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Psych verbs in Uyghur

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English psych verbs fall into three types, namely, Subject Experiencer (SE), Object Experiencer (OE) and Dative Experiencer (DE) verbs. Unlike English SE verbs, non-causative Uyghur verbs fall into two categories: accusative and oblique psych verbs according to the case marking of their objects. Apart from typical transitive constructions [NP_S NP_O VERB], Uyghur employs light verb constructions of the type [N/ADJ *bol-/qil-*]. We argue that light verb constructions of the type [NP_S NP-ACC N/Adj *qil-*] are analytical causative configurations. Oblique psych verbs occur in light verb constructions of the type [NP_S NP-ABL/-DAT ADJ/N-ACC *bol-/qil-*], in which *bol-* functions as BECOME, while *qil-* functions as DO/GET, and the latter is an analytical causative configuration. Our classification of Uyghur non-causative verbs into accusative and oblique psych verbs has ramifications for causativizations of Uyghur verbs. For example, the causative morpheme cannot be attached to accusative psych verbs, but is perfectly fine with oblique psych verbs. We argue that morphological causatives in Uyghur are lexical causatives in nature, as Uyghur has relatively few zero causatives like the English verbs *worry* and *please*. Uyghur analytical causative constructions of the type [NP_S NP-ABL/-DAT ADJ/N-ACC *qil-*] correspond to English *make* constructions. The fact that the Target/Subject Matter restriction is dissolved in analytical causative constructions in Uyghur in turn supports our analysis of morphological causatives as lexical causatives and light verb constructions as analytical causatives.

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1. Introduction

Psych verbs are verbs that describe mental and emotional states of human beings. Psych verbs involve two thematic roles, Experiencer and Theme. Some psych verbs require the Experiencer to be the subject, while others require the Experiencer to be the object. For example, English psych verbs are divided into three types: Subject Experiencer (SE, henceforth) verbs like *fear*, Object Experiencer (OE) verbs like *frighten*, and Dative Experiencer (DE) verbs like *appeal*. This seemingly idiosyncratic property of psych verbs has been a hotly debated topic in the linguistic literature (Postal, 1971; Belletti & Rizzi, 1988; Grimshaw 1990; Pesetsky 1995; Zhang 2007; Landou 2010; Cheung & Larson 2013). Although much research about psych verbs is done in Japanese and Turkish, little research has been done on Uyghur psych verbs. Furthermore, case marking and light verb constructions render Uyghur

psych verbs unique in their morpho-syntactic behavior. To reveal these morpho-syntactic properties, this paper applies methods of both generative and typological research in discussing the syntactic and lexical semantic features of Uyghur psych verbs. Specifically, we analyze the morpho-syntactic properties of the Uyghur equivalents of English SE and OE verbs, only because Uyghur does not possess English-type DE verbs. As the issue of causation plays an important role in the discussion of psych verbs, we distinguish between three types of causativization in Uyghur: lexical, morphological, and analytic or periphrastic/syntactic. We also analyze case marking in Uyghur causative constructions to reveal the difference between accusative psych verbs and oblique psych verbs, and claim that a causative suffix can only be added to oblique psych verbs. As for the linking patterns between thematic roles and grammatical functions, we finally check whether Target/Subject Matter (T/SM) restriction exists in Uyghur psych verbs. The paper is organized as follows: Section 2 discusses the linking problem of psych verbs in Uyghur, Section 3 describes the morpho-syntactic properties of SE type psych verbs in Uyghur, Section 4 analyzes the causativization patterns of Uyghur psych verbs, Section 5 checks the T/SM restriction in Uyghur psych verbs, and finally Section 6 concludes the paper.

2. The linking problem of psych verbs in Uyghur

The linking patterns and the backward binding facts of OE verbs present a cross-linguistic puzzle for many linguists. These properties of OE predicates have been reported for many languages including French (Bouchard, 1995), Greek (Anagnostopoulou, 1999), Italian (Belletti & Rizzi, 1988), and Japanese (Katada, 1997; Matsuo, 2002). Psych verbs exhibit different mappings between lexical semantics and syntax. Belletti and Rizzi (1988) claim that two θ -roles exist for psych verbs: Experiencer and Theme. Psych verbs can be divided into three different types: less controversial SE verbs (e.g., *fear*, *like*, *enjoy*) and problematic OE verbs (e.g., *frighten*, *amuse*, *please*) and DE verbs (e.g., *appeal*, *occur*, *matter*) which exhibit a dative preposition (*to*) on the Experiencer. Mismatch linking occurs in OE and DE verbs. The Theme is projected to the subject position and the Experiencer to the object position of verbs and prepositions respectively.

- (1)
- | | | | |
|----|------------------|-------------|----|
| a. | The boy liked | the toy. | SE |
| | Experiencer | Theme | |
| b. | The toy pleased | the boy. | OE |
| | Theme | Experiencer | |
| c. | The toy appealed | to the boy. | DE |
| | Theme | Experiencer | |

The irregular linking problem occurred in sentences (1b) and (1c), because the Experiencer (the boy) appears in the object position, and the Theme (the toy) surfaces in the subject position. This violates the notion of thematic hierarchy, namely that thematically specified arguments and the syntactic positions should have equal terms,¹ and also the spirit of UTAH (Uniformity Theta Assignment Hypothesis) proposed by Baker (1988).² In psych verbs, the thematic role, Theme, in the subject position, is thematically lower than that of the Experiencer in the object position. Thus, the syntactic structure in (1b) does not directly reflect the thematic structure. The arguments in (1a–b) have the same thematic relationship to each other, though they are projected onto the different positions, thus the mapping of thematic roles and arguments is irregular.

In discussing psych verbs in Japanese, Kuroda (1965) states that the equivalent OE verbs in Japanese are formed by adding a causative morpheme *-(s)ase* to the stem of SE verbs. In a similar vein, in discussing psych verbs in Turkish (both Turkish and Uyghur belong to Turkic language), Akan and Ibi (2006) note that the only difference between Turkish SE and OE verbs is the existence of an overt causative marking: OE verbs in Turkish occur with causative morphology. Based on the literature of Japanese and Turkish psych verbs, Zhang and Tash (2014) find that the same morpho-syntactic properties exist in Uyghur psych verbs.

Surprisingly, Uyghur psych verbs also show mismatch phenomena similar to those of their English counterparts. However, compared with their English counterparts, Uyghur psych verbs have different lexical properties and syntactic behaviors.

- (2) a. *Oquyuchi-lar imtahan-din qorq-i-du.*
 student-PL exams-ABL fear-PRES-3SG
 ‘Students fear exams.’
- b. *Imtahan oquyuchi-lar-ni qorq-ut-ti.*
 exams students-PL-ACC frighten-CAUS-PAST3SG
 ‘The exams frightened the students.’
- c. *Bu pikir oquyuchi-lar-ni qiziq-tur-di.*
 this idea students-PL-ACC appeal-CAUS-PAST3SG
 ‘The idea appealed to the students.’

1 Thematic Hierarchy proposed by Grimshaw (1990: 24): Agent > Experiencer > Goal/Source/Location > Theme.

2 Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

As can be seen from the example above, the linking pattern of an SE verb in (2a) and that of an OE verb in (2b) and (2c) are the reverse. In (2a), the subject *oquyūčilar* ‘students’ is the Experiencer and the object *imtahan* ‘exam’ is the Theme. On the other hand, in (2b) and (2c), the subject is the Theme and the object is the Experiencer. Thus, the surface linking pattern of (2a) is consistent with thematic regularity, but those of (2b) and (2c) are not. It is important to note that English OE verbs such as *frighten* in the translation of (2b) and DE verbs such as *appeal* in the translation of (2c) are expressed as the same causative pattern in Uyghur. There are no corresponding DE type psych verbs in Uyghur because all OE psych verbs in Uyghur govern the accusative case. Therefore, we will not discuss DE psych verbs in Uyghur separately. Uyghur SE verbs are always in the base morphology while the OE verbs are in causative morphology. However, when Theme is in the subject position, as in (3b), the sentence should have causative morphology. Otherwise, the sentence is not grammatical, as in (3c).

- (3) a. *Ähmät api-si-din änsiri-di.*
 Ahmed mother-POSS3SG-ABL worry-PAST3SG
 ‘Ahmed worried about his mother.’
- b. *Api-si Ähmät-ni änsirä-t-ti.*
 mother-POSS3SG Ahmed-ACC worry-CAUS-PAST3SG
 ‘X’s mother worried Ahmed.’
- c. **Api-si Ähmät-ni änsiri-di.*
 mother-POSS3SG Ahmed-ACC worry-PAST3SG
 Intended meaning: ‘His mother worried about Ahmed.’

As in (3a) and (3b), the positions of the Experiencer argument *Ahmed* and the Theme argument *apa* ‘mother’ are reversed. In (3a), the Experiencer *Ahmed* is in the subject position which is higher than the Theme *apa*, so it is in line with the word order of SE verbs in English. It should be noted that the object NP is in the Ablative case. In (3b), the Experiencer *Ahmed* marked with the Accusative case is in the object position, which is a lower position than the Theme *apa*, so it is in line with the word order of OE verbs in English. Thus, Uyghur has the same linking order as English. The Uyghur example (3b) is a morphologically overt causative. In English, causativity of OE verbs is not marked morphologically, while the causativity in Uyghur is marked by an overt causative morpheme, i.e., the suffix *-t* in (3b). Therefore (3c) is not grammatical, because it has no causative morphology. (3c) has the same word order as (3a), but with different case marking. This is an important grammatical feature to which we will return below.

Backward binding is another well-known peculiarity observed in OE verb constructions. It concerns standard cases of anaphors and bound pronouns such as *him-*

self or *each other* that require a binding antecedent. Chomsky (1986: 166) states that an anaphor must be bound in a local domain. However, in general cases, simple transitive verbs and SE psych verbs such as *fear* as in (4) resist backward binding.

- (4) a. *Each other_i's advisors invited the students_i.
b. *Each other_i's students_j fear the advisors_i.

Unacceptably, as in (4), the backward reflexive *each other* is not bound by its antecedent *the students* in (4a) and *the advisors* in (4b) respectively. Therefore, no binding configuration for the anaphor is established. By contrast, the idiosyncrasy of psych verbs is that object Experiencers of frighten-type verbs (OE verbs) can bind the anaphor in the subject Theme.

- (5) a. Each other_i's dogs_j frighten the girls_i.
b. Nasty stories_j about each other_i would annoy the professors_i.

There is a similar situation in (5a); the reflexive *each other*, the anaphor, is bound with its antecedent *the girls* backwardly. In (5b) the antecedent *professors* can bind the anaphor *each other* in the subject, which meets the c-command condition on binding.

Uyghur psych verbs also exhibit parallel binding anomalies. As in English, Uyghur simple transitives and SE psych verbs resist backward binding, as seen in (6a) and (6b) respectively.

- (6) a. *Öz-i-niñ_i dost-i Ähmät-ni_i yarlan-di.*
self-POSS3SG-GEN friend-POSS3SG Ahmed-ACC injure-PAST3SG
Intended meaning: 'His own friend injured Ahmed.'
- b. **Öz-i-niñ_i aki-si Ähmät-ni_i qoruq-ti.*
self-POSS3SG-GEN brother-POSS3SG Ahmed-ACC fear-PAST3SG
Intended meaning: 'His own brother fears Ahmed.'

In the examples illustrated above, *Ahmed* does not c-command *özi* 'himself'; therefore, it can not be the antecedent of *özi*, and therefore, (6a, b) are ungrammatical.

Interestingly, OE verbs in Uyghur allow backward binding as shown in (7):

- (7) a. *Özi-niñ_i äski huj-i Ähmät-ni_i änsirä-t-ti.*
self-GEN bad temper-POSS3SG Ahmed-ACC worry-CAUS-PAST3SG
'His own bad temper worried Ahmed.'

- b. *Özi-ni_i yaǵşı häwir-i Ähmät-ni_i tehimu hoşal qil-di.*
 self-GEN good news-POSS3SG Ahmed-ACC more happy DO-PAST3SG
 ‘His own good news made Ahmed very happy.’

(7a) involves the OE verb *worry*, while (7b) is an equivalent of the *make* construction in Uyghur. The reflexive anaphor *özi*, which is the subject in both (7a) and (7b), can be interpreted as being bound backwardly by its antecedent *Ahmed*, and thus grammatical.

3. SE type psych verbs in Uyghur

In Uyghur, the case marking of arguments in a sentence is determined by its verbal morphology. OE verbs are formed by attaching causative morphology to verb in the non-causative, i.e., basic morphology. Therefore, we have to analyze non-causative SE verbs before the discussion of causative OE verbs. According to the syntactic positions and surface case markings of their thematic arguments, we will classify the Uyghur SE psych verbs into five types, as shown in Table 1.

Table 1. Uyghur non-causative SE verb types and their case marking

Verb Type	Verb Example
Accusative	<i>söy-</i> ‘to love’; <i>seyin-</i> ‘to miss’
Ablative	<i>qoruq-</i> ‘to fear’; <i>zirik-</i> ‘to bore’
Dative	<i>köyün-</i> ‘to adore’; <i>häväs qil-</i> ‘to admire’
Oblique	<i>näprät-</i> ‘to hate’; <i>häyran bol-</i> ‘to become surprised’
Inchoative	<i>qaymuq-</i> ‘to become bewildered’

Non-causative verbs in Uyghur are verbs lacking causative morphology. As in English, the Experiencer is in the subject position and the Theme in the object position. The subject NP is in the nominative. Therefore, we classify verbs according to their case-assigning properties as accusative, dative, ablative, and oblique (ablative/dative) verbs.

With accusative psych verbs, the Experiencer is marked with nominative case, and the Theme bears the accusative case. The surface case markings of arguments correspond to those of dyadic transitive verbs with the subject in the nominative and the object in the accusative, as shown in (8).

- (8) a. *U wätän-ni söy-i-du.*
 X homeland-ACC love-PRES-3SG
 ‘X loves his homeland.’

- b. *Ähmät oqu-š-ni arzu qil-i-du.*
 Ahmed study-VN-ACC wish DO-PRES-3SG
 ‘Ahmed wishes to learn.’

Accusative-psych-verbs include *söy-* ‘to love’, *säyin* ‘to miss’, *ümüt qil-* ‘to hope’, *arzu qil-* ‘to wish’, *yahši kör-* ‘to like’, etc.

The second type of psych verbs is ablative verbs, which take ablative-marked Themes. They are semantically interpreted as the source/target or SM of the mental and emotional state. These types of verbs mostly choose animate subjects; as shown in (9).

- (9) a. *Ähmät tamaq-tin zirik-ti.*
 Ahmed food-ABL fed up with-PAST3SG
 ‘Ahmed is fed up with the food.’
 b. *Ular yär täwräš-tin qorq-i-du.*
 they earthquake-ABL fear-PRES-3SG
 ‘They fear earthquakes.’

Uyghur ablative-psych-verbs include *qoruq-* ‘to fear’, *ilhamlan-* ‘to inspire’, *säskin-* ‘to detest, be fed up with’, etc.

The third type is dative psych verbs. Dative psych verbs have dative marked Goal or Source (Teramura, 1984), as illustrated in (10).

- (10) a. *Ähmät kitap oku-š-qa amraq.*
 Ahmed book read-VN-DAT fond of
 ‘Ahmed is fond of reading books.’
 b. *Män u-niñ ipadi-si-gä häwäs qil-i-man.*
 I X-GEN performance-POSS3SG-DAT admire DO-PRES-1SG
 ‘I admire X’s performance.’

Uyghur dative psych verbs include *köyün-* ‘to adore’, *talmür-* ‘to long for’, *häwäs qil-* ‘to admire’, *ašik bol-* (non-causative) ‘to fall in love’, etc.

However, there is a fourth type of psych verbs, oblique psych verbs that allow both an ablative and a dative-marked Theme as their object, as illustrated in (11).

- (11) a. *Biz düşmän-din/-gä näpretlin-i-miz.*
 we enemy-ABL/-DAT hate-PRES-1PL
 ‘We hate enemies.’

- b. *U bu iš-qa/-tin häyran bol-di.*
 X this thing-DAT/ABL surprise BECOME-PAST3SG
 ‘X was surprised by this thing/event.’

Non-causative ablative/dative psych verbs with alternative cases include *häyran bol-* ‘to be surprised’ *yirgän-* ‘to feel sick’, *ümütsizlän-* ‘to lose hope’, *näprätlän-* ‘to hate’, etc.

The fifth type of non-causative psych verbs in Uyghur only expresses that the subject is in a certain psychological state. These are the inchoative counterparts of English causative-inchoative alternations. Therefore, they only have a subject Experiencer; see (12).

- (12) a. *Ähmät qaymuq-ti.*
 Ahmed get bewildered-PAST3SG
 ‘Ahmed was bewildered. / Ahmed was puzzled.’
 b. *Qiz guman qil-di.*
 girl suspicion DO-PAST3SG
 ‘The girl got suspicious.’

It should be noted that this kind of construction in Uyghur and other Turkic languages has no passive; it can only describe a state or an event.

Of the five types of verbs in Table 1, the three in the middle can be collapsed into one category: oblique verbs. Oblique verbs include ablative verbs that require the ablative, dative verbs that take the dative, and ablative/dative verbs that allow their objects to take either. In other words, Uyghur verbs fall into two big categories: accusative verbs and oblique verbs. For the sake of convenience, we call psych verbs with accusative marked objects accusative psych verbs, psych verbs with ablative or dative marked objects oblique psych verbs. This classification has ramifications for causativizations of Uyghur verbs, as will be illustrated in Section 4.

From the above analysis, it can be seen that Uyghur has light verb constructions [N/ADJ *bol-/qil-*] involving psych predicates, apart from typical transitive constructions [NP_s NP_o VERB]. Uyghur is an SOV language.

Oblique psych verbs build light verb constructions [NP_s NP-ABL/-DAT ADJ/N-ACC *bol-/qil-*] in which *bol* functions as BECOME while *qil-* functions as DO/GET. For the inchoative psych verbs, the light verb construction has the form [NP_s N/ADJ *bol-/qil-*].

Accusative psych verbs build light verb constructions with the pattern [NP_s V-GER-ACC N/ADJ *qil-*], in which the object is a verbal noun derived with the suffix *-š* as shown in (8b). Light verbs other than *qil-* can occur, for example (13).

- (13) *U kitap-ni yaxşı köri-du.*
 X book-ACC good see-PRES-3SG
 'X likes books.'

In (13), *yaxşı kör-* 'to like' is a light verb of the type [Adj + light verb].

4. Causativization of Uyghur psych verbs

Causativization is a common linguistic phenomenon. Goddard defines causativity as "an expression in which an event (the caused event) is depicted as taking place because someone does something or because something happens" (1998: 260). From a typological point of view, Comrie (1989) distinguishes three different types of causatives: analytical, morphological and lexical. Halle and Marantz (1993) claim that causatives appear in three forms: (i) as an independent verb, resulting in analytical or periphrastic causatives; (ii) as a bound morpheme attached to the verbal root, resulting in syntactic or morphological causatives; or (iii) as a zero morpheme resulting in lexical causatives.

Like Japanese and Turkish, Uyghur is a typical agglutinative language. As Tömrür (1987) states, the formation of new words in Uyghur is similar to the formation of grammatical forms, because it is basically carried out by means of adding suffixes to a word. In the same way, creation of a causative construction to a large extent depends on morphology; therefore, morphological causative is the typical causative pattern in Uyghur. Analytical and lexical causative also exist in Uyghur. In the following, we will discuss Uyghur causatives in terms of Halle and Marantz's typology.

4.1. Analytical or periphrastic causatives

As shown in the last section, verbs in Uyghur non-causative sentences lack causative morphology. In light verb constructions, *bol* is an anti-causative and *qil-* corresponds to the non-causative DO/GET in both [NP_s NP-ABL/-DAT ADJ/N *qil-*] and [NP_s V-N-ACC N/ADJ *qil-*] constructions. In [ADJ/N *bol-/qil-*] constructions that have either *bol-* or *qil-*, *qil-* functions as the causative form. For example, the causative form of (11b), repeated as (14a), is (14b). Please note that the Experiencer is in the accusative.

- (14) a. *U bu iş-tin/-qa häyran bol-di.*
 X this event-ABL/-DAT surprise BECOME-PAST3SG
 'X was surprise at this event.'
- b. *Bu iş u-ni häyran qil-di.*
 this event X-ACC surprise CAUS-PAST3SG
 'This event surprised X.'

Example (15) is another instance of anti-causative and causative alternation.

- (15) a. *Ača-m bu iš-tin/-qa xošal bol-di.*
 sister-POSS1SG this event-ABL/-DAT pleased BECOME-PAST3SG
 ‘My sister is pleased with this event.’
- b. *Bu iš ača-m-ni xošal qil-di (*bol-di).*
 this event sister-POSS1SG-ACC pleased DO-PAST3SG (*BECOME-PAST3SG)
 ‘This event made my sister pleased.’

Periphrastic causatives are created by the combination of an adjective or noun with a light verb such as *qil-*, *sal-*, *qoy-*, *kät-*, *qozγa-*; therefore, they usually appear in light verb constructions.

- (16) a. *U iš qil-di.*
 X work DO-PAST3SG
 ‘X did his work.’
- b. *Bu häwär u-ni hošal qil-di.*
 this news X-ACC happy CAUS-PAST3SG
 ‘This news made X happy.’

As in example (16a), the original meaning of verb *qil-* is doing something, but when *qil-* is attached to the psych adjective *hošal-* as in (16b), its original meaning is bleached, and the verb becomes a light verb with causative meaning. From the typological point of view, Moreno shows that in most languages the lexical forms of ‘make’ initially mean ‘to build, to create’, and this initial meaning is their lexical content, while the causative meaning is the syntactic use in which their lexical content is lost. Also in Uyghur, the initial meaning of the verbs *qil-*, *sal-*, *qoy-*, and *qozγa-* is ‘to make, do, create, happen, build, appear’ (1993: 155) denoting a real action. When these verbs denote abstract notions, their causative meaning becomes apparent.

Some periphrastic causatives are irregular and must be learned, and they can undergo semantic drift to form idioms, for example (17):

- (17) a. *Yigit-niñ yürig-i-gä ot kät-ti.*
 young man-GEN heart-POSS3SG-DAT fire go-PAST3SG
 ‘The young man’s heart was burning.’
 ‘The young man had fallen in love.’ (idiomatic meaning)

- b. *Kiz yigit-niñ yürig-i-gä ot yaq-ti.*
 girl young man-GEN heart-POSS3SG-DAT fire set on fire-PAST3SG
 ‘The girl made the young man’s heart burn.’
 ‘The girl made the young man fall in love (with her).’ (idiomatic meaning)

The original meaning of *kät-* in (17a) is ‘to go’; when combined with the noun *ot* ‘fire’ it creates the idiomatic non-causative form *ot kät-* ‘to burn’, while in (17b) the verb *yaq-* originally denotes the meaning of ‘to set on fire’. It can also be combined with the noun *ot* meaning ‘to make something burn’.

To sum up, causative light verb constructions involving the light verb *qil-* take the configuration [NP_s NP-ACC ADJ/N *qil-*] in which *qil-* equates to CAUS or English ‘make’.

4.2. Causative morphology in Uyghur

In morphological causative constructions the verb bears causative morphology. Morphological causatives are the most commonly used causativization patterns in Uyghur. Differences between SE and OE verbs are expressed by adding an overt causative morpheme such as *-dur* (the most productive suffix) to the verbal stem. OE psych verbs in Uyghur are mainly based on morphological causatives (18).

- (18) a. *Män müşük-tin qorq-i-män.*
 I cat-ABL fear-PRES-1SG
 ‘I fear cats.’
 b. *Müşük mi-ni qorq-ut-i-du.*
 cat I-ACC fear-CAUS-PRES-3SG
 ‘Cats frighten me.’

In (18a), *qorqu-* ‘to fear’ is a non-causative psych verb used with an object marked with the ablative. When the causative morpheme *-ut* is attached, the causative verb *qorqut-* ‘to frighten’ is created and the sentence is causativized, as illustrated in (18b).

As stated above, in Uyghur, morphological causative constructions are often created by adding bound causative morphemes to the verb stem. Causative psych verbs in Uyghur can be created by attaching the suffix *-dur-*, *-dür-*, *-tur-*, *-tür-*, or *-küz-*, *-güz-*, *-quz-*, *-yuz* to mono-syllabic verbs without coda (i.e., verbs ending in a vowel) and with non-*r* coda (i.e., verbs end with a consonant that is not *r*), for example, *yä+dür/güz-* = *yidür-/yigüz-* ‘to make sb eat’, *yaz+dur-* = *yazdur-* ‘to make sb write’, *tap+quz-* = *tapquz-* ‘to make sb find sth’; and by attaching suffix *-t* to bi-syllabic verbs ending with *-r*, for example, *aqar+t-* = *aqart-* ‘to make something white’, *kötür+t-* = *kötürt-* ‘to make somebody carry something’.

4.3. Morphological causatives in Uyghur

Most Uyghur OE verbs can be decomposed into an SE verb and a causative morpheme. Interestingly, the causative morpheme can only be added to oblique psych verbs. In Section 3 (Table 3), we show that there are five types of SE verbs classified according to their case marking.

As Sugioka (1992) suggests, in Japanese the dative object of SE verbs expresses the cause/source of emotion whereas an accusative object indicates the target of emotion. In general, accusative psych verbs in Uyghur correspond to English psych verbs with Theme subjects such as *love*, and indicate the target of emotion as in (19a). On the other hand, oblique psych verbs indicate the cause/source of emotion as in (20a).

- (19) a. *Oquyuči-lar kino kör-iš-ni arzu qil-di.*
 student-PL movie see-VN-ACC wish DO-PAST3SG
 ‘The students wished to see a movie.’
- b. *Kino köri-š oquyuči-lar tärp-i-din arzu qil-in-di.*
 movie see-VN student-PL side-POSS3SG-ABL wish DO-PASS-PAST3SG
 ‘Seeing a movie was wished for by students.’
- (20) a. *Kişi-lär it-niñ qaw-iš-i-din qoruq-ti.*
 person-PL dog-GEN barking-VN-POSS3SG-ABL fear-PAST3SG
 ‘People were afraid of the dog’s barking.’
- b. **It-niñ qaw-iš-i kişi-lär-din /*
 dog-GEN barking-VN-POSS3SG person-PL-ABL
kişi-lär tärp-i-din qurq-ul-di.
 person-PL side-POSS3SG-ABL fear-PASS-PAST3SG
 Intended meaning: ‘The dog’s barking was feared by the people.’
- c. *Kişi-lar it-niñ qawış-i tärp-i-din*
 person-PL dog-GEN barking-POSS3SG by-POSS3SG-ABL
qurq-ut-il-di. fear-CAUS-PASS-PAST3SG
 ‘The people were frightened by the dog’s barking.’

According to Burzio’s generalization (Burzio, 1986), a verb can assign a theta role to its subject position if and only if it can assign an accusative case to its object. This generalization infers that if a given verb assigns a theta role to its subject, it will assign accusative case to its object. Also, it is mentioned by Motomura in his analysis of Japanese SE verbs that “SE verbs should resist passivization if they do not project an external argument in the way unaccusative verbs do” (2004: 162). It is clear that

unaccusative verbs have no external argument. Accusative verbs do have external arguments and they do not resist passivization. Therefore, only SE verbs that take accusative objects can be passivized. SE verbs that take oblique objects cannot be passivized. Now let us look at the corresponding passive forms of the sentences that are illustrated above.

In (19b), accusative psych verbs can be passivized, because they have external arguments, so they are canonical transitive verbs. Besides, they do not have to be affected by the psychological state of the Experiencer. However, oblique psych verbs lack external arguments and can not be passivized, as in (20b). After they are causativized, and thus obtain external arguments, passivization is not only fine but also has a further impersonal reading as shown in (20c).³

In Uyghur, OE verbs are composed of a causative morpheme and an SE verb. In this case, SE verbs do not have any external argument. Since SE verbs have no external argument, they can receive a Causer role as an external argument when causativized. This means that the SE verb that is part of an OE verb must have the structure of the SE verbs with oblique-marked object construction, rather than that of the accusative-marked object construction. Therefore, a causative morpheme can be affixed to oblique psych verbs, but not to accusative psych verbs. Let us consider example (21).

- 3 In Turkish, as an anonymous reviewer pointed out, such verbs can be passivized yet acquire an impersonal passive reading. Impersonal passivization is also fine in Uyghur, but requires causativization beforehand, e.g. (i):

- (i) a. *U aylä-din razi bol-di.*
X family-ABL satisfied BECOME-PAST3SG
'X was satisfied with his family.'
- b. * *U aylä-si tarp-i-din razi bol-in-di.*
X family-POSS3SG side-POSS3SG-ABL satisfied BECOME-PASS-PAST
- c. *U oy-i tarp-i-din razi qil-in-di.*
X family-POSS3SG side-POSS3SG-ABL satisfied DO-PASS-PAST3SG
'X was satisfied by X's family.'
- d. *Aylä razi qil-lin di.*
family satisfied DO-PASS-PAST
'The family was satisfied.'

As shown in (ib), direct passivization for oblique psych verbs is bad. However, passivization is fine after causativization as shown in (ic). The impersonal passive reading of (id) also builds on causativization. It is the same with non-psych verbs as shown in (ii):

- (ii) a. *Kişilär yugur-di.*
person-PL run-PAST3SG
'People ran.'
- b. *Yugur-t-il-di.*
run-CAUS-PASS-PAST3SG
'Running was done.'

- (21) a. *Güli müşük-ni öç kör-ü-dü.*
 Güli cat-ACC hate look-PRES-3SG
 ‘Güli hates cats.’
- b. **Müşük Güli-ni öç körset-ti.*
 cat Güli-ACC hate show.CAUS-PAST3SG
 Intended meaning: ‘Cats made Güli hate them.’
- c. *Män it-tin yirgän-di-m.*
 I dog-ABL detest-PAST-1SG
 ‘I detested dogs.’
- d. *It mi-ni yirgän-dür-di.*
 dog I-ACC detest-CAUS-PAST3SG
 ‘Dogs made me detest them.’

As we can see from the examples, the causative morpheme cannot be added to psych verbs taking an accusative-marked object, as in (21b), while it is acceptable with psych verbs with ablative-marked objects as in (21d). This is firstly because, in the former structure, accusative psych verbs do not exhibit any alternation between the two thematic roles, while in the latter a cause role is added to the oblique psych verb as an external subject through the causativization process. When oblique psych verbs undergo causativization, the arguments and the sentence structure change correspondingly.

Furthermore, because accusative verbs already have a structurally marked object, the imposition of another syntactic object through causativization violates the double accusative restriction observed in Turkish, as shown with non-psych verbs in (22).

- (22) a. *Ali kitap oku-du.*
 Ali book read-PAST3SG
 ‘Ali read books.’
- b. *Ahmet Ali-ye/*-ni kitap oku-t-ti.*
 Ahmed Ali-DAT/*-ACC book read-CAUS-PAST3SG
 ‘Ahmed made Ali read books.’
- c. *Ahmet Ali-ye kitab-i oku-t-tu.*
 Ahmed Ali-DAT book-ACC read-CAUS-PAST3SG
 ‘Ahmed made Ali read the book.’

Just as in Turkish, *kitap* in (22a) is a non-specific yet structurally marked object. Such NPs, though morphologically zero-marked for case, bear structural marking as objects blocking the introduction of another accusative marked object into the structure, but allowing for an oblique case marking under causativization, as in (22b).⁴ The zero-marked object could even be made overt by adding *-ni* to *kitap*, which renders it specific or definite, as shown in (22c).

The asymmetry between the causativization of accusative vs. oblique psych verbs points to the status of the object of these two types of verbs. The arguments of accusative psych verbs have a true syntactic object status, but those of oblique psych verbs probably do not, as is observed in Turkish by Öztürk (2005). According to Öztürk's observation, case morphology does not always directly relate to the syntactic position of an NP. We believe that this is the case in Uyghur too, and we will address the issue in another paper.

4.4. Lexical causatives in Uyghur

Lexical causatives, though mono-morphemic at the surface, are actually bi-morphemic predicates that are formed in syntax through verb incorporation (Hale & Keyser 1993). Lexical causatives or zero causatives are usually treated as zero derived verbs. Zero derivation is a word formation process in which there is a change in the function of the base noun or adjective, but no corresponding change in form. Without reference to meaning, one can hardly discern the causative nature of the expression itself. Bussmann (1996) indicates that this group of words can be used both transitively and intransitively, and that the transitive ones convey the meaning of causation. For the benefit of clarity, let us look at Bussmann's examples (23).

- (23) a. The sun is melting the ice. (causative)
 b. The ice is melting. (intransitive)

Furthermore, lexical causatives can undergo semantic drift, requiring idiomatic readings in combination with particular argument NPs, as discussed by Miyagawa (1989). Uyghur psych verbs have relatively few zero causatives with Theme subject like their English counterparts such as *worry* and *please*. Lexical causatives in Uyghur are formed with some lexical causative morphemes rather than causative suffixes. Uyghur lexical causatives are irregular and non-productive, and the number of these types of causatives is very limited. Table 2 gives a list of lexical causatives in Uyghur:

4 We thank an anonymous reviewer for pointing this out and providing us with a Turkish example.

Table 2. Uyghur lexical causatives

Lexical Causative	English Meaning	Idiomatic Meaning
<i>buz-</i>	'to destroy'	'to worsen'
<i>äz-</i>	'to crush'	'to depress'
<i>çal-</i>	'to play'	'to tease'
<i>tüzä-</i>	'to dress'	'to better'
<i>bas-</i>	'to press, suppress'	'to sadden'
<i>äg-</i>	'to bend'	'to obey'

As stated by Aksan and Ibe (2004: 115) in their discussion of Turkish lexical causatives, lexical causatives quite easily receive psych interpretation, and come to express the sense of “contact” in mental space. Uyghur lexical causatives are often found in idioms, and have undergone semantic drift in these idioms. In other words, they originally indicate a sense of “contact” in the physical world, but when they change to form an idiomatic expression, they receive a psych-reading and begin to express a sense of “contact” in the mental world. Examples (24) and (25) testify to their lexical nature:

- (24) *Ähmät öj-ni tüzä-di/ taš-ni äz-di /*
 Ahmed room-ACC tidy up/ rock-ACC crush-PAST3SG /
kunupki-ni bas-ti.
 button-ACC press-PAST3SG
 ‘Ahmed tidied up the room/ crushed the rock/ pressed the button.’

A semantic change occurs with the introduction of a sentient object, and at the same time, the sentence has a psych-chose which expresses “contact in mental space” as shown in (25).

- (25) *Ähmät Güli-ni tüzä-di / äz-di / bas-ti.*
 Ahmed Güli-ACC tidy up-PAST3SG crush-PAST3SG press down-PAST3SG
 ‘Ahmed improved the image of/saddened/depressed Güli.

Furthermore, as in Japanese, lexical causatives in Uyghur can appear in non-productive nominal forms, as shown in Table 3.

Table 3: Non-productive nominalization of Uyghur lexical causatives

Lexical Causatives	Meaning	Nominalization	Meaning
<i>çal-</i>	‘to play (music)’	<i>çal-yu</i>	‘musical instrument’
<i>bas-</i>	‘to press’	<i>bas-maq</i>	‘trap (blotter)’
<i>äg-</i>	‘to bend’	<i>ägim, ägläk</i>	‘arch, sieve’

4.5. Uyghur morphological causatives as lexical causatives

As argued by Miyagawa (2010), the causative in *-sase* appears as an analytical or morphological causative, but can function as a lexical causative when there is no corresponding synthetic lexical causative in Japanese. Likewise, Uyghur morphological causatives are lexical causatives when there are no corresponding synthetic lexical causatives. Miyagawa uses a double causative test to show this in Japanese: unaccusative verbs like *taore* ‘fall down’ have a synthetic causative form as in *tao-s* ‘press down’. A double causative is impossible **taore-sase-sase* since it is blocked by the corresponding synthetic lexical causative *tao-s*. However, double-causative is fine with unaccusative verbs like *aw* ‘to match’ and *niow* ‘to smell’, which do have synthetic causative forms, for example, *aw-(s)ase-sase* and *niow-(s)ase-sase*. However, as shown above, there are few synthetic lexical causatives in Uyghur. The double-causative test produces some different results.

Like Japanese, with verbs that do not have synthetic lexical causatives, double causative suffixation is fine, as shown in (26):

- (26) *Muallim Ähmät-kä oquyuçi-lar-ni jügür-t-güz-di.*
 teacher Ahmed-DAT students-PL-ACC run-CAUS-CAUS-PAST3SG
 ‘The teacher made Ahmed let the students run.’

Example (26) has a double causative meaning where the teacher is making *Ahmed* make students run, and the verb has two causative suffixes *-t* and *-dur* correspondingly. With verbs that do have synthetic causative forms, double causative suffixation is fine and it can be reduced to single causative suffixation without change of meaning, as shown in (27).

- (27) a. *Muallim Ähmät-ka işik-ni čaq-tur-güz-di.*
 teacher Ahmed-DAT door-ACC break-CAUS-CAUS-PAST3SG
 b. *Muallim Ähmät-kä işik-ni čaq-tur-di.*
 teacher Ahmed-DAT door-ACC break-CAUS-PAST3SG
 ‘The teacher made Ahmed break the door.’

In (27), *čaq-* ‘break’ is a lexical causative; double causative suffixation (27a) and single causative suffixation (27b) are both fine. As shown by Lewis (1967), Turkic languages allow multiple causative suffixation, for example, *öl-dür-t-tür-t-* ‘to get someone to get someone to get someone to kill’, in which *öl-* means ‘to die’. Given that single causative suffixation (27b) is fine, a property similar to Japanese, we can maintain that morphological causatives in Uyghur are lexical causatives in nature.

5. T/SM restriction in Uyghur

According to Pesetsky (1995: 56), the Theme argument of psych verbs is characterized as either a cause of emotion or an object of emotion. The former is named Causer, and is associated with OE verbs, while the latter is named Target/Subject Matter (T/SM), and is associated with SE verbs. For the distinction between Causer and T/SM, he points out that there is a seemingly arbitrary prohibition against the co-occurrence of T/SM with Causer within the same predicate, as illustrated in (28).

- (28) a. The newspaper article annoyed me.
 b. *The newspaper article annoyed me at the government.
 c. The newspaper article made me annoyed at the government.

Pesetsky also notes that Causer and T/SM cannot occur together in the same predicate if it contains a zero cause, but can occur together if it is a periphrastic construction.

Pesetsky argues that the OE verbs in English are bi-morphemic, but the CAUS is a phonologically null morpheme affixed to the bound root, as in (29).

- (29) [[√*annoy*]Ø CAUS]

The original roots of verbs like √*annoy* are actually non-causative SE verbs with subject Experiencer. When the CAUS is added to the root, the Causer subject of OE predicates becomes apparent. According to his analysis, the bi-morphemic characteristics of English OE verbs are similar to the way Japanese forms its causative constructions; a lexically realized causative morpheme, (*s*)*ase*, is added to a psych verb, for instance *yorokon* ‘to be pleased’ to *yorokob-ase* ‘to be-please CAUS’. If we apply this notion to the construction of Uyghur psych verbs, the form of equivalent OE verbs in Uyghur should be as in (30):

- (30) [[√*SE*] *dur* CAUS]

Unlike their English counterparts, Uyghur OE verbs have an overt causative morpheme, e.g. *-dur*, added to the stem of the psych verb. However, in our view, the function of the theta role of OE verbs in Uyghur is analogous to that of its English

counterparts, because OE verbs in both languages are bi-morphemic and violate the T/SM restriction, for instance:

- (31) a. *Däwir jörn-il-i-di-ki maqalä Bel-ni yäzäplan-dür-di.*
 Times magazine-POSS3SG-LOC-KI article Bill-ACC anger-CAUS-PAST3SG
 ‘The article in the Times angered Bill.’
- (32) b. **Däwir jörn-il-i-di-ki maqalä Bel-ni*
 Times magazine-POSS3SG-LOC-KI article Bill-ACC
hökümät-kä yäzäplan-dür-di.
 government-DAT anger-CAUS-PAST3SG
 Intended meaning: ‘*The article in the Times angered Bill at the government.’

In (31a) there is no target of emotion, and the causative suffix *-dür* added to the verb *yäzäplan-* ‘to anger’ forms a morphological causative construction. When the target of emotion is present, as in (31b), a seemingly arbitrary prohibition blocks the co-occurrence of the two arguments within the same sentence, violating the T/SM restriction.

As Pesetsky points out, the prohibition of the co-occurrence of both causer and T/SM cannot merely be due to the semantics, because both theta roles are permitted in the periphrastic causative *make* configuration. Since *make* itself semantically encodes causation, and therefore no zero cause is involved, it does not create any prohibition against the restriction. In a similar vein, we show that the Uyghur periphrastic [N/ADJ *qil-*] light verb construction can take the Target and Subject Matter without violating the T/SM restriction, because, as shown in Section 4, the Uyghur periphrastic causative construction [NP_s NP-ABL/-DAT ADJ/N-ACC *qil-*] corresponds to the English periphrastic *make* construction; see (32).

- (33) *Däwir jörn-il-i-di-ki maqalä Bel-niñ hökümät-kä*
 Times magazine-POSS3SG-LOC-KI article Bill-GEN government-DAT
bolıan yäzäpi-ni qozyı-di.
 be-PARTCPL anger-ACC provoke-PAST3SG
 ‘The article in the Times provoked Bill [making him] angry at the government.’

In the grammatical periphrastic counterpart, as in (33), the light verb *qozya-* ‘to provoke’ itself semantically encodes causation, and created periphrastic form together with the noun *yäzäp* ‘anger’. Hence no zero cause is involved and therefore the construction would not violate the T/SM restriction. Therefore, our claim about the periphrastic causative construction in Uyghur psych verbs seems to hold.

6. Conclusions

In this paper we examined the semantic and syntactic properties of Uyghur psych verbs in terms of their (non-)causativization, case marking properties, and T/SM Restriction. Unlike English SE type verbs, the Uyghur non-causative verbs fall into two big categories, viz, accusative and oblique verbs, according to the case marking of their objects. We call psych verbs with accusative-marked objects accusative psych verbs, and psych verbs with ablative-marked objects oblique psych verbs. We also show that Uyghur has light verb constructions (N/ADJ *bol-/qil-*) involving psych predicates, apart from typical transitive constructions [NP_s NP_o VERB] since Uyghur is a SOV language. Accusative psych verbs build light verb constructions with the pattern [NP_s VN-ACC N/ADJ *qil-*] in which the object is a verbal noun derived by the suffix *-š*. In other words, there is no non-causative light verb construction [NP_s NP-ACC N/ADJ *qil-*]; that is, the [NP_s NP-ACC N/ADJ *qil-*] construction is an analytical or periphrastic causative configuration. Oblique psych verbs build light verb constructions [NP_s NP-ABL/-DAT ADJ/N-ACC *bol-/qil-*] in which *bol-* functions as BECOME while *qil-* as DO/GET. Our classification of Uyghur non-causative verbs into accusative and ablative/dative psych verbs has ramifications for causativizations of Uyghur verbs. For example, the causative morpheme cannot be attached to accusative psych verbs, but with ablative/dative psych verbs the causative suffixation is perfectly fine. We argue that morphological causatives in Uyghur are lexical causatives in nature, as Uyghur has relatively few zero causatives with Theme subject like their English counterparts *worry* and *please*. Uyghur periphrastic causative constructions [NP_s NP-ABL/-DAT ADJ/N-ACC *qil-*] correspond to the English periphrastic *make* construction. The fact that the T/SM Restriction does not apply in the case of analytical causative constructions, but does apply in the case of morphological causatives in Uyghur in turn provides support for our analysis about morphological causatives as lexical causatives and light verb constructions as analytical causatives in this language.

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Abbreviations

ABL	ablative	DO	do
ACC	accusative	DAT	dative
ADJ	adjective	DE	dative Experiencer
BECOME	become	DIN/QA	oblique case marker <i>-din</i> or <i>-qa</i>
CAUS	cause		

GEN	genitive	PL	plural
GER	gerund marker	POSS	possessive
GET	get	PRES	present
MAKE	make	SE	Subject Experiencer
N	noun	SG	singular
NI	accusative case marker <i>-ni</i>	SVO	subject verb object
NP _O	object noun phrase	T/SM	target/subject matter
NP _S	subject noun phrase	X	he, she, it
OE	Object Experiencer	v	verb
PASS	passive	VN	verbal noun
PAST	past		

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