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# Word order and sentence structure in Mandarin Chinese: new perspectives

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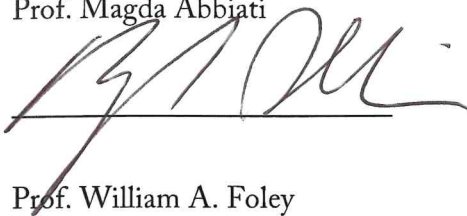
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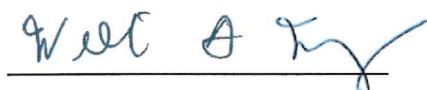**Academic Year**
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*The limits of my language are the limits of my world.*

— Ludwig Wittgenstein

To J. C.

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# Abstract

Word order (WO) is one of the most fascinating and investigated topics in Mandarin Chinese (MC) linguistics, and many accounts have been proposed on different WO patterns and constructions. However, despite the large amount of research, several WO related issues remain rather controversial. Crucially, no unified consensus exists on the relationship between WO and the different dimensions of the language (i.e. semantics, syntax and pragmatics), and on how these levels interact with each other. The present thesis's aim is twofold: (1) identify the categories that are useful to account for WO patterns and variations in MC; (2) examine in greater depth the syntactic, semantic and pragmatic factors that influence word order in MC, as well as how they interact and impose constraints on possible WO variations. The novelty of the approach lies on three aspects: (i) a typological, comparative perspective that benefits from cross-linguistic investigation of WO phenomena in other languages; (ii) a bottom up approach that employs cross-linguistically validated typological tools (e.g., GR tests, or constituenthood tests) aimed at conducting the analysis on a language-internal basis, and (iii) an empirical approach: the analysis avails itself of natural linguistic data, mainly drawn from corpora, and relies on acceptability checks with native speakers. Overall, the thesis highlights that WO patterns and constructions are determined by the interplay of different factors and constraints. It also highlights that, for the sake of clarity and ambiguity avoidance, WO constraints are hierarchically organized, and WO freezing phenomena occur to allow disambiguation of participants in the described event.

# Abbreviations

The present thesis employs the Leipzig Glossing Rules for text glossing and abbreviations (available at https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf). Abbreviations include:

ARG     argument

ABS     absolutive case

BA      把 *ba* marker

BEI     被 *bei* marker

C       comment

CD      commuicative dynamism

CHG     sentence-final modal particle 了 *le*

CL      classifier

DE      modification marker (的 *de*: noun modifier, 地 *de*: verb modifier or 得 *de*: complement marker)

DET     determiner

EXP     experiential aspect

FUT     future

MOD     modal particles

NUM     numeral

NP      nominal phrase

NPST    non past

NUM     numeral

QNT     quantifier

Q       question particle

PASS    passive

PFV     perfective aspect marker 了 *le*

PROG    （正）在 *(zhèng) zài* progressive aspect marker

PST     past tense marker

Q       吗 *ma* interrogative particle

REL     relative clause

SM      subject marker

T       topic

TM      topic marker

V       verb

# 1. Introduction

Word order is one of the most fundamental aspects of grammar: it can be described as referring to the temporal or linear sequence of words in an utterance/sentence and is the necessary outcome of one of the universal design features of all languages, namely linearity. To convey a message, speakers can only utter one linguistic element at a time, and each element precedes and follows another. In every language, word order allows speakers to specify the relations among states and events, as well as their participants and settings. Nonetheless, languages may differ regarding the extent to which they rely on surface order in the encoding of meaning, as well as to the range of permissible orders they exhibit: in this respect, Mandarin Chinese[1] (henceforth MC) constitutes a rather interesting case.

Word order is one of the most fascinating and investigated topics in MC linguistics: over the past decades, it has captivated the interest of linguists working within different theoretical frameworks and has posed several challenges for existing linguistic theories. The crucial role word order plays in MC information encoding is captured by the following renowned quote by Chao Yuen-ren in *A Grammar of Spoken Chinese*:

> It is often said that all Chinese grammar is syntax, all Chinese syntax is word order, and therefore all Chinese grammar is word order (Chao 1968: 260).

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[1] In the present thesis, the term Mandarin Chinese (MC) refers to the standard language of the RPC, called 普通话 *pǔtōnghuà* 'common language.' It refers to a formal, educated variety of the Beijing dialect, and belongs to the Mandarin group of Chinese languages (Sinitic family, see Chappell et al. 2007 for further discussion).

The role played by word order in the grammar is to a significant extent due to the isolating nature of the language, which relies very little on inflectional or derivational morphology to encode linguistic information. It is a general cross-linguistic tendency for word order to contribute signalling the role of the participants in the described in a sentence, as "word order is one of the primary devices languages offer speakers to express who does what to whom" (Gershkoff-Stowe and Goldin-Meadow 2002:377). However, while inflectional languages also rely on morpho-syntactic markers (e.g., agreement or case marking) to single out the role of event participants, MC relies almost uniquely on the relative order between the verb(s)/predicative element(s) and their arguments, as well as on the intrinsic semantic features (selectional restrictions) of the verb. Additionally, the sequence of elements in the MC sentence contributes to encoding cognitive/information status of referents (in terms of topicality, givenness, definiteness, aboutness, in the sense of Chafe 1976), the temporal settings and sequence of the described events and states, as well as other types of linguistic information. In short, MC is "one of those languages that rely heavily on word order as an underlying marking feature for meaning" (Ho 1993:138). Furthermore, MC word order displays several features that have posed a challenge to linguistic accounts based on, for example, the Greenbergian tradition of word order universal tendencies (Chappell et al. 2007), as briefly discussed in the next section. Finally, a number of topic-comment related phenomena, including so-called Chinese-style topics, hanging topics, double nominatives, pseudo-passives, disposal constructions etc., have captivated the attention of scholars for decades, and were initially argued to be peculiar to MC. As a result, MC has been described as an example of a topic-prominent language, or as a language where syntax plays a less relevant role as compared to discourse in determining the structure of the sentence. In Huang's words, "the unusual character of word order in Chinese has [...] contributed to a continuing debate on the 'true' nature of word order in Chinese dating from the 1970s" (2013:84).

In the past decades, a considerable amount of research was conducted to determine the nature and the restrictions of word order related phenomena, resulting in a rich and voluminous body of literature on the topic. Among the most investigated constructions are instances of underspecification of arguments (pseudo-passives, equi-NP deletion, zero anaphors and topic chains), argument alternations and inversions (topicalisations, BA and BEI constructions,

locative inversions), patterns that encode the information structure of linguistic elements (topic-comment structures, hanging topics, double nominatives and other word order permutations), and so-called conceptual principles (e.g., the principle of temporal sequence, and the whole-before-part principle, among others). However, despite the large amount of research, several word order related issues remain rather controversial: such issues will be briefly presented in the next section. Furthermore, as will be highlighted throughout the present work, accounts of the same phenomenon proposed by different scholars often diverge significantly, and some suffer from biases connected to theory- or framework- internal assumptions, [2] and do not consider research results from large-scale cross-linguistic typological research conducted on typologically different languages, often referred to as 'exotic languages'. Crucially, no unified consensus exists as to the relationship between word order in MC and the different dimensions of the language (i.e., semantics–argument structure, syntax–constituent structure, pragmatics-information structure). Specifically, no systematic and comprehensive analysis has yet been proposed with respect to how these levels interact with each other, what restrictions each level displays, and what hierarchy holds between such restrictions: in short, how each part of the grammar contributes to determining the choice of word order patterns and constructions and hence the final sequences of elements in the sentence.

The present thesis aims at providing a fresh look at word order permutations in Mandarin Chinese by exploring all above-mentioned dimensions and how they interact (Siewierska 1988:29), with the aim of providing a more complete and coherent account of word order phenomena. Specifically, it explores the four possible modalities that determine the final sequence of elements in the sentence, namely grammatical relations, constituent structure, argument structure, and information structure, as well as how these modalities interact and impose constraints on possible word order permutations. It does so by providing a new perspective to word order investigation; the novelty of the approach lies on three aspects: (i) a

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[2] For a review of inadequacies of accounts proposed within the main theoretical frameworks with respect to control, coreference, zero anaphora, and reflexives in MC, see, for example, Huang (1994).

typological, comparative perspective that benefits from cross-linguistic investigation of WO phenomena in other languages; (ii) a bottom up approach that adopts cross-linguistically validated typological tools (e.g., grammatical relations-sensitive tests, or constituenthood tests) aimed at conducting the analysis on a language-internal basis, and (iii) an empirical approach: the analysis avails itself natural linguistic data, mainly drawn from corpora, and relies on acceptability checks with native speakers. The next sections provide a more detailed outline of the surrounding literature, the research objectives and methodology of the present work, as well as its limitations. Investigating word order in MC is a difficult task, not for a lack of research on the topic, but for exactly the opposite reason. MC word order has been a topic of major research for linguists for decades. It is impossible to do justice to the wealth of studies on this matter, and therefore much pertinent work will be left unmentioned.

## 1.1.     Overview and research objectives

As briefly outlined above, the present thesis looks at word order permutations in Mandarin Chinese and seeks to determine (1) how and in what terms word order can be described, and (2) how different components of linguistic organisation determine the final sequence of constituents in a MC utterance/sentence, as well as how these components interact in determining the availability of different word order patterns and constructions. This section clarifies the motivations underlying these research questions by providing a brief overview of the literature to date and highlighting several controversies and issues with existing accounts of MC word order.

In order to effectively account for the sequence of elements and their arrangement in the sentence, an adequate set of categories and notions needs to be adopted, which capture how, and at which level, a specific word order permutation is motivated. In the literature, MC is often described with notions pertaining to different levels of linguistic organisation, including (i) subject and object (as an SVO language); (ii) topic and comment (as a topic-prominent or discourse-oriented language); and (iii) iconic principles (of temporal sequence, scope etc.). The following subsections briefly present the most salient aspects and issues of such accounts.

**(i) MC as an SVO language.** In line with the Greenbergian tradition[3] of word order correlations, Mandarin Chinese is most often described with respect to the relative order of the notions of subject and object, i.e. in terms of grammatical relations (GRs). Specifically, the most widely accepted description among linguists is that the unmarked order in MC is SVO.[4] The characterisation of MC as SVO captures numerous regularities that can be observed in the language. The MC equivalent of an English transitive clause like (1) presents the same sequence of words as an English standard transitive SVO sentence (adapted from Paul 2015:21):

1. 'She has cleaned the room.'

   他　　打扫　房子　了。

   tā　　dǎsǎo　fángzi　le

   3SG　　sweep　room　CHG[5]

However, many scholars have noted that a characterisation of MC in Greenbergian terms as an SVO language poses several problems, which we summarise below.

(i.i) The first inconsistency is observed in relation to Greenberg's typology of word order correlates. Such correlates postulate word order regularities with respect to the basic transitive sentence order: if a language is SVO, it also displays head-initial structures like auxiliary - verb, preposition - NP, noun - relative clause, verb – adverb, intensifier – adjective, and so on.

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[3] Greenberg (1966) proposed a typology based on the relative order of the subject, object and verb, resulting in a six-way division of languages into: SVO, SOV, VSO, OVS, VOS and OSV, and identified a number of sub-regularities "which are taken to warrant expression in the concept of the 'word order type'". (Siewierska 1988:8)

[4] A debate is found in the literature with respect to the proposal of a historical shift of MC towards an SOV language, although most scholars now agree on SVO as being the basic, unmarked word order in MC (for discussion see, for example, Paul 2015, Ch. 2, or Chappell et al. 2007).

[5] This thesis differentiates between the postverbal aspectual marker 了 *le* (PFV) and the sentence-final particle 了 *le* (CHG). The perfective aspect particle 了 *le* marks the perfective state of an action, indicating that the action is completed, and is placed immediately after the verb. The sentence-final particle 了 *le*, on the other hand, is used "to affirm the message and make the listener aware of its importance or relevance to the immediate situation" (Yip Po-Ching and Don Rimmington 2004:318) and to "acknowledge some change in the picture of things" (Tong and Pollard 1982:142). For a critical analysis of the two different *le*s, we refer the reader to Chappell (1988) or Sun (1996).

However, Standard Mandarin and other Sinitic languages "present a perplexing case for syntactic typology since they display in general head-final characteristics for their NP structure but a mixture of head-initial and head-final ordering for their VPs" (Chappell et al. 2007:2). This issue has been extensively discussed in the literature: this thesis does not engage with this topic: it only reports the table adapted from Chappell et al. (2007) summarizing the inconsistences displayed by Standard Mandarin with respect to the Greenbergian word order correlates, referring the reader to Chappell et al. (2007) for discussion.

**Table 1.1 - Mandarin as a typologically hybrid language (adapted from Chappell et al. 2007)**

| Head-final structures consonant with SOV order | Head-initial structures consonant with SVO order |
|---|---|
| Adjective – Noun | Verb – Object |
| Numeral – Classifier – Noun | Auxiliary – Verb |
| Demonstrative – Classifier – Noun | Verb – Modifying adverbial complements of manner, result and degree |
| Relative Clause – Noun | Preposition – NP |
| Genitive – Noun | Complementiser – S |
| Adverb – Verb | |
| Intensifier – Adjective | |
| Standard of comparison – Adjective | |
| Prepositional Phrase – Verb | (When compatible with a resultative meaning) Verb – Prepositional Phrase (e.g. gei 'give') |

In short, MC and other Sinitic languages "pose somewhat of a challenge: they do not conform to either of the two main alignments, as Dryer (2003), among others, has observed" (Chappell et al. 2007:2).

(i.ii) The second issue relates to an assumption underlying the above account, i.e. that linearisation is expressed in terms of grammatical (syntactic) relations such as subject and object. However, grammatical relations (henceforth GRs) in Mandarin have been a topic of heated debate in the last decades of the past century, partly due to the absence of overt GR-

specific morphological markers (e.g., case marking or agreement). Although many scholars have dealt with this issue, the question of the definition of a grammatical notion like subject remains unclear, and scholars hold divergent—and sometimes opposite, views (see for example LaPolla 1990, 1993 and Bisang 2006). Meanwhile, typological studies on a variety of previously under-described languages have shed new light on the status and role of GRs crosslinguistically, highlighting a language-specific and even construction-specific nature of GRs (see Bickel 2010 and Witzlack-Makarevich and Bickel 2013). These findings provide a new perspectives and approaches to the issue of GRs in MC, which can explain the terms of the debate and the different accounts of GRs proposed by different scholars. The issue of GRs in MC is the topic of Chapter 2.

(i.iii) MC sentence structure is often regarded as having a constituent structure similar to that of English, namely comprising NPs – noun phrases, in some recent development of the minimalist framework also referred to as DPs, and VPs – verb phrases, i.e., constituents comprising the verb and the inner object(s). This account can be expressed by the following representation, as well as by the features of what Lambrecht (1987) calls SVO sentences.

2. Traditional constituent structure representation of the basic sentence structure.
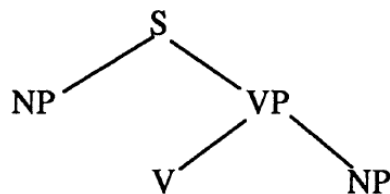


3. Lambrecht (1987) features of SVO sentences:
   a. A transitive clause with at least two arguments involved/expressed;
   b. Within the unit, phrasal structures are construed as dependents of (or dominated by) a larger structure—the sentence;
   c. The unity held among constituents exists only between the verb and its objects, as indicated by the VP (V NP) complex.

However, constituenthood tests reveal that the evidence for the existence of a VP in many languages of the world is rather weak (Bresnan 2015). Moreover, corpus analysis on MC

conversation (Tao and Thompson 1994, Tao 1996) reveals that contrary to the notion that the basic syntactic structure of a sentence comprises of an NP and a VP (as in the representation above), a Mandarin sentence in spoken discourse displays different constituent patterns. According to Tao (1996), the most frequently occurring structure is X+V, where X is a nominal/referential expression; among this structure type, in 42% of the cases X is a patient/undergoer/theme argument (what would be described as OV pattern). Moreover, corpus data show that "while transitives tend to reduce the number of arguments that are fully specified, the majority of non-transitives sustain the lexical coding of the one argument associated with them" (Tao 1996:19). Similar statistical data on PAS (Preferred Argument Structure) in MC are observed in narrative texts (see corpus research conducted by Lin 2009): clauses with zero or one lexical argument are common, whereas clauses with two lexical arguments are rare: "higher occurrences of one lexical arguments are observed in transitive clauses and more zero lexical arguments are used in intransitive clauses across the three genres" (i.e., conversation, narrative, and written text). Specifically, in written texts, 72.7% of the transitive clauses have one lexical argument, while 15.9% of them do not contain any lexical arguments and only 11% have two lexical arguments; on the other hand, 74.4% of the intransitive clauses have zero lexical arguments, while 25.6% of them contain one lexical argument and none have two lexical arguments.

> Comparing [2] with the major speech units (…), we can see immediately that there are profound differences between the conceived syntactic units and actual speech patterns. First of all, the idealized syntactic template, SVO, rarely appears in natural discourse. As we have seen, full clauses with a transitive verb account for less than 3.2% of all the intonation units in our data, and this includes both high transitivity and low transitivity (non-canonical, for most grammarians) clauses. If non-full clauses are considered to be performance variations or even errors, as followers of the competence-performance dichotomy might argue, we would encounter a situation where the overwhelming majority of speech units are non-standard and have little to do with what grammarians are describing in theory. Evidently, the call for a syntactic framework which would enable the description of a language a little bit closer to natural data is justified. (Tao 1996:180)

In other words, statistical corpus data suggest that the verb might establish similar relationships with all its arguments, while the most frequent pattern is X-V, where X is one

of the verbs' arguments. On the other hand, the representation in (2) involves a closer relationship between the verb and its inner argument(s) than to its outer argument (i.e. the subject of the sentence). To sum up, the constituent structure of MC, although most often taken to parallel that of English, calls for a more-in-depth analysis. This is the focus of Chapter 3.

(i.iv) Lastly, as Siewierska (1988:8) notes, the Greenbergian typological word order evaluation involves "linearization patterns representing what is commonly referred to as the 'basic order' [… which] is typically identified with the order that occurs in stylistically neutral, independent, indicative clauses with full noun phrase (NP) participants, where the subject is definite, agentive, and human, the object is a definite semantic patient, and the verb represents an action, not a state or an event". In other words, linearisation patterns refer to prototypical transitive clauses in the sense of Hopper and Thompson (1980) just like (1). She further notes that "basic order" is often equated with "dominant order" and implies *statistical prevalence*. However, as mentioned above, statistical data from corpus studies on dominant orders in MC reveal a different picture. The statistical relevance of high transitivity actor-action sentences was first challenged by Chao (1968:70), who claimed that "in Chinese, the proportion of applicability of the actor-action meanings is still very low, perhaps not much higher than 50 percent"; in other words, the other 50% of sentences have meaning other than actor and action. Since then, some statistical analyses have been carried out with respect to basic sentence types in MC: as mentioned above, in Tao and Thompson's (1994) corpus study on Modern Chinese spontaneous conversation, single argument clauses accounted for 61% of all sentence types; only 19% are double-argument clauses, and 20% are clauses without any argument. In other words, the Greenbergian SVO pattern accounts for one fifth of clauses in MC conversational data, whereas the majority (61%) of transitive clauses in Mandarin conversations contain only one overt argument, while only 19% transitive clauses have two overt arguments. Similar results are provided in the analysis by Lin (2009) on PAS in narrative texts: she observes that "clauses with zero or one lexical argument are common, whereas clauses with two lexical arguments are rare", regardless of the verb valency (mono- or transitive) and text type (conversation, narrative, or written text, see discussion in section above). Undoubtedly, a description of word order in MC should satisfactorily account for this data. Therefore, the mapping between the argument structure of the verb and the argument

realisation patterns found in the language needs further investigation. Argument structure and argument realisations and alternations are the focus of Chapter 4.

**(ii) MC as a topic-prominent language.** MC is typically quoted as an example of topic-prominent, discourse-oriented, or topic-comment language (see Li 2005, Chapter 3 for discussion), whereby the topic is the first element in the clause and is followed by its comment. In his *Grammar of Spoken Chinese* (1968), Chao stated that all clauses in MC are topic-comment structures (and specifically, that the meaning of subject and predicate in MC is that of topic and comment). In other words, the structure of the clause has two parts: the topic, which points to a specific referent, and the comment, which supplies some information about that referent. Chao (1959) argued that word order is not determined by and does not affect the interpretation of actor vs. non-actor; he saw the clause as analogous to a function in logic: the argument is an argument of the function, and the truth value is unaffected by its position in the clause (1959:254). Lü Shuxiang (1979:72-73) also argued that "subject" and "object" can both be filled by any semantic role and are to a certain extent interchangeable (i.e. they are not syntactically constrained but are more loosely defined notions). Since Li and Thompson's (1976, 1981) typological distinction between subject-prominent and topic-prominent languages, the sentence-initial position in MC has been associated with the notion of topic, and with information structural properties such as givenness, aboutness, definiteness, etc. (Chafe 1976). Scholars have offered very different accounts with respect to how the notion of topic interacts with that of subject and with the basic SVO sentence order: this issue has been the topic of heated debate in the second half of the past century. Most scholars now agree that topics (or at least a sub-portion of them) (i) are base-generated, i.e., are not the result of left-dislocation processes, and (ii) do not need to bear selectional restrictions with respect to the verb/predicative element. However, theories differ with respect to how topic is defined, both in structural and in cognitive (information-structural) terms. Moreover, no clear consensus has been reached with respect to how the information structure component of the language (topichood, givenness, contrastiveness etc.) interfaces with other levels of the grammar. Some scholars regard topic as a sentential element (e.g., Li and Thompson 1981), while others claim it is a discourse notion that can be identified only within portions of text that are bigger than the sentence (e.g., Chu 1999, Li 2005); others define it as a syntactic notion, on par with subject (e.g., Her 1991). Chapter 5 is devoted to

systematically exploring the information structural component of MC grammar, with particular reference to the notions of topic, comment, and focus, as well as the interaction with other types of grammatical constraints.

**(iii) MC as an iconically motivated grammatical system**. Several scholars have identified and investigated some recurrent patterns in the sequence of elements in a MC sentence, which have to do with the temporal or causal sequence or semantic/temporal/spatial scope of elements and events in the sentences. Such regularities are often captured through so-called word order principles (e.g., the principle of temporal sequence and general-preceding-particular). This thesis will not specifically engage with this topic. However, Chapter 5 will present and discuss the tendency of MC to encode the whole before the part, the instantiations of this tendency, its impact on word order constraints, and its interaction with the role of topic as a frame setter.

## 1.2.    Theoretical assumptions

Traditionally, word order is seen as tightly connected with the syntactic level of linguistic organisation. The original meaning of the word syntax comes from the Ancient Greek σύνταξις, *syntaxis*, meaning "putting together in order, arranging"; in Matthews' (1981:1) words, it studies how words "are arranged to show connections of meaning within the sentence". However, as Siewierska (1988:29) observes in her seminal work *Word Order Rules*, "studies reveal that word order is dependent on an array of syntactic, semantic, pragmatic and even phonological factors": understanding word order in a language involves accounting for "the diverse range of factors involved, consider[ing] how they interact with each other, and determin[ing] to what extent this interaction is constant" within a language. In fact, the past decades have witnessed a growing interest in how other dimensions of linguistic organisation determine word order in a language. These include: the *constituent structure* component, with studies on configurational vs. non-configurational languages (see Baker 1997, King 1995); the *argument structure* component, and the available argument realisations and alternations – how arguments map into the final structure of the sentence (see Levin and Rappaport Hovav 2005 for discussion); the *information structure* component,

i.e., how the cognitive status of sentence elements (given vs. new, etc.) determines the position and relative order of elements in the sentence (see Güldemann et al. 2015 for discussion).

Accordingly, this thesis aims to address what factors and functions shape word order in MC, what levels of linguistic organisation they belong to, and how these levels interact with respect to each other. The underlying theoretical assumption for this approach is that grammar is composed of different levels (Danes 1966, Siewierska 1988, Lambrecht 1994), which are interdependent and interrelated. This assumption is at the basis of theoretical approaches like LFG (Lexical Functional Grammar) or RRG (Role and Reference Grammar). Such approaches conceive the structure of the clause as a domain in which the different components of grammar—syntax, morphology, prosody, semantics, and information structure—compete and interact with each other, and are regulated by universal principles and language-specific constraints. This interconnection is well explained by Lambrecht:

> the most promising but perhaps also the most difficult approach to grammatical analysis is one in which the different components of grammar are seen not as hierarchically organized independent subsystems but as interdependent forces competing with each other for the limited coding possibilities offered by the structure of the sentence. I take a linguistic theory of high explanatory value to be one in which these forces are not only analysed in isolation but also in their multiple dependence relations to each other. In such a theory the grammatical structures found in particular languages would then be seen as language-specific manifestations of the interplay between the different components of grammar. (Lambrecht 1994:10-12)

In line with the observations discussed above, the present work examines each of the components of the grammar (semantic—verbs and their argument structure; syntactic—GRs and constituent structure; and pragmatic—topic vs. focus and information structure). Moreover, it investigates the interface between such components, to understand and describe how their interplay shapes the final sequence of words and constituents in the sentence, and what constraints each component applies to word order.

A tightly connected aspect concerns the formalisation of linearisation patterns and constraints within different linguistic frameworks. Theories differ on how and to what extent these constraints and functions of word order are accounted for and deemed to interact with each other within the overall system of the grammar. For example, different frameworks rely on different means to integrate the syntactic structure (SVO order) with the topic-comment structure. As Siewierska (1988:1-2) summarises, in models of grammar which view order as an abstract underlying property of sentences such as Chomsky's Transformational Grammar (TG) and Minimalist Programs, "surface orderings are established via a number of rules: […] ordering is predictable from the properties of words and their grouping relations must stipulate how unordered strings of words are converted into well-formed sentences/utterances". On the other hand, "in models of grammar that adopt a multi-level approach […] the linearisation rules may in principle be distributed over the whole derivation of a sentence, or be confined to one, two or more levels". This thesis will not deal with the problem of formal representation of linearisation rules within different theoretical frameworks, and evaluation of the suitability of different frameworks is beyond the scope of this work. However, some observations will be made in the concluding remarks as to what a linguistic framework should look like to account for MC in light of the analysis in the present thesis. With respect to the formal representation of word order patterns, constituent structure, argument structure, and argument realisations, general representational conventions are adopted; the logical structure of verbs is in turn represented using the Role and Reference Grammar (RRG) conventions.

## 1.3. Methodology and linguistic data

The aim of this study is to investigate each level of the grammar on a strictly language-internal basis, to "capture all of the features of a language without imposing features a language shows no evidence for" (Van Valin and LaPolla 1997:22). The importance of such an approach has received increasing attention by linguists, especially typologists researching typologically diverse languages (sometimes regarded as 'exotic languages'). The underlying shared insight is that, in fact, it is empirical generalisations that result from research on meaning across typologically diverse languages that provide the basis for cross-linguistically

viable theories of meaning. Under this position, adopted in this thesis, one of the desiderata for a cross-linguistically viable theory is that it captures empirical generalisations and the convergence in meaning without assimilating the morphology and syntax of one language to that of another.

> The key challenge for typological metalanguages is that they need to be able to describe structures across languages in an empirically responsible way, i.e. without forcing languages into Procrustean beds. (Bickel 2015:6)

Accordingly, the study adopts a bottom up, typological approach, and avails itself of (i) cross-linguistically validated typological tools (e.g., GR tests, or constituenthood tests), (ii) natural linguistic data – mainly drawn from corpora, and (iii) acceptability checks with native speakers for examples quoted in the literature (online survey). These three components will be briefly presented below.

**Cross-linguistically validated tests.** In line with the approach described above, the present work seeks to motivate the use of linguistic categories and notions based on linguistic evidence. Accordingly, it employs an array of typological tools and tests, which help ground the analysis on a more solid empirical basis and avoid imposing theory-internal assumptions. This is the case in Chapter 2, which employs an array of tests based on GR-sensitive phenomena and constructions to establish what notions are suitable for the description of patterns and constructions in MC, with a specific focus on GRs like that of subject and object. The same approach is adopted in Chapter 3, where standard constituenthood tests are employed to determine the constituent structure in MC and what hierarchical relationships hold among constituents.

**Natural language data.** The analysis avails itself of natural linguistic data of different types, comprising both narrative and conversational texts, and covering different genres and topics. These include:

(i) sentences drawn from corpora of natural linguistic data/dictionaries, such as: (I) the PKU corpus of Modern and Classical Chinese, hosted by the Centre For Chinese Linguistics,

Peking University (http://ccl.pku.edu.cn); (II) Lü Shuxiang's (1980) 现代汉语八百词词典 (800 Words in Contemporary Chinese); (III)in-print and on-line dictionaries.

(ii) Corpora of spontaneous language production. These include: (I) Tao and Thompson's (1994) corpus of spontaneous conversation interaction, i.e., transcriptions of twelve ordinary audio-recorded naturally-occurring interactional conversations among native speakers of Mandarin. Topics include everyday-life experiences, education, traveling (for further details, see Tao 1996:29-30). (II) Ho's (1993) corpus of narrative/expositional text, i.e., transcriptions of interviews with over 20 Mandarin speaking informants. The native speakers comprised of students and teachers, social workers, restaurant workers, and religious personnel among others. The interviews represent a variety of genres and discourse types (i.e., narrative, exposition, and procedural (for further details, see Ho 1993:14-15)).

(iii) Transcriptions of interviews and dialogues collected by the author. These include transcriptions of 7 videos containing interviews of contemporary Chinese artists transcribed by the author (hereafter referred to as ART VIDEO): all artists are MC native speakers from different parts of China and talk about their artistic production and the works displayed in a Chinese art exhibition in 2017 in Vicenza, Italy.

**Acceptability check with native speakers.** When presenting the different phenomena and discussing them against the background of the reference literature, examples used by the various scholars are reported. However, since native speakers perceive many examples in the literature as artificial or created ad hoc, each such example has been checked against their intuition. Specifically, examples quoted in the literature in Chapter 2 have been submitted to a group of 37 MC native speakers. For most sentences, a scale of acceptability was proposed, with a value of acceptability from (1 to 10). Whenever needed, relevant context was provided. The statistical approach adopted in the design of the test captures the variation in acceptability rates among different individuals and with different contexts provided (especially for different word order patterns). This is tightly connected to the role played by context and world knowledge in the interpretation and disambiguation processes by MC native speakers when decoding a message. Different scholars have highlighted the role of context in sentence disambiguation. The impact of context in acceptability judgement was also emphasised by Fan and Kuno (2013:220-4): given the same sentence, "[e]ven the same speaker might judge it sometimes acceptable, and other times marginal or awkward. This

must be due to the differences among speakers in their ability to place the sentence in contexts". This factor is considered when discussing statistical data.

## 1.4.     Structure of the thesis

The present thesis is structured as follows:

Chapter 2 looks at the *grammatical relations* (GRs) component and seeks evidence that justifies their employment in the description of the language. The adopted methodology draws from the typological approach developed by Witzlack-Makarevich and Bickel (2013), which provides a framework to investigate language-specific grammatical relations in various (possibly typologically different) languages. This approach involves the examination of a range of GR-sensitive constructions, which include: relativisation, reflexivisation, passivisation, topic extraction, equi-NP deletion, floating, finiteness, control, and raising.

Chapter 3 examines the *constituent structure* component in MC. By adopting standard constituenthood tests, as discussed in approaches like Siewierska (1988) and Pavey (2010), it seeks to establish whether there is clear-cut evidence for the existence of constituents such as the NP (noun phrase) and the VP (verb phrase). Constituenthood tests employed in the analysis include indivisibility (or uninterruptability), fixed order, replaceability as a whole (or substitution), required elements (or omissibility), movement (or distribution), and coordination.

Chapter 4 explores the *argument structure* component. Specifically, it is devoted to a preliminary investigation of predicating elements (mainly verbs and classes of verbs) and their argument structure, along with how these arguments map into the sentence. Adopting an approach similar to Levin (1993) for English verbs, the chapter presents salient aspects of a preliminary qualitative corpus analysis of a range of verb classes in MC and argument realisation patterns. Specific attention is given to patterns involving aspectual and causal shifts, which typically affect word order. Examined verb classes include: verbs denoting states, conditions and properties, verbs of psychological states, verbs of existence, appearance, and

disappearance, verbs of involuntary activities, verbs of posture, verbs of perception, verbs of motion, verbs of action on objects, verbs of measure, and verbs of change of possession.

Chapter 5 looks at the *information structure* (IS) component of the language, and specifically the possible permutations of the order of elements in the MC sentence. IS notions generally associated to different positions in the sentence, such as that of topic, comment, and focus are critically examined with respect to their definition, function, cognitive and information status, and restrictions. Subsections are devoted to further exploring the semantic relationship between the topic and its comment, and an account is proposed in terms of Pustejovsky's Qualia Structure (1991, 1998). Finally, the interaction between the IS component and other components of the grammar with respect to word order is explored, and an account in terms of word order freezing (Mohanan and Mohanan 1994) is proposed to capture some word order restriction phenomena displayed by MC.

Chapter 6 draws the conclusions for the present study, reviews its limitations and proposes areas for further research.

## 1.5.     Limitations of the study

A very plausible limitation of this study is that its scope is very broad. Mandarin Chinese has been a major case of study for the refinement of theories of grammars and linguistic categories over the past 70 years. It is impossible to do justice to the wealth of the studies on MC grammar, and therefore much pertinent work is left unmentioned. Providing a thorough literature review is a challenging task, given the vast amount of research in the topics this thesis touches upon, including grammatical constructions, topic-comment and information structure, argument realisations and alternations, and constituency. Hence, when confronted with the necessary choice among the various studies with regards to a specific issue, only few of which could be covered given the available space, we chose the more influential and pertinent to the discussion. Further, each chapter is self-contained and examines a specific issue. Thus, a brief literature review is proposed for each chapter, which is specifically relevant

to the topic under discussion. References to other related studies are also mentioned, when relevant.

Moreover, while the focus of the thesis is word order and sentence structure, the present study does not (or does only marginally) engage with phrase-internal order, although it constitutes a very interesting research domain in that it exhibits some features that parallel the structure of the sentence (e.g., the whole-part or frame-setting order that characterises topics – discussed in Chapter 5, can be also observed in NP-internal modifiers, see Kirkpatrick and Xu 2012). In addition, this thesis does not discuss word order with respect to the textual/discourse level, which again is a very interesting research domain, but would require much a wider discussion.

With respect to Chapter 4 on verb argument structure and mapping, the proposed analysis avails itself of very limited data, as compared, for example, to the work done by Levin (1993) on verb classes in English. A thorough, statistically valid analysis would require the examination of a much broader range of verbs and verb classes, as well as a more thorough account of available argument realisations and alternations. While definitely interesting as a research domain, this type of analysis lies beyond the scope of the present thesis and calls for further investigation.

Finally, the encompassing and synthetic perspective adopted in this work constitutes part of its limitations. Because of the broad scope and overall perspective this thesis aims to adopt, the study is unable to cover all arguments with the necessary depth. However, this limitation is in turn seen as the potential of the present work: this thesis aims at laying a basis, highlighting issues and problems with current theories, onto which further research lines can be developed.

# 2. Grammatical Relations

## 2.1. Overview

Traditionally, word order in a language is described with respect to syntactic notions or *grammatical relations* (henceforth GRs), like that of subject and object, which are among the most basic concepts of many models of grammar. As Witzlack-Makarevich and Bickel (2013:1) note, GRs are, either explicitly or implicitly, often regarded as universal, and belong to the fundamental concepts in descriptions of most languages. As mentioned in the introduction, Mandarin Chinese is no exception: in the literature, it is often described in terms of subject and object and classified as an SVO language.[6] This seems to effectively account for a number of patterns and constructions and enables MC to be comparatively investigated with respect to other languages. However, as mentioned in the past chapter, on closer examination, these notions have proven to display descriptional inconsistencies which have been frequently highlighted and debated. As a result, it has been argued that the notion of subject plays a less significant role in Mandarin Chinese grammar compared, for example, to that of topic (Chao 1968; Li and Thompson 1976; Tsao 1979, 1990 and subsequent literature). However, different accounts exist as to how these two notions interact with respect to the final order in the sentence, and to what extent this topic-comment nature of MC impacts its SVO basic order. In short, MC lacks a coherent account of the nature, definition, and role of the grammatical notion of subject.

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[6] This characterisation refers to the Greenbergian tradition of word order correlates, which presents some issues with respect to MC, as briefly discussed in the past chapter (section 1.1).

On the other hand, research on non-Indo-European languages has shown that not all languages share the same grammatical notions, as they may employ different strategies in meaning encoding (Bickel 2010). Subjects in different languages have been shown to display different morphological and syntactic properties (see Keenan 1976). Moreover, over the past three decades the range of syntactic properties that identify GRs in particular languages has greatly expanded. Extensive typological databases and refined statistical methods and tools have allowed large-scale, crosslinguistic research on GRs, their typological distributions, and their properties (with a particular focus on subject properties). As a result, the universality of subject as a crosslinguistic feature of languages has been questioned, and some scholars (including Comrie 1978; Moravcsik 1978; Van Valin 1981, 2005; Croft 2001; Bickel 2010; Witzlack-Makarevich and Bickel 2013; among others) hold the view that "GRs hold in constructions and not in languages" (Bickel 2011:399).

With respect to Mandarin Chinese, despite the significant amount of literature on the notion of subject (especially in comparison to that of topic), the nature of GRs remains rather unclear. Specifically, little attention has been paid to the methodological and theoretical motivations underlying the apparent conflicting evidence displayed by subjecthood tests. No complete systematic analysis of GR-sensitive constructions has been carried out for Mandarin Chinese in light of the latest typological cross-linguistic research on GRs. Moreover, much uncertainty still exists about the relation between the grammatical notion of subject and the semantic notion of agent (or the most prominent argument in the verb's argument structure), and to my knowledge, no viable definition of subject has been provided so far that does not hinge on theory-internal assumptions.

The present study re-examines the long-debated issue of grammatical relations and subjecthood in Mandarin Chinese in light of recent typological research on grammatical relations. Specifically, it seeks to establish whether and to what extent notions like subject and object can be assumed as effective, default notions in the analysis and description of MC sentences. Furthermore, it explores the hypothesis that, just as in several other languages, GRs could be construction-specific. The methodology adopted in this study is that outlined by Bickel (2010) and Witzlack-Makarevich and Bickel (2013) for their cross-linguistic project on GRs, and involves a systematic investigation of a range of GR-sensitive

constructions (or argument selectors), which will be presented in section 2.2. As will be demonstrated throughout the discussion, this approach also sheds light on the motivations underlying the conflicting evidence often pointed out in the literature on GRs and subjecthood in Mandarin Chinese.

The chapter is organised as follows. Section 2.2 introduces the methodological framework for the present investigation, along with the constructions/argument selectors that are cross-linguistically sensitive to GRs. Section 2.3 presents a brief overview of the research on this topic, as well as some of the issues and terms of the debate on subjecthood and grammatical relations in MC, and explains them in light of the approach adopted in the present study. Section 2.4 and its subsections are devoted to discussing potential GR-sensitive constructions in Mandarin Chinese through a detailed examination of linguistic data with respect to each test. The last section summarises the conclusions.

## 2.2.    Methodology

This section briefly presents some major developments in the research on grammatical relations. Such an overview is useful for at least two reasons: First, it provides a different perspective that sheds light on the motivations underlying the debate and the different accounts of subjecthood in MC. Second, it provides a cross-linguistically valid framework to investigate GRs which adopts a typological, language internal perspective.

The term grammatical (or syntactic) relations captures how the arguments of a predicative element, usually a verb, are integrated and mapped into the syntactic structure of the sentence, either as subjects or (direct/indirect) objects. Until the 1970s, overt formal criteria, mainly morphosyntactic markers, were employed as unequivocal tests to detect subjects and GRs. Overt subjecthood tests have traditionally been considered the key identifiers of GRs.

1. Overt subjecthood tests:[7]

    i.   Indexation (agreement) (e.g., Italian, and Spanish);

    ii.  Flagging (case) (e.g., Latin, Russian, and German);

    iii. Verb cross-reference (e.g., Enga, Trans-New Guinea, Papua New Guinea);

However, research on non-Indo-European languages in the 1970s provided compelling evidence against the universal viability of overt morphological criteria to identify grammatical relations, such as in languages exhibiting ergative alignment like Dyirbal (Dixon 1972) or Chukchi (Comrie 1978) and in Philippine-type languages (Schachter 1976). As a result, the inventory of GR tests was extended beyond morphological marking and word order, and comprised an array of 'covert subjecthood tests', also 'called subject-object asymmetry tests', namely syntactic processes, and behavioural properties (see Keenan 1976), also called subject-object asymmetry tests, that can detect GRs in a language. These constructions and processes "are well-known cross-linguistically to be sensitive to specific syntactic categories" (Bisang 2006:333), as they highlight a specific NP that has a privileged status in that construction. If that status cannot be defined in semantic (or in referential/information status) terms, then a syntactic category needs to be posited to describe that construction. Thus, despite the lack of overt morphological properties of subjects in a language, such processes often detect subject-object asymmetries, demonstrating the existence of syntactic categories like subject and object. The basic assumption underlying this approach is that subjecthood can be seen as a prototypical notion (Rosch 1983): subjects in various languages display a greater or smaller set of subject properties, resulting in more or less prototypical subjects (Keenan 1976).

However, in some languages different constructions and tests provided conflicting evidence. In Nepali, for example, agreement and case are assigned to different nominals (see Bickel 2010:400 for discussion). In such cases, the common approach was to pick out one or a small set of particular construction(s) that provided evidence for identifying GRs similar to those in

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[7] Some scholars also include among overt tests fixed word order of nominals with respect to the verb (see Geeraerts and Cuyckens 2007).

Indo-European languages. This approach was criticised as suffering from 'methodological opportunism', employing "language-specific criteria when the general criteria do not exist in the language, or when the general criteria give the 'wrong' results according to one's theory" (Croft 2001:30). The alternative adopted by a number of typologists (Foley and Van Valin 1974, Comrie 1978; Moravcsik 1978; Van Valin 1981, 2005; Croft 2001; Bickel 2010, Witzlack-Makarevich and Bickel 2013, among others) involves treating GRs as construction-specific, looking at all the behavioural and formal properties of GRs in a language "without prioritizing among them". In fact, such properties may not necessarily identify a single set of grammatical relations; instead, "every single construction can, in principle, establish a different grammatical relation" (Witzlack-Makarevich and Bickel 2013:2). The notion of GR is then reconceptualised as "the syntactic relation that an argument bears to a specific construction or rule rather than to the clause in which the argument is realized" (Bickel 2010:401). GRs are equivalence sets of arguments that are treated in the same way by a particular construction—e.g., case, agreement, reflexivisation etc.

> The construction-specific and language-specific view of grammatical relations has become widely accepted in current typology and recent grammatical descriptions tend to provide in-depth accounts of the morphosyntactic constructions defining grammatical relation (e.g., Haspelmath 1993, Nikolaeva and Tolskaya 2001, van de Velde 2006, Genetti 2007). […] And to the extent that constructions are language-specific, this also entails that grammatical relations turn out to be language-specific phenomena (Dryer 1997). (Witzlack-Makarevich and Bickel 2013:2)

In this light, the present work re-examines the issue of grammatical relations and subjecthood in Mandarin Chinese, and does so by adopting the typological, construction-centred approach developed by Witzlack-Makarevich and Bickel (2013) to explore language-specific grammatical relations cross-linguistically. This framework provides a toolkit for comparing GRs across constructions in a single language as well as across languages. According to this approach, GR-sensitive constructions are defined also as 'argument selectors':

> argument selectors refer to any morphosyntactic structure, process, rule, constraint or construction that selects a subset of arguments (and possibly non-arguments) and treats

them differently from other arguments (or non-arguments) of the clause. (Witzlack-Makarevich and Bickel 2013:6)

Specifically, in this chapter the following constructions will be discussed:

**2. GR-sensitive constructions (argument selectors)**

  i.      relativisation site
  ii.     reflexivisation
  iii.    imperatives
  iv.     diathesis and passive
  v.      topic extraction out of relative clauses
  vi.     word order permutations
  vii.    coreference construction (equi-NP deletion)
  viii.   control constructions and voice switch
  ix.     finiteness
  x.      raising
  xi.     topicalisation (or topic extraction)
  xii.    conjunction reduction
  xiii.   floating and quantifier float

To qualify as an argument selector in a language, a particular morphosyntactic structure, process, or rule must display a specific constraint as to which arguments it selects. In other words, it must single out restricted neutralisations among arguments (and adjuncts in some cases), identifying NPs "to which a particular grammatical process is sensitive, either as controller or target [controlled NP]" (Foley and Van Valin 1985:305).

## 2.3.    Literature review and terms of the debate

The issue of grammatical relations and especially the notion of subject in Mandarin Chinese has received considerable critical attention since the 1950s. Grammatical notions, such as that of subject, have notoriously been the centre of a heated debate as Mandarin Chinese does not

display subject- (or object-) specific morpho-syntactic encoding, such as indexation/ agreement or flagging/case. Of particular interest for linguists were a number of constructions where sentence-initial NPs have been argued to resemble subjects, but display different characteristics (such constructions include, for example, so-called 'hanging (or dangling) topics', 'double-nominatives', and 'pseudo passives').[8]

A considerable number of scholars have devoted attention to the issue of defining and identifying subjects in Mandarin Chinese. For reasons of space, this chapter will not attempt to do justice to the wealth of literature on this topic (see Abbiati 1990b for a thorough review of the debate and comparison between different accounts). However, broadly speaking, three positions are found in the literature:

- MC does have a subject, but its role is less prominent than that of discourse notions, like topic (Li and Thompson 1976, 1981; Tsao 1979, 1990, among others);
- MC does not have categories, such as subject or object (LaPolla 1990, 1993, among others), or it does have subjects, but the actual meaning of subject is topic (Chao 1968);
- MC does have a subject, which is structurally important in every sentence (Li 1990; Huang, Li 1996; Her 1991; Tai 1997, among others).

The overview on GRs research outlined in the previous section helps clarify the motivations for the different positions. Clearly, the difficulty with Mandarin Chinese has been the lack of those unequivocal, overt markers that identified GRs in Indo-European languages. Moreover, the different positions and analyses can be largely traced back to two major criteria that have been used to define subjecthood:[9] the positional criterion and the sematic criterion.

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[8] Examples of such constructions will be provided and discussed in the next sections.

[9] In some theoretical frameworks, the notions of subject and object are considered as basic/primitive or derived from structural configurations. For example, LFG regards GRs as syntactic primitives belonging to the F-Structure. Within the government-binding theory (GB) and related theories, the subject is structurally defined as a specific node in the formal

(i) The positional criterion identifies the subject with a specific position in the sentence, namely the sentence-initial/preverbal slot (Chao 1968; Zhang 1952; Zhu 1982).

(ii) The semantic criterion defines subject in terms of a privileged semantic relation between an NP and the main verb (Lü and Zhu 1951; Wang 1956, Li and Thompson 1981; Tang 1989): the subject is roughly the noun phrase that "has a 'doing' or 'being' relationship with the verb in that sentence" (Li and Thompson 1981:87).[10] In other words, the former criterion identifies the grammatical subject with the first NP (or the preverbal argument) in the sentence, while the latter criterion identifies the subject with the semantic notion of agent, or with the most prominent argument in the verb's argument structure.

As pointed out in the literature, both criteria evidently fail to account for all word order patterns and constructions. We will briefly summarise the reasons below:

(i) The positional criterion does not account for the fact that the first position in the sentence in Mandarin Chinese (as in many other languages) is also connected with information-structural aspects, such as topichood, givenness, and frame-setting (in the sense of Chafe 1976). Moreover, as a syntactic notion, the syntactic (grammatical) subject needs to be distinguished from the first NP in a sentence ('topic'/'theme'/'psychological subject') because the latter (i) does not necessarily bear a selectional relationship with the verb and (ii) is more related to the information and cognitive status of referents (given, accessible) and to discourse progression. Both aspects have extensively been discussed in the literature (Abbiati 1990); thus, we will only briefly discuss examples highlighting issues related to positional definitions of subject as the NP that occurs either in the sentence-initial position or in the preverbal

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representation of the sentence (e.g., SpecIP) and is thus (unlike objects) an external argument of the verb (in the minimalist framework subjects are connected with a set of interpretable phi- or EPP-features). The approach adopted in the present study and in the project outlined by Witzlack-Makarevich and Bickel (2013), on the other hand, seeks to investigate GRs as language-internal rather than theory-internal, primitive or derived notions.

[10] Li and Thompson (1981, 15) further specify that "the subject must always have a direct semantic relationship with the verb as the one what performs the action or exists in the state named by the verb".

position. Consider the following sentences (partly adapted from Abbiati 1990, unless specified):

3. 曹禺 <sub>1</sub>(啊)，　　　(他 <sub>1</sub>)　非常聪明。

Cáoyú (a)　　　　(tā)　　fēicháng cōngming

Caoyu TM　　　　3SG　　very intelligent

'Caoyu is very intelligent.'


4. 曹禺 <sub>1</sub>（啊），　　　我　　认识　（他 <sub>1</sub> / 这个人 <sub>1</sub>）。

Cáoyú (a),　　　　wǒ　　rènshi　(tā/ zhè ge rén)

Caoyu₁ TM　　　　1SG　　know　3SG/this CL person

'Caoyu, I know him.'


5. 去年，　　　　我　　买了　　　　新车。

qùnián　　　　wǒ　　mǎi le　　　xīn chē

last year　　　1SG　　buy PFV　　new car

'Last year I bought a new car.'


6. 曹禺　　　　记性　　　　非常好。

Cáoyú　　　　jìxìng　　　fēicháng hǎo

Caoyu　　　　memory　　very good

'Caoyu has a very good memory.' (lit. 'Caoyu, (his) memory is very good.')


7. 自己的心情　　　　　　自己　　做主。　　　(PKU corpus)

zìjǐ de xīnqíng　　　　　zìjǐ　　zuòzhǔ

SELF DE state.of.mind　　SELF　decide

'One's state of mind is one's decision.'


8. 语言学，　　　他拿手。

yǔyánxué　　　tā náshǒu

linguistics　　3SG master

'He is good at linguistics.'

Examples (3-8) clearly show that the sentence-initial NP can display various grammatical and semantic relationships with the main predication: in (3) it is coreferential with *tā* 'he', which is the sole argument (and possibly the subject) of *cōngming,* 'be-intelligent' (and can be omitted). In (4) it is coreferential with the patient (and possibly the object) of the verb *rènshi* 'know' (whereas the potential subject would be *wǒ* 'I', like in the English counterpart), in (5) it is a temporal expression, and not an argument of the verb *mǎi* 'buy'. In (6) and (7), it is not a verbal argument either, and only bears a relevance relation with the following predication, related to Chafe's (1976) notion of *frame* (i.e. the topic specifies the frame of validity of the following predication). Crucially in (6) and (7), examples of so-called 'double-subject' constructions, the first NP *Cáoyú* still bears some sort of possessor-possessee/whole-part semantic relation with the immediately preverbal NP *jìxìng* 'memory' Conversely, the same does not hold for (5), a well-known structure referred as 'hanging topic', where the first NP is not an argument of the verb (nor is it an adjunct) in the comment, which in turn is a complete sentence with no argument gaps.[11] These considerations led the first position in the

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[11] Predicates like 做主 *zuòzhǔ* 'decide, take responsibility' and 拿手 *náshǒu* 'master' are monovalent, and require a single animate argument (the agent/actor). This is connected to their nature of verb-noun (cognate patient) predicates, which cannot take a further second argument: their literal meaning is as follows: 做 *zuò* 'do' + 主 *zhǔ* 'owner/master', and 拿 *ná* 'hold/seize' + 手 *shǒu* 'hand'. Hence, they often occur with a second NP in the sentence-initial position, specifying the domain/sphere for which the agent/actor decides or masters. Huang (1989) and Her (1991) observe how such sentence-initial NP cannot occur after the predicate, and hence is not an argument of the verb:

(i.i)　　　这一件事　　　你做主。

　　　　　zhè yī jiàn shì　　　nǐ zuòzhǔ

　　　　　this CL matter　　　2SG make-master

'You'll take charge of this matter.'

(i.ii)　　　*你做主　　　这一件事。

　　　　　*nǐ zuòzhǔ　　　zhè yī jiàn shì

　　　　　2SG make-master　　this CL matter

'You'll take charge of this matter.'

(ii.i)　　　语言学，　　　他拿手。

　　　　　yǔyánxué　　　tā náshǒu

　　　　　linguistics　　　3SG take-hand

sentence, with a fairly broad consensus, to be associated with the *topic* position (which we will discuss in detail in Chapter 5), rather than the subject position. A second hypothesis connected to positional criteria might be to associate subjects to NPs (verbal arguments) that always occur preverbally, for example with intransitive verbs. But this is not always the case, as the contrast between the following well-known examples (9.a-b) shows (adapted from Li and Thompson 1981:20):[12]

9.  a.人　　　　　来了。

　　rén　　　　　lái le

　　man　　　　　arrive MOD

　　'The person(s) has/have come.'

　　b.来了　　　　人了。

　　lái le　　　　rén le

　　arrive PFV　　guests MOD

　　'Some person(s) has/have arrived.'

In (9.b) the sole argument of the verb (and potential subject) occurs postverbally. This is due to definiteness/information-structural considerations: as Li and Thompson note, the preverbal NP in (9.a) is interpreted as definite (and possibly known) while the postverbal NP in (9.b) is interpreted as indefinite.[13] The positional criterion also evidently fails to account for sentences of the type of (10), very debated in the literature as well (LaPolla 2009:21):

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'He is good at linguistics.'

(ii.ii)　　*他拿手　　　　语言学。

　　　　* tā náshǒu　　　yǔyánxué

　　　　3SG take-hand　　linguistics

'He is good at linguistics.'

[12] Further observations on possible word order patterns will be presented in section 2.4.6.

[13] Li and Thompson (1981:20-21) further observe how this is true for patients (objects) as well: 书，我买了 *shū, wǒ mǎi le* (book, 1SG buy PFV) differs from 我买了书 *wǒ mǎi le shū* (1SG buy PFV book) in that the first sentence involves that *shū*

| 10. | 她 | 死了 | 一匹马， | 便 | 这么 | 哭个不住。 |
|-----|-----|------|---------|-----|------|-----------|
|     | tā  | sǐ le | yì pǐ mǎ | biàn | zhème | kū gè bú zhù |
|     | she | died PFV | one CL horse | then | this much | cry- CL -not-stop |

'She had a horse die on her.'

The preverbal NP *tā* 'she' cannot be considered the subject, as the sole argument of the intransitive verb *sǐ* 'die' is *yì pǐ mǎ*, 'a horse', which in turn occurs after the verb.[14] Verbs allowing their only argument to occur postverbally include verbs of existence, appearance/disappearance and location, and also processes like 漂 *piāo* 'float', 吹 *chuī* 'blow' and 跑 *pǎo* 'run' (for a detailed discussion on unaccusative verbs and inversions in Mandarin Chinese we refer the reader to Basciano 2010).

A further tentative hypothesis involves defining the subject as the argument that occurs preverbally with transitive verbs. However, this definition is challenged by statistical data on most frequent sentence patterns and preferred argument structure (PAS) in Mandarin Chinese. Statistical research conducted by Tao and Thompson (1994) on conversations and by Lin (2009) on narratives and written texts show that most sentences in MC display only one overt argument, regardless of the valency of the verb, which can be either intransitive or transitive. Consequently, most transitive sentences display a structure like [XP V], where the XP can be either of the arguments of a transitive verb (Tao 1996). Thus, problems arise, for example, with sentences displaying a transitive verb requiring agentive, volitional actors, and a single +animate, +volitional noun occurring preverbally, which is semantically compatible with the verb:

| 11. a.鸡 | 吃完了。 | (Huang Y. 1994:168) |
|---------|---------|---------------------|
|    jī   | chī wán le |                   |

---

'book' is definite/given in terms of information structure. This point will be further explored in Chapter 5.

[14] "[I]f we try to say that 'she' is the 'subject' and 'one horse' is the object, then we must assume that 'die' is a transitive verb, or at least has a transitive use. But this goes against what Chinese speakers feel about this sentence. It is not that 'she' caused the death of the horse, but that the horse died, and this has affected her in some way". (LaPolla 2009:21)

| chicken | eat finish CHG | | | | | |

b.
| 鸡 | 吃完了， | | 肉还有。 | | | |
|---|---|---|---|---|---|---|
| jī | chī wán le, | | ròu hái yǒu | | | |
| chicken | eat finish CHG | | meat still have/exist | | | |

'The chicken, (e.g., we) have eaten (it) up; the meat, (e.g., we) still have (some).'

c.
| 鸡 | 吃完了， | 要不要 | 再 | 喂 | 点事儿? |
|---|---|---|---|---|---|
| jī | chī wán le | yào bú yào | zài | wèi | diǎn shìr? |
| chicken | eat finish CHG | should-NEG-should | again | feed | bit thing |

'The chicken, (it) has eaten (e.g., the feed) up. Should, (e.g., I) give (it) a bit more (feed)?'

(11.a) displays a NP-V pattern, with *jī* 'chicken' being the only preverbal noun: when out of context, (11.a) involves an ambiguity in terms of roles of participants. However, the position of the NP does not mark its semantic or syntactic role in the sentence (agent/subject vs. patient/object). In the first disambiguation context (11.b) the NP is the patient of the verb *chī* 'eat' (and possibly, the object of the sentence), while in the second interpretation (11.c), it is the agent (and thus a possible subject). Similar considerations hold for the following examples by He (2005), where a transitive perception verb (*jiàn* 'see') is preceded by a +animate nominal (*gāi jiàn de rén* 'the person (somebody) had to meet'):

12.
| 这次探访， | 该见的人 | 没见着。 | (He 2005:2) |
|---|---|---|---|
| zhè cì tànfǎng | gāi jiàn de rén | méi jiàn zhao | |
| this CL visit | should see DE person | NEG see-succeed | |

'As for this visit, (I/we/…) did not meet the person (I/we/…) was/were supposed to meet.'

The preverbal NP *gāi jiàn de rén* 'the person (somebody) had to meet' can be either of the arguments of the transitive verb *jiàn* 'see'. Crucially, it is only by virtue of world knowledge and contextual cues that native speakers disambiguate it as the second argument, in that this sentence is more likely to be uttered by the one who failed to meet the person in question.

The possibility for the preverbal argument in an [ARG-V(transitive)] pattern to be the second argument is by no means rare. He's (2005) verb-by-verb investigation of all entries in the Dictionary of Verbs 动词大词典 highlights that the [ARG2-V] pattern (also called

patient-subject construction) is not a restricted phenomenon, as most transitive verbs can enter this pattern (He 2005:85). Lü (1987) provides very insightful observations with respect to this phenomenon. Let us consider his comparison of possible different realisation patterns for transitive verbs, namely [ARG1-V-ARG2], [ARG1-V] and [ARG2-V], and the verbs he considers synonyms, namely 大胜 *dàshèng* and 大败 *dàbài* 'win decisively, defeat utterly', although the latter can have a second meaning, namely 'suffer a defeat':

13.  a 中国队　　　　　大胜了　　　　南朝鲜对。　　　　　(Lü 1987)
Zhōnggúodùi　　　dàshèng le　　Náncháoxiāndùi
China-team　　　　defeat PFV　　South-Korea-Team
'China defeated South Korea.'


b. 中国队　　　　　大胜了。
Zhōnggúodùi　　　dàshèng le
China-team　　　　defeat CHG
'China won decisively.'


c. 中国队　　　　　大败了　　　　南朝鲜对。
Zhōnggúodùi　　　dàbài le Náncháoxiāndùi
China-team　　　　defeat PFV　　South-Korea-Team
'China defeated South Korea.'


d. 南朝鲜对　　　　大败了
Náncháoxiāndùi　　dàbài le
South-Korea-Team　defeat CHG
'South Korea lost/was beaten.'

In sentences where both verbal arguments are lexically expressed, i.e. (13.a) and (13.c), for both verbs 大胜 *dàshèng* and 大败 *dàbài* the preverbal argument is interpreted as the agent/actor and the postverbal argument as the patient/undergoer. However, in sentences where only one argument is lexically expressed, native speakers interpret the ARG-V pattern differently: in (13.b) the preverbal NP is the agent/actor, whereas in (13.d) it is the patient/undergoer (as reflected in the passive diathesis in the English translation). One may

then argue that, when two lexically expressed NPs are available and compatible with the selectional restrictions of a transitive verb, the preverbal NP is the subject. However, a very significant counter-example comes from Tao's corpus of spontaneous conversation (Tao 1996:184):

14. ...他　　说：　　　　　"你　　要　　在　　开庭，　　　　　(TAO'S CORPUS)

　　　tā　　shuō　　　　　nǐ　　yào　　zài　　kāi tíng

　　　3SG　　say　　　　　2SG　　if/FUT　　again　　open court

　　　你　　　认不认识　　　　　这老头？"

　　　nǐ　　　rèn bú rènshi　　　zhè lǎotóu

　　　2SG　　know NEG know　　this old.man

　　　'He said: "next time when the trial starts, will you still be able to recognise this old man?"'

As noted by Tao, in (14) the second person pronoun *nǐ*, although it occurs right on the left of the transitive predicate *kāi tíng* (lit. 'open court', meaning starting a trial) is not the agent of the verb, and even less can it be its subject; "what links them together is merely the fact that the pronominal referent is a participant of the trial process" (p.184). To sum up, the positional criterion fails to identify a potential subject in the preverbal NP with transitive verbs as well.

(ii) The semantic criterion, on the other hand, is clearly related to the notion of agenthood or semantic prominence, since it defines the subject in MC as the noun phrase that has a 'doing' or 'being' relationship with the verb in the sentence. In short, the subject is the most prominent or agent-like argument in the verb's argument structure. This bears similarities with the notions of generalised roles, namely macroroles—i.e. actor and undergoer (Foley and Van Valin 1984, Van Valin and LaPolla 1997, Van Valin 2005) and proto-roles—i.e. proto-agent and proto-patient (Dowty 1991, Primus 1999). However, the 'grammatical subject', by definition, needs to be distinguished from semantic roles such as agent (i.e. the 'logical subject') or generalised roles of actor/proto-agent. "What is crucial about the traditional notion of GRs is (a) that they are identified by syntactic properties, and (b) that they relate an argument to the clause"; more specifically, they capture "how this argument is integrated syntactically into a clause" (Bickel 2010:399). Semantic roles and syntactic relations are separate notions; this captures the fact that, cross-linguistically, several semantic roles

(including patients) can occur in the subject position just like in passive diathesis when patients (undergoers) are promoted to subjects and agents (actors) are demoted to obliques. If the subject were always to coincide with the agent/actor/most-prominent verbal argument, there would be no need to postulate another purely syntactic (and non-semantic) category.

To conclude, if subjects had to be defined with either criteria (positional or semantic), we would need to rule out the existence of a 'grammatical subject' and only use notions such as 'psychological subject' (topic) or 'logical subject' (agent/most prominent argument). Again, the terms of the debate rotate around criteria that evidently fail because, due to the typological characteristics of the language, overt tests do not apply to Mandarin Chinese. On the other hand, the analysis of covert, behavioural properties of GRs provides different insights. As discussed in section 2.2, covert behavioural or control properties displayed by NPs in sentences have been regarded as proof for the existence of GRs in languages that lack overt marking.

To our knowledge, despite the significant amount of attention and debate on the notion of subject in MC, few scholars have carried out complete systematic research on the whole array of GR-sensitive constructions. Scholars that have conducted research on this include LaPolla (1990, 1993) and Bisang (2006). LaPolla (1990, 1993) examines an array of tests, including cross-clause coreference, relativisation, reflexivisation, indispensability, comparatives, clefting, raising, and reflexives. Bisang (2006) also examines a range of constructions including raising, reflexives, passive, topic extraction, relatives, equi, and topic. However, these two scholars come to different conclusions. LaPolla (1990, 1993) concludes that no viable notion of subject or object exists in Mandarin Chinese. On the other hand, Bisang (2006:334) maintains that there are subject-object asymmetries (although with some reservations) in the following constructions: raising, reflexives, passives, and topic extraction. He further observes that, although MC displays "low-profile syntax with lack of subject/object asymmetry in some constructions", nonetheless these constructions constitute enough evidence to postulate the existence of a grammatical notion of subject in Mandarin Chinese (Bisang 2006:331). The reasons underlying such opposite views are at least two. First, some of the arguments provided both by LaPolla (1990, 1993) and Bisang (2006) appear not to be clear enough and need re-examination, as highlighted by the fact that they provide conflicting evidence with

respect to the same tests. Second, their arguments are based on an approach similar to the one discussed in section 2.2—and criticised by a number of typologists, that involves picking out a set of particular constructions that confirm (or deny) the existence of a grammatical category similar to those of Indo-European languages, whenever the language displays conflicting evidence. Other scholars have devoted attention to the issue of subjects in MC with respect to its covert properties, for example Li (1990) and Her (1991). However, scholars like Li (1990) work within the GB/minimalist framework, which defines subjects structurally, and thus take them as a default category. Similarly, scholars like Her (1991) work within the LFG framework, which assumes subjects and objects as theory-internal primitives (belonging to the F-Structure). Hence, their accounts and some of their arguments build upon theory-internal assumptions related to grammatical relations in the system of a grammar. In our analysis of GR-sensitive constructions, the main arguments put forward by these scholars will be examined and discussed. However, the analysis will not be conducted within the terms of the above debate. Instead, it seeks to investigate grammatical relations with a fresh look, with the aim of establishing if, and to what extent, grammatical relations are necessary to capture word order related syntactic phenomena in Mandarin Chinese. Moreover, it will closely examine the hypothesis that, in line with various other languages, GRs in Mandarin Chinese are construction-specific.

## 2.4.    GR-sensitive constructions: the case of MC

This section and its subsections are devoted to a careful, systematic examination of each of the GR-sensitive constructions listed in section 2.2. The analysis aims at singling out what (if any) constructions and/or linguistic phenomena are sensitive to syntactically distinguishable notions such as subject and object: only by virtue of one (or more) unique control property, position, or selectional restriction connected to this specific grammatical role can a grammatical relation such as subject be identified.

An important point needs to be made. Control properties displayed by different NPs in the sentence can have various natures: they can be syntactic (i.e., controlled by grammatical relations such as that of subject), but also semantic (role-related) and pragmatic (reference-

related) (Schachter 1977, Bickel 2010). Postulation of a grammatical category is required when semantic and pragmatic relations cannot alone describe a syntactic process, in that such process displays restricted neutralisations[15] among the semantic roles of the arguments of the verb (Dixon 1979:59). The "justification for positing syntactic relations in a language in addition to semantic predicate-argument relations is that there are phenomena in the language in which the distinction between two or more semantic roles is neutralized for syntactic purposes" (Van Valin 2005:89). A clear example of a syntactically controlled construction is subject-verb agreement in English (as well as in German and other Romance languages). The subject displays a neutralisation nullifying the agent-patient contrast with reference to subject-verb agreement and to linear order in the sentence; to use Bickel's (2010) example, let us consider the two sentences *Sue has killed the shark* vs. *Sue was killed by the shark*. In both cases, the NP Sue is the subject of the clause, but in the active clause, the referent of Sue is the agent of 'kill', while in the passive clause, Sue is the patient of 'kill'. This neutralisation, though, is restricted only to agents and patients, as well as to a restricted number of semantic roles that can enter the two major protoroles (Dowty 1991) or macroroles (Foley and Van Valin 1984, Van Valin 2005, inter alia). Crucially, these restricted neutralizations are language-specific: for example, English allows beneficiaries to occur as subjects/actors/proto-agents (as in *John was baked a cake by Mary*), whereas Italian does not (*_Giovanni è stato sfornato una torta da Maria_), while both allow patients to occur as subjects (*The cake* has already been baked/*La torta è già stata sfornata*).

On the other hand, certain processes in a language can be controlled by NPs displaying role-related properties. For example, imperativisation in many languages displays semantic control as "imperatives can only be formed from agentive or volitional predicates" (Bickel 2010:431). Thus, the most agent-like, volitional argument of the verb is the addressee of the imperative (e.g., in Tagalog; Kroeger1993:88). Other processes can be controlled by NPs exhibiting specific reference-related properties, such as topicality. A case in point, described in Bickel

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[15] Both restrictions and neutralisations are necessary conditions in order for a grammatical category to be required in the description of a syntactic phenomenon (Van Valin 2005:92).

(2010:408-9) is Tagalog, where a number of constructions display a reference-related control, including conjunction reduction, relatives, and Q-float. The choice of which NP controls these processes in question (marked by *ang*= "depends exclusively on referential properties and can fall on any argument (…) or adjunct: all that matters is that the NP has specific reference and that it is the most topical element in discourse". Bickel further reports that similar observations hold for certain constructions in Central Ojibwa (Algic, North America; Rhodes 1976), e.g., for raising, although control is restricted only to arguments (and not adjuncts). Crucially, such restrictions can be captured without postulating a GR of the type of subject or object in the traditional sense. This will be taken into account when discussing behavioural and control properties displayed by the constructions analysed below.

### 2.4.1. Relativisation site

One type of process that varies strongly in terms of GR specifications across languages is relativisation. This process turns a propositional expression into a referential one, and the referent is chosen among the arguments and adjuncts of the clause (Bickel 2010:428). According to Keenan and Comrie (1979), there exists a hierarchy of accessibility to relativisation in terms of grammatical categories, namely: SU > DO > IO > OBL > GEN > OCOMP. Constraints on relativisation displayed by different NPs in a sentence are significant with respect to GR individuation: if a language allows only a single argument in a clause to be relativised upon, that argument is the subject of the clause, as happens in Malagasy (Keenan 1976, 320).

In MC, the following examples show that it is possible to relativise not only on the agent, but also on the patient (15), on a goal/benefactive (16), on locatives (17), (18.a), and possibly on a "reason adjunct" (18.b) (Cheng and Sybesma 2006:70). Crucially, both preverbal and postverbal NPs can be relativised upon:

15. 饿了　　　　　就拿　　　　　母亲留 给他的　　　　　　钱(…)
    è le　　　　　jiù ná　[REL　mǔqīn liú gěi tā de]　　　qián
    hungry PVF　then take　　　mother leave give 3SG DE　money
    'When he got hungry, he took the money his parents gave him …'

16. 就是       你   给   钱的        <u>那两个男公关。</u>

     jiù shì    [REL nǐ   gěi   qián de]      nà liǎng gè nán gōngguān

     just be       2SG   give   money DE     that two CL male PR

     'It is the two "PR men" (whom) you gave money to.'

     *Source*: novel «妙手狂医» [www.shumilou.co/miaoshoukuangyi/3945440.html](www.shumilou.co/miaoshoukuangyi/3945440.html)

     (last visited: 25/05/2017)

17. 想了解          他学习的     <u>学校、</u>       他学习的       <u>班级、</u>(…)

     xiǎng liǎojiě    [REL tā xuéxí de]   xuéxiào     [REL tā xuéxí de]   bānjí

     desire know         3SG study DE   school       3SG study DE    class

     '[…] want to know the school in which he studies, the class he's in (…)'

     *Source*: short story «家长开放日感言» [http://u.sanwen.net/subject/1012047.html](http://u.sanwen.net/subject/1012047.html)

     (last visited: 25/05/2017)

18. a.     他     修车的     <u>车库</u>…               （Cheng and Sybesma 2006:70）

     [REL    tā    xiū chē de]   chēkù

               3SG    fix car DE   garage

     'The garage where he fixes his car'

     b.     他     修车的     <u>原因</u>…

     [REL    tā    xiū chē de]   yuányīn

               3SG    fix car DE   reason

     'The reason why he fixed his car'

Bisang (2006:333) claims that in MC relative clause constructions "only depend on argumenthood without the mediation of subject and object": in other words, both agent and patient can control coreference of the zero slot with the head noun and no subject-object asymmetry can be identified. However, the above examples show that relativisation is not restricted to argumenthood, as the relativised NPs in (17) and (18.a-b) are adjuncts, and not core arguments. Further evidence come from what Cheng and Sybesma (2006) refer to as "gapless relative clauses": in (19.a) and (19.b) the head nouns do not seem to relate to any

available gap position (i.e. they correspond to no verbal argument or adjunct) in the relative clause:

19. a.     他     唱歌的     <u>声音</u>。     （Cheng and Sybesma 2006:69）

[REL    tā     chàng gē de]    shēngyīn

         3SG    sing song DE    voice

'The voice (that he has while) singing.'

b.     他     睡觉的     <u>姿势</u>。

[REL    tā     shuì jiào de]    zīshì

         3SG    sleep sleep DE    posture

'The posture (that he has while) sleeping.'

Both verbs *chàng gē* (sing-song) and *shuì jiào* (sleep-sleep) are activity verb-noun predicates where the noun (as generic and non-referential) is usually analysed as the dummy patient/object of the verb; hence, such verbs display no gaps in their argument structure both in (19.a) and (19.b).[16] In their study of Chinese relative clauses, Cheng and Sybesma (2006:75) concluded that relatives of this kind are gapless and display a "combination of having a generalized λ-abstraction operator (de) and an event variable. This limits the range of possible gapless/aboutness relatives to relatives with a generic activity reading" (p. 75). They propose that the head noun is "base-generated external to the relative clause, and that there is no empty operator movement within the relative" (p.75). It should be noted that similar considerations hold for intransitive verbs as well where no gaps are available with respect to the argument structure:

20. …在平原上     响起了     马跑的     <u>声音</u>, …

    zài píngyuán shàng    xiǎng qǐ le    [REL    mǎ pǎo de]    shēngyīn

    be.at valley on    sound raise PFV    horse run DE    sound

---

[16] The semantic relation between the relative clause and the NP is nevertheless very intuitive; similar semantic relations hold in English between the present participles modifying nouns in NPs like: 'his singing voice' or 'his sleeping posture.'

'…on the valley resounded the noise of a horse (running) …'
*Source*: PKU corpus

In (20), the only available argument of the intransitive motion verb *pǎo* 'run' is realised by the noun *mǎ* 'horse', while the head noun of the relative clause (*shēngyīn* 'voice') is not an argument of the verb *pǎo* 'run.'

Huang Y. (1994:170) proposes a further case, and suggests that hanging topics – namely sentence-initial NPs that are not arguments of the verb, see (7), can also be relativised upon (example from the PKU corpus):

21. …包办　　　企业　应该　自己　做主的　　　　　事情
    bāobàn　[REL qǐyè　yīnggāi zìjǐ　zuòzhǔ de]　　shìqing
    undertake　　firm　shoud　REFL　make decision DE　thing
    '… take care of the matters which the company should decide for.'

Verbs like 做主 zuòzhǔ 'decide, take responsibility' are monovalent and require a single animate argument (see note 11). Hence, the NP specifying the domain/sphere (in this case, what the agent has to take care of) cannot but occur as a topic, as in example (7) (see also Her 1991 on this point). To conclude, all examples above show that relativisation processes in Mandarin Chinese are independent of the argument structure of the verb in the relative clause; thus, relativisation is not an argument selector process, nor is it restricted to argumenthood (as adjuncts can also be relativised upon). Hence, this process shows no evidence of the existence of specific grammatical relations.

## 2.4.2. Reflexivisation

Reflexivisation processes are generally connected to subjecthood since grammatical subjects have been shown in many languages to control reflexives in terms of reference, as, for example in Hindi (Mohanan 1994), Malayam (Mohanan 1982), Urdu (Butt 1995), Malagasy, German, and Japanese (Keenan 1976, among others). Mandarin Chinese reflexives also appear to be controlled by a potential subject, which is a claim made by several scholars

including Li (1990), Tang (1989), Huang C.-T. J. (1991), Tai (1997), and Bisang (2006), among others. This seems to be the case in this example from Huang Y. (1994:77):

22. 小名 1     给     小花 2     自己 1的     画。
    Xiǎomíng     gěi     Xiǎohuā     zìjǐ de     huà
    Xiaoming     give     Xiaohua     self DE     painting
    'Xiaoming₁ gave Xiaohua₂ his₁ painting.'

According to Huang Y., in (22) the only possible antecedent of *zìjǐ* is Xiaoming, who is the agent (and potentially the subject) of the sentence. This is confirmed by native speakers' intuition (only less than 5% said that the antecedent could be either Xiaoming or Xiaohua). However, on closer examination, reflexivisation in Mandarin Chinese appears to display some peculiarities. First, unlike English or Italian, it is sensitive to semantic constraints like animacy, as (23) and (24) show:

23. *热水瓶     打破了     自己。
    *rèshuǐpíng     dǎpò le     zìjǐ
    *flask     break PFV     REFL
    'The flask broke itself.'

24. 那种按摩 1     让他 2     恢复了     自己 2的     精神。
    nà zhǒng ànmó     ràng tā     huīfù le     zìjǐ de     jīngshén
    that CL massage     let 3SG     recover     REFL DE     energy
    'That massage let him get his energy back.'

Sentence (23) from Huang Y. (1994:77) is ungrammatical as the intended antecedent is an inanimate noun, and this was confirmed by 100% of native speakers. Sentence (24) displays two possible antecedents: the first NP *ànmó* 'massage', which is the first argument of the verb *ràng* 'make, let', and *tā* 'he', which is the first argument of the verb *huīfù*, 'recover.' However, the first NP is inanimate (and logically not related to *zìjǐ*), and thus the second NP (*tā*) is the only possible antecedent of *zìjǐ*. Huang Y. (1994, 183) also points out that sensitivity to semantic features does not stop with animacy, and proposes the following example:

25. a. 王先生 1     希望     许小姐 2     嫁给     自己 1。

| Wáng xiānsheng | | xīwàng | Xǔ xiǎojiě | | jià gěi | zìjǐ |
| Wang Mr | | hope | Xu Miss | | marry | REFL |

'Mr Wang₁ hopes that Miss Xu₂ will marry him₁.'

| b. 许小姐 ₁ | | 希望 | 王先生 ₂ | | 娶 | 自己 ₁。 |
| Xǔ xiǎojiě | | xīwàng | Wáng xiānsheng | | qǔ | zìjǐ |
| Xu Miss₁ | | hope | Wang Mr₂ | | marry | REFL |

'Miss Xu₁ hopes that Mr Wang₂ will marry her₁.'

Sentences in (25) are an example of the possibility *zìjǐ* exhibits of having a long-distance antecedent (Huang C.-T. J. 1991; Huang Y. 1994) that can be retrieved both locally (within the clause where *zìjǐ* occurs) and non-locally (in the matrix clause). Both (25.a) and (25.b) display two animate NPs (Mr Wang and Miss Xu). Crucially, (25.a-b) differ with respect to the verb in the embedded clause, and *zìjǐ* is disambiguated by virtue of each verb's semantic features, and specifically gender-related selectional restrictions: the verb *jià* 'marry' requires a female agent and a male patient, while the verb *qǔ* 'marry' requires a male agent and a female patient. Accordingly, Mr Wang and Miss Xu are chosen as the preferred referent for (25.a) and (25.b) respectively. Moreover, Huang Y. (1994:190) shows that *zìjǐ* is also flexible in terms of the relative order with respect to its referent: in (26), both nouns (*māmā* 'mum' and Xiaoming) are possible antecedents for *zìjǐ*, although Xiaoming occurs after the reflexive:

| 26. | 妈妈 ₁ | 表扬了 | | 自己 ₁/₂ | 使 | 小明 ₂ | | 很高兴。 |
| | māmā | biǎoyáng le | | zìjǐ | shǐ | Xiǎomíng | | hěn gāoxīng |
| | mum | praise PFV | | REFL | make | Xiaoming | | very happy |

'That mum₁ praised him₂/herself₁ makes Xiaoming₂ very happy.'

This example was checked against native speakers' judgement: with no context provided, half of native speakers thought *zìjǐ* refers to *māmā* 'mum'; however, 41.7% think that Xiaoming is a more likely antecedent, since it is logically more likely that a son is happy if his mother praises him rather than herself. This rules out a control account of *zìjǐ* based on strict linear precedence as well as on c-command (see Huang Y. 1994 for further discussion on this point). Native speakers stressed the fact that context that allows disambiguation of *zìjǐ* is required,

which suggests that context and pragmatic inference play crucial roles in *zìjǐ* disambiguation. This is further demonstrated in the following sentence pair:

27. a. 陈先生 $_1$　　认为　刘先生 $_2$　　　太狂妄，　　　总是看不起　　　自己 $_1$。
　　　Chén xiānsheng rènwéi Liú xiānsheng　tài kuángwàng zǒng shì kànbùqǐ　zìjǐ
　　　Chen Mr　　　think　Liu Mr　　　　too arrogant　always look.down.upon REFL
　　　'Mr Chen $_1$ thinks that Mr Liu $_2$ is too arrogant, and (he $_2$) always looks down upon him $_1$.'

　　b. 陈先生 $_1$　　认为　刘先生 $_2$　　　太自卑，　　　总是看不起　　　自己 $_2$。
　　　Chén xiānshēng rènwéi Liú xiānsheng　tài zìbēi　　zǒng shì kànbùqǐ　zìjǐ
　　　Chen Mr　　　think　Liu Mr　　　　too self.abased　always look.down.upon REFL
　　　'Mr Chen $_1$ thinks that Mr Liu $_2$ is too self-critical, and (he $_2$) always looks down upon himself $_2$.'

Sentences (27.a) and (27.b) provide further evidence against the viability of a purely syntactic account of reflexivisation in Mandarin Chinese. The two sentences are identical except for the attributive verb describing Mr Liu, namely *kuángwàng* 'arrogant' in (27.a) and for *zìbēi* 'self-critical' in (27.b). The reflexive can potentially refer to the first argument of both predicates –Mr Chen for *rènwéi* 'think' in both sentences, and Mr Liu for *kuángwàng* 'arrogant' in (27.a) and for *zìbēi* 'self-critical' in (27.b). Crucially, no syntactic constraints (e.g., the locality constraint), but only the contextual information provided by the first clause in each sentence can reveal the logically most likely choice for the antecedent of *zìjǐ*, i.e. Mr Chen in (27.a) and Mr Liu in (27.b).

To sum up, the examples above suggest that (i) semantic constraints (like animacy and other semantic features), role prominence in the argument structure, (ii) pragmatic/contextual factors, world knowledge, and inference processes, all play an important role in antecedent disambiguation, whereas precedence is not an absolute constraint. Nevertheless, a syntactic account in terms of subject control is not ruled out since, in all the sentences above, the antecedent is still the most prominent argument (and possibly the subject) of one of the verbs in either the matrix or the embedded clauses. Based on the above sentences, there are three possible hypotheses:

(i) reflexivisation could be subject-controlled; this is a claim that Huang Y. (1994) makes, although specifying that it is a general tendency;

(ii) *zìjǐ* could be semantically restricted to the most prominent role in the verb's argument structure (agent, experiencer, external causer), without necessarily invoking a syntactic control; this would be consistent with other languages across the world, where the agent/instigator controls the reflexives—for example Tagalog and other Philippine languages (Schachter 1976, 1977), or Acehnese (Durie 1985, Van Valin 2005). In fact, animacy and other semantic constraints displayed in sentences (16-18) might support this hypothesis;

(iii) syntactic or semantic restrictions alone are not sufficient to account for all instances of reflexivisation.

Let us further consider the following examples from Xu (1994):

28. a. 李先生 ₁的      阴谋      害了      自己 ₁。
Lǐ xiānsheng de      yīnmóu      hài le      zìjǐ
Li Mr DE      conspiracy      harm PFV      REFL
'Mr Li's₁ conspiracy did harm to him₁.'

b. 李先生 ₁的      傲慢      害了      自己 ₁。
Lǐ xiānsheng de      àomàn      hài le      zìjǐ
Li Mr DE      arrogance      harm PFV      REFL
'Mr Li's₁ arrogance did harm to him₁.'

In both sentences (28.a-b), the first verbal argument (and potential subject) is an inanimate external causer (i.e. *yīnmóu* 'conspiracy', and *àomàn* 'arrogance', respectively) modified by an animate noun (*Lǐ xiānsheng*, Mr Li). The two sentences display a parallel structure: [NP(+animate) DE] NP(-animate) V REFL. However, in both cases, the antecedent of *zìjǐ* is not the head of each sentence-initial NP (*yīnmóu* 'conspiracy' in (28.a) and *àomàn*

'arrogance' in (28.b)), but the modifier of the head, i.e. *Lǐ xiānsheng* 'Mr Li.' This interpretation is confirmed by 100% of surveyed native speakers.[17] Hence, the first verbal arguments of both sentences, which would also qualify as the syntactic subject, fail to be antecedents of *zìjǐ*.[18]

Lastly, let us consider two further examples: (29) is from Pan (1997:20), and (30) is from LaPolla (1993:20):

29. 无情的实事 ₁　　　　　告诉　张三 ₂　　　自己 *1/2 的　　计划　行不通。
    wúqíng de shíshì　　　gàosu　Zhāngsān　zìjǐ de　　jìhuá　xíng bù tōng
    harsh DE fact　　　　　tell　　Zhangsan　REFL DE　plan　carry-not-through
    'The harsh reality₁ tells Zhangsan₂ that his*1/2 plan won't work.'

30. 有人 ₁　　　　来警告　　朱老板 ₂　　说　　自己 ₂ 的儿子　在偷东西。
    yǒu rén lái　　jǐnggào　　Zhū lǎobǎn　shuō　zìjǐ de érzǐ　zài tōu dōngxī
    exist person　come warn　Boss Zhu　　say　　REFL DE son　PROG steal thing
    'Someone came to warn Boss Zhu₁ that his₁ son was stealing things.'

31. 老师 ₁ 问　　小明 ₂　　自己 1/2 会不会　　英语。
    lǎoshī wèn　Xiǎomíng　zìjǐ　huì bú huì　Yīngyǔ
    teacher ask　Xiaoming　REFL　can NEG can　English
    'The teacher₁ asked Xiaoming₂ if he1/2 could speak English.'

In (29), the only possible antecedent of *zìjǐ* is Zhangsan, that is the second argument of the verb *gàosu* 'tell', in that its first argument (and the possible subject) is inanimate (*wúqíng de*

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[17] In fact, 4% native speakers pointed out that the antecedent of *ziji* might as well be some other person, depending on the context. For example, it could be the speaker uttering the sentence with the following sense: 'Mr Li's arrogance/conspiracy harmed me' (or him or someone else).

[18] In trying to deal with this inconsistency, Xu (1994) advocates for what he defines as a semantic constraint to justify a syntactic dependency: according to him, Li is an agent or indirect agent in semantic terms (i.e., a person who plots a conspiracy) and thus is a possible antecedent. Although this explanation does not seem consistent with respect to a syntactic account of *zìjǐ*, it is significant since it reveals a meaning-driven disambiguation process that is sensitive to the structure of the described event and not to the syntactic structure of the sentence itself.

*shíshì,* 'the harsh reality') and is also a logically impossible antecedent for *zìjǐ.* About 60% of native speakers thought this sentence was acceptable and comprehensible and 100% agreed that Zhangsan is the only possible antecedent for *zìjǐ.* This shows that semantic constraints such as animacy are ranked at the highest level of restrictions for *zìjǐ.* This also counts as evidence of subject control of reflexivisation, in that Zhangsan would be the 'indirect object' (and not the subject) of the verb *gàosu* 'tell.' A further significant example is (30), where two animate NPs are available: according to LaPolla (1993:20), the antecedent of *zìjǐ* 'self' is *Zhū lǎobǎn,* 'boss Zhu', which is neither a possible subject nor the agent/actor of any of the predicates either the matrix or in the subordinate clause, but rather the second argument of the ditransitive verb *jǐnggào,* 'to warn.' Half of surveyed native speakers thought that the sentence is rather ambiguous when no other contextual cues are provided:[19] 62.2% thought

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[19] In his PhD thesis, LaPolla (1990:48-9) better clarifies this example by highlighting the essential role played by the context in the disambiguation of *zìjǐ.* He presents the following sentence pair where a similar sentence is put in different contexts, thus receiving different antecedent interpretations (slightly adapted from LaPolla 1990:48-9):

i.

| 老张 | 明明知道 | 老王的儿子 | 把那些零件 | 拿走了 |
|------|---------|-----------|-----------|--------|
| Lǎo Zhāng | míngmíng zhīdào | Lǎo Wáng de ér zi | bǎ nà xiē língjiàn | ná zǒu le |
| old Zhang | clearly know | old Wang DE son | BA that CL part | take leave PFV |

| 可是 | 要 | 足够的证据 | 才能告诉 | 老王 | 自己的儿子 | 在偷东西。 |
|------|-----|-----------|----------|------|-----------|-----------|
| kěshì | yāo | zúgòu de zhèngjù | cái néng gàosu | Lǎo Wáng | zìjǐ de érzi | zài tōu dōngxī |
| but | want | enough DE proof | then can tell | old Wang | SELF DE son | PROG steal thing |

'Old Zhang clearly knew that Old Wang's son took those spare parts, but he needed sufficient proof before he could tell Old Wang that self's (Old Wang's) son was stealing things.'

ii.

| 老张 | 明明知道 | 他儿子 | 把那些零件 | 拿走了 |
|------|---------|--------|-----------|--------|
| Lǎo Zhāng | míngmíng zhīdào | tā érzi | bǎ nà xiē língjiàn | ná zǒu le |
| old Zhang | clearly know | 3SG son | BA those parts | take leave PFV |

| 可是 | 告诉 | 老王 | 自己的儿子 | 在偷东西， | 老张 | 也倒霉了 |
|------|------|------|-----------|-----------|------|----------|
| kěshì | gàosu | Lǎo Wáng | zìjǐ de érzi | zài tōu dōngxī | Lǎo Zhāng | yě dǎoméi le |
| but | tell | old Wang | SELF DE son | PROG steal thing | old Zhang | also in.trouble PFV |

'Old Zhang clearly knew his son took those spare parts, but (if he) told Old Wang that self's (Old Zhang's) son was stealing things, he would also be in trouble.'

His argument is as follows: "In the two examples, *ziji* refers to either Lao Wang [i] or Lao Zhang [ii] because it is known from the respective preceding contexts whose son is doing the stealing. The antecedent of *ziji* is determined by the semantics of the whole utterance, not the syntactic function of the antecedent or its position in the sentence" (LaPolla 1990, 48-49).

that the antecedent of *zìjǐ* is *(yǒu) rén* 'someone', referring to the first (indefinite) NP, which is actually the agent of the predicate *lái jǐnggào* 'come to warn.' However, crucially, 21.6% interpreted it as being coreferential with *Zhū lǎobǎn* 'boss Zhu' and the remaining thought that both NPs were possible antecedents (although preferring the agent 'someone'). Again, it should be noted that *Zhū lǎobǎn* 'boss Zhu', would be the indirect object, and not the subject, of the verb *jǐnggào,* 'to warn.' According to some speakers, the first NP 'someone', although animate and agentive, is generic/not known/not recoverable and is perceived as a less plausible antecedent for *zìjǐ*, thus *zìjǐ* is interpreted as coreferential with Boss Zhu. This is another example of disambiguation through inference processes based on pragmatic considerations and shows that when no relevant contextual cues are provided, the ambiguity still holds in clauses with two animate NPs, regardless of their semantic/syntactic role in the sentence. Similar considerations hold for (31), adapted from Huang (1994:103), who observes how this sentence is ambiguous; however, "given our knowledge about the world, the object binding reading is the preferred interpretation" (i.e., the teacher is likely to ask whether the addressee (Xiaoming), and not himself, can speak English, as he is supposed to be aware of his language skills). On the other hand "it is difficult to see how various solutions […] can be applied to examples such as [(31)] to analyse them as obeying subject orientation."

A further argument raised by linguists to prove a subject control of *zìjǐ* is that only the subject of a BEI sentence controls reflexivisation. According to Li (1990, 155), "the fact that the initial NP in the BEI construction can trigger reflexivisation shows that the initial NP is the subject of the BEI construction". However, counterexamples to this claim are provided by Pan (1997:84): in (32), *zìjǐ* can refer both to John and Bill (this is confirmed by surveyed native speakers). Similarly, example (33) by Huang C.-T. J. (1999:7) also shows that *zìjǐ* is controlled by the NP occurring after BEI (Lisi), i.e. the only animate NP.

32. John₁ 被 Bill₂ 敢进了 自己 ₁/₂ 的房间。

    John    bèi Bill    gǎnjìn le    zìjǐ de fángjiān

    John    BEI Bill    banish-enter PFV    REFL DE room

    'John was banished by Bill to his room (either John's or Bill's room).'

33. 那一封信 被李四 带回 自己的家 去了。

    nà yì fēng xìn    bèi Lǐsì dài huí zìjǐ de jiā    qù le

that CL letter    BEI Lisi        bring-back        REFL DE home go CHG

'That letter was brought back to self's (Lisi's) home by Lisi.'

We can summarise what the above sentences show as follows:

(i) An animacy constraint applies to all antecedent of *zìjǐ* (sentences 22 to 33); in addition, other meaning-related restrictions and contextual cues play a significant role in coreference disambiguation (as in sentences 24 to 33).

(ii) Most antecedents are the highest animate NP in the thematic hierarchy of one of the verbs in the sentence (both in matrix and in embedded clauses, allowing for long-distance bound reflexives); however, *zìjǐ* can also refer to other (less agentive) verbal arguments, such as goals/benefactives (as in sentences 29, 30, 31, 32) .

(iii) In some cases, i.e. when no animate NPs are available among core arguments, any animate participant logically interpreted as having a role in the event described can be a potential antecedent, regardless of its linguistic encoding. In sentences like (28.a-b), the antecedent of *zìjǐ* is the actual event participant performing the action of being arrogant or organizing a conspiracy, although such participant is linguistically encoded as an NP modifier, and not as a core argument. Along the same lines, the antecedent of *zìjǐ* in (29), i.e. Zhangsan, is also an active participant in the event described. In this specific case, a noun (i.e. *jìhuà* 'plan'), and not a verb, suggests the role of the antecedent of *zìjǐ* in the event, i.e. the participant that actually made the plan ('his plan' = 'the plan he made').

If we were to make an encompassing generalisation, which holds for all the examined sentences, we might say that all antecedents of *zìjǐ* refer to some animate participants that play a role in the described event. These participants are likely (although need not) to be explicitly encoded as core arguments of the chosen verbs in the sentence but may also be covertly implicated in the meaning of the sentence.

Observation and analysis of the above sentences rule out a purely syntactic (subject-related) control theory of reflexives,[20] as the controller NPs do not display restricted neutralisations of, nor are restricted to, verbal arguments. Rather, reflexivisation seems to be connected with the roles of participants in the event. Huang Y. (1994, 184) also concludes his chapter on reflexives claiming that a purely syntactic approach is not sufficient in specifying the domain or the set of possible antecedents for long-distance reflexives: "it is pragmatics that is responsible for determining the actual, preferred antecedent where there is more than one structurally possible antecedent". We can conclude that reflexivisation does not provide straightforward evidence for a grammatical relation of 'subject.'

This conforms to cross-linguistic analysis on reflexives in languages that do not specify coreference through 'switch reference' (Foley and Van Valin 1984), but on pronouns:

> When co-reference is marked on pronouns, the system is usually not called 'switch-reference' but 'cross-clausal' or 'long-distance reflexivization' or 'logophoricity'. (…) Since the controlled pronoun can typically assume any GR, such systems only need to specify the GR of the controller (also known as the antecedent). Most often, this is the subject, but logophoric pronouns sometimes specify their controller as whichever argument represents the information source. (Bickel 2010, 428)

## 2.4.3. Imperatives

Imperatives are often regarded as proof for subjecthood. Indeed, some languages specify the conditions in terms of a GR (Bickel 2010:431), for example English, where the addressee is always the subject, regardless of its semantic role: evidence for this is that in passive structures

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[20] Amendments to the claim of a strict subject control of reflexives have been made by several linguists. For instance, Pan (1997:21) holds that "non-subjects can be antecedents if there is a feature conflict between the subject and the reflexive, or if the predicate is one that implies non-coreference". Huang C.-T. J. and Liu (2001:6) also talk about "non-subjects which, in general, are not potential antecedents of ziji" but are in some cases controllers of reflexives.

it is the grammatical subject (and semantic patient, but not the agent) that controls the imperative (examples from Bickel 2010:431):

34. Watch this! (transitive A argument)
35. Go! (agentive S)
36. Be seen at the grand opening! (passive derived-S argument)

However, in many languages imperatives can only be formed from agentive or volitional predicates (e.g., in Tagalog; Kroeger 1993:88), and this seems to be the case in MC as well: the addressee is simply the most agentive argument in the verb's argument structure. No passive counterpart[21] is allowed, as the contrast between (36) and (38) shows:

37. 去吧！

    qù ba

    go mod

    'Go!'

38. *被　　看见　　　　吧！

    *bèi　　kàn jiàn　　　ba

    *BEI　　watch-see　　MOD

    'Be seen!'

In fact, as specified by Lü (1999) in his 现代汉语八百词 (*Eight hundred words of modern Mandarin*), most imperatives can be formed by adding the auxiliary 要 *yào* 'want, will', for which meaning is clearly related to volitionality. For example, the form 千 万 *qiānwàn,* literally 'ten million', but used as an adverbial meaning 'by all means', and often found in imperatives meaning 'absolutely', is very likely to occur with 要 *yào* 'want, will, must', or its negative form 不要 bú yào (or 别 bié, namely its contracted form).

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[21] See, however, considerations on BEI as a marker in section 0.

39. 这件事　　　你　　千万　　　　要　　　　　　记在心里。

zhè jiàn shì　　nǐ　　qiānwàn　　　yào　　　　　　jì zài xīnli

this CL thing　　2SG　　by.all.means　　want/must　　remember at-heart-in

'You have to by all means remember this.'


40. 你　　千万　　　　不要　　　露面。

nǐ　　qiānwàn　　　bú yào　lòumiàn

2SG　　by.all.means　　NEG want　　show.face

'Do not show up by any means.'


The only passive-like form of imperatives in MC "attested in the corpora is also marked with bú yào or its contracted form bié" (Chappell 2016:476). Here is an example from Chappell (2016:476), where the imperative serves the purpose of an admonition or warning:


41. 别/不要　　　被　　我的话　　　吓住了，　　其实。

bié/bú yào　　bèi　　wǒ de huà　　xià zhù le　　qíshí

neg will/want　　BEI　　1SG DE word　　scare PFV　　in.fact

'Don't be overawed by what I said.'


Thus, imperatives can only be formed with agentive or volitional predicates, requiring agents as their first arguments, and do not single out syntactical relations. This does not come as a surprise, since, cross-linguistically, "imperatives and reflexives often do not reference a syntactic GR" (Bickel 2010:441).


## 2.4.4. Diathesis and passive


Passivisation/diathesis alternation is a syntactic process typically involving the object of an active sentence becoming the subject of the related passive sentence. In many languages, this construction is an argument selector, in that it downplays the agent of a transitive verb and allows the patient to be realised as the subject of the sentence, whereby the subject neutralises the semantic distinction between agents and patients with respect, for example, to subject verb-agreement. Hence, it identifies a specific GR—the subject, as the promotion site for

patient (object) NPs in active-passive alternations (Keenan 1976: A.3.10). In Barber's words, passive is a "device for promoting the NPs in and out of subject position" (1975:17).

For example, consider the following English sentences (adapted from Pavey 2005:157). In both the active and the passive voice, the subject controls the verb agreement and occurs at the beginning of the sentence. Crucially, the semantic representation (42.c) is the same both for (42.a) and for (42.b).

42.  a. [The child      has read         the books]                    Active voice
          AGENT                        PATIENT
     b. [The books   have/*has been read]    *by the child*.          Passive voice
          PATIENT                            AGENT
     c. [**do´** (child, [**read´** (child, books)])] & [INGR **consumed´** (books)] Semantic representation[22]

MC is often claimed to have an equivalent to the passive construction, namely the BEI construction.[23] However, different scholars hold different views with respect to this construction, while the nature of BEI as a morpheme remains unclear (Li 1990, Kit 1998, Cann and Wu 2006, Fan and Kuno 2013). This section is unable to review all studies and positions held on this issue by different scholars: it only sets out to assess whether there are restricted neutralisations in the verbal arguments and NPs that can occur in a BEI construction that can be accounted only in syntactic terms. The approach adopted here is to look at this construction and all its instantiations, and analyse it from a comparative perspective, i.e. with respect to cross-linguistic variation found in passive constructions in

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[22] This work employs the semantic representation proposed by the Role and Reference Grammar framework (Van Valin and LaPolla 1997, Van Valin 2005); for discussion on this approach, and specifically on semantic representation and predicate decomposition, see Chapter 4.

[23] It is well-known that Mandarin Chinese provides other ways to convey passive meaning, such as verbs like 让 *rang* 'make, let', 叫 *jiào* ' make', 受 *shòu* 'suffer'. This section cannot discuss these verbs and their implications; however, it is often remarked that these markers have retained a verbal nature, hence the NP preceding these verbs would in fact be their first argument.

different language families; relevant examples of different passive constructions are reported as well. According to cross-linguistic typological research collected and described in the World Atlas of Language Structures (WALS),[24] a construction has been classified as passive if it displays the following five properties:

43. Passive voice:

    i.   it contrasts with another construction, the active;[25]

    ii.  the subject of the active corresponds to a non-obligatory oblique phrase of the passive or is not overtly expressed;

    iii. the subject of the passive, if there is one, corresponds to the direct object of the active;

    iv.  the construction is pragmatically restricted relative to the active;

    v.   the construction displays some special morphological marking of the verb.

Moreover, we believe it is crucial to add two more features, pointed out both by Pavey (2005) and Creissels (2016a):

    vi.  Passivisation is a valency-decreasing mechanism, which can involve "argument-backgrounding […] and argument-removing" (Creissels 2016a:1).

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[24] The World Atlas of Language Structures (WALS) is a large database of structural (phonological, grammatical, and lexical) properties of languages gathered from descriptive materials (such as reference grammars) by a team of 55 authors; url: http://wals.info/.

[25] Creissel (2016, personal communication) actually points out that property (i) is debatable, as in many languages there exist semantic constraints where active sentences cannot have passive counterparts and passive sentences cannot have active counterparts, such as in this example from Classical Nahuatl (Launey 1980):

(i)      a.Ø-Itta-lo-c in cihuatl.

         A.3-see-PASS-CPL DEF woman

         'The woman was seen.'

         b.*Ø-Itta-lo-c in calli.

         A.3-see-PASS-CPL DEF house

         *'The house was seen.'

vii. The argument structure of the verb is not affected (i.e. the logical structure is the same), but "the mapping of semantic roles onto syntactic functions is different" (Creissels 2016a:1).

With respect to (43.v), the passive voice can be marked in different ways: English is an example of periphrastic or analytical passive (42), in which the special verbal morphology involves the use of a participial form of the lexical verb and an additional auxiliary verb. On the other hand, (44.b) is an example of a synthetic passive (Swahili), where the lexical verb exhibits some form of marking, here the suffix *-w*, which is absent from the active.

44. Swahili (Ashton 1947:224)
    a.    Hamisi         a-li-pik-a              chakula
          Hamisi         3SG-PST-cook-IND        food
          'Hamisi cooked the/some food.'
    b.    chakula        ki-li-pik-w-a                    (na      Hamisi)
          food           3SG-PST-cook-PASS-IND           by       Hamisi
          'The food was cooked (by Hamisi).'

Sentences like (42) and (44) are examples of personal passives, i.e. passives with an overt lexical subject which typically involve agent demotion (from subject to oblique role or total suppression) and a process of patient promotion (from direct object to subject). A further type of passive is the impersonal/agentless passive, which only involves agent demotion, as in (45) from Kannada (Dravidian; southern India).

45. Kannada (Sridhar 1990:215)
    a.    ya:ro:         i:nir    Nayav-annu            khaNDisidaru
          someone        this     resolution-ACC        denounce.PST.3PL.HUM
          'Someone denounced this resolution.'
    b.    i:nir    Nayav-annu               khaNDisala:yitu
          this     resolution-ACC          denounce.INF.become.3N
          'This resolution was denounced.'

The accusatively case-marked direct object *nir Nayav-annu* of the active (45.a) retains its accusative case marking in the passive (45.b). Moreover, the passive auxiliary *a:gu* 'become' is

always in the third person singular neuter and thus shows no agreement with *nir Nayav-annu*. The direct object is thus not promoted to subject. Still, it is an argument backgrounding process, in that the agent is "semantically present" (Creissels 2016a:2).

In MC, the BEI construction does in some cases resemble a passive construction: for example, the pattern in the following sentences is most frequently cited by linguists to demonstrate the passivisation effect of BEI. Like the preposition *by*, BEI introduces the agent/actor, while the patient occurs in the sentence-initial position, which is in this account identified with the subject position:

46. 他　　　被 (警察)　　　　　逮捕了。
    tā　　　bèi (jǐngchá)　　　　dàibǔ le
    3SG　　BEI (police officer)　arrest CHG
    'He was arrested (by the police officers).'

47. 杯子　　被 (他)　　　打破了。
    bēizi　bèi (tā)　　　dǎpò le
    cup　　BEI (3SG)　　break CHG
    'The cup was broken (by him).'

Both in (46) and (47), almost all features in (43) can be observed: the agent is downplayed and the patient occurs in the sentence-initial position, while the valency is decreased by one argument: the agent can be removed or demoted (it may be optionally introduced in a form that resembles an oblique—BEI resembling *by*). Another striking similarity regards the fact that the NP following BEI, as *jǐngchá* 'police' in (46) just like that following 'by', can be omitted, while the first NP (usually a patient) cannot.[26] The word order pattern can be represented as follows:

48. NP[patient/undergoer]　　　　BEI　　(NP [agent/actor] )　　V

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[26] However, crucially, while 'by' is also deleted, the BEI morpheme still occurs. Please also note that German allows agents

However, the BEI construction displays a number of other features, both formal and semantic, which differentiate it from grammatical passives; below are listed some of the most significant differences highlighted by Li (1990:155-157):

(i) Morphologically, the main verb in the BEI construction undergoes no change: property (v) is thus missing; this means that the only marker is the morpheme BEI.

(ii) Li (1990:156) observes that in the case there is an element intervening between the BEI phrase and the verb (like *yòng hǎo huà* 'with good words'), the post-BEI NP cannot be omitted. In other words, in this case only the personal, but not the impersonal passive, is grammatical:

49. *他　　被 Ø　**用好话**　　　　　骗了。
    *tā　　bèi Ø　**yòng hǎo huà**　　piàn le
    *3SG　BEI Ø　**with good word**　cheat CHG
    'He was cheated by (somebody) with good words (by coaxing).'
    (Translation by Li 1990)

(iii) Li (1990) further notes that BEI differs to *by* in that it is not a preposition, as MC does not allow for preposition stranding[27] (Li 1990:167), and that BEI can occur with no NP afterwards, as in (46) and (47).

(iv) Furthermore, BEI does not behave like a full verb either; it cannot take aspect, it cannot appear in V-NEG-V questions, and it cannot stand alone as the main verb in the sentence.

(v) However, with respect to property (43.vi), BEI does not always reduce the valency of the verb[28] – see (24.c), as examples (29.a-b) by Li (1990:156) show—all translations are from Li:

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to be non-specified, see previous footnote.

[27] For further evidence against a prepositional analysis of BEI, see Huang C.-T. J. (1999:6-7).

[28] In Li's (1990:159) words, it does assign theta roles, and "does not absorb the Case assigning feature of the verb".

50. a. 他　　被　　土匪　　杀了　　　　　父亲。

tā　　bèi　　tǔfěi　　shā le　　　　fùqin

3SG　　BEI　　bandit　　kill PFV　　　father

'He was "father-killed" by the bandit.' (His father was killed by the bandit and he was affected by the killing.)


b. 他的父亲　　被　　土匪　　　　杀了。

tā de fùqin　　bèi　　tǔfěi　　　　shā le

3SG DE father　　BEI　　bandit　　　kill PFV

'His father was killed by the bandit.'


c. 土匪　　　　杀了　　　　他的父亲。

tǔfěi　　　　shā le　　　　tā de fùqin

bandit　　　　kill PFV　　　3SG DE father

'The bandit killed his father.'


Li observes that in (50.a) "an object NP, the one being killed, follows the verb 'kill' in the *bei* sentence, in contrast to [50.b], where the one being killed is in the subject position." (1990:156). This type of construction is referred to in the literature as 'indirect passive' (Huang C.-T. J. 1999, Shi 1997), and is difficult to account for within theories involving movement (e.g., GB/minimalism) as it does not display the usual argument alternation characterizing the passive voice. Further examples of the same pattern include the following:


51. 他　　被　　人家　　　投了　　　　钱包。

tā　　bèi　　rénjia　　　tóu le　　　　qiánbāo

3SG　　BEI　　other　　　steal PFV　　wallet

'She 'had' her wallet stolen by somebody.'


52. 李四　　被　　大火　　　烧了　　　　房子。

Lǐsì　　bèi　　dàhuǒ　　shāo le　　　fángzi.

Lisi　　BEI　　big.fire　　burn PFV　　house

'Lisi 'had' his house burned by a big fire.'

Different scholars have provided various accounts for these examples, and to our knowledge, no consensus has been reached yet with respect to the true nature of the BEI construction. In what follows, we briefly summarise some of the major accounts found in the literature. Afterwards, we discuss the examples and try to establish whether a grammatical notion parallel to that of syntactic subject is involved in the construction.

When discussing example (50), Li suggests that the BEI construction has got more to do with affected participants than patients; "the reading for [50] is that the subject NP *ta* 'he' is the person who is affected by the killing of his father but is not the person who is killed". However, Li still regards BEI as "similar to the English passive structure in that both involve object to subject movement" (p.164). On the other hand, Kit (1998:9) observes that examples like those above are a "very strong piece of evidence in favour of the position that *bei* is not a passive marker in Chinese, since the post-*bei* verb is not passivized", as the 'object' still occurs after the verb. Huang C.-T. J. (1999:8) tries to deal with this descriptional inconsistency by treating BEI as a verb with a noun phrase as its subject and a clausal category as its complement, where the subject of the BEI is assigned a theta role (experiencer). According to him, BEI forms with the following predicate an intransitive complex predicate which compositionally selects the subject as its single argument, and the complex predicate can be constructed as being transitive with an affectee as its outer object. According to Bisang (2006:359), Huang's account is an "encompassing approach insofar as it consistently accounts for a wide range of data", and on this basis he claims that passivisation does provide evidence for subject-object asymmetries. However, Huang's account poses several problems to this conclusion. First, it does not account for Li's (1990:159) observations that prove that BEI is not a verb[29] (BEI cannot occur alone, nor can it enter V-not-V patterns, nor be modified by aspect etc.). Moreover, if we assume that BEI is a verb with its own argument structure, licensing an experiencer as its first argument (along with other verbs like 'to be frightened', 'to suffer', etc.), then a semantic account of the construction is sufficient, as the first NP in a BEI

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[29] In fact, there are a few points that support the view of BEI as a verb (Bisang 2006:356), including its compatibility with subject-oriented adverbials (which should not be compatible with the thematic role of patient, which the first NP in the sentence is supposed to inherit).

construction is simply the first argument of the verb 被 *bèi*. This account would then provide no evidence for subject-object asymmetries.

Regardless the different positions and accounts, if we consider sentence (50.a) (along with (51) and (52) and their related counterparts) with respect to properties in (43.i-vii), we note the following inconsistences:

i. the BEI sentence does not contrast with an active counterpart: no unaltered active counterpart of (50.a) is possible, unless it is paraphrased as (50.b), whose active counterpart is (50.c);

iii. the subject of the passive does not correspond to the direct object of the active; as Kit (1998:9) observes, the patient of the following verb in the active sentence is the postverbal NP, and not the first NP. In both cases, BEI implies 'to suffer from what happened';

iv. (does not apply as no active counterpart is available);

v. (does not apply);

vi. the valency is not reduced, but rather increased;

vii. the argument structure, accordingly, is affected (another argument is added).

A comparative analysis of all the above BEI sentences is essential to understand the nature of BEI, with respect to the patterns it can enter, the arguments it selects as a potential GR selector, and the semantic traits of the restrictions it involves. To do this, other instances of BEI sentences discussed in the literature and found in corpora are reported below.

<u>Instances of BEI sentences with no possible plain active counterpart</u>

53. a. 我紧张的心情　　　顿时　　　　被　　　他的笑容　　　一扫而光。

　　　wǒ jǐnzhāng de xīnqíng　dùnshí　　　bèi　　　tā de xiàoróng　yīsǎo'érguāng

　　　1SG nervous DE feeling　immediately　BEI　　　3SG DE smile　wipe.out

　　　'My nervous feeling was immediately wiped out by his smile.'

　　b. 他的笑容　　　顿时　　　　把　　　我紧张的心情　　　一扫而光。

　　　tā de xiàoróng　dùnshí　　　bǎ　　　wǒ jǐnzhāng de xīnqíng　yīsǎo'érguāng

65

3SG DE smile    immediately    BA    1SG nervous DE feeling wipe out

'His smile immediately wiped out my nervous feeling.'

c.* 他的笑容           顿时        一扫而光     我紧张的心情 。

\* tā de xiàoróng        dùnshí      yīsǎo'érguāng   wǒ jǐnzhāng de xīnqíng

\*3SG DE smile        immediately   wipe out      1SG nervous DE feeling

54. a. 那块布       被     她     做成了           一条裤子。

nà kuài bù    bèi    tā    zuòchéng le       yì tiáo kùzi

that CL cloth    BEI    3SG    make.become PFV   one CL trousers

'That piece of cloth was used by her to make a pair of trousers.'

b. 她   把    那块布     做成了         一条裤子。

tā    bǎ    nà kuài bù    zuòchéng le      yī tiáo kùzi

3SG    BA    that CL cloth   make.become PFV   one CL trousers

'She made a pair of trousers out of that piece of cloth.'

c.*她   做成了         那块布     一条裤子。

\* tā    zuòchéng le     nà kuài bù    yī tiáo kùzi

\*3SG    make.become PFV   that CL cloth   one CL trousers

The ungrammaticality of sentences (53.c) and (54.c) shows that not all BEI sentences can be derived by plain active sentences. Again, the reason is related to the fact that the valency of the verb is increased by one in the above sentences, which is possible in active BA sentences but not in plain active sentences.[30] Moreover, both BA and BEI constructions above share a semantic representation involving some sort of causativity:

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[30] As Hsueh (1989:116) shows, "the way we define these two constructions implies that they are readily convertible to each other. […] Though most 'plain sentences' (i.e. sentences not marked by either *ba* or *bei*) can be readily converted into either a *ba* or *bei* sentence, and vice versa, some cannot. On the other hand, a *ba* or a *bei* sentence can always be more easily converted into the other form". Thus, BEI seems to be closely related (and actually correspond to an alternation of) the BA construction. Hsueh (1989) also demonstrates that the semantic restrictions applying to the NPs in a BA construction parallel the restrictions applying to the NPs in a BEI construction, and argues that "the two constructions are exactly the

(53) [**do´** (his smile, Ø) CAUSE [INGR **wiped out´** (my nervous feeling)]

(54) [**do´** (she, Ø) CAUSE [BECOME (cloth, a pair of trousers)]

Hsueh (1989:113) further provides the following examples, which can have a BA counterpart but no active counterpart (it is important to note that the intended meaning is encoded in the English translation, even though no proper English structures correspond to the exact meaning):

55. a.老张　　　被　　他太太　　　哭得　没了主意。
　　Lǎo Zhāng　bèi　tā tàitai　　kū de　méi le zhǔyi
　　Old Zhang　BEI　3SG wife　　cry DE　be.completely.at.a.loss
　　'Old Zhang was completely at a loss because of his wife's crying.'

　　b.老张太太　　　　把　　老张　　　　哭得　没了主意。
　　Lǎo Zhāng tàitai　　bǎ　　Lǎo Zhāng　kū de　méi le zhǔyi
　　Old Zhang wife BA　　Old Zhang　　cry DE　be.completely.at.a.loss

　　c.*老张太太　　　　哭　　老张　　　（哭得）　　　没了主意。
　　*Lǎo Zhāng tàitai　kū　　Lǎo Zhāng　（kū de）　　méi le zhǔyi
　　*Old Zhang wife　　cry　　Old Zhang　（cry DE）　be.completely.at.a.loss

56. a. 他　被　那首歌　　唱得　　　　　　流眼泪。
　　tā　bèi　nà shǒu gē　chàng de　　　　　liú yǎnlèi
　　3SG　BEI　that CL song　sing DE (cause to)[31]　shed tears
　　'He shed tears due to her singing of that song.' [Her singing that song made him cry]

　　b. 那首歌　　　把　　他　唱得　　　　　流眼泪。
　　nà shǒu gē　　bǎ　　tā　chàng de　　　　liú yǎnlèi

---

same except for the marker" (113) [and the sequence of the NPs].

[31] In this context, 得 DE can be considered as a consecutive marker (it means 'obtain', 'reach', 'achieve', hence the consecutive reading 'sing and reach the state of shedding tears').

| | | | | | |
|---|---|---|---|---|---|
| | that CL song | BA | 3SG | sing DE (cause to) | shed tears |

'(Singing) that song made him shed tears.'

| | | | | | |
|---|---|---|---|---|---|
| c. *那首歌 | 唱 | 他 | (唱得) | | 流眼泪。 |
| *nà shǒu gē | chàng | tā | (chàng de) | | liú yǎnlèi |
| *that CL song | sing | 3SG | (sing DE (cause.to)) | | shed tears |

The above sentences are particularly significant for a number of reasons: (55.a) is a BEI sentence. However, the main verb *kū* 'cry' is an intransitive verb, whereas passive constructions involve at least transitive or ditransitive verbs. The sole argument of *kū* 'cry' is *Lǎo Zhāng* (Old Zhang): this argument is neither promoted nor demoted, but still occurs as the first NP in the sentence (unlike what property (ii) predicts). Moreover, the post-BEI NP is not an argument of the verb but can be understood as an external causer, and not the agent of the verb (unlike what property (ii) predicts); in this case BEI seems to be a **valency increasing** rather than a valency decreasing mechanism. Specifically, it resembles a causative construction (where the valency of the verb is enhanced by one, i.e. the causer). In the BEI sentence (56), the main verb is *chàng* 'sing', i.e., a transitive verb with a cognate patient *gē* 'song'. The pre-BEI slot is not occupied by the patient/object (which is not raised, unlike what property (iii) predicts), but by the agent *tā* 'he'. Moreover, the post-BEI NP is occupied by the cognate patient *gē* 'song', and not the agent (unlike what property (ii) predicts). Finally, as Hsueh (1989) observes, (55.a) and (56.a) cannot relate by means of a grammatical process such as 'passivisation' to an 'active' sentence with the first NP filling a slot within the argument structure of the verb. In fact, a plain active counterpart is not possible, as the ungrammaticality of (55.c) and (56.c) shows. This has led some scholars to analyse BEI structures as 'base-generated', just like hanging topics like that in (5); however, this would involve that no active-passive grammatical process occurs in BEI (thus ruling out any evidence for subject-object asymmetries).

Occurrences of the BEI marker that involve semantic but not syntactic change

Another piece of evidence against a syntactic account of BEI as a passive alternation is a structure featuring intransitive verbs, nouns, and adjectives (and not transitive verbs) as the

predicate after BEI, discussed by Nie (2016) as 'new usages of BEI'. Nie presents a series of examples, e.g., the following:

57. ...不让　　　　贫穷民户　　　　被　　　小康。

    bú ràng　　　　pínqióng mínhù　　　bèi　　xiǎokāng

    NEG allow　　　poor people　　　　BEI　　comparatively.good.living.standard

    '... and do not allow the poorer to achieve a nice living standard.'

According to Nie, 小康 *xiǎokāng* is a noun, (roughly meaning 'comparatively good living standard'). In fact, the entry of *xiǎokāng* is in most dictionaries actually not specified in terms of word class and is mainly listed as occurring as a noun modifier (e.g., *xiǎokāng shèhuì* 'well-off society') – it may thus also be considered an adjective; in any case, it a monovalent predicate. However, it occurs as a predicate introduced by BEI, and its sole argument is *pínqióng mínhù* 'poor people', and crucially occurs before BEI, hence no possible 'movement' is involved. Similarly, many occurrences of NP + BEI + monovalent predicates (e.g., adjectives) can be found in online blogs and news websites (e.g., "NP BEI *juānkuǎn*", "NP BEI *jiùyè*", "NP BEI *bìyè*"). Examples are provided below:

58. 每年　　　　快过年了，　　　　被　　　捐款！...

    měi nián　　　kuài guònián le　　　bèi　　juānkuǎn

    every year　　almost pass-year　　　BEI　　contribute.money

    'Every year, when the new year is approaching, I/we/everyone is forced to donate money.'

59. ...在　　不明真相的情况下　　　　　　　　被　　　就业的！

    zài　　bù míng zhēnxiāng de qíngkuàng xià　　bèi　　jiùyè de

    at/stay　NEG clear true DE circumstance under　BEI　　find job DE

    '(I) (was reported to have) found a job under unclear/false circumstances!'

    *Source*: Tianya Web Forum, 12/7/2009, adapted from Gan (2009:1)

    (http://politics.people.com.cn/GB/30178/9723716.html, last visited 22/9/2017)

捐款 *juānkuǎn* in (58) (lit. 'contribute money'), 就业 *jiùyè* 'find job', and 毕业 *bìyè* 'graduate' (lit. conclude/finish school) are all active predicates selecting only an argument (actor).[32] Significantly, in this case, the difference between the BEI or non-BEI sentences (*tā jiùyè* vs. *tā bèi jiùyè*, or *tā juānkuǎn* vs. *tā bèi juānkuǎn*) is not syntactic, as the first argument of the verbs occurs in the same position (sentence-initial). On the contrary, there is a semantic difference: in all instances, the first NP is understood as having been forced to do something outside of his will, to have no control over the event, and to be "passively pushed to initiate some action" (Nie 2016). A further possible entailment is that the event participant occurring before BEI is falsely reported as having done what the verb indicates. This is the case of (59), as Gan (2009:1) explains "'被就业'指的是某些部门为了追求高校毕业生的就业率，弄虚作假的就业现象" ['*bèi jiùyè*' indicates that some department, in order to achieve high percentages of employability rates, falsely reports that some got employed]. Gan further notes that, thanks to the internet, this BEI usage has become very productive:

> 由于网络的力量，"被就业"、"被自杀"等词迅速地传播开来，使得"被 XX"成为一种非常能产的格式 [Thanks to the power of the web, expressions like "*bèi jiùyè*" and "*bèi zìshā*" have quickly spread out, hence the "*bèi* XX" pattern has become extremely productive]. Gan (2009:1)

Nie (2016) provides further examples, drawn from blogs and news websites, highlighting the semantic (but not syntactic) difference between these BEI/non-BEI sentences, such as the following pair (*shīzōng* means 'disappear, be missing' and is intransitive):

60. a.李四　失踪了
    Lǐsì　　shīzōng le
    Lisi　　disappear CHG
    'Lisi disappeared' (probably wilfully)

---

[32] In some cases, they display a predicate-internal second argument. (i.e. *juān kuǎn*, lit. 'contribute-money').

b.李四　被　　失踪了

Lǐsì　　bèi　　shīzōng le

Lisi　　BEI　　disappear CHG

'Lisi disappeared' (someone got rid of him – involves lack of control)

Other means to promote patients to the sentence-initial and preverbal position

A further issue concerns property (iii): the BEI construction is not the only means to promote the patient NP to a preverbal position and demote the agent. The pattern in (61), usually referred to as pseudo-passive or notional passive, is an example; no passive marker occurs, and the patient occurs to the left of a transitive verb and no agent is specified. Crucially, in this case, the occurrence of BEI results in ungrammaticality (see 61.b):

61. a. 饭　　烧(好)了。 　　　　　　　　　　　　　　　　(Xiao and McEnery 2004)

　　fàn　　shāo hǎo le

　　meal　　cook-ready PFV

　　'The meal is ready.'

　　b.*饭　被　　烧（好）了。

　　* fàn　　bèi　　shāo hǎo le

　　*meal　　BEI　　cook-ready PFV

　　fàn　　shāo hǎo le

　　meal　　cook-ready PFV

　　'The meal is ready.'

　　b.*饭　被　　烧（好）了。

　　* fàn　　bèi　　shāo hǎo le

　　*meal　　BEI　　cook-ready PFV

Topicalisation of patients, and BA sentences, also constitute very common ways of allowing patients to occur preverbally.

In what follows, some considerations will be made with respect to the different patterns in which BEI can appear. First, the structure varies, along with the number of NPs that can occur in a BEI sentence, which we report below:

- NP BEI V            (V: can be both transitive and intransitive)
- NP BEI NP V
- NP BEI NP V NP

Second, the verb need not be transitive – examples (53), (55), (57), (58) and (60); in some cases, e.g., (53) and (57), it need not be a verb, but it can be a different predicative element. This is quite significant, in that usually an active/passive alternation involves transitive verbs. As a consequence, not all instances of BEI involve the first NP as a patient.

Crucially, the only commonality is a semantic one: pre-BEI NPs are not strictly patients, but rather event participants that are somehow affected (in this case in a negative way) by the event itself: the initial NP is not (only) the patient/undergoer, but the affectee (or, as Kit proposes, the "maleficiary") of the post-BEI VP action. In fact, the semantic notion of "affectedness" encompasses, but is not limited to, that of "patienthood". This is noted also by Huang C.-T. J. (1999:5) who states, "the subject does not always play a pure Patient or Theme role which it inherits from the NP-trace, but may receive a thematic role of its own, and may not involve that the pre-BEI NP undergoes the action (unlike patients)". He continues by saying that this is evidenced by passive sentences containing subject-oriented adverbs like 故意 *gùyì* 'deliberately, intentionally', as in the following sentence:

62. 张三　　　　　故意　　　　　被（李四）　　打了。
　　Zhāngsān　　　gùyì　　　　　bèi (Lǐsì)　　dǎ le
　　Zhangsan　　　intentionally　BEI (Lisi)　　hit PFV
　　'Zhangsan intentionally got hit (by Lisi).'

The most crucial point for our research question is, pre-BEI NPs are not restricted to verbal arguments. As long as an event expressed by the predicate affects some entity/event participant, this can occur as the first NP in the BEI sentence, regardless of its semantic relation with the verb. In most cases it is the patient, but it can also be its agent and even a

non-argument. This appears to be closely connected with the original semantic implication of BEI, essentially used to express an adverse situation: "the function of the BEI sentence is to indicate how the receiver to an event is changed by, or is directly affected by an event after it undergoes the event" (Loar 2011:319). Lastly, concerning property (vi), BEI is a valence-changing process in two different ways: (i) it might reduce the valency of the verb (such as in sentence (47), when no agent is expressed), or (ii) it might increase it by one—either bivalent to trivalent, like in sentences (50-52), or monovalent to bivalent, such as in (55). Again, the first NP in the sentence is not restricted to verbal arguments: as long as an event expressed by the predicate affects some entity/event participant, this can occur as the first NP in the BEI sentence.

The properties above raise a number of problems with respect to an account of BEI as a passive, in that it does not display restricted neutralisations with respect to patients or NPs in the argument structure of the verb. Hsueh (1989:113) claims that "the **bei** construction and the passive voice represent different concepts and should by no means be equated to each other". What all BEI structures seem to have in common is not a syntactic process, where the patient is raised to subject, but a semantic property, where the first NP bears the role of affectee in the described event. [33]

Fan and Kuno (2013) propose a very interesting account of BEI constructions in semantic terms: according to them, the semantic/discourse function of the BEI sentence is to

> indicate that the referent, the speaker (or the person whose point of view (s)he is representing) or the hearer receives a major impact which is above a certain threshold from the action, event, or state represented in the sentence. The impact can be either direct, as is the case with high-impact verbs (e.g., 打 dǎ 'hit', 开除 kāichu 'fire'), indirect (as is the case with low or no impact verbs such as 看见 kànjiàn 'see', 恨 hèn 'hate'), or both" (Fan and Kuno 2013:205).

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[33] While the term *affectee* might involve some negative meaning, this is not what we mean here. What we mean is that it is "somehow affected" (in either a positive or a negative way) by the event expressed by the whole sentence.

This also accounts for cases where no adversative meaning is implied in the sentence, such as in 63), from Fan and Kuno (2013):

63. 他　　　被　　　称为　　　　　球王
    tā　　　bèi　　　chēng wéi　　qiúwáng
    3SG　　BEI　　　call　　　　　ball.king
    'He is called the King of ball.'

This accounts for the semantic selectional restrictions displayed by BEI which, however, are not limited to the argument structure of the main verb in the sentence. An account of BEI as a bleached verb, which still projects an argument structure (similar to that of Huang C.-T. J. 1999), is in fact more coherent, although it needs to deal with the non-verbal properties of BEI listed above. Nevertheless, there is no evidence to treat BEI as an argument selector, nor any evidence that its initial argument is a subject. Again, the data above may suggest that there is a neutralisation with respect to the semantic role of the pre-BEI NP as the 'affected entity'; however, such an affected entity need not be an argument of the verb, but an event participant in general that is affected by what is described by the predicate.

## 2.4.5. Topic extraction out of relative clauses

Topic extraction out of relative clauses is in many languages restricted to subjects. The following two examples of topic extraction out of relative clauses from Huang and Li (1996:82) seem to provide evidence for subject-object asymmetries. According to them, examples (64.b) and (65.b) are ungrammatical because the head nouns of the relative clauses are in a patient-object relationship with the matrix verbs (whereas in the (a) counterparts they are in an agent-subject relationship). In other words, this process only selects agents/actors, but not patients/undergoers to be extracted out of relative clauses and occur as topics of the main sentence.

64. a. 张三 $_j$,　　　　[REL　[Ø$_j$ 唱歌的]　　　　声音]　　　　很好听。
    Zhāngsān　　　　　　chàng gē de　　　shēngyīn　　hěn hǎotīng
    Zhangsan　　　　　　sing song DE　　voice　　　　very charming
    'Zhangsan, the voice with which (he) sings is charming.'

b. *张三 ??, 我喜欢 [REL [Ø??唱歌的 声音]。

\* Zhāngsān  wǒ xǐhuān  chàng gē de  shēngyīn

\*Zhangsan  1SG like  sing song DE  voice

'Zhangsan, I like the voice with which (he) sings.'

65. a. 张三 ??, [REL 批评的] 人 很多。

Zhāngsān  pīpíng de  rén  hěn duō

Zhangsan  criticise DE  person very many

'Zhangsan, people who criticised (him) are many.'

b. * 张三 ??, 我认识 很多 [REL 批评 Ø??的] 人。

\*Zhāngsān  wǒ rènshi  hěn duō  pīpíng de  rén

\*Zhangsan  1SG  know  very many  criticise DE  person

'Zhangsan, I know many people who criticised him.'

However, Xu and Langendoen (1985:15) present counterexamples where a position in the relative clause modifying a patient is bound by the topic/first NP, and argue against subject-object asymmetries in topic extraction out of relative clauses:

66. a. 我 从来 没遇到过 [REL 能回答 这个问题 的] 人。

wǒ  cónglái méi yùdào guo  néng huídá  zhè ge wèntí  de  rén

1SG  ever  NEG meet EXP  can answer  this CL question  DE  man

'I have never met a person who can answer this question.'

b. 这个问题 ??  我 从来 没遇到过 [REL 能回答 Ø?? 的] 人。

zhè ge wèntí  wǒ  cónglái méi yùdào guo  néng huídá de  rén

this CL question  1SG  ever  NEG meet EXP  can answer DE  man

'I have never met a person who can answer this question.'

Huang and Li (1996) and Bisang (2006) note that in (64) and (65) the gap is bound by an animate noun phrase, whereas in (66), the gap is bound by an inanimate noun phrase. If we examine inanimate nouns, the findings of Xu and Langendoen (1985:15) are confirmed, according to which there does not seem to be any subject-object asymmetry. However,

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Huang and Li (1996) and Bisang (2006) still regard cases where the gap is bound by animate nouns (or to be even more rigid, by nouns denoting humans), as evidence of subject/object asymmetries in MC. Bisang (2006:361) notes that the "special status of humans in the MC system of binding is well established (though not always duly considered in the literature)". Still, he maintains, "there is a clear-cut subject/object asymmetry in the case of nouns denoting humans." (p.361).

However, the examples provided by Huang and Li (1996:82) are problematic regarding several aspects. As Huang and Li claim, 100% of native speakers agree that sentence (65.a) is acceptable and unambiguous. However, they also agree on the fact that Zhangsan is not coreferential with the patient of the verb in the relative clause as in the translation provided by Huang and Li (1996:82) and reported by Bisang (2006:359), but with its agent, as in the translation provided in (65.a'). This shows that (65.a) is not an instance of topic extraction, as the relative clause is interpreted as including Zhangsan. The structure of the sentence is better highlighted in (65.a'):

65. a'. [张三，　　批评 Ø$_j$的]　　人 $_j$　　很多。

    Zhāngsān　　　pīpíng de　　rén　　hěn duō

    Zhangsan　　　criticise DE　　person　very many

    'The people who Zhangsan criticises are many/Zhangsan criticises many people.'

As for (65.b), 100% agreed that is not acceptable, as expected. However, the reasons they put forward are interesting: 100% explicitly say that the sentence is not clear in terms of the role of its participants. It is just not possible for them to understand who criticised whom: it may be 'people that criticise Zhangsan' or 'criticizing the speaker', and thus the sentence fails to convey any message (with no context provided, the first NP could be interpreted as a vocative NP). Some also point out that, if the sentence is ambivalent, a clearer and more direct structure is in order. This again shows that, when no cues regarding the disambiguation of participant roles are present (such as animacy, world knowledge, or other inference processes),

MC tends to opt for clearer structures that stick to the unmarked order of arguments. This feedback highlights the fact that their judgement is more role-disambiguation driven than syntactic-driven. However, this also highlights that, when two NPs are animate and can both be the agent/most prominent role in the verb argument structure, some sort of freezing[34] phenomenon occurs, allowing only the most prominent role to undergo extraction out of relative clauses (this will be further explored in Chapter 5). Crucially, the first NP in (66.b) is connected to the verb through a very well established connotation, i.e. *huídá wèntí* 'answer questions', and creates no role-related interpretation problems, as the agent is correctly and unambiguously individuated in the only animate NP.

The issue of animacy constraints has already been raised by several linguists including Huang C.-T. J. (1982), as well as in Hou (1979:62), when talking about object preposing (i.e. SOV patterns) with a similar sentence structure: "[a]nother restriction on this rule is that it must apply exclusively to animate nouns. Thus, (b) is ungrammatical where an animate noun has undergone this rule". (Example adapted from Hou 1979:26)

67. a. 他　　批评了　　　　　　那个女儿。

　　　tā　　pīpíng le　　　　　　nà ge nǚ'ér

　　　3SG　criticise PFV　　　　that CL girl

　　b.*他　　那个女儿　　　　　批评了。

　　*tā　　nà ge nǚ'ér　　　　　pīpíng le

　　*3SG　that CL girl　　　　　criticise PFV

　　Intended meaning for both: ' He criticised that girl.'

What Huang C.-T. J. calls object preposing (see also Hou 1979 and Paul 2002) is not restricted as a grammatical process itself, as it is possible with inanimate NPs (where no

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[34] This phenomenon will be discussed in detail in Chapter 5, section 5.7. For an account of word order freezing phenomena, see Mohanan and Mohanan (1994) and Lee (2004). According to Lee (2004:64), word order freezing phenomena are not uncommon in many free word order languages: "a certain canonical word order becomes fixed under special circumstances in which the relative prominence relations of different dimensions of linguistic substance—grammatical functions, semantic roles, case, and positions in phrase structure—do not match, or in which morphology is unable to distinguish the grammatical functions of the arguments".

ambiguity arises in terms of event participants), in that the so-called object preposing is a well-established phenomenon in MC (see section 3.4.2). Along the same lines, the same animacy restrictions displayed by topic extraction seem not to be related to the grammatical process itself, but to possible meaning ambiguities in sentence processing. Thus, the animacy restriction is not a syntactic restriction, but rather a semantic-pragmatic one. The following section further investigates the variation within the relative order of core constituents in the sentence (verb and arguments), highlighting a similar freezing phenomenon with regards to animacy.

## 2.4.6. Word order permutations

The previous section highlighted constraints limiting the extraction of NPs out of relative clauses when they are all animate, or at least where possible ambiguities arise in the interpretation of the roles of participants in the event described by the sentence. In fact, a similar constraint holds for discourse-motivated permutations in word order. Let us consider Tai's (2008:32-34) three sets of *allosentences,*[35] namely sentences with the same propositional content—the same (A)gent, (V)erb, and (P)atient – but with different informational content (given-new or focal structure).[36] Beijing native speakers were asked to evaluate their acceptability: results are reported below (from Tai 2008):

| Possible orders | 68. He ate an apple. | 69. The tiger ate the rabbit. | 70. The tiger ate the lion. |
|---|---|---|---|
| AVP | a. 他吃了苹果。<br>tā chī le píngguǒ<br>3SG eat PFV apple | a. 老虎吃了兔子。<br>lǎohǔ chī le tùzǐ<br>tiger eat PFV rabbit | a. 老虎吃了狮子。<br>lǎohǔ chī le shīzǐ<br>tiger eat PFV lion |

[35] In the sense of Daneš (1966), also used in Lambrecht (1994:9), i.e. "multiple structures expressing the same proposition." These aspects will be more extensively discussed in Chapter 5.

[36] Different word order patterns are possible only in different contexts and for different communication needs, such as variation of the information status of NPs (given vs. new), topic progression, speaker's choice of topic and focus and so on. This aspect will be described in greater detail in Chapter 5.

| | | | |
|---|---|---|---|
| PAV | b. 苹果，他吃了。<br>píngguǒ tā chī le<br>apple 3SG eat PFV | b. 兔子，老虎吃了。<br>tùzǐ lǎohǔ chī le<br>rabbit tiger eat PFV | b. 狮子，老虎吃了。<br>shīzǐ lǎohǔ chī le<br>lion tiger eat PFV |
| APV | c. 他，苹果吃了。<br>tā píngguǒ chī le<br>3SG apple eat PFV | c. ? 老虎，兔子吃了。<br>? lǎohǔ tùzǐ chī le<br>? tiger rabbit eat PFV | c. * 老虎，狮子吃了。<br>* lǎohǔ shīzǐ chī le<br>* tiger lion eat PFV |
| VPA | d. 吃了苹果，他。<br>chī le píngguǒ tā<br>eat PFV apple 3SG | d. 吃了兔子，老虎。<br>chī le tùzǐ lǎohǔ<br>eat PFV rabbit tiger | d. 吃了狮子，老虎。<br>chī le shīzǐ lǎohǔ<br>eat PFV lion tiger |
| PVA | e. 苹果吃了，他。<br>píngguǒ chī le tā<br>apple eat PFV 3SG | e. ? 兔子吃了，老虎。<br>? tùzǐ chī le lǎohǔ<br>? rabbit eat PFV tiger | e. ? 狮子吃了，老虎。<br>? shīzǐ chī le lǎohǔ<br>? lion eat PFV tiger |
| VAP | f. * 吃了他，苹果。<br>* chī le tā píngguǒ<br>* eat PFV 3SG apple | f. * 吃了老虎，兔子。<br>* chī le lǎohǔ tùzǐ<br>* eat PFV tiger rabbit | f. * 吃了老虎，狮子。<br>* chī le lǎohǔ shīzǐ<br>* eat PFV tiger lion |

The first set, (68), presents an animate and an inanimate NP, and all six possible orders are accepted by Beijing native speakers, except VAP,[37] since the pragmatic inference allows no ambiguity of interpretation of who eats what. In sentences (69.a-f) and (70.a-f), both NPs are animate; however, in (69), pragmatic inference predicts it is unlikely that the rabbit eats the tiger, therefore sentences displaying all word orders (again, except VAP) should also be acceptable, because they can be correctly interpreted. Still, most native speakers feel uncomfortable with (69.c), namely A(gent)-P(atient)-V(erb) word order, because of this agentivity conflict. In the third set, both NPs are likely to be either agent or patient, thus (70.c) is ungrammatical with the intended meaning as (70), and can be only interpreted as having a PAV order, i.e. with the meaning of 'The lion ate the tiger'.

Sentences (68.c), (69.c), and (70.c), taken together, show that the functional role of word order arises to meet the need of avoiding ambiguity in role-related aspects, such as, for example, semantic functions like agent versus patient. Only afterwards can it encode reference-related information, i.e. givenness, topichood and other discourse functions (Chafe

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[37] This is confirmed by the native speakers we have surveyed, however, some native speakers, especially from the north-eastern part of China, think that the VPA pattern is awkward.

1976). Moreover, it also shows that potential asymmetries are sensitive to semantic constraints, such as animacy, but are independent of syntactic constraints. However, if animacy is a feature allowing role-related disambiguation and licensing the above-observed word order freezing phenomena, it does not account for the pragmatic aspect of the perception by the native speakers of when this ambiguity holds. If it is true that for the first two cases the feature of animacy might allow for the formalisation of the resolution of the ambiguity, then the comparison between the second and third set of *allosentences* shows that the pragmatic aspect of world knowledge needs to also be accounted for in the formalisation. In this respect, as shown in the section on reflexivisation and topic extraction out of relative clauses, animacy-related constraints play an important role in MC and need further investigation.

To conclude, processes such as reflexivisation, topic extraction out of relative clauses and marked word order patterns display restrictions related mainly to animacy, and more specifically to the need of avoiding ambiguity in the identification of the role of participants in the described event. It appears that what look like subject-object asymmetries are a consequence of role-related ambiguities, and arise when neither animacy nor other semantic, contextual, or logical cues are available in order to understand "who does what to whom", which is one of the primary functions of word order (Gershkoff-Stowe and Goldin-Meadow 2002:p.2). Based on the evidence above, we think that the interplay of factors involved in topic extraction and word order freezing have more to do with ambiguity avoidance in the roles of participants (role-related aspects), rather than proving the existence of subject-object asymmetries. Were the subject as a grammatical notion to control such processes, this would be the case regardless of the semantic and meaning-related features of the involved NPs (such as animate vs. inanimate patients). This point will be further discussed in section 5.7.

## 2.4.7. Co-reference constructions

Co-reference constructions require an NP in a subordinate clause (the 'controllee') to be coreferential with an NP in the matrix clause (the 'controller'). If the controller is an argument of the verb in the matrix clause, it is traditionally called a 'control construction' (e.g., *He wants to go*). Two aspects of control constructions are usually employed as evidence for the

existence of the GR 'subject'. First, in many languages, only a syntactic subject can be controlled by control verbs; if the controllee has a patient role, the voice must be switched (see section 2.4.7.1). Second, in many languages the controllee must be omitted in the complement clause, which is a non-finite clause (see section 0). On the other hand, if the controller superordinate GR is not a semantic argument of the verb in the superordinate clause, this is a raising construction, e.g., *He seems to work* (to be discussed in section 2.4.8). Cross-linguistically, the controllee is most often defined as subject: thus, raising constructions have been traditionally used as diagnostics for subjecthood (Bickel 2010:422).

### 2.4.7.1.   Control constructions and voice switch

In English, in contrast with *tell*-type verbs (71.a), *persuade*-type *verbs* like *want* (71.b) are control verbs, i.e., they take a non-finite clause as a complement, where no subject NP is allowed (71.b). Moreover, if the controllee is the patient of the verb in the complement clause (71.c), this must be passivised, in order for the controllee to become the subject of the complement clause:

71.  a. I told <u>the doctor</u> that <u>he</u> had examined you before.
     b. I want <u>the doctor</u> to Ø examine you/* I want <u>the doctor</u> to <u>he</u> examine you.
     c. I want <u>you</u> to Ø be examined by the doctor.

Most control verbs require a volitional agent. Thus, control constructions in general can be accounted for semantically: the controllee is the most agent-like verbal argument and no GR is in fact necessary. This test then looks at whether arguments other than agents/actors can be controlled by control verbs and if, in this case, a 'passive' construction is needed (which would prove that control is only restricted to a GR). This methodology, however, presupposes that the passive is a reliable test in this sense, for which a number of doubts have been raised in section 2.4.4. Native speakers were asked if the following sentences are acceptable:

72.  因为　　张三　　　　　不喜欢　　　医院，
     yīnwèi　Zhāngsān　　　bù xǐhuan　　yīyuàn
     Because Zhangsan　　　not like　　　hospital

| 他 | 请 | 李四 | 在家里 | 被医生 | 检查。 |
|---|---|---|---|---|---|
| tā | qǐng | Lǐsì | zài jiā lǐ | bèi yīshēng | jiǎnchá |
| 3sg | invite | Lisi | at home in | BEI doctor | visit |

'Due to his fear of hospitals, Zhangsan asked Lisi to be visited by the doctor at home.'

[ca. 80% wrong or barely acceptable; 10% non-acceptable]

73.
| 张三 | 要求 | 在家里 | 被 | 医生 | 检查。 |
|---|---|---|---|---|---|
| Zhāngsān | yāoqiú | zài jiā lǐ | bèi | yīshēng | jiǎnchá |
| Zhangsan | require | at home in | BEI | doctor | visit |

'Zhangsan wants to be visited by the doctor at home.'

[66.7% acceptable; 33.3% non-acceptable]

74.
| 妈妈 | 说服 | 李四 | 被 | 医生 | 检查。 |
|---|---|---|---|---|---|
| māma | shuōfú | Lǐsì | bèi | yīshēng | jiǎnchá |
| mom | convince | Lisi | BEI | doctor | visit |

Intended meaning: 'Mum convinced Lisi to be seen by a doctor.'

[40% correct; 60% weird/much better with active verbs/constructions]

75.
| 皇帝 | 命令 | 皇后 | 被 | 医生 检查。 |
|---|---|---|---|---|
| huángdì | mìnglìng | huánghòu | bèi | yīshēng jiǎnchá |
| emperor | order | empress | BEI | doctor visit |

Intended meaning: 'The emperor wants the empress to be seen by a doctor.'

[8% correct, 20% ok but better with active verbs/constructions, 60% weird or not acceptable]

76.
| 妈妈 | 劝 | 李四 | 在家 | 被 | 医生 | 检查。 |
|---|---|---|---|---|---|---|
| māma | quàn | Lǐsì | zài jiā | bèi | yīshēng | jiǎnchá |
| mom | convince | Lisi | at home | BEI | doctor | visit |

'Mom convinced Lisi to be visited at home by the doctor.'

[24% correct, 50% not so acceptable, 24% wrong]

The acceptability rate for these sentences is rather low. Most native speakers have raised serious doubts regarding the use of BEI in these sentences. When asked why, many (almost half) said that sentences such as those above should be rephrased without BEI, for example,

either with a plain active sentence (72.a), or replacing BEI with the full causative verb *ràng* 'let, make' (72.b):

| (72.a) | 张三 | 请 | 医生 | 来家里 | 检查李四 | | |
|--------|------|------|------|--------|----------|---|---|
| | Zhāngsān | qǐng | yīshēng | lái jiā lǐ | jiǎnchá Lǐsì, | | |
| | Zhangsan | invite | doctor | come home-in | visit Lisi | | |
| (72.a') | 张三 | 请 | 李四 | 在家里 | 让 | 医生 | 检查 |
| | Zhāngsān | qǐng | Lǐsì | zài jiā lǐ | ràng | yīshēng | jiǎnchá |
| | Zhangsan | invite | Lisi | at home-in | make/let | doctor | visit |

A further analysis was also conducted on the PKU corpus, with the aim to establish the compatibility of control verbs with the morpheme BEI. No occurrences were found for strings of the type of (control/persuade type)V – Personal Pronoun - BEI; tested verbs include: 劝 *quàn* 'convince', 逼 *bī* 'force', 请 *qǐng* 'invite', 让 *ràng* 'let', and 命令 *mìnglìng* 'order'. In short, no convincing evidence was found with respect to this test. In general, this can be explained by the fact that BEI involves non-volitionality or no control, whereas persuade-type verbs require wilful choice by the event participant involved.

### 2.4.7.2. Finite and non-finite constructions

Finiteness is a relevant feature with respect to GR asymmetries, in that in many languages (such as most Indo-European languages) a non-finite clause (involving infinitives, participles, coverbs, purposives, supines, etc.) bans the occurrence of an overt argument, and the ban is most often specified on subject arguments, e.g., infinitives *he to work* or coverbs *while he working* (Bickel 2010:421). However, Bickel (2010:422) stresses the fact that "this is by no means universally so: many languages allow any overt argument in, for example, infinitival clauses (e.g., Nepali; Bickel and Yadava 2000), or they allow them if they are mapped into a specific case relation".

MC does not display overt tense marking in morphology to systematically distinguish finite from non-finite clauses, and the existence of finite vs. non-finite distinction in MC has been a controversial subject in the literature. In fact, studies show that finiteness as a property does

not only concern overt finite verbal morphology. On the basis of his analysis of Swedish and Japanese, Sells (2007) argues that morphological finiteness (which is an overt form feature of verbs and other lexical items) is distinct from the clausal function FINITE, which in turn is an underlying "grammatical property of clauses" (p.86) appreciable by virtue of FINITE-sensitive phenomena, including complementisers and negation elements. In particular, complementisers appear to subcategorise for either a finite or non-finite complement. Along the same lines, Bisang (2001:1409) claims that "it is possible to distinguish meaningfully between finite v. non-finite languages in spite of the absence of any morphological indication".

Lin (2011) and Biggs (2011) argue in favour of a [±finiteness] distinction in MC, although their accounts note that certain features of the language, such as the lack of grammatical features (Lin 2011) or the base-generated internal topics (Biggs 2011), make the behaviour of the obligatory null subject somewhat freer. Li (1990) and Huang C.-T. J. (1989) also maintain that a finiteness distinction must be made, in particular regarding complementation and negation. According to them, finiteness, but not non-finiteness, creates barriers to certain syntactic processes and relations, including the distribution of overt NPs and empty categories. On the other hand, Hu, Pan and Xu's (2001) analysis of the tests for the existence of finiteness in MC shows that there is no independent evidence to support such a distinction. The same is also claimed by Huang Y. (1994:24-57), who shows that the distinction between *pro* and PRO in relation to finiteness as defined by Huang C.-T. J. (1989)[38] presents a number of problems and concludes: "there are only finite clauses in the language" (p.57). Bisang (2001, 2006) also concludes that the existence of non-finite clauses in MC is controversial. "[…] there is no watertight proof of nonfiniteness in Chinese" (Bisang 2006:359).

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[38] Huang (1989) discusses the question of finiteness in Chinese in terms of *pro*/PRO, two variants of an empty category: in a finite embedded clause, a zero anaphor occurring in subject position can be interpreted as an A-bound variable or as a *pro*. Non-finite clauses, on the other hand, contain PRO. We will not repeat here Huang's detailed arguments against the pro/PRO analysis (see Huang 1994:24-57), which also concern theoretical issues connected with the GB theory of anaphora. However, we present some of Huang's most significant examples on finiteness in Chinese.

Against this background, let us examine some of the most salient aspects of the debate. The strongest argument in favour of the GR of subject in MC is put forward by Li (1990:17) who, following Huang C.-T. J., tries to show that verbal complements and embedded clauses can be distinguished in terms of their behaviour with (i) aspect, (ii) negative polarity, (iii) time adverbials vs. aspect markers, and (iv) modals.

Li's most interesting argument (and the only argument Bisang (2001) considers worth mentioning –see Bisang for discussion) differentiates tell-type verbs from persuade-type verbs with respect to their interaction with the adverbial 从前 *cóngqián* 'before', which occurs in the same clause with the experiential aspect marker 过 *guo*. Here are the examples and their glosses/translations as reported by Li (1990:18-19):

77. a. 我　　从前　　　　请过　　　　他　　吃　　饭。
　　　wǒ　　cóngqián　　qǐng guo　　tā　　chī　　fàn
　　　1SG　　before　　　invite EXP　　3SG　　eat　　food

　　b. 我　从前　　　　请　　他　　吃过　　饭。
　　　wǒ　　cóngqián　　qǐng　　tā　　chī guo fàn
　　　1SG　　before　　　invite　　3SG　　eat EXP food
　　Both 'I have invited him to eat before.'

78. a. 我　　从前　　　　告诉过　　　　他　　[你　　来　　这里]。
　　　wǒ　　cóngqián　　gàosu guo　　tā　　[nǐ　　lái　　zhèlǐ]
　　　1SG　　before　　　tell EXP　　　3SG　　2SG　　come　　here
　　'I told him before that you came here.'

　　b.*我　从前　　　　告诉他　　　你　　来过　　　　这里。
　　　* wǒ　　cóngqián　　gàosu tānǐ　　lái　　guo　　　zhèlǐ
　　　*1SG　　before　　　tell 3SG　　2SG　　come EXP　　here
　　'I told him that you have been here before.'

79. a .我　告诉过　　　他　　你　　来　　这里。
　　　wǒ　　gàosu guo　　tā　　nǐ　　lái　　zhèlǐ
　　　1SG　　tell exp　　　3SG　　2SG　　come　　here

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'I told him that you come/came here.'

| b.我 | 告诉他 | 你 | 来过 | 这里。 |
|------|--------|-----|------|--------|
| wǒ | gàosu tānǐ | lái | guo | zhèlǐ |
| 1SG | tell 3SG | 2SG | come EXP | here |

'I told him that you had been here.'

Li's (1990) argument is as follows. *Persuade*-type verbs, like *qǐng* 'invite' in (77), differ from *tell*-type verbs, like *gàosu* 'tell' in (78-79), in that the former allow the experiential aspectual marker *guo* to occur either in the matrix clause or in the embedded clause, whereas with tell-type verbs, *guo* cannot occur in the subordinate, as the ungrammaticality of (78.a) shows. According to her, "the cross-clausal aspectual relation is possible with sentences containing persuade-type verbs but impossible with sentences containing tell-type verbs" (Li 1990:20), since the former are in fact a single clause with complementisers requiring non-finite verbs as complements, while the latter are separate clauses each with their own tense/aspect marking. Thus, with persuade-type verbs, the aspectual interpretation of *guo* is perceived as referring to the matrix verb *qǐng* 'invite' regardless of its position, as seen in the translation that (77.a) and (77.b) share. On the other hand, tell-type verbs allow differences in meaning according to whether the aspectual marker occurs after the verb in the matrix clause or the embedded clause, as seen in the different translations between (78.a) and (78.b).

However, Li's analysis presents some problems The above sentences (77-78) were surveyed among the group of native speakers, with the following results:

(i) The ungrammaticality of *cóngqián* without *guo* in the same sentence is confirmed by most native speakers, but they all agree that occurrence of *cóngqián* with no *guo* is not completely unacceptable. This is also confirmed by our corpus research, showing that there are instances where *cóngqián* can occur without *guo*.[39]

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[39] The corpora that were used in this research include: the Academia Sinica Balanced Corpus of Mandarin Chinese:

(ii) The grammaticality of both (77.a) and (77.b) is confirmed by a significant percentage (about 75%) of the surveyed native speakers; however, contrary to Li's claim, 10% points out that (77.a) is less acceptable than (77.b), and that *guo* should occur after the second verb, as the second action is intended within the scope of the experiential aspect. Moreover, 30% of native speakers highlight a difference in the meaning between (77.a) and (77.b): the former, unlike the latter, does not include that the action of eating has already taken place. Thus, contrary to what is claimed by Li, *guo* scopes similarly with both types of verbs (*tell* vs. *persuade*).

(iii) More issues arise with Li's analysis of the (78) pair: 100% of native speakers agree that, unlike what is stated by Li, (78.b) is perfectly fine,[40] and some (70%) actually think that (78.a) does not express Li's (1990:18) intended meaning 'I told him before that you came here'. According to them, to express that meaning, a second *guo* should occur in the embedded sentence (after the verb *lái*, 'to come') if such a meaning is intended, in that the second verb needs to be aspectually specified as well.

This inconsistency between Li's analysis and native speakers' intuition casts doubt on the validity of the *cóngqián…guo* argument, as it is not clear whether tell-type verbs and persuade-type verbs actually display differences in this sense (in both cases the aspectual marker *guo* is preferred to occur after the second verb). The aspect marker *guo* does in many cases scope backwards, including the verbs occurring to its left. According to Klein et al. (2000:759), "*guo* indicates that the time about which something is asserted falls into the posttime of the distinguished phase".

A second problem with a distinction between finite and non-finite with respect to control-type verbs (and specifically persuade-type verbs) involves the compatibility with modal

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[40] The same observation is made by Hu et al. (2001:1126), i.e., Li's claim is contrary to the intuition of native speakers.

auxiliaries, which are generally considered as somehow providing a time reference in the sentence. Huang C.-T. J. (1989) maintains that a finite clause can be distinguished from a non-finite clause in MC on account of the potential occurrence of Aux[iliaries] - both overt (such as modal auxiliaries and aspect markers) and non-overt (such as zero markers):

80. 司令员　　　命令　　　我们　在六点前　　　　进入阵地。
    sīlìngyuán　mìnglìng　wǒmen zài liù diǎn qián　jìnrù zhèndì
    commander　order　　　1PL　at six o'clock before　enter position
    'The commander orders us to get into the position before six o'clock.'

However, Huang Y. (1994) points out that examples like (80) above can contain a modal auxiliary (like *bìxū* 'must') in the complement clauses:

81. 司令员　　　命令　　　我们　必须　在六点前　　　　进入阵地。
    sīlìngyuán　mìnglìng　wǒmen bìxū　zài liù diǎn qián　jìnrù zhèndì
    commander　order　　　1PL　must　at six o'clock before　enter position
    'The commander orders us to get into the position before six o'clock.'

Li (1990) further claims that only specific modals are also tense markers, including *huì* and *yào*. However, counter-examples such as \**wǒ quàn tā huì lái* (I force he will possibly come), which according to Li (1990:22) are evidence for the non-finiteness of the embedded clause, have already been shown to display semantic problems: the verb *huì* indicates likelihood, possibility in the future, and this causes semantic, rather that syntactic, incompatibility with control verbs like *quàn* 'to force'.[41]

A further finiteness test regards the occurrence of aspectual markers, which are to a certain extent considered tense markers, and are claimed to be ungrammatical if occurring in non-finite embedded clauses. However, Huang Y. (1994:28) provides many examples confirming that aspectual markers can, and often do, occur in embedded clauses with so-called control

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[41] We refer the reader to Hu et al. (2001:1123) for further details, and also for arguments against the effectiveness of the negative polarity test, which also present meaning incompatibilities.

(persuade-type) verbs. The following examples, presenting aspectual markers in the embedded clauses, are considered by Li ungrammatical, but are actually preferred by native speakers[42] (along with similar variants in the b versions provided by the surveyed native speakers):

82. a. 她　　逼　　丈夫　　　　戒了　　　烟。
    tā　　bī　　zhàngfu　　jiè le　　　yān
    3SG　force　husband　　give up PFV　smoke
    b.她　　逼　　丈夫　　　　把烟　　　(给)　　戒了。
    tā　　bī　　zhàngfu　　bǎ yān　　gěi　　jiè le
    3SG　force　husband　　BA smoke　give　give.up CHG
    'She forced (her) husband to give up smoking.'

Further arguments against a subject control of the controllee include the fact that a controllee with a control domain can take split antecedents. This is the case in example (83) (from Huang Y. 1994:63), where the first argument of the verb *chī* 'eat' is coreferential with both arguments of the verb *qǐng* 'invite', namely the inviter and the invited:

83. 老王　　　　请　　小李　　　　一起　　　吃饭。
    Lǎo Wáng　qǐng　Xiǎo Lǐ　　yìqǐ　　　chī fàn
    Lao Wang　invite　Xiao Li　　together　eat meal
    'Wang invites Li to have a meal together.'

Furthermore, there exist control verbs that choose their controllee depending on the context and world knowledge, thus ruling out a syntactic account; examples include 答应 *dāying* 'promise' (or 说服 *shuōfú* 'persuade'):

84. 小明₁　　　答应　　　妈妈₂ Ø₁　下午　　　做　　功课。
    Xiǎomíng　dāying　　māma　　xiàwǔ　　zuò　gōngkè

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[42] As previously mentioned with respect to Li's (1990:18-19) examples, native speakers often find it more natural to place the aspectual marker after the second verb, regardless of its class (persuade- vs. tell-type).

|  | Xiaoming | promise | mum | afternoon | do | homework |

'Xiaoming$_1$ promised mum$_2$ that he$_1$ would do his homework in the afternoon.'

85. 妈妈 $_1$ 答应　　　小明 $_2$　　Ø$_{(1)2}$ 下午　　　看　　电影。

| māma | dāying | Xiǎomíng | | xiàwǔ | kàn | diànyǐng |
| mum | promise | Xiaoming | | afternoon | watch | movie |

'Mum$_1$ promised Xiaoming$_2$ that he$_2$/they$_{1/2}$ would watch a movie in the afternoon.'

In sum, none of the tests above can provide clear-cut evidence of non-finite sentences in MC , or of syntactic restrictions (subject) on the controllee.

## 2.4.8. Raising constructions

Similar to a control construction, a raising construction involves a subordinate GR (the 'controllee') to be co-referential with a superordinate GR (the 'controller'); however, the controller superordinate GR is not a semantic argument of the superordinate clause, e.g., *He seems to work* (Bickel 2010:422). Again, the controllee is most often defined as subject. Two kinds of raising can be distinguished: subject-to-subject raising, with verbs like 'seem', 'be likely' ('It seems that <u>he</u> (subject) is happy', vs. '<u>he</u> (subject) seems to be happy'), or object-to-subject raising, with verbs like 'easy to' ('It is easy to please <u>John</u> (object)', vs. '<u>John</u> (subject) is easy to please').  Several scholars, including Li (1990) and Bisang (2006) have argued that MC displays subject-object asymmetries with respect to a series of raising verbs. According to Li (1990: 118-130), the verbs 可能 *kěnéng* 'be likely, be possible', 难/容易 *nán/róngyì* 'be difficult'/'be easy' and *kāishi* 'begin' are raising verbs providing evidence for the existence of subject-based raising. 好像 *hǎoxiàng,* 'seem to' was also mentioned as a possible raising verb in the literature.

However, the equivalents for the English subject-to-subject raising verbs 'be likely' (可能 kěnéng), and 'seem' (好像 *hǎoxiàng*) provide no consistent evidence for subject-object asymmetries: (i) as for 可能 *kěnéng* 'be likely/possible', Pan and Paul (2014) effectively show how it is not an auxiliary with optional subject raising, but an adverb/adjective, in that it can either precede or follow the subjects (*{kěnéng} tā {kěnéng} yě zhīdào zhè jiàn shì*– '{maybe} she

{maybe} knows this thing'), and as most adjectives, can be modified by degree adverbs, e.g., *hěn* 'very'.[43] (ii) along the same lines, LaPolla (1993) shows that 好像 *hǎoxiàng* can occur in many positions in the sentence, before a number of different arguments and constituents, and cannot be regarded as a raising predicate. Bisang (2006:355) also concludes that 好像 *hǎoxiàng* "is an adverbial and fails the tests for verbhood presented by Li (1990:122)".

With respect to object-to-subject predicates such as 难 *nán*/容易 *róngyì* 'be difficult'/'be easy', Li (1990:127) and Bisang (2006:355) argue in favour of a subject control account. Li's (and Bisang's) argument is as follows: in (86.b), BEI is to be used if the patient argument is to occur in the position in front of the raising verb, as it has to bear the GR of subject in order to be the controllee of the raising, "while the BEI passive is far from being obligatory in constructions with no subject/object asymmetry such as in equi-constructions" (Bisang 2006:355).

86. a. 这个医生　　容易　　　　检查完　　　李四　吗？
zhè ge yīshēng róngyì　　 jiǎnchá wán　 Lǐsì　 ma
this CL doctor　easy　　　 examine finish Lisi　 QST
'Is this doctor easy to examine Lisi?'
('Is it easy for the doctor to examine Lisi?')

b. 李四 容易　　　　被　这个医生　　检查完　　　吗？
Lǐsì　 róngyì　　　 bèi　zhè gè yīshēng jiǎnchá wán　 ma
Lisi　 easy　　　　 BEI　this CL doctor　examine finish QST
'Is Lisi easy to be examined by the doctor?'
('Is it easy to be examined by the doctor for Lisi?')

However, this argument presents several problems. The first is that it relies on a construction, such as the BEI construction, with a controversial status as a GR selector (see section 2.4.4). The second problem regards the status of 难 *nán*/容易 *róngyì* as raising verbs and the

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[43] For a more detailed discussion on this point, see Pan and Paul (2014).

acceptability of the above examples, which were submitted to the group of native speakers, with the following result: 75% of native speakers think (86.a) is definitely non-acceptable, and only 8% think it is acceptable. As for (86.b), 65% of native speakers think it is non-acceptable or definitely non-acceptable, and only 16% think it is acceptable. When asked why, most native speakers observed that, although they somehow could understand what the sentences might mean, using BEI is not a natural way for them to express such meanings. One of the most definitive comments was: "All these sentences are directly translated from English. We cannot say it is not correct, but it is not the way native speakers say". Specifically, they feel that BEI is just not a natural and suitable way to express this type of event involving humans; instead, an active plane sentence is to be preferred. Moreover, a similar test was carried out with declarative sentences containing the predicate 难 *nán*, 'be difficult'. Again, acceptability rates of sentences such as the following are very low:

87. a. 医生　　　　很难　　　　　在家里　　　　检查　李四。

   yīshēng　　　hěn nán　　　zài jiā lǐ　　　jiǎnchá Lǐsì

   doctor　　　　very difficult　at home-in　　visit　Lisi

   'It's very unlikely that the doctor will visit Lisi at home.'

   [25% definitely non-acceptable, 48% acceptable]

  b. 李四 被　　医生　在家里　　　　检查　很难。

   Lǐsì　　bei　　yīshēng zài jiā lǐ　　　jiǎnchá hěn nán

   Lisi　　BEI　　doctor　at home-in　　visit　very difficult

   'It's very unlikely that Lisi gets visited by the doctor at home.'

   [63% definitely non-acceptable, 0% acceptable]

When asked to convey the intended message, i.e. 'It's very unlikely that Lisi gets visited by the doctor at home', native speakers provided the following versions:

88. a. 医生　　　　没法　　　　　上门　　　　　　为约翰　　　看病。

   yīshēng　　　měi fǎ　　　　shàng men　　　wèi Yuēhàn　kàn bing

   doctor　　　　NEG have-way　come-door (home)　to John visit illness

  b.医生　　　　很难　　　　　到家里　　　给 John　　　看病。

| yīshēng | hěn nán | dào jiā lǐ | gěi John | kàn bìng |
|---------|---------|------------|----------|----------|
| doctor | very difficult | arrive home-in | to John | visit illness |

c.医生　　　不方便　　　　　　去 John 家　　帮他检查。

| yīshēng | bù fāngbiàn | qù John jiā | bàng tā jiǎnchá |
|---------|------------|-------------|-----------------|
| doctor | NEG convenient | go John home | help 3SG visit |

d.医生　　　很难　　　　去 John家里　　　给他　　　　做检查。

| yīshēng | hěn nán | qù John jiā lǐ | gěi tā | zuò jiǎnchá |
|---------|---------|----------------|--------|-------------|
| doctor | very difficult | arrive John home in | to 3SG | do visit |

In none of the above sentences was a BEI structure used; plain active sentences are preferred. Moreover, the canonical positions where a raising verb occurs seem not to be available in many instances (see 'It is difficult to please him' vs 'he is difficult to please'.)

Finally, the biggest problem with Li's argument is that patients can also be raised in MC, as shown by the following examples by Shi (1990), who shows that so-called object raising is possible with no passivisation involved (89), and occurs also across clause boundaries (90):

89. a. 很难　　　　重复　　　　这个故事。

| hěn nán | chóngfù | zhè ge gùshi |
|---------|---------|--------------|
| very difficult | repeat | this CL story |

'(It is) very difficult to repeat this story.'

b. 这个故事　　很难　　　　重复。

| zhè ge gùshi | hěn nán | chóngfù |
|--------------|---------|---------|
| this CL story | very difficult | repeat |

'This story is difficult to repeat.'

90. a. [理解　　　他们　　为什么　　　　不按时完成　　　　这个计划]　　不难。

| [lǐjiě | tāmen | wèishénme | bù ànshí wánchéng | zhè ge jìhuá] | bù nán |
|--------|-------|-----------|-------------------|---------------|--------|
| [understand | 3PL | why | NEG on.time finish | this CL project] | NEG hard |

'It is not difficult to understand why they do not complete this project on time.'

b. 这个计划　不难　　理解　　他们　为什么　　不按时 完成。

| zhè ge jìhuá | bù nán | lǐjiě | tāmen | wèishénme | bù ànshí ánchéng |
|---|---|---|---|---|---|
| this CL project | NEG hard | understand | 3PL | why | NEG on.time finish |

'As for this project, (one) has little difficulty in understanding why they do not want to complete (it) on time.'

Shi's analysis ultimately shows that, although there may be some similarities with respect to function, the alleged object-to-subject raising in MC is not comparable to its English[44] counterpart with respect to structure. Shi concludes that it is a case of topicalisation:

> Topicalization is a means to emphasize a certain NP, by moving it to the sentence initial position. In a sense, the function of object-to-subject raising is also to emphasize an object NP, by raising it from an embedded position to the matrix subject position (Chafe 1976). The process of topicalization is more general in the sense that it is not restricted to the movement of a particular NP. It could be speculated, then, that object-to-subject raising does not exist in Chinese because a more general process is always available to carry out the same function. (Shi 1990:313)

To conclude, arguments based on the raising of the patient NP do not provide evidence for a restricted neutralisation requiring postulating a GR. The only raising structure that could involve subject-object asymmetry is a subject-to subject raising verb, which only raises embedded subjects to the matrix sentence.

### 2.4.9. Topic extraction

Topic extraction [45] is often related to subjecthood, in that "the NPs which can be coreferentially related across coordinate structures include [and might be restricted to]

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[44] Most languages don't have raising verbs: neither Italian nor German accept raised subjects with action verbs. For example, English sentences like "He seems to be leaving" have no real counterparts either in Italian ?"Lui sembra starsene andando"[44] ?"Er scheint gehen".

subjects" (Keenan 1976:317), thus revealing subject-object asymmetries. However, as shown by Li and Thompson (1976, 1981) and subsequent scholars, this is not the case in MC:

91. 那棵树     (a) 花小，     (b) 葉子大，    (c) 很难看，       (d) 所以我沒买。
nà kē shù     huā xiǎo     yèzi dà      hěn nánkàn      suǒyǐ wǒ méi mǎi

That CL tree    flower small    leaf big     very difficult.to.look.at   thus 1SG NEG buy

'That tree, (its) flowers are small, (its) leaves are big, I don't like it, so I did not buy it.'

The first NP is a topic shared by all the following clauses, where it can either bear no relationship with the verb – as in clause (a) and (b) where both monovalent predicates *xiǎo* 'be small', and *dà* 'big' have their sole argument respectively realized by *huā* 'flower', and *yèzi* 'leaf', or be an argument of the predicate e.g., the sole argument of the predicate *nánkàn* ('ugly', lit. 'difficult to look at') in (c), and the second argument/patient of the verb *mǎi* 'to buy' in clause (d). This also shows that topic extraction is not limited to agents/subjects, nor does topic need the topic to be an argument of the verb. The only restriction is a reference restriction, related to information structure and givenness: the referent of the first NP must be recoverable from the context, or given/cognitively accessible/presupposed (however, see Chapter 5 for discussion on cognitive and information status restrictions to topic position). Similar observations can be made for sentence (10), reported below in (92) for the reader's convenience:

92. 她    死了      一匹马，     便    这么       哭个不住。
tā      sǐ le       yì pǐ mǎ     biàn   zhème     kū gè bú zhù

she    died PFV    one CL horse   then   this much    cry- CL -not-stop

'She had a horse die on her and cannot stop crying.'

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[45] Topic extraction processes involve NPs being extracted from their original position in the sentence and raised to topic position. We are here referring to this process as *topic extraction* because this is how this process is usually referred to in the literature, although this does not involve that we take a transformational view on topicalisation as a movement process. In fact, there is a fairly wide consensus on the fact that Mandarin Chinese topics such as that in (91) are base-generated, in that they correspond to no slot in the argument structure of the predicate (e.g., Badan 2007, Huang et al. 2009, Shyu 2014). Topic-comment structures will be discussed in more detail in section 5.

The first NP *tā* 'he' is not the argument of the verb *sǐ* 'die'; however, it controls the coreference with the unexpressed sole argument of the verb *kū* 'cry' in the second clause. Thus, topic extraction processes are functional to reference-related and discourse-related aspects such as information status, topic continuity, clause linkage and textual coreference. We can conclude that the process of topic extraction is not an argument selector, as it is not limited to arguments (see Chapter 5 for further discussion) and does not identify specific GRs.

## 2.4.10.　　Conjunction reduction

The construction conventionally called 'conjunction reduction' is formally identified by deletion of the subject argument in the second clause and by a rigid constraint demanding co-reference between the two subjects. Let us examine this example by LaPolla (1993), quoted by Bickel (2010:420):

93. 那个人　　　　把西瓜　　　掉　　在　　地上　　　碎了。
    nà ge rén　　　ba xīguā　　diào　zài　dì shang　　suì le
    that CL person BA watermelon drop　　at　　ground on　　break PFV
    'That man dropped the watermelon on the ground and it burst.'

Bickel observes that, in the English translation, the sentence only receives a natural interpretation if we include the pronoun *it* in the second clause. Without *it*, the syntax of English enforces an interpretation whereby the S argument of *burst* is the same as the A argument of *drop* (i.e., with the meaning 'That man dropped the watermelon on the ground and burst', despite this being a very unlikely scenario). The reason for this is that English has a GR construction here. This is not the case in MC, whereby the sole argument of the verb *suì* is interpreted as the only logically likely referent, i.e., *xīguā* 'watermelon' (the patient and not the agent of the verb *diào* 'drop'). Bickel notes that the MC sentence is rather, an instance of zero anaphora:

> it is important to note that the co-reference condition is a rigid syntactic constraint on interpretation, which can even overrule pragmatic background assumptions, because conjunction reduction is easily confused with zero anaphora, which does not impose any

such constraint. Zero anaphora is the widespread tendency across languages to leave out topical arguments, such as was done in the second clause of the MC version of [(93)]. Unlike under conjunction reduction, the interpretation of zero anaphora entirely rests on our knowledge of the world and the previous discourse.

## 2.4.11.     Floating and quantifier float

Another construction that displays considerable variation with respect to GRs is described as 'floating', which refers to the possibility offered by some languages for a referential operator (e.g., a quantifier, a numeral, or an indefinite marker) to be launched and permitted to leave the NP for which it has scope over (Bickel 2010:430). In the following example, the subject launches the quantifier *all*, occurring in (94.b) after the auxiliary:

94.  a. **All the children** have seen this movie.
     b. **The children** have **all** seen this movie.

Floating is relevant for GR identification in that the actual scope is often regulated by a GR since the floated operator can only take NPs in its scope that bear a certain GR. As Schachter (1977:286-7) notes, "[t]erms of grammatical relations…are ranked in a hierarchy (SU>DO>IO), and 'structure-dependent' rules such as Quantifier Float can be restricted to apply to just part of the hierarchy". This property has been extensively studied in European languages: formal and typological research has found that it is cross-linguistically widespread and common, though not universal (Whaley 2001; Bobaljik 2003). Different languages vary in the syntactic positions that can host Q-float: for example, subjects, direct and indirect objects in French, subjects, and direct objects in Japanese, and only subjects (and no objects) in English.[46]

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[46] A floated quantifier in English cannot refer to the object, not even when it is topical, such as, for instance, 'the movies' in a sentence such as, 'These movies, the children have all seen'

Let us now turn to Mandarin Chinese. In the literature, there is some debate as to whether Quantifier Float is available or not. Jenks (2013) claims that the availability of Q-float is predictable in classifier languages depending on whether they display Quantifier-Noun order (e.g., Vietnamese, Chinese, Hmong-Mien, North and Central Tai) or Noun-Quantifier order (e.g., Khmer, Tibeto-Burman, South-western Tai). According to Jenks, Chinese languages, displaying a Quantifier-Noun order lack Q-float, the closest equivalent being a quantifier adverb 都 *dōu* 'all', which however must occur before the verb unlike *all* in (47.b):

95. 三个人　　　　　都　　吃了　　　一锅苹果派。
    sān gè rén　　　dōu　chī le　　yī guō píngguǒ pài
    Three CL person　all　eat PFV　one CL apple pie
    'Three people each ate an apple pie.'

However, in the literature sentences displaying a sentence-initial topic, like (96), have also been analysed as an instance of floating quantifiers launched by topics. In sentence (96), the two verbal arguments are in the preverbal position and the floated quantifier may scope over either argument, allowing for two different interpretations of the same sentence. 60% of surveyed native speakers confirmed this and agreed that (96) has two interpretations (most of them thought the two NPs are equally possible with a slight preference towards the first reading where the main topic/second argument launches the quantifier):

96. 那边的食堂，　　　老师　都　　去过。
    nàbiān de shítáng　lǎoshī　dōu　qù guo
    there DE cafeteria　teacher　all　go EXP
    i. 'The cafeteria(s) over here, the teachers have all been to them.'
    ii. 'The cafeterias over there, the teacher(s) have been to all of them.

As confirmed by Cao (2008, 2), 都 *dōu* appears to scope backwards to NPs that express some sort of plurality, as it "quantifies over elements to its left that have subparts for its predicate". On the other hand, 每 *měi* only scopes within the NP it modifies and displays no Q-float phenomenon as the comparison between the possible interpretations in (97.a-b) and (98.a-b) shows:

97. a. 那些电影， 我们 都 喜欢。

nà xiē diànyǐng wǒmén dōu xǐhuān.

that CL.PL film 1PL all like

i. 'We all liked those films'

ii. 'We liked all those films'

b.我们 都 喜欢 那些电影，。

wǒmén dōu xǐhuān nà xiē diànyǐng

1PL all like that CL.PL film

'We all liked those films'

98. a. 我们 每一部电影 都 喜欢。 (Cao 2008:10)

wǒmén měi yī bù diànyǐng dōu xǐhuān

1PL every-one CL film all like

'We liked every film.'

b.每一部电影 我们 都 喜欢。

měi yī bù diànyǐng wǒmén dōu xǐhuān

every-one CL film 1PL all like

'We liked every film.'

Native speakers confirm that example (97.b), but not (98.b), can have two interpretations. Moreover, 35% believe that for (97.b) both interpretations (i) and (ii) are equally plausible, slightly preferring the first to the second reading. Sentences (96-98) show that in Mandarin Chinese the scope of quantifiers like 都 *doū* 'all' is not syntactically restricted (to the subject). Both arguments of transitive verbs—agent and goal-locative object for *qù* 'go' in (96), or experiencer and theme/stimulus[47] for *xǐhuān* 'like' in (97), are likely to be modified by *doū* as long as they occur on its left, and regardless of their semantic relation with the verb.

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[47] As Levin (1993:192) notes, *like* and the other admire-verbs are transitive psych-verbs verbs with an experiencer as their first argument, whereas there are a variety of opinions as to the best characterisation of the "semantic role" of their second argument: "the labels used include theme, target of emotion, stimulus, and subject matter".

Another instance of Q-float was observed in Mandarin Chinese (Wu 2010, 96) along the same lines as Japanese (Kobayashi and Yoshimoto 2001). In Mandarin Chinese, a numeral quantifier modifying a noun is always followed by a classifier (CL). The classifier indicates the semantic category the quantified nominal belongs to (or specifies the unit of measurement for a mass noun). Given that numeral quantifiers + classifiers can be used as noun modifiers when immediately placed before the NP they modify, as in (99.a), sentences like (99.b) have been regarded as an instance of quantifier floating: the numeral quantifiers are separated rightwards from the NP they modify.

99. a. 小偷　　　　偷走了　　　　　　　[那三本]　　　书。
　　　 xiǎotōu　　　tōu zǒu le　　　　　nà sān běn　　 shū
　　　 thief　　　　steal-walk PFV　　　 that three CL　 book
　　　 'The thief has stolen those three books.'

　　 b. 书，　　　　小偷　 偷走了　　　　　　　[那三本]。
　　　 shū　　　　 xiǎotōu tōu zǒu le　　　　　nà sān běn
　　　 book　　　　thief　　steal-walk PFV　　　 that three CL
　　　 'Those books, the thief has stolen three of them.'

The sentence-initial bare noun in (99.b) is the topic and sets the frame of validity for the following predication (Chafe 1976), bearing a partitive (type-token) relation with the postverbal element (*nà sān běn* 'those three'). Again, crucially, the launcher is the second argument of the verb, and not the potential subject of the sentence. This reading has been confirmed by almost 100% of native speakers. The same pattern can occur within BEI sentences, like in the following examples (Wu 2010:96):

100.a. [那三本　　　书]　　被　　　小偷　　　　偷走了。
　　　 nà sān běn　　 shū　　 bèi　　 xiǎotōu　　　 tōu zǒ u le
　　　 that three CL　 book　 BEI　　 thief　　　　 steal-walk CHG
　　　 'Those three books were stolen by the thief.'

　　 b. 书 ᵢ　　　　被　　 小偷　　　　偷走了　　　　　　 [那三本]。
　　　 shū　　　　 bèi　　 xiǎotōu　　　 tōu zǒu le　　　　　 nà sān běn
　　　 book　　　　BEI　　 thief　　　　 steal-walk CHG　　　 that three CL

'(As for) books, those three have been stolen by a thief.'

c. [那三本书]        被      偷走了。

nà sān běn shū        bèi      tōu zǒu le

that three CL book    BEI    steal-walk CHG

'Those three books were stolen by the thief.'

d. 书        被     偷走了     [那三本]。

shū       bèi     tōu zǒu le    nà sān běn

book      BEI    steal-walk PFV  that three CL

'(As for) books, those three have been stolen.'

The same 'whole-part' or 'type-token' interpretation also holds for Japanese (from Kobayashi and Yoshimoto 2001:46):

101.a. John-ga     nizyuppezi-no      ronbun-wo     yonda.

     John-NOM    twenty pages-GEN    paper- ACC    read-PST

     'John read a twenty-page paper.'

b. John-ga     ronbun-wo    nizyuppezi    yonda.

    John-NOM    paper-ACC    twenty pages    read- PST

    'John read twenty pages of a paper.'

Kobayashi and Yoshimoto (2001:46-47) conclude that "the floated quantifier provides the conventional implicature, 'there is a set A such that the elements in its subset are [26 pages] that John read'", and identify a basic whole-part relation between sets, which is one of the restrictions imposed on word order in these constructions (the whole always precedes the part). They also assume that this conversational implicature derives from Grice's maxim of quantity[48] (Grice 1975): the same appears to hold for the MC examples above.

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[48] Grice (1975) singled out four maxims that govern conversational interaction: (i) the maxim of quantity, where the speaker

The above examples show that quantifier floating is connected to positional (and not syntactic) criteria: sentence-initial NPs, regardless of their semantic role (and thus syntactic function), can launch quantifiers. Thus, quantifier floating is a reference-related process in the sense of Schachter (1977) or, in Bickel's (2011:409) terms, it is related to referential properties of NP, in that the choice among arguments rests on referential properties alone. A similar phenomenon is observable in Tagalog, where the most topic-like nominal, marked by *ang=* is the controller of a number of constructions, including conjunction reduction, relative constructions, and floated quantifiers.

## 2.1.    Interim summary

This chapter has shown that the debate on the notions of subject in Mandarin Chinese is mainly connected to the assumptions and criteria employed to define them. Overt subjecthood properties fail to provide a viable criterion to identify a grammatical notion like that of subject. While a definition based on morphological properties is clearly not available, the positional criterion also fails to capture all argument realization patterns in the language. The status of GRs in MC needs to be re-examined in light of recent developments of typological research into GRs and cannot but be carried out via a systematic analysis of all GR-sensitive constructions along the lines of research conducted on other languages. In this chapter, we have systematically analysed such GR-sensitive constructions, and identified a number of significant control/behavioural properties, which can be grouped into three kinds:

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tries to be as informative as one possibly can, and gives as much information as is needed, and no more: (ii) the maxim of quality, where the speaker tries to be truthful, and does not give information that is false or that is not supported by evidence; (iii) the maxim of relation, where the speaker tries to be relevant, and says things that are pertinent to the discussion; and (iv) the maxim of manner, when one tries to be as clear, as brief, and as orderly as one can in what one says, and where one avoids obscurity and ambiguity. The maxim of quantity requires the speaker to (i) make her contribution as informative as is required, and (ii) not make her contribution more informative than is required. In this case, the implicit meaning encoded by the floated quantifier is that 'John didn't read more than 26 pages'.

I. Constructions that do not impose restrictions as to which argument/element is the controller/pivot

II. Constructions that display role-related restrictions

III. Constructions that display reference-related restrictions

I. The first kind basically includes relativisation and conjunction reduction. Relativisation imposes no restrictions as to what arguments can be relativised upon; moreover, this process is not restricted to verbal arguments. Thus, it fails to single out specific GRs. Conjunction reduction, on the other hand, does not single out GRs in that the interpretation of the unexpressed NP relies on world knowledge.

II. The second type comprises most of the constructions examined in this chapter. Such constructions display a semantic, role-related control (but not a syntactic one). Reflexivization is a role-related process, sensitive to semantic constraints (like animacy, gender, and inherent semantic characteristics of the verb), and connected with the role of participants in the described event, regardless of their linguistic encoding (the controller is often the agent/initiator of the action, but can also be a beneficiary, and even a non-core argument). Imperatives are controlled by the most agent-like argument of the verb. The BEI construction is a role-related process that selects the affectee as the first NP in the BEI sentence, regardless of the argument structure of the predicative element (which may be a transitive verb, an intransitive verb, or another element); the pre-BEI position is not restricted to verbal arguments; moreover, the BEI can be both a valency decreasing and a valency increasing process (we will see this more in depth in Chapter 4). Topic extraction out of relative clauses and word order permutation display interesting role-related restrictions: as long as the roles of event participants can be unequivocally identified (e.g., when arguments are animate and inanimate, and the animate argument is the only eligible agent/actor), they display no restrictions. However, when role-related ambiguities arise (who does what to whom) these phenomena are restricted to the highest argument in the argument structure. Finally, co-reference and control structures also seem to select the most agent-like verbal argument (whereas no clear-cut finite/non-finite distinction can be identified in MC).

III. Lastly, constructions such as topicalisation and Q-float are sensitive to referential properties of the NPs. In other words, they select NPs that can qualify as topics (in that they are given/definite/locatable etc). Topicalisation displays no restricted neutralisation as to what arguments or adjuncts can occur in the sentence-initial position (see also Chapter 5); quantifier float is controlled by whichever argument occurs as the (primary or secondary) topic of the sentence.

The above results are consistent with Schachter's observations of role-related and reference-related properties of subjects. In his analysis of Philippine languages, specifically Tagalog (1976), he observed how the properties usually connected with subjects can be actually differentiated into reference-related and role-related properties. In most languages, "it is usual for a single constituent type, the subject, to show both referential prominence and role prominence" (1977:284). However, Philippine languages clearly distinguish two different properties of subjects, namely role-related and reference-related. He suggests that the syntactic properties of topics are REFERENCE-RELATED, and follow from the topic's referential prominence, while the syntactic properties of actors are ROLE-RELATED and follow from the actor's role prominence. The former in Tagalog include reflexivization, imperatives, elliptical complements, and word order permutations; the latter comprise relativization, quantifier float and existentials. Crucially, the same observations hold for these constructions in MC (existentials are definitely connected to topichood-i.e. reference related, as will be discussed in Chapter 5).

This chapter shows that no consistent and coherent definition or identification criterion is available for the notion of grammatical subject in MC. It might then be interesting to ask if any other available definition exists that accounts for this notion, also in comparison to other languages. In our view, a particularly interesting insight by Schachter regards the notion of actor, which he crucially relabels as 'protagonist':

> I believe that a label like PROTAGONIST might be more appropriate […]. For as is the case with the protagonist of a drama, the referent of the actor is the individual who is viewed as being at the center of events. Thus what is involved in the choice of the actor is less the particular objective role an individual has played in an event than it is the subjective

> view-point of the speaker with regard to the importance, or interest, of this role and this individual. (Schachter 1977:283)

This notion of subject as the protagonist of the event need not be related to syntactic nor with semantic roles, and can be even independent of the verb's argument structure. Rather, it is more a role within the event structure, and not the syntactic or argument structure. This would account for many of the 'unusual' control properties examined in this chapter. For example, all controllers of processes displaying role-related properties are protagonists of the described events. Recall, for example, sentence (28), reported here in (102):

102.李先生$_1$的 阴谋 害了 自己$_1$。
Lǐ xiānsheng de yīnmóu hài le zìjǐ
Li Mr DE conspiracy harm PFV REFL
'Mr Li's$_1$ conspiracy did harm to him$_1$.'

In this case, the protagonist of the event cannot but be Mr Li, and this is independent of its encoding (in this case, an NP modifier, and not a verbal argument). Also, such definition would explain many semantic restrictions displayed by reflexivisation, e.g., animacy, and selectional restrictions by verbs, e.g., gender restrictions: all of these features are related to the type of role the protagonist needs to have in the event. And the protagonist is the semantic controller of role-related processes. Along the same lines, in topic extraction and word order permutation processes, whenever two participants compete for the role of protagonist, out of necessity word order freezing phenomena apply, which, however, cannot be captured with a syntactic account. Moreover, the BEI construction receives a much clearer and more viable explanation under this light: the pre-BEI NP is simply the affectee (i.e. the affected participant in the event, whereby the affectedness reaches a certain threshold), and it need not be a verbal argument. This was also noted by Creissels (2016a:2): "the observation of the contexts in which passive constructions are particularly frequent leads to the conclusion that they can be characterized as presenting the event from the perspective of the patientive argument". This new perspective on the notion of 'protagonist' is in fact also confirmed by the neurolinguistic study of García-Marco et al. (2016), which explores how the reader's brain is sensitive to the protagonist's perspective in the environment of narratives. Results of this event-related potential study indicate that readers of narratives naturally tend to take the

protagonist's perspective, showing discourse-level coherence effects when they read motion sentences with the marked deictic verb *to come*.

In conclusion, none of the examined processes identifies a purely syntactic GR similar to that of subject; rather, some constructions display a semantic control, while some others display a reference-related[49] control.

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[49] Bickel, in fact, singles out a reference-related grammatical relation, namely 'proximative', which coincides with the most topical element.

# 3. Constituent Structure

This chapter looks at constituent structure as a level of linguistic organisation. Constituent structure is one of the ways in which word order is described and formalised in a language. In English, for example, a sentence is often represented as S=NP+VP, whereas the NP is the outer argument of the verb (subject), and the VP contains the verb and its inner arguments (objects). Implicit in this approach is the choice to represent linearisation through constituency relations. This approach is adopted by several linguistic frameworks such as Minimalism, GPSG (Generalised Phrase Structure Grammar), LFG (Lexical Functional Grammar) and RRG (Role and Reference Grammar),[50] which share the view that phrases, clauses, and complex sentences are grammatical units that are hierarchically organised as constituents. What is of interest here is to show how words are grouped together, thus functioning as a single unit within the hierarchical syntactic structure of the sentence.

## 3.1.    Overview

This chapter is devoted to systematically exploring the basic constituency of the clause in MC. First noun phrases (NPs) and then verb phrases (VPs) will be tested for constituenthood. The chapter is structured as follows: section 3.2 discusses the methodology, as well as some

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[50] The nature of the constituency relations recognised in these frameworks is different in each framework due to theory-internal characteristics, and in particular with respect to the relationship between predicate argument structure and constituency (Siewierska 1988:142-144).

challenges and issues connected with the application of the tests in MC. In sections 3.3 and 3.4, noun phrases and verb phrases are tested for constituenthood, respectively. Finally, the last section discusses the results.

## 3.2. Methodology

The constituency membership of phrasal categories is determined by a number of criteria (Siewierska 1988, Pavey 2010, among others), or so-called constituency tests. Constituency tests are employed to identify basic constituents in a sentence, as well as the structural and hierarchical relationships that hold among them. These tests manipulate portions of a sentence, revealing whether they act as constituents[1]. Such tests include:

- Indivisibility (or uninterruptability, Siewierska 1988:149)
- Fixed order
- Replaceability as a whole (or substitution, Pavey 2010:50)
- Required elements (or omissibility, Siewierska 1988:149)
- Movement (Pavey 2010:50) or distribution (Siewierska 1988:149)
- Coordination (Pavey 2010:51)

The following example will be used as a sample sentence for these tests; it displays a transitive verb (*mǎi* 'to buy') and its two arguments occurring in A1-V-A2 (agent-verb-patient) order, as well as two temporal elements (*jīnnián* 'this year', and *gānggāng* 'just') occurring before the verb.

1. 王先生 今年 刚刚 买了 一套房子。
   Wáng xiānsheng jīnnián gānggāng mǎi le yí tào fángzǐ
   Wang Mr this.year just buy PFV one CL flat
   'Mr Wang just bought a flat this year.'
   *Source*: PKU Corpus

Other sentences and examples will be used as well to support the analysis, which are mainly drawn from corpora like the PKU corpus.

However, some issues need to be pointed out with respect to the application of such tests to MC, which have to deal with some language-specific typological traits. MC is an analytic language and as such it lacks agreement morphology; this complexity makes determining dependency relations more difficult than in inflectional languages. Moreover, MC compensates the lack of linguistic devices such as morphological markers with different word order patterns; as a consequence, word order plays a fundamental role in encoding a wide range of linguistic functions, including the role of participants (who does what to whom), the information status of referents and NPs (in terms of definiteness, givenness, topichood etc.), as well as some information on the temporal sequence of events and states. Thus, tests based on movement are applicable only with some restrictions that are connected with the linguistic functions word order encodes (for example, 'topicalisation' cannot be applied to informationally new referents, as the first position in the sentence is connected with presupposition and definiteness). These aspects will be discussed in greater detail in the next sections. The other major challenge is the remarkable phenomenon of ellipses and non-specification of arguments:[51] arguments referring to already mentioned or contextually-inferable referents are most times left unspecified. This phenomenon has been often referred to as "PRO-drop"; however, defining MC as a PRO-drop language can be misleading: first, the conditions licensing the non-specification of an argument are different. Typical PRO-drop languages usually have grammatical information of the SUBJ marked on the V, or some sort of morphological coding that signals subject-verb relationships. In languages like Italian, the inflection of verbs indexes the person/number categories of the subject (dependent)[52] on the head of the clause (verb) (see head- vs. dependent-marking languages, Nichols 1986). Consequently, a pronominal subject is omitted by virtue of verbal morphology, which allows non-ambiguous identification of the subject (as it encodes the number and the person of the

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[51] MC often relies heavily on non-specification of known/given NPs, which is considered a pervasive anaphoric means to encode coreference: Li and Thompson (1979:317) talk about "a massive non-specification of arguments". Non-specification refers to "an empty grammatical slot in a sentence standing for a previously mentioned nominal referent, without any grammatical marking in the expression to specify the missing referent." (Tao and Healy 2005:101)

[52] Since in the head-marking pattern "the head bears morphemes which indicate its governed dependents, the dependents can be omitted without affecting the grammaticality of the phrasal unit." (Van Valin 2005:16)

subject through agreement). Thus, unlike MC, the subject does not need to be previously mentioned/given/presupposed in order to be omitted:

2. Vanno al mare
   go-PRS.3PL to-the sea
   'They are going to the seaside.'
3. Vado al mare
   go-PRS.1PL to-the sea
   'I am going to the seaside.'

In MC, on the other hand, non-specification is possible only if the referent is given/presupposed and thus (possibly unambiguously) accessible, because previously mentioned or somehow inferable from the situational or conversational context.[53] Sentence (4) is not acceptable with the meaning of (2), unless uttered in an appropriate context (like a conversation talking about a group of people, with someone asking where they are going), in which case the non-specified argument is contextually disambiguated:

4. ?去 海边。
   qù hǎibian
   go seaside
   'I, you, he…they am…are going to the seaside.'

Therefore, the fundamental difference regarding the phenomenon of non-specification of arguments in so-called PRO-drop languages like Italian and in MC lies in what licenses such non-specification, which is in turn connected with what allows the correct disambiguation of the non-specified element. In the former case (Italian), what licenses the non-specification of

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[53] In MC, the disambiguation of anaphoric elements (including zero anaphora) is rather complex, and cannot be captured with a purely syntactic account (see Huang Y. 1994). This was observed not only for MC but for other South East Asian languages as well: "[z]ero anaphora is heavily used in these languages but assignment of Coreference is often determined by the subtle use of sociolinguistic variables and is not clearly signaled in the linguistic form. […] these languages must be recognised as presenting a fourth system of discourse cohesion, one we will call the 'inference system'. Presumably, there are other means to identify participants in these languages, but inference does play a much more prominent role" (Foley and Van Valin 1984:324)

an argument is the indexing (agreement with the verb); crucially, since Italian displays subject-verb agreement morphology, only the subject (external argument) can be dropped (unlike for subjects, a clitic is obligatory when the direct object is omitted). On the other hand, MC allows arguments to be non-specified when they are contextually inferable. In fact, MC requires non-specification of coreferential arguments for the sake of correct disambiguation and topic continuity (Givón 1983): whenever it is possible to recover an antecedent, a more overt (pronominal or nominal) form often fails to express coreference, as the default encoding is a zero. [54] Finally, non-specification occurs regardless of the semantic/syntactic role of the argument; thus, it is not restricted to subjects/external arguments/highest argument in the argument structure:

5. A.　你$_1$　　去过　　　　中国$_2$　　　吗?
　　　nǐ　　qù guò　　Zhōngguó　　ma
　　　2SG　go EXP　　China　　　Q
　　B.　Ø$_1$　沒去过　　　　　Ø$_2$。
　　　　méi qù guò
　　　　not go EXP
　　A. 'Have you ever been to China?'
　　B. 'No, I have never been.'

6. A.　唉呦,　小心小心小心,　　在学校　Ø$_1$ 没学过　　倒酒$_2$　　吧?
　　　āiyōu　xiǎoxīn xiǎoxīn xiǎoxīn zài xuéxiào　méi xué guò　dǎo jiǔ　ba
　　　oh　　watch-out watch-out　at school　not study EXP pour wine　Q
　　B.　唉,　Ø$_1$　当然　　　学过　　Ø$_2$。

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[54] Unlike English, in MC "the non-occurrence of anaphoric arguments in discourse must be regarded as the normal, unmarked situation" (Li and Thompson 1979:327), since "the more continuous/predictable is the topic/subject/referent NP, the less overt expression it needs to receive" (Givón 1983:67). Thus, argument omission - usually referred to as zero-anaphora, is a major device to encode coreference in Chinese. In fact, both pronominal and zero forms are used, and the choice between these two forms is rather complex (see Huang Y. 1994, and Tao L. 1996), in that it was shown to vary among speakers (Li and Thompson 1979). This is connected with one of the primary functions of languages: "[w]hen talking about sequences of situations in which the same participants are involved, it is necessary to refer to them in each clause in such a way that they can be identified as being the same as or different from the participants referred to in previous clauses." (Foley and Van Valin 1984:1).

|  | āi | dāngrán | xué guò |
|---|---|---|---|
|  | eh | of-course | study EXP |

'A. Be careful! Not learned this thing called wine-pouring at school, right?

B. Hey, of course I have learnt it.'

*Source*: TV series *The Interns*, episode: "Family dinner"

In these examples, both arguments of the verbs *qù* 'go'[55] (5) and *xué* 'study' (6) are left unspecified because already mentioned in the previous conversational turn or implicit in the conversational context.

The role played by the context in disambiguation processes of anaphors and coreference expressions in general is a further challenging aspect: when checking the acceptability of non-contextualised utterances against native speakers' intuition, they often provide quite different feedback, especially for sentences involving pragmatically marked word order (topicalisation tests etc.). Moreover, it is not infrequent that sentences found in corpora, such as the abovementioned PKU Corpus, are judged as not acceptable if taken out of the context. Fan and Kuno (2013:220) also observe "variations in acceptability judgement by the same speakers depending upon contexts in which the sentences are placed": given the same sentence, "[e]ven the same speaker might judge it sometimes acceptable, and other times marginal or awkward. This must be due to the differences among speakers in their ability to place the sentence in contexts [...], and to the differences in imagined contexts the same individual speaker places the sentence when they make acceptability judgements." (p.224)

The three aspects, namely (i) non-specification of arguments, (ii) zero anaphora as coreference strategy and (iii) role of context in disambiguation/acceptability judgement need to be taken into consideration when examining constituenthood in MC and checking sentences against native speakers' intuition.

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[55] Unlike in most Germanic or Romance languages, where verbs of motion require an oblique to encode their goal argument

## 3.3.    Noun phrases

Most languages display evidence for the existence of NPs; however, there exist languages where all the above-mentioned tests fail, for example Yimas, Papua New Guinea (Foley 1991). MC is usually analysed as having NPs: in the sample sentence, the arguments of the verb (in bold) are two potential noun phrases:

7. **王先生**　　　今年　　　刚刚　　　买了　　　**一套房子**。

| **Wáng xiānsheng** | jīnnián | gānggāng | mǎi le | **yí tào fángzǐ** |
|---|---|---|---|---|
| Wang Mr | this.year | just | buy PFV | one CL flat |

'Mr Wang just bought a flat this year.'
*Source*: PKU Corpus

These two arguments will be tested for constituenthood.

### 3.3.1. Indivisibility

When a group of words forms a constituent, it is typically indivisible (or uninterruptable). Siewierska (1988:166) remarks that the very notion of 'interruptability' "presupposes a constituency relation embracing the interrupted iteMs Therefore interruptability or rather non-interruptability is generally viewed not as a test of constituency relations per se, but of the relative depth of a constituent in the hierarchical structure of the clause". In MC, noun phrases cannot be divided, as the ungrammaticality of both (8) and (9) shows:

8. *****王先生**　　　今年　　　刚刚　　　**一套**　买了　**房子**。

| ***Wáng xiānsheng** | jīnnián | gānggāng | **yí tào**　mǎi le　fángzǐ |
|---|---|---|---|
| *Wang Mr | this.year | just | one CL buy PFV flat |

9. *****王**　　今年　　　**先生**　　　刚刚　　　买了　　　一套房子。

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('I go to school', 'Vado a scuola', 'Ich gehe zur Schule' etc.), in MC verbs like qù 'go', *lái* 'come', *jìn* 'enter', *chū* 'exit' etc. are bivalent, and the goal is realised as a direct argument (*wǒ qù xuéxiào*, lit. 'I go school').

| *Wáng | jīnnián | xiānsheng | gānggāng | mǎi le | yí tào fángzǐ |
|---|---|---|---|---|---|
| *Wang | this.year | Mr | just | buy PFV | one CL flat |

Division appears possible in the case of Q-floating (see section 2.4.11), i.e. when the head noun appears in sentence-initial position while the numeral and classifier appear in sentence-final position:

| 10. 房子， | 王先生 | 今年 | 刚刚 | 买了 | 两套。 |
|---|---|---|---|---|---|
| fángzǐ | Wáng xiānsheng | jīnnián | gānggāng | mǎi le | liǎng tào |
| flat, | Wang Mr | this.year | just | buy PFV | two CL |

'As for the flat, Mr Wang just bought two this year.'

However, the semantic relationship (set-member, type-token) that holds between the head noun *fángzǐ* 'flat' and *liǎng tào* 'two' suggest that it is not a case of proper division: the sentence-initial bare noun *fángzǐ* 'flat' is a topic specifying the frame of validity for the following predication. This will be discussed in greater detail in Chapter 5. This is confirmed by the different focal message (1) and (10) have, as can be appreciated in the different translations. Thus, with respect to constituency, the two parts (*fángzǐ* 'flat' and *liǎng tào* 'two') appear to be two different constituents, the latter being the focal information.

### 3.3.2. Fixed order

Within a constituent, i.e. chunks of words that act as a group in the sentence, elements tend to have a fixed relative order with respect to each other. The order of words within NPs cannot be scrambled: NPs strictly follow a modifier-modified fixed order; in particular, for the patient NP in (11) it is NUM+CL+N (*yí tào fángzǐ*, lit. 'one CL flat').[56]

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[56] In fact, there exist exceptions to this pattern, e.g., the following sentence from a recipe:

| 食材： | 鸡蛋 | 3个、 | 油 | 适量… |
|---|---|---|---|---|
| shícái | jīdàn | 3 ge | yóu | shìliáng |

| 11. * 王先生 | | 今年 | 刚刚 | 买了 | 房子一套/套房子一。 |
|---|---|---|---|---|---|
| * Wáng xiānsheng | | jīnnián | gānggāng | mǎi le | fángzǐ yí tào/ tào fángzǐ yī |
| * Wang Mr | | this.year | just | buy PFV | flat one CL/ CL flat one |

When other modifiers (adjectives, noun phrases etc.) modify a head noun, they must also be placed to the left of the noun. However, different word orders within the NP are possible in this case. The basic cross-categorical order in MC NPs, as assumed by most grammar books, is expressed in (12.a), while (12.b-c) are other possible variations (Loar 2011:248). In this formula, DET stands for determiner (*zhè/nà* 'this/that'), QNT stands for quantifier (number+classifier), while DE-modifiers include adjectives, NPs, VPs, or relative clauses. Loar (2011:249) also provides examples (12.a'-c') to illustrate these patterns.

| 12. a. | | DET | | QNT | DE-modifiers | NUM |
|---|---|---|---|---|---|---|
| b. | | DET | DE- modifiers | QNT | | NUM |
| c. de-modifiers | det | | | qnt | | num |

| a'. | 那 | | 三个 | 红(的) | 皮球。 |
|---|---|---|---|---|---|
| | nà | | sān ge | hóng (de) | píqiú |
| | that | | three CL | red DE | rubber-ball |
| b'. ? | 那 | 红的 | 三个 | | 皮球。 |
| | nà | hóng de | sān ge | | píqiú |
| | that | red DE | three CL | | rubber-ball |
| c'. | 红的 | | 那 | 三个 | 皮球。 |
| | hóng de | | nà | sān ge | píqiú |
| | red DE | | that | three CL | rubber-ball |

---

| ingredient | egg | 3 cl | oil | quantity-as-required |
|---|---|---|---|---|

'Ingredients: eggs 3, oil as required…'

Again, this is a sort of partitive (type-token, set-member) relation that will be discussed in Chapter 5. However, with respect to constituency, rather than one constituent with different internal order, the two parts (in this case *jīdàn* 'egg' and *3 ge* 'three') appear to be two different constituents, the latter being the focal information.

Crucially, each order corresponds to slight differences in meaning, also concerning the descriptive or restrictive function of the attribute *hóng (de)* 'red'. In fact, although all orders are considered theoretically possible, (a') and (c') are preferred by the surveyed native speakers, while (b') is perceived as odd. The descriptive and restrictive use of DE modifiers in relation to their position was also pointed out by Chao (1968:286-287), who holds that a DE modifier "has less logical force when used descriptively than when used restrictively", and provides the following examples:

13. a. 位　　　　　戴眼镜儿的　　先生　　　　是　　谁？
　　　 nà wèi　　　 dài yǎnjìngr de  xiānsheng　　shì　　shuí?
　　　 that CL　　　 wear glasses DE gentleman　　be　　who
　　　 'Who is that gentleman (who incidentally is) wearing glasses?'
　　 b. 戴眼镜儿的　　　　那位　先生　　　　是　　谁？
　　　 dài yǎnjìngr de　　　 nà wèi  xiānsheng　　shì　　shuí?
　　　　wear glasses DE　　　 that CL gentleman　　be　　who
　　　 'Who is the gentleman who is wearing glasses (and not the one who is not wearing glasses)?'

Crucially, Chao highlights a remarkable difference between (13.a) and (13.b) in the English translations: (13.a), corresponding to the pattern in (12.a), denotes a descriptive use, while (13.b) corresponding to pattern (12.c) denotes a restrictive use. However, these possible patterns do not constitute evidence against NP constituency, as the relative order of the different components is fixed, namely D(emonstrative)>Num(eral)>CL(assifier)>N(ame).

### 3.3.3. Substitution/replaceability as a whole

When a group of words forms a constituent, it can be replaced with corresponding pro-forms—in this case pronouns (14-15), or simply left unspecified (16):

14. 他　　今年　　　　刚刚　　　　买了　　　　一套房子。
　　 tā　　jīnnián　　　gānggāng　　mǎi le　　　yí tào fángzǐ
　　 he　　this.year　　 just　　　　buy PFV　　one CL flat
　　 'He just bought one flat this year.'
15. 王先生　　　　　　今年　　　　刚刚　　　　买了　　　　它。

| Wáng xiānsheng | jīnnián | gānggāng | mǎi le | tā |
|---|---|---|---|---|
| Wang Mr | this.year | just | buy PFV | it |

'Mr Wang just bought it this year.'

16. | 王先生 | 今年 | 刚刚 | 买了 | Ø。[57] |
|---|---|---|---|---|
| Wáng xiānsheng | jīnnián | gānggāng | mǎi le | |
| Wang Mr | this.year | just | buy PFV | |

'Mr Wang just bought it this year.'

Pro-forms include interrogative forms (also known as question words) such as *shéi* 'who', *shénme* 'what', *nǎlǐ* 'where' etc.:

17. | 王先生 | 今年 | 刚刚 | 买了 | 什么？ |
|---|---|---|---|---|
| Wáng xiānsheng | jīnnián | gānggāng | mǎi le | shénme |
| Wang Mr | this.year | just | buy PFV | what |

'What did Mr Wang just buy this year?'

18. | 谁 | 今年 | 刚刚 | 买了 | 一套房子？ |
|---|---|---|---|---|
| shéi | jīnnián | gānggāng | mǎi le | yí tào fángzǐ |
| who | this.year | just | buy PFV | one CL flat |

'Who just bought a flat this year?'

### 3.3.4. Required elements

Constituents generally require an element to be overtly expressed—typically the head. In MC, the required element test fails, in that neither the head noun nor other elements (Num, CL etc.) are obligatory (crucially, an appropriate context is required for (19) and (21), e.g., two friends who have been talking about flats):

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[57] If the referent of the patient NP has been already introduced in the communicative context, it can either be encoded through a NUM-CL (as in 16) or simply left unspecified (as in 16): given a context where the patient is given in terms of information status, (14) is perfectly grammatical with an omitted patient.

19. 王先生　　　　　今年　　　　刚刚　　　　买了　　　　一套。

| Wáng xiānsheng | jīnnián | gānggāng | mǎi le | yí tào |
|---|---|---|---|---|
| Wang Mr | this.year | just | buy PFV | one c |

'As for the flat, Mr Wang just bought one this year.'

20. 王先生　　　　　今年　　　　刚刚　　　　买了　　　　房子。

| Wáng xiānsheng | jīnnián | gānggāng | mǎi le | fángzi |
|---|---|---|---|---|
| Wang Mr | this.year | just | buy PFV | flat |

21. 王先生　　　　　今年　　　　刚刚　　　　买了　　　　Ø。

| Wáng xiānsheng | jīnnián | gānggāng | mǎi le |
|---|---|---|---|
| Wang Mr | this.year | just | buy PFV |

## 3.3.5. Movement/distribution

The movement test identifies constituents as a sets of words that act as a group when moved within a sentence, i.e. that recur "as a single unit in different positions in the sentence" (Siewierska 1988:154)

In the sample sentence (1), only the head noun (and not the whole patient NP) is allowed to occur in the sentence-initial position. However, this restriction is not syntactic, but discourse-pragmatic, in that (i) the NP occupying the sentence-initial position (with rare exceptions to be discussed in Chapter 5) cannot be indefinite/non referential, as the ungrammaticality of (22) shows; (ii) in (23) the noun occurring in topic position bears a type-token relationship with the Num-CL, as discussed for sentence (10):

22. *一套房子,　　　　王先生　　　　　今年　刚刚　　　　买了。

| * yí tào fángzǐ, | Wáng xiānsheng | jīnnián gānggāng | mǎi le |
|---|---|---|---|
| * one CL flat | Wang Mr | this.year just | buy PFV |

? 'A flat, Mr Wang just bought this year.'

23. 房子,　　　　王先生　　　　　今年　刚刚　　　　买了　　　　一套。

| fángzǐ | Wáng xiānsheng | jīnnián gānggāng | mǎi le | yí tào |
|---|---|---|---|---|

| flat, | Wang Mr | this.year just | buy PFV | one CL |

'As for the flat, Mr Wang just bought one this year.'

Crucially, this does not constitute evidence against NP constituency: when the patient NP is definite/presupposed/recoverable, e.g., *nà yí tào fángzǐ* 'that flat', it can occur in sentence-initial position.

24. 那一套房子，　　　　王先生　　　　　今年　刚刚　　　买了。

| nà yí tào fángzǐ | Wáng xiānsheng | jīnnián gānggāng | mǎi le |
|---|---|---|---|
| that one CL flat, | Wang Mr | this.year just | buy PFV |

'That flat, Mr Wang just bought (it) this year.'

### 3.3.6. Coordination

As Siewierska (1988:162) observes, "[t]he assumption underlying the co-ordination test is that only constituents, and moreover constituents of the same type may be conjoined". This holds for MC NPs as well. Chao (1968) presents 和 *hé*, as well as 跟 *gēn*, as overt "markers of coordinate constructions"; however, he highlights their intrinsic verbal nature: [58]

25. 王先生和李小姐　　　　　今年　刚刚　　　买了　　　　一套房子。

| Wáng xiānsheng hé Lǐ xiǎojiě | jīnnián gānggāng | mǎi le | yí tào fángzǐ |
|---|---|---|---|
| Wang Mr and Li Ms | this.year just | buy PFV | one CL flat |

26. 王先生　　　　　今年　刚刚　　　买了　　　　一套房子和一辆车。

| Wáng xiānsheng | jīnnián gānggāng | mǎi le | yí tào fángzǐ hé yí liàng chē |
|---|---|---|---|
| Wang Mr | this.year just | buy PFV | one CL flat and one CL car |

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[58] Chao specifies that 跟 *gēn* (along with 和 *hé*) is "primarily a verb which means 'follows' […] In: 我要跟你说话 *Woo yaw gen nii shuo-huah* 'I want to talk with you.' […] *gen* is in first position in verbal expressions in series, which, as often happens, is translatable as a preposition, in this case by 'with'. In fact, this rule applies equally to the other so-called 'and'-words *her* [*he*], *hann*, *hai* and to the Central and Southern dialectal *torng*, for example *Woo yaw torng nii shuo-huah*. (dial.) 'I want to talk with you'." (Chao 1968:264). Thus, such morphemes have an inherent poly-functional nature, and can be considered

### 3.3.7. Summary

All tests (indivisibility, fixed order, substitution, movement and coordination) applied to noun phrases in MC, with the only exception of the test of required elements (section 3.3.4); however, this seems to be mainly connected with the phenomenon of non-specification of arguments mentioned in section 3.2, and does not constitute evidence against NP constituenthood. Hence, constituenthood tests overall confirm that noun phrases do exist in MC.

This is also confirmed by studies conducted on corpus data in conversational Mandarin Chinese, conducted by Tao (1996). Tao examined constituent units in Mandarin Chinese from the point of view of conversation and discourse-analysis based on spontaneous speech, including audio-recorded, naturally-occurring interactional conversation. He concludes that the NP is a major speech unit (or Intonational Unit – IU) in Mandarin Chinese:

> 'NP' refers to those IUs that consist of a nominal phrase. Since we have already showed that NP IUs are pervasive (accounting for 28.7% of all IUs in the data), it is natural to treat them as a major speech unit type in Mandarin. […] NP IUs display a variety of functions in discourse; not only can arguments of verbs occur as separate units, but NPs can appear independent of any verb predicate, either forming a predication of their own or integrating with other NP IUs for referential manipulation[59]. These facts allow us to conclude that NP IUs are useful speech units for the description of the Mandarin language. (Tao 1996:178)

We can conclude that in MC noun phrases are constituents, namely sets of words that act as a group when relating to other elements in the sentence.

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either as (co)verbs/prepositions and coordination markers. This will be further explored in section 3.4.6 below.

[59] 'Referential manipulation' refers to the fact that NPs can occur in different positions in the sentence according to their referential (and information) status, for example, as topics: according to Tao, this has also been recogniserecognised by previous scholars, either in terms of 'topic prominence' (Chao 1968, Li and Thompson 1976, 1981), or in terms of 'topic chain as the basic discourse unit' (Tsao 1990).

## 3.4.    Verb phrases

A VP is basically a constituent including the verb and its internal argument(s)—the object(s), but not its external argument – the subject. This holds very well for English: in simple declarative sentences, objects are immediately contained in the verb phrase, while subjects are those NPs that appear outside the verb phrase. This is confirmed by constituenthood tests, as the following sentences show (examples from Baker 1997):

27. a. John [VP hit the table] and Bill did [VP (so)] too.
    b. John said he would hit the table, and [VP hit the table] I guess he did --.
    a'. *[XP John hit] the table and [XP (so)] did the chair too.
    b'.*John said he would hit the table, [XP John hit] I guess -- did it.

The sentences and tests in (27) show that in English there exists a tighter relationship between the verb and its object than between the verb and its subject, the object and the verb constituting a phrasal unit: in this sense, English is a configurational language (Baker 1997), with a structure like that in (28) (adapted from Baker 1991:538):

28.
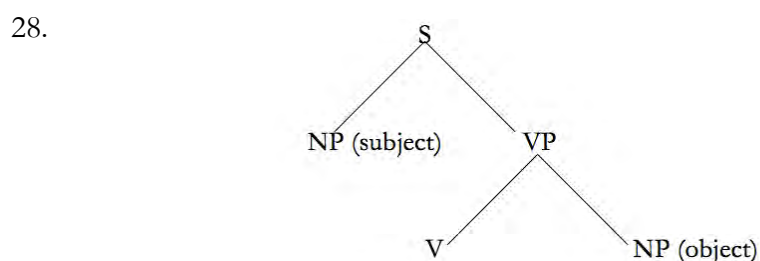


However, research in the last decades has shown that in many (perhaps even most) languages, VPs cannot be identified in a straightforward way (Baker 1997). Unlike NPs, in a significant number of languages[60] there is no clear-cut evidence of the existence of VPs when examined through the lens of constituency tests. Classic illustration of this comes from Warlpiri, an

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[60] According to Hale (1983), in fact most languages display no clear-cut evidence for the existence of VPs. See also Baker (1991 and 1997).

Australian language (Hale 1983), where any word order (SVO, OSV, OVS etc.) is possible, as long as the auxiliary that bears tense and agreement is in the second position in the clause (Simpson 1983:140):

29. a. Kurdu-ngku     ka-ju     nya-nyi     ngaju.
       child-ERG     PRS-1SG     see-NPST     1SG-ABS)

     b. Kurdu-ngku     ka-ju     ngaju     nya-nyi
     c. Nya-nyi     ka-ju     kurdu-ngku     ngaju
     d. Ngaju     ka-ju     nya-nyi     kurdu-ngku, etc.
     All: 'The child sees me.'

Given this, the phrase structure of a Warlpiri clause is considered symmetrical, and such a language is called non-configurational, in the sense that "subjects and objects are not distinguished by phrase structure configurations" (Baker 1997:410).[61] Baker (1991:539) makes a similar observation for Mohawk, a northern Iroquoian language, which "has no (known) cases of VP-deletion, VP-pronominalisation, or VP-fronting that treat the verb [and its object] as a constituent." However, Baker also observes that clausal arguments, unlike NPs, do show standard subject-object asymmetries, when disjoint reference effects, island conditions, and weak crossover phenomena are examined. Let us now turn to the case of Mandarin Chinese. The existence of a VP in MC implies that the verb and its objects act as constituents with respect to constituency tests: this hypothesis will be tested in the subsections below.

### 3.4.1. Indivisibility

In MC, transitive verb constructions, where both agents and patients are overtly expressed, display an agent>verb>patient (A1>V>A2) pattern. This is also valid for the sample sentence

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[61] Baker leaves open the relationship between S and V: "if V is the head of S, then both the subject and object are inside the VP; if it is not, then both are outside (both these views have been held)." (Baker 1997:410)

in (1). This section is devoted to highlighting possible patterns where the verb and its patient (second argument) are detached. Various elements can occur between the verb and the patient, including aspectual markers (i.e. the perfective marker le in (1), as well as resultative or potential complements, like *mǎi wǎn*, lit. buy-finish 'sold out' or *mǎi de qǐ*, lit. buy-DE-rise, 'afford to buy'). However, this test is more concerned with the possibility for other types of constituents to occur between the verb and the patient NP. The following sentences present cases where other elements occur between a preverbal patient and the verb (A2-XP-V), for example temporal adjuncts (underlined) in (30) and (31):

30. (我)　　　这本书　　　<u>今天</u>　没法　读完，　　　　明天　　　　　会接着读。
　　(wǒ)　　zhè běn shū　<u>jīntiān</u>　méifǎ　dúwán　　　míngtiān　　　huì jiē zhe dú
　　(1SG)　this CL book　<u>today</u>　not way　read-finish　tomorrow　　　will continue read
　　'I won't be able to finish reading this book today, I'll continue tomorrow.'
　　*Source:* conversation with native speaker, confirmed by 6 other native speakers.

31. 我们旅游团啊，　　　长城　　　　<u>今年</u>　　　还没去，
　　wǒmén lǚyóutuán ā　Chángchéng　<u>jīnnián</u>　hái méi qù
　　1PL tour.group TM　Great Wall　<u>this.year</u>　yet NEG go
　　但　　故宫　　　　已经　　　去了　　　好几次了。
　　dàn　gùgōng　　　yǐjīng　　qù le　　hǎo jī cì le
　　but　Forbidden city　already　go PFV　good number time CHG
　　'Our tour group this year has not been to the Great Wall yet, but we have already been to the Forbidden City many times.'
　　*Source:* conversation with native speaker, confirmed by 6 other native speakers.

The above sentences show that MC allows patterns involving the verb and the patient/second verbal argument) to be detached, in this case by a temporal adjunct. However, other patterns are possible where some element (also verbal) can occur between (and separate) a preposed patient and its verb:

32. 你　　身份证　　　<u>让我</u>　　看　一下　好不好？
　　nǐ　　shēnfènzhèng　<u>rang wǒ</u>　kàn　yī xià　hǎo bù hǎo
　　2SG　identity.card　let 1SG　look　one CL　good NEG good
　　'How about your ID, can I see it?'

33. 我　　　这个故事　　　很难　　　　重复。

　　　wǒ　　zhè gè gùshì　hěn nán　　chóngfù

　　　1SG　　this CL story　very difficult　repeat

　　　'I, this story, can hardly repeat.'

Although this type of test presents some difficulties due to the fixed position of sentence elements such as adverbials and complements with respect to the verb, the above sentences constitute some evidence that the verb and its object can be separated by other elements.

## 3.4.2. Fixed order

As mentioned in section 3.4.2, within a constituent, elements tend to have a fixed relative order with respect to each other. This section examines the relative order of the constituents usually occurring within a VP, namely the verb and its potential internal object (patient/second argument): a fixed order (V-P/V-A2) might entail that the VP is an actual constituent in MC.

In MC, the second argument of a verb can occur between the first argument and the verb (i.e. APV pattern, or A1>A2>V). This pattern often entails specific meanings, for example contrastive emphasis[62]. If applied to the sample sentence (1), this pattern sounds weird to some native speakers. But if the sentence has the right context, as in (34), , speakers

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[62] The contrastive meaning of preverbal NPs was observed by Light (1979:150), who states that by the use of a preverbal patient NP, "the speaker intends [...] to indicate a contrast between the named object and certain other objects".

(i)　　　纸，　　我　　　有。　　　笔，　　我　　　没有。　　　　(Light 1979:151)

　　　zhǐ　　wǒ　　yǒu　　bǐ　　wǒ　　méi yǒu

　　　paper　I　　have　pen　I　　not have

'I have paper, (but) no pen'.

Crucially in Light's example, the contrastive reading is encoded in Mandarin through the parallel structure and the repetition of all elements, whereas in English it needs to be expressed through a conjunction like but, and repetition of coreferential nouns is avoided.

tendentially to think the pattern is perfectly fine, as it fits the contrastive meaning encoded in the second clause of the sentence:

34. ?王先生　　　　　那一套房子　　　　买了，
    Wáng xiānsheng　　nà yí tào fángzǐ　　mǎi le
    Wang Mr　　　　　that one CL flat buy PFV
    这一套　　却不想买，　　　　觉得太贵了。
    zhè yí tào　què bù xiǎng mǎi　jué dé tài guì le
    this one CL　neg think buy　think too expensive
    'Mr Wang just bought that flat, but as for this one, he does not want to buy it anymore, he thinks it's too expensive.'

However, crucially the APV pattern with the same verb (*mǎi,* 'to buy') and patient (*fángzǐ,* 'flat') is perfectly grammatical, as the following example shows; again, the pattern entails a specific meaning, that needs to be coherent and compatible with its context:

35. 两年来，　　他们　房子　买了　　　车　　也买了，
    liǎng nián lái　tāmen　fángzǐ　mǎi le　　chē　yě mǎi le
    two year come　3PL　flat　buy PFV　　car　also buy PFV
    接下来　　　就是　该有　　　个孩子了。
    jiē xià lái　jiù shì　gāi yǒu　　gè háizǐ le
    continue come　then be must have　CL kid CHG
    'In the past two years, they bought a flat, bought a car, now they only need to have a baby.'
    *Source*: Sina Weibo blog (http://health.sina.com.cn/d/s/2016-08-23/doc-ifxvcsrn8701303.shtml) [Last accessed: 17/5/2017]

As anticipated, this pattern does not occur freely, as it bears specific meanings and functions. For example, in (34) there is a contrastive sense between the two patients; in (35) the preverbal patient is part of a parallel construction bearing emphasis on the two predicates 'the flat, they bought, the car, they also bought'. This is similar in structure and in meaning to the Italian construction 'L'appartamento l'hanno comprato, la macchina anche.' (lit. 'the apartment, they bought, the car, also.') In (36), the patient is preposed also to leave the postverbal position to the actual focus of the sentence, which is not the patient itself (the

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movie), but the frequency expression (how many times the speaker watched it)—end focus will be discussed in Chapter 5).

| 36. | 我 | 这部电影 | 看了 | 两遍。 |
|---|---|---|---|---|
| | wǒ | zhè bù diànyǐng | kàn le | liǎng biàn |
| | 1SG | this CL film | watch PFV | two CL (time) |

'I've watched this movie twice.'

*Source*: blog ([http://blog.xuite.net/tei.yosi/01/77206553](http://blog.xuite.net/tei.yosi/01/77206553)) [Last accessed: 18/05/2017]

Similar examples are provided by Paul (2002:2), who refers to this pattern as 'object preposing': "OBJECT PREPOSING refers to the case where the object—without any additional marking—occurs between the subject and the verb, more precisely to the left of adverbs, negation and auxiliaries (instead of occupying its canonical postverbal position)" [emphasis in original]:

| 37. | 你 | 中药 | 以前 | 用过 | 吗？ |
|---|---|---|---|---|---|
| | nǐ | zhōngyào | yǐqián | yòng guò | ma |
| | 2SG | Chinese medicine | before | use EXP | Q |

'Have you ever taken Chinese medicine before?'

| 38. | 我 | 菜 | 吃了， | 饭 | 还没吃。 | (Zhu and Fan 1999:113) |
|---|---|---|---|---|---|---|
| | wǒ | cài | chī le | fàn | hái méi chī | |
| | 1SG | veggie | eat PFV | rice | yet not eat | |

'I have eaten the vegetables but not the rice'.

The examples from Paul have been checked against the intuition of native speakers:, who think (37) is acceptable, but only in certain contexts, while all agree (38) is perfectly fine. This can be related to "differences in imagined contexts" when native speakers make acceptability judgements: unlike (37), (38) carries a contrastive meaning in the second clause, thus the order (A1-A2-V) is contextually justified with a coherent communication need.[63]

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[63] See footnote 62.

Nonetheless, so-called object preposing is a widely accepted phenomenon in MC (for more discussion see Shyu 2016:523). This pattern shows that patient verb order is possible in MC, thus ruling out a fixed order within a potential VP.

### 3.4.3. Substitution/replaceability as a whole

In English, there exists a pro-verb form capable of substituting VPs, namely the *do so* pro-form. This is another piece of evidence in favour of VP constituenthood in English. The following examples illustrate this phenomenon; note that the *do so* pro-form is compatible with verbs denoting both states and activities, and that both the strict reading and the sloppy reading are equally available (adapted from Ai 2014:1). Crucially, the do so is a pro-form as it cannot occur with the substituted VP (39.a'), (39.b').

39.  a. John likes his brother and Bill does so, too. State
     (i) John likes his brother and Bill also likes John's brother. (strict)
     (ii) John likes his brother and Bill likes his own brother. (sloppy)
     a'. *John likes his brother and Bill does so like his brother, too.

     b. John criticised his brother and Bill did so, too. Activity
     (i) John criticised his brother and Bill also criticised John's brother. (strict)
     (ii) John criticised his brother and Bill criticised his own brother. (sloppy)
     b'. *John criticised his brother and Bill did so criticise his brother, too.

Like in several other languages, this test is not so straightforward in MC. Forms that are generally listed in the literature as pro-verbs in MC include 这么做 *zhème zuò,* or 这样做 *zhèyàng zuò,* both lit. 'this way do'. However, these expressions seem to be quite different to the English *do so* pro form, and look closer to the expression 'do the same', which is not a pro-form. First, they have a much more restricted use: sentences like (40) are found to be barely or definitely not acceptable by native speakers:

| 40. *王先生 | 今年 | 刚刚 | 买了 | 一套房子， |
|---|---|---|---|---|
| * Wáng xiānsheng | jīnnián | gānggāng | mǎi le | yí tào fángzǐ |
| * Wang Mr | this.year | just | buy PFV | one CL flat |

| 刘先生 | 也 | 这样/这么做 | （了）。 |
|---|---|---|---|
| Liú xiānsheng | yě | zhèyàng/zhème zuò | (le) |
| Liu Mr | also | this-way do | (CHG) |

'Mr Wang just bought a flat this year, and Mr Liu did so, too.'

Moreover, corpus data also highlights that 这么做 *zhème zuò,* or 这样做 *zhèyàng zuò* rarely appear in conjoined sentences to encode a potential repeated VP.[64] This might be connected with the meaning of the pro-form itself, which refers to the way the action is performed, rather than to the action itself. Moreover, when asked to translate a sentence like "He bought a flat, and she did so, too", no Chinese native speakers used any of these expressions; here are some of the provided translations (which they describe as more native-like):

| | 他 | 买了 | 一套 房子， | 她 | 也 | 买了 | 一套。 |
|---|---|---|---|---|---|---|---|
| 41. | tā | mǎi le | yí tào fángzǐ | tā | yě | mǎi le | yí tào |
| | 3SG | buy PFV | one CL flat | 3SG | also | buy PFV | one CL |
| 42. | 他 | 买了 | 个房子， | 她 | 也 | 买了。 | |
| | tā | mǎi le | ge fángzǐ | tā | yě | mǎi le | |
| | 3SG | buy PFV | CL flat | 3SG | also | buy PFV | |

As (41) and (42) show, most native speakers tend to repeat either the verb and part of the patient NP—the NUM+CL construction, like in (41), or the verb itself – omitting the patient NP, in that it is informationally given, like in (42). This is confirmed in the analysis of substitution and other cohesive devices by Wu (2014), who claims that, comparatively speaking, substitution with pro-forms is more frequent in English, while the same meaning

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[64] The PKU corpus displayed only 90 total occurrences of the string 也这样做 *yě zhèyàng zuò*, and 25 of the string 也这么做 *yě zhème zuò* (lit. also this way do): this suggests that such expression are far more limited in their use compared to the English 'do so'; moreover, out of all occurrences, only 6 (5.2%) conjoined sentences with different subjects to encode a repeated predicate. Here are listed few relevant examples: (i) 热心的市长，在自己身上大胆试验，并要他的副手秘书长先生也这样做。'The enthusiastic mayor boldly tried it on his own body, and wanted his assistant secretaries to do the same'; （ⅱ）埃及欢迎这这一决定,并希望本地区其它国家也这样做。'Egypt welcomes this decision and hopes other Countries will do the same.' Crucially the meaning corresponds more to the English 'do the same', rather than to the pro-form 'do so'.

tends to be encoded in MC by means of reference or repetition.[65] Wu further claims that the main reason for this phenomenon is that "English emphasizes more in hypotaxis, which is characterized by strict grammatical relationships […]. Because substitution is the replacement of a part of a sentence with a substitute word or phrase in the same grammatical slot, substitutions are more extensively used in grammatically strict English. On the other hand, Chinese emphasizes more in parataxis, its elements connected through hidden logic relations more than grammatical relations. Consequently, substitution as a structural link is far less used in Chinese" (2014:1660).

In fact, English and MC seem to differ in the extent to which verbal pro-forms can be used. In English, the answer to a question like (43) includes the subject and the auxiliary *do* only, which is the support form bearing the tense, while MC requires the repetition of the verb (and the aspect), and the omission of informationally given arguments, such as the agent (Mr Wang) and the patient (*fángzǐ* 'flat') in (43-44).

43. A.你　　昨天　　　　　去上学了　　　　　吗？

　　　nǐ　　zuótiān　　　　qù shàng xué le　　ma?

　　　2SG　yesterday　　　go attend school PFV　Q

　　　B.去了/上了。

　　　qù le /shàng le

　　　go PFV / attend PFV

　　　A. Did you go to school yesterday?

　　　B. Yes, (I did).

44. A. 王先生　　　　　买了　　　　房子　吗？

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[65] Wu's (2014:1660) analysis is based on comparative study of a written text and its Mandarin Chinese translation. Wu's example is as follows:

English source text: 'And therefore, if a man write little, he had need have a great memory; if he confer little, he had need have a present wit; and if he read little, he had need have much cunning, to seem to know that he doth not.' (cited from Of Study). Chinese translation: 因此不常做笔记者须记忆力特强，不常讨论者须天生聪颖，不常读书者须欺世有术，始能无知而显有知 (wú zhī ér xiǎn yǒu zhī, lit. not-know yet seem do know). Crucially, in the MC translation, the substitution word 'doth' is converted to the repetition of the word 一知 zhi 'know' (in bold).

| Wáng xiānsheng | | mǎi le | | fángzǐ | ma |
|---|---|---|---|---|---|
| Wang Mr | | buy PFV | | flat | Q |

B 买了。

mǎi le

buy PFV

A. Did Mr Wang buy a flat?

B. Yes, (he did).

The other expression used by native speakers to encode the English 'do so' in a sentence like (40) is the verb 是 *shì* 'to be', which has also been argued to be the overt counterpart of the *do so* pro-form in English (Li G. 2002, Xu 2003, Li 2005, Soh 2007). The following examples seem to confirm this claim:

45. | 王先生 | | 今年 | 刚刚 | 买了 | 一套房子， |
|---|---|---|---|---|---|
| Wáng xiānsheng | | jīnnián | gānggāng | mǎi le | yí tào fángzǐ |
| Wang Mr | | this.year | just | buy PFV | one CL flat |

| 刘先生 | 也 | 是。 |
|---|---|---|
| Liú xiānsheng | yě | shì |
| Liu Mr | also | be |

'Mr Wang just bought a flat this year, and Mr Liu did so, too.'

Here is a further example from Ai (2014:4), which we can compare to the English sentences in (39):

46. a.| 张三 | 喜欢 | 他的弟弟， | 李四 | 也是。State: see (39.a) |
|---|---|---|---|---|
| Zhāngsān | xǐhuān | tā de dìdi | Lǐsī | yě shì |
| Zhangsan | like | 3SG DE young-brother | Lisi | also be |

'Zhangsan likes his younger brother; Lisi does so, too.'

(i) Zhangsan likes his younger brother and Lisi also likes Zhangsan's younger brother. (strict)

(ii) Zhangsan likes his younger brother and Lisi likes his own younger brother. (sloppy)

If we compare (46) and (39.a-b), the *shì* construction displays remarkable similarities with the *do so* pro-form in terms of structure and possible available readings (both strict and sloppy);

thus, this seems to constitute a case of substitution as a whole of the VP. Moreover, Xu (2003:165) convincingly argues that the *shì* construction, just like the *do so* pro-form in English, involves adverbial and complement ellipsis as well, and thus includes the full VP: (47) involves that both John and Peter brush their teeth everyday three times a day:

47. John    每天        刷     三边        牙，     Peter    也是。

      John    měitiān      shuā    sānbiān     yá       Peter    yě shì

      John    everyday     brush    three time     tooth    Peter    also be

      'John brushes his teeth everyday three times a day, and Peter does so, too.'

However, if compared to the English *do so* pro-form, the *shì* construction displays a significant number of characteristics and restrictions, which raise doubts as to whether it is a case of substitution as a whole. First, after VP pro-forms, such as the *do-so*, the verb phrase cannot be repeated, as it is a case of substitution, and as shown by the ungrammaticality of (39.a'-b'). However, unlike the *do so* pro-form in (39.a') and (39.b'), with the *shì* construction repetition of what follows is perfectly fine, as the comparison between MC and English in (52) shows:

48. John    [每天刷三边 牙]，             Peter 也是    [每天刷三边牙（的）]。

      John    [měitiān shuā sānbiān yá]      Peter yě shì    [měitiān shuā sānbiān (de)]

      John    [everyday brush three time tooth]   Peter also be  [every day brush 3 times tooth (DE)]

      *'John brushes his teeth everyday three times a day, and Peter does so brush his teeth everyday three times a day.'

This suggests that *shì* is not a pure pro-form (such as *do so* in English), but rather licenses the ellipsis of what follows next (which need not be a single constituent). Moreover, Ai (2013) points out a series of issues, connected with (i) the restrictions in the types of verbs the *shì* construction can occur with, and (ii) the available readings (strict versus sloppy):

(i) The *shì* construction is compatible with state verbs, but not with all activity verbs:

49. ?张三          批评了       他的弟弟         ?    李四也是。 *Activity*: see (43.b)

      ? Zhāngsān    pīpíng le     tā de dìdi           Lǐsī yě shì

      Zhangsan      criticise PFV   3SG DE young-brother   Lisi also be

'Zhangsan criticised his younger brother; Lisi did, too.'

(i) ?? Lisi also criticised Zhangsan's younger brother. (strict)

(ii) ? Lisi criticised his own younger brother. (sloppy)

Ai (2013:2) remarks that the judgment varies among native speakers: some do not think (49) is acceptable, while those who do strongly prefer the sloppy reading. Nonetheless, the strict reading is not available. Native speakers we have surveyed also confirm (49) is not acceptable and that in no case is the strict reading is available. To improve the acceptability of (49), some adverbials need to be added in the antecedent clause (this was confirmed by native speakers):

50. 张三　　　　狠狠地　　　批评了　　　他的弟弟　　　　　? 李四也是。
　　Zhāngsān　hěn hěn de　pīpíng le　tā de dìdi　　　　Lǐsī yě shì
　　Zhangsan　fiercefully DE　criticise PFV　3SG de young-brother　Lisi also be
　　'Zhangsan criticised his younger brother vigorously; Lisi did, too.'

(i) ?? Lisi also criticised Zhangsan's younger brother vigorously. (strict)

(ii) ? Lisi criticised his own younger brother vigorously. (sloppy)

However, although (50) is acceptable for all native speakers that Ai (2013) surveyed, the sloppy reading is still strongly preferred (this was also confirmed by the native speakers). Crucially, in (45) only the sloppy reading is available, as well. Another example allowing only for the sloppy reading was provided by a native speaker:

51. 他　　喜欢　　他的同学，　　　　　我　　也是。
　　tā　　xǐhuān　tā de tóngxué　　　wǒ　　yě shì
　　3SG　like　　3SG DE classmate　　1SG　also be

(i) * He likes his classmates and I also like his classmates (strict)

(ii) He likes his classmates and I also like mine (sloppy)

The availability of the strict reading versus the sloppy reading is used as a diagnostic for VP substitution vs. ellipsis: the non-availability of the strict reading indicates that *shi* is different from *do so*.

(ii) The *shi* pro-form cannot be used to replace predicates denoting future actions:

52. *王先生     要买     一套房子，     刘先生     也     是。

| *Wáng xiānsheng | yào mǎi | yí tào fángzǐ | Liú xiānsheng | yě | shì |
|---|---|---|---|---|---|
| * Wang Mr | will buy | one CL flat | Liu Mr | also | be |

‘Mr Wang will buy a flat, and Mr Liu will do so too’.

In order for (52) to be grammatical and to encode a future action, the modal *yào*, and not the verb *shì*, needs to be used. Again, this looks like an instance of ellipsis, rather that substitution/replaceability as a whole:

53. 王先生     要买     一套房子，     刘先生     也要。

| Wáng xiānsheng | yào mǎi | yí tào fángzǐ | Liú xiānsheng | yě yào |
|---|---|---|---|---|
| Wang Mr | will buy | one CL flat | Liu Mr | also will |

‘Mr Wang will buy a flat, and Mr Liu will do so too’.

Crucially, if the modal does not imply future meaning, then *shi*-support is possible, which shows that the *shi* occurs to the left of modals and can license deletion of what follows:

54. 王先生     需要买     一套房子，     刘先生     也是。

| Wáng xiānsheng | xūyào mǎi | yí tào fángzǐ | Liú xiānsheng | yě shì |
|---|---|---|---|---|
| Wang Mr | need buy | one CL flat | Liu Mr | also be |

‘Mr Wang needs to buy a flat, and Mr Liu too’.

Moreover, Ai (2013) shows that although *shì* can be used to substitute resultative verbs, the distribution of the strict reading and the sloppy reading is not equal either (see Ai 2013:3 for further discussion and evidence). Finally, unlike English, the predicate it 'substitutes' can be negative, whereas in English this is not possible:

55. 张三     不喜欢     看电视。     我     也是     ［不喜欢     看电视］

| Zhāngsān | bù xǐhuān | kàn diànshì | wǒ | yě shì | [bù xǐhuān | kàn diànshì] |
|---|---|---|---|---|---|---|
| Zhangsan | not like | watch TV | 1SG | also be | [not like | watch TV] |

*‘Zhangsan does not like watching TV. I do so, too.’

This again looks more like deletion of what follows, rather than substitution. Again, a general observation made by the surveyed native speakers is, it is not so natural for them to replace the predicate with something else, as it is easier to repeat the verb, or the verb and the arguments which are not given (implicitly inferable).

To sum up, the sentences above highlighted that the *shì* construction: (i) is compatible only with state verbs, or with predicates that indicate some kind of states, such as activity verbs that are modified by adverbials (which according to Ai (2013) indicate some sort of states), and with resultative verbs (which always entail a 'resulting' state as well); (ii) it is not compatible with future or progressive actions, and, (iii) unlike the English *do so* pro-form, it can occur with a negated predicates. In addition, according to native speakers in sentences of type of (49-51) the strict reading is not available. Such differences raise doubts as to whether the *shì* construction is an actual instance of VP substitution. What Ai (2013:4) concludes is that it is an instance of deletion, and not of substitution of a single constituent; moreover Ai proposes that, given the semantics and the copula function of the verb *shìì,* what is actually deleted is a DP (noun phrase), encoding a sort of state of being X 'is also in the (situational or psychological) state/situation of being/having done this'.

According to Ai (2013), such analysis is confirmed by tests which differentiate VP ellipsis from *do it/that* anaphora, based on the analysis by Hankamer and Sag (1976), who investigate the difference between syntactically and pragmatically controlled anaphora, and argue that anaphoric processes are of two kinds: 'deep' anaphora "allows pragmatic control and has other properties indicating that the anaphoric relation is determined at an essentially presyntactic level"; 'surface' anaphora, "requires a coherent syntactic antecedent in surface structure and otherwise behaves as a purely superficial syntactic process" (p.392). Their analysis shows that these two types of anaphoras behave differently with respect to tests such as (i) pragmatic vs syntactic control and (ii) missing antecedent phenomenon:

> language provides us with two ways to avoid redundancy: redundancy at the deep level can be eliminated by substituting a deep anaphor or a semantic unit that appears elsewhere in the discourse or in context; redundancy at the surface level can be eliminated by substituting a surface anaphor (generally null) for a surface segment that appears elsewhere in the linguistic structure (including wider discourse). Since the condition on surface anaphora is

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that there must be an identical surface segment elsewhere, pragmatic control of surface anaphora is impossible (Hankamer and Sag 1976:425).

According to Ai (2013), if examined in light of tests such as syntactic versus pragmatic control and missing antecedent phenomenon, *shì* construction patterns with *do it/that* anaphora, and not with the English *do*-support construction, "in that it allows for pragmatic control and resists the missing antecedent phenomenon", thus looking like "an instance of deep anaphora" (see Ai 2013 for further discussion).

To conclude, the test of substitution/replaceable as a whole is controversial when applied to MC. Forms that are in the literature analysed as VP pro-forms in MC (这么做 *zhème zuò,*这样做 *zhèyàng zuò*, or 是 *shì* construction) do not provide uncontroversial evidence of their pro-form status: specifically, the former have a very limited distribution connected to their intrinsic semantics; on the other hand, it is not clear whether the 是 *shì* construction is a case of substitution/replaceablilty as a whole, as it does not pattern like a *do*-support.

### 3.4.4. Required elements

As already observed in the previous sections, it appears that MC requires the verb to occur, while its arguments can be omitted (regardless of their semantic role or thematic hierarchy) when already inferable from the conversational or situational context, as the answers to the following questions show:

56. A. 你　　去过　　　中国　　　吗?
  nǐ　　qù guò　　Zhōngguó　　ma
  2SG　go EXP　　China　　　Q
 B. 去过。
  qù guò
  go EXP
 'A. Have you ever been to China?
 B. No, (I have) never been (to China).'

57. A.　　　王先生　　　　　　买了　　　　　　房子吗？

　　　　　　 Wáng xiānsheng　　 mǎi le　　　　　 fángzǐ ma

　　　　　　 Wang Mr　　　　　　 buy PFV　　　　　 flat Q

　　 B.　　　买了。

　　　　　　 mǎi le

　　　　　　 buy PFV

　　'A. Did Mr Wang buy a flat?'

　　 B. 'He did.'

Thus, the verb itself (and nothing else) seems the required element.[66]

## 3.4.5. Movement/distribution

As mentioned in 3.3.5, the movement test is based on the observation that constituents acts as a group when moved within a sentence (Siewierska 1988:154). In English, this test reveals

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[66] In fact, MC allows predications to be nominal (no verbal elements are required):

(i)　　　 这辆车，　　　　　两个门。

　　　　　 zhè liàng chē　　　 liǎng ge men

　　　　　 this cl car　　　　 two cl doors

'This car has two doors.'

Moreover, answers including only Num＋CL are perfectly acceptable in contexts like the following:

A.　　　 这辆车，　　　　　几个门？

　　　　 zhè liàng chē　　　 ji ge mén

　　　　 this cl car　　　　 how.many cl doors

B.　　　 两个

　　　　 liǎng ge

　　　　 two cl

A: 'How many doors does this car have?'

B: 'Two.'

There exist more than one accounts of such predicates: some scholars maintain that in sentences with nominal predicates is an unexpressed (but easily recoverable) existence verb.

a strong constituency of the VP. The following examples by Nordlinger (1998) show that the object and verb build a constituent: in the pseudo-clefting in English, the object is fronted together with the verb but the subject is not.

58. English: VP-fronting　　　　　(Nordlinger 1998:28f)
    a. Buy a car is what Mary did
    b. *Mary buy is what did a car

However, this test almost never provides uncontroversial evidence, as shown by the fact that in English the following sentence is ungrammatical:

    c. * Buy a car is what Mary did not.

In Mandarin Chinese, a construction like that in (58) is not possible:

59. *买车　　　　　是　　Mary　做（的）。
    *mǎi chē　　　shì　　Mary　zuò de
    * buy car　　　be　　Mary　do de

It is possible to have verb-patient strings in sentence-initial position, such as 种菜 *zhǒng cài* 'plant vegetables', 做怀梦 *zuò huái mèng* 'have a nightmare' etc. (Chao 1968:301)

60. 种菜　　　　是　　她的　　业余营生。
    zhǒng cài　　shì　　tā de　　yèyú yíngshēng
    plant veggie　be　　3sg de　spare.time activity
    'Growing vegetables is her spare-time job.'

However, this is not a case of VP clefting but of a nominalised V-N compound that acts as the argument of a predicate (in this case an equative predicate introduced by *shì* 'be' can occur). In such cases, the noun can receive only a general referential reading: the verb does not display a predicative function. This is also confirmed by the fact that such verb-patient strings can be connected by 和 *hé* / 跟 *gēn*, which can only connect nouns and NPs (Chao 1968:791, to be further discussed in section 3.4.6). In (61), the sentence-initial elements *chī*

*fàn* and *shuì jiào* 'eat-meal' and 'sleep (V)-sleep (N)' have in fact a nominalised nature, and thus can be conjoined by *gēn* (example from Chao 1968:791):

61. 吃饭　　　　跟　　　　睡觉　　　　是　　　两件事儿。

    chī fàn　　　gēn　　　　shuì jiào　　　shì　　　liǎng jiàn shìr

    Eat-meal　　and/follow　sleep-sleep　　be　　　two CL things

    'Eating and sleeping are two things.'

Examples that in the literature are analysed as VP-fronting in MC (e.g., Huang C.-T. J. 2009) do show some sort of generalised meaning, which parallel them to referential elements:

62. 修车，　　　你　　想知道　　　谁　　会不会　　　呢？

    xiū chē　　　nǐ　　xiǎng zhīdào　shuí　huì bú huì　　ne

    repair car　　2SG　wonder　　　who　　can-NEG-can　MOD

    'Who is the x such that you wonder whether he can repair a car?' (Huang C.-T. J. 2009:293)

63. 批评他自己，　　　　张三　　　　知道　李四　绝对　　　　不会。

    pīpíng tā zìjǐ　　　　Zhāngsān　　zhīdào　Lǐsī　juéduì　　　bú huì

    criticise 3SG self Zhangsan　　　know　　Lisi　definitely　NEG will

    'Criticise himself,　　　Zhangsan knows Lisi definitely will not'　　　(Huang C.-T. J. 2009:285)

Both *xiū chē* 'repair a car' and *pīpíng tā zìjǐ* 'criticise himself' receive a general meaning when put at the beginning of the sentence: all surveyed native speakers agree that even the referential element *tā zìjǐ* in (63) implies a general meaning, closer to 'oneself'. This is consistent with the frame-setting nature of topical elements (to be discussed in Chapter 5). More interesting are examples like the following, which display aspectual markers (such as *le* and *guo*) and referential elements (like *wo*, 'I'):

64. a.去过 中国　　　　两次，　　　我　　知道　李四　绝对　　　没有。

    qù guo　Zhōngguó　　liǎng cì　　　wǒ　　zhīdao　Lǐsì　juéduì　　méi yǒu

    go EXP China　　　　two time　　　1SG　know　　Lisi　definitely　NEG have

    'Go to China twice, I know Lisi for sure did not.'

According to some of the surveyed native speakers, in specific contexts this examples is acceptable. This might constitute evidence that the verb and the inner argument behave like a constituent, in that they are fronted, along with the aspectual marker. Crucially, the frequency complement liǎng cì is also included. In fact, according to native speakers, the following sentence is acceptable too:

| b. 中国呢 | 去过 | 两次， | 我 | 知道 | 李四 | 绝对 | 没有。 |
|---|---|---|---|---|---|---|---|
| Zhōngguó ne | qù guo | liǎng cì | wǒ | zhīdao | Lǐsì | juéduì | méi yǒu |
| China TM | go EXP | two time | 1SG | know | Lisi | definitely | NEG have |

'As for China, go there twice, I know Lisi for sure did not.'

This raises a doubt as to what in fact the preposed constituent is composed of, in that in (64.b) the potential clefted group is *qù guo liǎng cì*, go there twice, i.e. the verb and the measurement complement, while the second argument of the verb (China) occurs as a topic (and could in fact not occur at all if implicit in the discourse). A further hypothesis is that what is fronted is the group of elements that are informationally given, and that anchor the sentence within the preceding discourse: sentences like (64) need to be uttered in a context where someone has been already talking about 'going (to China) twice', or travelling twice to a series of places.

To sum up, the movement test provides some evidence in favour of the existence of a VP comprising the verb and what usually follows the verb (second argument, complements), although this evidence is not clear-cut.

## 3.4.6. Coordination

As mentioned in section 3.3.6, coordination relies on the fact that only constituents, and specifically only constituents of similar type, can be coordinated (Siewierska 1988:162). Coordination between VPs is possible in English, which confirms that VPs are actual constituents:

65. a. John [drinks (rum)] **and** [smokes (cigars)].

(65) is an example of VP coordination in English. However, the sentence cannot be translated with the conjunctions 和 *hé* and 跟 *gēn*, as the ungrammaticality of (66) shows:

66. a.    * John       [喝酒]          和       [抽烟] 。

* John       hē jiǔ          hé       chōu yān

* John       drink alcohol   and      smoke tobacco

While the English 'and' coordinates both nouns/NPs and clauses, MC distinguishes between phrase-level and sentence-level coordinations: examples of the former include 和 *hé* and 跟 *gēn*, which usually conjoin nouns/NPs (e.g., *Wáng xiānsheng hé Lǐ xiǎojiě*, 'Mr Wang and Ms Li', see section 3.3.6). However, Chao (1968:790) notices that nominal conjunctions (which he also calls *micro-syntactic conjunctions*) "can only join nominal expressions and never join verbal expressions or clauses." (1968:791). [67] This is exemplified by the ungrammaticality of the following example (from Loar 2011:242):

67. *[我爸爸      是      工程师],       和/跟       [我妈妈      是      医生]。

* wǒ bàbà     shì     gōngchéngshī   hé/gēn      wǒ mā mā     shì     yīshēng

* 1SG dad     be      engineer       and        1SG mum      be      doctor

'My dad is an engineer and my mom is a doctor.'

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[67] The fact that prepositions like 和 *hé* and 跟 *gēn* do not conjoin verbal phrases or sentences is often indicated as a grammatical rule in most grammars (e.g., Ross and Ma 2006, Yip Po-Ching and Don Rimmington 2006, Abbiati 1993 among others). However, some instances of sentences like the following can be found on the internet:

(i)     昨晚             她跟     洗衣服           和       做晚飯

zuówǎn          tā       xǐ yīfu          hé       zuò wǎnfàn

yesterday.evening   3sg    wash clothes     and      make dinner

'Last night she did the washing and cooked dinner.'

However, native speakers have different opinions on the acceptability of the sentence above. Moreover, these verb-noun compounds express generic activities, whereby the noun is not referential but generic. Modification of the nouns or of the verb 洗[丈夫的]衣服和[给他]做晚飯 'Last night she washed her husband's clothes and cooked dinner for him' would result in ungrammaticality if the two verbs are connected with 和 *hé*.

In order for (67) to be grammatical, the two clauses can be simply juxtaposed (no conjunction); otherwise, clause-level connectors need to be used (for example 而 *ér,* meaning both 'and' and 'but', see Loar 2011:236-241). Other clause-level conjunctions (which Chao (1968:791) calls *macrosyntactic* conjunctions) include 但是 *dànshì* and 不过 *búguò* 'but', 而且 *érqiě* and 并且 *bìngqiě* 'moreover', 否则 *fǒuzé* 'otherwise', etc. Thus, in MC conjunctions linking nouns and NPs (i.e. 和 *hé* and 跟 *gēn*) are not the same as those that conjoin clauses.

When asked to translate a sentence of the type of (65), native speakers prefer simple juxtaposition (68); when specifically asked to use a conjunction, they used 也 *yě*, which is an adverb meaning 'also'. However, generally they prefer juxtaposition, as when lain juxtaposition is available, overt conjunctions imply some sort of marked meaning.

68. a. John    喝朗姆酒],    抽雪茄烟 。
    John    hē lǎngmǔjiǔ    chōu xuěqiéyān
    John    drink rum    smoke tobacco
    b. John    喝酒朗姆酒    也    抽雪茄烟 。
    John    hē lǎngmǔjiǔ    yě    chōu xuěqiéyān
    John    drink rum    also    smoke tobacco
    'John drinks rum and smokes tobacco.'

69. 他    会说    法语，并    在学习    西班牙语。
    tā    huì shuō    fǎyǔ    bìng    zài xuéxí    xībānyáyǔ
    3SG    can speak    French    also    PROG study    Spanish
    'He can speak French, and he is studying Spanish at the moment.'

Sentences above (68-69) could be analysed in two ways:

i.    NP [VP 1]+ CONJUNCTION +[VP 2]
ii.    [CLAUSE1]+ CONJUNCTION +[CLAUSE2]

The first analysis would confirm the existence of VPs as two VPs are conjoined; the second analysis simply indicates that what is conjoined are in fact two clauses, where coreferential NPs—John in sentence (68) and 'he' in sentence (69) are left unspecified in their second

occurrence. In this case, coordination forms would not constitute proof of existence of VPs in MC.

The forms of coordination in (68.a-b), namely through juxtaposition and by means of adverbials like *yě* 'also' do not seem to point to a phrase-level (VP-level) coordination, but rather clausal coordination, as two clauses are simply juxtaposed, while *yě* 'also' is an adverb, and not a fully fledged conjunction. Sentence (69) could allow both analyses. In hypothesis (i), the conjunction *bìng* 'besides' connects 2 VPs; in (ii), the conjunction connects two clauses, whereby the second clause has a non-overtly specified first argument coreferential with the agent of the first predicate (I). Further evidence is needed in order to establish whether what is being connected by the conjunctions *bìng* is at the clause level (i) or at the phrase level.

It is noteworthy that, when two potential VPs need to be conjoined, they require clause-level conjunctions (or what Chao calls macro-level conjunctions) and not phrase-level conjunctions like 和 *hé,* which connects noun phrases. It could be argued that this is because conjunctions like 和 *hé* do not connect verbal/predicative elements. However, this is not the case:

70. 男人对付它的办法　　　包括　　[…]　晚起床、　　　休息几天、
    nánrén duìfù tā de bànfǎ　bāokuò　　　　wǎn qǐ chuáng  xiūxī jǐ tiān
    man handle it DE way　　include　　　　late get up　　rest some day
    强制性地吃饭、　　　喝酒　　　和　　抽烟
    qiángzhìxìng de chī fàn　hē jiǔ　　hé　　chōu yān
    forcedly DE eat meal　　drink alcohol　and　　smoke tobacco
    'The ways he used to handle it included [.. ] getting up late, resting for a few days, forcing himself to eat, drinking and smoking.'
    *Source*: PKU corpus

71. 政府的机关机构　　　　越来越　　　庞大，复杂　和　　官僚化了。
    zhèngfǔ de jīguǎn jīgòu　yuè lái yuè　pángdà  fùzá　hé　　guānliáohuà le
    government DE institition　more.and.more huge　complex and　bureaucratised CHG
    'The government institutions became more and more enormous, complicated, and bureaucratised.'
    (example drawn from Loar 2011:242)

In (70) *hē jiǔ* 'drink-alchool' and *chōu yān* 'smoke tobacco' are connected with 和 *hé*. Crucially, they are part of a list of items that have a generalised (referential) and not predicative meaning (the action of drinking, the action of smoking). It could be argued that conjunctions like 和 *hé* only connect referential elements (like nouns and NPs), and not predicative elements (like VPs). However, this is not always the case: (72) shows that 和 *hé* can also join predicative elements, such as adjectival/attributive predicates *pángdà* 'huge', *fùzá* 'complex' and *guānliáohuà* 'bureaucratised' (with an X, Y *he* Z pattern). Finally, 和 *hé* can connect simple verbs functioning as sentential main predicates (example drawn from Loar 2011:242):

| 72. | 市政府 | | 大力 | | 提倡 | | 和 | | 推行 |
|-----|--------|--|------|--|------|--|-----|--|------|
| | shìzhèngfǔ | | dàlì | | tíchàng | | hé | | tuīxíng |
| | city-government | | strongly | | advocate | | and | | promote |
| | 植树造林 | | 的 | | 绿化方正。 | | | | |
| | zhíshù zàolín | | de | | lǜhuà fāngzhèng | | | | |
| | plant-tree create-forest | | DE | | greening principle | | | | |

'The city government strongly advocates and promotes the principle of greening the city.'

Crucially, *tíchàng* and *tuīxíng* are transitive verbs (meaning 'advocate' and 'promote') sharing both the first and the second argument, and are linked by the conjunction 和 *he*. However, they have a predicative (and not a referential) function, as they are the main verbs/predicates of the sentence. This is confirmed by Lü Shuxiang in his discussion of the morpheme 和 *hé* in the 现代汉语八百次 *Xiandai Hanyu Babai Ci*:

连接作谓语的动词形容词时，动形限于双音节。谓语前或后必有共同的附加成分或连带成分。(Lü 1999:265)

[When [*hé* is] used to connect predicative verbs or adjectives such verbs/adjectives must be at most disyllabic. Before or after the predicative element, an adjunct or a related element must occur]

Here are some further examples by Lü (1999:265) that conjoin predicative elements in the sentence:

73. 事情　还要　　　进一步　　　调查　和　　了解。

shìqíng hái yào　　jìn yī bù　　diàochá hé　liǎojiě

issue　still must　　further　　　survey　and　understand

'This issue requires further examination and understanding.'

74. 会议　　讨论　和　　通过　　了　　明年的财务预算。

huìyì　　tǎolùn hé　tōngguò　le　míngnián de cáiwù yùsuàn

conference　discuss and　pass　PFV　next.year DE financial budget

'(In) the conference next year's budget has been discussed and approved.'

Examples above suggest that conjunctions in MC pattern in two distinct ways, according to what elements are connected. Conjunctions like 和 hé connect not only nounds and nout phrases, but also bare predicative elements like verbs and adjectives. On the other hand, when verbs plus arguments are conjoined, clause-level conjunctions (or bare juxtaposition) is employed. This suggests that in this case the most likely analysis is (ii), which would rule out a VP analysis. To conclude, this may suggest that:

i. the underlying pattern in (68-69) is CLAUSE+CONJ+CLAUSE, and not NP+VP+CONJ+VP.

ii. verbs, but not VPs (in the sense of V-O groups), are constituents.

### 3.4.7. Summary

Constituenthood tests examined in this section provide unclear evidence with respect to the existence of VPs in MC. The verb and its potential 'object' can be divided, and their relative order permuted. Moreover, it is unclear if they not behave like a single unit when moved, coordinated. Finally, tests like that of required elements do not highlight differences in the behaviour of the arguments of a transitive verb.

Crucially, in his corpus study on conversational texts, Tao (1996) does not identify a verb-phrase constituent that includes the patient/object. According to him, corpus data reveal that a more viable constituent is what he calls verb expression (VE), which he defines as "a verb with or without its arguments and peripherals, such as an adverb, a prepositional phrase, or a complement of some sort". In other words, what he calls verbal expression can consist of a verb only, or a verb and its arguments (but not necessarily). Tao strongly advocates for a

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"recognition of the independence of simple elements, such as simple noun phrases and verb expressions (VE) without expressed arguments, in terms of the functions of predicating and/or referring" (Tao 1996:101). Moreover, in terms of structural configurations of the sentence, Tao reports that Argument-Verb (what he calls XV) configurations constitute the most favored form of the clause in Mandarin. This holds regardless the valency of the verb: in "transitive verb clauses, only one argument tends to be expressed; this argument, however, varies across transitivity types: it is the A argument in low transitivity clauses and the O argument in highly transitive clauses" (p.179).

## 3.5.    Interim summary

The present chapter looked at evidence supporting the claim that constituents such as NPs and VPs exist in MC. Standard constituenthood tests show evidence for the existence of NPs, and this is confirmed by corpus data in the analysis conducted by Tao (1996). On the other hand, evidence for the existence of a VP (comprising the verb and its inner argument but not its outer argument) is weaker, while corpus data analysis also raise doubts concerning the viability of a VP constituent in MC.

There seems to be a relation between the verb and what follows, and there are definitely constraints as to what can appear after the verb; however, this seems not limited to a specific syntactic relation. For example, in sentences (31) and (36), reported here as (75) and (76), the postverbal elements are not verbal arguments, but rather measurements of the predicate (e.g., frequency expression, duration expressions etc.) or evaluations on the predicate (realis/irrealis distinctions, i.e. whether it has happened or not).

75. 我们旅游团啊，        长城          今年          还没去..

    wǒmén lǚyóutuán ā    Chángchéng    jīnnián      hái méi qù

    we tour.group TM    Great Wall    this.year    yet not go

    'Our tour group this year has not been to the Great Wall yet …'

76. 我      这部电影              看了          两遍。

    wǒ      zhè bù diànyǐng      kàn le        liǎng biàn

    1SG    this CL film          watch PFV    two CL (time)

'I've watched this movie twice.'

*Source*: blog (http://blog.xuite.net/tei.yosi/01/77206553) [Last accessed: 18/05/2017]

Scholars like LaPolla (1993) suggest that what comprises the verb and what follows is in fact not a VP but the actual unmarked scope of focus in the MC sentence. This is consistent with the sentences above: in (75), for example, the focal part of the message is the negated predicate, *hái méi qù* 'haven not been yet', wehereas in (76) it is the postverbal frequency expression *kàn le liǎng biàn* "twice". In this sense, the verb seems to have a tight relationship with the constituent that follows, which according to a number of scholars is always one (see arguments by Sybesma 1999 for example). This hypothesis will be explored in Chapter 5, which looks at the information structural component of MC grammar. Nonetheless, the group of word consisting in the verb and what follows, as well as its status as a constituent, definitely requires more-in-depth investigation. While this section is unable to provide a clearcut answer to this research question, it shows that there are some issues that a coherent account of constituenthood in MC should address and account for.

# 4. Argument Structure

The third modality that determines the order of constituents in a language is the argument structure component: verbs and predicates require their arguments to occur (be realised/projected) in specific positions in order to convey the role of each event participant with respect to the action denoted by a specific verb. This holds true especially for Mandarin Chinese, where no inflectional morphology (e.g., subject agreement, or case) is available to signal the roles of participants in the described event. Hence, the actor/agent/highest argument in the argument structure tends to occur before the verb, while the undergoer/patient/lowest argument in the argument structure tends to occur after the verb, in order to clearly convey the role of different event participants with respect to the action/state the verb denotes (1). On the other hand, in languages like Latin, the order of the arguments does not affect role disambiguation: for example, in (2.b) the first pronoun is clearly interpreted as the object by virtue of its case marking (accusative declination of the pronoun *tu*), while the covert subject *ego* 'I' is identified thanks to subject-verb agreement (first person singular conjugation of the verb *am-o*).

1.  a. 我　　爱　　你

    wǒ　　ài　　nǐ

    1SG　　love　　2SG

    b. * 你　爱　　(我)

    *nǐ　　ài　　wǒ

    *2SG　love　　1SG

    Intended meaning 'I love you.'

2.  a. Ego　　　　amo　　te

    1SG (NOM)　　like　　2SG (ACC)

    b. Te　　　　amo

2SG (ACC)         like

Intended meaning 'I love you.'

This chapter provides a closer look to the role played by the argument structure component in determining word order in MC: specifically, it aims at singling out what patterns of argument realisations are available in the language (argument alternations) with respect to different classes of verbs. The following sections provide an overview of the theoretical framework and methodology adopted in the analysis.

## 4.1.    Overview

This chapter discusses some of the most salient aspects of a qualitative corpus study conducted on a selected range of verbs classes in MC, and of their projected argument structure. Specifically, it examines the array of possible patterns and constructions displayed by different classes of verbs, with the aim of exploring the correlation between verbs/predicate types, their aspectual and causal traits, and their argument realisations and patterns. This in turns enables the study of the entailments of verbs' semantic representation and argument structure into the final structure of the sentence. The approach is similar to that adopted by Levin (2013) for her study on English verb classes. Underlying this approach is the observation that there appear to be "general principles that determine how the semantics of argument-taking predicates determines their syntactic environment." This approach aims to distinguish properties that are truly unique to particular predicates from properties which can be shown to follow from more general properties of a language, along with the predicate-particular properties" (Rappaport-Hovav and Levin 2015:593): in short, it allows to shed light onto regularities displayed within a language with regard to how verbal arguments are mapped into the sentence, which patterns are available to most verbs, and which are verb-class specific or display semantic compatibility restrictions.

The ultimate aim of this analysis is to lay the ground for a new approach to the analysis of different word order patterns in MC (including argument inversions, BA and BEI constructions, topic-comment structures and so on) in light of the research conducted on

lexical decomposition and the syntax-semantics interface, as well as on phenomena like argument alternations and multiple argument realisations in general. As Levin and Rappaport Hovav (2005:5) note, such phenomena relate to "the ability of most verbs to appear in a variety of syntactic contexts" Moreover, different realisation patterns may be triggered by different factors, including meaning, information status and heaviness.[68] "[W]hen two alternate argument realisations are truth-conditionally equivalent, the choice between them is governed by nonsemantic factors, such as the information status and heaviness of a verb's argument." (2005:5). This chapter is also devoted to a preliminary assessment of such factors and the role they play in the choice between two alternate realisations or expressions for the same state of affairs, although this issue will be dealt with more in depth in Chapter 5. In order to account for alternative patterns and constructions, a specific form of lexical semantic representation is adopted, i.e. that of predicate decomposition (or event structure). There is now a consensus that argument structure is (to a large extent) predictable from event structure and event semantics (Levin and Rappaport Hovav 2005:78) and that patterns of argument realisation are inferable from lexical semantic representations grounded in a theory of events. This framework, as well as the reasons why it is adopted, will be presented in detail in the next section.

## 4.2.    Event structure and argument structure

As mentioned above, the analysis accounts for alternative argument realization patterns by adopting a specific form of lexical semantic representation, namely that of predicate decomposition or event structure. As a consequence of studies highlighting the drawbacks of theories based purely on semantic roles, there is now a general consensus with regards to the importance of "event structure" on the lexical semantic representation of verbs (Levin and

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[68] Heaviness usually refers to the length of a constituent in relation to its position in the sentence: heavier (longer) constituents, i.e. NPs modified by several modifiers or long relative clauses, tend to appear later in the sentence, e.g., *I gave it up*, vs. *I gave up smoking and drinking* (see also Levin and Rappaport Hovav 2005:218).

Rappaport Hovav 2005:78). A shared underlying assumption is that "languages analyse parallel happenings in the world using similar types of conceptual components", and that "event structures fall into a limited set of types, built from a limited inventory of components". On the other hand, linguistic structures may display significant differences across languages, in that "languages differ only in the way these components are distributed across morphosyntactic constituents" (Levin and Rappaport Hovav 2015:2; see also Van Valin 2013). In other words, similar conceptual components or semantic categories (in the sense of Van Valin 2013) are found cross-linguistically: for example, transfer of possession generally involves three participants, namely the *giver*—agent, the *givee* – beneficiary, and the *given object* patient. However, the ways these components/categories are expressed in syntax is language-specific: for example, the verb 'give' in English is trivalent, and a three-argument pattern is available (the ditransitive constructions 'I gave you the book'), whereas the verb 'dare' in Italian is bivalent, and maps the beneficiary as an oblique introduced by the preposition 'a', as in '(Io) ho dato il libro a te'). Hence, generalisations in terms of semantic categories and event structure are a more powerful descriptive tool cross-linguistically, as compared to comparative analyses of syntactic forms (which vary more). Hence, scholars agree that lexical semantic representations of verbs encode properties of events and, in turn, "determine argument realisation. […] Semantic properties of events are shown to be relevant for the organisation of event structure to the extent that the subclasses of events which they define share identifiable grammatical properties" (Levin and Rappaport Hovav 2005:78). Finally, event structures have two properties that make them particularly effective in accounting for argument structure and word order patterns: "they encode a distinction between simple and complex events—a distinction which has repercussions for argument realisation—and they make a distinction between the core meaning of a verb—its root and the components of meaning they identify the verb's event type" (Levin and Rappaport Hovav 2005:78). For example, an event involving complex causation 'I forced him to eat' can be analyzed as a causing event 'I force him', and a caused event 'he eats': this will be more extensively discussed in the next sections.

Many proposals have been made in the literature to account for the relationship between the semantics of the event structure and the morpho-syntactic dimension of the language (see Jackendoff 1976, 1990, Croft 1998, Grimshaw 1990, Travis 2000, Van Valin and LaPolla

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1997, among others). Theories of event conceptualisation and argument realisation share the common goal of explaining what facets of events are relevant to argument realisation. As Levin and Rappaport Hovav (2005:78) observe, there are mainly three approaches to conceptualisations of events, which focus on "distinct cognitively salient facets of events", namely temporal and spatial aspects, as well as causation dynamics. Accordingly, the *aspectual approach* (Jackendoff 1990, inter alia) stresses the fact that "temporal and mereological properties of predicates describing events are important for argument realisation", as verbs are classified "in terms of their internal temporal properties of the events they describe": these include aspectual traits of predicates, e.g., telicity. The *localist approach* maintains that "all verbs are construable as verbs of motion or location [… also] of an abstract type" (Jackendoff 1976, 1983, inter alia): it identifies two main types of events, motion and location, each with its own sets of participants. Finally, the *causal approach* (Croft 1998) models events as *causal chains,* consisting of "a series of segments, each of which relates two participants in the event, where a single participant may be involved in more than one segment" (Levin and Rappaport Hovav 2005:117-8). They further notice how the three approaches appear to be intertwined , as there exists a certain affinity between the causal and aspectual approaches:

> transfer of force between participants and the temporal order in which participants take part in an event can both be given a representation in terms of a notion of precedence, and the source of the transfer of force is often involved in the event before the recipient of the force, in the final analysis the two approaches end up using quite similar representations, which overlap considerable for most verbs. Thus both approaches agree that the representation of events must impose a precedence order on the participants on the event. Temporal precedence often corresponds to precedence in the causal chain. (Levin and Rappaport Hovav 2005:126)

The next sections will further explore this affinity, as well as how causal and aspectual traits can be captured and represented.

## 4.2.1. Salient aspects of event structure and its encoding

It is important to differentiate between the linguistic encoding of a specific event/state of affairs and the event/state of affairs itself. For the same state of affairs, several verbs can be chosen to describe it, or subparts of it.

> [T]he communicative functions of language are central to the analysis of its structure, and one (but not the only) function of language is reference and predication, that is, representing things that happen in the world […] and the participants involved in those situations. Hence languages must have the means to depict or denote these participants and states of affairs, and it is usually the case that verbs and other predicating elements describe the situations, while noun phrases and other referring expressions denote the participants in them. (Van Valin and LaPolla 1997: 82)

According to Van Valin and LaPolla (1997:83), states of affairs differ mainly along three dimensions: (1) how many participants there are; (2) whether there is a terminal point (aspectual characteristics of the predicate); and (3) whether the state of affairs happens spontaneously or is induced, as well as who induces it (causal chains); and, we suggest, (4) whether there is a starting point encoded by the verb or by other iteMs These aspects are linguistically expressed by (a) the number of verbal arguments (core and non-core); (b) the aspectual/mereological characteristics of the predicate (inner and outer aspect); (c) causal chains within the predicate, as well as aspects such as volition, causation, and instigation.

Thus, verbs with a similar meaning can be seen as different means a language offers to describe different facets of the same state of affairs, and to choose which (and how many) participants are to be mentioned. Such verbs may differ in their inherent aspectual/causal characteristics, and display different possibilities of realisation of their arguments. Moreover, as we will see, the same verb/predicating element can appear in predicate structures showing different aspectual/causal characteristics, and express a different number of participants (either as core or as non-core arguments).

Similarly, Levin and Rappaport Hovav (2005:128) show that "four broad types of semantic factors play a part in argument realisation: causal notions, aspectual notions (e.g., telicity,

incremental theme), event complexity, and notions such as sentience, animacy, and volitionality." These four aspects have already proven to play an essential role in the syntactic processes analysed in Chapter 2, including reflexives, marked word order, and topic extraction. Thus, the above factors need to be accounted for in the semantic representation of predicates: this analysis adopts a framework that accounts for all these aspects. The following subsections briefly discuss the connection between event structure and aspectual and causal notions, as well as cross-linguistic phenomena of aspectual and causal shifts.

## 4.2.2. Event structure and aspect

Systems of lexical aspectual classification have a long history (and can be traced back to Aristotle and the tradition differentiating situations, events, processes, and actions); the best-known classification system is Vendler's (1967) aspectual calssification, who distinguishes four basic categories according to the inherent aspectual traits of verbs: states, activities, accomplishments, and achievements:[69]

i.   *States*: non-actions that hold for some period of time but lack continuous tenses.
     [E.g., I love Venice.]

ii.  *Activities*: events that go on for a time, but do not necessarily terminate at any given point.
     [E.g., Henry walked (in the park) *in/for ten minutes.]

iii. *Accomplishments*: events that proceed toward a logically necessary terminus.
     [E.g., Bob recovered from his broken leg in one month.]

iv.  *Achievements*: events that occur at a single moment, and therefore lack continuous tenses (e.g., the progressive).
     [E.g., The balloon popped/*was popping.]

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[69] Vendler's use of aspectual properties to classify events refers to the so-called *aktionsart*, namely lexical aspect referring to situational aspect, which is different from "viewpoint" verbal aspect (perfective/imperfective, durative, progressive etc.). See

While activities and states are atelic (express eventualities with no set terminal endpoint), achievements and accomplishments are telic, as they express eventualities with a set terminal endpoint; achievements are punctual, whereas accomplishments extend over a period of time. Two other aspectual classes are useful in event structure analysis:

v.  *Semelfactives:* events that are punctual—they take no more than a moment in time (Engelberg 2000)—but no result state is implied;
    [E.g., The light flashed for 10 minutes (iterative, not durative reading).]

vi. *Active achievements*: activity predicates with an inherent endpoint.
    [E.g., enry walked to the park *for/in 10 minutes.]

Semelfactives (e.g., *knock* and *cough*) are an aspectual class added by Smith (1997), which resemble achievements—they are instantaneous, but differ in that they express non-culminating eventualities and result in no change of state; when occurring with durative aspect, they receive an iterative (and not durative) reading. A further class is that of active accomplishments, which build on an activity predicate (+dynamic) by adding an endpoint (+telic) (Van Valin and LaPolla 1997).

**Table I: Properties of the five main aspectual classes** (adapted from Pavey 2010:100)

|  | Static | Dynamic | Inherent endpoint | Instantaneous |
|---|---|---|---|---|
| **State** | v |  |  |  |
| **Activity** |  | v |  |  |
| **Accomplishment** |  |  | v |  |
| **Achievement** |  |  | v | v |
| **Semelfactive** |  |  |  | v |
| **Active** |  | v | v |  |

Dowty (1979) for a thorough review and related discussions.

| accomplishment | | | | |
| --- | --- | --- | --- | --- |

## 4.2.3. Causativity and its semantic representation

As said, apart from aspectual considerations, causal notions are also central to determining argument realisation. In what later became a standard analysis adopted by subsequent linguists,[70] Dowty (1979) broke causative sentences down into two subevents: a causing subevent and a result subevent: the sentence "He sweeps the floor clean" is thus represented as follows:

[ [ DO(*he*, sweep (*the floor*)) ] CAUSE [ BECOME [ clean (*the floor*) ] ] ]

The representation is comprised of the causing subevent 'he sweeps the floor' and the result subevent 'the floor is clean', i.e. an accomplishment: the sentence can thus be described as a *causative accomplishment*. In fact, for each of these above classes there is a corresponding caused event or state. With respect to the non-causative counterpart, causation involves an increase in valency by one argument (see Comrie 1985:330-332). Creissels (2016b:1) proposes the following definition:

> In their typical use, causative voices are morphologically coded valency alternations in which the argument structure of the morphologically more complex form differs [from] that of the less complex one by the addition of causer showing the following two characteristics: formally, it is encoded as the A term of a transitive construction, and semantically, it exerts its control on a causee corresponding semantically to the A/U argument of the base verb.

The following table summarises all the classes of predicates, highlighting each causative counterpart with examples. It also reports the semantic representation of each predicate type

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[70] Parson (1990) distinguishes between "initial" and "resultant" event, Frawley (1992) between "precipitating" and "result" events, while Shibatani (1976:1) talks about "causing" and "caused" events.

(adapted from Pavey 2010:102), according to the representation proposed by the Role and Reference Grammar framework (Van Valin and LaPolla 1997, Van Valin 2005).

**Table II: Predicate classes**

| STATE<br><br>  **predicate´** (x) or (x, y)<br>  **be´/feel´** (x, [**predicate´**])<br><br>The girl is afraid. | CAUSATIVE STATE<br><br>  **do´** (x, Ø) CAUSE [**predicate´** (y) or (y, z)]<br>  **do´** (x, Ø) CAUSE [**be´/feel´** (y, **predicate´**)]<br><br> The dog frightens the girl. |
|---|---|
| ACTIVITY<br><br>  **do´** (x, [**predicate´** (x)])<br>  **do´** (x, [**predicate´** (x, y)])<br><br>The ball bounced round the room. | CAUSATIVE ACTIVITY<br><br>  **do´** (x, Ø) CAUSE [**do´** (x, **predicate´** (x)])]<br>  **do´** (x, Ø) CAUSE [**do´** (y, **predicate´** (y, z)])]<br><br>The boy bounced the ball round the room. |
| ACHIEVEMENT<br><br>  INGR **predicate´** (x) or (x,y)<br>  INGR **do´** (x [**predicate´** (x) or (x,y)])<br><br> The balloon popped. | CAUSATIVE ACHIEVEMENT<br><br>  **do´** (x, Ø) CAUSE [INGR **predicate´** (y)]<br>  **do´** (x, Ø) CAUSE [INGR **do´** (y [**predicate´** (y) or (y,z)])<br><br>The boy popped the balloon. |
| SEMELFACTIVE<br><br>  SEML **predicate´**(x, y)<br><br>The liutenenn tapped on the window. | CAUSATIVE SEMELFACTIVE<br><br>  **do´** (x, Ø) CAUSE [SEML **do´** (y, [**predicate´** (y)]<br><br>The teacher tapped her pen on the table. |
| ACCOMPLISHMENT<br><br>  BECOME **predicate´** (x)<br>  BECOME **predicate´** (x, y)<br><br>The icecream melted. | CAUSATIVE ACCOMPLISHMENT<br><br>  **do´** (x, Ø) CAUSE [BECOME **predicate´** (y)]<br>  **do´** (x, Ø) CAUSE [BECOME **predicate´** (y, z)]<br><br>The heat melted the icecream. |
| ACTIVE ACCOMPLISHMENT<br><br>  [**do´** (x, [**pred´** (x)] & INGR **pred´** (x,y)<br><br>The soldiers marched to the camp. | CAUSATIVE ACTIVE ACCOMPLISHMENT<br><br>  **do´** (x, y) CAUSE [**do´** (y)[**pred´** (y,z)] & INGR **pred´** (z)]<br><br>The captain marched the soldiers to the camp. |

The semantic representations of achievements, semelfactives, accomplishments, active achievements, and causatives are based on state or activity predicates. Extra elements are

added to a state or activity predicate to represent the differences in meaning, i.e. BECOME (for accomplishments), INGR (for achievements), SEML (for semelfactives). Causatives express a situation where one state or activity causes another. Consequently, their semantic representation reflects this combination: two semantic representations, one for the cause and one for the effect, joined with CAUSE.

As Basciano (2010:74-81) thoroughly summarises, causation is expressed by different types of linguistic forms crosslinguistically: (i) analytic causatives, which include syntactic causation, e.g., the Italian "Far fare qualcosa a qualcuno" (lit. make make something to someone, i.e. 'make someone do something'), and periphrastic causation, e.g., with control verbs in English like "force", "cause" in "I forced him to go". (ii) Morphological causatives, where one verb of the causative alternation from the other is derived by means of affixation (e.g., "dark" vs. "darken"). (iii) Lexical causatives, where the causative and non-causative verb have either the same form (labile causatives, e.g., "break" in English ("I broke the window" vs. "the window broke"), or display different affixes (equipollent causatives, as **-y-**āt́é 'enter, get put in' **-u-s-**at̄é 'put in' in Zenzontepec Chatino, southwestern Oaxaca State, Mexico (Campbell 2015), or which roots differ completely (suppletive causatives, such as "kill" vs. "die").[71] Further examples in other languages will be provided and discussed in the next section.


### 4.2.4. Aspectual and causal shifts

An essential aspect of the classification of predicate classes proposed in table II is that it does not single out verb classes only. Several scholars have observed that the same verb in different contexts may shift from one category in Vendler's classification into another, depending on co-occurring elements. This phenomenon is called aspectual shift or coercion, as discussed in Bach (1986), Krifka (1989), Verkuyl (1993), Pustejovsky (1995), Smith (1997), and many others. For example, the addition of the object, the specificity of the object, and countability

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[71] For a detailed account of different forms of causatives and related examples, see Basciano 2010, Chapter 2.

of the object, all contribute to determining the eventuality type of the entire clause (examples from Chang 2001:8).

**Table III: Aspectual shifts and object countability**

|  | Activity | Accomplishment |
|---|---|---|
| **Addition of object** | Ned ran for an hour/*in an hour. | Ned ran an obstacle race *for an hour/in an hour. |
| **Specificity of object** | Terry painted pictures for an hour/*in an hour. | Terry painted the picture *for an hour/in an hour. |
| **Mass/count object** | Harry drank coffee for an hour/*in an hour. | Harry drank a cup of coffee *for an hour/in an hour. |

Furthermore, researchers observed that there is a certain amount of systematicity in the way that the same verb can be part of event descriptions of more than one aspectual type (see examples below), suggesting that the aspectual classes are related (Levin and Rappaport Hovav 2005:90). Different languages have different means of encoding stative/inchoative shifts. Along the same lines, languages also allow verbs to occur both in non-causative predications and in causative predications. This is best exemplified in the causative/inchoative alternation (Levin 1993:25).

In order to better illustrate how aspectual/causal shifts may display recurrent patterns, similar patterns of morphological derivation in typologically different languages are presented below (adapted from Lin 2004:51-2), including: O'odham, a Uto-Aztecan language of southern Arizona and northern Sonora, Huallaga Quechua, a member of the Quechuan family spoken in Peru, Warlpiri, a Papa-Nyungan language of Central Australia, and English.

**O'odham** (Hale and Keyser, 1998:92)

| *Adjective* | *Inchoative* | *Causative* | |
|---|---|---|---|
| (s-)weg-ï | weg-i | weg-i-(ji)d | 'red' |
| (s-)moik | moik-a | moik-a-(ji)d | 'soft' |

| (s-)'oam | 'oam-a | 'oam-a-(ji)d | 'yellow' |

**Huallaga Quechua** (Weber, 1989)

| Noun | Inchoative | Causative | |
|------|-----------|-----------|---|
| qarwash- | qarwash-ta:- | qarwasy-ta:-chi- | 'yellow' |
| han | han | han | 'above on slope' |
| hatun | hatun-ya:- | hatun-ya:-chi | 'big' |
| umasapa- | umasapa-ya:- | umasapa-ya:-chi | 'big headed' |

Both in O'odham and Huallaga Quechua, morphological processes (suffixation) are involved in deriving inchoative verbs from base stative forms (adjectives in O'odham, nouns in Huallaga Quechua); moreover, causative change of state verbs are morphologically derived from the inchoative forMs Similar morphological processes are exhibited by Warlpiri:

**Warlpiri** (Hale and Keyser 1998:93)

| Noun | Inchoative | Causative | |
|------|-----------|-----------|---|
| wiri | wiri-jarri- | wiri-ma- | 'big' |
| maju | maju-jarri- | maju-ma- | 'bad' |
| rdilyki | rdilyki-ya | rdilyki-pi- | 'break' |
| larra | larra-ya | larra-pi- | 'crack' |

Yimas, a language belonging to the Papuan languages of the New Guinea, presents different derivation processes for different predicative elements: it derives both states and causatives from inchoative adjectival verbs (3), while monovalent achievement verbs and their causative variants are marked with different suffixes, i.e. -ara and –aca, respectively (Foley 1991:95):

3.  a. na-tŋknt-t              tŋknt          *Inchoative*
    2SG S-become heavy-PFV
    'She got fat.'
    b. apak tŋknt-k-nmau          tŋknt-k          *State*
    sister heavy-IRR-2SG
    'a fat sister'

**Yimas** (Foley 1991:290)

| *Inchoative* | *Causative* | |
|---|---|---|
| kkrak-ara | kkrak-aca | 'loosen' |
| araŋ- ara | araŋ- aca | 'tear' (into pieces) |
| tuak-ara | tuak-aca | 'break open' (along length) |
| aplk-ara | aplk-aca | 'burst' (along length) |
| kamprak-ara | kamprak-aca | 'snap' (like a rope) |

Modern English, a language that is well-known for having impoverished morphology, also shows evidence for deriving change of state verbs from underlying states. Suffixes such as *-en* and *-ise* derive change of state verbs from adjectives. English displays both zero- and morphologically-derived deadjectival verbs (and thus both labile and morphological causatives; crucially, it also has periphrastic causatives, e.g., "make sb do sth"):

**English**

| *Adjective* | *Inchoative* | *Causative* |
|---|---|---|
| red | redden | redden |
| wide | widen | widen |
| dark | darken | darken |
| dim | dim | dim |
| clear | clear | clear |
| slow | slow | slow |
| modern | modernise | modernise |

This chapter specifically aims at highlighting such aspectual and causal shifts in Mandarin Chinese. As we will see, many verbs (or predicating elements in general) can occur with multiple aspectual/causal entailments, depending on the (aspectual, causal) markers they occur with. For this reason, we will more often refer to predicates rather than verbs when describing different aspectual classes.

## 4.3.  Methodology and framework of analysis

The analysis presented in this chapter discusses the most salient aspects of a qualitative corpus study conducted on linguistic corpora available online. Analyses of natural linguistic

data in corpora are grounded in the standpoint that "it is important to base linguistic investigations on 'real data', that is, actual instances of oral or written communication as opposed to contrived or 'made-up' data" (Hasko 2012:1). The analysis is conducted on a collection of sentences mainly drawn from two corpora of Mandarin Chinese: the Corpus of the Center for Chinese Linguistics at Peking University (PKU corpus) and, marginally, the Academia Sinica Balanced Corpus of Mandarin Chinese, as well as other online corpora. Data also come from dictionaries (Pleco, NCIKU etc.), and from Google searches, for which URLs are specified. The main focus of the present chapter is a qualitative analysis of the possible alternations and patterns different classes of verbs can display, rather than a quantitative study on occurrences of such patterns; nevertheless, the discussion indicates when specific patterns are rarely observed.

Theories of semantic and syntactic representation differ mainly in what they assume to be the nature of the linking rules in the syntax-semantics interface. Two approaches can be identified: the first sees semantic representation of clauses as projected from the lexical representation of the verb; the second sees the semantic representation as constructed compositionally, based on the elements (arguments, adjuncts, etc) that co-occur with the verb in a clause. In this analysis, we take Van Valin's (2013:67) view that these two assumptions are "in fact complementary, rather than contrasting explanations for semantic interpretation". In particular, this chapter also explores to what extent this claim applies to Mandarin Chinese, which is often said to display a "flexibility of NP interpretation, [… as] the verb in a sentence can be easily coerced into an interpretation that fits the contextual meaning of the whole sentence" (Xing 2012:8). Accordingly, the analysis will be twofold: verbal lexical representations will be examined under the 'projectionist approach' (see Foley and Van Valin 1984, Levin and Rappaport Hovav 1995, Van Valin 2005), while a constructionist account (see Goldberg 1995, Pustejovsky 1995, 1998, inter alia) may be advocated to explain instances of enriched composition and coercion. Levin and Rappaport Hovav (2015:2) also note that for the same event structure, languages "may be said to use distinct 'lexicalization[72] patterns'

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[72] The term 'lexicalisation' is used to "refer to the encoding of conceptual components in a lexical unit, whether a word or a

[… i.e.] regularities in the way such components are encoded in lexical items and hence distributed across the constituents of the clause in particular languages".[73] These regularities will also be highlighted in the patterns identified for each verb class.

The analysis has been conducted as follows. A sample list of verbs has been identified, each belonging to different verb classes, as listed below. The list was elaborated on the basis of lists of verbs typically used for typological descriptions of verbal systeMs For each class, a minimum of 5 to a maximum of 15 verbs have been examined. For each verb, 5 to 10 sentences displaying different patterns and aspectual/causal traits have been collected from the corpora. The extraction was made by searching for strings composed of the verb and different aspectual, causal or argument alternation markers (e.g., aspectual particles, degree adverbs, BA and BEI markers – these will be highlighted in bold in the discussion). Sentence predicates have then been analysed in terms of: semantic representation, argument structure, word order and argument realisation patterns, *aktionsart*/aspectual and causal facets. The following verb classes have been examined:

- verbs denoting states/conditions
- verbs denoting properties
- verbs of psychological states (psych verbs)
- verbs of existence
- verbs of appearance, disappearance, and occurrence
- verbs of involuntary activities
- verbs of posture
- verbs of perception
- verbs of motion
- verbs of action on objects
- verbs of putting

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morpheme" (Levin and Rappaport Hovav (2015:2)

[73] They further note that this assumption is implicit in most theories of event structure, which assume that event structures fall into a limited set of types, built from a limited inventory of components; […] it also presupposes that languages differ only in the way these components are distributed across morphosyntactic constituents."

- verbs of sending
- verbs of measure
- verbs of change of possession
- verbs of communication

The classes of verbs examined in the present study make reference to the pioneering work of Levin (1993) on English verb classes and alternations. However, due to space constraints, the research examined a limited number of verb classes. Moreover, for space constraints, only a subset of these verb classes will be discussed in this chapter, and for each class, examples for a limited number of verbs will be presented. Undoubtedly, this constitutes a limitation for the analysis presented in the chapter: a far broader sample of verbs would be necessary to provide statistically relevant generalisations. This work constitutes a first step towards this direction: a more thorough and comprehensive analysis is needed, and this constitutes an important area of future research.

In what follows, we propose discussion of some of the most salient and recurrent word order patterns across verb classes. Each verb is analysed with respect to: its argument structure, its argument realisation patterns, aspectual and causal traits of each pattern. Particular focus is given to different patterns/argument realisations for the same verbs and the interaction with aspectual and causal markers to encode specific event structure, thus resulting in aspectual (stative-inchoative) or causative (inchoative-causative) shifts, as well as increase or decrease in verbal valency. The objective is to identify a number of patterns which are consistently observable through verb classes and which are representative of word order phenomena in the language.

## 4.4.   Verb classes and argument realisations in MC

### 4.4.1. Verbs denoting states, conditions, or properties

This sections presents some of the most interesting commonalities displayed by monovalent predicates denoting states (i.e. feelings, conditions, and properties), including *lěng* '(be) cold',

*rè* '(be) hot', *gān* 'dry', *hēi* '(be) black', *zuì* '(be) drunk'. In the literature, the nature of such predicating elements in MC has been questioned, in that – unlike in English and Romance languages, they do not require any copulas: some scholars classify them as stative verbs (Larson 1991, McCawley 1992), others as proper adjectives (Basciano 2010, Paul 2015). We will not enter the debate (but see Chappell 2002 for discussion, and Paul 2015 for a detailed analysis of both positions): we will focus on their ability to act as predicates denoting states/properties/conditions, and on the patterns these adjectives/verbs can display.

4. 今天　　**真**　　冷。　　　　　　（PKU Corpus）
   jīntiān　**zhēn**　lěng
   today　　**really**　cold
   'It is really cold today.'

5. 北京　　　　　冷。　　　　　　（PKU Corpus）
   Běijīng　　　lěng
   Beijijng　　　cold
   'Beijing is colder.'

6. 他觉得　　　一下子　　　全身　　　都　　冷了。　　　(PKU Corpus）
   tā juédé　　yī xiàzi　　quánshēn　dōu　lěng **le**
   3SG feel　　all.at.once　all.body　　all　cool **CHG**
   'All at once he felt his body had become cold.'

The pattern (4) displays is NP+ADV+V, and denotes a state of affairs (unbounded, atelic, non volitional); the semantic representation of the first pattern is **be´/feel´** (x, [**cold**]); crucially, unlike in (5), a degree adverb precedes the verb/adjective, neutralizing its inherent comparative meaning. This meaning shift degree adjectives display has been observed by several scholars, including Paul (2015:151), who states that "when [a gradable] adjective in its bare form without any adverbial modifier functions as a predicate, it is understood as indicating the comparative degree". Thus, a different pattern the verb can enter is NP+V, as in (5), where the meaning is inherently comparative, i.e. 'Beijing is colder (than some other implicit place)'; still, this pattern denotes a state. Moreover, just like the word *cool* in English, *lěng* can also denote an achievement (telic) predicate (6), with a pattern like NP V *le* (marker

denoting change of state). Crucially, in this case the semantic representation of the predication changes accordingly (in this case indicating an instantaneous achievement), i.e. INGR **cool´** (X).

The same patterns can be observed for *rè* '(be) hot': in (4) it occurs in the pattern NP+ADV+V and expresses a state, corresponding to the semantic representation **be´/feel´** (x, [**hot´**]); in (5) the pattern is NP+V+*le* and denotes a change of state, corresponding to a telic accomplishment (BECOME **hot´** (X)):

7. 天气　　　　**謅**　　热。　　　　　　（PKU Corpus）
   tiānqì　　　**hōu**　　rè
   weather　　**awfully**　hot
   'It's awfully hot.'

8. 天　　　　　热了，　　　　　毛衣　穿不住了。　　（Pleco Dictionary）
   tiān　　　　rè **le**　　　　　máoyī　chuān bù zhù le
   weather　　hot **CHG**　　　sweater wear-NEG-hold CHG
   'It's warm now [lit. it got warm], too warm to wear woollen sweaters.'

This type of alternation has been observed for English as well: as Lakoff (1970), Dowty (1979), and Levin and Rappaport Hovav (2005:92) observe, the word *cool* can represent an adjective which describes an entity in a state (a. 'The soup was cool'), an intransitive inchoative verb describing the attainment of this state by an entity (b. 'The soup cooled'), and also a transitive causative verb, describing a cause that brings about this state in an entity (c. 'Alex cooled the soup'). Levin and Rappaport Hovav (2005:92) further note that the "systematic relation among these three uses of *cool* is evidenced by the shared selectional restrictions on their patient arguments and by the existence of entailment relations between the sentences. The relation between the different uses of the same predicate is captured by deriving the achievement from the state with the addition of the primitive predicate BECOME to the state's predicate decomposition, and the accomplishment from the achievement by the addition of the predicate CAUSE to the achievement's decomposition." In short, the three sentences can be represented as follows:

a. **be´** (x, [**cold**]) – state;

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b. BECOME **cool**′ (x) - achievement;

c. **do**′ (x, Ø) CAUSE [BECOME **cool**′ (y)] – active achievement.

This sort of verbs are called in the literature 'deadjectival verbs': Levin and Rappaport Hovav (2005:130) describe their intransitive use as inchoative, i.e. "come to be in the state lexicalised by the verb". In terms of aspectual classes, however, they belong to a specific type of achievements, namely degree achievements (see Dowty 1979, Hay, Kennedy and Levin 1999, Kennedy and Levin 2002, Ramchand 2008): as Basciano (2010:177) summarises, while a normal achievement involves a non-extended change, degree achievement verbs involve a change in value on a scale (e.g., grade, sise, length, etc., see Rothstein 2008). Their affected argument, usually referred to as path object or *incremental theme* (Dowty 1991) undergoes a change in some property associated with the meaning of the adjectival base (Hay, Kennedy and Levin 1999). These verbs display both telic and atelic behavior and do not necessarily entail the achievement of an endstate,[74] and the telic reading can be paraphrased as 'become A'. While closed-range (e.g., dry, full) adjectives inherently entail a boundary, open-range adjectives (e.g., hot, cold) do not: sentences like 'It got warm' do not involve reaching a specific temperature (which is in fact subjective): hence, such verbs can describe an unbounded, atelic movement along the scale. This is why Rothstein (2008) describes their sense as 'become A-er' (in this case, 'It got warmer').

*Rè* 'hot' and *lěng* 'cold' are open-range adjectives/attributive verbs, and, like for their English counterparts, both the stative and the inchoative reading is available. However, the causative reading is more complex, as pointed out in the literature (e.g., Basciano 2010):

9. *他　　热一热　　　汤。
   *tā　　rè yī rè　　　tāng
   *3SG　　hot-one-hot　　soup
   Intended: 'He heats the soup.'

---

[74] For example, 'the balloon ascended' does not point to a specifc endstate.

10. 沸腾 后　　　　继续　加热　　　2 小时　　　(example from Basciano 2010:227)

fèiténg hòu　　jìxù　jiārè　　　2 xiǎoshí

boil after　　　go on　increase.hot　two hour

'After boiling, go on heating for two hours.'

*Source*: heater instructions www.ceiea.com/.../pt_16724_57490_procontent_comppro.htm,

(Last visited: 7 June 2016)

As Basciano (2010:159) observes, Mandarin Chinese has "deadjectival verbs indicating change of state, i.e. verbs formed from stage-level adjectives (see Carlson 1977). However, unlike English, they can only be used intransitively; […] the transitive variants of these verbs are formed by adding a light (or dummy) verb", e.g., 打 *dǎ* 'beat, strike, hit', 弄 *nòng* 'make, handle', 搞 *gǎo* 'do'. In the case of *rè* 'hot', the causative light verb is *jiā* 'add' (9.b): with "transitive deadjectival verbs with 加 *jiā* as V1, the latter seems to be the spell out of one of the relevant parts of the logical representation, i.e. the increasing event" (Basciano 2010:231).

However, *lěng* '(be) cold' can in fact enter a transitive/causative construction, and is an example of labile causatives[75] in Mandarin Chinese.

11. 太烫了，　　冷一下　　再吃。

tài tàng le　　lěng yīxià　zài chī

too scalding　cool a.bit　then eat

'It's too hot. Cool it down/let it cool off before you eat it.'

Moreover, corpus data show that MC apparently provides another way to encode causativity with such intransitive verbs, namely the marker BA (NP+BA+NP+V…):

12. **把**汤　　　热一热。　　　　（PKU Corpus）

**bǎ** tāng　　rè yí rè

---

[75] Basciano (2010) claims these sort of causatives are very limited in number.

BA soup　　　　　hot-one-hot

'Heat up the soup.'

13. 快速加热　　　　　　再　　**把**它　冷下来...

kuàisù jiārè　　　　　zài　　**bǎ** tā　lěng xià lái

high-speed add-heat　　again　BA 3SG cool.down.come

(Talking about a new lithium battery technology) 'After quickly heating it up we cool it down…'

*Source*: news article – News.china.com

([http://news.china.com.cn/2016-05/25/content_38532603.htm](http://news.china.com.cn/2016-05/25/content_38532603.htm), last visited June 2016)

14. 制成后，　　　　　　　**把**它　冷却　　　　到　　　　一定温度..　　　（PKU Corpus）

zhìchéng hòu　　　　　**bǎ** tā　lěngquè　　dào　　　yídìng wēndù

manufacture after　　　BA 3SG cold　　　　arrive　certain temperature

(Talking about a high-tech antenna) 'After making it, it gets cooled down to a certain temperature…'

Crucially, the semantic representation of the predicates in (10), (11), (12), (13), and (14), is identical: **do**ʹ (x, Ø) CAUSE [BECOME **hot**ʹ/**cold**ʹ(y)]. Similar triads (state, inchoative, causative) can be observed with many scalar adjectives/attributive verbs, for example 干(燥) *gān(zào)* '(be) dry':

15. 夜间　气温　　　　　　下降很快，　　　　　空气　**很**干，…　　　（PKU Corpus）

yèjiān　qìwēn　　　　　xiàjiàng hěn kuài　　kōngqì　**hěn** gān

night-in temperature　drop very fast　　　air　　**very** dry

'During the night temperatures drop dramatically, the air is dry…'

| Pattern: | NP+ADV+V |
|---|---|
| Predicate type: | state |
| Semantic representation: **be**ʹ (x, [**dry**]) | |

16. 有些捞上来的孩子　　　　　　　头发　都　　　已经　干了。

yǒu xiē lāo shàng lái de háizǐ　　　tóufā　dōu　　yǐjīng　gān **le**

exist some dredge-up-come DE kids　　hair　all　　already　dry CHG

'The hair of boys that had just got out of the water had already dried.'

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<table>
<tr><td>Pattern:</td><td>NP+V+<em>le</em></td></tr>
<tr><td>Predicate type:</td><td>accomplishment</td></tr>
<tr><td>Semantic representation: BECOME <strong>dry´</strong> (x)</td><td></td></tr>
</table>

17. 他　　　在修理厂　　　　　**把**工作服　　　　　**弄**干…

　　 tā　　　 zài xiūlǐchǎng　　 **bǎ** gōngzuòfú　　 **nòng** gān

　　 he　　　 at/stay repair shop in　 BA working.clothes　 make-dry

　　 'He dried his working clothes in the repair shop...'

18. …提取的谷胺酸　　　　　　如果　**把**它　干燥　　会成为粉状结晶…

　　 tíqǔ de gǔànsuān　　　　 rúguǒ　**bǎ** tā　 gānzào　 huì chéngwéi fěnzhuàng jiéīng

　　 extract DE aminoglutaric.acid　 if　　 BA it　 dry　　 EPIS become powder crystal

　　 'If the aminoglutaric acid is dried, it becomes powder crystal...'

　　 *Source*: books.google.com.au (chemistry book)[76]

19. 内筒　　　　就会　　**被**　　干燥了…

　　 nèi tǒng　　 jiù huì　 **bèi**　　 gānzào le

　　 inner tube　　 then will　 BEI　　 dry CHG

　　 '..the inner tube will be dried'

　　 *Source*: google book, title: 饮料制作工

<table>
<tr><td>Pattern:</td><td>(NP)+BA+NP+ light V+V…</td><td>(17)</td></tr>
<tr><td></td><td>(NP)+BA+NP+V…</td><td>(18)</td></tr>
<tr><td>Predicate type:</td><td>Causative accomplishment</td><td></td></tr>
<tr><td colspan="3">Semantic representation: <strong>do´</strong> (x, Ø) CAUSE [BECOME <strong>cool´</strong> (y)]</td></tr>
</table>

Similar patterns are observed with verbs denoting properties, such as colours, like *hóng* '(be) red' *hēi* '(be) dark/black':[77]

20. 水　　又　　**很**黑　　　　很脏，…

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[76] Link to url: https://goo.gl/XSZFZb (last visit: 06/07/2017)

[77] Note that these adjectives differ in that they can be both scalar (indicating a grade) or intersective (with an absolute meaning) (Paul 2015:142).

| shuǐ | yòu | **hěn** hēi | hěn zàng |
|---|---|---|---|
| water | again | **very** black | very dirty |

'The weather was black and filthy again.'

21. 天　　黑了，…

tiān　　hēi **le**

sky　　black CHG

'It got dark'

Basciano observes that the causative counterpart obligatorily requires the occurrence of a light verb, like 弄 *nòng* (do, manage, get sb. or sth. into a specified condition). However, it is noteworthy that the presence of the morpheme BA (or BEI, see next example) occurs in all examples listed in the PKU corpus for the string 弄黑 *nòng-hēi* 'make-black' and 弄红 *nòng hóng* 'redden'.

22. 就是晒太阳、　　　　游泳，　　**把**　　皮肤　**弄**黑。　　　　（PKU Corpus）

jiù shì shài tàiyáng　　yóuyǒng　　**bǎ**　　pífū　**nòng** hēi

precisely be sunbathe　swim　　**BA**　skin　**make**-black

'It's the sunbathing, the swimming, which tans the skin.'

| Pattern: | NP+BA+NP+light V+V… |
|---|---|
| Predicate type: | Causative accomplishment |
| Semantic representation: **do´** (x, Ø) CAUSE [BECOME **dark´** (y)] | |

A further alternation is available in this case, denoting a causative reading, i.e. the BEI construction. Crucially, the semantic representation of the predicate is the same as in (14): **do´** (x, y) CAUSE [BECOME **pred´** (y)]; only the order of the arguments is inverted, i.e. [x+BA+y+V…] vs. [y+BEI+x=V].

23. 你的脸　　**被**炭　　　**弄**黑了。　　　　（PKU Corpus）

nǐ de liǎn　　**bèi** tàn　　**nòng** hēi le

2SG DE face　**BEI** coal　**make**-black le

'Coal has made your face darker/black.'

However, with extended meanings such as 'obscure', 'block' (e.g., a website) the transitive pattern is also allowed, as in (24):

24. 现在　　仅仅　　是　　黑了　　　　网站，　　　下一步　　　我估计…

xiànzài jǐnjǐn shì hēi le wǎngzhàn xià yī bù wǒ gūjì

Now only be black PFV website next.one step 1SG think

'So far they have just blocked the website, next step I guess…'

| Pattern: | NP+BEI+NP+V… | (23) |
|---|---|---|
| | NP+V+NP | (24) |
| Predicate type: | Causative accomplishment | |
| Semantic representation: **do´** (x, Ø) CAUSE [BECOME **dark´** (y)] | | |

Similar shifts (stative-inchoative, and inchoative-causative alternation) are displayed by the verb *zùi* '(be) drunk':

25. 我　　自己　　也　　**很**醉…　　　　　（PKU Corpus）

wǒ zìjǐ yě **hěn** zuì

1SG self also **very** drunk…

'I was also very drunk…'

26. 他　　醉了　　　　以后　的　　行为　　　也不同。　　　（PKU Corpus）

tā zuì **le** yǐhòu de xíngwéi yě bù tóng

3SG drunk PFV after de behaviour also not same

'After he got drunk, his attitude was different, too.'

27. 喝那么 一小杯，　　　　　一直　　醉了　　　我　　半夜呢！(PKU corpus)

hē nàme yì xiǎo bēi yī zhí zuì **le** wǒ bàn yè ne

drink so one CL small glass nonstop drunk PFV 1SG half.night MOD

'Drinking that small glass (of wine/spirit) made me drunk for the whole night!'

Crucially, in (21) *zuì* '(be) drunk' patterns with *le, and* receives an inchoative reading, while in (27) it patterns like a transitive verb, and carries a causative reading, although no causative marker occurs. Thus, *zuì* seems to be labile between a stative, inchoative, and causative reading, as well as with respect to the number and role of participants it licenses. Another very interesting example of such flexibility is the verb *è* '(be) hungry' (all examples are drawn from the PKU corpus, unless otherwise specified):

28. 当时　　　　我　　确实　**很饿**…

dāngshí wǒ quèshí **hěn** è

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that time           1SG      really    **very** hungry…

'In that moment I was hungry indeed…'

| Pattern: | NP+ADV+V |
|---|---|
| Predicate type: | state |
| Semantic representation: **be´** (x, [**hungry**]) | |

29. 孩子　饿了。

háizǐ    è **le**

kid     hungry **CHG**

'The child is (got) hungry.'

| Pattern: | NP +V+*le* |
|---|---|
| Predicate type: | accomplishment |
| Semantic representation: BECOME **hungry´** (x) | |

30. 别　　饿着　　　小猪。

bié    è zhe     xiǎo zhū

do-not hungry DUR    little-pig

'Do not starve the piglets.'

*Source*: Baike.baidu Chinese dictionary[78]

| Pattern: | NP+V+NP |
|---|---|
| Predicate type: | causative accomplishment |
| Semantic representation: **do´** (x, Ø) CAUSE [BECOME **hungry´** (y)] | |

31. 这些天[79]　　可　　**把**我　　　饿坏了！

zhè xiē tiān    kě    **bǎ** wǒ    è huài le

this CL day    really    BA 1SG    hungry-rotten CHG

'These days I got extremely hungry/was starving.'

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[78] http://baike.baidu.com/subview/145046/12650567.htm

[79] Here the first NP is by no means causer/effector; in such cases a resultative verb is always added (does not occur alone - other instances (totally 6) are 把我饿到头, 把我饿死(x2) , 把我饿惨了, 把我饿得够呛.

<table>
<tr><td>Pattern:</td><td>NP+BA+NP+V…</td></tr>
<tr><td>Predicate type:</td><td>accomplishment</td></tr>
<tr><td>Semantic representation: BECOME <strong>hungry′</strong> (x)</td><td></td></tr>
</table>

32. 成千上万的人　　　　　　被　　饿死。

    chéngqiānshàngwàn de rén　　**bèi**　è sǐ

    thousands DE people　　　　BEI　hungry-die

    'Thousands of people got starved to death.'

33. …是当他　　　在巴黎　　　　与其他 3 名勇士　　被饿 了　　　3 日 3 夜后.

    … shì dāng tā　　zài Bālí　　　yǔ qítā 3 míng yǒngshì　**bèi** è le　　3 rì 3 yè hòu

    …be when 3SG　at Paris　　　with 3 CL warrior　　BEI hungry PFV 3 day 3 night after

    '…it was after he got to starve for 3 days in Paris with 3 other warriors.'

<table>
<tr><td>Pattern:</td><td>NP+BEI+NP+V…</td></tr>
<tr><td>Predicate type:</td><td>causative accomplishment</td></tr>
<tr><td>Semantic representation: <strong>do′</strong> (x, Ø) CAUSE [BECOME <strong>hungry′</strong> (y)]</td><td></td></tr>
</table>

Crucially, the semantic representation of (30), (32), and (33), namely sentences where *e* '(be) bungry' occurs with BA and BEI, all display a causative reading, which is represented in the semantic representation with a **do′** (x, Ø) CAUSE + […]. This representation involves an agentive causer. The agentivity/volitionality involved in those predications is demonstrated by the compatibility with volitional adverbs like 故意 *gùyì* 'intentionally':

34. 侄子　　是　　故意　　　被　　饿死　　　　的

    Zhízi　shì　　gùyì　　　**bèi**　è sǐ　　　　de

    Zhizi　be　　intentionally　BEI　hungry-die　DE

    'Zhizi was made to starve intentionally'

    (source http://library.duke.edu/digitalcollections).[80]

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[80] Url (Last visited: 06/07/2017): https://goo.gl/l75wJJ

To summarise, the verbs examined so far within the class of states, conditions, or properties, display different types of readings according to their inherent semantics and to the patterns within which they occur. They categorise for one single argument and receive a stative reading with a pattern like NP+ADV+V/ADJ (semantic representation: **be´/feel´** (x, [**pred´**])); however, they express degree achievement or accomplishment predicates if occurring, for example, with the particle *le* (BECOME/INGR **pred´** (x)). Moreover, most of these verbs can enter a causative predication (**do´** (x, ∅) CAUSE [BECOME/INGR **pred´** (y)]) by means of a light verb (打 *dǎ* 'beat, strike, hit', 弄 *nòng* 'make', 搞 *gǎo* 'do', 加 *jiā* 'increase', according to the meaning of the verb), which turns them into causative states, and increase the valence of the verb by one—the causer (Basciano 2010). However, a further marking strategy, by means of the BA or BEI markers, is available to most of them. The pattern is NP+BA/BEI+(NP)+V. Significantly, a considerable number of instances of causative predicates composed of light V+V from the PKU corpus also occur within a BA or BEI construction. Finally, some of them are labile verbs, and can receive either a stative, an inchoative or a causative reading, and thus be either mono or bivalent (e.g., *è* 'hungry', and *zuì* 'drunk').

It is noteworthy that BA and BEI are traditionally associated with transitive verbs, the former often referred to as a marker of high transitivity, the latter as the main passive marker in MC. According to this analysis, the object (or the patient) of the verb can be realised after the BA and before the main verb, or as the subject of the BEI sentence. However, a considerable number of verbs/adjectives in the above sentences (i.e. *rè* 'hot', *lěng* 'cold', *gān(zào)* '(be) dry', *è* (be) hungry', *zuì* '(be) drunk') are monovalent, i.e. take only one argument. Crucially, they all can enter a construction which receives a causative reading (and thus reveals an agentive, volitional causer argument, either alone or with BA or with BEI; some other (like *hēi* 'dark, black') obligatorily require a light verb (as accounted in Basciano 2010, Chapter 4), although as we have seen some exceptions are found. BA and BEI appear, for pretty much all verbs so far examined, to be able to increase the valency of the verb/adjective by adding an event participant (the causer). This may suggest that in fact BA and BEI involve a causative reading (in terms of semantic representation), regardless what the inherent argument structure of the verb is; the causative nature of the BA construction has already been claimed by Sybesma

(1999:133); however, this hypothesis needs a closer scrutiny. We will further examine this issue in section 4.5.4.

## 4.4.2. Psychological state predicates

A different type of stative predicates is that of psychological states. These verbs can be both monovalent (e.g., *be afraid*) or bivalent (e.g., *love*), and pattern slightly differently with respect of the above alternations. Levin (1993:192) notes that there is a variety of options as to the best characterisation of the "semantic role" of the arguments, one is the (E)xperiencer (-volitional), and the other can labelled as (S)timulus, but also theme, target of emotion, and subject matter. The transitive verbs also differentiate as to whether their first argument is the experiencer or the stimulus. *Admire* verbs are transitive verbs with an experiencer as first argument: their argument structure seems to inversely correspond to that of *amuse* verbs, which also describe the "bringing about of a change in psychological or emotional state" (1993:191), and whose first argument is in this case cause of the change (stimulus), and the second is the experiencer. Let us consider the following verbs: *hàipà* 'to be afraid, to fear', *xià* 'to scare', and *shēng//qì* 'to be/become angry'.

35. 家人　　　　　很害怕。

| jiārén | **hěn** hàipà | State |
| family-people | **very** afraid | |

'The family was worried.'

| Pattern: | NP(E)+V | (monovalent) |
| Predicate type: | Stative | |
| Semantic representation: **fear**´ (x) | | |

36. 她们　害怕　成功。　　　　　E-V-S

| tāmen | hàipà | chénggōng | State |
| 3PL | afraid | success | |

'They were afraid of success.'

| Pattern: | NP(E)+V+NP(S) | (bivalent) |
| Predicate type: | Stative | |

> Semantic representation: [**fear**ʹ (x, y)]

37. 杀了几个之后，　　　　苏军士兵　　害怕了。　　　　E-V

　　　shā le jī ge zhī hòu　　　Sū jūnshìbīng　hàipà le　　　Inchoative

　　　kill PFV some CL after,　Su soldier　　afraid CHG

　　　'After killing some (of them), soldier Sun got afraid.'

> Pattern:　　　　　　　　NP(E)+V　　　　　　(monovalent)
>
> Predicate type:　　　　　Accomplishment
>
> Semantic representation: [BECOME **fear**ʹ (x, y)]

38. 这种比试　　　　　　会　　　让　　他　　害怕..

　　　zhè zhǒng bǐshì　　　huì　　　ràng　tā　　hàipà

　　　this CL competition　　be-the-case　make　3SG　afraid

　　　'This kind of competition (would) scare him.'

> Pattern:　　　　　　　　NP(S) + make + NP(E) V　　　　　(monovalent)
>
> Predicate type:　　　　　Causative state
>
> Semantic representation: **do**ʹ (x, ) CAUSE [**fear**ʹ (y)]

The verb *hàipà* is both intransitive (35)—**be**ʹ (x [**afraid**ʹ]), and transitive (37)—**fear**ʹ (x, y); the intransitive version can have a stative reading [NP+ADV+V], (35) and an inchoative meaning [NP+V+*le*], (37)- BECOME **afraid**ʹ (x): on the other hand, the causative reading (38) is available only by adding a lexical causative verb like *ràng* 'make, let'.

The verb *shēngqì* 'be/become angry' displays similar patterns (40-43), although it allows another pattern for the causative constriction: *shēng//qì* is a separable verb (a sort of verb-noun construction, roughly meaning 'arouse qi'): in this case, in the causative construction—like (38) the experiencer can also occur as the modifier of the noun *qi*.

39. 老师　也　　很生气。

　　　lǎoshī yě　　hěn shēngqì

　　　Teacher also　very angry

　　　'The teacher was also angry.'

40. 大鬼　　　　一听　　　就　　　　　生气了..

| dàguǐ | yī tīng | jiù | shēngqì **le** |
|---|---|---|---|
| big ghost | once listen | immediately | get angry CHG |

'When the ghost heard that, it got angry.'

41. 你　　是不是　　　惹他们　　生气了？

| nǐ | shì bù shì | rě tāmen | shēngqì **le** |
|---|---|---|---|
| 2SG | be-NEG-be | provoke 3PL | (get) angry CHG |

'Did you provoke them/get them angry?'

42. 他　　故意　　**让**我　　　生气。

| tā | gùyì | **ràng** wǒ | shēngqì |
|---|---|---|---|
| 3SG | deliberately | **make** 1SG | angry |

'He made me angry on purpose.

43. 他　　生了　　　我的气。

| tā | shēng le | wǒ de qì |
|---|---|---|
| 3SG | arouse PFV | 1SG DE qi |

'He got me angry, he made me furious.'

On the other hand, verbs like 麻烦 *máfan* 'annoy', and 吓 *xià* 'frighten' pattern like amuse verbs—NP(S)+V+NP(E):

44. 别　　吓着　　　　　孩子。　　　　(Pleco dictionary)

| bié | xià zhe | háizi |
|---|---|---|
| do-not | frighten DUR | child |

'Do not frighten the child.'

### 4.4.3. Verbs of involuntary activities

Many of these verbs relate to bodily processes (Levin 1993:208), and some involve the emission of a substance from the body (with the exception of *breathe,* which can also describe taking air *into* the body). The emitted substance may be optionally expressed as the object of the verb. These verbs in MC rarely enter a causative alternation, due to their inherent meaning involving internal causation; the inchoative reading is rendered through a periphrastic construction (such as the figurative directional complement *qǐlái* 'start', lit. 'raise-

come' (46). Consider the following examples for the verbs *késòu* 'cough' and *kū* 'cry' (all from the PKU corpus, unless otherwise specified):

45. 何勤　咳嗽了　　　半天，　　　才抬起头　　问他道：…

    Hé Qín késòu **le**　　bàn tiān　　　cái tái qǐ tóu　wèn tā dào

    He Qin cough PFV　　half-day　　　only lift head　ask 3SG say

    'He Qin kept on caughing for a while, and then looked up and asked him: …'


46. 我　　咳嗽　**起来**。

    wǒ　　késòu　**qǐlái**

    1SG　　cough　**raise-come**

    'I started coughing.'


47. 海臣的哭声　　　　刚停止，　　　老太爷 却在上房里　　　　大声咳嗽了。

    Hǎi Chén de kūshēng　gāng tíng zhǐ　lǎo tàiyé què zài shàng fáng lǐ　dà shēng ké sòu **le**

    Hai Cheng DE cry　　just stop　　　old-man though at up-room-in　loudly cough CHG

    'Hai Cheng had just stopped crying when the old man upstairs started coughing.'


48. 猫　　哭　　老鼠　——　假慈悲。　　　　　　　(PLECO dict)

    māo　　kū　　lǎoshǔ　　jiǎcíbēi

    cat　　cry　　mouse　　　sham benevolence

    'The cat weeping over the dead mouse -- shed crocodile tears.'


49. 他　　忽然　　　哭**起来**了。　　(PLECO dict)

    tā　　hūrán　　　kū **qǐ lái le**

    3SG　　suddenly　　cry-**raise-come** CHG

    'He suddenly started to cry.'


## 4.4.4. Verbs of existence, appearance, disappearance

Verbs of existence (along with verbs of appearance and disappearance) are a widely investigated class of verbs in MC (Li and Thompson 1981, Huang C.-T. J. 1987, Hu 1995, Loar 2011). These verbs display an interesting argument inversion pattern, depending on the

information status of the referent of the verb's sole argument, as well as the focus structure of the sentence (this aspect will be further discussed in section 5.6). This is captured in the following argument inversion allosentences, already discussed in 2.3:

50. a.人　　　　　来了。
    rén　　　　　lái　le
    man　　　　　arrive MOD
    'The person(s) has/have come.'
    b.来了　　　　人了。
    lái le　　　　rén le
    arrive PFV　　guests MOD
    'Some person(s) has/have arrived.'

Moreover, these verbs also display the so called locative inversion (Levin 1993). According to Liu (2007), the locative inversions occur when a locative phrase, which normally occurs in the final position with a preposition, in the inverted structure appears before the verb, without a preposition (example from Liu 2007:182).

51. 学校　来了　　　　个新老师…
    xuéxiào lái le　　　　ge xīn lǎoshī
    school   come PFV　　CL new teacher
    'A new teacher has arrived at school…'
    *Source*: movie trailer
    (https://v.qq.com/x/page/z05353u4z6n.html, last accessed 02/10/2017)

52. 幸好　　　今天　张老师　　来了　　　学校。
    xìnghǎo　　jīntiān　Zhāng lǎoshī　lái le　　　xuéxiào
    fortunately　today　Zhang teacher　come PFV　school
    'Fortunately today prof Zhang came to school.'
    *Source*: short novel *Heike (Hacker)*
    (http://www.69shu.com/txt/3429/4732722, last accessed 02/10/2017)

| | |
|---|---|
| Pattern: | NP+V+(Loc) |
| | (Loc)+V+NP |
| Predicate type: | Inchoative |
| Semantic representation: **come**´ (x) | |

What is of interest here is the motivation underlying the inversion in its different patterns. This will be discussed in the next chapter in the section on focus 5.6).

## 4.4.5. Verbs of posture

This type of verbs usually entails two types of meanings; the first is "assume the spatial configuration specific to the verb" (accomplishment) and "being in a particular spatial configuration" (state): moreover, many have "a transitive sense as verbs of putting in a spatial configuration" (causative) (Levin 1993:262). When they denote a state, they are compatible with the locative inversion. In MC, these verbs behave in a similar manner: consider the verb *zhàn* 'stand' and *zuò* 'sit':

53. a. 很多人　　　　　　站　　在　　前面。

    hěn duō rén　　　　zhàn　zài　qiánmian

    very many person　　stand　(be) at　in front

    'Many people are standing in front.'

    b. 前面　　　　站了　　　　很多人。

    qiánmian　　　zhàn le　　　hěn duō rén

    in front　　　stand PFV　　very many person

    'In front are standing many people.'

| | |
|---|---|
| Pattern: | NP+V+Loc |
| | Loc+V+NP |
| Predicate type: | Stative |
| Semantic representation: | **stand′** (x) |

54. 主席团　　　　　　坐　　在　　台上

    zhǔxítuán　　　　　zuò　　zài　táishàng

    bureau-delegation　　sit　　at/be　stage-top

    'The bureau sat on the stage.'

55. 台上　　　　坐着　　　　主席团。

    táishàng　　　zuò zhe　　　zhǔ xítuán

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stage-top   sit DUR   bureau-delegation

'On the stage sat the bureau.'

*Zuò* receives a stative reading in (54), which is also compatible with the locative inversion with the durative particle *zhe* (55), patterning like *zhàn* 'stand'. Aspectual particles like *zhe* and *le* play an important role in the locative inversion, and their compatibility depends on inherent semantic traits of verbs as well as other aspectual factors (see Liu 2007 and Pan 1996 for discussion).

Unlike English (e.g., 'He sat the guests'), no causative reading is available for these verbs, unless a lexical item like *ràng* 'make' occurs:

56. 不会  让他    坐太久。
  bù huì ràng tā   zuò tài jiǔ
  not can make 3SG  sit too long
  'they won't let him sit too long.'

Interestingly, a causative reading is available through the BA and BEI constructions:

57. 我  把他  坐在床上。
  wǒ  bǎ tā  zuò zài chuáng shàng
  1SG  BA he sit stay bed on
  'I sat him on the bed.'

58. 尽量      把我们   坐在一起了，   靠窗的!
  jìnliáng     bǎ wǒmén  zuò zài yīqǐ le   kào chuāng de
  as-much-as-possible BA 1PL   sit together CHG  by window DE
  (On a train) 'If possible, please get us to sit together by the window!'
  *Source*: blog (on travelling)
  (http://www.mafengwo.cn/i/3001047.html, last accessed November 2017)

59. 孩子  爱说话,   被坐  在后排
  háizǐ  ài shuō huà  bèi zuò zài hòu pái
  child  love speak  BEI sit at/stay last row

'The child was talking too much and was sat in the last row.'

| | |
|---|---|
| Pattern: | NP+ràng/BA/BEI+NP+V… |
| Predicate type: | Causative state |
| Semantic representation: **do′** (x, Ø) CAUSE [**sit′** (x)] | |

Similar patterns are exhibited by other posture verbs, like for example *tǎng* lie (lay) (from the PKU corpus):

60. 他　　就　　躺　　在床上…
    tā　　jiù　　tǎng　　zài chuáng shàng
    3SG　thus　lie　　at/stay bed on
    'He was thus lying on the bed…'

    过一会　　　　　　他　　躺下来，　　　头枕在妈妈腿上。
    guò yí huì　　　　tā　　tǎng xià lái　　tóu zhěn zài māmā tuǐ shàng
    pass one CL(moment)　3SG　lie down-come　head rest at/stay mum leg on
    'After a while he lied down, his head on his mom's leg.'

61. a. 他　让　　　　病人　躺下，　　　先按摩太阳穴…
    tā　ràng　　　　bìngrén tǎng xià　xiān ànmó tàiyángxué
    3SG　let/make　　patient lie down,　first massage temples
    'He had the patient lie down, and massaged his temples first…'

    b. 自己起来，　脱了衣裳，　卷着　　　被躺到床上…
    zìjǐ qǐlái　　tuō le yīcháng　juàn zhe　bèi tǎng dào chuáng shàng
    self get up　take.off clothes　roll PFV　BEI lie arrive bed on
    'He got up, took off his robes, and all curled up was made to lie down on the bed…'

Crucially, the inchoative form in (6160) is conveyed by a directional complement (*xià lái*, 'down-come'), whereas the causative meaning in (61) is lexically expressed by *rang* 'make, let' (61.a) or with a BEI construction (61.b).

With regard to the locative inversion, it is subject to definiteness constraints: the postverbal NP in presentative sentences like (62.b) must be indefinite also called DE –definiteness effect (Basciano 2010:140-141):

62. a. 上 个 月， 三 艘 船 在 这 个 海域 沉 了。 (Basciano 2010:140-141)
   shàng ge yuè    sān sōu chuán    zài zhè ge hǎiyù    chén le
   last CL month t hree CL ship    in this CL sea-area    sink CHG
   'Last month, three ships sank in the sea area.'

   b. 上 个 月， 这 个 海域 沉 了 三 艘 船。
   shàng ge yuè    zhè ge hǎiyù    chén le    sān sōu chuán
   last CL month   this CL sea-area sink PFV    three CL ship
   'Last month, three ships sank in the sea area.'

   c. *上 个 月， 这 个 海域 沉 了 那 艘 船。
   *shàng ge yuè    zhè ge hǎiyù    chén le    nà sōu chuán
   *last CL month   this CL sea-area sink PFV    that CL ship
   'Last month, that ship sank in this sea area.'

The interaction between definiteness and word order has been observed by many linguists (among which are Li and Thompson 1981). In fact, as the corpus study by Huang and Chui (1994) shows, and as we will show in the next chapter, the relation between definiteness, newness, and position in the sentence is more complex: we will investigate this relationship more closely in the next chapter.


## 4.4.6. Verbs of motion


In Mandarin Chinese, most verbs of motion are monovalent and lexically encode the manner of motion. These verbs sometimes display a so-called 'dummy object' (or 'cognate object' Levin (1993:266), i.e. a noun occurring after the verb, which however has a general meaning (and denotes a general action, and not an action on a patient/object). These verbs include: 跑 （步） *pǎo (bù)* 'run', 走（路）*zǒu (lù)* 'walk', 游泳 *yóuyǒng* 'swim', 飞 *fei* 'fly', 爬行 *páxíng* 'crawl':

63. 它们能适应于地面[...] 能**走**、 能**跑**、 能**爬行**、 能**游泳**...

    tāmen néng shìyīng yú dìmiàn néng zǒu néng pǎo néng páxíng néng yóuyǒng

    3SG can adapt-to place can walk can run can crawl can swim

    'They can adapt to the environment [...] they can move, walk, run and crawl, they can climb trees or swim...'

64. 他 喜欢 **跑步**。

    tā xǐhuān **pǎobù**

    3SG like **walk-step**

    'He likes jogging.'

65. 我都绑着几十斤的沙袋 **跑** **长跑**， 跑了 几年了...

    wǒ dū bǎng zhe jī shí jīn de shādài **pǎo** **cháng pǎo** pǎo le jī nián le

    1SG all tie DUR ten CL DE sand-bag **run** **long-run** run PFV some year CHG

    'I ran long-distance with a bag of sand tied up on my body, and run (like this) for years ...'

In the three examples above, the verb *pao* 'run' occurs alone – modified by a modal in (55), with its 'apparent object' *bu* 'step' in (56), with a (more specific) cognate object (*chang-pao*, 'long-distance') and with a measure phrase in (57). Just like in English, it can also enter a locative inversion (58) also without an overt locative NP (59):

66. 操场 上 跑 **着** 许多 学生。 (PKU corpus)

    cāocháng shang pǎo **zhe** xǔduō xuéshēng

    playground on run DUR many student

    'There were many students running on the playground.'

67. 跑 了 一 只 鸭。 (V NP)

    pǎo **le** yī zhī yā

    run PFV one CL duck

    'One duck ran away'

The pattern in (66) resembles the *There*-insertion in English ('there jumped out of the box a little white rabbit', Levin 1993:266). Again, aspectual particles like *zhe* and *le* play an

important role in the locative inversion, and their compatibility depends on inherent semantic traits of verbs as well as other aspectual factors (see Liu 2007 and Pan 1996 for discussion).

Like for posture verbs, a causative reading like 'Tom jumped the horse over the fence' is not available. However, they seem to be compatible with the BA construction (see also section 5).

68. a.我們 把它 跑完了。

    wǒmén **bǎ** tā    pǎo wán le

    1PL     BA it   run end MOD

    (Talking about their child racing in a marathon) 'We got him to finish (the race)'

 

b.你看看， **把**他 跑得 满头大汗。

    nǐ kàn kàn    **bǎ** tā   pǎo dé         mǎn tóu dà hàn

    2SG look look   BA he   run DE        be.covered.with.sweat

    Look, they made him run so much that he is covered with sweat.'

In Mandarin Chinese, motion verbs also include some transitive verbs, which display as a second argument the goal of motion. These verbs include *qù* 'go', *lái* 'come', *dào* 'arrive', *(jìn)(rù)* 'enter', *chū* 'exit', *(tōng)guo* 'go through', *huí* 'return', *shàng* 'go up', *xià* 'go down'.

69. 他      到了       门口        (Line dictionary)

    tā       dào le       mén kǒu

    he      arrive PFV    door

    'He came to a door.'

These verbs lexicalise the result of the motion action, analogous to Rappaport Hovav and Levin (1998:100-103) *Result Verbs*; specifically, they are "verbs of directed motion such as *come, go,* and *arrive* [in English], which lexicalise an achieved location (and usually also a direction), but not a manner of motion. For example, someone could arrive at the station by running, walking driving, or bicycling. These verbs can be contrasted with manner of motion verbs such as *run, swin, jog* or *walk*, which specify a manner of motion but no achieved location (or direction)" (p.102). Crucially, in MC, manner of motion verbs are monovalent, and in order to occur with an achieved location, a result verb of directed motion must occur after the manner verb.

70. 她　　　慢跑　　　**到**　　这家商店。

tā　　　mànpǎo　　**dào**　　zhè jiā shāngdiàn

3SG　　slow run　　**arrive**　this CL store

'She jogged over to the store.'


## 4.4.7. Verbs of action on objects

These verbs are inherently transitive and can enter a number of patterns, which are highlighted below. Consider these examples of verbs of cutting and removing:

71. 剪下　　　　　一撮子　　　　头发。　　　　　　　　Agent V Patient

jiǎnxià　　　　yī cuōzǐ　　　tóufā

cut-down　　　one CL(tuft)　hair

'Cut off a tuft of hair.'


72. 这条裤子　　　剪裁漂亮，　　　　　做工考究。　　　Patient V (complement)

zhè tiáo kùzǐ　jiǎncái piāoliàng　zuògōng kǎojiū

this CL trousers　cut beautiful　　　workmanship fine

'This pair of pants is handsomely cut and well made.'


73. **把**　　图片　丛杂志上　　　　　剪下来。　　　BA Patient V complement

**bǎ**　　túpiàn　cóng zázhì shàng　jiǎn xià lái

BA　　pic　　from magazine-on　cut down-come

'Cut the pictures out of the magazine.'


74. 这部电影　　**被**　　剪了　　　　30 分钟。　　Patient BEI V complement

zhè bù diànyǐng　**bèi**　jiǎnle　　　　30 fēn zhōng

This CL film　　BEI　　cut PFV　　　30 min

'The film was cut by almost 30 minutes'


75. 今天　　谁　　值日　　　　大嫂教室？　　　(Pleco Dict.)　Agent V Patient

jīntiān　shuí　zhírì　　　dàsǎo jiàoshì

today　　who　be-on-turn　sweep room

'Whose turn is to clean the classroom today?'

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76. 屋子　打扫　得很彻底。　　(Pleco Dict.)　　　　　　　　<u>Patient V (complement)</u>

wūzǐ　dǎsǎo　dé hěn chèdǐ

room　sweep　DE very thorough

The room has been given a thorough clean.

<div style="text-align: right;"><u>BA Patient V complement</u></div>

77. 大家　七手八脚　　一会儿就　　**把**院子　　打扫干净。(Pleco Dict.)

dàjiā　qīshǒubājiǎo　yī huìr jiù　**bǎ** yuànzǐ　dǎsǎo gānjìng

all　many.hand.foot one moment　**BA** yard　sweep clear

'With everyone's effort we swept the yard clean in no time.'

These verbs are inherently transitive, but can enter a BA and BEI construction; these constructions definitely provide a stronger causative reading (the affectee is perceived as having less control on the action); moreover, BA and BEI allow for the postverbal position to host the actual focus of the message (eg. in 77) the result state *gānjìng* 'clean'). The focal value assigned to postverbal elements will be further discussed in the next chapter.

Interestingly, as Liu (2007:183) observes, some transitive verbs of action on objects also display the locative inversion, for example the transitive verb 种 *zhòng* 'plant' (example from Liu 2007:183):

78. 院子里　　　种着　　　一些　　　　果树。

yuànzi lǐ　　zhòng zhe　yīxiē　　　guǒshù

yard in　　plant PFV　one CL(some)　fruit-tree

'In the yard are planted some fruit trees.'

(Adapted from Liu 2007:183)

79. 我　　想　　种　　果树

wǒ　　xiǎng　zhòng　guǒshù

1SG　think　plant　fruit-tree

'I want to plant some fruit trees'

*Source*: Baidu Blog

(https://zhidao.baidu.com/question/181712438.html, last accessed 02/10/2017)

80. 院子里　　　　种了　　　　　两棵枣树

yuànzi lǐ　　　zhǒng le　　　liǎng kē zǎoshù

garden in　　　plant ASP　　　two CL jujube tree

'In the garden two jujube tree have been planted.'

Theories diverge with respect to whether sentences such as those above involve an argument alternation/inversion for the same verb (e.g., Levin 1993), or whether the two variants involve that the argument structure of the verb varies (e.g., Creissels 2016a). Nonetheless, transitive verbs like 种 *zhòng* 'plant' and 放 *fàng* 'to put' display these two realization patterns: the transitive version involves two arguments and has a causative reading, while the intransitive (with one argument) has a stative/perfective reading (depending on the aspectual marker[81]).

## 4.4.8. Verbs of change of possession

Verbs of change of possession are verbs that in certain languages, such as English, display the so-called dative alternation. MC also displays this alternation, which occurs with verbs referred to as dative verbs, including: 给 *gěi* 'to give', 还 huán 'to return', 问 wèn 'to ask', 送 sòng 'to give (as a gift)', 教 jiāo 'to teach', 告诉 gàosu 'to tell'. An example of the dative alternation with the verb 送 sòng 'to give (as a gift)', along with its interplay with the (resultative) verb *gěi* 'give' is given below.

81. (basic meaning: 'I give you a book (as a gift)', as seen in the shared semantic representation)

a.我　　送　　　　　你　　一本书。

wǒ　　sòng　　　　nǐ　　yī běn shū

1SG　send/present　　2SG　one CL book

b. 我　送　　　　一本书　　　给　　你。

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[81] We will not discuss the implications of aspectual markers like *zhe* and *le*, as this would require a long and detailed analysis and discussion: this is definitely an interesting line of further research within the topic of argument alternations.

| wǒ | sòng | | yī běn shū | gěi | nǐ |
|---|---|---|---|---|---|
| 1SG | send/present | | one cl book | give | 2SG |

c. 我　送　　　给　你　一本书。

| wǒ | sòng | | gěi | nǐ | yī běn shū |
|---|---|---|---|---|---|
| 1SG | send/present | | give | 2SG | one CL book |

d. 我　给　你　送　　　一本书。

| wǒ | gěi | nǐ | sòng | | yī běn shū |
|---|---|---|---|---|---|
| 1SG | give | 2SG | send/present | | one CL book |

e.我　把　一本书　　送　　　给　你。

| wǒ | bǎ | yī běn shū | sòng | | gěi | nǐ |
|---|---|---|---|---|---|---|
| 1SG | BA | one CL book | send/present | | give | 2SG |

f. 书　我　送　　　给　你。

| shū | wǒ | sòng | | gěi | nǐ |
|---|---|---|---|---|---|
| book | 1SG | send/present | | give | 2SG |

As the various patterns above show, ditransitive verbs like *sòng* allow the following argument realisations (A=agent, B=benefactive, P=patient):

| Patterns: | | | |
|---|---|---|---|
| Ditransitive | NP(A)+V+NP(B)+NP(P) | | (a) |
| *gěi* | NP(A)+ V+NP(P)+gei+NP(B) | | (b) |
| | NP(A)+ V+gei+NP(B) +NP(P) | | (c) |
| | NP(A)+gei+NP(B)+V+NP(P) | | (d) |
| BA | NP(A)+ BA NP(P)+V+gei+NP(B) | | (e) |
| TOP | NP(B)TOP + NP(A)+ V+gei+NP(B) | | (f) |
| Predicate type: | causative accomplishment | | |
| Semantic representation: **do**′ (x, Ø)] cause [BECOME **have**′ (y, z)] | | | |

The choice between the above patterns is mainly related to information-structural considerations, specifically connected with what the focus of the sentence is in each instance. As will be shown in the next chapter (see section 5.6 on Focus and comment in MC), the focus tends to be perceived as being the last constituent(s) in the sentence: hence, sentences (81.a-f) all display a different topic-focus structure, and serve different communication situations.

However, the compatibility of other types of verbs listed above with the above patterns is in fact a rather complex issue (see Yang 1991). An exhaustive account of the dative alternation would require a lengthy discussion and a dedicated corpus study. For space constraints, we will not enter this issue: more research on this topic needs to be undertaken in order to include this thype of verbs in a coherent discussion of argument patterns and alternations.

### 4.4.9. Measure verbs

According to Levin (1993:272-273), in English these verbs describe the value of some attribute of an entity (e.g., *weight*, *height* – '*register* verbs'; *cost*, *last*, *take* 'cost verbs'); they do not enter the passive or the causative alternation. *Register* verbs allow a transitive use 'I weighed the package', while *cost* verbs do not *'I costed the book'. Unlike English, in MC measurement predicates are either adjectival or nominal (juxtaposed NPs, like in expressions of cost). Weigh predicates in MC are normally adjectives/attributive verbs like *zhòng* '(be)heavy', and can have a stative reading in patterns like (82) [x *zhòng* # Kg] and [x *you* 'have, exist' # Kg *zhong*]:

82. 这些作品大的高达１０余米， 　　重 6 吨，　　 小的约　　 有几公斤
    zhè xiē zuòpǐn dà de gāodá 10 yú mǐ 　**zhòng** 6 dūn 　xiǎo de yuē 　**yǒu** jī gōngjīn
    this CL item big DE height 10 plus m. 　**weigh** 6 ton 　small about 　**exist/have** some kg
    'These items, the big ones are 10 m high and weigh 6 tons, the small ones only few kilos...'

Unlike English, though, measure predicats like *zhòng* are not transitive (with the meaning of 'weigh'): another verb, like *chēngliáng* 'to weigh', is used in this case, with a pattern like [x (称)(量) (*chēng*)(*liáng*) Y]

83. ...再次　　　 称量了　　　　　 它的　 重量。
    ... zài cì 　chēngliáng le 　　　tā de 　zhòngliáng
    ...again time 　weigh PFV 　　　3SG DE weight
    He weighed it again.

Cost predicates, on the other hand, usually consist of juxtaposed NPs: X(item)+Y(price)

84. 这个　　　　　十块钱。

zhè gè　　　　　shí kuài qián

this CL　　　　　ten CL money

'this costs 10 dollars.'

## 4.5. Argument alternations and aspectual/causal shifts

### 4.5.1. Locative inversion and other argument inversions

Certain verbs of existence, appearance, disappearance, posture and motion, as well as some transitive verbs of action on objects, have been observed to display the possibility to realise their arguments in inverse patterns. Argument inversions are strictly connected to information structureal constraints (Levin and Rappaport Hovav 2005). This type of alternative argument realisations will be discussed in the next chapter, which is devoted to the information structural component of MC grammar (in particular section 5.6.3).

### 4.5.2. Contrastive versus stative reading

As seen in section 4.4.1, grade adverbs like *hěn* 'very', *hǎo* 'very', *tèbié* 'particularly', *fēicháng* 'extremely' can turn a predicate with an inherent contrastive reading into a predicate with a stative reading. This can be appreciated in the pair (4) and (5), reported below:

85. 今天　**真**　冷。　　　　　　　（PKU Corpus）

jīntiān　**zhēn**　lěng

today　**really**　cold

'It is really cold today.'

86. 北京　　　冷。　　　　　　　　（PKU Corpus）

Běijīng　　　lěng

Beijing　cold

'Beijing is colder.'

This pattern (NP-V vs (NP-ADV-V) is very productive. Of course, grade adverbs (and this shift) are compatible only with gradable predications/adjectival verbs. This property has been highlighted by many scholars (such as Paul 2015, Abbiati 2003); the meaning of *lěng* might be better characterised as '(be) cooler' rather than '(be) cold', and gets coerced in a stative reading by adding a degree establishing a point in the range of 'coolness'. We could hypothesize that only stage-level predicates have an inherent comparative value (neutralised by the use of a degree adverb).[82] A tightly related phenomenon is connected with the inchoative reading these verbs can receive, which is discussed in the next section.

### 4.5.3. The stative-inchoative alternation

As seen in the above examples, the marker *le* is involved in a sort of derivational process that conveys a change of state: it thus can be regarded as an inchoative marker (a statement also made by Lin 2004 and Xiao and McEnery 2004). This claim is confirmed by the work of several scholars. There is some disagreement regarding the proper treatment of verbal and sentential *le*.[83] Nonetheless, as Shown by Sun (1996), the two *le*s should be kept distinct (despite being homophonous), as they have different origins: we agree with that, and maintain that they have a distinct nature. In our discussion, we make reference to the sentence final *le*, although sometimes the inherent perfective meaning of the aspecctual *le* can in out opinion be seen as conveying change of state, too.

The marker *le* is generally agreed to be a marker of change of state, and thus, of inchoativity. This was observed by several scholars, including Chao (1968:798-800), who lists the following functions this marker displays:

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[82] We would like to thank one of the reviewers for this suggestion, which constitutes an interesting line for future corpus-based research.

[83] As mentioned in note 5 (Introduction), the particle *le* generally receives two analyses, in terms of aspect or modality, according to its position in the sentence (either postverbal or sentence-final, respectively). However, the proper analysis of the particle *le* in Mandarin is the subject of intense debate among scholars. The two *le* can co-occur in a single sentence, giving rise to so-called double *le* sentences. (see Lin 2004:55)

a. Inchoative *le*

b. Command in response to a new situation

c. Progress in story

d. Isolated event in the past

e. Completed action as of the present

f. Consequent clause to indicate situation

g. Obviousness

Li and Thompson (1981:240) similarly claim that the sentential *le* conveys a change in the state preceding the sentence and the *Current Relevant State*, which holds in the following respects:

a. is a changed state

b. corrects a wrong assumption

c. reports progress so far

d. determines what will happen next

e. is the speaker's total contribution to the conversation at that point.

As Basciano (2010:173) points out, *le* is not the only element that can coerce the meaning of stage-level adjectives/verbs/predicates into inchoative change of state predicates:

87. 叔叔　　说　　两 个 星期 内　　　　要　　胖　　一 公斤。
    shūshū shuō liǎng gè xīngqī nèi      yào   pàng  yī gōng jīn
    uncle  say  two CL week in want  fat   one kilo
    'Uncle said that he wants to put on one kilo in two weeks'.

Moreover, not all adjectives/attributive verbs can enter the state-inchoative alternation. At a first glance, gradability seems a common feature of the abovementioned adjectives; however, according to Basciano (2010:168-170), "the possibility for an adjective to occur as a predicate in sentences with the marker 了 *le* is not linked to its gradability: [only] gradable adjectives [… that are] compatible with a change of state (inchoative) reading can occur with the marker 了 le (see Liu 2010)": she presents the following counterexamples, displaying gradable adjectives with non-inchoative reading, adapted from Liu (2010:1035):

88. a. *张三　　　聪明 / 笨 了。

　　 * Zhāngsān　　cōngmíng / bèn　le

　　 * Zhangsan　　clever stupid CHG

　　 'Zhangsan got clever / stupid.'


　　 b. *你 的 女儿　　漂亮 / 丑 了。

　　 * nǐ de nǚér　　piāoliàng / chǒu le

　　 * 2SG DE daughter　　beautiful ugly CHG

　　 'Your daugther got beautiful / ugly.'


A number of linguists have investigated this issue, all pinpointing that the restriction lies in the distinction between stage-level and individual-level predications/verbs/adjectives[84] (Gu 1992, Liu 2010 and Xiao and McEnery 2004). Individual-level states/adjectives/predicates are stative and durative, "without any temporal or spatial endpoint and do not encode a result; they are normally predicated of permanent dispositions of an individual (e.g., 像 *xiàng* 'resemble', 诚实 'honest' *chéngshí*) […and] have the features [−dynamic], [+durative], [−bounded], [−telic] and [−result]" (Basciano 2010:170). In contrast, stage-level states/adjectives/predicates are durative (they do not have a temporal or spatial endpoint and do not encode a result) and can be either stative or dynamic. They "are predicated of less permanent stages of an individual (e.g., 病 *bìng* 'sick', 忙 *máng* 'busy') […and] have the features [±dynamic], [+durative], [−bounded], [−telic] and [−result]"(p.170).[85] The tests that are available to distinguish between those groups of adjectives/attributive stative verbs are tightly connected with their inchoative reading, and include: (i) they can occur with the marker *le*; (ii) they can be negated both by 不 *bù* (which selects stative predicates) or 没 *méi* (which aspectually selects stage-level predicates).


89. a. 我　饿　　了　　　　　　　　(Basciano 2010:171)

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[84] In fact, Gu (1992) individuates individual-level and stage-level adjectives, whereas Xiao and McEnery (2004) consider adjectives stative verbs, and distinguish individual-level and stage-level states; on the other hand, Liu (2010) differentiates between individual-level and stage-level predicates. However, their analyses share the same main considerations.

[85] Cf. Basciano (2010) for a thorough presentation of all positions.

wǒ    è    le
1SG    hungry PFV
'I got hungry.'

b. 我 没 饿
wǒ    méi    è
1SG    NEG    hungry
'I did not/do not get hungry.'

c. 我 不 饿。
wǒ    bù    è
1SG    NEG    hungry
'I am not hungry.'

Basciano concludes that only stage-level adjectives can be used as intransitive change of state verbs. She also concludes that at least a large set of these verbs can be "included in the so-called 'degree achievement' verbs, since they can express a gradual change of state and are ambiguous between being telic or atelic. As she summarizes, degree achievements differentiate from normal achievements in that, while the latter involve a non-extended change, the former involve a change in value on a scale (a set of points ordered along some dimension, e.g., size, length, etc., see Hay 1998, Kennedy and Levin 2002, Rothstein 2008). A significant part of degree achievement verbs consists of deadjectival verbs (see Hay 1998, Ramchand 2008): for example, the degree achievement deadjectival verb 'to brighten' derives from the adjective 'bright': they are compatible with telic modifiers, as in 'the sky brightened in half an hour', Rothstein 2008). Hay, Kennedy and Levin (1999) highlight that the basic semantic characteristics of degree achievement verbs is that their argument is affected, and undergoes a change in some property. This resembles the semantic role of incremental theme (Dowty 1991 and subsequent work). Incremental themes have been associated mainly with the object position (i.e. the second argument of consumption verbs like *eat*, or creation verbs like *draw, paint* etc.). In this case, it is related to the sole argument of an intransitive verb/adjective that has an inherent scalar interpretation. This might be connected with the compatibility of some of those verbs with the markers BA and BEI, which impose a semantic restriction on the affected argument entering the construction, namely that it must be

affected or impacted by the action above a certain threshold (Fan and Kuno 2013, also see section 2.4.4 on diathesis and passive).

A further interesting insight comes from the account of Rothstein (2007): the meaning of a sentence like 'the soup cooled' specifies the direction of the change of value along the scale denoted by cool, but it does not give any constraint on the absolute properties of the final value. Rothstein points out that, in support of this analysis, there is the fact that *cool* (verb) does not mean the same as *become cool*: *cool* does not specify the final value, but rather specifies the direction of the change (its meaning is 'undergo a decrease in temperature'), and thus it entails a change in a particular direction (see Levin and Rappaport-Hovav 1995:172). In contrast, *become cool* specifies the final value but does not constrain the direction of the change; its meaning is 'get to have a temperature value in the (contextually determined) cool range'. Thus, 'to cool' means to 'get cooler', and not to 'become cold'. Here is Rothstein (2008:192) example, which helps clarify this point: *when I took the soup out of the fridge it was so cold that it burned my mouth, but after some time at room temperature, it had become pleasantly cool/\*it had cooled*. This nicely relates to the property of the pattern NP+ADJ in (2) 北京冷 *Běijīng lěng* 'Beijing is colder', related to the inherent comparative reading of adjectives when they are not modified by a degree adverb like 很 *hěn* 'very'.

Nevertheless, the consistency and pervasiveness of the pattern V *le* or V NP/COMP *le* connected with an inchoative reading, allows for an analysis in terms of inchoative marker that coerces the meaning of stative verbs into accomplishments or achievements.

### 4.5.4. Causativity and the BA-BEI realisation patterns

As mentioned above, according to Creissels (2016b), causative voices are morphologically coded valency alternations in which the argument structure of the morphologically more complex form differs that of the less complex one by the addition of causer showing the following two characteristics. Formally, causativity is encoded as the A term of a transitive construction, and semantically, it exerts its control on a causee corresponding semantically to the A/U argument of the base verb. Some languages have two or more causative markers that express different semantic types of causation. Others have causative markers lending

themselves to a wide range of interpretations. Two main semantic types of causatives can be distinguished. With the first one, the causer actively participates in the caused event, acting on the causee in order to get the content of the base verb realised, which will imply some kind of coercion in case the causee is animate. This type of causative is often called the direct causative. In the indirect causative ('have someone do something'), the causer is conceived of as a mere instigator or distant cause of the realisation of the verb content. Depending on the individual languages, direct and indirect causatives may be formally distinct. For example, in Wolof, *toog* 'sit' has two causative forms: *toog-al*, which implies that the causer is physically involved in the caused event (for example, by bringing a chair), and *toog-loo*, which does not imply more than an invitation to sit down. Unlike marked voice constructions, which reduce the number of arguments, causative constructions add a semantic and syntactic argument to their non-causative equivalents by expressing the causer argument. Alsina (1992) suggested that cause is actually a three-place predicate involving a causer, a causee, and a patient. Comrie (1985:330-332) also notes that causation involves an increase in valency by one (external) argument. As previously mentioned, causatives can be divided into analytic (or syntactic, periphrastic) causatives, morphological (or synthetic) causatives and lexical causatives. Analytic causatives can be expressed in different ways: (i) two verbs in one predicate, as for example the case of French, which has a causative verb *faire,* or (ii) a periphrastic construction, which involves two verbs in separate clauses, as the cases of English, where the causative verb is followed by a to-type complement clause, like in 'She caused the door to open'.

In the literature, causativity in MC is mainly related to the periphrastic causatives, which are the only means of causativisation of Old Chinese that survived in Modern Chinese (see Basciano 2010). [86] Periphrastic causatives in Mandarin Chinese can make use of three

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[86] In her thesis on causativity, Basciano (2010) claims that by the time of Middle Chinese affixes were completely lost; Chinese developed tones and some functions previously expressed by means of affixes started to be expressed by tonal or voicing contrasts. At this stage, causativity was still morphological in nature, even though the cause was not independently expressed any more by means of affixes (i.e. it was expressed by tonal or voice changes). These means eventually disappeared as well, leaving just a few relics in Modern Chinese. Middle Chinese started to develop other kinds of strategies to express causativity, namely the resultative construction and resultative compounds.

different causative verbs: 使 *shǐ*, 让 *ràng* and 叫 *jiào* (which we found in the examples above, for example with psychological verbs and verbs of involuntary activity). However, causativity in MC is encoded also through other means, as shown in the analysis. First, as Basciano (2010) observes:

> Modern Chinese developed another analytic means of forming causatives, i.e. compounds formed by a semantically light or dummy V1 plus an intransitive change of state verb (as in the case of resultative compounds). The light verbs in such complex words do not express a particular action and, thus, do not specify the causing event, but they just spell out the causing event, acting as a sort of affixal element.

Examples of light verbs she discusses include verbs such as 弄 *nòng* 'make, handle', 搞 *gǎo* 'do', 打 *dǎ* 'beat, strike, hit', as in 打倒 *dǎdǎo* 'dǎ+fall down = overthrow', 弄死 *nòngsǐ* 'nòng + die = kill (make die)', 搞坏 *gǎohuài* 'gǎo+ruin =ruin, spoil, destroy'. She further observes that this alternative device can be found in other Modern Sinitic languages as well, like Taiwanese Southern Min—拍 phah4 'beat, strike, hit' and Hakka 打 da2 'beat, strike, hit'.

However, in the sections above, a number of stative, monovalent predicates (namely those denoting states, conditions, or properties, as well as verbs of posture and some verbs of motion), were found to appear with a causative reading with a pattern as follows:

| | |
|---|---|
| Pattern: | (NP)+BA/BEI+NP+V… |
| Predicate type: | Causative accomplishment/achievement |
| Semantic representation: **do′** (x, Ø) CAUSE [INGR/BECOME **V′** (y)] | |

Consider again the following examples (analysed in the above sections), with the grade-level adjective *lěng* '(be)cold(er)': the first is drawn from a video about some soft drink (colloquial register), the second from a technical article on a new lithium battery technology (technical register):

90. 把　　它　　冷　　一下　　喝…
　　bǎ　　tā　　lěng　　yī xià　　hē
　　BA　　3SG　　cool　　one-bit　drink

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Cool it down a bit and then drink..

(youku.com) [87]

91. 快速加热　　　　　　再　　**把**它　冷下来…

kuàisù jiārè　　　　　zài　　**bǎ** tā　lěng xià lái

high-speed add-heat　then　BA it　cool-down-come..

… After quickly heating it up we cool it down…

(source: news.china.com.cn) [88]

Again, both sentences have a causative reading, and a semantic representation like **do'** (x, y) CAUSE [BECOME **cool'**(y)]. However, *lěng* is an intransitive, monovalent verb: contrary to what is expected, it enters the BA construction, and occurs in a predicate with two arguments (in both the causer is expressed in the preceding context). Moreover, no light verb occurs. Similar examples can be found with verbs like *ganzao* (be)dry(-er), such as the abovementioned (14) and the following:

...所有蛋白质　　　都　　黏黏糊糊的，　　你　　怎么　**把**它　干燥呢？

... suǒyǒu dànbáizhì　dōu　niánniánhūhū de　nǐ　zěnme bǎ tā　gānzào ne

...all protein　　　all　sticky-sticky DE　2SG　how　BA it　dry MOD

... all proteins are sticky, how can we dry them?

(coursera.org[89] - chemistry course)

The causative reading of BA and BEI, as stated before, has been observed by a number of linguists (see Chappell 1992). Moreover, a corpus analysis conducted by Wang (2003), who examined all the 2170 verb entries in the "汉语动词用法词典"(*A Dictionary of Chinese Verb Usages*), to determine what and how many verbs are compatible with a BA construction: the analysis shows that 1407 can occur in a BA construction, 98% of which displayed a meaning

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involving some sort of causative reading (Wang 2003:37).[90] Interestingly, not all examined verbs are transitive, and not all of them have an inherent causative meaning:[91] here are some of the examples he presents, which include the following verbs: *sǐ* 'die', and *zuì* 'drunk':

92. 把他　疼死了。
    bǎ tā　téng sǐ le
    BA he　ache-die CHG
    'cause him to hurt like hell.'

93. 把他　醉得　　　不分　　　　　东西南北了。
    bǎ tā　zuì dé　　bù fēn　　　　dōng xī nán běi le
    BA he　drunk DE　NEG distinguish　east-west-south-north CHG
    'Get him so drunk he couldn't tell up from down."

The causative reading of intransitives in the above sentences could be explained in 2 ways: these verbs could be considered labile in their reading (namely they can enter a stative, inchoative and causative predication); in this case, a flexible argument structure needs to be posited, in that such verbs can be either monovalent or bivalent. A second account could see BA and BEI as constructions capable of coercing stative verbs into a causative reading. Under such account, BA and BEI are in fact valency-increasing morphemes, in that the valency of an originally stative predicate is increased by one (with a causer/agentive argument). Crucially, as seen in Chapter 2, this valency increasing function also applies to transitive verbs (turning int three-slot predixates); moreover, the semantic relation between the verb and the arguments can be rather loose. Consider the following sentence:

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[90] "我们用"汉语动词用法词典"中的 2170 个动词逐一构造"把"字句,得到约 1407 个可构成"把"字句的动词。分析这 1407 个动词的词义,发现 98%的动词词义中都含有致使义。"(Wang 2003:37)

[91] Wang (2003) found 24 verbs which did not display a causative meaning, although they are compatible with the BA construction, including *love, be sick, wait, cry, run* etc.: "有 24 个动词的词义中没有致使义,占可构成把字句动词总数的 2%,这些动词有:爱、熬、病、愁、等、跌、后悔、渴、哭、盼、跑、瞎、死、疼、心疼、锈、哑、晕、肿、醉、漏。"

94. 老张　　　　　把炉子　　　　生上了　　　　火。（PKU corpus）

Lǎo Zhāng　　bǎ lúzǐ　　　shēng le　　huǒ

Old Zhang　　**BA** stove　　give-birth-to　fire

He lit a fire in the stove.

The verb *shēng* is in this case a transitive verb, taking two arguments: an actor/effector, and a theme (in this case *Lǎo Zhāng* 'Old Zhang' and *huǒ* 'fire'). However, another argument is added (i.e. *lúzǐ* 'stove') by means of the morpheme BA, which increases the valence of the verb introducing a sort of locative/affected element.

There is definitely a pragmatic difference in the use of BA versus normal transitive AVP patterns, which belongs to the discourse-structure of the sentence (given-new information, focus structure). The BA construction allows to have two preverbal slots that can host two (given/presupposed)[92] event participants, while the postverbal slot can be occupied by the focus of the message (see next chapter on information structure). Similarly, the BEI construction is motivated by a number of communicative factors (see discussion in section 0). Moreovoer, there are definitely a number of constraints with respect to the compatibility of BA and BEI with intransitive predicates, as well as register/type of text considerations (colloquial vs. written register etc.). However, we believe that this valency-increasing nature of these markers is an interesting feature, which deserves further attention.

## 4.6. Interim summary

This chapter has provided a panorama on the behavioural properties of a range of verb classes with respect to the mapping between the argument structure and the argument realisations/alternations. The analysis is based on a qualitative corpus study on different verbs:

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[92] This is also confirmed by a corpus study by Iemmolo and Arcodia (2014), who analysed text excerpts taken from the Corpus of Modern Chinese of the Center for Chinese Linguistics (CCL) of Peking University, where BA has been shown to be a marker of (preferentially) given/activated information, as well as of high identifiability.

again, for space constraints not all the data could be discussed; thus, this chapter only scratches the surface of the mapping rules between verbal argument structures and their realisations.

However, the analysis allows the identification of a number of interesting facts, which we attempt to summarise below:

(i) several verbs can appear in predicates with different aspectual and causal traits (see the comparative-stative, the stative-inchoative and inchoative-causative alternations discussed in the sections above). This results in interesting word order patterns, where verbal arguments occur in different orders, and undergo change in number (as some alternations involve valency increasing/decreasing phenomena). As Levin (2014) notes, the challenge is "how to account for the alternate realisations of a verb's arguments, as well as any changes in the number of arguments as in the causative alternation".

(ii) this calls for an account either in terms of lability (as well as different possible argumens structures that map into the final sentence structure) or in terms of coercion (different morphemes – e.g., adverbs, aspectual markers, BA/BEI constructions, coerce an inherently stative verb into an inchoative/causative reading, and increases/decreases the number of its arguments). On one hand, an account in terms of coercion seems more viable, given the systematicity and productivity of aspectual and causal shift effects caused by elements discussed in the sections above. This would avoid postulating that a number of intransitive predicates are in fact potentially transitive verbs. Nevertheless, the labile nature of verbs in MC is also a striking feature that emerges from the analysis, which has been observed by scholars like Sybesma:

> The lexicon is more like a dictionary then a lexicon according to Chomsky (1986): it will state the meaning of a word, but not much else; certainly, it will not contain information about theta grids, because these don't exist […]. This does not mean that there is no transfer of what is generally called "thematic" information; such transfer still exists, but it is quite vague, much more so than the concrete assignment of thematic roles is generally thought to be. Being in the domain of a verb merely denotes involvement. The more exact

> nature of the involvement is determined by the structure in which the whole phrase occurs as well as knowledge of the world. (Sybesma 1999:6)

(iii) a third aspect, highlighted by Levin (2014), concerns how to account for argument alternations, i.e. why different realisations are available for the same verb (and the same arguments=event participants). Levin observes a shift from a syntactic (transformational) account proposed during the 1960s to a semantic account during the 1970s, whereas now more and more attention is given to pragmatic and information structure related factors (Levin 2014:4). This is the topic of the next chapter.

# 5. Information Structure

## 5.1.    Overview

The present chapter looks at the fourth modality of linguistic organisation that ultimately determines the sequence of constituents in the sentence, i.e. the information structural component.

In the past chapters, a strong correlation has emerged between the argument structure of the verb and the mapping/relative order of these arguments in the final sentence. When overt, more agentive/causative arguments tend to precede less agentive, more patient-like arguments. However, MC presents cases where the order of elements in the sentence is determined by factors other than the semantic role of participants, resulting in different argument realisation patterns. Levin and Rappaport-Hovav (2005) observe that there are basically three factors licensing different realisations of verbal arguments: the first is difference in meaning,[93] the second is heaviness (i.e. the relative length of arguments with respect to each other, whereby the longer argument tends to occur at the end of the sentence),[94] and the third is information structure:

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[93] A clear example of difference in meaning is the conative alternation, as in *Pat hit the door*. vs. *Pat hit at the door*, where the second argument is realised either as a direct object or as oblique, which involves difference in meaning with respect to telicity and affectedness of the second argument (see Levin and Rappaport-Hovav 2005:215 for discussion).

[94] The "weight" or "heaviness" of postverbal constituents are claimed to play a part in the choice and availability between variants, as in the following example quoted by Levin and Rappaport-Hovav (2005:218): if the beneficiary is encoded by a long constituent, it can occur after the patient in the ditransitive variant of the dative alternation (c), whereas if the patient is 'heavier' than the 'beneficiary', a patient-beneficiary order is less accepted (b):

    a. Nixon's behavior gave <u>Mailer</u> an idea for a book.
    b. #Nixon's behavior gave an idea for a book <u>to Mailer</u>.
    c. Nixon's behavior gave an idea for a book <u>to every journalist living in New York City in the 1970s</u>.

This chapter is devoted to examining possible permutations of the order of elements with respect to the third factor, i.e. Information Structure (IS), as well as to IS notions generally associated to different positions in the sentence, such as that of topic, comment and focus. Countless studies have investigated the correlation between word order and information structural factors like topichood, givenness/activation status of referents: many scholars stress the importance of the notion of topic in MC, and following Li and Thompson's (1976, 1981) seminal contributions, regard MC a topic-prominent language. This chapter also aims to better explore to what extent this correlation holds true, and specifically whether it is true that word order is ultimately determined by IS considerations only (as stated, for example, by LaPolla 1990, 1993).

## 5.2.    Methodology and framework of analysis

*Information structure* (IS) (Halliday 1967, Lambrecht 1994, Van Valin and LaPolla 1997, Güldemann et al. 2015), *information packaging* (Chafe 1976, Foley and Van Valin 1985), or *informatics* (Vallduví 1990) are different terms which basically refer to the study of how speakers structurally encode propositional content with respect to (i) their communicative purposes, and (ii) their assumptions about the addressee's state of knowledge at the time of an utterance. The common assumption underlying the different accounts of IS is that language functions effectively only if the speaker takes account of the knowledge and the activation states of such knowledge in the mind of the person she is talking to (Chafe 1976:27). Accordingly, Prince defines information packaging as

the tailoring of an utterance by a sender to meet the particular assumed needs of the intended receiver. That is, information packaging in natural language reflects the sender's hypotheses about the receiver's assumptions, beliefs and strategies. (Prince 1981:224)

This involves that IS accounts for linguistic structures and order patterns used to describe a certain event or state of affairs in terms of co-textual and contextual factors, as well as psychological hypotheses about both the hearer's and the speaker's mental representations of the event/state and its participants. However, we agree with Lambrecht (1994) and Prince (1981) in limiting the domain of IS only to the entailments of the speakers' communicative intentions and assessments about the hearers' knowledge into linguistic forMs

> We are, therefore, NOT concerned with what one individual may know or hypothesise about another individual's belief-state EXCEPT insofar as that knowledge and those hypotheses affect the forms and understanding of LINGUISTIC productions. (Prince 1981:233, emphasis in original)

Thus, IS is concerned with linguistic forms, and explores how the speaker's intentions and hypotheses on the mental status of the entities under discussion are reflected in the language; in other words, how such entities are linguistically encoded. For example, it is generally agreed that recently evoked or activated entities are encoded by less-overt anaphoric expressions (e.g., pronouns in English or zero NPs in MC) and tend to occur in sentence-initial position, whereas newly introduced entities are encoded by overt forms (e.g., full nouns) (see Givón 1983), and as new information, tend to be introduced later on in the sentence, or marked differently. According to Lambrecht (1994:6), forms of IS encoding include: prosody, grammatical markers, syntactic (in particular nominal) constituents, position and sequence of elements in the sentence, complex grammatical constructions, and choices between related lexical iteMs However, as the present thesis is concerned with word order, we will focus on the entailments of IS on the sequence of elements in the sentence, and on the choice of specific constructions/word order patterns to attain specific communicative needs.

Following Lambrecht (1994), the present study examines the IS of a sentence through the comparative analysis of *allosentences* (Danes 1966, Lambrecht 1994), namely "semantically equivalent but formally and pragmatically divergent sentence pairs". In other words, it compares sentences with the same propositional meaning, but "tailored" (Prince 1981) or "packaged" (Chafe 1976) in different ways, according to the context and communicative needs of the speaker in the moment of the utterance. These include the alternations and inversions we have analysed in Chapter 4; these include: "active vs. passive, canonical vs.

topicalised, canonical vs. clefted or dislocated […] etc." (Lambrecht 1994:6), such as in the following examples from Halliday (1994:30-33):

1. a. The duke          gave          my aunt       this teapot.
   b. This teapot,       my aunt       was given     by the duke.
   c. My aunt            was given     this teapot   by the duke
   d. The duke           gave          this teapot   to my aunt.
   e. This teapot        was given     to my aunt    by the duke.
   f. This teapot,       the duke      gave          my aunt.

Differences in the information structure of allosentences like (1.a-f) are understood against the background of available but unused grammatical alternatives for expressing a given proposition in a specific context/communicational situation. Depending on the context, the first element in the sentence can be the grammatical subject (1.a, c, d, e) but also the direct object, like in (1.f). Moreover, passivisation in English allows both the beneficiary (1.c) and the patient (1.e) to occur as the grammatical subject. Text-internal and text-external context plays a crucial role in the analysis of such allosentences, in that it is essential to determine what referents are given/known to the interlocutors and what are newly introduced, explaining variations in argument realisations within the various sentences in (1): as Lambrecht (1994:2) observes, such "formal properties of sentences cannot be fully understood without looking at the linguistic and extralinguistic contexts in which the sentences having these properties are embedded."

In line with the considerations above, the present chapter examines the possible orders of elements in the MC sentences in relation to the context/co-text in which the sentences occurs. Moreover, it seeks to systematically determine the nature and the restrictions that apply to elements that can appear in different positions in the sentence. First the sentence-initial (and preverbal) position will be investigated, along with the connections with IS notions of topic, aboutness, givenness, specificity, accessibility, locatability, etc. The second part of the chapter focuses on the sentence-final position, in particular with reference to IS notions such as focus, comment and new information. These notions will be first briefly presented in section 5.3. In agreement with Lambrecht's (1994) considerations, the unit of analysis is the single

sentence/utterance, taken in its context. No such notions as discourse topics will be analysed, except when it helps explain sentence-internal word orders.

Linguistic data comprises sentences from the relevant literature, but avails itself of novel data drawn from corpora as well, such as the PKU corpus. Also, due to the importance played by context, speakers' intentions and communicative factors in determining the role of notions such as 'topic of', discourse progression and presupposed information, transcriptions of interviews and dialogues are also employed. These include: (i) a corpus of spontaneous conversation interaction, i.e. Tao's (1996) transcriptions of twelve ordinary conversations among native speakers of Mandarin[95] (hereafter referred to as TAO's CORPUS); (ii) a corpus of narrative/expositional text, i.e. Ho's (1993) transcriptions of interviews[96] with over 20 Mandarin speaking informants (hereafter referred to as HO's CORPUS); (iii) transcriptions of seven videos containing interviews of contemporary Chinese artists transcribed by the author (hereafter referred to as ART VIDEO): all artists are MC native speakers from different parts of China, and talk about their artistic production and their works displayed in a Chinese art exhibition in 2017 in Vicenza, Italy.

## 5.3.    IS notions and terminological issues

While the study of IS was initially disregarded in linguistic research, the last decades have seen a growing interest both in language-specific and cross-linguistic aspects of IS (Güldemann et al. 2015),[97] in that it is increasingly recognised as a central factor determining

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[95] The data used in Tao's study all came from spontaneous audio-recorded naturally-occurring interactional conversations. The topics of the conversation vary (everyday-life experiences, education, travelling). For further details see Tao (1996:28-30).

[96] The native speakers comprised students and teachers, social workers, restaurant workers and religious personnel among others; the interviews represent a variety of genres and discourse types (i.e. narrative, exposition, and procedural). For further details, see Ho (1993:14-15).

[97] According to Güldemann et al. (2015:155-6), Information Structure (IS) is regarded as a "thriving research domain that promises to yield important advances in our general understanding of human language".

sentence structure and word order. However, despite the growing body of studies, IS still suffers from terminological confusion, as well as disagreement on the nature, the notions and the role of IS in the overall system of grammar, especially across linguistic frameworks (Lambrecht 1994, Erteschik-Shir 2007, Güldemann et al. 2015).

Much of the terminological and theoretical confusion in the literature is due to the historical development of the studies on IS.[98] Different scholars coined different terminology and notions (e.g., the theme-rheme vs. topic-comment dichotomies),[99] and proposed different definitions of such notions. Moreover, most early studies in the field have focused on European languages, thus a "considerable bias toward IS phenomena in European languages can observed in the approaches and accounts found in the literature" (Güldemann et al. 2015:156). Lastly, several scholars such as Fillmore (1981) and Lambrecht (1994) highlight how the information structure component of grammar, for its inherent nature, tends to be much more complex than the syntactic and the semantic components.[100]

A comprehensive review of all the studies and accounts given to the IS component is way beyond the scope of the present chapter (but see Erteschik-Shir (2007) and Güldemann et al. (2015) for an overview). Thus, the following section will only focus on the categories of IS used in the analysis of different positions in the sentence (mainly sentence-initial and sentence final). When relevant, terminological and definitional issues that emerge from the literature will be highlighted and discussed. The theoretical framework and the definitions adopted are mainly drawn from Lambrecht (1994), Chafe (1967), and Prince (1981); insights

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[98] The study of the effects of communicative factors on word order was mainly laid out by the Prague School (Mathesius, Firbas, Daneš among others), and the London School in early '30s (Firth and the neo-firthian scholars such as Halliday), followed up by the American structuralism and functional theories of grammar (Dik, Givón among others), and was later developed by many other scholars. For a more thorough review, see Erteschik-Shir (2007), or Krifka and Musan (2012).

[99] For an overview of the differences between the two dichotomies, we refer the reader to Li (2005:15-24).

[100] According to Fillmore (1981:144), pragmatics in fact encompasses both the syntactic and the semantic components, in that it "unites (i) linguistic form and (ii) the communicative functions that these forms are capable of serving, with (iii) the contexts or settings in which those linguistic forms can have those communicative functions. Diagrammatically,

Syntax [form]
Semantics [form, function]
Pragmatics [form, function, setting]"

by other scholars, including Erteschik-Shir (2007), Krifka and Musan (2012), and Güldemann et al. (2015), are also discussed when relevant.

## 5.3.1. Topic and the sentence-initial position

The sentence-initial position is often connected in the literanture with a number of IS-related notions, which include topic-hood, presupposition, aboutness, as well as specific psychological activation statuses of information such as givenness, identifiability, specificity, definiteness, locatability. Notions like that of topic are usually defined in terms of most or all of the abovementioned properties.

However, a coherent and univocally accepted definition of topic in these terms is by no means trivial and no consensus has been reached yet on how topic can be defined. Specifically, different scholars use different terms or provide different definitions fo the same term. As Erteschik-Shir (2007) summarises, the different accounts given in the literature mainly concern: (i) what is meant by topic (constituent, relation), especially in comparison to notions like that of subject; (ii) the criteria that should be employed to define it – i.e. either in terms of aboutness, or of the cognitive status of its referent (given, accessible, inferable, locatable etc.), or else with respect to its position in the sentence (usually the sentence initial position); (iii) cross-linguistic vs. language-specific properties topics exhibit (see Erteschik-Shir 2007, Ch. 2 for discussion and examples).

Again, the different accounts provided in the literature on the notion of topic and its relation with givenness and word order can be better comprehended in light of the historical development of the studies on the notion, in particular in relation (and comparison) to that of subject– as well as that of agent. In their earliest formulations, the notions of topic and subject were not clearly differentiated.[101] It was in the 19th century that, following Weil

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[101] As Krifka and Musan (2012) highlight, notions like topic and subject were not distinguished in their early stages. The splitting of an expression (*logos*) into inseparable semantic and referential functions – *onoma* and *rhema* – was established by

(1844), von der Gabelentz (1869:378) introduced the notion of *psychologisches subjekt* (the entity the speaker wants the hearer to think about, i.e. the topic), differentiating it from the NP bearing grammatical agreement with the verb (the grammatical subject). This insight was developed by the Prague School, with Mathesius' (1928) definition of 'theme' as the element that: (i) announces what the sentence is *about*, (ii) usually carries *given* information, and (iii) occurs in *sentence-initial position*. It was further elaborated into the 'theme-rheme' dichotomy (see Firbas 1992) and the notion of *Communicative Dynamism*[102] (CD): in unmarked word order, the theme is in the sentence-initial position, and carries the lowest degree of CD (in that it is cognitively given), while the rheme carries the highest (in that it encodes new information). Of major significance is Halliday's later development of the theme-rheme dichotomy, in that it clearly distinguishes between *subjecthood*, *agenthood* and *topichood* as notions pertaining to three different levels, respectively: (i) *grammatical subject*, i.e. 'that of which something is predicated', which is related to various grammatical features, such as case and concordance with verb; (ii) *logical subject* (agent/actor), i.e. 'the doer of the action'; (iii) *psychological subject* (theme), 'the concern of the message'. Halliday (1994:30-32) explains this difference though a set of *allosentences* of the type of (1), partially reported in (2.a-b), which involve an active-passive alternation: in (2.a), these three 'subjects' coincide with the argument 'the duke'; by comparison, in the counterpart (2.b), the three roles are played by the three different verbal arguments:

2.  a. <u>The duke</u>              gave          my aunt          this teapot

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Plato and then taken up by Aristotle (see Spina 2002). While terms found in classical thought require accurate philological investigation and are not easily paired up with modern terms, scholars agree that Aristotle's Categories define subject and predicate based on concepts similar to topic and comment, the predicate 'predicating' something about the subject. Sornicola (2006:766) also claims that "linking referentiality to the utterance-act has an ancient provenance. The *onoma* signals actors and experiencers, whereas the *rheme* signals actions and events. Sometimes, the *onoma* is represented as content, and the *rheme* is represented as typically having an enunciative function". Krifka and Musan (2012) observe that only later Arab grammarians of the middle ages started differentiating between the relation connecting verb-agent and that between the first element in the clause, called *musnad*, and the second part, called *musnad 'ilayhi*. These two parts are defined in a complementary manner: *musnad* is "that part of the sentence upon which the musnad 'ilayhi leans", while *musnad 'ilayhi* "that [part of the sentence] which leans upon it (i.e., upon the musnad)", in a relation similar to that of topic-comment.

[102] Communicative dynamism is defined as "the relative extent to which a linguistic element contributes towards the further development of the communication" (Firbas 1992:8):

```
SUBJECT = AGENT = THEME
b. This teapot,          my aunt        was given      by the duke
THEME        ≠          SUBJECT        ≠          AGENT
```

Further developments within the American structuralism and the dichotomy of topic-comment also contributed analysing and capturing the difference between grammatical subject, agent/actor and topic. Despite theoretical and definitional dissimilarities, topics/themes are in the literature associated with the following primary characteristics:

> (i) Position – topic is the first NP in the sentence/occurs preverbally.
>
> (ii) Aboutness vs. frame: topic is what the sentence/comment is about, vs. topic is a spatial, temporal or individual framework within which the main predication holds;
>
> (iii) Information status – topic carries given/activated/identifiable/less salient information;

However, while characteristics (i-iii) often tend to converge in one single NP (e.g., the NPs 'the duke' and 'this teapot' in sentences (2a) and (2.b), this is not always the case. As clarified in section 5.2, we are only concerned with the entailment of IS on the order of constituents/words in the MC sentence, thus, the positional criterion (i) is by default included in our account of topics; thus, the following subsections will look at the remaining two points (ii, iii) in greater detail.

## 5.3.2. Aboutness vs. frame

Two main approaches to the definition of topic/theme can be found in the literature. The first defines topic in terms of *aboutness*, following a long tradition (Strawson 1964, Kuno 1972, Dik 1989, Reinhart 1982, Gundel 1988, Lambrecht 1994, Nikolaeva 2001 among others). According to this view, the topic is what the sentence is about; the aboutness relation "holds between the referent of the topic expression and the proposition if the referent is assumed by the speaker to be a center of current interest about which the assertion is made" (Nikolaeva 2001:3). Moreover, this definition is connected with the cognitive status of the referent in the mind of the hearer, in that topics usually bear given information. However, as many scholars have observed, this definition opens to the possibility that the topic of a sentence occurs in non-canonical positions, such as after the main verb, for example 'an old

king' in the sentence *Once upon a time there was an old king who lived in a beautiful castle*, discussed by Lambrecht (1994:129). Thus, a direct connection between topichood, aboutness and first position in the sentence is not always possible.

The second approach defines topic more like a "scene-setting" expression, following an insight by Cheng (1967) and Barry (1975), and mostly known thanks to Chafe's (1976) influential paper, where topic is described as a "frame within which a sentence holds … limit[ing] the applicability of the main predication to a certain restricted domain" and thus setting "a spatial, temporal or individual framework within which the main predication holds". What is interesting is that Chafe explicitly provides this frame-setting definition of topic as a result of the observation of the so-called hanging topic constructions in MC. Paul (2015:209) crucially points out that this conception of the topic is neutral with respect to the type of information (old or new) conveyed by the topic.

Section 5.5.1 will explore in detail which definition (either aboutness or frame) better identifies and applies to topics in MC.

### 5.3.3. Information and cognitive status of topic referents

**Givenness, activation, accessibility**: as mentioned above, studies on IS often associate the sentence-initial position and topichood with *given information* (see the notion of CD above).[103] The notion of givenness has been defined in different ways,[104] such as in terms of *recoverability* (Halliday 1984), *activation* (Chafe 1976), *shared knowledge* (Clark and Haviland 1977) or *assumed familiarity* (Prince 1981), and in general of availability/accessibility. *Accessibility* often refers to whether a referent can be recognised by the hearer in that it is

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[103] This is particularly clear in the association between the positional notions of presupposition-assertion and the old-new dichotomy. For example, Lambrecht (1994) and Nikolaeva (2001) regard OLD or PRESUPPOSED INFORMATION as the sum of 'knowledge' lexico-grammatically evoked in a sentence which a speaker assumes to be available in the hearer's mind at the time of utterance, and NEW INFORMATION/ASSERTION as the information added to that knowledge by the utterance itself, which the hearer is expected to know or take for granted as a result of hearing the sentence uttered (Nikolaeva 2001:52).

[104] See Prince (1981) for a discussion of different definitions and criteria for givenness.

present in the consciousness at the time of the utterance. A gradient is often postulated: for example, Chafe (1987) distinguishes between 'active', semi-active' and 'inactive' concepts. Along a similar line, Prince (1981:237) draws a gradient of 'assumed familiarity' with 'evoked', 'inferable', and 'new' entities. This leads to the association between givenness, *identifiability* and *definiteness*, in that a given/accessible/activated referent can be identified (Chafe 1976:39) and can therefore be encoded as definite.

**Locatability:** following Tsao (1977) and Wu (1998), we maintain it is useful to introduce another aspect related to the cognitive status of a referent, namely *locatability* (as elaborated by Wu (1998) from Hawkins' (1978) location theory). Locatability is a cognitive status of a referent indicating "whether the referent may be recognised, or located in an identifiable set in the shared knowledge by the addresser and addressee about the real world or the discourse world, as assessed by the addresser" (Wu 1998:10). Accordingly, a referent is locatable as long as the set it belongs to is identifiable. For example, the NP "one of my books" is *indefinite*, and *unidentifiable* (the hearer would not be able to pick up which book of mine): however it is *locatable* (the hearer knows there is a set of books, i.e. 'my books' among which the referent can be located). This is similar to the *new-anchored* category (3.d) stipulated by Prince (1981:246), whereby a new entity (e.g., 'a friend' in (3)) can act as a topic when anchored to identifiable entities (underlined in (3)) on a higher rank in the assumed familiarity hierarchy:

3. a. A friend of yours bought a Toyota.　　　　　– Evoked (situationally)
   b. A friend of Steve's bought a Toyota.　　　　– Unused
   c. A friend of my neighbour's bought a Toyota.　– Inferable
   d. A friend of a guy I know bought a Toyota.　　– Brand new (anchored)
   e.? A friend of a guy's bought a Toyota.　　　　– Brand new

Along the same lines, Lambrecht (1994) says that the acceptability of sentences like (4.b) as compared to (4.a) is due to the fact that the NP 'a boy' in (4.b) is referentially anchored, and therefore more easily identifiable: (b) is acceptable because it can be located in 'my class' which is an identifiable set.

4. a. *A boy is tall.
   b. A boy in my class is tall.

Thus, *locatability* encompasses both identifiable referents in the sense of Chafe (1976), generic referents and referents designated by definite expressions, as well as *unidentifiable* (and thus indefinite) referents but *in an identifiable set*. *Locatability* is a concept indirectly proposed by Hawkins (1978) in his analysis of definiteness in English. According to Hawkins' location theory of definite reference, a definite article instructs the hearer to locate the referent in some shared sets of objects and refers to the totality of the objects of mass within this set which satisfy the referring expression. With regard to the set, it can be (i) an anaphoric set (mentioned in the previous discourse); (ii) an immediate situation set (existing or inferred to exist in the immediate situation); (iii) a larger situation set (in short, world knowledge):[105] moreover, Hawkins proposes a range of conditions, including:

(I) Set existence condition: the speaker and hearer must indeed share the set of objects that the definite referent is to be located in.

(II) Set identifiability condition: the hearer must be able to infer, either from previous discourse or from the situation of utterance, which shared set is actually intended by the speaker.

(III) Set membership condition: the referent must in fact exist in the shared set which has been inferred.

On the basis of the above observations, locatability can be defined as follows: "a referent is locatable as long as the set of which it is a member of is identifiable" (Wu 1998:10).

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[105] Hawkins (1978:163-4) gives the following explanation of what he means by *larger situation set*: "It is common knowledge that members of the same village can, in fact, talk about *the church*, *the pub*, or *the village green* using a first-mention the, meaning thereby the church and the pub etc. of their village, even when these objects are not visible […]. Similarly, people in the same town can start a conversation about *the town hall* or *the local councillors* of the town they are in. Members of the same nation who have never met before can talk about *the queen*, *the prime minister*, *the members of parliament*, *the navy*. On the basis of our common habitation of this earth I can start talking to anyone about *the sun, the moon, the planets* etc. the moon, the planets, etc. In all cases the speaker would be appealing to the hearer's knowledge of entities which exist in the non-immediate or larger situation of utterance. These larger situations can be of varying size, but they will all have as their focal, defining point the immediate situation of utterance in which the speech act is taking place. When people from, for example, the same country meet for the first time they will share a pool of knowledge of various entities existing in that country and they will be able to start talking about them without a preceding indefinite description."

According to Wu (1998:12), locatability has a wider scope (and encompasses) identifiability and thus, definiteness. To explain this, Wu proposes the following table (adapted from Wu 1998:26):

I. Table: Cognitive status and topic accessibility

| Referent | Cognitive status | | Topic accessibility[106] | Topic well-formedness |
|---|---|---|---|---|
| | Accessibility | Locatability | | |
| Evoked | Active | locatable | Yes | Most |
| Accessible | Semi-active | locatable | Yes | ↓ |
| Unused | Inactive | locatable | Yes | Least |
| Brand new | New - unanchored | Non-locatable | No | |

**Specificity**: the activation states described above define givenness in terms of the speaker's assumptions <u>on the hearer's knowledge</u>: in other words, givenness is defined with respect to the hearer. However, a further notion has proven to be relevant in our analysis, namely that of *specificity*. Very roughly, an indefinite noun phrase is specific if the speaker intends to refer to a particular referent that she has in mind, whereas it is non-specific if she has no such referent in mind. Thus, specificity is established with respect to the speaker. As Falco (2012) summarises, specificity is a semantic/pragmatic notion that distinguishes between different interpretations or uses of indefinite noun phrases like an article. One of the several types of specificity identified by von Heusinger (2011) is *epistemic specificity*, namely whether the speaker has some knowledge about the referent of the indefinite (5a.) or whether he is ignorant or indifferent (5.b) (examples from von Heusinger 2001, ex. 3):

5. a. A student in Syntax 1 cheated in the exam. I know him: It is Jim Miller.

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[106] Wu (1998:24-26) elaborates this table on Lambrecht (1986:109) Topic Accessibility Scale, integrating Lambrecht's insight that "a degree of pragmatic accessibility is a necessary condition for topic to function". In the table, Wu captures his idea that locatability is a binary property (an entity is either locatable or not), and thus determines the acceptability of the topic, whereas accessibility, as a gradient, contributes to their well-formedness, which is a gradient as well. We will discuss this with respect to MC later in our discussion.

b. A student in Syntax 1 cheated in the exam. But I do not know who it is.

Specificity is also related to topicality: in (6a.), the topical element can be understood as a specific expression, whereas in (6.b), it is not specific because non-topical (examples from von Heusinger 2001, ex. 5):

6.   a. Some ghosts live in the pantry; others live in the kitchen.
     b. There are some ghosts in this house.

To conclude, the abovementioned activation states differ with respect to (i) the degree of activation of the referent (active, semi-active, inactive), (ii) whether the referent belongs to an identifiable set, i.e. whether it is locatable; (iii) with respect to which interlocutor(s) it is defined (whether the entity is known/identifiable with respect both to the hearer and the speaker, or only with respect to the speaker). These differentiations will prove to be useful in our analysis of MC topics.

## 5.3.4. Comment

Most approaches do not regard comment as a primitive notion (Erteschik-Shir 2007:42): instead, comment is defined with respect to the topic (and rheme is defined with respect to the theme) as *the rest of the predication*. For example, Hockett (1958:201) defines comment as the complement to the topic in a predicative construction: "[t]he most general characterisation of predicative constructions is suggested by the terms 'topic' and 'comment' for their ICs; the speaker announces a topic and then says something about it.". He notes that while the most common case is where the topic-comment construction coincides with the subject-predicate construction, this is not always the case (see examples in (1) and (2) and related discussion). The comment is where the most salient part of the utterance lies, which is usually referred to as the focus.

A question arises with respect to multiple topics. In this respect we will refer to Hockett's (1958) analysis of Chinese-style topics: when a sentence displays multiple topics, the

comment to a specific topic is defined with respect to that topic, and an outer comment is in turn a topic-comment construction. This will be discussed in detail in section 5.5.4.

## 5.3.5. Focus

For Lambrecht (1994:207), focus is the "portion of an utterance whereby the presupposition and the assertion differ from each other".[107] According to him, the scope of focus can be either narrow (argument focus) or broad (predicate focus and sentence focus). In English, a sentence like (7) is ambiguous with respect to the focal scope, in that it can be the answer to three different questions (A'-A'''):

7. B. John drank the beer.
   A'. What did John drink?              Narrow (argument) focus
   A''. What did John do?                Broad (predicate) focus
   A'''. What happened?                  Broad (sentence) focus – thetic/all focus sentences

If B answers question A', the focus scope is 'the beer' (argument/narrow focus); if it answers A'' it is an instance of predicate focus (the focus scope is 'drank the beer'), whereas in the latter case (A''') the focus scopes over the entire sentence (sentence focus). The three types of focus are encoded differently in different languages: here is the cross-linguistic comparison Lambrecht (1994:223) proposes for English, (spoken) Italian, (spoken) French, and Japanese:

8. [context: What happened to your car?]                predicate-focus structure
   a. My car/It broke DOWN.
   b. (La mia macchina) si è ROTTA.

---

[107] Lambrecht's (1994, 2001) approach defines information structure concepts constructionally: thus, if *pragmatic presupposition* is the set of propositions lexico-grammatically evoked in a sentence that the speaker assumes the hearer already knows (or believes or is ready to believe), *pragmatic assertion* is the proposition expressed by a sentence that the speaker expects the hearer to know or believe or take for granted as a result of hearing the utterance. As a consequence, *focus* is defined as complementary to the presupposition, i.e. as that component of a pragmatically structured proposition whereby the pragmatic assertion differs from the presupposition. The focus component is by definition an unpredictable part of the proposition (Lambrecht 2001:474)

c. (Ma voiture) elle est en PANNE.

d. (Kuruma wa) KOSHOO-shi-ta.

9.  [context: I heard your motorcycle broke down?]        narrow-focus structure

a. My CAR broke down.

b. Si è rotta la mia MACCHINA.

b'. E' la mia MACCHINA che si è rotta [contrast/correction]

c. C'est ma VOITURE qui est en panne.

d. KURUMA ga koshoo-shi-ta.

10. [context: What happened?]        sentence-focus structure

a. My CAR broke down.

b. Mi si è rotta (ROTTA) la MACCHINA.

c. J'ai ma VOITURE qui est en PANNE.

d. KURUMA ga KOSHOO-shi-ta.

With the *predicate-focus* structure in (8), the subject of the sentence corresponds to the topic and the remainder is a comment on that topic; according to Lambrecht, this is the unmarked articulation of information structure in any language. (9) is a case of *narrow(argument)-focus*: strategies for expressing argument-focus vary across languages, including shifting the stress, as in English (9.a), verb-argument inversion, as in Italian (9.b), clefts, as in French (9.c) and Italian (9.b), and a different marker, as in Japanese (9.d). Finally, *sentence-focus* or *thetic constructions* (10) are regarded as having no presupposed material at all.[108] This construction includes existential and presentational sentences, and is encoded differently in the four different languages: stress, as in English (10.a) and Japanese (10.d); verb-subject inversion, as in Italian (10.b);[109] a verb-subject-verb construction in French (10.c), with the first verb as a presentational dummy verb *(ai)*. This allows the subject=focus constituent to occur both in

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[108] However, as Erteschik-Shir notes, in thetic statements do have a presupposition, i.e. time and space settings (the here and now), although this is not linguistically encoded. She refers to such presupposed material as *stage topics* (see Erteschik-Shir 2007:13).

[109] Crucially, as Lambrecht (1994:20) highlights, the possessor/experiencer/affectee (*mi*, lit. 'to me') is in the sentence-initial position in that the affectee as an event participant is presupposed.

focal position, i.e. preverbally (with respect to the dummy verb *ai*) and in subject position, i.e. preverbally (with respect to the main predicate).[110] In section 5.6 we will discuss how the different focuses are encoded in MC.

However, with respect to Lambrecht's account, we believe that at least two points need to be clarified. The first concerns argument focus, which is the term Lambrecht uses when focus coincides with a single constituent: we think the term argument focus is misleading, as the narrow focus might coincide with an adjunct or other type of phrases. Moreover, with respect to predicate focus, the versions Lambrecht proposes in sentences (8) are in fact also misleading: at least for the Italian and for the French version, an overt NP does not sound natural as an answer to the question in (8). What is crucial here is how old information=topic (*my car*) is encoded given the context of the question: in natural conversations, a weaker anaphoric form is used (i.e. a pronoun in English, a zero in Italian, French and Japanese) – and not a full NP. Thus, in our opinion the strings in parenthesis should not be included. This can be better appreciated in contrast to sentences in (10), where an overt NP is needed in all languages to encode the argument 'my car'. This point will prove to be important in the analysis of focus in MC as well, as will be discussed in section 5.6.

Moreover, as Lambrecht (1994) and Nikolaeva (2001:3) point out, we need to bear in mind that the focus can often not be identified with a particular sentence constituent: "it should always be borne in mind that, strictly speaking, focality is not a property of a referent as such but rather a relational category". This is well explained in the following example by Lambrecht (1994:58):

11. A: Why did you do that?
    B: I did it because you're my friend.

As Lambrecht observes, "even though both the proposition 'I did it' and the proposition 'you're my friend' may be considered pragmatically presupposed, speaker B's answer clearly is

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[110] See Lambrecht's (1994:22) discussion on this interesting point.

informative. The assertion it expresses consists in the establishment of a relation of causality between two previously unrelated presupposed propositions" (1994:58). Thus, as Dahlstrom (2003) remarks, it is important to <u>distinguish focus from the separate question of the given vs. new status of discourse entities</u>. In the question-answer pair "Who wants ice cream?" "I do!", "I" is necessarily given or active in the speech situation; it is also here functioning as focus, since the unpredictable and informative part of the utterance resides in the identification of 'I' with 'one who wants ice cream'. In such cases, as well as in cases like (11), Erteschik-Shir and Lappin's lie-test can help identify the focal information: if the proposition is challenged as not true, only the causal relation between the two presuppositions is negated (underlined), and not the two presupposed blocks (italics) – "<u>That's not true</u>, *you did it* <u>not</u> *because I am your friend*"-. This also helps clarifying that a piece of new information may result from the combination of expressions whose referents are entirely given by the preceding context, as *I, did,* and *that* in (11). "Failure to recognise this fact has often led to confusion in analyses of "new" and "old" information." (Lambrecht 1994:58-9). As Van Valin and LaPolla (1997:202) clarify, "what is informative about an assertion is not the information on the focus by itself, but the association of that information with the set of assumptions that constitute the pragmatic presupposition." With an answer like *John* to a question *Who hit me?* the focus *John* completes the open proposition 'x hit the addressee', resulting in the pragmatic assertion. However, crucially, this also entails that a further category needs to be postulated (i.e. the focus might be neither an argument/phrase, nor the predicate, nor the entire clause).

To sum up, we assume that focus (i) is a relational category, and not a constituent, although it might coincide with a constituent in the clause; (ii) its scope varies; and (iii) as a notion, it is independent of the given vs. new status of discourse referents.

## 5.4.    IS in Mandarin Chinese

Against the background of the notions and observations laid out in the first part of this chapter, we now turn our attention to MC. Since the second half of the nineteenth century, a large and growing body of literature has investigated the issue of topic and topic-comment structures in MC. The importance of the notion of topic has been extensively pointed out in

the literature, since Chao (1968: 69) statement that the semantic relation of subject and predicate in MC is that of topic and comment: "the grammatical meaning of subject and predicate is topic and comment rather than actor and action", and "[t]he subject is literally the subject matter to talk about, and the predicate is what the speaker comments on when a subject is presented" (Chao 168:69). The significance of topic in MC was further strengthened by Li and Thompson's (1976:457-489) proposal of a new typology of language based on the prominence of subjects versus topics: some Ls can be "more insightfully described by taking the concept of topic to be basic, while others […] [that of] subject." According to this typology, MC is a topic-prominent language, and MC sentences are better described as topic-comment (and not subject-predicate) structures, whereas English is regarded as a subject-prominent language. In the past decades, a considerable amount of literature has been published on topic-comment structures and related issues, and MC has been often defined as a pragmatic, discourse-oriented language. While the present analysis has largely benefited from the insights of the vast literature on this topic, it does not even attempt to give justice to all the studies in written form: this section will mention only major accounts and aspects that are relevant to the analysis.

## 5.5.    Topic in MC

Chao (1968:69) was one of the first to recognise that the subject in Chinese languages was different from that found in many European languages, as the semantic relation it had with the predicative part was comparatively rather loose: hence, he equated the notions of subject and predicate in MC actually with those of topic and comment. Inspired by this, Li and Thompson (1976) proposed a four-way typological classification on the basis of the relative importance of subject and topic: languages could be either subject-prominent or topic-prominent, equally topic- and subject- prominent or neither. Taking up this earlier research by Li and Thompson, Xu Liejiong and Liu Danqing (1998) proposed that topic is a fundamental highly grammaticalised syntactic constituent in a lot of Chinese languages, particularly in Shanghainese and other Wu dialects. In reviewing the typological parameters for discourse configurational languages, Xu (2002) maintains that MC belongs to a subtype of topic configurational languages where topic is given a special position in the syntactic

structure. A similar view is held by Her (1991), who holds that topic is a syntactic notion on par with subjects and objects (and belongs to the f-structure compoment of the grammar in the LFG framework). Other scholars, on the other hand, hold that topic is a notion belonging to another level of grammar, i.e. the level of discourse (Tsao 1990, Chu 1999, Li 2005) or to the information structural domain.

With respect to the definition of the notion of topic in MC, Li and Thompson (1976, 1981) and most subsequent studies (Tsao 1990, Chu 1999, Li 2005, Loar 2011), define topic in terms of *aboutness*, as "typically a noun phrase (or a verb phrase) that names what the sentence is about" (Li and Thompson 1981:87), as well as in terms of *frame*, as the "framework within which the main predication holds" (Li and Thompson 1981:85). Topic has been also associated with the first position in the sentence, and with a specific information status, i.e. *given*: "it always refers to something about which the speaker assumes the [hearer] has some knowledge" (Li and Thompson 1981:15). It has been distinguished from the subject in that (i) it may bear no selectional restrictions with the predicate (e.g., in the case of hanging topics and double nominatives, as discussed in section 2.3), and (ii) it extends its domain beyond the scope of the sentence, controlling coreference and creating the so-called topic-chains (Tsao 1987, Chu 1999, Li 2005). However, as pointed out in section 5.3.1, these properties (position, aboutness, frame, givenness) not always converge on the same constituent: as a consequence, such a broad definition results in descriptional inconsistences.

The present section is devoted to exploring the correlation between the above factors and first position in the sentence/the preverbal position in MC. Specifically, the analysis aims to determine (i) what definition in terms of semantic properties best captures all types of topics in MC – either in terms of frame or of aboutness; (ii) what restrictions in terms of information/cognitive status (givenness, activation state, recoverability, or locatability) all topics share; (iii) how topics are related to the constituent structure of the sentence and to word order in general—which is the focus of the present dissertation. In the analysis of the sentences, the following topichood tests have been employed (from Wu 1998:53):

- 啊 *a*, 呀 *ya*, 呢 *ne*,[111] 吧 *ba* particles, often called topic markers (TM), as well as a pause (comma or speech break) can be placed between the topic and its comment.
- 是不是 *shì bú shì* (be-not-be) exclusive question formula, which can be inserted between the topic and its comment turning it into a question (scoping over the comment, and therefore also called comment marker (von Prince 2012)
- Smith's (1991) topichood test: a sentence can be paraphrased using the expression 'speaking of X', … if X expresses the topic of the sentence (or part of it). Following Tremblay and Beck (2013), it is assumed that in MC, 说到 *shuōdào*… is used in the same manner as English 'speaking of'.

With regard to topics in MC the following hypotheses will be tested against the linguistic data:

1) Semantically, the topic is a frame-setter, i.e. it limits the applicability of the main predication to a certain restricted domain, setting "a spatial, temporal or individual framework within which the main predication holds" (Chafe 1976:50-1);
2) In terms of cognitive status, a topic must be locatable (not necessarily given, identifiable, presupposed, or specific, even though they are in most cases);
3) Positionally, all preverbal NPs are topics and no movement is involved. Moreover, topic-comment structures are often embedded, with most-outer topics scoping over inner topics.

## 5.5.1. Topic as a frame setter

In what follows, a semantic account of topic in terms of aboutness is shown to be descriptively adequate for a limited number of sentences, but to not hold in a significant number of other cases. Consider the following sentences:

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[111] The semantic effect of 呢 *ne* is to indicate that the topic in question is another member of the series partially enumerated

12. <u>这个小姐呢</u>，　　　　　非常抱歉。　　　　　　　　　　　(HO's CORPUS)

zhè ge xiǎojie ne　　　　fēicháng bàoqiàn

this CL lady TM　　　　very sorry

'This lady was very sorry.'

13. <u>那一场火</u>，　　　　　幸亏　　　　消防队　　　来得快。

nà yī chǎng huǒ　　　　xìngkuī　　　xiāofángduì　　lái de kuài

that one CL fire　　　　luckily　　　fire brigade　　come DE quickly

'That fire, luckily the fire brigade came quickly.'

14. a. <u>她</u>　身体　在七十 高龄，　　　还很好。　　　　(HO's CORPUS)

tā　　shēntǐ　zài qīshí gāolíng　hái hěn hǎo

3SG　body　at 70 advanced.age　still very good

'She is still enjoying good health at the advanced age of 70.'

b. <u>（在）七十 高龄</u>，　　　她　　　身体　还很好。

(zài）qīshí gāolíng　　　tā　　　shēntǐ　hái hěn hǎo

(at) 70 advanced.age　　　3SG　　body　still very good

'She is still enjoying good health at the advanced age of 70.'

15. <u>昨天</u>　　　雪　下得很紧。　　　　　(Li and Thompson 1981:94)

zuótiān　　　xuě　xià de hěn jǐn

yesterday　　snow　descend DE very incessant

'Yesterday it snowed incessantly.'

16. <u>中国的南方</u>，　　　　天气　　　就是　忽晴忽雨。　(HO's CORPUS)

Zhōngguó de nánfāng　　　tiānqì　　　jiùshì　hū qíng hū yǔ

China de south-part　　　weather　　just is　suddenly-clear-suddenly-rainy

'As for the weather in the southern part of China, it is very changeable.'

17. <u>按照神经上讲</u>，　　　神　他　定了　一个数目。　(HO's CORPUS)

ànzhào shénjīng shàng jiǎng　shén　tā　　dìng le yí ge shùmù

---

in the preceding discourse or implicitly understood (see Lü 2000[1980]:413, Paul 2015:196)

by Bible on say            God    3SG      set PFV one CL number

'According to the Bible, God set a number.'

18. 考中了以后呢，            就可以当官              (HO's CORPUS)

kǎozhòng le yǐhòu ne          jiù kěyǐ dāngguān

pass PFV after TM               then may become official

| 是 | [中国 | 古代 | 选举 | 干部 | 的] | 一种方法。 |
|---|---|---|---|---|---|---|
| shì | [Zhōngguó | gǔdài | xuǎnjǔ | gànbù | de] | yī zhǒng fāngfǎ |
| be | China | ancient.time | select | cadre | DE | one CL method |

'The passing of the examination enables one to become an official, which was a method of selecting civil servants in ancient China.'

The sentences above show how the sentence-initial, topical position can be occupied by any type of phrase (XP). It can be an NP – either a verbal argument such as in (12), but not necessarily: for example, (13) is a so-called *hanging topic*, whereas in (14) it is the first NP in a so-called *double nominative* construction.[112] It can also be a temporal expression (15), a spatial expression (16), or some other type of adjunct (17). Moreover, it can be a clause (18), whereby the subordination relation with the main clause is left unspecified as a temporal or conditional relation. Crucially, the string *kǎozhòng le yǐhòu* is a sort of nominalisation, literally meaning 'in the time span that starts when one passes the examination'. This type of nominalisation processes are rather common cross-linguistically with such clauses, which need to occur in topical position as they set a temporal/spatial/conditional frame for the following predication (see Haiman 1978 and discussion below in 5.5.4). Moreover, the whole string *kǎozhòng le yǐhòu ne jiù kěyǐ dāngguān* in turn becomes the topic of the following predication: the whole string can be analysed as the first argument of the verb *shì* 'be' of the equative predicate.

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[112] The relation between the first nominal and the rest of the sentence will be dealt in more depth in section 5.5.3.

According to Paul (2015) among others, while sentence-initial NPs in some of the sentences above may be accounted in terms of aboutness, e.g., in (12), (13), and (14), this criterion does not fit with temporal and spatial expressions, unless aboutness is interpreted as a very broad notion (i.e. 'talking about yesterday' in (15), or 'talking about what happens after you pass the exam' in (18)). The issue of the broadness of the notion of aboutness will be addressed in section (5.5.3); nonetheless, if a broader notion of aboutness is disregarded, this criterion evidently fails to account for all sentence-initial topics. On the contrary, all the above sentences, as well as the examples in the sections below, are well accounted for if topic is defined as a frame-setter, i.e. an element that limits the applicability of the following predication to the restricted domain it semantically evokes, be it "spatial, temporal or individual" (Chafe 1976). In particular, the *aboutness* definition in the strict sense[113] does in fact account for a subgroup of topics, i.e. those that set the "individual" frame within which the predication holds – such as in (12), (13), and (14). This can also be appreciated in the following utterance (from the ART VIDEO CORPUS):

19. [ 我    [那一个时间]]          钞子艺          跟我说
    wǒ      nà yī gè shíjiān        Chāo Zǐyì      gēn wǒ shuō
    1SG     that one CL time       Chao Ziyi      with 1SG say

    «我这一辈子              真的一辈子              永远
    wǒ zhè yī bèizǐ          zhēnde yī bèi zǐ yǒngyuǎn
    1SG this life            really one life          ever

    哪怕              我做任何行业              我        都        不做陶»。
    nǎ pà            wǒ zuò rènhé hángyè        wǒ      dōu      bú zuò táo
    NEG worry        1SG do whatever job        1SG      all       NEG do clay

---

[113] On the concept of aboutness with respect to this point, however, see the discussion at the end of the present session.

'That time I, Chao Ziyi told me: "In this life, really, never, no matter what job I do, I will never make pottery".

In (19) *wǒ* 'I' is clearly a topic, as it can be separated from the rest of the sentence by a topic marker, and passes other subjecthood tests. Moreove, in *wǒ nà yī gè shíjiān* 'I that time' it is perceived as an individual frame, in addition to a temporal frame, within which the event described in the following comment took place. This is also confirmed by the contrast created in the following part of the interview, where both Chao Ziyi and the speaker talk about themselves as pottery artists.

This explains why all sorts of constituents can appear as topics: as Ho (1993:39) observes, in MC "practically any utterance element that can serve as the universe of discourse can be placed in the sentence-initial position as the theme regardless of its source in the rest of the sentence." However, as frame-setters, all topics have a referential nature: as note above, even when the topic is a subordinate (or embedded) clause, i.e. temporal, concessive, etc., the form it displays tends to recall nominalised constituent or at least present an actualised action (i.e. stative, more noun-like). A sentence with a temporal topic has been already discussed above (18); here is a further example with a concessive clause from the PKU corpus:

20. 父亲　　[如果死了的话],　　儿子　　就会得到　　这些财产的全部
    fùqīn　　rúguǒ sǐ le de huà　　érzi　　jiù huì dédào　　zhè xiē cáichǎn de quánbù
    father　if die PFV de word　　child　then will get　　this CL.PL asset DE all.part
    'If the father dies, the child inherits all these assets.'

21. 在　　罗马帝国　　精神空虚　　　　的情况下，
    zài　　Luómǎ Dìguó　jīngshén kōngxū　　de qíngkuàng xià
    at　　Rome empire　spirit empty　　　DE condition under

    基督教　　　乘虚而入。
    jīdūjiào　　chéngxū'érrù
    Christianism　take.advantage.of.weakness
    'With the Roman Empire in such weak conditions, Christianism caught on easily.'

In (20), the concessive clause *rúguǒ sǐ le de huà* 'if (he) dies' takes the form of a nominal modifier followed by the de modification marker 的 *de* and the noun 话 *huà*, literally 'word': in other words, *rúguǒ sǐ le is* a noun modifier, just like an adjective or a relative clause, and this is demonstrated by the fact that it is linked to the noun it modifie, i.e. 话 *huà* 'word', by the nominal modification marker 的 *de*. Hence, it is 'the word/the case in which I die', which is a SN, similar to the English nominal concessive form 'in the case that ….'; crucially, the sole argument of the verb die, i.e. 'father' occurs in topic position, outside the concessive clause. Similar considerations can be made for (21), where the 的情况下 *de qíngkuàng xià*, literally 'under the circumstance of', is a nominalisation structure. This aspect will be further discussed in section 5.5.4.

Moreover, as Paul (2015:208) points out, such a definition of topic is easily applicable not only to the first element in the sentence, but also to all preverbal elements in multiple topics sentences (following Paul (2015), topics and comments are signaled with [square brackets]).

22. [这几年,　　　　　　 [批判会,　　　　[老汉　　　　[见多了]]]]。　(Lü 1986:334)
    zhè jǐ nián　　　　　　pīpànhuì　　　　lǎohàn　　　jiàn duō le
    this CL(some) year　　critic.meeting　old.man　see-much MOD
    'The last couple of years, criticism meetings, the old man has seen too many.'

23. a. [期末考试　　　　　[英语　[他　　[考了　　　个八十分]]]]　。(Paul 2015:234)
    qīmò kǎoshì　　　　　yīngyǔ　tā　　kǎo le　　　ge bāshí fēn
    term.end exam　　　　English 3SG　score PFV　CL 80 point
    'In the final exam, for English, he obtained eighty points.'

    b. [他　[期末考试　　　　[英语　　　　[考了　　　个八十分]]]]　。
    tā　　qīmò kǎoshì　　　Yīngyǔ　　　kǎo le　　　ge bāshí fēn
    3SG　term.end exam　　English　　　score PFV　CL 80 point
    'In the final exam, for English, he obtained eighty points.'

24. [半个小时的时间,　　　　　　[我　　[ 只能给你们讲个大概]]]。(Paul 2015:209)
    bàn ge xiǎoshí de shíjiān　　wǒ　　zhǐ néng gěi nǐmen jiǎng ge dàgài
    half CL hour DE time　　　　1SG　　only can give 2PL talk CL broad.outline
    'In half an hour time, I can only give you a broad outline.'

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According to Paul (2015), in the above sentences, not all preverbal NPs display an aboutness relation with the predicate: topics like adverbs – such as *zhè jǐ nián* in (22), or quantifier phrases—such as *bàn ge xiǎoshí de shíjiān* 'half an hour time' in (24), can hardly be claimed to indicate "what the sentence is about", unless aboutness is defined in a very broad sense. Moreover, she further remarks that an aboutness analysis would also imply that the sentence is about two or three different referents/elements. By contrast, all these topics can be easily accounted with a definition in terms of frame, as all preverbal elements provide either a temporal, spatial, individual or conditional frame of validity for the following predication.

To sum up, as shown by the examples above, Chafe's (1976: 50) characterisation of topic as that of setting "a spatial, temporal or individual framework within which the main predication holds" seems the most rational way to define topics in MC. Nonetheless, a definition in terms of frame-setting does not preclude (but rather includes) the validity and applicability of a definition in terms of *aboutness* (as an individual frame in the sense discussed above) for a sub-portion of topics, e.g., event participants, as discussed above. On the other hand, a definition of topic solely in terms of aboutness can be valid only if aboutness is intended as a broad notion, in which case, in our opinion, it is very close to the notion of frame: *about* as a preposition itself indicates a location, an area, a delimited portion of space in proximity to the entity it introduces. A number of scholars, including Tsao (1977), Wu (1989), Her (1991), and Paul (2015), agree that a definition of topics in terms of frame best suits MC. Previous to Chafe, Barry (1975), after Cheng (1967), also made the following claim: "the grammatical target slot topic has the function of specifying the relevant universe of discourse (frame of reference, domain of referentiality) of its comment; the range of things with respect to [...] which it makes sense to assert that comment" (Barry 1975:3). We think this is a very insightful and precise way to define the function topics play in MC.

### 5.5.2. Locatability as the cognitive status of topic referents

In what follows, we show that locatability, and not givenness, identifiability, definiteness, or specificity, is the overall restriction in terms of cognitive/information status for all topic referents, even though most topics display all the above features. We do so by examining counterexamples for givenness first, and then definiteness/identifiability, as necessary

conditions for topics. While such counterexamples have been already discussed by some scholars in the literature (e.g., Paul 2015), most of the analyses fail to provide a coherent alternative account for information status of topic referents. Paul (2015:196), for example, limits herself to claim that "topics can convey given and new information alike and are not associated with a particular informational value". However, we will see that this is not entirely correct.

*Givenness* - As mentioned in section 5.3.3, topics are usually related, and defined, with reference to the status of given information: this is the case of MC as well. Almost all definitions of topic in MC in the literature mention in some way the connection between topichood and givenness (e.g., Li and Thompson 1981:15). However, observations have been raised against this type of association in MC. Ho (1993:89) regards it as a tendency, rather than an absolute restriction. Paul (2015) strongly challenges the idea of topics as exclusively conveying old information. Below are some of the examples she lists to show that topic referents can be new. The first one concerns multiple topics, such as in (25):

25. 中国， 大城市 上海 交通 比较乱。 (Paul 2015:208)
Zhōngguó dà chéngshì Shànghǎi jiāotōng bǐjiào luàn
China big town Shanghai traffic rather chaotic
'In China, among the big towns, in Shanghai, the traffic is rather chaotic.'

Paul (2015:208) argues that, depending on the context, at least the two topics *dà chéngshì* 'big cities' and *Shànghǎi* carry new information. The second argument she makes is connected to shift topics:

26. A.你的博士论文 怎么样？ (Paul 2015:196)
nǐ de bóshì lùnwén zěnmeyàng
2SG DE dissertation how
'How is your thesis going?'

B. 我 还 要写 结论， 书目；
wǒ hái yào xiě jiélùn shūmù
1SG still want write conclusion bibliography

| 答辩呢 | 我 | 不知道 | 李教授 | 有没有空。 |
|---|---|---|---|---|
| dábiàn ne | wǒ | bú zhīdào | Lǐ jiàoshòu | yǒu méiyǒu kòng |
| defence TP | 1SG | NEG know | Li professor | have NEG have time |

'I still have to write the conclusion and the bibliography; concerning the defence, I don't know yet whether Professor Li is available.'

According to Paul (2015:197) the topic *dábiàn* 'defence' in (26.B), marked by the topic particle *ne* "provides a partial answer, hence new information, to the preceding request". She further notices that although "all these items have to do with the thesis (for otherwise the answer given to the request about the progress of the thesis would simply be nonsensical), they nevertheless provide new information, because they are chosen among the myriad of possible aspects of thesis writing such as introduction, preface, summary, award ceremony etc.". Paul further provides an example where extra-linguistic plausibility contributes to the always (partially) given nature of topics, imagining a customer entering a butcher shop and asking:

| 27. 隔壁的商店， | 他们 | 什么时候 | 开门？ (Paul 2015:217) |
|---|---|---|---|
| gébì de shāngdiàn | tāmen | shénme shíhou | kāi mén |
| neighbour DE shop | 3PL | what time | open door |

'The shop next door, when do they open?'

She notes that in (27) "the topic 'the store next door' cannot possibly be construed as 'partially expected' in the context of a butcher shop. Or if it can, then nothing can be new information in the strict sense, because everything can somehow be construed as 'given' due to the extra-linguistic constraint of contextual appropriateness". Another piece of evidence she provides concerns topics introduced by *zhìyú* 'as for', which carry new information, in that *zhìyú* introduces "different topic" (Lü 2000 [1980]: 684).

| 28. 你的问题， | 我 | 已经 | 给你 | 解决了 | (Liu 1977:205) |
|---|---|---|---|---|---|
| nǐ de wèntí | wǒ | yǐjing | gěi nǐ | jiějué le | |
| 2SG DE problem | 1SG | already | give 2SG | solve PFV | |

| 至于他的问题， | 我 | 没有办法 | 帮忙。 |
|---|---|---|---|
| zhìyú tā de wèntí | wǒ | méiyǒu bànfǎ | bāngmáng |

as.for 3SG DE problem   1SG     NEG method    assist help

'Your problem, I have already solved it for you; as for his problem, I have no idea how to help.'

She further stresses that the special semantics of the preposition *zhìyú* 'as for' is also mentioned in grammar manuals such as Lü Shuxiang (2000 [1980]:684), who emphasises that in this function *zhìyú* 'as for' cannot be replaced by the preposition *guānyú* 'concerning, about', which reflects the existence of topics with different informational values (new vs old information), such as *xióngmāo* in (29).

29. 熊　　是　　杂食动物，　　　　吃肉　　　吃果食　　　块根，

xióng　shì　záshí dòngwù　　　chī ròu　　chī guǒshí　　kuàigēn

bear　be　omnivorous animal　eat meat　eat fruit　root.tuber

至于/*关于 熊猫　　　　　则 是　完全素食的。　(Lü 2000[1980]:684)

zhìyú/*guānyú xióngmāo　　zé shì　wánquán sùshí de.

as for[114]/concerning panda　　then be completely vegetarian DE

'Bears are omnivorous animals, they eat meat, fruit and root tuber; as for panda bears, they are completely vegetarian.'

While Paul's observations are on the right track, we still believe that the topics she defines as new are not entirely new. For example, in (25) *dà chéngshì* 'big cities' and *Shànghǎi* are new in terms of newly introduced entities, which, however, are contextually/pragmatically inferable, thus not completely new. Along the same lines, in (26) the fact that the referent of *dábiàn* 'defence' is contextually/pragmatically predictable or inferable plays a role in the interpretation of the utterance by the hearer. Along the same lines, in our view the type of topic introduced by *zhìyú* both in (28) and 'bears' and 'pandas' in (29) is definitely a contrastive topic. This is also inherent to the semantics of *zhìyú*,[115] which means 'as far as X

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[114] Lü (2000[1980]:684) claims that 'concerning' is ungrammatical in the English translation, however the native speakers of English I have consulted think it is not completely unacceptable in this context, and should not be starred.

[115] From the 汉典 dictionary: 至于: (1)表示程度、范围 (indicates degree and scope, range, extent) e.g., 至于他,是一定会来的。('As for him, he will come for sure') (2) 表示另提一件事 (indicate another thing, a further element) 至于我个人的

(as opposed to Y) is concerned'. Moreover, it is clear from the meaning of the sentences that the two topics are contrasted – i.e. 'your problem' and 'my problem' in (28), and 'bears' and 'pandas' in (29). In short, while we do not believe that the status these topics in the above examples from Paul (2015) are entirely new (but rather evoked/contextually inferable), it is definitely the case that a coherent account of topics and topic accessibility restrictions in MC has to be able to accommodate the above cases as well. We will propose an account on this point later in our discussion (see section 5.5.3).

Other cases in the literature are discussed as examples where new referents can in fact occur as topics. This happens for example with answers to *wh-* questions like the following (from Tremblay and Beck 2012):

30. [A 走进客厅, 看到许多糖果包装纸洒在四周. 她问 B 以下问题: "A comes into the living room and sees many candy wrappers lying all around. She asks B the following question"]:

    A: 谁　　　吃 了　　　我的糖?
    shuí　　　chī le　　　wǒ de táng?
    who　　　eat PFV　　　1SG DE candy
    "Who ate my candy?"

    B: 张三　　　吃 了　　　你的糖.
    Zhāngsān　　　chī le　　　nǐ de táng
    Zhangsan　　　eat PFV　　　2SG DE candy
    "Zhangsan ate your candy"

In (30.B) the sentence-initial NP Zhangsan is in fact the argument focus of the question; thus, Tremblay and Beck (2012) regard this as new information – a similar point is made Paul (2015:206) with analogous wh- questions. However, we believe that this in fact is a case that resembles those discussed by Lambrecht (1994) whereby the NP in focus is not necessarily 'new information', as "it is not so much the focus noun itself which contributes the

意见,以后再提 (As far as I am concerned, we should talk about it later).

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new information to the discourse but the relationship between (the referent of) this noun and the entire proposition" (Lambrecht 1989:9). From the context, Zhangsan appears to be contextually known by both the speaker and the hearer, although it might not be co-textually activated yet. This seems one of the cases Lambrecht refers to when he talks about "confusion in analyses of 'new' and 'old' information" (1994:159, see also discussion in section 5.3.5). New "information is never conveyed by single words or expressions or even constituents, but by establishing relations between words as elements of propositions" (Lambrecht 1986:160, emphasis in original). Moreover, according to native speakers a more natural answer would be 张三吃了 *Zhāngsān chī le* 'Zhangsan eat PFV' or 张三吃的 *Zhāngsān chī de* 'Zhangsan eat DE (NOMINALISER)', which display a different IS, where the focal information is stressed on Zhangsan and the given (the candy) is left unspecified (but this is not the point in case here).

Nevertheless, we believe that the greatest challenge to the claim that all topics are given to the hearer are sentences where the entity introduced by the sentence-initial NP is not only new, but is also encoded as an indefinite, which we turn our attention to in the following section.

*Definiteness*: MC topics, and the preverbal position in general, are usually connected with definiteness. Chao (1968:76-77) states that "there is a very strong tendency for the subject to have a definite reference, and the object to have an indefinite reference", but it is "... not so much the subject or object function that goes with definite or indefinite reference as position in an earlier or later part of the sentence that makes the difference". In Li and Thompson (1975), an attempt is made to formalise this relationship between word order and the definiteness of the referents of a sentence in MC: "nouns preceding the verb tend to be definite, while those following the verb tend to be indefinite".[116] This property is appreciated

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116 Li and Thomspon themselves note that this tendency (which they refer to as tendency A) is an overgeneralisation; hence, they propose a set of refinements (1975:184), which they formulate as follows: (1) The noun in postverbal position will be interpreted as indefinite unless it is morphologically or inherently or non-anaphorically definite. (2) A sentence-initial noun must be interpreted as definite, and may not be interpreted as indefinite even if it is preceded by the numeral yi 'one'. (3) The noun following bei, although preverbal, is immune to Tendency A. 4: Nouns in prepositional phrases are immune to Tendency A.

through the following allosentences from Li and Thompson (1981:20), which have been extensively quoted in the literature:

31. a.来了　　　　人了。　　　　V>NP => NP [-definite]

　　　lái le　　　　rén le

　　　come PFV　　person MOD

　　　'Some person(s) has/have arrived.'

　　b. 人　来了。　　　　NP>V => NP [+definite]

　　　rén　lái le

　　　person　arrive MOD

　　　'The person(s) has/have come.'

According to Li and Thompson (1981:20) "the preverbal subject is interpreted as *definite* (known to both the speaker and the hearer), while the postverbal subject of [31.b] is interpreted as *indefinite* (not known to the hearer at least)".[117] Accordingly, Tsao (1977:84), proposes that "topic is always definite in the sense defined by Chafe (1976)". Moreover, most grammars and scholars claim that indefinite NPs cannot occur in the sentence initial position in MC.[118] Hole (2012:62) also describes this definite effect with bare NPs,[119] and notes that

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[117] A similar definite vs. non-definite interpretation of bare nouns according to their position with respect to the verb is observed in transitive clauses (from Li and Thompson 1981:21):

(i)　　　我　　　在买书。

　　　　wǒ　　　zài mǎi shū

　　　　1SG　　DUR buy book

'I'm buying a book.'

(ii)　　　书　　　我买了

　　　　shū　　　wǒ mǎi le

　　　　book　　1SG buy CHG

'I bought the book(s).'

[118] Li and Thompson (1981:168) in fact specify that there are three types of exceptions to this statement. One is exemplified by a sentence such as:

(i)　　　一个人　　　　　就够了。

"[i]ndefinite subjects are barred from non-thetic sentences, at least in written registers"; see (32a). According to him, the way to express a translational equivalent of 'A foreigner met Zhangsan is', as in (32b), with presentative *yǒu* 'exist' preceding the indefinite.

32. a.*一个外国人　　　　遇到了　　　　张三。

　　*yí ge wàiguórén　　　yùdào le　　　Zhāngsān.

　　*one CL foreigner　　　meet PFV　　　Zhangsan

---

　　yī gèrén　　　　　jiù gòu le

　　one CL person　　　then enough CHG

'One person will be enough.'

According to them, the numeral *yī* 'one' refers not to some particular indefinite (i.e., unknown) entity, but rather to the abstract quantity (i.e one) desired. The second type of exception is illustrated by a sentence such as:

(ii)　　一条腿　　　　断了。

　　　　yī tiáo tuǐ　　　duàn le

　　　　one CL leg　　　break CHG

'One of its legs is broken.'

According to them, here the underlined noun phrase is also not indefinite, but refers to something that is part of an entity already known by the hearer. It can therefore be considered a definite noun phrase. A similar example is:

(iii)　　一个农夫说，　　　　　"我想出　　　　一个办法了"。

　　　　yí ge nóngfū shuō　　　wǒ xiǎngchū　　　yī ge bànfǎ le

　　　　one CL peasant say　　　1SG think exit　　　one CL way CHG

'One of the peasants said, "I've thought of a way".'

The third type of exception occurs when yi- is interpreted as 'each', as in:

(iv)　　一个人　　　　吃一口。

　　　　yí gè rén　　　chī yì kǒu.

　　　　one CL person　　eat one mouth

Each person gets one mouthful.

While we agree with respect to the first and third type, the second explanation is rather obscure. We think that an account in terms of locatability, as given at the end of this section, is more viable, and is in fact motivated with respect to the translations given by Li and Thompson to sentence (iii), where they specify "One of the peasants" (i.e. a locatable member of an identifiable set, see discussion below); the same holds for sentence (ii), in that the leg is locatable in the set of (two) legs a person has.

[119] In MC, nouns are underspecified both with respect to gender and to number, and can occur in any position licensed by the verb (all verbal arguments can be realised with a bare noun): no functional morphemes are available to indicate their status as given or new.

b. 有 一个外国人 遇到了 张三。

yǒu     yí ge wàiguórén     yùdào le     Zhāngsān.

exist     one CL foreigner     meet PFV     Zhangsan

Intended meaning: 'A foreigner met Zhangsan.'

He further claims: "Unlike languages such as English, where subjects just tend to be definite, subject DPs in Chinese must be interpreted as definite." (Hole 2012:62). In this respect, Ho (1993) provides the following example, and observes: "The principle that the initial position should be occupied by a definite element is so strictly adhered to that if all the other means of definiteness indication are exhausted, Mandarin Chinese has a last resort, which is to prefix a dummy verb you (literally have or exist) to postpone the indefinite NP in the initial position." (from HO's CORPUS):

33. 有一棵分辩善和树的果阿,     那个果子     它不可以吃

    yǒu yì kē fēnbiàn shàn hé shù de guǒ a     nàge guǒzi     tā bù kěyǐ chī

    exist one CL tell good bad tree DE fruit TM     that CL fruit     3SG NEG can eat

    'There is a fruit that can tell good from evil, that fruit, you cannot eat it.

However, while this observation definitely holds as a general tendency, not all topics are encoded as definite, as the topic of the following sentence shows:

34. 英语习的一个学生啊,     发音     好极了。(Wu 1998:51)

    yīngyǔ xì de yī ge xuésheng a     fāyīn     hǎo jíle

    English dept. DE one CL student TP     pronunciation     good extremely

    'One of the students in the English Department, (her) pronunciation is extremely good.'

A similar NP-internal structure, i.e. modifier+*yī*+CL+NP, can be found in the topic of the following example from the PKU CORPUS (occurring at the beginning of the first paragraph of a new section):

35. 我国的一个基本国情,     是     地域辽阔,     (PKU CORPUS)

    wǒ guó de yí ge jīběn guóqíng     shì     dìyù liáokuò

    my country DE one CL basic condition     be     territory vast

    各地自然条件、     文化基础     和经济发展     很不平衡。

| gèdì zìrán tiáojiàn | wénhuà jīchǔ | hé jīngjì fāzhǎn | hěn bù pínghéng |
|---|---|---|---|
| each.place nature feature culture base | | and economic development | very not even |

'A basic condition of my country is that the territory is vast, each area very different natural, cultural and economic conditions.'

Both *yīngyǔ xì de yī ge xuésheng* 'one of the students in the English Department' in (34) and *wǒ guó de yí ge jīběn guóqíng* 'a basic condition of my country' in (35) are two NPs that are encoded as indefinites; however, they occur in sentence-initial position, are separated from the comment by a topic marker, and the following predication can be said to be valid with respect to the denotatum they refer to.

Other examples of preverbal newly introduced indefinite referents can be found in news articles, such as in the following case:

36. (context: article on the missionary George Leslie Mackay, where the title of the article specifies his name and that he comes from Canada)

| 145 年前的 3 月 9 日， | 一位 28 岁的加拿大青年 |
|---|---|
| 145 nián qián de 3 yuè 9 rì | yí wèi 28 suì de Jiānádà qīngnián |
| 145 year before DE 3 month 9 day | one CL 28 year.old DE Canada young |

| 登陆 | 台湾淡水码头。 |
|---|---|
| dēnglù | Táiwān Dànshuǐ mǎtóu |
| land | Taiwan Danshui dock |

'145 years ago on the 9th of March, a 28yo young Canadian landed in Taiwan Danshui dock.'
*Source*: news article http://www.epochtimes.com/gb/17/3/30/n8982051.htm
(last visited: 6/4/2017)

37. (context: statistic report and interview; the previous context specifies the scope of the interview)

| 一位 | 来自 | 西非塞拉利昂的 | 留学生， |
|---|---|---|---|
| yí wèi | láizì | Xīfēi Sāilāliáng de | liúxuéshēng |
| one CL | come.from | West.Africa Sierra Leone DE | foreign student |

| 在北京生活了 10 年， | | 下面是 | 有关他的报道： |
|---|---|---|---|
| zài Běijīng shēnghuó le shí nián | | xiàmiàn shì | yǒuguān tā de bàodào |
| in/stay Beijing live PFV 10 year | | below be | relate.to 3SG DE report |

'A student from Sierra Leone who has lived in Beijing for 10 years, his story is as follows:'
*Source*: PKU corpus

An interesting question that arises from examples like those above is whether this indefinite is a *specific* indefinite, namely whether from the speaker point of view the entity is identifiable or not (see von Heusinger (2001) and section 5.3.3). Sentences (36) and (37) seem to be the case where the speaker (writer) must know the student she is writing about. Although they are not very common, examples of this type can be found in corpora as well, for example this sentence from the PKU corpus:

38. (context: interview; the immediate context is a list of the questions asked to the interview participants)

| 一位教育家 | | 指出: | "成人社会 | 关心的 |
|---|---|---|---|---|
| yí wèi jiàoyùjiā | | zhǐchū | chéngrén shèhuì | guānxīn de |
| one CL education.expert | | note | adult society | care DE |

| 不是 | 儿童 | 能干什么… | | |
|---|---|---|---|---|
| bú shì | értóng | néng gān shénme | | |
| NEG be | child | can do what | | |

'An expert observes: "Adults in this society are not concerned with what the child can do…" '

Again, here the speaker (writer) knows who the expert is, in that she is reporting the expert's opinion, hence the referent is specific. Along the same lines, in (36) *yī wèi 28 suì de Jiānádà qīngnián* is also specific, in that the journalist knows who she is writing is about. Finally, getting back to example (30), the referent of the newly-introduced focal information Zhangsan is known to the speaker, hence specific. This is an interesting point, in that scholars like Ho (1993:89) claim that "the determination of information status has to depend on the listener", in line with the framework sketched by Lambrecht (1994) and following scholars, while specificity refers to the speaker and not the hearer.

We could then hypothesise that all topics are given, where givenness is defined with respect to at least the speaker: since an entity needs to be referential in order to be predicated upon, it needs to be referential at least for one of the interlocutors; in most cases, the referent is known/accessible/given for both the speaker and the hearer; in few cases, the referent is

specific, i.e. identifiable by the speaker. This would involve that specificity is considered a sufficient condition to define givenness (i.e., givenness is not identified with respect to the hearer, but with respect to the speaker). However, there exist some borderline examples, such as (39) below, where a sentence initial indefinite occurs as a topic, and the reading is ambiguous as to whether the speaker can identify the entity or not (i.e. it may or may not be specific):

39. 候机室里                一片混乱。          一位旅客      起来    维持秩序。

hòujīshì lǐ            yì piān hùnluàn        yí wèi lǚkè      qǐlai    wéichí zhìxù

wait.airport.room in     one CL disorder        one CL traveller get up   keep order

'The airport waiting room is in disorder. One waiting passenger gets up to keep order.'

According to the native speakers we have consulted, both a specific and a non-specific reading is possible. However, they note that the sentence above makes sense only in that the speaker wants to emphasise that the number of the passengers she is talking about is just one; another native speaker, notes that an appropriate context is needed (e.g., one passenger keeps order, another helps people). Moreover, taken out of context (namely if the first sentence is not given as prior context to the second), the situation is different.

40. *一位旅客     起来    维持秩序。

*yí wèi lǚkè      qǐlai    wéichí zhìxù

*one CL traveller get up   keep order

'One waiting passenger gets up to keep order.'

Native speakers confirmed that, with no context provided, the same sentence with an indefinite first NP is non grammatical. This is explained by the fact that, with no contextual cues, *yí wèi lǚkè* 'one passenger is a non-locatable NP. They were thus asked to consider the following contexts: 'I am at the airport, talking at the phone with a friend. He hears some noise and asks what is happening. I answer "*A passenger just stood up and started screaming*"'. When asked to translate the sentence, native speakers would prefer:

41. 有个游客           刚刚          起来   开始    喊叫。

yǒu gè yóu kè           gāng gāng        qǐ lái   kāishǐ   hǎn jiào

exist CL passenger      just just      get up start   scream

The comparison between (39) and (41), as well as the analysis of the sentences above (25 to 36) suggests that another aspect is involved here, namely *locatability* as defined in section 5.3.3: "a referent is locatable as long as the set of which it is a member of is identifiable" (Wu 1998:10). Let us examine again sentences below of the type of (34) and (35) with respect to locatability: both sentence-initial NPs *yīngyǔ xí de yī ge xuésheng* 'One of the students in the English Department' and *wǒ guó de yí ge jīběn guóqíng* 'a basic condition of my country' are indefinite NPs, their referent cannot be univocally identified, and, in context, they are analysable as shift topics. However, a numeral following an anchoring element (in this case *yīngyǔ xì,* 'English department', and *wǒ guó* 'my country', but it could be a relative clause as well), falls in the conceptual scope of the latter, and specifies the referent in a set identifiable by an anchor (Wu 1998:16). As Wu argues, what makes them eligible for the sentence initial, topical position is that, although the referents are unidentifiable, such NPs are locatable, i.e. they "are quantified members in an identifiable set […] and their referents are all locatable and eligible as topics" (Wu 1998:51), namely 'all the students in the English department, and 'the basic conditions that hold with respect to my country' respectively. This is confirmed by the fact that such NPs cannot occur after an existential *yǒu:*

42. *有      英语习         的      一个学生        …

   *yǒu    yīngyǔ xì       de      yí ge xuésheng

   *exist   English dept.   de      one cl student

   'One of the students in the English Department…'

As Wu (1998:15) states, "*you* asserts the existential status of otherwise non-locatable referents, [… but] when a referent is locatable, *you* is simply unnecessary". Getting back to sentence (39), what makes *yí wèi lǚkè* 'One waiting passenger' locatable, and therefore eligible for the topic position in the second clause in (39), is the initial topic of the first clause, i.e. *hòujīshì lǐ* 'in the airport waiting room' (what is implicit is that it refers to 'one passenger in the room'). According to Wu, without such co-textual (or contextual) cue such an order would not be possible, and *yǒu* would be needed to introduce the non-locatable referent postverbally, as follows (which was confirmed by native speakers, as discussed with reference to example 41):

43. (39)  有      一位旅客      …

         yǒu     yī wèi lǚkè

         exist    one CL passenger

    'A passenger ...'

Along the same lines, Paul's examples of informationally new topics are easily accounted for in terms of locatability: (25) the NPs 'big cities' and 'Shanghai' are locatable with respect to the most outer topic *Zhōngguó*, 'China'. In (26), *dábiàn* 'defense' is clearly locatable with respect to the speaker and its thesis (we will analyse this more in depth in section 5.5.3). In (27), even when the utterance is pronounced out of the blue and the referent of *gébì de shāngdiàn* 'the shop next door' cannot be analysed as given, it is still locatable with respect to the contextual location where the conversation occurs. With regard to sentence (38), the preceding context locates/contextualises the new referent within an identifiable set, i.e. the range of interviewed experts that was mentioned in the previous context. In sentence (36), the article's title as well as the sentence-initial time frame help the reader put the new referent in an identifiable context; however, sentence (36) is of a different type: while the temporal frame specified by the sentence-initial temporal expression (the date) is definitely a theme, the indefinite NP does not pass the *shuō dào* 'talking about' topichood test; we would argue that that NP is part of the focus and not a topic, i.e. if we take out the date, it is a thetic sentence; however, if we take out the date, an initial *yǒu* would be necessary, which is an argument in favour of the locatability hypothesis.

Therefore locatability, and not givenness, definiteness, identifiability, or specificity, is the necessary cognitive status for topic referents (again, although most topics present all these other features). According to Wu (1998), locatability has a wider scope than identifiability or definiteness, in that it includes all of them, and is capable of encompassing all instances of topic referents (including potentially new ones such as in (39)). As a consequence, **locatability is not only a characteristic of topic referents, but also a restriction that applies to all referents to be eligible to occur in topic position**. Moreover, locatability presupposes the existence of

the referent (in the real world or in the discourse).[120] Since the existential status of entities cannot be recognised unless they are located in some identifiable set, existence is inseparable from locatability. If someone says, 'the devil you are talking about does not exist at all', he only denies the existence of the devil in the real world, but acknowledges its existence in the discourse world. **Crucially, locatability is clearly strictly related to the notion of frame-setting,** which we have dealt with in the previous section: an entity that sets a frame of validity for the following predication, it must exist, either in the real world or in the discourse. As Gundel and Fretheim (2008) note:

> While there is still some controversy about the referential givenness properties of topics (…), it is generally agreed that topics must be at least referential. There must be an individuated entity for the utterance, sentence or proposition to be about, and in order for truth value to be assessed in relation to that entity.

This has been pointed out by Tsao (1990) as well, who argues that "it is no great mystery that topics should be locatable NPs. Since the truth condition of the following comments can be determined only with reference to the topic, the establishment of the referential identity of the topic is a prerequisite to the determination of the truth condition of the comments".

### 5.5.3. On the semantic relation between topic and comment: Qualia structure

Scholars investigating topic-comment structures in MC have often felt the need to deal with the issue of the semantic relationship between the topic and the following comment, and especially the NPs in the following comment. Many scholars have noticed a partitive relation between the topic and NPs in the predicate; this is very well accounted by the frame-setting nature and the whole-before-part principles discussed above. The necessity of capturing the semantic relations between NPs in the MC sentence was felt especially for the so-called

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[120] Strawson (1964) observes that only topics carry existential presuppositions (see also Keenan 1976 on subjects in English).

hanging topics, i.e. topics where the sentence-initial NP bears no selectional restrictions with the following predicate (hence, these topics are not syntactically restricted nor are they selected by the verb semantics/argument structure). The challenge is to capture the restrictions that are in place and assure that a topic is relevant/meaningful with respect to what follows. Here are but few examples.

44. 这个女孩子，　　眼睛　很大，　　　　　身体　也很苗条　　　是我理想的对象。
　　zhè gè nǚháizǐ　yǎnjīng hěn dà　　　shēntǐ　yě hěn miáotiáo shì wǒ lǐxiǎng de duìxiàng
　　this CL girl　　eyes　very big　　　body　also very slim　be 1SG DE ideal partner
　　'This girl, she's got beautiful eyes and a lean body, she is my ideal partner.'

45. 《我的婚礼　　　你　做主》。　　　　　　　　　(Book title)
　　wǒ de hūnlǐ　　　nǐ　zuòzhǔ
　　1SG de marriage　　2SG　make master
　　'As for my marriage, you take care of it.'

46. 鱼，　我　只喜欢　　鳟鱼。　　　　　　(Her 1991:11)
　　yú　wǒ　zhī xǐhuān　zūnyú
　　fish　1SG　only like　trout
　　'When it comes to fish, I only like trout.'

The nature of the relationship between the topic and what follows has also raised theory-internal issues for example with respect to whether topics are subcategorisable within the framework of LFG (see Her 1991 for discussion, specifically on verbs like *zuòzhǔ* 'master'). Abbiati (1990), for example, specifies that in order to occur as a topic, an entity must bear a relation of *relevance* within the following predication (logical criterion). Similarly, loar (2011:390) quoting Lambrecht, also claims that 'the relation of 'topic of' expresses the pragmatic relation of 'aboutness' […, i.e.] the relation that holds between a referent and a proposition expresed by the comment in a particular discourse context', She adds, that a topic expression can be "loosely associated with the sentence that it may bear no semantic or grammatical relation to the predicate at all". Here is one of her examples:

47. [这样重的　　伤势]，
　　zhèyàng zhòng  de shāngshì

| this grave | DE wound | | | | |
| 只有 | 真正的军人 | 才 | 这样 | 从容 | 镇定。 |
| zh y u | zhēnzhèng de jūnrén | cái | zhèyàng | cóngróng | zhèndìng |
| only there.be | true DE soldier | just | this.way | calm | composed |

In the example above, the topic 'such a grave condition of the wound' is neither a verbal argument of the monovalent predicates *cóngróng* 'calm' and *zhèndìng* 'composed', nor an adjunct. It is a conditional frame-setter, i.e. expresses the condition within which what follows holds true.

While it is definitely the case that there is a relation of *relevance* and *aboutness*, and this relation can be syntactically (and semantically) loose, some linguists have criticised relevance as too broad a constraint. A similar critique, although applied to a different domain, was made with regard to given vs. inferable vs. new cognitive status of topic NPs. Recall from section 5.5.2, for example, that Paul (2015) challenged the idea that topics in (25-29) are given, although contextually inferable, in that "everything can somehow be construed as 'given' due to the extra-linguistic constraint of contextual appropriateness". Let us re-examine one of the sentences under discussion, namely sentence (26), reported here in (48) for the reader's convenience:

48. A. 你的博士论文　　怎么样？　　　　　(Paul 2015:196)
nǐ de bóshì lùnwén　　zěnmeyàng
2SG DE dissertation　　how
'How is your thesis going?'

49. B. 我　　还　　要写　　　　结论，　　　书目；
wǒ　　hái　　yào xiě　　jiélùn　　　shūmù
1SG　　still　　want write　　conclusion　　bibliography
答辩呢　　　我　　不知道　　李教授　　　有没有空。
dábiàn ne　　wǒ　　bú zhīdào　　Lǐ jiàoshòu　　yǒu méi yǒu kòng
defence TP　　1SG　　NEG know　　Li professor　　have NEG have time
'I still have to write the conclusion and the bibliography; concerning the defence, I don't know yet whether Professor Li is available (will have the time to read it).'

According to Paul (2015:197) although "all these items [i.e. *jiélùn, shūmù, dàbiàn*, i.e. 'conclusion', 'bibliography', 'defence', respectively] have to do with the thesis (for otherwise the answer given to the request about the progress of the thesis would simply be nonsensical), they nevertheless provide new information, because they are chosen among the myriad of possible aspects of thesis writing such as introduction, preface, summary, award ceremony etc.". Hence, she concludes that such an account of the relationship between the two nominals 'thesis' and 'defence' is too loose and vague, and that the second nominal is informationally new.

With respect to the issues raised above, we would like to propose an account that describes and encompasses the relationship between sentence-initial nominals examined above, and that have been captured in different terMs Specifically, the notions of 'whole-part' (partitivity), 'set-member', 'relevance'/'aboutness' and 'contextual inference/activation' can be semantically captured through the notion of *qualia structure* developed by Pustejovsky (1991, 1998, inter alia). [121] The qualia structure is a system of relations that characterises the semantics of a lexical item, defining the essential attributes of objects, events, and relations, as well as the modes of explanation associated with that lexical item, "capturing the contextual determination of an expression's meaning" (Pustejovsky 1998:289). The fillers in qualia structure function as prototypical predicates and relations associated with this word. The elements that make up a qualia structure include familiar notions such as container, space, surface, figure, or artifact. In other words, two lexical items (in our case two sentence-initial NPs/topics) occur together by virtue of the semantic relations that links them, which can be captured through their qualia structure. The qualia structure specifies four essential aspects of a lexical item's meaning (Pustejovsky 1998:294):

   **Qualia Theory** (Pustejovsky 1991:426–7)

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[121] The notion of *qualia structure* has proved to effectively account for a variety of forms of composition and interpretation including argument selection, enriched composition, and type coercion (Jackendoff 1997:61) For example, it effectively accounts for semantic composition phenomena and sentences such as "Mary finished her sandwich" (*sandwich* as an entity entails the action of eating, which is what the verb *finished* refers to), and has been already applied to the semantic relations between the modifier and the head noun in Chinese (Liu and Chan 2012).

**a. Constitutive Role**: the relation between an object and its constituents, or proper parts

1. Material

2. Weight

3. Parts and component elements


**b. Formal Role**: that which distinguishes the object within a larger domain

1. Orientation

2. Magnitude

3. Shape

4. Dimensionality

5. Colour

6. Position


**c. Telic Role**: purpose and function of the object

1. Purpose that an agent has in performing an act

2. Built-in function or aim that specifies certain activities


**d. Agentive Role**: factors involved in the origin or "bringing about" of an object

1. Creator

2. Artefact

3. Natural kind

4. Causal chain


This theory can be useful in formalising the overt relationship of 'relevance' between certain hanging topics and the following comments, overcoming the formally non-adequate looseness of previous accounts in terms of aboutness and relevance provided within the functional framework. For example, the semantic relation of the nominals in (44) 'that girl', 'eyes' and 'body', as well as all instances of double-nominatives bearing a whole-part or body-part relationship, are easily accountable with respect to (a), the Constitutive Role of the noun,

and specifically (a.4), namely parts and component elements.[122] A similar account can be given for sentence (46), as 'tuna' is a component element with reference to its hypernym 'fish'. On the other hand, in (45) 'marriage' is linked to the second nominal 'you' (agent of the predicate *zuòzhǔ*) with respect to (d.2): 'I' has an agentive role, in that it creates/brings about the event 'marriage'. Finally, Loar's sentence in (47), can be accounted with (d.4), i.e. the causal chain involved in the fact that a wound creates pain and the pain needs to be endured.

Moreover, the qualia structure theory can help formalise the nature of the inference connected with the topics under discussion for sentences (25-29): clearly, in (25) 'big cities' and 'Shanghai' are inferable because part of the qualia structure (a.3, parts and components) of the outermost topic 'China'. In (26)[48], the qualia structure of the noun 'thesis', (again its parts and components, (a.3) easily explain the fact that nouns appearing later in the sentence, including the shift topic *dábiàn* 'defence', are inferable, and thus not entirely new. Along the same lines, 'the shop next door' in (27) is related to the contextual location of the dialogue with respect to (b.6), i.e. position; in (28) and (29), the formal role, which distinguishes the object within a larger domain, relates the two contrasted NPs ('your problem', 'my problem', and 'bears' and 'pandas' respectively).

To sum up, an account in terms of the Qualia Structure of the NPs in a sentence can help capture semantic relations between different entities, as well as restrictions on those relations, in a more systematic manner as compared to other accounts in terms of aboutness and relevance.

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[122] An interesting perspective on the whole-part relationship of body parts and the grammar of inalienability is provided by Chappell (1996): specifically, she proposes that the double-nominative construction of the type in (44) expresses inalienable relation in terms of the personal domain (Chappell 1996:465).

## 5.5.4. Topic-comment structures as embedded structures

When observing instances of multiple topics, such as those in (22-24), a number of linguists have observed that topic comment structures are embedded (Tsao 1990, Hockett 1958, Her 1991, among others). Her (1991:6) observes that 'topics collectively function as the interpretative framework of the main predication'. He provides the following example:

50. 这一棵树，　　花，　　颜色　　很好。

    zhè yí kē shù　　huā　　yánsè　　hěn hǎo

    this CL tree　　flower　colour　very nice

    'The flowers of this tree have very nice colours.'

Crucially, all the preverbal NPs in (50) pass the topichood tests listed in section 5.5. Moreover, no English translation is available that helps render the idea that each topic provides a limitation for the following predication. To illustrate his point, Her (1991) also provides the following schema (adapted from Her 1991:6):

51.

| 这一棵树，<br>zhè yí kē shù<br>PRIMARY FRAME | 花，<br>huā<br>2ND FRAME | 颜色<br>yánsè<br>3RD FRAME | 很好。<br>hěn hǎo<br>COMMENT |
|---|---|---|---|

Moreover, Her (1991:11) interestingly observes that "virtually all well-formed Chinese sentences without a topic can have a topic attached to the sentence-initial position". This means that, as long as the topic is meaningful and respects the prerequisites (locatability, relevance[123] to the following predication) it can be added to the structure of the sentence. This is even clearer if one considers the following claim by Hockett (1958:202):

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[123] Relevance is again intended with respeto to the qualia structure of the nominals involved, cf section 5.5.3.

*If we delete the subject from a simple English sentence, say We | visit them often or I | found a nickel, the lone predicate cannot function as a sentence of the favorite type, but only as a subjectless sentence (a command Visit them often!, completive Found a nickel). If we delete the topic from a simple MC sentence that has one, the comment still can stand, in most cases, as a sentence of the favorite type.*

This holds true for (50) as well: of course, all preverbal NPs need to satisfy the locatability requirement, so they are interpreted as referential/given/definite, or at least locatable with respect to an adequate context, and hence translated as '<u>the</u> flower(s)', '<u>this/these</u> colour(s)' respectively:

> b. 花， 颜色 很好。
> huā yánsè hěn hǎo
> flower colour very nice
> 'The flowers have very nice colours.'
> c.颜色 很好。
> yánsè hěn hǎo
> colour very nice
> 'These colours are very nice.'

The recursive nature of topic-comment structures was also observed by Tsao (1977) and Paul (2015:234). Paul uses square brackets to signal this structural organisation of the sentence, for example, in sentence (23), which we report below.

> 52. a. [期末考试 [英语 [他 [考了 个八十分]]] 。 (Paul 2015:234)
> [qīmò kǎoshì [yīngyǔ [tā [kǎo le ge bāshí fēn]]]
> [term.end exam [English [3SG [score PFV CL 80 point]]]
> 'In the final exam, for English, he obtained eighty points.'

In (23), as well as in other multiple topic sentences, the outermost topic(s) can be omitted without compromising the acceptability of the predication. Moreover, a topic marker can be added after any of the topics, as well as the *shì bu shì* polarity question expression, which prove their topichood.

b. [期末考试　　　　　[英语 呢　　　[他　　[考了　　　　个八十分]]] 。

qīmò kǎoshì　　　　yīngyǔ ne　　tā　　kǎo le　　　　ge bāshí fēn

term.end exam　　　English TM　　3SG　　score PFV　　CL 80 point

'In the final exam, as for English, he obtained eighty points.'


c. [期末考试啊　　　[英语　[他　　是不是　　[考了　　　个八十分]]] 。

qīmò kǎoshì a　　　yīngyǔ　tā　　shì bu shì　　kǎo le　　　ge bāshí fēn

term.end exam TM　　English 3SG　　be NEG be　　score PFV　　CL 80 point

'In the final exam, for English, he obtained eighty points, right?'


d. [期末考试　　　　[英语　是不是　　　[他　[考了　　　个八十分]]] 。

qīmò kǎoshì　　　　yīngyǔ shì bu shì　　tā　　kǎo le　　　ge bāshí fēn

　term.end exam　　English be NEG be　　3SG　　score PFV　　CL 80 point

'In the final exam, for English, was it him who obtained eighty points?'


A possible representation can be as follows:


53. T-C[T-C[T-C[…]]]


Ho (1993:28-29) notes that the recursivity property also holds on a discourse level, in that the speaker tends "to present a whole proposition, complete with its own theme-rheme division as the theme of another proposition complete with its own theme-rheme[124] division as the theme of another proposition", adding that this is frequently the case in his spoken texts corpus:


54. [[上帝　　　　[造动物]]，　　[他　　[并没有　　　给动物　　　这种能力。]]]

Shàngdì　　　zào dòngwù　tā　　bìng méiyǒu　gěi dòngwù　zhè zhǒng nénglì

God　　　　create animal　3SG　　at.all NEG　give animal　this CL(type) power

[TOPIC　　　　　COMMENT] [TOPIC　　　　　　COMMENT　　　　　　　　]

　　　TOPIC　　　　　　　　　　　COMMENT

---

[124] Ho (1993) refers to topic-comment as theme-rheme.

a. 'God created animals, but he did not give them such power.'

b. 'When God created animals, he did not give them such power.'

Notice that two translations are possible for (54): in the first translation (a), the two clauses are juxtaposed through a coordination structure; however, a second interpretation is also possible (b), where the first clause *Shàngdì zào dòngwù* becomes the background information, and creates a (temporal/logical) frame for the interpretation of the second clause, which is expressed in the second translation through the temporal subordination relation between the two clauses.[125]

Chao (1968:120) also remarked that all concessive, causal, conditional, temporal and spatial clauses are in the last resort subjects (i.e. topics).[126] The examples he provided include:

55. [[我] [死了]]　　　　　[[丧事]　　[从简]]

　　wǒ　sǐ le　　　　　　sāngshì　　cóngjiǎn

　　1SG　die PFV　　　　funeral　　simple

　　[TOPIC COMMENT]　　[TOPIC　　　COMMENT]

　　　　TOPIC　　　　　　　COMMENT

'If/when I die, the funeral should be simple.'

The clause *wǒ sǐle* 'if/when I die', clearly provides the temporal/conditional frame for which the following comment *sāngshì cóngjiǎn* 'funeral is simple' holds (the funeral may be not simple if someone else dies). This explains the well-recognised fact that, unlike in English, in MC most times the type of (subordinate) relation between two clauses is left unspecified, and the clauses are just juxtaposed, with no overt connector.

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[125] This is typical in Papuan languages of Trans New Guinea, see Haiman (1978), Reesink (1987) and de Vries (1993).

[126] Chao equates topics and subjects.

This parallelism is also noted by Haiman (1978), who observes a systematic association between conditionals, topics and topic definitions in terms of frame[127] (Chafe 1976). In his words:

> Our definitions of conditionals are primarily the work of logicians. Our definitions of topics, however, are the work of linguists. To a surprising degree, these definitions converge: the most satisfactory definitions of ordinary language conditionals (…) approximate the entirely independent definitions of topics that have emerged in recent linguistic publications (see in particular Chafe 1976). **Conditionals, like topics, are givens which constitute the frame of reference with respect to which the main clause is either true (if a proposition), or felicitous (if not).** (Haiman 1978:564, our emphasis)

Crucially, Haiman (1978:572) notes that cross-linguistically conditional clauses are very frequently left-dislocated constituents (they always are in MC) just like topics, and that this happens for the same reason: "like contrastive topics, [conditional clauses] are contrastive because they are selected, on the basis of the same principle of relevance, from a list of possible conditions." This is evident in MC in a sentence like the following, where the conditional sentence is not marked but with a pause (same marking a topic would have), and is interpreted as such:

56. 你不去,　　　我去。　　　　　　　　(PKU CORPUS)
　　 nǐ bú qù,　　 wǒ qù
　　 2SG neg go　 1SG go
　　 'If you don't go, I'll go.'

Ho (1993:53) also notes a further aspect of the recursive nature of topics: compared to English, MC native speakers tend to specify the domain/entity for which the predication

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[127] In his paper "Conditionals are topics" Haiman shows how conditional clauses and topics are marked identically in a number of unrelated languages, although they are not usually considered to be related categories. He remarks how, "if formal similarity reflects similarity in meaning, they must indeed be related. A review of analyses of conditionals (in the philosophical literature) and of topics (primarily in linguistics) reveals that, in fact, their definitions are very similar. Moreover, it is possible to motivate revisions to these definitions by which they become virtually identical." (1978:564)

holds in a more specific manner, and often through embedded topic-comment sentences, which are frequent in his corpus. Compare the English and Mandarin translations of the two following sentences: in the Mandarin version, two NPs occur preverbally, the first referring to the event participant, the second specifying the (literal or figurative) spatial domain of the predicate, i.e. *xīnli,* 'in (his) heart' and *shēnshang* 'on (his) body'.

57. He is very happy.

| [他 | [心里 | [很高兴]]]。 | T - C [T - C] |
|---|---|---|---|
| tā | xīnli | hěn gāoxìng | |
| 3SG | heart in | very happy | |

58. Xuxian got almost completely wet.

| [许仙 | [身上呢 | [已经　快被淋湿透了]]]。 | T - C [T - C] |
|---|---|---|---|
| Xǔ Xiān | shēnshang ne | yǐjing　kuài bèi línshī tòule | |
| Xuxian body on TM | already | almost BEI wet through MOD | |

The recursive nature of topics has also been observed by Tao (1996) as well in his corpus analysis (see section 5.2): he notes that the speaker tends to "describe to the hearer the intended referent from different angles, usually in a step by step manner" with the aim of referent anchoring (Tao 1996:91-92). Again, this is done through a series of topics with embedded scopes. Here is an example he provides, where six topics can be counted (all marked either by a pause or by a topic marker):

| 59. 写信的 | 时候， | TOPIC 1 |
|---|---|---|
| xiě xìn de | shíhòu | |
| write letter DE | time | |

'At the time (my husband) wrote the letter,

| 四百分 | 以上的， | TOPIC 2 |
|---|---|---|
| sì bǎi fēn | yǐshàng de | |
| 400 point | above DE | |

those with four hundred points,

| 就是　考生啊， | | TOPIC 3 |
|---|---|---|
| jiùshi　kǎoshēng a, | | |
| indeed　examinee TM | | |

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those college applicants,

| 达到 | 四百分 | 以上的， | | TOPIC 4 |
|------|--------|----------|---|---------|
| dádào | sì bai fēn | yǐshàng de | | |
| reach | 400 points | above DE | | |

those who have archived four hundred points and above,

| 报 | 职业 | 高中的， | | TOPIC 5 |
|----|------|----------|---|---------|
| bào | zhíyè | gāozhōng de | | |
| apply | vocation | high school DE | | |

those who have applied to a vocational school,

| 还有 | 好多 | | TOPIC 6 |
|------|------|---|---------|
| hái yǒu | hǎoduō | | |
| still have/exist | very many | | |

there are still a lot of them,

| 就没有… | 根本 | 就 | 投档 | 不出去 | COMMENT |
|---------|------|-----|------|--------|---------|
| jiù méiyǒu | gēnběn | jiù | tóudàng | bù chūqu | |
| still NEG have | basic | somehow | accept | NEG out | |

(they) haven't, they are basically not accepted by anybody.

Crucially, all the above topics are in partitive relation to each other, the inner topics identifying a smaller portion of referents with respect to the outer ones, whereby the inner topic falls within the scope of its adjacent outer topic. Wu (1998:49) expresses this nature of MC topics very clearly:

> More appropriately, topic in Chinese sets up a conceptual framework, which, apart from space, time and individuals, also includes abstract ideas. An important feature of the frame-setting function of topics is **the recursive nature of the topical framework among preverbal constituents**. Any concept expressed by a preverbal constituent to the right of another preverbal constituents falls in the conceptual scope of this constituent, thus operating according to what I call a conceptual sequence principle (CSP). [my emphasis]

Wu also draws an extremely significant parallelism with two conceptual principles proposed by Tai (1985, 1989), i.e. the principles of Temporal Scope, that requires a constituent with smaller temporal range follow one with larger temporal range, and that of Whole Before Part, requiring that constituents representing a global scope (general or whole) should precede

those that represent a smaller scope (particular or specific) (Ho 1993, p. 165); (examples from the PKU corpus):

60. [2002 年      [11 月      [25 日      [下午      [4 点]]]]]。

| 2002 nián | 11 yuè | 25 rì | xiàwǔ | 4 diǎn |
|-----------|--------|-------|-------|--------|
| 2003 year | 11 month | 25 day | afternoon | 4 o'clock |

'At 4.00 p.m. on 25 November 2003.'

61. [中国   [北京   [朝阳区    [金台西路 [ 2 号    [人民日报    [国际部…]]]]]]]

| Zhōngguó Běijīng Cháoyáng qū Jīntái xī lù | 2 hào | Rénmín Rìbào | guójì bù |
|---|---|---|---|
| China     Beijing   Cy dist.     Jintai west st. | 2 n. | People's Daily | Int. News Dept. |

'(send to): International News Department of People's Daily, 2 Jintai West street, Chaoyang District, Beijing (China).'

Crucially, any permutation of the above order results in ungrammaticality. Apparently, the scopal hierarchy holds for locative and temporal elements, but also for inherent temporal properties of predicating elements. According to Loar (2011:50), it is by virtue of this principle that adverbials do convey the temporal and aspectual reference of verbs as present or past, in that the verb is interpreted as having a temporal reference within that of the previous elements:

62. A. [孩子们      [现在      [在花园里      [玩儿]]] 。

| háizimen | xiànzài | zài huāyuán lǐ | wánr |
|----------|---------|----------------|------|
| children | now at | garden-in | play |

'The children are playing in the garden.'

b.*孩子们     玩儿      现在      在花园里。

| * háizimen | wánr | xiànzài | zài huāyuán lǐ |
|------------|------|---------|----------------|
| *children | play | now | at garden-in |

'The children are playing in the garden.'

This scopal property also explains why in MC time and space adverbials cannot occur after the verb (62.b): again, the action denoted by the verb is temporally and spatially located within the spatial and temporal coordinates denoted by the adverbials, and not the other way around. Hence, space and time adverbials must occur as topics (preverbally) and ordered with

respect to their scope. Loar (2011) further applies the notion of scope to explain the order of other adverbials (we refer the reader to Loar 2011 for discussion).

Finally, this also explains a further absolute word order restriction, namely why temporal, spatial and quantitative expressions that measure the action/state denoted by the verb cannot occur preverbally: such expressions evidently fail to provide a frame within which the predication hold, in that their existence is not independent of the predication (the measurement of the action/state is not independent of the action/state itself):

63. 小明　　　　已经　　　　　　学习了　　　　两个小时。
　　Xiǎomíng　　yǐjing　　　　　xuéxí le　　　liǎng ge xiǎoshí
　　Xiaoming　　already　　　　　study pfv　　2 cl hour
　　'Xiaoming has already studied for two hours.'

　　*小明　　　　两个小时　　　　已经　　　　　学习了 。
　　* Xiǎomíng　liǎng ge xiǎoshí　yǐjing　　　　xuéxí le
　　* Xiaoming　2 CL hour　　　　already　　　　study PFV

This restriction holds for all expressions that 'measure' the action in MC, which are in the grammars called complements: resultative complement, durative complement, frequency complement, and extent complement. They are referred to as complements by virtue of the fact that they necessarily must occur postverbally, but this fails to provide an adequate explanation as to why temporal expressions like 'now' in (62) and 'for two hours' in (63) must necessarily occur in the preverbal and postverbal position respectively (unlike many other languages). On the other hand, **a description of topics as preverbal NPs that must be locatable and must provide a spatial, temporal, conditional or individual frame of validity/identification/location for the following predication clearly explains such word order restrictions**.

To conclude, topics in MC are defined in terms of frame-setters; the frame can either be a temporal, spatial, conditional, or individual frame; in the latter case it can be accounted in terms of *aboutness*; the *aboutness* relation can be further accounted for in formal terms using Pustejovsky (1991, 1998, inter alia) qualia structure, intended as the range of essential

attributes of objects, events, and relations, as well as the modes of explanation associated with a lexical item. In terms of the cognitive status of topic referents, a topic is always at least locatable, i.e. at least identifiable in a set; it is most times specific (i.e. identifiable by the speaker), and very often identifiable/accessible/activated/given with respect to the hearer as well. Hence, it is in most cases definite. With respect to the syntactic properties of topics, preverbal NPs in general can be analysed as topics; however, this last part is subject to constraints, which we will deal with in the following section.

## 5.6. Focus and comment in MC

As discussed in section 3.3, we assume that focus is a relational notion, defined as the "portion of an utterance whereby the presupposition and the assertion differ from each other"; moreover, this portion need not necessarily coincide with a constituent. This section will be concerned with focus and comment from a positional perspective. Given a topic, its comment is the complementary part of the sentence (by definition); this section is then devoted to looking at focus, and in particular, to determining to what extent focus is connected to word order.

Some scholars have advanced the hypothesis that focus is linked to a position in the sentence, namely the postverbal position. For example, LaPolla (1990, 1993) argues that "the representations of topical or non-focal referents occur preverbally and the representations of focal or non-topical referents occur post-verbally" (1990:96-7). Along the same lines, Xu Liejiong (2004) associates the post verbal position with the focus position: "the sentence-final position […] is the default position for informational focus in Chinese" (Xu 2004:277). Scholars like Ho (1993) and Loar (2011) have developed a similar account by means of an organisational principle often referred to as the Principle of End Focus. In Ho's (1993:99) words, as a "primary carrier of semantic information in the sentence, the focus, in the unmarked case, is most concentrated and most prominent and it usually falls on the last open-class lexical item unless the latter is a pronominal form, a generic noun, proper noun or a deictic element, since these items are inherently given and thus incapable of being contextually newsworthy". A similar claim is made by Loar (2011:464), who claims that MC

"has a strong preference for End Focus" (2011:464) and analyses a number of structures (especially postverbal complements) in light of their focal structure. Moreover, Ho (1993) also identifies a principle of Unitary Focus: "in an information unit, there can only be one focus, no matter how many focus-indicating devices are used. In other words, when there is more than one focus-signalling device in an utterance, they should coincide, not conflict." This is also coherent with two important constraint on information structure, namely Du Bois' *One New Argument Constraint*, "avoid more than one new core argument" (Du Bois 1987:829) and Chafe's *One New Concept at a Time Constraint*, "a particular intonation unit is able to express only one 'brand new' concept, or only one concept activated from the inactive state, all others being concepts that were already active or semi-active at point X" (Chafe 1985:18; 1987:32). Crucially, Chafe explicitly states that the 'concept' may not only consist of a referent/entity, but also a state/activity with respect to that entity; in other words, a concept may coincide both with a constituent, a predication or an entire clause. This is a very interesting point, in that it accounts for all types of focus individuated by Lambrecht (1994), including narrow (one constituent) focus, predicate focus (which includes the verb/predicative element), and sentence focus (see section 3.3). Finally, some scholars maintain that in MC there is in fact only one postverbal constituent. This is suggested (and convincingly demonstrated) by Sybesma's (1999) work:

> I will argue for the following claim: […] All elements that occur postverbally in Mandarin constitute a single constituent, which is the complement of the verb. (Sybesma 1999:5)

These three observations ('principle of end focus, 'one new element at a time' and 'postverbal material as a sole constituent'), taken together, suggest that the default, unmarked focal position coincides with the sole constituent in the postverbal position, or if the verb is focal as well, that the focus is the concept expressed by the cluster of elements towards the end of the utterance; otherwise, the whole sentence might be focal. With regard to the above observations, we could hypothesise that the focal position in MC is always towards the end of the sentence: the sentence might or might not include non-focal information, which must occur before the focal part.

On the other hand, scholars like Hole (2012) and Paul (2015) point out that since MC is a *wh*-in-situ language, it is also a focus-in-situ language; consequently, whenever the *wh*-

element is preverbal, the narrow focus is preverbal as well, whereas postverbal material is part of the presupposition; this can be seen in question-answer pairs such as those that follow:

64. 谁吃了      日本料理？      <u>阿丘</u>      吃了      日本料理。
     shéi chī le      Rìběn liàolǐ      Āqiū      chī le      Rìběn liàolǐ
     who eat PFV      Japan food      Akiu      eat PFV      Japan food
     'Who ate Japanese food?'      '<u>Akiu</u> ate Japanese food.'

In what follows, we will examine the arguments made by these scholars and evaluate them against our linguistic data, both from the literature and from corpora. Specifically, this section is aimed at determining:

- How are Lambrecht's three types of focus (narrow, predicate, sentence focus) encoded in MC?
- Is the principle of end focus a tenable claim? To what extent?
- Is word order solely determined by IS?

## 5.6.1. Narrow, predicate and sentence focus patterns

With respect to Lambrecht's (1994) taxonomy of focus (briefly illustrated in section 5.3.5), here are two accounts of focus in MC, the first by Hole (2012), the second by Wu (1998); both use a similar approach, namely question-answer pairs that help identify the focus and its scope. Hole (2012:46) analysis is as follows (focus is underlined):

65. a.      NARROW FOCUS (A) [128]
     <u>谁</u>      吃了    日本料理？      <u>阿丘</u>    吃了    日本料理。
     shéi      chī le    Rìběn liàolǐ?      Āqiū    chī le    Rìběn liàolǐ.
     who      eat PFV    Japan food      Akiu    eat PFV    Japan food

---

[128] In order to specify what arguments are focal, Hole uses Dixon's S, A and O labels (Dixon 1994, 2010): in the following discussion we will use the same labels.

'Who ate Japanese food?'         'Akiu ate Japanese food.'


b.    NARROW FOCUS (O)

阿丘　吃了　什么?                           阿丘　吃了　　　　日本料理。

Āqiū　chī le　shénme?                       Āqiū　chī le　　　Rìběn liàolǐ

Akiu　eat PFV what                          Akiu　eat PFV　　Japan food

'What did Akiu eat?'                        'Akiu ate Japanese food.'


c.    NARROW FOCUS (SPATIAL ADJUNCT)

阿丘　在哪里 吃了日本料理?                    阿丘　在东京　　　吃了　日本料理。

Āqiū　zài nǎlǐ chī le Rìběn liàolǐ?          Āqiū　zài Dōngjīng　chī le　Rìběn liàolǐ.

Akiu　at where eat PFV Japan food            Akiu　at Tokyo　　eat PFV Japan food

'Where did Akiu eat Japanese food?'         'Akiu ate Japanese food in Tokyo.'


d.    BROAD FOCUS (PREDICATE)

阿丘　做了什么?                              阿丘　吃了　　日本料理。

Āqiū　zuò/gàn le shénme?                     Āqiū　chī le　Rìběn liàolǐ.

Akiu　do/do PFV what                         Akiu　eat PFV Japan food

'What did Akiu do?'                         'He ate Japanese food.' [129]


e.    BROAD FOCUS (SENTENCE)/THETIC JUDGEMENT

发生了　　　什么事?                           阿丘　吃了　　日本料理。

fāshēng le　　shénme shì?                     Āqiū　chī le　Rìběn liàolǐ

happen PFV　　what affair                     Akiu　eat PFV Japan food

'What happened?'                            'Akiu ate Japanese food.'


Again, Hole (2012) claims that "Mandarin Chinese is a *wh*-in-situ language, and also a focus-in-situ language […]. Both the *wh*-word in a constituent question and the focus in a neutral sentential answer to that question surface in the canonical position of the respective

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[129] The translation differs from that of Hole, who uses the present continuous: we think past tense better conveys the completive aspect of the MC predicate.

syntactic function". Note that, in Hole (2012) examples, the relative order of constituents in all types of focus does not vary.[130] This implies that, in sentence (a), focus (A argument) is preverbal, whereas the presupposition includes the verb and the postverbal O argument. This would go against an end-focus hypothesis: when the focal element is preverbal (first verbal argument in a transitive sentence or temporal/spatial adverb), then the focus occurs preverbally. Along a similar line, Wu (1998:62) examines the equivalents in MC of the English examples in (7). In his analysis of focus, he integrates prosodic traits as well (prosodic stress does play a role in IS (focus) encoding, although secondary to other means, i.e. word order – see Pan 2015). The scope of the focus is underlined, while sentential stress is signalled with capital letters:

66. a. A. Who drank the beer?              Narrow FOCUS (A)

    B. <u>李四</u>喝      啤酒了。

    LǏSÌ     hē     píjiǔ le

    Lisi     drink  beer le


    b. A. What did Lisi drink?              Narrow focus (P)

    B. 李四 喝      <u>啤酒</u>了。

    Lǐsì     hē     PÍJIǓ le

    Lisi     drink  beer le


    c. A. What did Lisi do?                 Broad focus (predicate)

    B. 李四 <u>喝      啤酒了</u>。

    Lǐsì     hē     PÍJIǓ le

    Lisi     drink  beer le


    d. A. What happened?                    Broad focus (sentence) – thetic judgement

    B. <u>李四 喝      啤酒了</u>。

    LǏSÌ     hē     píjiǔ le

---

[130] Even in example (c), where the wh- question is related to a spatial adjunct, the order of words is the same (and would be the same if such adjunct were to appear in the other sentences).

Lisi    drink   beer le

Wu (1998) distinguishes unmarked (i.e. postverbal) focus, such as the P argument in (b), from the marked, stressed (in that preverbal) focus in (a), i.e. the A argument. He observes that "while the grammatical structure of a sentence remains the same in different contexts, its information structure varies with the context, and with the cognitive and informational status of the referents designated by the linguistic forms in the sentence". According to him, in (b) and (c) *Lǐsì* is the topic and *hē píjiǔ* le is the comment, while the focus varies (the latter including the verb as well). With regard to the position of focus in MC sentences, Wu (1998:62) concludes that the unmarked case is the final position in the sentence, highlighting that thetic judgments (d) have the same word order pattern and structure (form) of predicate-focus sentences (c). However, the analyses proposed by Hole (2012) and Wu (1998) do not account for two important aspects: (i) how such meanings are expressed in natural linguistic contexts, and (ii) how focus encoding changes with mono-transitive predicatas (the sentences examined above are transitive sentences). The next section re-examines these accounts in this light.

## 5.6.2. Focus in context: native speakers' evaluation and corpus data

As mentioned earlier, question-answer pairs help identify the focus of a sentence in that they provide a conversational context – in this sense the genre they look at is conversation/turn taking.[131] In this genre, two points need to be considered: (i) how old information is encoded in MC and how this affects narrow focus encoding patterns; (ii) corpus and statistical data on conversation and analysis of argument realisations and word order patterns.

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[131] Hence, we need to bear in mind that for other genres, this type of context does not apply; specifically, MC discourse is typically structured around a discourse topic; anaphoric means (including zero anaphora, pronouns, synonyms, hypernyms and hyponyms) help create textual cohesion and coherence. Due to space constraints, we cannot cover this topic here: for further discussion, we refer to the work done by Li W. (2005) on topic chains, Huang Y. (1994, 2000) on anaphora in conversation, Givón on topic continuity and discourse topics (1983), LaPolla (1990) on discourse structure in MC, Tao L. on anaphora in MC (1996).

(i) in MC, old (recently activated/mentioned) material is mostly encoded through weak anaphoric forms, including pronouns and zero anaphora. While the choice of the anaphoric form is quite complex[132] to account for (see work done by Li and Thompson 1979, Tao L. 1994, Huang Y. 1994, 2000), it is indeed true that the use of zero anaphora is pervasive in discourse. As Li and Thompson state (1979:320):

> ... zero pronouns can occur in any grammatical slot on the basis of coreferentiality with an antecedent that itself may be in any grammatical slot, at some distance, or not even present. The fundamental strategy in the interpretation of zero-pronouns in Chinese discourse, then, is inference on the basis of pragmatic information provided by the discourse and our knowledge of the world.

This is observed by Hole (2012:63) as well: "Mandarin Chinese is a highly discourse-oriented pro-drop language (as opposed to syntax-oriented languages) which allows for a lot of zero anaphora." Moreover, with respect to reference tracking typology (see Foley and Van Valin 1984) MC is an inference based referent tracking system, where tracking of a referent is a matter of pragmatics, contextual inference and world knowledge. In languages that mainly or exclusively use this type, the 'most distinctive characteristic is the occurrence of extensive and grammatically unrestrained zero anaphora' (Van Valin 1987:520). Thus, sentences like those in (64) would in fact be uttered as follows:

67. a.    NARROW FOCUS (A)

| 谁 | 吃了 | **日本**？ | 阿丘 | (吃了 / 的)。 |
|---|---|---|---|---|
| shéi | chī le | Rìběn liàolǐ? | Āqiū | (chī le/de) |
| who | eat PFV | Japan food | Akiu | (eat PFV/DE) |

---

[132] Li and Thompson (1979) observe that speakers vary in their decisions where to use a pronoun (as opposed to ellipsis) in a given written discourse with anaphoric slots to be filled in. The authors hypothesise that the use of zero anaphora correlates with conjoinability of a given sentence with the preceding discourse. If no topic switch occurs and if no change from foregrounded to backgrounded parts of a narrative (or vice versa) occurs in a sentence, then the sentence counts as highly conjoinable, and zero anaphora has a higher probability of occurrence than in sentences that are conjoinable to a lesser degree. In addition to these generalisations, Li and Thompson (1979:333–334) identify two environments where zero anaphora does not occur: (i) after prepositions/converbs (there is no preposition stranding in Chinese) and (ii) with so-called pivotal verbs (such as 请 *qǐng* 'invite', 命令 *mìnglìng* 'order', etc).

'Who ate Japanese food?'        'Akiu did.'


b.      NARROW FOCUS (O)

| 阿丘 | 吃了 | 什么? | (他) | (吃了) | 日本料理。 |
|---|---|---|---|---|---|
| Āqiū | chī le | shénme? | (tā) | (chī le) | Rìběn liàolǐ |
| Akiu | eat PFV | what | (3SG) | (eat PFV) | Japan food |

'What did Akiu eat?'        'He ate Japanese food.'


d.      NARROW FOCUS (SPATIAL ADJUNCT)

| 阿丘 | 在哪里 吃了 日本料理? | 在东京 | (吃)。 |
|---|---|---|---|
| Āqiū | zài nǎlǐ chī le Rìběn liàolǐ? | zài Dōngjīng | (chī) |
| Akiu | at where eat PFV Japan food | at Tokyo | (eat) |

'Where did Akiu eat Japanese food?'      'In Tokyo.'


c.      BROAD FOCUS (PREDICATE)

| 阿丘 | 做了什么? | (他) | 吃了 | 日本料理。 |
|---|---|---|---|---|
| Āqiū | zuò/gàn le shénme? | tā | chī le | Rìběn liàolǐ. |
| Akiu | do/do PFV what | 3SG | eat PFV | Japan food |

'What did Akiu do?'        'He ate Japanese food.'


e.      BROAD FOCUS (SENTENCE)/THETIC JUDGEMENT

| 发生了 | 什么事? | 阿丘 | 吃了 | 日本料理。 |
|---|---|---|---|---|
| fāshēng le | shénme shì? | Āqiū | chī le | Rìběn liàolǐ |
| happen PFV | what affair | Akiu | eat PFV | Japan food |

'What happened?'        'Akiu ate Japanese food.'


Surveyed native speakers agree that a natural answer comprises only the focal constituent or the focal constituent with the verb. In fact, this is a point Hole (2012:47) also makes: "in actual conversation, shorter ways of answering constituent questions than those given in (64) are the norm". Crucially, while this observation seems to have secondary relevance, it implies that, in fact, the forms that encode different focal types vary; a representation can be as follows:


a.      NARROW FOCUS (A)                    A            (V)

| | | | | | |
|---|---|---|---|---|---|
| b. | NARROW FOCUS (O) | | | (V) | O |
| c. | NARROW FOCUS (ADJUNCT) | | ADJ | (V) | |
| d. | BROAD FOCUS (PREDICATE) | (A) | | V | O |
| e. | BROAD FOCUS (SENTENCE) | A | | V | O |

This is confirmed by the native speakers we have consulted. Along the same lines, with respect to Wu's (1998) examples in (66), the natural answer to (a) would be *Lǐsì (hē le)*, lit. 'Lisi (drink le)', and to (b) would be *(hē) PÍJIǓ (le),* lit. 'drink beer le'. In short, given constituents are often omitted.

(ii) Statistical analysis of corpus data that comprise MC conversations provide very interesting insights, which are not captured by Wu (1998) and Hole (2012) analysis. Let us examine some statistical data in Tao's (1996) analysis corpus of spontaneous conversations. [133] Following Du Bois (1987), Tao highlights patterns of PAS (Preferred Argument Structure) in the corpus; three groups of verb clauses can be identified, ranked by frequency in descending order as follows:

  i) Low transitivity and intransitive (both above 30% each)
  ii) Stative and copular (both above 10% each)
  iii) Highly transitive (below 10%)

Clauses discussed by Hole and Wu belong to the latter group, i.e. highly transitive clauses, which count for less that 10% of the total. An account of focus needs to consider the other four types as well, which are statistically more relevant. Moreover, it needs to consider

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[133] Tao (1996) conducted a corpus analysis of twelve ordinary conversations among native speakers of Mandarin in terms of information units, examining the discourse patterns associated with each unit, the preferred clause structure in conversational discourse, and elliptical clauses. The analysis provides interesting statistical data on the patterns and their distribution, and sheds a new light on organisational features of MC discourse based on corpus data.

omitted arguments as well, as they encode given information, as discussed above. In this regard, Tao (1996:115) includes interesting statistical data regarding verbal units in terms of their argument form: it shows how many of those clauses have two overt arguments (A-A), how many have one overt and one zero argument (A-Z),how many have no overt argument at all (Z-Z); data include both high and low transitivity clauses:

I.    Argument forms in transitive verbal IUs (data drawn and adapted from Tao 1996: 115)

|         | HIGH TRANSITIVITY | LOW TRANSITIVITY | TOTAL |
|---------|-------------------|------------------|-------|
| A-A     | 27%               | 17%              | 19%   |
| A-Z     | 58%               | 62%              | 61%   |
| Z-Z     | 15%               | 21%              | 20%   |

It is noteworthy that only 19% of transitive clauses have two overtly expressed arguments. The majority of transitive clauses have only one overt argument (61%). Overall, transitive clauses with at least one zero-marking argument make up about 81% of the clauses in the data. These facts suggest that the clause form with two lexical arguments, in which one of the so-called basic word orders (either SVO or SOV) is supposed to be found, is not the typically realised clause form in spoken discourse. This also suggests that, in most cases, focal information coincides with the overt argument, as the given/topical argument is encoded as a zero.

Given this tendency for transitive clauses to not express their full array of arguments, one might expect to find more non-transitive clauses to have no overt argument at all. Since non-transitives (excluding copulars) have only one argument slot to be filled, they either have to have one overt argument or one zero argument. Interestingly, what Tao (1996:117) finds and reports in the following table is, for non-transitives is that, instead of reducing the number of arguments to zero (Z), the majority (60%) they overtly (Ov) specify their sole argument; this is more so for statives:

II.     Distribution of argument forms in non-transitives (adapted from Tao 1996:117)

|  | INTRANSITIVE | STATIVE | TOTAL |
|---|---|---|---|
| OVERT ARGUMENT | 60% | 61% | 60% |
| ZERO ARGUMENT | 40% | 39% | 40% |

Tao observes that the majority of argument positions in non-transitives are filled with either a lexical NP or a pronoun, and fewer clauses involve zero marking forms:

> While transitives tend to reduce the number of arguments that are fully specified, the majority of non-transitives sustain the lexical coding of the one argument associated with them. The two opposing tendencies can be unified by one form, that is, one lexical argument attached to a verb, or, X V (with no particular order implied). We might say that this is the preferred form for the realisation of argument structure in conversational Mandarin, which supports the findings proposed by Du Bois (1987), Lambrecht (1987) and Ochs (1988), in a different way. (Tao 1996:116-117)

He then turns to examining ellipsis with respect to the three core argument roles: S (sole argument of an intransitive), and A – O (first and second argoment of a transitive). As for the S role is more oftned overtly encoded. What is interesting is statistical data for A and O roles, as "it is yet unclear which role, A or O, is more likely to be in the elliptical form". The table below (Tao 1996:118) shows the distribution of overt vs. covert A and O arguments, based on only those cases where one overt argument is specified:

III.     Overt argument forms on A and O roles (from Tao 1996: 118)

|  | HIGH TRANSITIVITY | LOW TRANSITIVITY | TOTAL |
|---|---|---|---|
| A | 39% | 62% | 58% |
| O | 61% | 38% | 42% |

Overall, the A role has a better chance to be specified with an overt argument (full nouns or pronouns) than the O role (58% vs. 42%). However, there is a huge difference between high and low transitivity clauses: In highly transitive clauses, it is the O role which has a better chance to receive overt coding, whereas in the low transitives, it is the A role.

In sum, Tao's (1996) analysis of MC conversation patterns reveals the following: The X V form, where X is a nominal, is overwhelmingly found in conversation corpora; in other words, conversation units display only one overt argument, regardless the verb valence: "the X V combination constitutes the most favored form of the clause in Mandarin conversation regardless of verb transitivity. For transitive verb clauses, only one argument tends to be expressed; this argument, however, varies across transitivity types: it is the A argument in low transitivity clauses and the O argument in highly transitivity clauses, hence,

> AV          in low transitivity clauses;
> VO or OV     in highly transitive clauses

For intransitives, on the other hand, the single argument is preserved;

> SV or VS in intransitive clauses." (Tao 1996:178-179)

In light of the above observations and data, we now turn our attention to each focus type, discussing example from the corpora, differentiating between trasitive and non-transitive clauses.

## 5.6.3. Thetic (sentence-focus) sentences

MC encodes thetic (sentence-focus) sentences in distinct ways, depending on the valency of the verb and the compatibility with verb-noun inversion. We first examine intransitive sentences: the first type of thetic focus is encoded as the Italian encoding, i.e. the focal sole argument occurs after the verb. This happens with unaccusative verbs of existence and (dis-)appearance, like *fāshēng* 'happen' and *lái* 'come', or with metereological verbs like *xià (yǔ)* 'fall rain', which allow their sole arguments to surface postverbally (pattern: VS):

68. 发生了　　　什么事？　　　　　　V S
    fāshēng le　　shénme shì
    happen PFV　　what thing
    'What happened?'

69. 来了　　　　人了。　　　　　　　V S
    lái le　　　　rén le
    come PFV　　　person CHG
    'Some person(s) has/have arrived.'

70. 下　　雨了。　　　　　　　　　　V S
    xià　　yǔ le
    fall　　rain CHG
    'It's started raining.'

Wu (1998:66) observes that thetic (sentence-focus) sentences are comments on the situation. This captures the insight by Erteschik-Shir (2007:13) on *stage topics*, i.e. that the time and space settings are presupposed, although not linguistically encoded. Moreover, this is in line with the observations by Hockett (1958) and Her (1991) that a topic can be added to a thetic sentence specifying the time and space frame the sentence refers to (see section 5.5.4). This can be appreciated in the following example, where the temporal frame *jīntiān* occurs as a topic in front of the thetic statement *xià yǔ* 'fall rain' (underlined) in (70):

71. [今天] 下雨了，　　　　所以　生意　　　　不好　　　　　(PKU corpus)
    jīntiān　xià yǔ le　　　suǒyǐ　shēngyì　　　bù hǎo

today   fall rain CHG   thus   business       not good

'Today it's raining, so business is not great.'

As discussed in the previous sections, the topic need not necessarily be time/space frame, and this is evident in the following sentence, with a sentence-initial individual frame setting topic (Wangmian) followed by a thetic statement *sǐ le fùqin* 'died father', with the structure V (intransitive)-S(sole intransitive argument):

72. [王冕]        死了          父亲。       T C[VS]

    Wángmiǎn    sǐ le        fùqin

    Wangmian    die PFV      father

    'Wangmian, his FATHER died on him.'

This sentence is a highly quoted and debated example. In our view, the structure is an individual stage topic (Wangmian) followed by a thetic sentence. In this respect, MC resembles Italian: the translation of such sentence would be *Gli è morto il padre* (lit. to-him is-died the-father). Analysis of sentences like this in terms of focus and given is clearly discussed by Lambrecht (1994:20) for the similar example *Mi si è rotta la macchina* (lit. to-me REFL is-broken the-car), discussed in (5.3.5): the given information coincides with the affectee (I) and is hence encoded preverbally with a dative pronoun (*mi*); the intransitive verb features an informationally new sole argument (the car), which hence occurs postverbally. This can be easily applied to sentence (72):[134] where the affectee is given and preverbal, (Wangmian), while the sole argument of the verb 'die' is postverbal (father); the possessive relation between the father and Wangmian is left unexpressed, or more precisely, indirectly conveyed through the topic's semantic scope, signalling a (possessor-possessee) relation. If we consider the

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[134] Lambrecht's (1994:20) discussion goes as follows: "Let us now consider the Italian sentence Mi si e rotta la MACCHINA […] the possessive relation between the car and its owner is left unexpressed within the subject NP. Instead, this relation is indirectly conveyed via the relation between the clause-initial dative pronoun mi and the lexical NP la macchina. The semantic role of the pronoun mi is perhaps best described as that of an "experiencer" since the event is described as happening to the speaker. In spite of the presence of the dative pronoun mi, the sentence is intransitive in that it contains neither a direct nor an indirect object (the reflexive si is not an object argument but a "middle voice" marker). In Italian, as in English, the semantic role of theme is expressed as the subject NP of an intransitive predicate.

equivalent to Lambrecht's example *My car broke down* in MC, we see that the same word order as the Italian is adopted *Mi si e' rotta la macchina* (T=affectee (*wǒ* 'I'), C=[intransitive V *huài* 'break' – sole argument S (*chē* 'car')]). This example comes from a blog:[135]

73. A.　怎么　回事？　　　　B.　　　[我]　坏　　车了。

　　　　zěnme　huíshì　　　　　　　wǒ　　huài　chē le

　　　　What　CL thing　　　　　　1SG　　car　　break chg

　　A. 'What happened?'　　B. 'My car broke'

Again, other types of frame-setting topics can be added, e.g., the location 'at X street' in (74.B). The second encoding, as mentioned in the section on topic, is adding an existential *yǒu* 'exist, have' to introduce a new referent when inversion is not possible and the referent is non locatable, as in (75); both sentences are drawn from the same blog:

74. A.　什么事？　　B.　　我　　在 XX 路上　坏车了。

　　　　shénme shì　　　　　wǒ　　zài XX lùshang huài chē le

　　　　what thing　　　　　1SG　　at XX street on　break car CHG

　　A. 'What happened?'　　B. 'I am at X street and my car broke'

75. 有　　人　　来帮　　　　我了。

　　yǒu　　rén　　lái bāng　　wǒ le

　　exist　person　come help　　1SG CHG

　　[Context: You do not need to come],'Someone is coming to help me.'

In (75), the non-locatable and completely new referent 'someone', is part of the thetic sentence, and is introduced by the verb *yǒu*. This resembles the French structure *J'ai NP V* …

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[135] The context is as follows, and proves it is a thetic sentence: 还记得，在前不久的一天凌晨 1 点左右，我在 S 城回家的公路上，坏车了。 [I remember, one night at one AM not long ago, I was driving home, and my car broke – 'break car LE']。 一个女儿家，深夜在路上遇到小烦恼，会变得好无助。惊慌失措之间，不自觉地便掏出手机急于求救，都什么时候了，朋友也许都安枕了，一连拨了三个电话，都没有人答应，唉......正当我又怕又急的时候，手机响了："怎么回事？" "我坏车了。" http://blog.sina.com.cn/s/blog_4a5cd457010005c7.html (last visited 9/4/2017).

in (10) discussed in section 5.3.5. *Yǒu* allows the focus, i.e. the whole sentence afterwards, to occur in the default focal position, i.e. postverbally.

The second type of thetic sentences are referred by Loar as event-reporting sentences. In such sentences, no new referent needs to be introduced, and the preverbal NPs are accented, full NPs which "represent newly introduced referents that have not been established in the context. The communicative function of event-reporting sentence is to announce the happening of an event", i.e. that the phone is ringing in the following example:

76. 电话　　　　　铃响了。

   diànhuà　　　　língxiǎng le

   telephone　　　ring CHG

   'The phone is ringing.'

Again, the verb *língxiǎng* 'ring' is intransitive. However, contrary to presentative sentences, the order is SV; in this, MC differs from Italian, where the same sentence would have a VS order 'Sta squillando il telefono'. According to Loar, the difference lies in the functions of those constructions: "in the event reporting sentence, what is introduced is an event, which necessarily involves participants or entities, whereas in the presentative sentence, the newly introduced element is an entity or discourse referent" (Loar 2011:376). This is what happens in sentence (36) reported here as (77):

77. [145 年前的 3 月 9 日]，　　　　　一位 28 岁的加拿大青年

   145 nián qián de 3 yuè 9 rì　　　　yí wèi 28 suì de Jiānádà qīngnián

   145 year before DE 3 month 9 day　　one CL 28 year.old DE Canada young

   登陆　台湾淡水码头。

   dēnglù　Táiwān Dànshuǐ mǎtóu

   land　　Taiwan Danshui dock

   '145 years ago on the 9th of March, a 28yo young Canadian landed in Taiwan Danshui dock.'

   *Source*: news article http://www.epochtimes.com/gb/17/3/30/n8982051.htm

   (last visited: 6/4/2017)

Note that, in this case, the predicate *dēnglù* 'land' is transitive. If the sentence-initial time phrase is taken out, the following predication is a thetic predication, with the first argument of the verb *dēnglù* 'land' occurring preverbally. The focus (underlined) is the whole predication, i.e. the event that is introduced: it is an instance of an event-reporting sentence. This is another difference with predicate-focus structures: as Wu (1998:67) observes, a non-locatable S or A NP referent is ineligible as topic, and can be accepted only in thetic readings. This is confirmed by the fact that such NP does not pass topichood tests. Let us further consider a further case displaying a highly transitive verb, as in the following sentence [context: mother appears on hearing one of her children crying]:

78. A.　怎么了？　　　　　B.　他　打　我了。　　　AVO

　　　　zěnme le?　　　　　　　tā　dǎ　wǒ le

　　　　What LE　　　　　　　　He　beat　1SG CHG

　A. 'What happened?'　　　B. 'He beat me!'

According to Wu, this is another instance of event-reporting sentence, where the canonical order (AVO) can be observed, as, in these cases thetic and categorical judgements have the same form. However, we believe that 'he' could be contextually inferable, hence not new, nor is 'I' completely new, hence the focal element might be the verb and the relation it creates between two contextually given participants. Nonetheless, in the last three sentences, no order permutations are observed to accommodate the need to encode the information status of arguments: newly introduced constituents do occur before the verb. This case will be further explored in section 5.7.


## 5.6.4. Predicate (comment) focus


Predicate focus is the most common type of focus in MC and cross linguistically. In MC, predicate focus is in fact a topic-comment structure, where 'predicate' in fact means 'comment' and coincides with the scope of the focus; in sentence-focus/categorical readings, what is expressed by the predicate is added to the locatable topic referent. Again, we will examine this type of focus with respect of intransitive and transitive verbs. For intrasitive verbs of

existence, (dis)appearance, and metereological verbs, let us compare the following sentences with the correspondent thetic sentences in (69-70):

79. 人　　　　　来了。　　　　　　T=S, C=V
　　　rén　　　　lái le
　　　person　　arrive CHG
　　　'The person(s) has/have come.'

80. 雨　　下大了。　　　　　　　T=S, C=V+COMPL
　　　yǔ　　xià dà le
　　　rain　　fall big CHG
　　　'The rain is getting heavier.'

Here the preverbal, topical sole argument is interpreted as referential; as such, it is translated in English as definite; the focus is either the verb or its complement (i.e. the right-most element). The comment can also consist of a more complex predication, such as a NP V e.g., *tóu téng* 'head aches':

81. a. 我　头　　疼了。　　　　　　T-C[SV]
　　　wǒ　　tóu　　téng le
　　　1SG　　head　　ache CHG
　　　'I got a headache.'

The predicative nature of such a comment can be appreciated if we look at the behavior of adverbials, which modify predicates: the negative adverb *bù* 'not' precedes the NP *tóu* 'head'.

　　b. 我　不　　头　　疼了。
　　　wǒ　　bù　　tóu　　téng le
　　　1SG　　NEG　　head　　ache CHG
　　　'My head is not hurting anymore.'

Moreover, as shown above, a comment can also be a thetic structure,[136] i.e. V S. This happens with verbs like *sǐ* 'die' (as in 72), that allow a second event participant (the affectee) to appear in topic position, e.g.:

82. a.他　死了　　　父亲。　　　　T C [VS]

tā　　sǐ le　　　fùqin

3SG　die PFV　　father

'His FATHER died on him.'

vs.

b.他父亲　　　死了。　　　T=S-C [V]

tā fùqin　　　sǐ le

3SG father　　die CHG

'His FATHER died.'

LaPolla interestingly observes that, in general, non-iterative achievement verbs such as *sǐ* 'die', *làn* 'rot', and *chén* 'sink', cannot appear with the 'experiential' aspect marker *guo* (a sentence like 'Have you ever died?' does not make sense), yet when these verbs appear in event-centered utterances, they can take *guo*. LaPolla argues that "this is because of the verb + postverbal non-specific NP together being seen as one repeatable event", i.e. they constitute a concept as a whole in the sense of Chafe (1985):

83. 他　　死过　　　一匹马。

tā　　sǐ guo　　　yì pǐ mǎ

3SG　die EXP　　one CL horse

'One of his horses died (on him).'

IS analysis, especially with respect to sentence-initial topic and sentence-final focus, can help explain the communicative motivations of alternations and inversions we have singled out in

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[136] Crucially (82) is an answer to the question *ta fasheng le shenme shi*? Lit. 'He happened what?' see example (68).

Chapter 4, as different orders that allow NPs to occur as topics or within the comment. Consider the following:

(i) With verbs of location, that allow the so called locative inversion:

84. [字] T　　　　写　　　在黑板上。

    zi　　　　　　xie　　　zai heiban shang

    character　　　write　　at blackboard on

    'The character is written on the blackboard.'

    Vs.

    [黑板上] T　　写着　　　　　一个字。

    hēibǎn shàng　　xiě zhe　　　　yi ge zì.

    blackboard on　 write DUR　　　 one CL character

    'On the blackboard is written a character.'

(ii) With verbs/predicating elements indicating capacity:

85. a. [一张床] T　睡　　　三个人。

    yī zhāng chuáng　shuì　　sān-ge rén.

    one CL bed　　　sleep　　3 CL people

    'One bed accommodates three people.'

    b. [三个人] T　睡在　　　　　一张床上。

    sān ge rén　　　shuì  zai　　　yī-zhāng chuáng shang

    3 CL people　　 sleep stay　　 one CL bed on

    'Three people sleep on one bed.'

## 5.6.5. The principle of end focus

Now we turn our attention to the principle of end-focus; specifically, we look at its generalisation power (and list all the linguistic phenomena that constitute evidence in support of its existence); then we look at the counterevidence, including preverbal focal elements pointed out by Hole (2012) and Wu (1998); lastly, we propose an account in terms of word order freezing.

The principle of end focus was formulated by Quirk et al (1985) and then elaborated by a number of scholars including Ho (1993), who defines it in the following terms: "focus is a prosodic prominence expressed by an accent or stress, whereby the intonational nucleus falls on the last open-class lexical item of the last sentence element." Evidence that supports the validity of such principle in MC are listed as follows:

## Evidence 1: statistical data

The first piece of evidence in favour of this principle in MC comes from the analysis of the transcribed interviews: 100% presented an end focus structure. Specifically, focus was either: (i) the postverbal constituent, or (ii) the verb plus its postverbal constituent, or ese (iii) a cluster of constituents towards the end of the sentence. In the analysis of the transcribed interviews, several instances of strong end-focus preferences can be singled out, where the English translation would in fact fail to encode focal information at the end of the sentence. This is but one examples (ART VIDEO) – more examples will be discussed in the following sections:

86. 陶瓷火的艺术　　　　窑变的效果　　　　是　　你　　无法控制
    táocí huǒ de yìshù　　yáobiàn de xiàoguǒ　　shì　　nǐ　　wúfǎ kòngzhì
    ceramic fire DE art　　fambe DE result　　be　　2SG　　NEG-way control
    '(As for) the art of ceramics, you cannot control the result of the fambe/furnace transmutation.'
    (ART VIDEO)

In (86), focal information (underlined) is composed of the verb *kòngzhì* 'control', its modifier, and its A argument nǐ 'you', whereas its second (O) argument is topic/given information, and occurs after the main topic 'as for the art of ceramics'. The principle of end focus nicely accommodates this word order permutation. To encode this IS structure, the verb *shì* is used, whereby the focal information occurs after this verb. Everything else (including the O argument of the verb *kòngzhì* 'control', namely *yáobiàn de xiàoguǒ* 'the result of the fambe', occurs before *shì*. *Shì* is regarded by many scholars as a focus marker, which displays a high flexibility in rearranging the structure of the sentence so that the focal information occurs to its right. This will be dealt with in greater detail in the section discussing Evidence 5.

## Evidence 2: crosslinguistic comparison

The second piece of evidence comes from cross-linguistic comparison. While the principle of end-focus encoding is claimed to be valid for a number of languages, including English, it applies differently to different languages. Specifically, MC appears to be more consistent and rigid in requiring focus to occur at the end of the sentence compared to English. Loar (2011:464-467) provides the following examples, which are quite interesting in this respect. Let us consider the following sentences in English:

87.  a. There were really <u>a lot of</u> people on the plane.
     b. We have <u>a big and bright</u> classroom.
     c. He has <u>blue</u> eyes and <u>shiny black</u> hair.
     d. They did <u>not</u> cooperate <u>well</u>, because everyone had <u>his own </u>ideas and way of doing things.

If we consider the sentences from an IS perspective, the most salient information (underlined) is in most cases not at the end of the sentence, but encoded as a nominal (or verbal) modifier. This is very clear in example (87.c): the point is not that the subject has got hair, or eyes, but the characteristics of such hair and eyes (shiny black and blue, respectively). Crucially, in all the Mandarin counterparts of sentences above, the most salient—and thus focal part is encoded at the end of the sentence (underlined).

88.  a. 飞机上　　　人　　<u>真多</u>。
        fēijī shàng　　rén　　zhēn duō
        plane on　　person very many
     b. 我们的教室　　　<u>又大又明亮</u>。
        wǒmen de jiàoshì　　yòu dà yòu míngliàng.
        1PL DE classroom　　also big also bright
     c. 他　　眼睛　<u>又蓝又亮的</u>，　　　头发　<u>黑油油的</u>。
        tā　　yǎnjing yòu lán yòu liàng de　　tóufa　hēiyōuyōu de
        3SG　eyes　also blue also bright DE hair　black-oil-oil DE
     d. 他们 合作　　　得　　不好，
        tāmen hézuò　　de　　bù hǎo
        3PL　cooperate　DE　not well

| 因为 | 每个人的想法和做法 | | 不同。 |
|------|----|----|----|
| yīnwèi | měi gèrén de xiǎngfǎ hé zuòfǎ | | bùtóng |
| because | every CL man DE thought and way | | not alike |

Crucially, a pattern similar to English is also available in MC; for example, sentence (88.a) could be translated as follows:

| 89. a. | 飞机上 | 有 | 真多人。 |
|--------|-------|-----|---------|
| | fēijī shàng | yǒu | zhēn duō rén |
| | plane on | exist/have | very many DE person |

However, if we consider (88.a) and (89.a) as a set of allosentences with the same propositional content, native speakers strongly prefer (88.a) to (89.a) in that the IS information (focus vs. presupposed information) is coded in a more coherent manner. As Loar (2011:467) notes, the SN+adjective pattern is a convenient grammatical device when our communicative purpose is to emphasise the quality or the property of an entity rather than a referent of an NP, such a constriction allows the adjectives describing attributes or properties to be positioned finally, and thus to receive end focus.

## Evidence 3: Pre- vs. postverbal position of manner expressions

The principle of end focus easily accommodates for inversions of the type of (90), where the difference lies in the placement of a manner expression (either pre- or postverbally)

| 90. a. | 很好 | 地 | 合作 |
|--------|------|----|------|
| | hěn hǎode | hézuò | |
| | very good | DE | collaborate |
| Vs. | | | |
| b. | 合作 | 得 | 很好 |
| | hézuò | de | hěn hǎo |
| | collaborate | DE | very good |

The difference between such two patterns can be appreciated only in context. The PKU corpus offers several instances of both strings (22 occurrences of the former, 25 of the latter);

analysis of the context reveals that for 100% of the cases the difference lies in the focal element. In (91), from the PKU corpus, the focal element is the sentence-final *hěn hǎo*, 'very well'.

91. 我们是老战友，      仍然 合作      得    <u>很好</u>。

     wǒmen shì lǎozhànyǒu      réngrán hézuò      de    hěn hǎo

     1PL be old comrade-in-arms      still   cooperate    DE    very good

     'We are old comrade-in-arms, still we cooperate very well.'

This is in fact true of other types of complements in MC as well, such as duration, frequency, direction, measurement etc (for a detailed and thorough account of this latter point, as well as of postverbal (complement) and resultative elements as focal elements we refer the reader to Loar 2011, Chapter 4 and 6).

## Evidence 4: focal PE (Predicating Element) constructions

A great number of other constructions help MC encode focus. This is the case of *yuè* (PE) *yuè* (PE) constructions, as in sentence (92). This construction renders the English 'the more… , the more…'. Crucially, while this English construction fails to encode the focal information at the end of the sentence (i.e. the adjectives denoting the properties/attributes), in MC the structure involves these attributive verbs (*duō* 'many', *qiáng* 'strong') to occur in the final (hence focal) position, as shown in (92), from the ART VIDEO.

92. 困难      越      <u>多</u>,

     kùnnan      yuè      duō

     difficulty      the.more      many

     我们完成之后      成就感    会    越      <u>强</u>。

     wǒmen wánchéng zhīhòu      chéngjiùgǎn   huì   yuè      qiáng

     1PL finish after      satisfaction   will   the.more    strong

     'The more <u>difficult</u> the task, the <u>greater</u> the satisfaction when we finish it.'

Another frequent word order pattern/construction that helps the focus occur at the end of the sentence can be appreciated in the following sentence, also drawn from the ART VIDEO corpus:

93. 充分保持陶瓷语言　　　这一种特性　　　　　　<u>很关键</u>。
　　 chōngfèn bǎochí táocí yǔyán　zhè yī zhǒng tèxìng　　 hěn guānjiàn
　　 fully preserve ceramic language　this one CL characteristic　 very crucial
　　 'It is crucial to fully preserve the peculiarity of the artistic language of ceramics.'

We would say the pattern in (93) is some sort of apposition,[137] which renders a clause, i.e. *chōngfèn bǎochí táocí yǔyán* (lit. 'fully preserve ceramic language') as a referential element, and thus apposed to the NP *zhè yī zhǒng tèxìng* 'this characteristic'. The whole chunk is thus placed sentence-initially, whereas the focal position is occupied by the focal element, in this case the predicative element *hěn guānjiàn* (lit. 'very crucial').

## Evidence 5: *Shì … de* construction focalizing preverbal elements

As seen in section 5.5.4, adverbials of time and location that semantically provide a temporal or spatial frame for the predication/comment need to occur preverbally. When the information encoded by such expressions is informationally salient (thus focal), MC relies on a construction consisting of *shì* and the particle DE, where *shì* functions as a focus marker and is placed before the element be emphasised, signalling that the element following it is the informational focus of the sentence. As Loar summarises, as a focus marker, *shì* (i) is not stressed, instead, the stress falls on the element following it; (ii) it can be omitted without affecting the grammatical structure of the sentence. On the other hand, according to Chao (1968:296), the particle DE, has the function of specification and indicating the point of the message of a sentence (it normally occurs in sentence-final position). Crucially, this construction can only be used for an event that happened in the past: the event is

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[137] We refer to apposition as a grammatical construction in which two elements, normally noun phrases, are ad-posed, i.e. placed side by side, with one element serving to identify the other in a different way.

informationally given for both the speaker and hearer. Thus except for the element following the focus marker *shi*, the rest of the sentence is presented as background information. What is new to the hearer (and thus focal) is some detailed information about the event. For example, the *shi de* construction "serves the purpose of assigning a marked focus to the item sought by a question concerning time, place and so on of an event" (Loar 2011:469). Let us consider Loar examples (2011:469):

94. a. 李教授　　　昨天　　同他夫人　　　从上海　　　　坐飞机 到北京去开会。
Lǐ jiàoshòu　　zuótiān tóng tā fūren　　cóng Shànghǎi　zuò fēijī dào Běijīng qù kāihuì
Li prof.　　yesterd. with 3SG wife　from Shanghai　sit plane arrive Bj. go join meeting
'Professor Li, with his wife, flew to Beijing from Shanghai to attend a meeting yesterday.'

b. 李教授 是 昨天　同他夫人　　　从上海　　　坐飞机 到北京　　去开会 的。
Lǐ jiàoshòu shì zuótiān tóng tā fūren　　cóng Shànghǎi zuò fēijī dào Běijīng　qù kāihuì de
Li prof.　SHI yesterd. with 3SG wife　from Shanghai sit plane arrive Běijīng go join.mtgDE
'It was yesterday that Professor Li, with his wife, flew to Beijing from Shanghai to attend a meeting.'

c. 李教授　　　昨天
Lǐ jiàoshòu　　zuótiān
Li professor　yesterday

是　同他夫人　　　从上海　　　坐飞机　到北京　　　　去开会　　的 。
shì　tóng tā fūren　cóng Shànghǎi zuò fēijī　dào Běijīng　　qù kāihuì　　de
SHI　with 3SG wife　from Shanghai sit plane　arrive Beijing　go join meeting DE
'It was with his wife that Professor Li flew to Beijing from Shanghai to attend a meeting yesterday.'

d. 李教授　　　昨天　　　　同他夫人
Lǐ jiàoshòu　　zuótiān　　　tóng tā fūren
Li professor　yesterday　　with 3SG wife

是　从上海　　　坐飞机　到北京　　　　去开会　　的 。
shì　cóng Shànghǎi zuò fēijī　dào Běijīng　　qù kāihuì　　de
SHI　from Shanghai sit plane　arrive Beijing　go join meeting DE

'It was from Shanghai that Professor Li, with his wife, flew to Beijing to attend a meeting yesterday.'

e. 李教授　　　昨天　　　　同他夫人　　从上海
Lǐ jiàoshòu　　zuótiān　　　tóng tā fūren　cóng Shànghǎi
Li professor　　yesterday　　with 3SG wife　from Shanghai

是　　坐飞机　到北京　　　　去开会　　　的。
shì　　zuò fēijī　dào Běijīng　　qù kāihuì　　de
SHI　　sit plane　arrive Beijing　　go join meeting DE

'It was by airplane that Professor Li, with his wife, went to Beijing from Shanghai to attend a meeting yesterday.'

f. 李教授　　　昨天　　　　同他夫人　　从上海　　　坐飞机
Lǐ jiàoshòu　　zuótiān　　　tóng tā fūren　cóng Shànghǎi　zuò fēijī
Li professor　　yesterday　　with 3SG wife　from Shanghai　sit plane

是　　到北京　　去开会　　　的。
shì　　dào Běijīng　qù kāihuì　　de
SHI　　arrive Beijing　go join meeting DE

'It was to Beijing that Professor Li flew with his wife from Shanghai to attend a meeting yesterday.'

g. 李教授　　　昨天　　　　同他夫人　　从上海　　　坐飞机　到北京
Lǐ jiàoshòu　　zuótiān　　　tóng tā fūren　cóng Shànghǎi　zuò fēijī　dào Běijīng
Li professor　　yesterday　　with 3SG wife　from Shanghai　sit plane　arrive Beijing

是　　去开会　　　的。
shì　　qù kāihuì　　de
SHI　　go join meeting DE

'It was to attend a meeting that Professor Li, with his wife, flew to Beijing from Shanghai yesterday.'

h. 李教授　　　昨天　　　　同他夫人　　从上海　　　坐飞机　到北京
Lǐ jiàoshòu　　zuótiān　　　tóng tā fūren　cóng Shànghǎi　zuò fēijī　dào Běijīng
Li professor　　yesterday　　with 3SG wife　from Shanghai　sit plane　arrive Beijing
是　　去开会　　　的，　　不是　　　　去讲学的。

| shì | qù kāihuì | de | bú shì | qù jiǎngxué de |
|-----|-----------|-----|--------|----------------|
| SHI | go join meeting DE | | NEG SHI | go give lecture DE |

'It was to attend a meeting, but not to give lectures, that Professor Li, with his wife, flew to Beijing from Shanghai yesterday.'

The examples above are in fact a set of allosentences, in that the propositional content is the same; however, the focal information (underlined) varies with respect to the position of, and is in fact enclosed within the scope of, the *shi… de*. The flexibility of the construction manifests in the fact that it is easy to stress any element of a sentence: it can mark as focal information a time-setting expression (94.b), a comitative (94.c), a location – e.g., source (94.d) or goal (94.f), means/instrument/manner expression (94.e), purpose expression (94.g), and also contrast between events/predicating elements (94.h). Moreover, as Loar (2011:471) further observes, the agent/first argument of a transitive verb, that always occurs preverbally, can also be focalised.

i. 是<u>李教授</u>　昨天同他夫人从上海坐飞机 到北京去开会的。
shì Lǐ jiàoshòu zuótiān tóng tā fūren cóng Shànghǎi zuò fēijī dào Běijīng qù kāihuì de
SHI Li prof.　yesterd. with 3SG wife from Shanghai sit plane arrive Bj. go join meeting DE
'It's Professor Li who flew to Beijing from Shanghai with his wife to attend a meeting yesterday.'

Lastly, let us consider a further scopal effect of the *shi…de* construction by examining the differences between the following allosentences (Loar 2011:473):

95. 澳大利亚　　科学技术　　　　的发展，…
Àodàlìyà　　kēxué jìshù　　　de fāzhǎn，…
Australia　　science and technology de development

a'. …　与政府的政策和努力　　　　分不开。
　　yú zhèngfǔ de zhèngcè hé nǔlì　　fēnbukāi
with government DE policy and effort　divide NEG open

a". …　是　　<u>与政府的政策和努力分不开</u>　　　　　　的。
　　shì　　yú zhèngfǔ de zhèngcè hé nǔlì fēnbukāi　　　　de

be        with government DE policy and effort divide NEG open   DE


a'''. … 与政府的政策和努力            是    分不开        的。

yú zhèngfũ de zhèngcè hé nŭlì       shì    fēnbukāi        de

with government DE policy and effort    SHI    divide NEG open DE


'The development of science and technology in Australia cannot be separated from its government's efforts and policy.


The 'non-*shì...de*' variants differ from the '*shì...de*' construction in its communication functions, and they are suitable for different discourse contexts, depending on the nature (and the number) of information chunks the speaker wants or is required to provide (which again are generally enclosed between the characters *shì* and *de*. In fact, in some way the part of the utterance enclosed between the *shi…de* becomes a single piece of information in the sense of Lambrecht's (1994) definition of focus as a relational notion. This would be in line with Chafe's and Du Bois (1987) idea of one piece of new information at a time. This construction has been the focus of attention for many linguists, and we do not engage in a complete discussion of its functions. Some further insight, however, is provided below on the origin of the particle *shì*. Nevertheless, the crucial point here is that it is a device that allows the focus to be encoded in constituents occurring in non canonic focal positions, like preverbal adjuncts or NPs: the focus indeed occurs after the verb *shì*. Moreover, if we consider the final DE as a nominalizer, what follows *shì* could be analyzed as a single focal group of words, i.e. the focal constituent, whereby focus is intended as a relational notion as claimed by Lambrecht (1994) and Nikolaeva (2001).

An interesting insight on the function of the particle *shì* as a focus marker is provided by Wu (1998:), which reports that it is widely accepted (Wang 1958) that the copula *shi* did not originate from a verb: Wang Li (1958) claims it developed from a demonstrative pronoun *shì*, while Yen (1986) maintains it was originally a particle of affirmation as opposed to the negative particle *fēi*, which taken together form a pair of distributionally equivalent

antonyMs[138] According to Yen (1986:237), this accounts well for the origin not only of the copular use of *shi*, but also of its use in assertive affirmations (i.e. its focus marking function, see Wu 1998:171). To illustrate and further elaborate this point, Wu (1998:171-2) suggests that if Yen's hypothesis is right, i.e. *shi* was originally an affirmative marker used before sentence constituents, it would mark the comment, signaling the focus.

> Since adjectives and verbs are normally predicative, their comment status is signaled by their own category. It is unnecessary to mark them as a comment unless there is a reason for stressing assertion or affirmation. As a result, *shi* displays emphasis before verbs and adjectives. On the other hand, NPs are normally topics. When they function as a comment, it was signaled by the sentence-final particle *ye* in classical Chinese. After *shi* came to be used as an affirmative particle, this use of *ye* gradually disappeared from the language, and *shi* took over the role of signaling the nominal predicate, and became more or less obligatory. (Wu 1998:172)

## Evidence 6: BA construction

Many scholars have noticed that the BA construction is a IS structure device enabling a non-focal 'object' to occur preverbally, and to leave the focal position free for the real focus. This is the case in the following example, from the HO CORPUS:

96. 这样子　　　　把一只鸡 k，　　　给它 k　　　切成小块之后，
　　 zhèyàngzi　　 bǎ yī zhī jī　　　 gěi tā　　　 qiē chéng xiǎo kuài zhīhòu
　　 this way　　　 BA one CL chicken　 give 3SG　　 cut become small piece after

　　 先　　 我们　 就可以　　　 下锅　　去[烧]F 。
　　 xiān　 women jiù kěyǐ　　　 xiàguō qù shāo
　　 first　 1PL　 so can　　　 put pan go fry

　　 'This way, we take our chicken, cut it, and then put in a pan and fry.'

---

This example is discussed by Ho with respect to its focus structure: in the first clause, the focus is the resultative expression *chéng xiǎo kuài* 'into small pieces', while in the second it is the verb *shāo* 'cook'. The BA construction has a crucial role in focus encoding, in that it allows the patient *jī* 'chicken' to occur preverbally, thus freeing the sentence-final, focal position. The IS function of BA construction was observed by a number of scholars. Specifically, the BA construction often focalises the part of the utterance expressing the change of state undergone by the post-BA entity. This explains the often quoted rule that the V in the BA sentence must be followed by some elements, either a complement or, at least, an aspectual marker. What holds true is that the patient or the affectee is not focal, and hence occurs before the main verb, whereas the focal information is what occurs postverbally. This is the case of the examples discussed in Chapter 2, section 0, such as the following:

97. 她    把    那块布    做成了    一条裤子。

    tā    bǎ    nà kuài bù    zuòchéng le    yì tiáo kùzi

    3SG    BA    that CL cloth    make.become PFV    one CL trousers

    'She made a pair of trousers out of that piece of cloth.'

Clearly, the resultative complement *yì tiáo kùzi* 'a pair of trousers' is the focal information: the BA construction enables it to occur postverbally.

## 5.7.    Word order freezing phenomena

In the past section, we have listed a significant number of cases when the principle of end focus holds as an underlying structural principle motivating different types of sentences and constructions in MC. However, as we have seen, focus can also occur preverbally, e.g., when the focal element is the A argument of a transitive verb, as in (65), reported in (98).

98. a.    NARROW FOCUS (A)

    Q:    谁    吃了    日本?    A:    阿丘    吃了。

        Shéi    chī-le    Rìběn liàolǐ?    Āqiū    chī-le.

        who    eat-prf    Japan food    Akiu    eat-prf

    'Who ate Japanese food?'    lit. '[Akiu]F ate.'

This is also captured by the analysis of possible permutations in MC word order given a single propositional content. This is adapted and further expanded from Ho (1993:97) analysis of the possible relative order of temporal adjunct, (transitive) verb, arguments:

99. 我　　去年　　　　看过　　　　这部电影。

wǒ　　qùnián　　　kàn guo　　　zhè bù diànyǐng

1SG　　last year　　see ESP　　　this CL movie

Allosentences: analysis of all the possible permutations

| 1SG | last year | | see EXP | this movie |
| 1SG | this movie | last year | see EXP | |

| last year | | 1SG | | see EXP | this movie |
| last year | | 1SG | this movie | see EXP | |

| this movie | | 1SG | last year | see EXP | |
| this movie | last year | 1SG | | see EXP | |

**Fixed word order**　　　　　　　　　　　　　　**(absolute restrictions)**

- last year > see EXP　　　　　　　　　　TIME/SPACE ADV. - VERB
- 1SG > see EXP　　　　　　　　　　　　A ARG. -VERB

**IS-sensitive word order patterns**　　　　　　**(allowed permutations)**

- 1SG > this movie vs. this movie > 1SG　　　O ARG. <> TIME/SPACE ADV.
- 1SG > last year　vs.　　last year > 1SG　　A ARG. <> TIME/SPACE ADV.
- 1SG > this movie vs.　　this movie > 1SG　　A ARG. <> O ARG.

**Absolute restrictions**: the A argument and the temporal (and spatial) frame-setting adjuncts must occur before the verb. The fact that temporal (and spatial) frame-setting adjuncts is connected with their inherent topichood, in that they set a temporal or spatial frame within which the following predication holds. This is an absolute restriction, and explains why, when these elements are focal, they must be encoded through the verb shì, as explained in the section above.

On the other hand, the A and O arguments can both occur preverbally, and both can With respect to the A argument restriction, this can be seen also in Tai's allosentences already presented in Chapter 2 and reported here:

100.

| Prop. content | A. He ate an apple. | B. The tiger ate the rabbit. | C. The tiger ate the lion. |
|---|---|---|---|
| AVO | a. 他吃了苹果。<br><br>   He eat LE apple | a. 老虎吃了兔子。<br><br>   Tiger eat LE rabbit | a. 老虎吃了狮子。<br><br>   Tiger eat LE lion |
| OAV | b. 苹果,他吃了。<br><br>   Apple he eat LE | b. 兔子,老虎吃了。<br><br>   Rabbit tiger eat LE | b. 狮子,老虎吃了。<br><br>   Lion tiger eat LE |
| AOV | c. 他,苹果吃了。<br><br>   He apple eat LE | c. ? 老虎,兔子吃了。<br><br>   ? Tiger rabbit eat LE | c. * 老虎,狮子吃了。<br><br>   * Tiger lion eat LE |
| VOA | d. 吃了苹果，他。<br><br>   Eat LE apple he | d. 吃了兔子，老虎。<br><br>   Eat LE rabbit tiger | d. 吃了狮子，老虎。<br><br>   Eat LE lion tiger |
| OVA | e. 苹果吃了， 他。<br><br>   Apple eat LE he | e. ? 兔子吃了， 老虎。<br><br>   ? Rabbit eat LE tiger | e. ? 狮子吃了，老虎。<br><br>   ? Lion eat LE tiger |
| VAO | f. * 吃了他， 苹果。<br><br>   * Eat LE he apple | f. * 吃了老虎， 兔子。<br><br>   * Eat LE tiger rabbit | f. * 吃了老虎， 狮子。<br><br>   * Eat LE tiger lion |

From an IS perspective, different orders reflect different information structures (especially with respect to the focus). Thus, word order serves the purpose of encoding different information structures. As already noticed, in (A) all orders are possible, but the <u>A argument always precedes the verb</u> (unless it is clearly an afterthought as in (A.c), where A is in the RDP). However, other orders become unavailable if both arguments are animate (B), and even less permutations are available when both referents are likely to have the A role in the sentence (in C, the tiger and the lion have a similar sise and are both likely to eat the other). In sentences (B.a-f) and (C.a-f), both NPs are animate. However, in B the roles of the participants are logically clear. In (C), on the other hand, both NPs are likely to be either the eater or the eatee, thus (C.b) is ungrammatical with the intended meaning as (24), and can be only interpreted with inverted argument roles 'The lion ate the tiger'.

As noted in Chapter 2, sentences (A.b), (B.b), and (C.b), taken together, show that the functional role of word order arises to meet the need to avoid ambiguity in role interpretation, and only after can it encode information status and discourse functions. To us, this is a clear example not of syntactic constraints but of pragmatic constraints connected with the disambiguation of event participants. Again, MC does not encode the role of event participants through morphological markings, and in sentences like (A-C) the relative order of the arguments with respect to the verb is the only cue the hearer is provided with to interpret participants' role in the event. The more both referents are likely to have the A role, the less IS patterns are available. As Foley e Van Valin (1984) claim "When talking about sequences of situations in which the same participants are involved, it is necessary to refer to them in each clause in such a way that they can be identified as being the same as or different from the participants referred to in previous clauses."

This phenomenon has been observed crosslinguistically. In her chapter on IS constraints, Erteschik-Shir (2007:154) demonstrates that "word order in simple sentences is constrained by the need to avoid an ambiguous parse of the linear string", with specific reference to the correct interpretation of the role of participants in the event. He examines the case of Hebrew and Danish, but observes how this holds for every language. Let us consider the following minimal pairs in Danish:

101.  a.* Marie/Pigen        mødte  Peter   igår.
      *Marie/the girl        met    Peter   yesterday
      Intended meaning: 'Peter met Marie/the girl yesterday.'


      b.? Marie/Pigen        mødte  jeg     igår.
      ?Marie/the girl        met    I       yesterday
      Intended meaning: 'I met Marie/the girl yesterday.'


      c. Hende        mødte  Peter/jeg       igår.
      Hermet         met    Peter/I         yesterday
      'I/Peter met her yesterday.'

In Danish, nouns do not bear case marking, whereas pronouns do. When arguments are encoded by pronouns, word order permutations are available to encode IS information. On the other hand, when arguments are encoded by proper nouns, this is not possible, as ambiguities would arise: "ruling out the topicalized [PAV] reading thus prevents ambiguity" (Erteschik-Shir 2007:155).

An interesting approach that effectively accounts for this type of phenomena is that of word order freezing (Mohanan and Mohanan 1994). Word order freezing is considered a linguistic strategy, that helps avoid misunderstandings in the interpretation of event participants:

> a certain canonical word order becomes fixed under special circumstances in which the relative prominence relations of different dimensions of linguistic substance—grammatical functions, semantic roles, case, and positions in phrase structure—do not match, or in which morphology is unable to distinguish the grammatical functions of the arguments. [These] fixed word order phenomena [are] referred to as word order freezing. (Lee H. 2004:64)

Lee H. (2004) investigated word order freezing phenomena in Hindi and Korean, by looking at the relative prominence of different dimensions of linguistic structure: when they compete ("do not match"), word order freezing avoids abiguities: Lee H. (2004:74) shows that word order freezing is observed, for example, in sentences "where case marking on nominal arguments of a single predicate are identical" (p.74). In such cases, reversing the order of the two arguments yields a new sentence interpreted as having the same semantic/syntactic word order and therefore different basic propositional content: as a consequence, the roles of the event participants are inverted. On this basis, Lee H. formulates the following generalisation:

> Canonical word order determined by the grammatical function hierarchy or the thematic role hierarchy becomes fixed if the case markings on two nominal arguments of a single predicate are identical under two alternative thematic role interpretations of the nominals. (Lee H. 2004:76)

This holds true in the Danish examples above, and can be easily applied to MC. MC does not mark case or agreement neither on the referential elements (nouns, pronouns etc.) nor on the verb. In such cases, an interesting interplay with pragmatic inference is also observable.

Getting back to the allosentences in (100), they present the following common features:

> V: *chi* 'eat', transitive;
>
> AS microroles: <eater, eatee>
>
> Semantic roles: <agent, patient>
>
> Features: <A1 [+animate], A2 [±animate]>

As said, the sentence sets bear the same propositional content (the same agent, verb, and patient) but have different informational content (topic and focus). Unlike for Danish, where the disambiguation cue is the case of the pronoun (nominative vs. accusative), the difference between sets (A) and (B-C) is played by the feature of animacy, in that the verb *chī* 'eat is an agentive verb and requires an animate agent. What is crucial between (B) and (C) is world knowledge (the smaller animal is not likely to eat the bigger one, unless in a context like a fairy tale or a movie). Pragmatic inference predicts it is unlikely that the rabbit eats the tiger. Hence, sentences displaying all word orders (except VAP) should be acceptable as well, because they can be correctly interpreted.

This also easily accounts for Huang's animacy constraint postulated in his MA thesis, as well as in Hou (1979:62), which we already mentioned in Chapter 2, example (67):

| 102. | a. 他 | 批评了 | | 那个女儿。 |
|---|---|---|---|---|
| | tā | pīpíng le | | nà ge nǚ'ér |
| | 3SG | criticise PFV | | that CL girl |
| | b.*他 | 那个女儿 | | 批评了。 |
| | * tā | nà ge nǚ'ér | | pīpíng le |
| | *3SG | that CL girl | | criticise PFV |

Intended meaning for both: ' He criticised that girl.'
Actual meaning of (b): 'The girl criticised him.'

Unlike in Danish, MC pronouns are unmarked with respect to case (the three person singular pronoun *tā* is not marked and could be either the criticser or the criticised). Hence, there is no cue allowing the hearer to understand the roles in the participants. Thus, when the pattern NP-NP-V is used, the default reading is assigned by the hearer, whereby the patient is left-disclocated in topic position [P(top) A-V]; hence, the A-P-V reading is blocked. This motivates the word order freezing phenomenon observed with two animate NPs in sentences like (100).

Lastly, this analysis in terms of word order freezing also explains the apparent subject-object asymmetry related to topic extraction out of relative clauses, discussed in Chapter 2. Recall that it was observed that topic extraction out of relative clauses seems restricted to subjects in MC, as claimed by Huang and Li (1996:82): for the reader's convenience, below we report their examples, previously discussed in Chapter 2. Recall that, according to them, examples (43.b) and (45.b) are ungrammatical because the head noun is in a patient-object relationship with the matrix verb (whereas in the (a) counterparts it is in an agent-subject relationship):

103.a. 张三 ₁,     [REL   [Ø₁唱歌的]       声音]       很好听。

　　　 Zhāngsān           chàng gē de       shēngyīn       hěn hǎotīng

　　　 Zhangsan           sing song DE      voice          very charming

　　　 'Zhangsan, the voice with which (he) sings is charming.'

　 b. *张三 ₁,     我喜欢       [REL [Ø₁唱歌的       声音] 。

　　 * Zhāngsān     wǒ xǐhuān             chàng gē de     shēngyīn

　　 *Zhangsan     1SG like              sing song DE    voice

　　 'Zhangsan, I like the voice with which (he) sings.'

104. a. 张三 ₁,     [REL   批评的]       人     很多。

　　　 Zhāngsān           pīpíng de       rén     hěn duō

　　　 Zhangsan criticise ATTR person very many

　　　 'Zhangsan, people who criticised (him) are many.'

　 b. * 张三 ₁,     我认识       很多       [REL   批评 Ø₁的]       人。

　　 *Zhāngsān     wǒ rènshi     hěn duō             pīpíng de       rén

*Zhangsan    1SG  know    very many              criticise DE    person

'Zhangsan, I know many people who criticised him.'

However, Xu and Langendoen (1985:15) present counterexamples where a position in the relative clause modifying a patient is bound by the topic/first NP, and argue against subject-object asymmetries in topic extraction out of relative clauses:

105.a 我    从来    没遇到过    [REL  能回答    这个问题    的]    人。
      wǒ    cónglái méi yùdào guo        néng huídá    zhè ge wèntí    de    rén
      1SG    ever    NEG meet EXP        can answer    this CL question  DE    man
'I have never met a person who can answer this question.'

b. 这个问题 ⱼ        我    从来    没遇到过    [REL  能回答 Øⱼ 的] 人。
   zhè ge wèntí        wǒ    cónglái méi yùdào guo        néng huídá de  rén
   this CL question    1SG    ever    NEG meet EXP        can answer DE  man
'I have never met a person who can answer this question.'

In fact, this asymmetry is related to the animacy of the two referents: if only one of the NPs in the sentence is +animate, no interpretation issues arise as to the coreference of the zero in the relative clause, as in (105); thus, topic extraction of patients out of relative clauses is allowed. When there is more than one +animate NP in the sentence (i.e. possible candidate as the agent of the verb) then IS motivated patterns that can impede the correct disambiguation of the role of participants (such as topic extraction out of a relative clause) are blocked and a word order freezing phenomenon can be observed as well, in this case the blocking of the topic extraction out of the relative clause.

## 5.8.    Interim summary

The analysis proposed in this chapter has clarified a number of characteristics of topic and focus in MC, and what are their basic characteristics and restrictions.

Topic in MC: (i) is defined as a frame-setter (with frame having a temporal, spatial, conditional, or individual dimension). When the frame is inherently individual, it is more easily accounted in terms of *aboutness*. Pustejovsky (1991, 1998, inter alia) notion of qualia structure is helpful to formalise the otherwise sometimes loose nature of the concept of *aboutness*: the relation between a topic and what follows (but in general between two or more elements in a sentence) can be captured through the range of essential attributes of objects, events, and relations, as well as the modes of explanation associated with a lexical item. In terms of its cognitive status, the only cognitive restriction that holds for all topics is locatability. A topic is always at least locatable, i.e. identifiable in a known/activated set of items; however, it is most times specific (i.e. identifiable by the speaker), and often also identifiable/accessible/activated/ given by the hearer, and hence often definite.

With respect to focus, in most cases it resides within and relationally has scope over the entire comment. In this respect, as mentioned in section 3.3, focus is a relational category: the focus contributes to the assertion through its relationship with other elements within the comment. The scope of the focus is usually the verb and what follows, but it might consists of the verb and the sole argument that occurs overtly, which may also be preverbal; the focus may otherwise also consist of the entire sentence. In all cases, it is towards the end of the sentence (principle of end focus). When an inherently topical element (e.g., locatable NPs such as space and time setting expressions, or locatable event participants as discussed in section 5.5) is in fact focal (e.g., the focus is the first agentive argument in a transitive verb), two possible solutions are available: focus markers, such as 是 *shì*, 是的 *shì de* and other adverbs can be used (along with prosodic stress); these allow the focal constituent to occur postverbally, i.e. after the verb *shì* 'be'. (ii) Word order freezing phenomena occur to avoid role-related ambiguities. Specifically, in the latter case, when the necessity to encode given-new information by word order is in conflict with the necessity to unambiguously encode event participants, a word order freezing phenomenon occurs, whereby arguments occur in their unmarked order (more agentive participants precede more patient-like arguments). These word order freezing phenomena are in part grammaticalised. Hence, word order's primary function is to encode the role of participants (who does what to whom), and semantic constraints (encoding roles or participants in the event) are hierarchically higher than information-structural considerations (given-new, topic-focus sequence).

# 6.Conclusions

The present thesis has sought to provide a fresh look at word order permutations by exploring the four possible modalities that determine the final sequence of elements in the sentence, namely grammatical relations, constituent structure, argument structure, and information structure. It is important to point out that this thesis is focused on word order, and on determining what the best ways are to describe its regularities and capture its permutations. Hence, many facets of the above listed dimensions of linguistic organisation have necessarily been left out. Overall, the analysis presented in this thesis has provided some interesting insight with respect to the initial research questions, namely: (1) how and in what terms word order can be described; and (2) how different components of linguistic organisation determine the final sequence of constituents in a MC utterance/sentence, as well as how these components interact, as indicated by Siewierska (1988:29).

The GR component is relevant to word order to the extent that its notions are defined not only in language-specific, but also construction-specific terms, as indicated by Bickel (2010). Under scrutiny, GR-sensitive constructions display interesting control/behavioural properties, and which justify a taxonomy based on the restrictions as to which argument/element is the controller/pivot: (i) constructions that do not impose restrictions; (ii) constructions that display semantic/role-related restrictions, and (iii) constructions that display information-structural/reference-related restrictions. In no case, a syntactically-motivated GR such as that of subject was needed. Hence, GRs such as that of subject and object do not seem to be adequate notions capable of describing word order patterns in a precise and coherent way.

The constituent structure component clearly displays evidence for the existence of noun phrases, which show to behave as constituents with respect to practically all tests, and with respect to the corpus study conducted by Tao (1996). On the other hand, evidence for the existence of a VP (comprising the verb and its inner argument but not its outer argument) is

weaker, both with respect to constituenthood tests and to corpus data. Statistical analysis on PAS (preferred argument structure) does not indicate that the verb has a more binding relation (and forms a constituent with) O rather than A. This issue is still unclear; as a consequence, an account of word order in MC in terms of VP would require future investigation as to what the nature of the VPs is in MC.

With respect to the observations above, in our view it is important to note that an accurate description of a language is different from a functional/applied description. While it might be somehow useful to compare elements in two languages that resemble each other for certain behaviours (i.e. for teaching- or translation-related purposes), extending one notion to a language in terms of structural properties and functions is not to be made without carefully examining their actual roles and mutual interaction within the language system. This is clearly pointed out by Shi (1990:305):

> The comparison of similar linguistic phenomena across the world's languages has always been a resourceful means for the study of grammar. There is, however, no a priori guarantee that what appear to be similar are indeed sufficiently correspondent to justify the crosslinguistic comparison of structure. Sometimes it will turn out that apparently comparable phenomena are, under scrutiny, rather different in nature.

On the other hand, the argument structure component is one of the most relevant components of the grammar with respect to word order. Again, MC is an isolating language that basically lacks morphological means to encode event participants. Hence, arguments in the argument structure of verbs tend to be expressed and to map into the sentence according to their relative semantic hierarchy, to ensure correct interpretation of participants' roles. Accordingly, the most agent-like event participant occurs preverbally, while the most patient-like occurs postverbally. Flexibility of this basic semantic order (i.e. argument alternations) can be observed mainly when other cues are available that allow a correct disambiguation of event participants, which include: animacy, selectional restrictions of the verb/predicate, other verbs such as resultatives or co-verbs/prepositions marking specific semantic roles (e.g., *gei* 'give' for the beneficiary), and markers such as BA or BEI, which also select a specific range of event participants (e.g., causer, affectee). Moreover, shift phenomena are observable in a significant number of verb classes with respect to the number of participants in an event, as

well as the aspectual and the causal traits of the described event. Examples include intransitive verbs that enter a transitive pattern/allow a causative reading (e.g., 饿 *è*, which can mean '(be) hungry', 'become hungry' 'starve/get sb. hungry' depending on the word order pattern and the number of event participants), and intransitive verbs occurring with a causative meaning when entering BA and BEI constructions (e.g.干燥 *gānzào* 'dry' in *bǎ tā gānzào*, or *bèi gānzào le*). Depending on the theoretical assumptions/framework of analysis adopted, these phenomena can be analysed (i) as a case of lability or (ii) as a case of coercion. Both hypotheses have theoretical consequences with respect to the nature of predication in MC, and need to be further explored.

Finally, investigation of the IS component, with respect to word order, highlights how sentence-initial elements are cognitively restricted, however the nature of the restriction is more subtle than expected: while it is true that most topics/sentence-initial elements are given/known, cognitively activated/mentioned in the context, such feature do not constitute absolute constraints, as the preverbal position is potentially available for all nominals whose referents are 'identifiable' or at least 'locatable' in an identifiable set. Such an account captures what in the literature are often regarded as exceptions, namely switch topics, or new/indefinite topics such as *yīngyǔ xì de yī ge xuésheng* 'One of the students in the English Department'.

With respect to the interaction of these different components, the analysis suggests that word order's primary function is to encode the role of participants (who does what to whom): thus, semantic constraints are hierarchically higher than information-structural aspects, as demonstrated by the analysis of word order freezing phenomena in Chapter 5. Finally, it seems that organisational principles such as that of whole-before-part impose very strong constraints on the flexibility of word order in the encoding of IS information: elements constituting the whole (e.g., temporal or spatial adverbials) cannot but occur before elements referring to the part (e.g., complements of duration), even if the information status of the former would require them to occur in focal (sentence-final) position.

In light of the multilayered interaction of factors and principles that affect MC word order, and that pertaining to the abovedescribed linguistic components, we suggest that a formal

representation of linearization rules (as briefly discussed in the introduction) should be based on for a multi-layered approach to sentence structure representation, as argued by Mohanan and Mohanan (1994). In 'Issues in Word Order in South Asian Languages' (1994), K.P. Mohanan and T. Mohanan examine many of the crucial questions that arise from a discussion of word order variability in these languages and present two main theoretical alternatives for capturing the basic facts that characterise them. These alternatives involve the choice between an enriched phrase structure approach, which encodes a variety of syntactic information in a single phrase structure,[139] and a more multidimensional approach, which provides different representations for different types of information. Mohanan and Mohanan (1994) conclude that a multidimensional representation represents most clearly and adequately the facts from a number of South Asian languages, and "is a viable alternative to the enriched phrase structure representations" (for detailed arguments supporting this claim, see Mohanan and Mohanan 1994). We leave this observation as a suggestion for further investigation.

Because of its broad scope, this thesis has, in most cases, just scratched the surface of how the different dimensions of the language interact within the whole linguistic encoding and word order, thus opening up a number of interesting lines for future research.

Analysis of GR sensitive constructions has suggested a possible way to actually capture and encompass all instances of what is considered subject in these constructions, namely what Schachter (1977) calls the 'protagonist' of the event. This notion would not be defined syntactically, but with reference to the structure of the described event, the role of that referent as the protagonist and the point of view adopted to describe that specific event. This hypothesis has been explored in some neurolinguistics studies; however, a corpus-based study

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[139] In enriched phrase structure representations, "nodes in a single tree structure carry information about grammatical categories, grammatical functions, inflectional features, and discourse functions", e.g., subject is SPEC of AGR-S and topic is SPEC of TOPIC. (Mohanan and Mohanan 1994:155). In other words, syntactic and pragmatic/information structure notions are represented in the same structure.

would be required to prove its viability; this might constitute an interesting line of research for further studies on the notion of subject in MC.

With respect to constituenthood, it is unclear whether the verb forms a constituent with what follows: in our view, a more in-depth, systematic analysis of constituenthood is in order, which also considers instances of verb reduplication, complex sentences, and other constituenthood tests such as cross-over phenomena or nominalisation processes, which have not been included in the present analysis.

The argument structure component has provided a significant number of insights; however, again, the analysis was very limited in a number of respects, including: (i) the range of examined verb classes; (ii) the number of verbs per each class and (iii) the qualitative (rather than quantitative) nature of the analysis, aimed at collecting examples of possible permutations and word order patterns, rather than the statistical significance of such patterns in the overall grammatical system. As such, the analysis presented in Chapter 4 opens up interesting research avenues, involving for example quantitative corpus studies aimed at determining the frequency/statistical relevance of the different word order patterns and causal/aspectual shifts, as well as whether and why they are limited to specific registers or text types or contexts.

Finally, investigation of the IS component has provided a number of significant insights, which are different to what previous accounts of IS in MC. Specifically, in our view the notion of locatability and its interaction with the whole-before-part principle and the information/cognitive status of sentential elements deserves further investigation, as the whole-before-part principle imposes constraints on the flexibility word order with respect to given-new and focal information.

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## Corpora and other on-line resources

Academia Sinica Balanced Corpus of Mandarin Chinese: http://dbo.sinica.edu.tw/ftms-bin/kiwi1/mkiwi.sh?language=1

汉典（康熙字典）Handi an (or Kāngxī Zìdiǎn) Monolingual Chinese Dictionary: http://www.zdic.net/

PKU Corpus: Corpora of Modern and Classical Chinese, Center For Chinese Linguistics (Peking University): http://ccl.pku.edu.cn:8080/ccl_corpus/index.jsp?dir=xiandai

PLECO English and Chinese Dictionary application: https://www.pleco.com/