

# **Transitivity in Chinese Experiencer Object Verbs**

Elisabeth Verhoeven (University of Bremen)

## **Abstract**

This article discusses semantic and syntactic properties of experiencer object constructions in Chinese. Cross-linguistically, experiencer object verbs have been shown to display some special semanto-syntactic properties which distinguish them from canonical transitive verbs. This has led to the conclusion that experiencer objects are non-canonical objects or even (quirky) subjects in many languages. The present paper investigates the characteristics of experiencer object verbs in Chinese using a number of tests that have been applied cross-linguistically to identify the status of these verbs and their objects. It turns out that in contrast to experiencer object verbs in languages like German or English, Chinese experiencer object verbs display all the semanto-syntactic properties of canonical transitive verbs.

## **1. Introduction<sup>1</sup>**

Since the famous paper of Hopper & Thompson 1980, transitivity is a much discussed issue in comparative linguistics. Hopper & Thompson defined the notion of prototypical transitivity recurring on various parameters including

control and volitionality of the actor, affectedness of the undergoer, and dynamicity of the situation. Given these parameters, predicates denoting psychological experiences are usually mentioned among those showing low transitivity due to their low dynamicity and their low agentivity (see Haspelmath 2001, Onishi 2001, Verhoeven 2007 among others). Cross-linguistically, reduced transitivity is manifested through diverse structural means which either pertain to the coding properties or the syntactic behavior of the corresponding construction or parts of it. Crucially, there may be a mismatch between syntactic behavior and morphological marking in such constructions, which has been referred to as non-canonical marking of subjects and objects (Aikhenvald et al. eds. 2001, Bhaskararao & Subbarao eds. 2004) or morphological downgrading of arguments (Bickel 2004, 2006). As concerns experiencer object verbs (henceforth EO verbs), i.e. verbs coding the experiencer like an object, as may be identified through case marking, cross-reference marking, word order etc., experiencers have been analyzed as ‘quirky subjects’ or ‘oblique subjects’ (Belletti & Rizzi 1988, Verma & Mohanan eds. 1990, Sigurðsson 1992, 2000, Barðdal 2002, Landau, to appear, among others), or as non-canonical objects (Bayer 2004) in diverse languages.

EO verbs have attracted the attention of scholars for their intriguing semanto-syntactic properties which distinguish them from canonical transitive verbs (as e.g. *hit* or *kick*) in many languages and which seem to be a reflex of their low transitivity. Among the special properties of EO

constructions that have been pointed out is the feature that experiencer objects exhibit backward binding of anaphoric pronouns belonging to the putative subject argument (see Postal 1971, Belletti & Rizzi 1988, Pesetsky 1987, 1995). Experiencer objects have been shown to constitute an island to extraction (see Belletti & Rizzi 1988) and to display scope interaction with the stimulus causer subject (e.g. Kim & Larson 1989, Kuno & Takami 1993). Furthermore, EO verbs are often restricted in passivization, and for many S-before-O-languages, it has been shown that the experiencer object tends to occur in an earlier position than the stimulus subject. Further characteristics include non-canonical behavior regarding nominalization, causativization, and reflexivization (see for the various criteria Bayer 2004, Belletti & Rizzi 1988, Bornkessel 2002, Haspelmath 2001, Klein & Kutscher 2002, Landau, to appear, Pesetsky 1995, Reinhart 2002 among others).

It is often highlighted that EO verbs are (systematically) ambiguous with respect to the agentivity of the stimulus-subject argument. If the stimulus-subject is animate it may be understood as having control over the performance of the event denoted by the verb while, if it is inanimate it has to be understood as non-agentive with respect to the verbal event.<sup>2</sup> While the syntactic behavior of the agentive construction resembles that of a canonical transitive verb, the non-agentive verbs show the aforementioned semanto-syntactic peculiarities. Furthermore, some languages possess more types of experiencer-object verbs, e.g. they have additionally dative-

experiencer verbs. Languages such as German and Norwegian display a group of accusative experiencer verbs which differs from the ambiguous agentive/non-agentive type, but resembles the dative experiencer verbs in semanto-syntactic behavior (cf. Klein & Kutscher 2002, Åfarli & Bech Lutnæs 2002).

In thematic role accounts of experiential verbs the mentioned semanto-syntactic distinctions are reflected in a differential thematic treatment of stimulus arguments. E.g., Pesetsky (1995) distinguishes between the more specific stimulus roles causer, subject matter, and target. For the treatment of EO verbs, the distinction between causer and subject matter is especially relevant: while the subject matter constitutes “the emotional concern of the experiencer” (see Rákosi 2006: 47 with reference to Pesetsky 1995, sect. 3.2), the causer is the instigator of the emotion but does not necessarily constitute the object of the emotional concern. In Reinhart (2002) this distinction manifests itself in the assignment of different theta clusters. While the causer has the feature [+c], the subject matter is [-m] and not specified for its causal properties.<sup>3</sup> In this approach, the stimulus argument of non-agentive EO verbs may be either a causer or a subject matter.

Accounts on EO verbs differ as to the weight and the status they attribute to the abovementioned special features in constituting unique properties of the EO verb class. Thus, some authors have tried to relate certain behavioral properties to specific semantic features that EO verbs share with other verbs, arguing that they are not unique to EO verbs. For instance, Arad 1998a,

1998b argues that all characteristics of EO verbs can be related to their stativity, claiming thus that there is no special experience-specific syntactic behavior. In contrast, Landau (to appear) identifies so-called core psych properties (the exact structural effects being partly language specific) such as restrictions in passivization, reflexivization and extraction, while properties such as backward binding are judged as more marginal and not psych verb specific.

The aim of this paper is to investigate EO verbs and their constructions in Chinese focusing on their structural and semantic properties. In particular, we will use a number of cross-linguistically valid semantic and syntactic tests to characterize the Chinese EO verbs and constructions with the aim to assess their status in comparison to the same type of constructions in other languages. The study is based on elicitation with native speakers from the Kunming area. Additional evidence comes from experimental data (see also Verhoeven 2009a, 2009c) and data from the *CCL* Corpus, Center for Chinese Linguistics, Beijing University.<sup>4</sup>

The discussion will proceed as follows. Section 2 introduces EO constructions in Chinese. Section 3 investigates the semantics of the Chinese transitive EO verbs as regards their internal temporal structure (*Aktionsart*) as well as the agentivity of the stimulus argument. Section 4 discusses the syntactic behavior of EO verbs in Chinese testing the possibility of their integration in the *bǎ*-construction, the passive *bei*-construction, and the reflexive and reciprocal constructions. Finally word

order properties of EO constructions are discussed. The article closes with a general characterization of EO verbs in Chinese in a cross-linguistic perspective and discusses the implications of the findings for theories of argument linking (Section 5).

## 2. Chinese experiential verbs and constructions

Following the seminal work of Belletti & Rizzi 1988, many authors have adopted the view that there are three different classes of experiencer verbs: experiencer subject verbs (*temere*-type, class I) and two classes of EO verbs, one of them featuring an accusative experiencer object (*preoccupare*-type, class II) and the other featuring a dative experiencer object (*piacere*-type, class III). Given this classification, Chinese distinguishes between experiencer-oriented (1) and stimulus-oriented verbs (2), featuring class I and class II of the above mentioned partition.

(1) *lǎobǎn xǐhuān yuángōng.*

manager like employee

‘The manager likes the clerk.’

(2) *nǚhái xīyǐn nánhái.*

girl attract boy

‘The girl attracts/fascinates the boy.’<sup>5</sup>

The stimulus-oriented verbs as in (2) correspond to class II of the above classification since they are transitive and their objects are marked like objects of (canonical) transitive verbs. A class of verbs corresponding to

dative experiencer object verbs (class III of the above classification) does not exist in Chinese. Cross-linguistically typical dative experiencer verbs are usually translated by Chinese subject experiencer verbs (cf. *xǐhuān* ‘please, like’, *xiǎng* ‘think, occur to’, etc.), and occasionally by transitive object experiencer verbs (*shìhé* ‘appeal to’).

It has been argued by various authors that Chinese does not possess syntactic relations in the same sense as e.g. the well known European languages (cf. Bisang 2006a, 2006b, LaPolla 1993, Van Valin & LaPolla 1997: 260-263, Peltomaa 2006). Instead, semantic and discourse functional parameters play an important role for argument realization in syntax. Following Bisang 2006a, 2006b however, some constructions are indeed sensitive to a subject/object distinction such as raising, reflexive and passive constructions (see Bisang 2006a: 200 and literature there). In terms of generalized semantic role terminology (Van Valin & LaPolla 1997), the macroroles actor and undergoer are mirrored quite straightforwardly in the syntax of an AVU clause (Bisang 2006b: 352). Thus, with verbs like in (1), the experiencer is linked to the actor/subject position while the stimulus is linked to the undergoer/object position. With verbs like in (2), argument linking is inverse: the stimulus is linked to the actor/subject position and the experiencer to the undergoer/object position.

As set out in the preceding section, we will focus on those verbs and verbal constructions which take the experiencer in object function. Chinese has a set of transitive EO verbs to which the following belong: *gǎndòng* ‘move,

touch’, *cìjī* ‘irritate, stimulate, excite’, *jīnù* ‘enrage’, *rěnnǎo* ‘anger, annoy’, *chùnnù* ‘peeve, infuriate, anger’, *mízhù* ‘charm, attract’, *yǐnyòu* ‘tempt, beguile’, *xīyǐn* ‘attract, fascinate’, *xià(dào)* ‘frighten’, *qì(dào)* ‘anger’, *gǔwǔ* ‘encourage, inspire’, *gǔlì* ‘encourage’, *zhémó* ‘afflict, torment’, *ānfǔ* ‘appease, comfort’, *ānwèi* ‘comfort, console, reassure, calm (down)’.<sup>6</sup> Examples (3) and (4) illustrate that the stimulus with these verbs may be animate or inanimate, in the latter case an object or an abstract entity.

(3) *jǐngchá jīnù-le xíng rén.*  
 policeman enrage-PFV pedestrian

‘The policeman enraged the pedestrian.’

(4) *hónglùdēng/shìgù jīnù-le xíng rén.*  
 traffic.light/accident enrage-PFV pedestrian

‘The traffic light / the accident enraged the pedestrian.’

As introduced in the preceding section, the animacy of the stimulus indicates a potential agentive vs. non-agentive reading of the EO verb. The reading of the verb *jīnù* in (3) can be agentive, while in (4), it can only be interpreted as non-agentive/causative. The crucial issue relates to the inherent properties of the stimulus subject: The subject in (3) is animate, hence it enables an agentive or a non-agentive reading; the subject in (4) is inanimate such that an agentive reading is excluded. Thus, in the following discussion, when reference is made to the animacy/inanimacy distinction of the stimulus, this aims at the implications that result for the agentive vs. non-agentive interpretation of the respective verbal construction.

It has been discussed as a typical feature of transitive EO verbs that they are systematically related to (intransitive) anticausative verbs (e.g. Haspelmath 2001: 65, Reinhart 2002: 254ff, Rákosi 2006: 53). Depending on the language this relation may receive a morphological marking (e.g. in Romance languages, German, Dutch, Hebrew, etc. the reflexive marker is used) or it may be just a case of conversion (cf. English *worry*, Modern Greek *tromázo* ‘frighten, be frightened’, etc.). Among the Chinese EO verbs under investigation there are a few which display an anticausative (converse) construction, namely *jīnù* ‘enrage’, *gǎndòng* ‘move, touch’, *xià(dào)* ‘frighten’, *qìdào* ‘anger’, *mízhù* ‘charm, attract’.<sup>7</sup> Example (5) illustrates anticausative formation for *jīnù*: (5a) shows the transitive EO construction, (5b) and (5c) show the intransitive anticausative construction with the experiencer in subject function. In (5c) an further participant is added by means of a coverb *yīn(wéi)* or *yóuyú* (both meaning roughly ‘because of’).

- (5) a. *wǒ*            *jīnù-le*            *tā*.  
           1.SG            enrage-PFV        3.SG  
           ‘I enraged him.’

b. *tā jīnù-le.*

3.SG enrage-PFV

‘He is enraged.’

c. *tā yīn(wéi) / yóuyú wǒ (ér) jīnù-le.*

3.SG because.of 1.SG therefore enrage-PFV

‘He is enraged because of me.’

Note that the additional participant in the Chinese anticausative construction in (5c) is not an argument of the verb but added through a coverb with cause semantics. In this the Chinese experiential anticausatives differ from the experiential anticausatives in the abovementioned languages, which clearly subcategorize a subject matter argument. Next to the fact that some EO verbs have an anticausative alternate, all EO verbs occur in regular passive constructions, as will be discussed in more detail in section 4.

Apart from using the basic EO verbs it is a common strategy in Chinese to form periphrastic causative constructions based on experiencer-oriented lexemes. These periphrastic constructions use the causative verb *shǐ* ‘do’. In the following analysis we will focus on the semantic and syntactic properties of the simple EO verbs.

### 3. Semantic properties

In one family of approaches to experiencer verbs, the linking properties as well as the syntactic properties of the experiential verb classes introduced in section 2 are related to their semantic properties regarding event structure

and role properties of the stimulus. Recall from section 1 that EO verbs may display an ambiguity between an agentive and a non-agentive (causative) reading, i.e. conceptualizing the ‘stimulus’ either as an agent or as a causer, respectively (cf. e.g. Grimshaw 1990:28ff., Jackendoff 1990:140f., Härtl 2001, Arad 1998a, 1998b, Landau, to appear). While the former role is necessarily occupied by an animate participant, the latter brings about the experiential change involuntarily and may be taken by an animate or inanimate participant. An experiencer-typical syntactic behavior is only present with the non-agentive EO verbs while in their agentive reading these verbs are analyzed to behave like canonical transitive verbs.

Furthermore, corresponding to the agentivity distinction EO verbs are often analyzed as systematically ambiguous regarding their inherent temporal properties, i.e. their *Aktionsart*, though individual approaches differ as to the specific *Aktionsart* characterizations.<sup>8</sup> Thus, agentive verbs of class II are analyzed as accomplishments (see Landau, to appear) or as durative actions/activities, which involve the causing of a psychic state in the experiencer (e.g. Härtl 2001: 185). The non-agentive members of class II are either achievements or states.<sup>9</sup> Authors such as Landau (to appear) or Klein & Kutscher 2002 for German underline that the purely stative members of class II (such as *interest*, *concern*, *depress*, *fascinate* in English) do not have agentive counterparts, but only those denoting achievements.

In the following sections it will be tested how Chinese behaves with respect to the agentivity of the stimulus (section 3.1) and the inherent temporal properties, i.e. *Aktionsart* of the EO verbs (section 3.2).

### 3.1 Agentivity

It is widely accepted that volitional and intentional involvement correspond to control in a situation and this is a prerequisite for agenthood (e.g. Dowty 1991, Lehmann 1991, Primus 1999, Van Valin & Wilkins 1996, Van Valin & LaPolla 1997, etc.). Thus, with respect to EO verbs, the agentivity of the stimulus is understood as its control for the accomplishment of the verbal event. Agentivity is tested by evaluating the possibility of the stimulus' volitional or intentional involvement in the event described.

Chinese shows a systematic agentivity contrast with the group of transitive EO verbs under consideration. If the stimulus role is taken by an animate participant, an adverb of volition or intention can be successfully inserted (see (6) for an illustration), indicating that the event coded by the verb is controlled by the stimulus (that latter is thus interpreted as an agent in a possible reading). Since (6a) is rather artificial (though grammatically and semantically well-formed), (6b) has been added as a more idiomatic version. It contains the verb *qù* 'go' indicating volition and intention as well.<sup>10</sup>

(6) a. *jǐngchá gùyì-de jīnù-le xíng rén.*  
 policeman intention-ADVR enrage-PFV pedestrian

‘The policeman enraged the pedestrian intentionally.’

b. *jǐngchá gùyì-de qù jīnù xíng rén.*  
 policeman intention-ADVR go enrage pedestrian

lit.: ‘The policeman goes to enrage the pedestrian intentionally.’

Further control tests such as the formation of an imperative (7b) or the addition of an instrumental phrase (7a) are all positive with the transitive EO verbs, provided that the stimulus role is taken by an animate participant.

(7) a. *jǐngchá yòng tā-de cūlǚ-de tàidù*  
 policeman use 3.SG-GEN rude-ATTR behavior

*qù jīnù xíng rén.*

go enrage pedestrian

‘The policeman enrages the pedestrian with his rude behavior.’

b. *(qù) jīnù xíng rén.*

go enrage pedestrian

‘(Go) enrage the pedestrian!’

Both the possibility of imperative formation with EO verbs and their combinability with volitionality adverbs are confirmed in an experimental study testing acceptability judgments with 16 native speakers (see Verhoeven 2009a). In both tests, EO verbs received high acceptability ratings similar to those of canonical transitive verbs. Among other verbs,

this study tested four EO verbs, namely *jīnù* ‘enrage’, *xīyǐn* ‘attract, fascinate’, *gǎndòng* ‘move, touch’, and *rěnnǎo* ‘anger, annoy’.

Even without explicitly adding a volitionality indicating expression, an animate stimulus is primarily understood as an agent with most of the mentioned EO verbs if the sentence is presented out of context.<sup>11</sup> However, in a suitable context a non-agentive (causative) reading may arise. Note that some of the mentioned verbs (i.e. *ānwèi* ‘comfort, console, reassure, calm (down)’, *ānfǔ* ‘appease, comfort’, *zhémó* ‘afflict, torment’) are primarily associated with human actions and thus understood as involving intention of the actor/stimulus. With a human actor/stimulus these verbs are judged as semantically awkward in construction with adverbs meaning ‘unintentionally’ (e.g. *wúyìde*). The same restriction does however not apply to the other EO verbs.

Furthermore, as has already been stated above (see section 2), all EO verbs are also naturally constructed with an inanimate stimulus. This holds also true for the aforementioned verbs which imply a control reading with an animate actor/stimulus, as respective examples from the *CCL* Corpus demonstrate (see example (8) for illustration).

- (8) *jiānyù yǐ bù zhǔn wǒ shuìjiào lái zhémó wǒ*  
prison use<sub>NEG</sub> allow 1.SG sleep come afflict 1.SG  
‘The prison afflicts me by not allowing me to sleep (...)’ (*CCL*  
Corpus)

It can be concluded that Chinese EO verbs are systematically ambiguous concerning an agentive vs. a non-agentive reading of the stimulus. This implies that the class of transitive EO verbs in Chinese differs from the corresponding class in languages such as English (see Arad 1998a, 1998b, Landau, to appear), German (see Klein & Kutscher 2002), Modern Greek (Verhoeven 2009b) or Norwegian (see Áfarli & Bech Lutnæs 2002), where we find – next to verbs which display the agentive/non-agentive contrast – a number of purely non-agentive members such as *interest*, *concern*, *depress*, *fascinate*. In terms of a thematic role characterization, this means that the stimulus with the Chinese EO verbs is a causer and not a subject matter. This analysis is corroborated by the properties of the anticausative construction which exists for some of the investigated EO verbs (see sect. 2, example (5)). The experiential anticausative verbs do not add a subject matter stimulus but may optionally add a stimulus by means of an explicitly causal coverb.

### 3.2 *Aktionsart*

As has been discussed above, a number of EO verbs in languages like English or German, are analyzed as stative in their non-agentive meaning. It is these verbs that (are most likely to) show non-canonical syntactic behavior of the sort introduced in section 1. Thus, in this section we will start by investigating whether the Chinese EO verbs can be analyzed as

states. After having revised the evidence for a state reading we will pass on to diagnose other possible *Aktionsart* values.

One commonly used test to identify states is the progressive test: if a given verb can appear in the progressive aspect or can be successfully combined with a progressivity indicating element, then it does not designate a state (see e.g. Vendler 1967, Van Valin & LaPolla 1997:93ff).<sup>12</sup> In Chinese the progressive marker *zài* ‘PROG’, also occurring in combination with the adverb *zhèng* in *zhèng-zài* ‘just-PROG’, can indicate dynamicity of a given verb. According to Li & Thompson (1981:218), only activity verbs can be combined with *zài* to indicate the duration of the event denoted by the verb. This is in line with the corpus results presented in Xiao & McEnery (2004:209), who report that in their corpus *zài* combines overwhelmingly with activity verbs. It does not combine with individual-level states, it marginally occurs with stage-level states, semelfactives and achievements, and seldom with accomplishments.<sup>13</sup> Xiao & McEnery (2004:211ff) state based on native speaker’s intuition and their corpus data, that the progressive marker *zài* is incompatible with simple achievement verbs like *sǐ* ‘die’ and normally also with complex achievements that involve a process and a subsequent result.<sup>14</sup> Only if the process part of the complex achievement verbs can be emphasized, an accommodation of a progressive reading is possible. Furthermore, the progressive marker *zài* is incompatible with individual-level states, under which Xiao & McEnery (2004) subsume

experiencer subject verbs such as *zhīdào* ‘know’ (cf. also Li & Thompson 1981: 217ff and (9)).

(9) \**Zhāngsān zài zhīdào nèi-jìan shì.*

Zhangsan PROG know that-CL matter

Int.: ‘Zhangsan is knowing that matter.’ (Li & Thompson 1981: 219)

The observation that experiencer subject verbs do not (easily) combine with the progressive marker is confirmed in the abovementioned acceptability study where sentences combining *zhèng-zài* ‘just-PROG’ with the verbs *xǐhuān* ‘like’, *tǎoyàn* ‘hate’, *rènshí* ‘know’, and *zūnzhòng* ‘respect, appreciate’ receive bad acceptability ratings (see Verhoeven 2009a). On the other hand, Xiao & McEnery (2004:209) observe that those experiencer subject verbs that can be interpreted as stage-level states may felicitously combine with *zài*. From the evidence discussed so far we can conclude that a frequent combination of a given verb with *zài* in a corpus hints at an activity verb, or (eventually) an accomplishment verb. Stage-level state verbs and achievement verbs (under certain conditions) may also combine with *zài*, however such combinations are more marginal in corpus data and are judged as less acceptable in experimental and intuition data.

To identify the *Aktionsart* of the EO verbs in our study, we undertook a research on the combination of these verbs with *zài* in the *CCL* Corpus. Furthermore we collected intuition data in elicitation and tested four EO verbs (namely *jīnù* ‘enrage’, *xīyǐn* ‘attract, fascinate’, *gǎndòng* ‘move,

touch’, and *rěnnǎo* ‘anger, annoy’) regarding their combinability with *zhèng-zài* ‘just-PROG’ in the aforementioned acceptability experiment (Verhoeven 2009a).

The investigation of the *CCL* Corpus showed for most of the EO verbs that they occur indeed with the progressive marker *zài* (see Table 1). Generally, this holds for constructions both with animate and inanimate stimuli, i.e. for putative agentive and non-agentive readings of the respective verbs.

Table 1. Occurrence of EO verbs with progressive *zài* in the *CCL* Corpus

	animate		inanimate		tokens		total
	stimulus		stimulus		with <i>zài</i>		tokens
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
<i>ānfū</i> ‘appease’	7	1,35	6	1,16	13	2,51	517
<i>zhémó</i> ‘afflict’	29	0,76	60	1,58	89	2,34	3796
<i>yǐnyòu</i> ‘tempt’	9	0,77	8	0,68	17	1,45	1170
<i>ānwèi</i> ‘comfort’	50	0,91	5	0,09	55	1,00	5482
<i>jīnù</i> ‘enrage’	2	0,24	2	0,24	4	0,49	823
<i>gǔwǔ</i> ‘inspire’	5	0,09	19	0,32	24	0,41	5878
<i>gǔlì</i> ‘encourage’	29	0,21	27	0,19	56	0,40	13957
<i>cìjī</i> ‘irritate’	1	0,02	20	0,31	21	0,32	6464
<i>xīyǐn</i> ‘attract’	4	0,02	46	0,26	50	0,29	17464
<i>gǎndòng</i> ‘touch’	0	0,00	3	0,04	3	0,04	8036
<i>rěnnǎo</i> ‘annoy’	0	0,00	0	0,00	0	0,00	170
<i>chùnù</i> ‘peeve’	0	0,00	0	0,00	0	0,00	145
<i>mízhù</i> ‘charm’	0	0,00	0	0,00	0	0,00	608
<i>xiàdào</i> ‘frighten’	0	0,00	0	0,00	0	0,00	55
<i>qìdào</i> ‘anger’	0	0,00	0	0,00	0	0,00	88

Five of the investigated verbs did not occur at all with the progressive marker *zài*. Three of them, namely *mízhù* ‘charm, attract’, *xiàdào* ‘frighten’,

and *qìdào* ‘anger’ were also judged as incompatible with *zài* in elicitation. However, this does not apply to *rěnnǎo* ‘anger, annoy’ and *chùnù* ‘peeve, infuriate, anger’. Therefore, we hypothesized that the corpus result regarding their combination with *zài* was due to the overall low token frequency of the verbs in the *CCL* Corpus and we checked the occurrence of these five verbs with the progressive marker *zài* in Google (Google entries of March 9, 2009). Additionally, we included *gǎndòng* ‘move, touch’ in the search, since it also showed a very low token frequency of *zài*-combinations in the *CCL* Corpus (0,04% of total occurrences). This search confirmed the elicitation results and the results of the acceptability study: *mízhù*, *xiàdào*, and *qìdào* did not occur with the progressive marker *zài*, while *gǎndòng*, *rěnnǎo*, and *chùnù* indeed occurred in such combinations with animate as well as inanimate stimuli (see examples (10) and (11) for illustration).

(10) *zhè wèntí yìzhí quèshí zài rěnnǎo wǒ.*  
 this problem always indeed PROG annoy 1.SG  
 ‘This problem is always annoying me indeed’

(11) *nǐ zhèng-zài chùnù shénmíng!*  
 2.SG just-PROG peeve god  
 ‘You are peeving the gods!’

For those EO verbs co-occurring regularly with the progressive marker *zài* we can conclude that they denote activities or accomplishments both with animate and inanimate stimuli, i.e. both in their agentive and their non-agentive reading.<sup>15</sup> However, three verbs of our inventory, namely *mízhù*

‘charm, attract’, *xiàdào* ‘frighten’, and *qìdào* ‘anger’ are incompatible with *zài*, as the corpus data as well as the elicitation reveal. These verbs belong to the resultative verb compounds, the second part of which denotes a result state (see Li & Thompson 1981: 54ff, Xiao & McEnery 2004: 159ff). They are complex achievement verbs showing the *Aktionsart* properties outlined above.

Further evidence regarding the *Aktionsart* type of the EO verbs, especially in view of a distinction between activities, accomplishments, and achievements may be provided by the telicity-test which is usually carried out in testing the compatibility of a given verb with temporal duration (*for X minutes/hours/years* etc.) vs. temporal limitation (*in X minutes/hours/years* etc.) adverbs. Activity verbs are atelic and fine with a duration frame (but incompatible with temporal limitation) while accomplishments and achievements are telic and felicitously take adverbials of (semantically appropriate) temporal limitation. Furthermore, achievements can be distinguished from accomplishments in that they are incompatible with temporal duration while accomplishments are not (cf. *reading the book for/in an hour*, Van Valin & LaPolla 1997: 95).<sup>16</sup> Most of the EO verbs discussed turn out to be compatible both with adverbs of temporal duration (12) and temporal limitation (13). This holds true for situations with both animate and inanimate stimuli, i.e. with potentially agentive and non-agentive verb readings. It applies to the following verbs: *gǎndòng* ‘move, touch’, *jīnù* ‘enrage’, *rěnnǎo* ‘anger, annoy’, *chùnnù* ‘peeve, infuriate, anger’,

*mízhù* ‘charm, attract’, *yǐnyòu* ‘tempt, beguile’, *xīyǐn* ‘attract, fascinate’, *gǔwǔ* ‘encourage, inspire’, *gǔlì* ‘encourage’, *ānfú* ‘appease, comfort’, *ānwèi* ‘comfort, console, reassure, calm (down)’. The fact that these verbs are compatible with both temporal frames suggests that they denote accomplishments since these may change to activities in the frame with an adverb of temporal duration (see Dowty 1979: 56ff, Xiao & McEnery 2004: 74).

(12) *zhè-tiáo xiāoxí jīnù-le wǒ sān-tiān.*  
 this-CL news enrage-PFV 1.SG three-day  
 ‘These news enraged me for three days.’

(13) *zhè-bù diànyǐng zài sān-fēnzhōng zhīnèi*  
 this-CL film in three-minute within  
*jīnù-le wǒ.*  
 enrage-PFV 1.SG  
 ‘This film enraged me in three minutes.’

The EO verbs *cìjī* ‘irritate, stimulate, excite’, *zhémó* ‘afflict, torment’, *xià* ‘frighten’, and *qì* ‘anger’ only enter the frame with the duration adverb but are incompatible with an adverb indicating temporal limitation. Given the above analysis of compatibility of these verbs with the progressive marker *zài*, this result suggests that these verbs denote activities. Finally, *xiàdào* ‘frighten’ and *qìdào* ‘anger’ do not allow for a duration adverb, but only for an appropriate adverb of temporal limitation. This is in line with their above characterization as complex achievement verbs. Note that also *mízhù*

‘charm, attract’ was classified as complex achievement verb. This seems to be in conflict with a duration reading. It may however be explained by the possibility of profiling and focusing the first part *mí* of the compound, which designates the process of ‘charm’ while the second part *zhù* refers to the result state ‘stop, stay’.

Summarizing the findings related to the internal temporal properties of Chinese EO verbs, it can be concluded that none of the investigated verbs is stative. Rather the Chinese EO verbs are eventive denoting activities, accomplishments or achievements, i.e. *Aktionsart* properties which are (more) typical of canonical transitive verbs. The eventive nature of the Chinese EO verbs is congruent with their causal structure which has been identified in the preceding section. These properties fit with argument linking approaches which predict the syntactic realization of the stimulus as subject with transitive EO verbs on the basis of a dynamic and/or causative event structure (see Grimshaw 1990, Dowty 1991, Croft 1993).<sup>17</sup>

#### **4. Syntactic properties**

In this section, some behavioral properties of Chinese experiencer objects are tested in order to assess the object status of the experiencer. As introduced in section 1, in a number of languages, EO verbs display non-canonical syntactic behavior in comparison to canonical transitive verbs. We will investigate this for the Chinese transitive EO verbs and concentrate on

four diagnostic means, namely the behavior of EO verbs with respect to the *bǎ*-construction, the passive *bei*-construction, the formation of a reflexive and reciprocal construction and finally unmarked word order. Based on the crosslinguistic evidence that has been discussed in section 1, we will use these constructions as diagnostic means to identify the status of experiencer objects in comparison to canonical direct objects.

In Chinese, the direct object can be placed in front of the verb when it is preceded by the marker *bǎ*.<sup>18</sup> This implies that the participant in object function is affected by the event encoded in the verb and applies thus to canonical transitive verbs (cf. Li & Thompson 1981: 466ff, Li 1995, 1999, Peltomaa 2006: 104). Transitive EO verbs can be construed in the *bǎ*-construction independently of the animacy of the stimulus participant (14). Note that with experiencer subject verbs, a *bǎ*-construction is not possible, at least not if the stimulus object is not identified as affected through the explicit identification of the intensity of the feeling (see (15)). Furthermore, a *bǎ*-construction is not possible with stative bivalent verbs such as *xiàng* ‘resemble’, *xìng* ‘be surnamed’ (see Li & Thompson 1981: 473). From this evidence, we can conclude that EO verbs behave like canonical transitive verbs (and differ from stative transitive verbs) with respect to the *bǎ*-construction, indicating that the experiencer object is a canonically affected object.<sup>19</sup>

- (14) *jǐngchá/hónglùdēng/shìgù*      *bǎ xíng rén jīnù-le.*  
 policeman/traffic.light/accident    BA pedestrian enrage-PFV

‘The policeman/the traffic light/the accident enraged the pedestrian.’

(15) a. \**tā* *bǎ* *xiǎo* *māo* *ài*.

3.SG BA small cat love

‘S/He loves the kitten.’

b. *tā* *bǎ* *xiǎo* *māo* *ài* *de* *yào* *sǐ*.

3.SG BA small cat love CSC<sup>20</sup> want die

‘S/He loves the kitten so much that s/he wants to die.’ (Li &

Thompson 1981: 467, 469)

The possibility to form a regular passive is often identified as a property of canonical transitive verbs. In the passive construction, the direct object of an active transitive verb becomes the subject of the passive verb. Thus, the possibility to undergo a regular passive operation has been used as a criterion to identify direct object status. On this basis, experiencer objects in a number of languages have been shown to exhibit restrictions as to a regular passive formation resulting to the conclusion that experiencer objects are not canonical objects. For instance, Landau (to appear) shows that in languages like English, Dutch, and Finnish only the eventive EO verbs (i.e. the agentive verbs and the non-agentive achievement verbs) form a regular passive but not the non-agentive stative EO verbs, while in languages such as Italian, French, and Hebrew, neither stative nor eventive non-agentive EO verbs (of class II, see above) do form regular verbal passives. In general, as is sometimes highlighted (see Landau, to appear,

Verhoeven 2008), the nature of the passive construction in a given language has to be considered before using regular passivization as a test of direct objecthood. One crucial question with respect to the investigation of EO verbs is whether the passive construction conveys – as is regular for canonical transitive verbs – a dynamic (processive) reading or if the passive construction acquires a stative meaning.

In Chinese, the so-called *bèi*-construction counts as a passive construction. It can be formed with canonical transitive verbs and has an adversity meaning (at least in those cases where it is not influenced by translations of the English passive).<sup>21</sup> Structurally it is characterized by the placement of the undergoer/object in clause-initial position followed by the passive coverb *bèi*, which is itself optionally followed by the actor N (16a). The (main) verb follows in sentence-final position without any morphological change. As with the *bǎ*-construction, only those transitive verbs which denote the affection of the direct object can occur in the passive *bei*-construction. Thus, again, experiencer subject verbs do not form a passive construction as such (16).

(16) a. *tā bèi jiějie mà-le.*

3.SG BEI elder:sister scold-PFV

‘S/He was scolded by (his/her) older sister.’ (Li & Thompson 1981: 492)

b. *\*Lǐsì bèi tā hèn-le.*

Lisi BEI 3.SG hate-PFV

‘Lisi was hated by him.’ (Li & Thompson 1981: 501)

As concerns EO verbs, these regularly occur in the passive *bei*-construction as illustrated in (17) for *jīnù* ‘enrage’. Note that there is no restriction as regards the animacy type of the passive agent: both animate as well as inanimate actors are allowed.

(17) *xíng rén bèi jǐngchá/hónglùdēng/shìgù jīnù-le.*

pedestrian BEI policeman/traffic.light/accident enrage-PFV

‘The pedestrian was enraged by the policeman/the traffic light/the accident.’

In Chinese, passivization does not change the *Aktionsart* properties of a verb. For instance, those verbs that combine with the progressive in the active do so in the passive as well (18). These were analyzed as accomplishments/activities in section 3.2 and there is no hint that the construction becomes stative in the passive.

- (18) a. *xíng rén (zhèng-)zài bèi jǐngchá cìjī.*  
 pedestrian (just-)PROG BEI policeman irritate  
 ‘The pedestrian is being irritated by the policeman.’
- b. *xíng rén (zhèng-)zài bèi hónglùdēng/shìgù cìjī.*  
 pedestrian (just-)PROG BEI traffic.light/accident irritate  
 ‘The pedestrian is being irritated by the traffic light /  
 accident.’

Those EO verbs that do not combine with the progressive marker were analyzed as complex achievement verbs (and not as stative verbs like some non-agentive EO verbs in English, German, etc.). Also with these verbs, there are no hints for a stative reading in the passive, and their incompatibility with the progressive marker in the passive has the same reasons as in the active. Thus, it can be concluded that also the passive test suggests an analysis of the EO verbs as canonical transitive verbs.

The next test to be revised is the possibility of forward binding of object anaphors, i.e. the possibility of a successful formation of a full reflexive and/or a reciprocal construction (see Landau, to appear, sect. 8.4).<sup>22</sup> In many European languages, transitive EO verbs form an anticausative (middle) construction by means of the reflexive pronoun (e.g. German *ärgern* ‘annoy’ ~ *sich ärgern* ‘be annoyed’, *langweilen* ‘bore’ ~ *sich langweilen* ‘be bored’; Italian *arrabbiare* ‘make angry’ ~ *arrabbiarsi* ‘get angry’, etc.; cf. e.g. Haspelmath 2001: 65, Reinhart 2002, Reinhart & Siloni 2005). Generally, such verbs (and other transitive non-agentive EO verbs such as

*nerven* ‘go on one’s nerves’, *erstaunen* ‘astonish’ etc. with no corresponding anticausative form (*\*sich nerven*, *\*sich erstaunen*) do not form a regular reflexive construction. However, a construction with an emphatic *selbst* ‘self’ or a reciprocal construction with *sich gegenseitig* ‘each other’ are possible or at least more acceptable with these verbs (see (19)).<sup>23</sup>

(19) a. <sup>(?)</sup>*Peter hat sich (nur) selbst geärgert/gelangweilt/erschreckt.*

‘Peter (only) annoyed/bored/startled himself.’

b. *Peter und Paul ärgerten/langweilten/erschreckten sich gegenseitig (aus Versehen).*

‘Peter and Paul annoyed/bored/startled each other (unintentionally).’

In examples like (19a) the verbs seem to be interpreted as agentive.<sup>24</sup> However, agentivity is not a necessary condition for the formation of a reflexive or reciprocal construction, as the insertion of the adverb *aus Versehen* ‘unintentionally’ in (19b) shows. Following Reinhart & Siloni (2005: 410), the subject argument in a reflexive construction may be an agent, an experiencer or a cause. Thus, non-agentive causative EO verbs should in principle allow for the formation of a reflexive construction. However, clearly non-agentive (and non-causative) stative transitive EO verbs like *wundern* ‘astonish, amaze’, *interessieren* ‘interest, concern’ do not form a reflexive or reciprocal construction, as the examples in (20) show (see also Landau, to appear for evidence from English and Hebrew). Thus it

is assumed that only transitive verbs with an agentive and/or causative subject can bind a full reflexive or reciprocal object pronoun.

(20) a. \**Peter wundert/interessiert sich selbst.*

lit.: ‘Peter astonishes/concerns himself.’

b. \**Peter und Paul wundern/interessieren sich gegenseitig.*

lit.: ‘Peter and Paul astonish/concern themselves.’

The Chinese EO verbs tested in this study all form a reciprocal construction and normally also take the reflexive pronoun *zìjǐ* ‘self’ in direct object function (see (21) and (22)). It generally holds true that adding an emphatic *zìjǐ* ‘self’ as in (22a) raises the acceptability of the reflexive construction. Only the verbs *xīyǐn* ‘attract, fascinate’ and *yǐnyòu* ‘tempt, beguile’ were judged as semantically infelicitous in the reflexive construction. This seems to be due to the fact that the verbal meanings do not express an action or process that can be directed to oneself. Note that the corresponding sentences were not rejected for syntactic reasons.

(21) *tā zǒngshì zài ānfǔ zìjǐ: ...*

3.SG always PROG appease self

‘She always appeases herself: (...)’ (CCL Corpus)

(22) a. *tā zìjǐ rěnnǎo zìjǐ.*

3.SG self annoy self

‘(S)he annoys her/himself.’

b. *lǎoshī hé xuéshēng*

teacher and student

(wúyìjiān) xiānghù jīnù-le.

unconsciously each.other enrage-PFV

‘The teacher and the student enraged each other unconsciously.’

This regular behavior in reflexive and reciprocal constructions again supports the analysis that the Chinese EO verbs behave like canonical transitive verbs.

Finally, it has been argued for a number of languages in which subjects canonically precede objects that the experiencer object tends to occur in an earlier position than the stimulus subject or that both possible orders of the arguments, namely  $S_{STIM} \prec O_{EXP}$  and  $O_{EXP} \prec S_{STIM}$ , are equally neutral (see e.g. for German psycho- and neuro-linguistic evidence in Bornkessel 2002, Haupt et al. 2008, Primus 1994, evidence from corpus studies in Hoberg 1981, Kempen & Harbusch 2004, for Modern Greek Anagnostopoulou 1999, Verhoeven 2009b).

In Chinese, the unmarked constituent order is  $S \prec O$ , however, objects may be placed sentence initially when they serve as sentence topics (Li & Thompson 1981, ch. 4, Chu 1998, ch. 7). When presented out of the blue, such utterances may invoke the intuition of non-acceptability, but utterances with these word order properties perfectly occur in naturalistic discourse. As example (23) shows, also experiencer objects may be placed sentence-initially.

- (23) *zhè gè xíng rén,*  
 this CL pedestrian  
*jǐngchá/hónglùdēng/shìgù jīnù-le.*  
 policeman/traffic.light/accident enrage-PFV  
 ‘This pedestrian was enraged by the policeman/the traffic  
 light/the accident.’

However, as with objects of canonical transitive verbs, O < S order is not pragmatically ‘neutral’ but carries the pragmatics of object topicalization. This judgment is independent of the referential properties of the experiencer NP (proper name, definite NP) and the animacy properties of the stimulus.<sup>25</sup> As concerns this evaluation, the Chinese EO verbs clearly differ from the German or Modern Greek EO verbs, as reported above. However, admittedly the judgment for Chinese is based on intuition and needs to be supported by more substantial evidence, i.e. by corpus data or a controlled acceptability study (data that is available for German and Modern Greek). Indirect evidence supporting the difference between German and Chinese as concerns experiencer object preposing comes from a production study reported in Verhoeven 2009c. While the proportion of object experiencer initial constructions in the German data set was 10.7% (21 out of 196 valid utterances with an experiencer object), the corresponding proportion in Chinese was 0.5% (1 out of 203 valid utterances with an experiencer object). With the other verb groups tested in this experiment, namely

canonical transitive verbs and experiencer subject verbs, neither German participants nor Chinese participants produced object initial utterances. Thus, evidence from argument order again supports the analysis that the Chinese EO verbs behave like canonical transitive verbs.

## 5. Summary

The present study of Chinese EO verbs has demonstrated that in contrast to the corresponding verb class in many European languages, Chinese EO verbs do not display non-canonical object properties but rather resemble canonical transitive verbs in their semanto-syntactic behavior. Chinese EO verbs form regular *bǎ-* and *bei-* constructions and they are successfully construed in a (full) reflexive and a reciprocal construction. Experiencer object preposing is not pragmatically neutral, as it is in languages with non-canonical experiencer objects such as German or Modern Greek. Furthermore, corresponding to their canonical syntax, the Chinese EO verbs denote activities, accomplishments or achievements and they regularly convert between an agentive and a non-agentive reading.

Thus, for argument linking accounts, the EO verbs in Chinese do not pose the same problems as the corresponding verbs in other languages do. The stimulus can be uniformly identified as a causer, which gets a potential agent reading when the role is taken by an animate participant. Argument linking then follows the widely acknowledged role hierarchy “agent > causer > experiencer > ...”.

The empirical findings of the present investigation challenge approaches to experiencer verbs which assume that experiencer arguments universally tend to show subject properties, irrespective of their syntactic position (e.g. Pesetsky 1995, Landau, to appear). However, they are compatible with accounts which analyze non-agentive stative EO verbs as marked and do not expect them to occur universally (e.g. Reinhart 2002).

## 6. Notes

---

<sup>1</sup> Work on this paper was financially supported by project 10/853/05 (University of Bremen). Special thanks are due to Yungang Zhang for his advice as native speaker of Chinese. If not otherwise indicated the examples presented stem from elicitation with him. Furthermore, I am indebted to two anonymous reviewers for many helpful and stimulating comments.

<sup>2</sup> The binary distinction animate vs. inanimate is to be taken here as a simplification of the animacy or empathy hierarchy (see e.g. Silverstein 1976, Comrie 1981, Kuno & Kaburaki 1977). For a very sophisticated hierarchy of “increasing likelihood that an entity will be conceived of as an ‘agent’ when placed in an actional event” see Van Valin & Wilkins (1996:314-315).

<sup>3</sup> Reinhart’s theta system is based on two binary features, i.e. [+/-c] ‘cause change’ and [+/-m] ‘mental state is relevant’ to characterize the whole thematic domain.

<sup>4</sup> Center for Chinese Linguistics Corpus, Beijing University, PKU; <http://ccl.pku.edu.cn:8080/ccl.corpus>; it contains 264.444.436 Modern Chinese characters and 84.127.123 Old Chinese characters.

<sup>5</sup> The following abbreviations are used in the glosses of the examples: ADVZ adverbializer, ATTR attributor, CL classifier, GEN genitive, NEG negator, PFV perfective, PROG progressive, SG singular.

<sup>6</sup> The monosyllabic *xià* ‘frighten’, *qì* ‘anger’ are often judged as stylistically bad and the bisyllabic resultative compound forms *xiàdào* ‘frighten:reach’, *qìdào* ‘anger:reach’ are

---

preferred, the second part of which denotes the result state ‘have reached/arrived/succeeded’ (see Li & Thompson 1981: 54ff, Xiao & McEnery 2004: 159ff).

<sup>7</sup> This is based on the judgments of 7 native speakers from the Kunming area and supported by examples from the *CCL* Corpus. Note however that in general the corpus frequency of the anticausative reading is rather low in comparison to the transitive reading. Furthermore, *chùnù* ‘peeve, infuriate, anger’ is marginally accepted by some speakers in an anticausative reading provided that an appropriate context is available.

<sup>8</sup> Another frequently used term instead of *Aktionsart* is *situation aspect*, see for instance Xiao & McEnery (2004).

<sup>9</sup> While Grimshaw (1990) still argues that class II verbs uniformly denote events, Pesetzky (1995) shows that class II verbs are more heterogeneous including eventive members (e.g. *scare, startle*), aspectually neutral members (e.g. *frighten, embarrass*) and purely stative members (e.g. *concern, depress*).

<sup>10</sup> Note that *xiàdào* ‘frighten’, *qìdào* ‘anger’, and *mízhù* ‘charm, attract’ are not compatible with *qù* ‘go’ in the tested constructions since they denote a result state, see section 3.2. This incompatibility is independent of the agentivity reading. These verbs perfectly pass the other control frames.

<sup>11</sup> Note that this is in line with the view advanced in Van Valin & Wilkins (1996:309ff) that the agentivity of a causing argument (i.e. an effector) is a pragmatic inference which is based on Holisky’s (1987:118-119) pragmatic principle: “You may interpret effectors and effector-themes which are human as agents (in the absence of any information to the contrary).”.

<sup>12</sup> The progressive test has been questioned by a number of authors since some stative verbs allow for the formation of the progressive. This has led to a reformulation in the following way: In contrast to dynamic verbs, stative verbs display a present tense interpretation without construing them in the progressive form (cf. e.g. Moens 1987, Van Valin & LaPolla 1997:94).

<sup>13</sup> The distinction between individual-level state verbs and stage-level state verbs goes back to Carlson (1981) and is integrated in Xiao’s & McEnery’s (2004) corpus study on aspect in Mandarin Chinese to account for the different aspectual behavior of predicates that express transient stages (e.g. ‘hungry’, ‘drunk’, etc.) and those expressing inherent dispositions (e.g. ‘clever’, ‘tall’, etc.). Given this distinction, experiencer object verbs such as *concern, interest*, etc. are more close to stage-level states.

---

<sup>14</sup> Complex achievement verbs in Chinese are composed verbs consisting of an action verb and a verb or adjective designating a result (e.g. *da-po* ‘hit-broken’, see Xiao & McEnery 2004:212).

<sup>15</sup> This also applies to *xià* ‘frighten’, and *qi* ‘anger’, which were not included in the *CCL* Corpus search. However, elicitation and a Google search clearly indicate their compatibility with *zài* ‘PROG’.

<sup>16</sup> Following Dowty (1979: 56ff) accomplishments may be changed to activities in the frame with an adverb of temporal duration.

<sup>17</sup> However note that these approaches are based on the analysis of English experiencer verbs for which they fail to explain argument linking of the stative EO verbs. For a thorough criticism of these and other approaches to argument linking with experiencer verbs see Kutscher 2009.

<sup>18</sup> In Chinese linguistics, there is a long debate about the analysis of *bǎ*, including its word class, the most common interpretations being that it is either a preposition or a (co)verb.

<sup>19</sup> See a similar conclusion in Cheung & Larson (2006), based however on a different argumentation.

<sup>20</sup> Currently relevant state; gloss from Li & Thompson (1981)

<sup>21</sup> In comparison to the English passive, the *bèi*-passive is more similar to a *get*-passive (see Cheung & Larson 2006). Furthermore, it is less restrictive as to the possible subject arguments allowing for example so-called indirect passive constructions where the passive subject is not a possible argument of the underlying verb (see Bisang 2006b and literature there).

<sup>22</sup> Note that Cheung & Larson (2006) also demonstrate the backward binding test with some experiencer object verbs and causative experiencer object constructions in Chinese, which gives positive results (see also Chen 1995). The authors themselves discuss a possible explanation of the results in attributing them to a logophor analysis of the ‘reflexive’ pronoun *zìjǐ* ‘self’. This test has been recently questioned as to its power to identify a syntactic psych-property (see Haspelmath 2001, Bickel 2004, Landau, to appear). Note also that the authors used proper names for the experiencer which implies his givenness and thus facilitates a (‘backward’) binding interpretation for purely pragmatic reasons.

<sup>23</sup> Note that in the construction tested *selbst* has to be understood as part of the object, and not as emphasizing the subject in the sense of *Peter selbst ärgert sich* ‘Peter himself is annoyed’.

<sup>24</sup> See also Arad (1998b) for the same observation with respect to corresponding Italian cases.

---

<sup>25</sup> This statement does not imply that we would deny the possibility that a controlled acceptability study could reveal differences in acceptability dependent on the relative prominence of actor and undergoer (i.e. with respect to animacy, definiteness etc.). However, in elicitation experiencer objects in the sentence initial topic position are generally judged as pragmatically marked independent of the properties of the stimulus.

## 7. References

- Áfarli, T. A. & Bech Lutnæs, E. 2002. Two types of Object Experiencer Verbs in Norwegian. *Journal of Comparative Germanic Linguistics* 4: 129-144.
- Aikhenvald, A. & Dixon, R.M.W. & Onishi, M. (eds.). 2001. *Non-canonical marking of subjects and objects* [Typological Studies in Language 46]. Amsterdam & Philadelphia: Benjamins.
- Anagnostopoulou, E. 1999. On experiencers. In *Studies in Greek syntax*, A. Alexiadou, G. Horrocks & M. Stavrou (eds), 67-93. Dordrecht: Kluwer Academic Publishers.
- Arad, M. 1998a. VP-Structure and the Syntax-Lexicon Interface. PhD dissertation, University College of London.
- Arad, M. 1998. Psych-notes. *UCL Working Papers in Linguistics* 10.
- Barðdal, Jóhanna 2002. 'Oblique subjects' in Icelandic and German. *Working Papers in Scandinavian Syntax* 70: 61-99.
- Bayer, J. 2004. Non-nominative subjects in comparison. In *Non-nominative subjects*, vol. 1, P. Bhaskararao & K.V. Subbarao (eds), 49-76. Amsterdam: Benjamins.

- Belletti, A. & Rizzi, L. 1988. Psych-verbs and  $\theta$ -theory. *Natural Language and Linguistic Theory* 6: 291-352.
- Bhaskararao, P. & Subbarao, K. V. (eds). 2004. *Non-nominative subjects*. Amsterdam: Benjamins.
- Bickel, B. 2004. The syntax of experiencers in the Himalayas. In *Non-nominative subjects, vol. 1*, P. Bhaskararao & K. V. Subbarao (eds), 77-111. Amsterdam: Benjamins.
- Bickel, B. 2006. Clause level vs. predicate-level linking. In *Semantic role universals and argument linking. Theoretical, typological, and psycholinguistic perspectives*. I. Bornkessel, M. Schlesewsky, B. Comrie & A. Friederici (eds), 155-190. Berlin, New York: Mouton de Gruyter.
- Bisang, W. 2006a. From meaning to syntax – semantic roles and beyond. In *Semantic role universals and argument linking. Theoretical, typological, and psycholinguistic perspectives*, I. Bornkessel, M. Schlesewsky. B. Comrie & A. Friederici (eds), 191-236. Berlin, New York: Mouton de Gruyter.
- Bisang, W. 2006b. Widening the perspective: Argumenthood and syntax in Chinese, Japanese and Tagalog. In *Datives and other cases. Between argument structure and event structure*, D. Hole, A. Meinunger & W. Abraham (eds), 331-381. Amsterdam: Benjamins.
- Bornkessel, I. 2002. *The argument dependency model: A neurocognitive approach to incremental interpretation*. Leipzig: MPI-Series in Cognitive Neuroscience 28.

- Carlson, L. 1981. Aspect and quantification. In *Syntax and Semantics*, Vol. 14, *Tense and Aspect*. P. Tedeschi & A. Zaenen (eds), 31-64. New York: Academic Press.
- Chen, D. 1995. UTAH: Chinese psych verbs and beyond. In *Proceedings of the 6<sup>th</sup> North American Conference on Chinese Linguistics*, J. Camacho & L. Choueini (eds), 15-29.
- Cheung, C. & Larson, R. 2006. Chinese psych verbs and covert clausal complementation. Paper presented at Chicago Workshop on Chinese LX.
- Chu, Ch. C. 1998. *A discourse grammar of Mandarin Chinese*. New York etc.: Peter Lang Publishing.
- Comrie, B. 1981. *Language Universals and Linguistic Typology*. Oxford: Blackwell.
- Dowty, D. 1979. *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Dowty, D. 1991. Thematic proto-roles and argument selection. *Language* 67:547-619.
- Grimshaw, J. 1990. *Argument Structure*. Cambridge etc: The MIT Press.
- Härtl, H. 2001. *Cause and change: thematische Relationen und Ereignisstrukturen in Konzeptualisierung und Grammatikalisierung*. Berlin: Akademie Verlag.
- Haspelmath, M. 2001. Non-canonical marking of core arguments in European languages, In *Non-canonical marking of subjects and objects*,

- A. Aikhenvald, R.M.W. Dixon & M. Onishi (eds), 53-83. Amsterdam & Philadelphia: Benjamins.
- Haupt, F.S., Schlesewsky, M., Roehm, D., Friederici, A.D. & Bornkessel-Schlesewsky, I. 2008. The status of subject-object reanalyses in language comprehension architecture. *Journal of Memory and Language* 59: 54-96.
- Hoberg, U. 1981. *Die Wortstellung in der geschriebenen deutschen Gegenwartssprache*. München: Hueber.
- Holisky, D.A. 1987. The case of the intransitive subject in Tsova-Tush (Batsbi). *Lingua* 71: 103-132.
- Hopper, P. & Thompson, S. 1980. Transitivity in grammar and discourse. *Language* 56:251-299.
- Jackendoff, R. 1990. *Semantic structures*. Cambridge, Mass.: MIT Press.
- Kempen, G. & Harbusch, K. 2004: The relationship between grammaticality ratings and corpus frequencies: A case study into word order variability in the midfield of German clauses. In *Linguistic Evidence*, S. Kepser & M. Reis (eds), 329-349. Berlin, New York: Mouton de Gruyter.
- Kim, Y.-J. & Larson, R, 1989. Scope interpretation and the syntax of psych-verbs. *Linguistic Inquiry* 20: 681-688.
- Klein, K. & Kutscher, S. 2002. Psych-verbs and lexical economy. In *Theorie des Lexikons, Arbeiten des Sonderforschungsbereichs 282*, Nr. 122.

- Kuno, S. & Kaburaki, E. 1977. Empathy and syntax. *Linguistic Inquiry* 8:627-672.
- Kuno, S. & Takami, K. 1993. *Grammar and Discourse Principles: Functional Syntax and GB Theory*. Chicago: Chicago University Press.
- Kutscher, S. 2009. *Kausalität und Argumentrealisierung. Zur Konstruktionsvarianz bei Psychverben am Beispiel europäischer Sprachen*. Tübingen: Niemeyer.
- Landau, I. (to appear): The locative syntax of experiencers. Ben-Gurion-University, Manuscript.
- LaPolla, R. 1993. Arguments against ‘subject’ and ‘object’ as viable concepts in Chinese. *Bulletin of the Institute of History and Philology, Academia Sinitica* 63:759-813.
- Lehmann, C. 1991. Predicate classes and PARTICIPATION. In *Partizipation: das sprachliche Erfassen von Sachverhalten*, H. Seiler & W. Premper (eds), 183-239. Tübingen: Gunter Narr Verlag.
- Li, C.N. & Thompson, S.A. 1981. *Mandarin Chinese. A functional reference grammar*. Berkeley, etc.: University of California Press.
- Li, Y.-F. 1995. The thematic hierarchy and causativity. *Natural Language and Linguistic Theory* 13: 255-282.
- Li, Y.-F. 1999. Cross-componential causativity. *Natural Language and Linguistic Theory* 17: 445-497.
- Moens, M. 1987. Tense, aspect and temporal reference. PhD dissertation, Edinburgh University.

- Onishi, M. 2001. Non-canonically marked subjects and objects: Parameters and properties. In *Non-canonical marking of subjects and objects*, A. Aikhenvald, R.M.W. Dixon & M. Onishi (eds), 1-51. Amsterdam & Philadelphia: Benjamins.
- Peltomaa, M. 2006. Pragmatic nature of Mandarin passive-like constructions, in: Abraham, Werner & Leisiö, Larisa (eds.), 83–114.
- Pesetsky, D. 1987. Binding problems with experiencer verbs. *Linguistic Inquiry* 18: 126-140.
- Pesetsky, D. 1995. *Zero syntax: experiencer and cascades*. Cambridge: The MIT Press.
- Postal, P. M. 1970. *Cross Over Phenomena*. New York: Holt, Rinehart and Winston
- Primus, B. 1994. Grammatik und Performanz: Faktoren der Wortstellungsvariation im Mittelfeld. *Sprache und Pragmatik* 32: 39-86.
- Primus, B. 1999. *Cases and thematic roles: ergative, accusative and active* [Linguistische Arbeiten 393]. Tübingen: Niemeyer.
- Rákosi, G. 2006. *Dative experiencer predicates in Hungarian*. PhD Thesis. University of Utrecht  
[<http://lotpublications.nl/publish/issues/Rakosi/index.html>].
- Reinhart, T. 2002. The theta system – an overview. *Theoretical Linguistics* 28: 229-290.

- Reinhart, T. & Siloni, T. 2005. The Lexicon-Syntax Parameter: Reflexivization and other arity operations. *Linguistic Inquiry* 36, 3: 389-436.
- Sigurðsson, H. 1992. The case of quirky subjects. *Working Papers in Scandinavian Syntax* 57: 1-47.
- Sigurðsson, Halldór 2000. To be an oblique subject: Russian vs. Icelandic. *Working Papers in Scandinavian Syntax* 66: 1-32.
- Silverstein, M. 1976. Hierarchy of features and ergativity. In *Grammatical categories in Australian languages*, R.M.W. Dixon (ed), 112-171. Canberra: Australian Institute of Aboriginal Studies.
- Van Valin, R.D., Jr. & Wilkins, D.P. 1996. The case for ‘effector’: case roles, agents, and agency revisited. In *Grammatical constructions: their form and meaning*. M. Shibatani & S.A. Thompson (eds), 289-322. Oxford: Clarendon.
- Van Valin, R.D., Jr. & LaPolla, R. 1997. *Syntax: structure, meaning, and function*. Cambridge: Cambridge University Press.
- Vendler, Z. 1967. *Linguistics in Philosophy*. Ithaca: Cornell Univ. Press.
- Verhoeven, E. 2007. *Experiential constructions in Yucatec Maya*. Amsterdam: Benjamins.
- Verhoeven, E. 2008. (Non-)canonical marking of experiencer objects: A typological comparison of Chinese, Korean, Turkish, and Modern Greek. *Language Typology and Universals* 61/1: 81-92.

- Verhoeven, E. 2009a. Agentivity and stativity in experiencer verbs: Implications for the theory of predicate classes. University of Bremen: Manuscript.
- Verhoeven, E. 2009b. Subjects, Agents, Experiencers, and Animates in Competition: Modern Greek Argument Order. *Linguistische Berichte* 219:355-376.
- Verhoeven, E. 2009c. On the universality of animacy and agentivity effects: Cross-linguistic evidence from experiencer verbs. University of Bremen: Manuscript.
- Verma, Manindra K. & Mohanan, K.P. (eds.) 1990. *Experiencer subjects in South Asian languages*. Stanford: The Center for the Study of Language and Information, Stanford University.
- Xiao, R. & McEnery, T. 2004. *Aspect in Mandarin Chinese. A corpus-based study*. Amsterdam: Benjamins.