Information structure in Mandarin Chinese light verb constructions

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Abstract

Mandarin light verb constructions, which can be categorized into DO and GIVE groups based on the semantic content of the light verb, are generally believed to be associated with information packaging: in the schematised canonical syntactic realisation '*dui* 'to'+NP+LV+NP', the preposed preverbal undergoer argument has a contrastive focus function. However, a plethora of LVCs retrieved from a Mandarin corpus implies that the construction per se does not necessarily involve a notion of contrast. Moreover, besides the canonical oblique construction, the undergoer argument can be realised postverbally, resulting in the light verb followed by two nominal constituents. Corpus data found that the choice of the two syntactic variants is not at random; rather it is conditioned by the degree of identifiability of the undergoer argument. In light of inheritance relations between related constructions and the grammaticalisation of light verb constructions, a unified syntactic pattern is generalised with regard to the identifiability scale.

Keywords: identifiability scale; syntactic realisations; information structure; metaphorical inheritance; light verb construction; Mandarin Chinese

1. Introduction[1]

The term 'light verb' (LV), coined by Jespersen (1954), refers to verbs such as *have* and *give* in complex predicate constructions like *have a bath* and *give a push,* where the main semantic content is provided not by the verb, but by the action nominal, for example *bath* and *push*. In a general sense, the light verb construction (LVC) *have a bath* roughly means *bathe*. From a typological perspective, LVCs have close historical association with their independent verb counterparts (see Butt 2003; Butt and Lahiri 2002, among others). However, the question concerning whether light verbs originate from their corresponding independent verbs is not without contention. Nevertheless, this study holds that, as often posited, light verbs enter the grammaticalisation cline: they are derived from corresponding independent verbs, and are prone to further reanalysis into auxiliaries (e.g. Hopper and Traugott 1993; Hook 2001, among others).

In Mandarin Chinese, verbs such as *jinxing* 'do, carry out' and *jiyu* 'give' are regarded as light verbs (e.g. Zhu 1982), and they can be further categorised into DO and GIVE groups based on their meaning. In the current paper, I will use *jinxing* and *jiyu* as examples to investigate the properties pertinent to DO and GIVE groups respectively. Following the grammaticalisation path of LVs mentioned above, the above two Mandarin LVs are believed to be developed from their independent verb (IV) counterparts.

In a canonical[2] LVC as in (1), the light verb *jinxing* is followed by the action nominal[3] *yanjiu* 'research', and the undergoer argument *zhege wenti* 'this issue', introduced by the preposition

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[1] Note that examples in this paper, if not cited, are all constructed by myself and validated by ten native speakers of Mandarin Chinese; elsewhere the source of the examples will be cited separately, such as from the ToRCH 2009 corpus or other studies. Examples longer than one clause will be provided with original Chinese characters to facilitate reading for those who can understand Chinese writing.

dui 'to', is placed preverbally as an oblique. For ease of presentation, the three nominal constituents in (1), according to their sequence of appearance, will be referred to as NP$_1$, NP$_2$ and NP$_3$ when necessary, and it is the NP$_2$ argument that has different syntactic realisations in LVCs, which will be the focus of the following analyses.

	Actor		Undergoer		
			Oblique		Complement
	NP$_1$		**NP$_2$**		NP$_3$ (action nominal)
(1)	*Women*	*dui*	*zhege wenti*	*jinxing-le*	*yanjiu.*
	we	to	this issue	LV-PERF	research
	'We did some research on this issue.'				

While the canonical Mandarin LVC has received much attention, especially concerning the information packaging of the preposed undergoer argument (e.g. Diao 2004; Zhu 2011), few studies, except for Hu and Fan (1995) and Diao (2004), have paid sufficient attention to the non-canonical syntactic variant where the NP$_2$ can be placed between an LV and an action nominal, see (2).

(2) a. **non-canonical variant: the DO group**
    Women   jinxing-le   wenti   yanjiu.
    we   DO-PERF   issue   research
    'We did some research on some issues.'

    b. **non-canonical variant: the GIVE group**
    Women jiyu-le   ta   wuweibuzhide   zhaogu.
    we   GIVE-PERF   her meticulous   care
    'We looked after her meticulously.'

This study thus intends to pick up where previous studies have left off, and look at the information structure of LVCs as opposed to their non-LVC verbal counterparts, and more importantly, to tentatively investigate the underlying principles that influence syntactic alternations between various LVC variants. The data of this study will be largely obtained from the ToRCH 2009 corpus[4] (Texts of Recent Chinese 2009), a well-balanced written corpus of one million words (1,087,619 words or 1,703,635 Chinese characters[5]) in Mandarin Chinese. This corpus, a collection of texts published in 2009 ($\pm$ 1 year), covers four broad text categories, i.e. press, general prose, learned writing, and fiction. The broad collection of data is meant to represent usages from all text types.

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[2] In this study, the notion of 'canonical' is understood in the same way as that of 'prototypical': the prototype or canonical example in linguistics is assumed to be the most frequent one, because frequency instantiates entrenchment in cognition in usage-based grammar (see Fillmore 1977 and Taylor 2015 for more).

[3] Syntactic constituents in this study are understood as follows. Subject and direct object have the closest syntactic and semantic relation to the verb. The oblique is usually introduced by a preposition in languages such as English and Chinese, and the complement is seen as the constituent following the verb. Action nominal, following Koptjevskaja-Tamm (1993), refers to nominal complements that encode an event, the argument structure of which is the same as their corresponding verbal forms.

[4] This corpus can be accessed via http://111.200.194.212/cqp/ (accessed on 7 May 2016).

[5] Note that characters and words are different units in written Chinese. While most Chinese corpora use character as the basic unit, the ToRCH 2009 corpus, in order to conform to the size of the one-million-word Brown corpus, adopts word counting. Unlike the word space of written English, written Chinese words are composed of multiple characters without explicit word boundary markers. As such, all the texts in ToRCH 2009 underwent word segmentation.

In many previous studies, the data, although retrieved from corpora (i.e. they are real occurrences), does not give sufficient context as to where the LVCs occur (e.g. Diao 2004). Unlike previous studies, I will provide the real occurrence of LVCs in texts together with the contexts in which they occur. This is meant to better interpret the information packaging of the construction in a richer and broader context. As such, decontextualised elicited examples from acceptability judgement tests will be reduced to a minimum.

In my study, corpus data reveals that different syntactic realisations of LVCs lie in the identifiability of the undergoer argument. Specifically, a more identifiable undergoer tends to be realised in the canonical construction. The syntactic alternations in GIVE LVCs, while they appear somehow different from the DO group, can actually be accommodated in the same general constraint.

This paper is structured as follows. §2 will sketch the identifiability scale (Lambrecht 1994), which is the basic model in this LVC study. Having reviewed previous studies regarding the treatment of syntactic variants in §3, I will use the identifiability scale to revisit different formal realisations of Mandarin LVCs in §4, in which a unified account of both DO and GIVE groups will be presented. §5 concludes the whole paper with directions for future research.

2. Identifiability scale
As described above, the syntactic variations in Mandarin LVCs mainly involve the position of the NP_2. Since the mental representation of a referent will influence the syntactic variants of a construction (Prince 1981; Lambrecht 1994, *inter alia*), I am interested to see if identifiability and activation of a referent (i.e. NP_2) will condition the choice of syntactic forms in LVCs. Before we look at the corpus data (§4), a quick review of identifiablity and its related concepts would be helpful for any further analyses.

Identifiability is a cognitive category (see Chafe 1976) that refers to whether the hearer can 'pick [the referent] out from among all those which can be designated with a particular linguistic expression and identify it as the one which the speaker has in mind' (Lambrecht 1994: 77). It is one of the properties that measure the likelihood of being a topic, also known as topic-worthiness. Although many other properties, such as person, animacy and word order, will influence the topichood of a referent, I will mainly discuss the notion of identifiability, a cognitive mechanism conditioning the packaging of information structure in Mandarin LVCs, in the rest of the section, with occasional reference to specificity and definiteness[6]. Topic and focus[7], when introduced as a referent in discourse, will be coded as

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[6] Specificity, in my study, can be roughly understood as 'anchoring' in Lambrecht's term, which will be elaborated later in this section; definiteness is the formal feature of identifiability. There is an asymmetry between the notions of definiteness and identifiability; for example, Chinese and Russian have the idea of identifiability but have no morphosyntactic representation (i.e. definiteness) concerning that notion.

[7] The understanding of topic and focus mainly follows Lambrecht (1994). Topic is understood as the 'already established 'matter of current concern' about which new information is added in an utterance' (Lambrecht 1994: 150). Moreover, it is generally agreed that topic can be subdivided into primary and secondary topics (e.g. Givón 1984; Polinsky 1995; Dalrymple and Nikolaeva 2011), the latter of which is defined as 'an entity such that the utterance is construed to be about the relationship between it and the primary topic' (see Nikolaeva 2001). As such, the hearer, after hearing an utterance, increases his/her knowledge of both topics. Focus, simply put, is the informative or informationally unpredictable, part of a proposition. As defined in Lambrecht (1994: 213), it refers to 'the semantic component of a pragmatically structured proposition whereby the assertion differs from the presupposition'. This study also distinguishes topic/focus (referent) and topic/focus expression:

an NP in many languages. The introduction of a new referent may result in a brand-new item or may be linked to previously introduced referent(s). Therefore, the NP that represents a topic/focus has different degrees of 'identifiability' in the discourse.

The notion of identifiability has been discussed at great length in Lambrecht's (1994) monograph. It broadly consists of two categories: identifiable referents, for which 'a shared representation already exists in the speaker's and the hearer's mind at the time of utterance', and unidentifiable referents, for which 'a representation only exists in the speaker's mind' (Lambrecht 1994: 77-78). Borrowing from Prince (1981), Lambrecht uses the term 'anchoring' to further categorise unidentifiable referents or brand-new referents (in Prince's (1981) terminology): in a brand-new anchored discourse entity, the NP representing it is 'linked, by means of another NP, or 'Anchor', properly contained in it, to some other discourse entity', whereas such anchoring is missing in a brand-new unanchored entity. For example, in *I met a boy*, the indefinite referent *a boy* is unidentifiable to the hearer by any linguistic means; however, in another example *I met a boy in your class*, the indefinite NP *a boy*, while still brand-new, is anchored to a more identifiable referent *your class*, by which it is seen as an anchored brand-new item. The notion of anchoring is very similar to the idea of specificity, as defined in von Heusigner (2002, 2011), who proposes that the definition of specificity can be understood via reference anchoring. Specificity, in his understanding, 'links a new discourse item to an already introduced one (in that sentence) or to the speaker (or context index) of that sentence' (von Heusinger 2002).

As for identifiable referents, they are generally categorised into inactive, accessible and active statuses, according to their identifiability degree from low to high. The inactive referent, or in Prince's (1981) term 'unused referent' refers to the entity that is already stored in the hearer's mind, albeit in his/her long-term memory. The accessible referent, in Lambrecht's (1994) study, is further categorised into textually, situationally and inferentially accessible referents. They are not at the attention of current utterance, but can be inferred 'by means of its existence in the physical context or its relation to something in the physical or linguistic context' (van Valin and LaPolla 1997: 200). For example, the expression *last night* in (3) is deictically linked to the time of utterance, so it is referred to as situationally accessible referent, or 'specific' referent in von Heusinger's terminology. Likewise, the referent *his lover* is inferentially accessible, because it can be evoked by the previously-expressed word *gay*. And finally, if the topic in (3) is continued for a while, and then the speaker utters 'Mark is terribly upset', the expression of *Mark* is activated textually, because of the intervening discourse between it and the *Mark* first introduced in (3).

(3) *I heard something terrible last night. Remember Mark, the guy we went hiking with, who's gay? His lover just died of AIDS.* (Lambrecht 1994: 110)

In my study, I will adopt Fillmore's (1982: 111) notion of 'frame' as an umbrella term to refer to the above three ways of accessible identification. To be specific, it refers to a cognitively coherent structure of related concepts, and the understanding of any of them will automatically evoke the understanding of the others in the frame. And the 'frame' where a referent can be identified can be broad or narrow (see Lambrecht 1994: 90). In a later work, Lambrecht and Lemoine (2013) use the notion of frame to illustrate the null realisation of arguments. In the utterance *What time do you open*, the null instantiation of the object 'the

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the former is a referent in a proposition, whereas the latter is a syntactic term referring to the syntactic constituent(s) or affix(es) that designate(s) a topic/focus referent.

store', for example, is activated by a semantic frame relation, by which the referent of an item can be recovered under appropriate discourse. As such, in example (3), *last night* is seen as being evoked in the temporal framework of the utterance, *his lover* is evoked in the frame of Mark's relationship.

The most identifiable referent is placed in the category of active. It is the current focus of consciousness, and typically coded with an unaccented expression, for example pronominal items, including free or bound pronouns and phonetically null constituents, as pointed out in Lambrecht (1994: 106). The null realisation of the subject *you* in $_\emptyset$*Remember Mark*, see (3), is an example of active referent.

The identifiability status of a referent also bears some relation to the likelihood of being a topic. As argued in Lambrecht (1994), the higher a referent is on the identifiability scale, the less cognitive effort it will incur for the hearer to infer to identify it as a topic, see Figure 1.
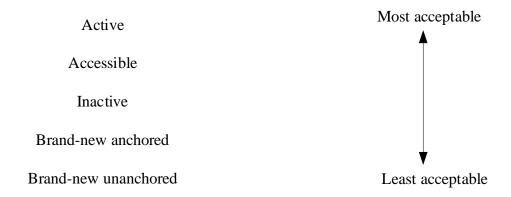
Active   Most acceptable

Accessible

Inactive

Brand-new anchored

Brand-new unanchored   Least acceptable

Figure 1: Lambrecht's topic accessibility scale

Assuming that speaker will tailor his/her linguistic choice and use it as an instruction to the hearer, the linguistic encoding of referents is supposed to incur the least amount of cognitive processing effort by the hearer. Based on this, the correlation between the linguistic coding of a referent and acceptability as a topic or focus is summarised in Figure 2 (see van Valin and LaPolla (1997), Givón 1983, Levinson 1987, Gundel, Hedburg and Zacharski 1993; Ariel 1990 for more).
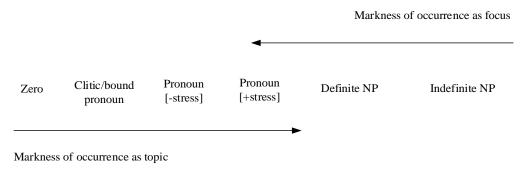
Markness of occurrence as focus

| Zero | Clitic/bound pronoun | Pronoun [-stress] | Pronoun [+stress] | Definite NP | Indefinite NP |

Markness of occurrence as topic

Figure 2: The coding of referents in terms of possible function

Zero coding (i.e. null realisation), as presented in Figure 2, is least marked for a topic, and it can by no means function as a focus. Nevertheless, the indefinite NP is the least marked coding for a focus, but, under given discourse, it can function as a topic.

In my study, different from Erteschik-Shir (2007) and some others, I believe that the domain of topic and focus is mutually exclusive, that is to say, an item in an utterance, if it is not a topic (primary or secondary), will be a focus, whose domain, as such, may include more than one constituent. As such, the topichood of a referent, as reflected in the above different cognitive statuses, can be of some help to identify the topic/focus status of other concurrent items.

In this study, the use of question-answer test as a diagnostic for topic in a sentence (Lambrecht 1994: 150) is hardly adopted in this study. This is because most of the Mandarin LVs originated from literary writing in Classical Chinese, and to date, the LVCs are largely restricted to formal text types, such as government reports, editorials, and scientific writing. Following this, LVCs are rarely used as an answer fragment to a particular question (where a non-LVC counterpart would be more likely), and as a consequence, it is very unlikely that an LVC response fragment can be elicited in natural language of Mandarin Chinese. In addition to this, the action nominal, although possessing some nominal properties as I have argued, cannot be questioned in Mandarin Chinese. In this regard, topic/focus in Mandarin LVCs will be largely identified via context.

3. Previous studies

Unlike the direct object in the canonical SVO construction, the oblique object in Mandarin LVCs, as we have mentioned briefly at the beginning of the paper, is placed before the verb, and the complex predicate is placed at the end of the sentence in the Mandarin LVC. It is thus widely believed in the literature that the argument realisation of Mandarin LVCs is pragmatically motivated, i.e. information structure influences the permutation of syntactic arguments. However, due to the distinct word order from canonical verbal constructions (compare examples (4) and (1)), the focus domain is subject to debate in Mandarin LVCs.

(4) non-LVC verbal counterpart:
Women yanjiu-le   *zhege wenti.*
we   research-PERF   this   issue
'We researched this issue.'

There are generally three different proposals concerning the occasions where LVCs tend to be used: (i) when the action nominal is expected to be in the focus, see for example Hu and Fan (1995: 284); (ii) when the oblique is expected to be in the focus, see Zhu (2011: 175); and (iii) according to different focus domains: when the action nominal and the oblique are expected to serve as a regular focus and a contrastive focus[8] respectively in a sentence, a canonical DO/GIVE LVC will be used; however, a ditransitive GIVE-LVC (i.e. *jiyu* + NP$_2$+ AN) will be chosen if the action nominal alone is expected to be in focus, see Diao (2004: 175, 396-397).

The argument realisations of the plethora of LVCs found in the ToRCH 2009 corpus, however, do not completely agree with the patterns described in the above studies. What is the focus domain in LVCs is subject to debate. Example (5) contrasts the influences of economic crisis on technology-oriented and manufacturing-oriented companies. In this example, both the action nominal *gaodu guanzhu* 'high attention' and the oblique object *dui*

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[8] Kiss (1998) proposes to treat contrastive focus as a focus that encodes exhaustive identification, meaning that the set of individuals/entities, not anyone else, is presented in the discourse circumstance. The notion of contrastive focus, although not adopted in my analyses, will be used for the time being to better illustrate findings from previous literature that used this term.

kehu xuqiu 'to the customers' needs' cannot be identified from the context, so they are both informative to the hearer. As such, they both function as the focus in the utterance. This implies that the above first and second proposals maintaining that either the action nominal or the oblique is the focus are questionable.

(5) 而那些注重研发投入，注重新产品新技术开发，注重品牌打造，以核心技术占领市场，对客户需求给予高度关注的企业，始终牢牢地掌握着市场的主动权，要么很快就走出了危机，要么受危机的影响非常有限。

Er naxie zhuzhong   yanfa   touru,
but those attach.importance.to research.development investment,

zhuzhong   xin chanpin xin jishu   kafa,   zhuzhong
attach.importance new product new technique development, attach.importance

*pinpai dazao, yi hexin jishu   zhanling shichang, dui **kehu**   **xuqiu***
brand build   with core technique occupy   market   to customer need

jiyu gaodu guanzhu de qiye,   shizhong   laolao zhangwo-zhe shichang
LV   high   attention DE company throughout   firmly grasp-ASP   market

de zhudongquan yaome henkuai zouchu-le   weiji, yaome   shou
DE initiation   either quickly walk.out-ASP crisis either   suffer.from

weiji de   yingxiang feichang youxian.
crisis DE influence very   limited

'For those companies that attach importance to investment in research and development, to the development of new technology, and to the building of the brand, and those who **pay high attention to customers' needs**, they firmly hold the initiation of the market in their hands; they either walk out of the economic crisis very quickly or have very limited suffering from the crisis.' [ToRCH 2009]

The third proposal puts forward that there are two foci in a prototypical LVC, and that the oblique argument acts as a contrastive focus. For example, as argued in Diao (2004: 175), the undergoer *Tonggu Cheng* 'Tonggu City' in example (6) is moved to a preverbal position (vs. the postverbal VO order in a non-LVC counterpart; a similar example can be found in (4)) to get emphasised: namely, it is the Tonggu City, not anywhere else, that has been heavily bombarded.

(6) 日军空军每天从仰光机场出动百余架次飞机对同古城进行狂轰滥炸。

Ri   jun   kongjun meitian cong Yangguang Jichang chudong
Japanese Army air.force everyday from Yangon   Airport dispatch

*bai   yu jiaci   feiji   **dui Tonggu Cheng** jinxing kuangonglanzha.*
hundred odd   sorties airplane to Tonggu City   LV   bomb.savagely

'Japanese airforce dispatched a hundred-odd sorties from Yangon Airport to savagely bomb Tonggu City.'
(cited in Diao (2004: 175); an excerpt from the documentary fiction *da guo zhi hun* 'The soul of a great nation' by Xian Deng)

While this idea may sound logical, it nevertheless lacks strong empirical support. Firstly, no obvious items in contrast can be found in the context of example (6). The original text of the example shows that the whole section is about the battle in Tonggu City, and that the previous discourse[9] also concerns that city. In this sense, treating the oblique argument 'Tonggu City' as a contrastive focus may not be appropriate. As such, I will not assume there are two foci in the LVC.

Secondly, the so-called contrastive focus of the oblique constituent in the LVCs is not substantiated by statistical results from the corpus. Not only do I find no contrastive items explicitly shown in the neighbouring co-text, the concordance lines from the ToRCH 2009 also demonstrate that a great many of the oblique arguments are omitted (for example, *jinxing*-LVC: 460/884; *jiyu*-LVC: 27/77), if they can be recovered from the context. This shows that the oblique of LVCs, especially in the DO group, are largely identifiable from the preceding context as an unmarked topic. Thirdly, the idea that the oblique denotes no contrastive focus can be borne out by the fact that it can be realised as a pronoun (unstressed) in the corpus (see Table 1), which suggests the topical properties of the oblique constituent.

Nevertheless, by saying the oblique constituent is not associated with (contrastive) focus in Mandarin LVCs, I mean such association does not take place in a neutral context, i.e. the context where Mandarin LVCs prototypically occur. This however does not deny that the oblique can be the contrastive focus as long as a given context evokes a contrastive interpretation by means of implicature (i.e. what is suggested in an utterance). In the following example (7), the adverbial phrase, *zai …(A) de tongshi, ye ke …(B)* 'while doing A, one can also do B at the same time', triggers the contrast between A and B, in which case A is *ganhan nongzuowu* 'drought-tolerant crops' and B is *ren benshen* 'human beings themselves'. Also note that the notion of 'neutral context' is an idealised concept, because every acceptable utterance evokes a certain context of use (Goldberg and Ackerman 2001). What differentiates (7) from those LVCs in a 'neutral context', for examples (5) and (6), is that the latter account for a vastly larger portion than the former among all the retrieved LVCs in the corpus (e.g. in *jinxing*-LVCs, we found only 16 examples where the contrastive interpretation is triggered by a particular syntactic strategy), that is, contexts such as those in (5) and (6), being prototypical, are also seen as 'neutral' in this study.

(7) 在非洲和世界上其它最贫困的地区，在用基因工程对干旱农作物进行改造的同时，也可尝试用同样的技术对人本身进行改造。

Zai feizhou he shijie shang qita zui   pinqiong de diqu, <u>zai</u> yong jiyin
in Africa and world on   other most poor   DE area while use   genetic

*gongcheng **dui ganhan**   **zuowu** jinxing gaizao <u>de tongshi</u>,   <u>ye   ke</u>*
engineering to   drought.tolerant crops LV   change DE same.time also can

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[9]The discourse preceding example (6) is translated as follows: If the Anglo-Chinese allied army has made up their mind to recapture Yangon as their strategic target, then besieging and defeating the Japanese division near Tonggu was very likely. (But) mutual suspicion and disbelief ruined the hope of success. (The original Chinese text can be found via this link: http://book.sohu.com/20151113/n426399386.shtml, accessed on 10-Dec-2015.)

changshi	*yong*	*tongyang-de*	*jishu*	***dui***	***ren***	***benshen***	*jinxing*	*gaizao.*
try	use	same- DE	technique	to	human	itself	LV	change

'In Africa and other poorest areas in the world, while we use genetic engineering to change the drought-tolerant crops, we can meanwhile apply the same technique to change humans themselves.' [ToRCH 2009]

I have so far shown that Mandarin LVCs do not inherently encode contrastiveness, nor do they have a fixed focus domain in themselves. However, the above studies mainly focus on the information structure of canonical oblique LVCs, leaving aside double-object LVCs. Therefore, in what follows, I will present my analysis on the constraints of information structure upon the syntactic realisations of both canonical and non-canonical LVCs.

4. Identifiability and syntactic variants

All the NP$_2$ arguments in *jinxing* and *jiyu* LVCs from the ToRCH 2009 corpus were coded based on the identifiability scale in §3. The following Tables 1 and 2 listed the occurrence of the two syntactic variants in terms of the identifiability of NP$_2$ arguments.

Table 1: The token of syntactic realisations of *jinxing*-LVCs

NP$_2$ argument	oblique construction	double-object construction	
zero anaphora	460		
pronominal anaphora	9		
nominal anaphora	27		
accessible	80	9	
brand-new anchored	168	80	
brand-new unanchored		53	
Total	743	141	884

Table 2: The token of the syntactic realisations of *jiyu*-LVCs

NP$_2$ argument	oblique construction	double-object construction	
zero anaphora	27		
pronominal anaphora	1	6	
nominal anaphora	2	3	
accessible	5	3	
brand-new anchored	25		
brand-new unanchored	5		
Total	65	12	77

I will look at the general patterns of syntactic realisations revealed from the tables above in the reminder of the paper.

4.1. The DO group

Table 1 shows that the canonical oblique *jinxing*-LVCs tends to be used if the NP$_2$ argument is an anaphoric element, which can have null, pronominal and nominal realisations, or it can be activated in a semantic frame, the illustration of which are presented in examples (8-11).

The elided undergoer argument of the action nominal *shenru chanshi* 'deep interpretation' in (8b) refers back to *minsheng redian* 'hot issue of people's well-being' in the preceding clause (8a).

Zero anaphora

(8) a. 对于民生的报道，特刊三版开辟'情暖民生'栏目，关注国际金融危机冲击下的民生热点。

Duiyu   minsheng   de baodao, te   kan san ban   kaipi
concerning people's.well-being DE report   special issue third page launch

'qing   nuan minsheng'   lanmu, guanzhu guoji   jinrong
'emotion warm people's.well-being' column attention international financial

weiji chongji xia   de   minsheng   redian.
crisis impact under DE   **people's.well-being hot.issue**ᵢ

'As for the reports on people's well-being, the third page of the special issue launched a new column of 'warm care in people's well-being' to pay attention to the hot issues of that area under the impact of international financial crisis.'

b. 特刊刊发大量理论文章，进行深入阐释。

Te   kan kanfa daliang   lilun   wenzhang, jinxing
special issue publish large.amount theoretical   article   LV

shenru _chanshi_ₒᵢ.
deep   interpretation

'The special issue published a large amount of theoretical articles, and gave a in-depth interpretation to (it: the hot issues in people's well-being).' [ToRCH 2009]

When the undergoer argument is realised by a pronoun, such as *tamen* 'them' referring to the seven people at the very beginning of example (9), it will occur preverbally as an oblique constituent.

Pronominal anaphora

(9) 张国焘等七人被送往京师警察厅后，司法处于当天对他们进行了审讯。

_Zhang Guotao deng qi   ren_ᵢ *bei song wang jingshi jingcha ting   hou,*
Zhang Guotao etc.   seven people by send to   Peking police station after

sifachu   yu dangtian dui **_tamen_ᵢ** *jinxing-le shenxun*
judiciary at that.day   to them LV-ASP interrogate

'After [Zhang Guotao and seven others]ᵢ were sent to the Peking Police Station, the judiciary interrogated themᵢ on that day.' [ToRCH 2009]

In the same vein, the undergoer argument will be placed before the LV and function as an oblique, if it is a nominal anaphora, such as *zhexie shiwu* 'those food' as in (10b) which refers to 'the food that is obtained through hard work' in (10a).

Nominal anaphora

(10) a. 人们对勤劳所得获取的食物格外珍惜，

Renmen dui qinlao   suode huoqu de shiwu ᵢ gewai   zhenxi,
people to hard.work earn obtain DE food   especially cherish
'People especially cherish [the food that is obtained through hard work]ᵢ;'

   b. 一时吃不完的时候，人们就想方设法对这些食物进行加工，

yishi chi bu wan de shihou, renmen jiu xiangfashefa   dui
 time eat not finish DE food   people then try.every.means to

zhexie shiwu ᵢ jinxing jiagong,
those   food   LV   process

'when they can't finish it, they tried every means to process [the food]ᵢ,'

   c. 尽量延长其食用期限，以备青黄不接季节之需。

jinliang   yanchang qi shiyong qixian, yibei   qinghuangbujie.
 as.much.as.possible extend   its eat   period in.case temporary.shortage

jijie   zhi xu.
 season DE need

'to extend their life as much as possible, in case of the need during the season   when food is of temporary shortage.' [ToRCH 2009]

An accessible referent, as pointed out in §2, refers to the referent that, although it may not be at the focus of consciousness, can be activated through semantic frames. For example, *chengshi fazhan* 'city development' appears to be a new referent in (11); however, it is not difficult to activate the referent via the frame construed by *chengshi mianmao* 'city outlook' and *bianyang* 'transformation', and interpret the 'city development' as the improvement related to the transformation of Shijiazhuang City.

Accessible

(11) 石家庄市启动了城市面貌'三年大变样'行动，他们对城市发展进行了重新定位。

*Shijiazhuang shi qidong-le **chengshi mianmao** 'san nian **da bianyang**'*
Shijiazhuang City start-ASP   city   look   three year big transformation

*xingdong. tamen dui **chengshi fazhan**   jinxing-le chongxin dingwei.*
campaign they   to city   development LV-ASP   again   niche

'Shijiazhaung City initiated the campaign regarding the city outlook—'substantial changes in three years'. They re-located the niche of city development.' [ToRCH 2009]

In the above examples, the NP$_2$ referents are either already stored in the addresser's and addressee's mind or can be identified anaphorically or construed in a frame. In such a context, the NP$_2$ is the presupposed element in a proposition. In other words, when the NP$_2$ functions as a topic, the asserted information (i.e. the focus) would be the action nominal placed at the end of the sentence. This parallels nicely with the 'end-focus principle' in Chinese. As argued in LaPolla (1995), Xu (2004), and Shyu (2010), Chinese uses more syntax and less phonology to encode focus, and the focus expression is often placed at the end of a sentence.

The double-object LVC, as evidenced in the ToRCH 2009 corpus, is more likely to occur with an unidentifiable (i.e. brand-new) referent. In example (12), the NP$_2$ argument *yanzheng ting* 'pilot airship' is a brand-new referent to the addressee; however, the word *ting* 'airship' functions as an anchor and links *yanzheng ting* to the aforementioned *pingliuceng fei-ting* 'stratosphere airship' and *Stratstar fei-ting* 'Strastar airship'. From this anchoring relationship, although what *yanzheng ting* exactly refers to is still unknown to the addressee at the time of utterance, he would interpret it as some specific type of stratosphere airship.

Brand-new anchored
(12) a. ATG 公司是从事平流层飞艇研发较早的单位，
ATG gongsi   shi congshi pingliuceng feiting yanfa   jiao   zao
ATG company is undertake stratosphere airship research quite early

de   danwei,
DE   company

'ATG is the company that has undertook the research and development of stratosphere airship from quite early on.'

   b. 研发的 Stratstar 飞艇已完成概念设计，
yanfa   de Stratstar feiting, yi   wancheng gainian sheji,
develop DE Strastar airship already finish   concept design
'They have finished the concept design of the Strastar airship.'

   c. 2002 年进行了验证艇低空试飞，
2002 nian jinxing-le yanzheng ting   di   kong   shi fei,
2002 year LV- ASP pilot   airship low altitude trial fly
'In 2002, they carried out the trail-fly of the pilot airship at a low altitude.'

   d. 现正与马来西亚合作研制平流层目标艇。
xian zheng yu   malaixiya hezuo   yanzhi pingliuceng mubiao ting
now doing with Malaysia coorperation develop stratosphere target   airship
'They are now working with Malaysia to develop the stratosphere target airship.'
[ToRCH 2009]

The least identifiable referents are brand new unanchored items, wherein no anchor can be found in discourse, such as *xianlan* 'cable' in (13). As revealed from corpus data, a brand-new unanchored item is more likely to occur in a double object non-canonical LVC.

Brand-new unanchored

(13) 贝当古研究并购买所有他需要的家庭影院设备并在一切安装开始之前进行线
路铺设。

Beidanggu yanjiu   bing goumai suoyou ta xuyao de   jiating yingyuan
Beidanggu research and buy   all   he need   DE   family cinema

*shebei   bing zai yiqie   anzhuang kaishi zhiqian jinxing **xianlan** pushe.*
facilities and at   everything install   start   before LV   cable   lay

'Beidanggu researched and bought all the facilities he needed for the home cinema, and carried out cable-laying before any installation started.' [ToRCH 2009]

In the last two unidentifiable cases, because both the NP$_2$ referent and the action nominal are asserted in the proposition, the focus in the double-object DO LVC (i.e. LV+ NP$_2$+AN) lies in the constituents after the LV. From the above illustration, a generalization can be drawn: it seems that the more identifiable an NP$_2$ referent is, the more likely it will occur in the canonical oblique construction.

4.2. The GIVE group

The syntactic realisation of GIVE group LVCs also seems to be influenced by identifiability of the NP$_2$ referent, as revealed from the corpus. However, different from the DO group which follows a unified pattern of argument realisations as generalised at the very end of §4.1, the syntactic choices of the GIVE group appear rather random. As shown in Table 2, apart from the similar realisation of an elided NP$_2$ argument in a canonical construction in both groups of LVCs, the non-canonical construction tends to occur with a more identifiable undergoer argument (such as pronominal and nominal anaphora) in GIVE LVCs, whereas the least identifiable NP$_2$ (i.e. brand-new unanchored items) is inclined to be realised in a canonical oblique construction. The comparison in (14) and (15) illustrates this point.

Pronominal anaphora

(14) a. 他轻轻摇了摇头，开始在心里责备自己，真不应该胡思乱想，自己已经很
幸福了。

Ta$_i$ qingqing yao le   yao   tou, kaishi zai xinli zebei ziji,
she lightly   shake ASP shake head start   in   heart blame herself

zhen   bu yinggai husiluanxiang   ziji jiying hen xingfu   le.
really not should have.foolish.fantacies self already so   happy   ASP

'She shook her head lightly, and started to blame herself. I really shouldn't have those foolish fantasies. I've been so happy in life already.

b. 丈夫是个好男人，他在生活上给予了她无微不至的照顾。

Zhangfu shi ge hao nanren, ta zai shenghuo shang jiyu le   ta$_i$.
husband is CL good man,   he at life   on   LV ASP her

*wuweibuzhide **zhaogu***
meticulous   care

'Her husband is a good man. He's given her meticulous care in life.' [ToRCH 2009]

Unanchored brand-new

(15) 而那些注重研发投入，注重新产品新技术开发，注重品牌打造，以核心技术
     占领市场，对客户需求给予高度关注的企业，始终牢牢地掌握着市场的主
     动权，要么很快就走出了危机，要么受危机的影响非常有限。

Er   naxie zhuzhong   yanfa   touru,
but those attach.importance.to research.development investment,

zhuzhong   xin chanpin xin jishu   kafa,   zhuzhong
attach.importance new product new technique development, attach.importance

*pinpai dazao, yi   hexin jishu   zhanling shichang, dui **kehu**   **xuqiu***
brand build   with core technique occupy   market   to customer need

jiyu gaodu guanzhu de   qiye,   shizhong   laolao zhangwo-zhe shichang
LV high   attention DE company throughout   firmly grasp-ASP   market

de zhudongquan yaome henkuai zouchu-le   weiji, yaome   shou
DE initiation   either quickly walk.out-ASP crisis either   suffer.from

weiji de   yingxiang feichang youxian.
crisis DE   influence very   limited

'For those companies that attach importance to investment in research and development, to the development of new technology, and to the building of the brand, and those who **pay high attention to customers' needs**, they firmly hold the initiation of the market in their hands; they either walk out of the economic crisis very quickly or have very limited suffering from the crisis.' [ToRCH 2009]

The NP$_2$ argument in (14b) is realised as the pronoun *ta* 'her', which is already activated, in a double-object construction. As such, the focus expression in this sentence is the sentence-final action nominal *wuweibuzhide zhaogu* 'meticulous care'. On the contrary, the NP$_2$ argument *kehu xuqiu* 'customers' needs' in (15) is unidentifiable to the addressee from the given context, and, in GIVE LVCs, such referent is inclined to be encoded in the canonical oblique construction. It seems so far that the NP$_2$ identifiability has distinct effects on the choice of syntactic realisations in DO and GIVE groups.

4.3. Discussion
The following Figure 3 summarises the constraints of identifiability of the NP$_2$ argument on the syntactic alternations in the DO and GIVE LVCs.

Specifically, as we mentioned in passing, in the DO group, the more identifiable the NP$_2$ referent is, the more likely it will occur in the canonical oblique LVC (i.e. construction (I) in Figure 3); however, in the GIVE group, the most (i.e. zero anaphora) and least identifiable (i.e. brand-new unanchored or brand-new anchored) referents tend to occur in the canonical oblique construction, whereas the referents with a medium degree of identifiability tend to be realised in the double object construction (i.e. LV+ NP$_2$+ AN, referred to as construction (II) in Figure 3).
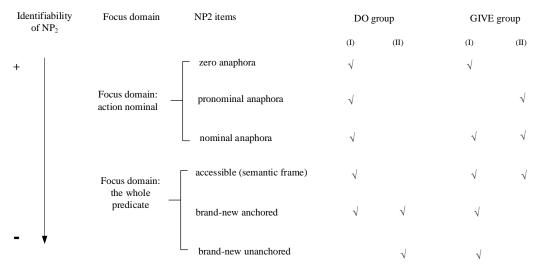
Identifiability of NP$_2$	Focus domain	NP2 items	DO group		GIVE group	
			(I)	(II)	(I)	(II)
+	Focus domain: action nominal	zero anaphora	√		√	
		pronominal anaphora	√			√
		nominal anaphora	√		√	√
	Focus domain: the whole predicate	accessible (semantic frame)	√		√	√
		brand-new anchored	√	√	√	
−		brand-new unanchored		√	√	

Figure 3: The constraints of the identifiability of the NP$_2$ on the syntactic realisation of DO and GIVE LVCs

While it appears that identifiability has different constraints in both groups of LVs, this study nevertheless claims that the two groups follow the same constraint imposed by the identifiability scale: the more identifiable the NP$_2$ referent is, the more likely it would be realised in the canonical oblique construction, even if this constraint is in conflict with the identifiability information which is already encoded in the GIVE double-object LVCs. That is to say, the specific identifiability requirement of NP arguments in the already-existing double-object GIVE LVCs, which are inherited from independent GIVE constructions, is not compatible with the general impact of identifiability on the syntactic realisation of LVCs (i.e. the more identifiable the NP$_2$ referent is, the more likely it is that it will be realised in the canonical oblique construction). In what follows, I will employ the metaphorical link (see Goldberg 1995; Trousdale 2013, among many others) to analyse the relation between GIVE independent verb constructions (IVCs for short) and LVCs.

In my study, following Goldberg's (1995) Construction Grammar, a construction is viewed as form-meaning pairing, that is, the form side of the construction, including phonological, morphological and syntactic properties, is linked with the meaning side, which includes semantic, pragmatic and discourse meanings, via a symbolic correspondence link, and the pairing of the two parts comes into being a construction. Form- or meaning- relevant constructions are assumed to have some associations in a network. As argued in Goldberg (1995: 67), 'if construction A is related to construction B syntactically, then the system of construction A is motivated to the degree that it is related to construction B semantically. Such motivation is maximized.' Put in another way, motivation can be used to explain why formally similar constructions are also semantically similar. In her model, there are four types of inheritance relations that can be used to capture the syntactic and semantic motivational relations among constructions: polysemy link, subpart link, metaphorical extension, and finally instance link. Due to space constraints, I will only introduce the tenet of metaphorical inheritance, which is directly related to the current study. Metaphorical extension involves a metaphorical mapping between two related constructions. For instance, to capture the relation between caused-motion constructions, such as *Lucy kicked the ball out of the room,* and resultative constructions such as *Lucy kicked the ball flat*, Goldberg (1995) posits that their relation can be understood as "change of state as change of location". This shows that the second construction develops as a metaphorical extension of the former. This idea has been developed further in many studies (e.g. Huang and Chang 1996; Stefanowitsch and Gries 2003; Trousdale 2013; Petré 2015, to name but a few). In this section, also following the

grammaticalisation of LVCs in §1, I will show that pragmatic, together with semantic, properties can be passed down from the IVC to LVCs too. Consider the question-answer pair in an independent verb construction, shown in (16).

(16) **Independent GIVE construction**

a. *Ni   gei-le   Mike   [shenme]*_{FOC}?
you   give-PERF   Mike   what?
'[What]_{FOC} did you give Mike?'

b. *Wo   gei-le   ta   yi-ben   shu.*
I   give-PERF   him   one-CL   book
                        recipient   theme [genuine nominal]
                        identifiable
                        SEC.TOPIC   **focus**
                                                        [double-object realisation]
'I gave him a book.'

In a typical double-object GIVE IVC, the sentence-final constituent, that is the theme argument, tends to be the focus in Mandarin Chinese. The truth-conditionally equivalent oblique GIVE IVC in (17) is however not an appropriate answer to (16a).

(17) *Wo ba   yi-ben shu   gei-le   ta.*
I   OM   one-CL book   give-PERF   him
'I gave a book to him.'

This is firstly because the NP following *ba* (namely, the object marker, glossed as OM in example 17), although being an unidentifiable referent in this example, is more often than not, realised as an identifiable referent. In Jing-Schmidt's (2005: 182-183) study, the NP marked by *ba*, which will be referred to as *ba*-NP, is by and large high in familiarity degree (roughly the same as the identifiability scale adopted in my study): from the 304 *ba*-constructions found in the corpus consisting of Lao She's novel *Si Shi Tong Tang* 'Four Generations under One Roof' (published in 1945), 233 (76.6%) of the NP marked by *ba* is evoked, which can be roughly referred to as 'active' in my study. The second most frequently used degree of familiarity of the *ba*-NP is inferable (token: 48; percentage: 15.8%), meaning 'a discourse entity that can be inferred by the hearer by the knowledge and reasoning on account of what is already given', which can be understood as the 'accessible referent' in my study. The two unidentifiable referents, that is, the brand-new anchored and brand-new unanchored, only account for 5.9% (token: 18) in her corpus. This shows that the preposed *ba*-NP largely prefers to take an NP that stands high in the identifiability scale. The findings from her corpus also show that in the *ba*-construction, the subject has an even higher degree of identifiability than the *ba*-NP (97.7% of the subjects are evoked referents). Following this, Jing-Schmidt further proposes that the verbal phrase after the *ba*-NP, more often than not, shoulders the weight of pragmatic assertion, that is, the sentence-final verb phrase typically contains the most informative part in the construction. In other words, the focus domain lies in the verb phrase in the *ba*-construction.

As such, a more typical question-answer pair involving *ba*-GIVE construction would be (18), wherein the *ba*-NP realised by an identifiable referent is the (secondary) topic, and the focus, which is unrecoverable from the context, is the sentence-final verb phrase *geile make* 'gave Mike'.

(18) a. *Ni   zenme chuli   na-ben   shu   le?*
      you   how   deal   that-CL   book   SFP
      'How did you deal with that book?'

    b. *Wo   ba   na-ben   shu   gei-le   Mike.*
      I   OM   that-CL   book   give-PERF   Mike
      'I gave that book to Mike.'

In light of the inheritance relation between a GIVE independent verb and a light verb, the semantic-pragmatic information encoded in the GIVE IVC is believed to be passed down to the LVC in Mandarin Chinese. That is, the undergoer argument is likely to be realised by an identifiable referent, and the action nominal is the focus in the double-object GIVE LVCs, see (19). The metaphorical inheritance relation is illustrated in Figure 4.

(19) **GIVE double-object LVC**
    Ta   zai shenghuo shang jiyu-le   ta   wuweibuzhide zhaogu.
    he   at life   on   LV-ASP   her   meticulous   care
    agent   recipient   theme [action nominal]
                                              identifiable
    primary topic   sec. topic   **focus**
    'He looked after her meticulously in life.' [ToRCH 2009]

However, the above 'interference' from the IVC does not take place in the DO group LVCs, simply because there is no such alternation between oblique and double-object realisations in DO IVCs. For example, as an independent verb, *jinxing*, composed of *jin* 'arrive' and *xing* 'walk', denotes the meaning of 'motion' until Pre-Modern Chinese (Diao 2004: 193-194), and subcategorises a single argument, i.e. the actor. This suggests that *jinxing*, unlike *jiyu* which has two different ways to realise its three arguments in an IVC, does not have syntactic variants historically. It is thus not surprising to find that there is no constraint imposed by the DO-IVCs on the identifiability and information structure of the DO-LVCs, especially in regard to the undergoer argument.

As posited among constructional grammarians, language change, instead of arising overnight, actually evolves in an incremental way, whereby new constructions build upon the erstwhile ones (see Bybee 2010, 2015, among many others). The syntactic realisation of both groups of LVCs further demonstrates that not only syntactic and semantic information (such as the double-object syntactic realisation in GIVE-LVCs) can be inherited, but also pragmatic information such as the domain of topic and focus can be passed down and function as an underlying principle to condition syntactic realisations in the later form-meaning development of a construction. This, to some extent, also supports Petré's (2015: 33) claim that 'not only do yesterday's pragmatics and text structure determine today's semantics, they also determine today's grammar'.
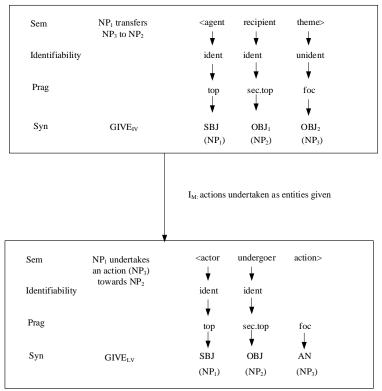
Figure 4: The inheritance of indeitifiablity and topic/focus information in GIVE-LVCs

While the argument realisations of LVCs from the ToRCH 2009 corpus occurring in a neutral context are generalised as above, those patterns, broadly speaking, can only be seen as a (strong) tendency or preference. This is because the identifiability of the NP_2 constituent is not the sole constraint on argument realisation in LVCs. Some overlapping situations concerning the distribution of syntactic patterns can be found in the above figure, such as the realisation of an anchored brand-new NP_2 argument in DO group and the realisation of the NP_2 argument which is a nominal anaphora or an accessible referent in the GIVE group.

5. Conclusion

It is generally acknowledged in literature that the syntactic realisations of Mandarin LVCs are pragmatically motivated. However, in contrast to previous studies, which confusingly maintain that the focus in LVCs is the action nominal, the oblique object, or both (i.e. two foci), this study proposes that Mandarin LVCs do not inherently have a fixed slot to encode focus information; rather, the focus domain of LVCs differs according to the identifiability of the NP_2 referent, and the syntactic alternation of LVCs is also constrained by the identifiability of the NP_2 argument. Specifically, the more identifiable an undergoer argument is, the more likely it is that it will be realised in the canonical oblique construction. Following this, a less identifiable undergoer argument would be inclined to occur in the non-canonical construction. Surprisingly, however, in terms of the GIVE group, the non-canonical construction tends to be used with an active NP_2 argument. In light of the inheritance relation between related constructions and the grammaticalisation path of LVCs, I argue that this 'unusual' property of the GIVE LVCs can be explained by the historical information of GIVE as an independent verb: that is, the topic/focus information is inherited from the already-existing double object construction of GIVE as an independent verb, in which the recipient argument pragmatically functions as the secondary (identifiable) topic, whereas such a construction is not existent in the independent DO construction. This study, with data from

Mandarin LVCs, investigates the interplay between lexical semantics, syntactic realisations and pragmatic motivations, which concern, specifically speaking, the influence of identifiability of an argument on the formal realisation and pragmatic structuring of the construction. Other factors beyond the property of identifiability or even beyond information structure may influence the final realisation of LVCs in both groups. In my future work, I will discuss the constraints of the (non-)realisation of the NP$_2$ argument on the final realisation of LVCs from the perspective of the verbal subcategorisation of the action nominal.

Abbreviations
ASP: aspect marker; CL: classifier; DE: pre-nominal modification marker; OM: object marker; PERF: perfective marker; SEC.TOPIC: secondary topic; SFP: sentence final particle

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