* is to introduce an event of causation and an Agent. A natural extension to the passive would be a *v* which introduces an event of causation and but an  $\exists$ -closed Agent. Under this straightforward analysis nothing prevents passive morphology (passive *v*) from attaching to unaccusative verbs, e.g. like English *fall*, as is pointed out by Ramchand (2008:81). However, since at least Perlmutter (1978), we know that in English, as well as in many other languages, passive morphology is commonly incompatible with unaccusatives.

Either the *v*-analysis is wrong for passives in general, since it does not derive this restriction automatically; or it is on the right track, but we should think more carefully about possible restrictions of *v*-heads in different languages. The data from Buryat (Mongolic) support the latter option.

**The case for Buryat** Buryat morpheme *-gda* 'PASS' attaches to two classes of verbs. **Intransitive-only** (I-only) verbs, like *gašal* 'sour' or *unta* 'sleep', they are verbs which can be used in an intransitive clause (1a), but never in a transitive one (1b). **Transitive-only** (T-only) verbs, like *n<sup>j</sup>e*: 'open' or *ed<sup>j</sup>e* 'eat', they are verbs which can be used in a transitive clause (2b), but never in an intransitive one (2a).

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| <p>(1) a. <math>h\ddot{u}n</math>      <math>gašal-a:</math><br/>milk.NOM sour-PRT1<br/><div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 5px;"><i>Milk soured.</i></div></p> <p>b. <math>*badma</math> <math>h\ddot{u}</math>      <math>gašal-a:</math><br/>B.NOM milk.ACC sour-PRT1<br/><i>Badma soured the milk.</i></p> <p>c. <math>h\ddot{u}n</math>      <math>gašal-agd-a:</math><br/>milk.NOM sour-PASS-PRT1<br/><div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 5px;"><i>Milk was soured by someone.</i></div></p> | <p>(2) a. <math>*\ddot{u}den</math>      <math>n^j e:-ge:</math><br/>door.NOM open-PRT1<br/><i>The door opened.</i></p> <p>b. <math>dugar</math>      <math>\ddot{u}de</math>      <math>n^j e:-be</math><br/>D.NOM door.ACC open-PRT2<br/><div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 5px;"><i>Dugar opened the door.</i></div></p> <p>c. <math>\ddot{u}den</math>      <math>n^j e:-gd-e:</math><br/>door.NOM open-PASS-PRT1<br/><div style="border: 1px solid black; padding: 2px; display: inline-block; margin-top: 5px;"><i>The door was opened by someone.</i></div></p> |
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The *-gda* derivatives in (1c) and (2c) have the syntax and semantics of a standard passive. Adverbial modification, negation, semantic binding and control of PRO in goal oriented infinitives show that both passives in (1c) and (2c) involve an event of causation and an  $\exists$ -bound implicit Agent. In particular, both are compatible with agent-oriented adverbials, and in both cases the implicit Agent can bind subject oriented reflexives (and cannot be bound itself):

- (3)  $h\ddot{u}n$        $\ddot{o}:-r-i:n-g\ddot{o}:-i$        $ger-te$        $gašal-agd_i-a:$   
milk.NOM self-GEN-REFL house-DAT sour-PASS-PRT1  
*Milk was soured in self's house.*

Given (1a), the semantic contribution of *-gda* in (1c) must be an event of causation and an implicit  $\exists$ -closed Agent. Suppose *-gda* makes the same semantic contribution in

(2c). Consequently, the semantic contribution of the verb root  $n^je$ : ‘open’ in (2c) must be the agent-less event of ‘door-opening’. Hence in (2b) there must be some silent morpheme (active  $v$ ) that introduces an event of causation and the Agent (Dugar).

Thus, Buryat data can be analyzed a) by proposing a non-agentive semantics for both kinds of verb roots T-only  $n^je$ : ‘open’ and I-only  $gašal$  ‘sour’ and b) by postulating two special morphemes: active  $v_a$ , realized as  $-\emptyset$ , and passive  $v_p$ , realized as  $-gda$ . Both morphemes introduce an event of causation; but while  $v_a$  also introduces the Agent,  $v_p$   $\exists$ -binds it (or alternatively the Agent is bound by  $vP$ -level  $\exists$ -closure).

Buryat passives of unaccusatives, like (1c), show that at least in some languages passive morphology does have a causal,  $v$ -like semantics. Moreover, this does not seem to be an isolated phenomenon: Lyutikova et al. (2006) for Karachay-Balkar passive  $-l$ .

The  $v$ -analysis seems on the right track, but one should think more carefully about what prevents  $v_p$  from attaching to unaccusatives in languages like English (if passives in English are indeed the same kind of  $v_p$  as in Buryat or Karachay-Balkar). What are the exact restrictions on the possible combinations of varieties of  $v$  and  $V$ ? What makes  $v$ ’s unavailable, optional or obligatory in the context of a given verb? Buryat  $v_a$ , in particular, does not attach to I-only verbs, (1b) – possibly due to some selection restriction of  $v_a$ . For T-only verbs either  $v_a$  or  $v_p$  is obligatory, (2a). In the remainder of the talk I am going to focus on the latter puzzle: obligatoriness.

**Obligatoriness of  $v$**  Any analysis that postulates  $v$ , including the one proposed for Buryat, runs into a serious problem. It does not explain why for a certain class of verbs some flavor of  $v$  is obligatory. The same question raises for English, cf. *\*soup ate*.

- (4) T-only verbs (like  $n^je$ : ‘open’ or  $ed^je$  ‘eat’)  
 $*V_{open}; \quad V_{open-v_a}; \quad V_{open-v_p}$ .

One way to solve this problem is to tie this property to the lexical semantics of the verbs in question. In the talk I argue that the obligatoriness of  $v_a/v_p$  in the context of T-only verbs follows from the Maximize Presupposition principle (MP), proposed in Heim (1991), and is tied to the lexical semantics of the verbs in question. MP can be informally stated as following: presuppose as much as possible. One example: NPs that denote singleton sets of entities, e.g. *nose* or *weight of our tent*. They trivially satisfy the presupposition of those D’s that presuppose uniqueness: *the*, demonstratives and possessives. Hence singleton NPs require one of those D’s: *\*a nose/\*a weight of our tent* vs. <sup>ok</sup>*the(this/my) nose/*<sup>ok</sup>*the weight of our tent*.

In order to make this work for the puzzle at hand we need two additional assumptions. **Assumption 1:** T-only verbs are predicates of caused events. Their extension only includes those events of ‘eating’ or ‘opening’ for which there is a causation event. **Assumption 2:**  $v_a$  and  $v_p$  **presuppose** the existence of a causation event (and assert (the existence of) Agent). Since T-only verbs always trivially satisfy the presupposition of  $v_a$  and  $v_p$ , they require either  $v_a$  or  $v_p$ .

Such an analysis relies on the presuppositional character of  $v_a/v_p$ . Their behavior then should not diverge from other presupposition triggers, e.g. possessive pronouns: the English sentence *Some student drove her car to the department* presupposes that some student has a car. Both possessives and  $v_a/v_p$  seem to be “soft” triggers. The presuppositions of both can be globally accommodated (*Some student drove her car to the department* can convey the information that some student has a car; *Jane opened the door* can convey the information that Jane did something). The presuppositions of both can be locally accommodated under negation: *Some student didn’t drive her car to the department. No student even has a car* and *John didn’t open the can. He didn’t even try*.

**Selected references** Harley, H. (1997) Agentivity and the Split VP; In: *Seminarios de Linguística 1*; 103-123; Heim, I. (1991) Articles and Definiteness, In: *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, de Gruyter, Berlin; Lyutikova et al. (2006) Event structure and verb semantics in Karachay-Balkar, M.: IMLI RAS;