

The Expression of Cognitive Categories

ECC 5

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The Expression of Information Structure

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Daniel Hole

1. Introduction

The following survey of information structure in Mandarin Chinese has three major sections. Section 2 deals with focus and background, Section 3 treats aboutness topics and frame-setters, and Section 4, finally, looks at patterns relating to the Given/New-divide.

Writing such a condensed overview on Mandarin Chinese is a challenging task, not because research in this area is scarce or hard to come by, but for the exact opposite reason. Mandarin Chinese has been a major playground for the development and testing of information-structural categories over the past 40 years. Chao's (1968) grammar was written with the topic-comment notion as one of its major overarching themes. Li and Thompson's (1976) typology of subject-prominent and topic-prominent languages centered around Chinese as the prime example of the latter type. In the wake of these influential works, there has been a constant tradition of research in the domain of Chinese patterns expressing information-structural categories. It is impossible to do justice to the wealth of this tradition, and therefore much pertinent work and some phenomena have to be left unmentioned. Hence, when confronted with the necessary choice between two phenomena only one of which could be covered given the available space, I chose the more grammaticalized of the two.

The language treated in this article is Mandarin Chinese, the standard language of China, which is called *pǔtónghuà* 'common language', or *guóyǔ* 'national language', in Chinese. It is based on the dialect of Beijing, with certain dialectal peculiarities removed. The dialect of Beijing belongs to the Mandarin dialect group of Chinese (Sino-Tibetan/Sinitic). In English, the term "Mandarin" may thus refer either to the official language of China, or to the northern dialect group of China. In the present article, the terms "Mandarin", "Mandarin Chinese" and "Chinese" are used interchangeably, with "Mandarin Chinese" frequently used at the beginning of sections and subsections.*

* The following abbreviations are used in examples: ASP – aspect marker; CL – classifier; COP – copula; EXP – experiential aspect; PRF – perfective aspect; PRT – particle.

2. Focus

2.1. Focus and constituent questions

Mandarin Chinese is a *wh*-in-situ language, and also a focus-in-situ language (cf. Huang 1982 or Soh 2006 for discussion of the overt and covert *wh*-syntax of Chinese). 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 syntactic function (cf. §§ 2.2./2.4. for non-canonical sentence patterns with specialized focusing devices). Examples for subjects, objects, VPs, and adjuncts are provided in (1) (cf. §§ 2.5/3.5 on prosodic aspects of focus and topic in Chinese; either subsection also looks at the interaction of the lexical tones of Chinese with information-structural prosody).

(1) a. Question-answer pair: subjects

- Q: *Shéi chī-le Riběn liàolǐ?*
who eat-PRF Japan food
'Who ate Japanese food?'
A: [*Ākiù*]_F *chī-le Riběn liàolǐ.*
Akiu eat-PRF Japan food
'[Akiu]_F ate Japanese food.'

b. Question-answer pair: objects

- Q: *Ākiù chī-le shénme?*
Akiu eat-PRF what
'What did Akiu eat?'
A: *Ākiù chī-le [Riběn liàolǐ]_F.*
Akiu eat-PRF Japan food
'Akiu ate [Japanese food]_F.'

c. Question-answer pair: VPs

- Q: *Ākiù zuò/gàn-le shénme?*
Akiu do/do-PRF what
'What's Akiu doing?'
A: *Ākiù [chī-le Riběn liàolǐ]_F.*
Akiu eat-PRF Japan food
'Akiu is eating Japanese food.'

d. Question-answer pair: adjuncts

- Q: *Ākiù zài nǎlǐ chī-le*
Akiu at where eat-PRF
Riběn liàolǐ?
Japan food
'Where did Akiu eat Japanese food?'
A: *Ākiù zài [Dōngjīng]_F chī-le*
Akiu at Tokyo eat-PRF
Riběn liàolǐ.
Japan food
'Akiu ate Japanese food in [Tokyo]_F.'

Chinese is an SVO language with circumstantial adjuncts typically following subjects and preceding verbs. The sequences in (1) thus illustrate the *in-situ* property for the respective categories. Note that in (1c), the complete

VP is the question focus, even though the *wh*-word in (1c-Q) occupies just the object position. The light verbs *zuò* and *gàn* (both 'do') are used as dummy verbs here compensating for the non-existence of a *wh*-word for complete VPs. No such question option exists for sequences of subjects and verbs to the exclusion of objects. Most researchers would say that the lack of this option is a consequence of the fact that subjects and verbs do not form a constituent, while verbs and objects do. (2) is an example with an all-new, orthetic, utterance as a reply to a 'what happened?' question. In this case, the complete pronounced material is focal, and the relevant background material ('What happened is that...') is left unexpressed.

(2) Question-answer pair: complete sentences/thetic utterances

- Q: *Fāshēng-le shénme shì?*
happen-PRF what affair
'What happened?'
A: [*Ākiù chī-le Riběn liàolǐ*]_F.
Akiu eat-PRF Japan food
'[Akiu ate Japanese food]_F.'

In actual conversation, shorter ways of answering constituent questions than those given in (1) are the norm. Two examples are provided in (3) (cf. Li and Thompson 1981: 557–558).

- (3) a. Q: *Nǐ jǐ-diǎnzhōng xià bān?*
you how.many-o'clock descend work
'What time do you get off work?'
A: [*Wǔ*]_F-diǎnzhōng.
5-o'clock
'At five o'clock.'

- b. Q: *Tā gēn shéi niàn shū?*
(s)he with who study book
'Who does (s)he study with?'
A: *Gēn [Lǐsì]_F (niàn shū).*
with Lisi study book
'With Lisi.'

In (3a), the time adverbial alone constitutes the answer turn; in (3b) the topical subject (and the VP) is left out. Without going into detail here concerning the matter of which constituents may or may not be elided in short answers, let us just note the fact that short answers to questions must at least be focus phrases in Drubig's (1994) and Krifka's (2006) sense. Taking (3b-A) as an example, a short answer with the preposition left out ('*Lǐsì*'), that is) would not be grammatical, this being a reflection of the fact that prepositional phrases may be focus phrases, but prepositional objects may not.

Since there is no visible *wh*-movement in Chinese, and since the focus in canonical Chinese sentences is realized *in-situ*, multiple constituent questions and their answers raise no issues in the (overt) syntax as demonstrated in the question-answer sequences in (4) with the single-pair answer in (4A) and the pair-list answer in (4A). (I leave it open here whether the pair-list

answer in (4A) should more accurately be analyzed as three sequences of a contrastive topic and a focus; cf. §3.3.)

- (4) Q: *Shéi mǎi-le shénme?* A: [*Zhāngsān*]_F *mǎi-le* [*niúrou*]_F.
 who buy-PRF what Zhangsan buy-PRF beef
 'Who bought what?' '[Zhangsan]_F bought [beef]_F.'
- A: [*Zhāngsān*]_F *mǎi-le* [*niúrou*]_F; [*Lǐsì*]_F *mǎi-le* [*jīrou*]_F;
 Zhangsan buy-PRF beef Lisi buy-PRF chicken
 '[Zhangsan]_F bought [beef]_F; [Lisi]_F bought [chicken]_F;
 [*Wángwǔ*]_F *mǎi-le* [*zhūròu*]_F.
 Wangwu buy-PRF pork
 '[Wangwu]_F bought [pork]_F.'

Cf. Liao and Wang (2009) for further discussion of the less obvious complications with such multiple questions and answers, and their interrelations with *wh*-movement.

2.2. Contrastive focus and clefts

The most common patterns to mark contrastive focus and verum focus in Mandarin Chinese involve use of the copula *shì*. In the case of contrastive focus, *shì* precedes the contrastive focus phrase. Following Paul and Whitman (2008), this pattern is called the "Bare *shì* Focus Construction" here. *Shì* in the Bare *shì* Focus Construction immediately precedes the focus phrase, but it never occurs further to the right than at the left edge of the VP. Some examples are found in (5) and (6). (6d) presents negative evidence showing that *shì* may not be used inside the VP.

- (5) Bare *shì* Focus Construction: contrastive focus preceding the VP
- a. ***Shì*** [*Zhāngsān*]_F *zài Běijīng xué yǔyánxué...*
 COP Zhangsan at Beijing study linguistics.
 '[Zhangsan] studies linguistics in Beijing...' (and not my brother)
- b. *Zhāngsān shì zài [Běijīng]_F xué yǔyánxué...*
 Zhangsan COP at Beijing study linguistics.
 'Zhangsan studies linguistics in [Beijing]_F...' (and not in Shanghai)

- (6) Bare *shì* Focus Construction: contrastive focus inside the VP
- a. *Zhāngsān zài Běijīng shì [xué yǔyánxué]_F...*
 Zhangsan at Beijing COP study linguistics
 'Zhangsan [studies linguistics]_F in Beijing...' (he doesn't teach French there)
- b. *Zhāngsān zài Běijīng shì xué [yǔyánxué]_F...*
 Zhangsan at Beijing COP study linguistics
 'Zhangsan studies [linguistics]_F in Beijing...' (and not French)
- c. *Zhāngsān zài Běijīng shì [xué]_F yǔyánxué...*
 Zhangsan at Beijing COP study linguistics
 'Zhangsan [studies]_F linguistics in Beijing...' (he doesn't teach it)
- d. **Zhāngsān zài Běijīng xué shì [yǔyánxué]_F...*
 Zhangsan at Beijing study COP linguistics
 int.: 'Zhangsan studies [linguistics]_F in Beijing...' (and not French)

The Bare *shì* Focus Construction is *not* the canonical cleft construction of Chinese. Canonical clefts in Chinese involve the much discussed *shì...de* construction, exemplified in (7).

- (7) *shì...de* cleft
- Zhāngsān shì zài [Běijīng]_F xué yǔyánxué de*
 Zhangsan COP at Beijing study linguistics DE.
 'It's in [Beijing]_F that Zhangsan studies linguistics.'

The major properties of canonical Chinese *shì...de* clefts on which most researchers converge are as follows. First, the linear syntax of *shì...de* clefts is as in (8).

- (8) TOPIC (*shì*) [[XP]_{FocP...}]_{COMMENT} *de*.

Second, the functional element *de* of Chinese clefts is an instance of the multiply polysemous attribute markers, linkers, and nominalizers found in East and South East Asian languages (Matisoff 1972; Hole and Zimmermann to appear).

Third, Chinese *shì...de* clefts are exhaustive. They presuppose the falsity of all alternative sentences with non-entailed focus values. This is illustrated in (9); the lack of exhaustiveness in the Bare *shì* Focus Construction is exemplified in (10) (from Paul and Whitman 2008).

(9) exhaustiveness of *shì*...*de* clefts

#*Tā shì* [zài Běijīng]_{FocP} *xué yǔyánxué de, dàn yě shì*
 (s)he COP at Beijing study linguistics DE but also COP
 [zài Shànghǎi]_{FocP} *xué de.*
 at Shanghai study DE
 #‘It’s in Beijing that (s)he studied Chinese, but also in Shanghai.’

(10) non-exhaustiveness of the Bare *shì* Focus Construction

Tā shì [zài Běijīng]_{FocP} *xué-guo yǔyánxué, dàn yě shì*
 s/he COP at Beijing study-EXP linguistics but also COP
 [zài Shànghǎi]_{FocP} *xué-guo.*
 at Shanghai study-EXP
 ‘(S)he studied Chinese in Beijing, but also in Shanghai.’

Despite considerable research efforts no consensus has yet emerged on most of the other properties of Chinese clefts. Areas where researchers disagree concern (i) the exact delimitation of Chinese clefts from other focusing constructions (e.g., the Bare *shì* Focus Construction), (ii) positional requirements for clefted constituents, and (iii) what kinds of movement (if any) should be assumed to analyze Chinese clefts. Recent studies in the area include Simpson and Wu (2002), Lee (2005), Cheng (2008), Paul and Whitman (2008), and Hole (2011).

The copula *shì* and *de* are used in pseudoclefts, too. The contribution of *shì* and *de* and the overall syntax of pseudoclefts is less controversial than that of clefts. *De* certainly partakes in the nominalization of the pre-suppositional constituent of the pseudocleft construction, and the copula *shì* equates the nominalized referent with the referent denoted by the DP to its right. An example is found in (11).

(11) Chinese pseudoclefts

[*Zuótiān lái-de (rén)*] *shì* [*Zhāngsān*]_{FocP}.
 yesterday come-DE person COP Zhangsan
 ‘[(The one) Who came yesterday] was [Zhangsan]_{FocP}.’

2.3. Verum focus

The most general means for expressing verum focus in Chinese is the stressed copula *shì* preceding the VP. Examples are provided in (12).

(12) Copula-supported verum focus

- a. [Q: Zhangsan is eating rice?]
 A: [*Shì*]_F (*zài chī fàn*).
 COP ASP eat rice
 ‘Yes, he [is]_F eating rice.’
- b. [Q: She will probably go there?]
 A: [*Shì*]_F (*huì qù*).
 COP will go
 ‘Yes, she [will]_F probably go there.’
- c. [Q: The rose is (not) red?]
 A: [*Shì*]_F (*hóngde*).
 COP red.
 ‘Yes, it [is]_F red.’

In a more general perspective, Mandarin verum foci as in (12) belong in a class together with answers to canonical *yes/no*-questions and to the special kind of tag questions frequently found in Chinese. Two examples of so-called A-not-A *yes/no*-questions (cf. Ernst 1994 among others) and their respective answers are found in (13). (14) covers tag questions.

- (13) a. Q: *Zhāngsān shì-bu-shì lǎoshī?* A: [*Shì*]_F.
 Zhangsan COP-not-COP teacher
 ‘Is Zhangsan a teacher?’ COP
 ‘Yes(, he is).’
- b. Q: *Zhāngsān qù-bu-qù Běijīng?* A: [*Qù*]_F.
 Zhangsan go-not-go Beijing
 ‘Does Zhangsan go to Beijing?’ go
 ‘Yes(, he does).’
- (14) a. Q: *Zhāngsān qù Běijīng, shì bu shì?* A: [*Shì*]_F.
 Zhangsan go Beijing COP not COP
 ‘Zhangsan’s going to Beijing, right?’ COP
 ‘Right.’
- b. Q: *Zhāngsān qù Běijīng, duì bu duì?* A: [*Duì*]_F.
 Zhangsan go Beijing right not right
 ‘Zhangsan’s going to Beijing, right?’ right
 ‘Right.’

Both A-not-A questions (13) and tag questions (14) are formed by juxtaposing the positive and the negated verb form. A *yes/no*-question may be answered in the positive by repeating the structurally highest verb of the question; this is the functional equivalent of saying *yes* in Chinese. With

tag questions as in (14), the answer repeats the predicate in the tag. Answers in the negative are given by a sequence of a negation marker (*bù* or *méi*) and the highest verb; the verb is frequently dropped, though. (13b), for instance, would receive the negative short answer *Bú qù* 'not go' (the tonal change in the negation particle is unrelated to the issue at hand). In this more general perspective, the verum focus marker *shì* in (12) may be seen as a dummy auxiliary in focus which precedes all other verbs or adjectival predicates that may occur in a verum focus reply to a preceding turn. The other verbs or adjectival predicates may be dropped, thereby assimilating 'yes' or 'no' turns in Chinese to the general pattern of expressing verum focus.

2.4. Focus-sensitive particles

Mandarin Chinese has a complex and – at least in parts – highly grammaticalized system of focus-sensitive particles. The system is divided into two major subsystems. The adverbial subsystem involves adverbial particles in a fixed position preceding the VP, auxiliaries, and negation (*zhǐ* and *shènzhì* in (15a)/(16a); *yě* 'also' has a similar syntactic and semantic potential). The focus must be part of, or comprise, the phrase following the particle. The second subsystem involves ad-focus-phrase particles with focus phrases preceding VPs (*zhǐyǒu* and *lián* in (15b)/(16b)). These ad-focus particles, and their focus phrases, are, in most cases, "doubled" by obligatory particles before the VP and verbal functional categories. Shyu (1995) assumes a designated focus phrase projected by *dōu* as a functional head to accommodate the "doubling" particle in the head position, and the focus (phrase) in its specifier. The same could be postulated for *cái*. This subsystem is called "the partition system" here. (15) and (16) present examples from either subsystem for 'only' foci and 'even' foci.

(15) a. adverbial: *Zhāngsān zhǐ [hē chá]*.
Zhangsan only drink tea
'Zhangsan only drinks tea.'

b. partition: *Zhāngsān zhǐyǒu [chá]_F [*(cái) hē]*.
Zhangsan only tea only drink
'Zhangsan drinks only [tea]_F.'

(16) a. adverbial: *Zhāngsān shènzhì [hē chá]*.
Zhangsan even drink tea
'Zhangsan even drinks tea.'

b. partition: *Zhāngsān lián [chá]_F [*(dōu) bù hē]*.
Zhangsan even tea even not drink
'Zhangsan doesn't even drink [tea]_F.'

Hole (2004) analyzes the partition system as a focus-background agreement configuration; Shyu's (1995) focus phrase is thus reinterpreted as a background phrase. In addition to foci triggering the use of *cái* or *dōu* as in (15b)/(16b), Hole (2004) assumes two further general focus-quantificational types which project the complete square of opposition for quantification over focus alternatives: truth of all alternatives/no alternative/some alternative/not all alternatives (cf. Oshima 2005 for a parallel proposal for Japanese). The obligatoriness of the doubling particles in the partition system is particularly noteworthy, because it underlines the degree to which the partition system is grammaticalized. Speakers have no choice but to use a particular marker if a focus is marked by a focus-sensitive particle and precedes the VP and negation.

Hole's (2004) analysis in terms of two different subsystems for adverbial focus marking vs. ad-focus marking with background agreement in a partition system is interesting in light of the long-lasting competition between implementations of focus semantics and syntax in terms of adverbial operators with propositional scope (Jacobs 1983, Rooth 1992, Büring and Hartmann 2000) as opposed to analyses in terms of structured meanings and syntactic partitioning into focus and background (von Stechow 1982, Krifka 1992, 2006, Rooth 1996). The bifurcated system of Mandarin Chinese may provide evidence to the effect that both analyses are needed and that each captures one of two distinct systems of marking focus and quantification over focus alternatives or focus meanings.

An area that requires further research concerns the multitude and multiple polysemy of focus-sensitive particles in Chinese. There is no agreement about the exact range of polysemy of individual particles, and about what should be assumed as their core meanings. *Cái* as used in (15b), for instance, has been analyzed as three-way or four-way polysemous depending on subtle syntactic and contextual distinguishing factors. Alleton (1972), Biq (1984), and with minor deviations, Hole (2004) distinguish (i) an aspectual or temporal use ('only just/a moment ago'), (ii) a "parametric" use as in the background marking pattern of (15b), (iii) an emphatic use as a discourse particle and (iv) a "limiting" use ('only') if the focus follows *cái* – an option which is only available with scalar predicates. Lai (1999) argues for a division of the empirical domain into four different uses as well, but the dividing lines between the uses are drawn differently. According to her view, the basic meaning of *cái* is scalar and evaluational;

the focus value amounts to a lower scalar value than what was expected in a given context. A similarly complex situation holds for *dōu* as in (16b). The major issue with *dōu* is whether the *dōu* in the focus constructions under discussion here is the same *dōu* as the infamous distributive marker in (17) (cf. Lin 1996, 1998 or Huang 1996 for a unifying perspective, and Zhang 1996, Sybesma 1996, and Hole 2004 as opponents of such a unification).

- (17) *Tāmen dōu mǎi-le shū.*
 they all buy-PRF book
 'They all bought books.'

Apart from matters of the controversial polysemy of individual focus-sensitive particles, the sheer multitude of different particles from different distribution classes calls for more research. Next to adverbial, ad-focus, and background markers as distinguished above, one more sentence-final class of focus-sensitive particles must be distinguished, at least in the domain of 'only' words. (18) illustrates two different ways of expressing an 'only' semantics in a sentence-final slot. The difference between the two variants is mainly one of style, with *ěryǐ* being rather literary, and *bàle* colloquial.

- (18) *Zhāngsān gēn wǒ shuō-shuō ěryǐ/bàle.*
 Zhangsan with me talk-talk only/only
 'Zhangsan only [talked a little]_F to me.'

2.5. Prosodic aspects of focus in Chinese

Contrary to a widely held belief, Mandarin Chinese as a lexical tone language does allow for the simultaneous realization of lexical tones and sentence prosody. A growing body of literature converges on this point. I will first provide some background on the tonal system of Mandarin Chinese before describing its interaction with focus prosody.

Except for some functional morphemes, each syllable in Chinese has one of four underlying lexical tones. Since each syllable is, at the same time, also a potential morpheme, there is a direct correspondence between syllables, tone-bearing entities, and potential morphemes. Depending on speech style and the occurrence of the syllable in a complex word or phrasal context, the tone may be neutral/suppressed. Stressed syllables invariably bear their underlying lexical tones, but not all syllables bearing a pronounced tone are stressed. The Mandarin tone system is a mixed register/contour tone system, where register tones have a flat fundamental frequency f_0 ,

and contour tones have an f_0 which varies along the time axis. The tones of Mandarin are analyzed as (i) a high level tone, (ii) a rising contour tone, (iii) a low level tone (or a low tone with a final rise contour; the realization depends on the phonological context, with the rise/high target of the low level tone probably being a superficial phonetic effect), and (iv) a falling contour tone. Cf. Yip (1980) or Zhang and Lai (2010) for representative analyses of the phonology and phonetics of lexical tone in Mandarin.

In a groundbreaking study, Xu (1999) identifies increased word length and f_0 range expansion as the major acoustical correlates of focus in Mandarin. The length parameter affects words, and not so much syllables; what is comparable in terms of (more or less) constant ratios is the duration of focused and neighboring non-focused words, and not the duration of stressed and neighboring non-stressed syllables. The fundamental frequency f_0 is affected in such a way that focused syllables tend to have higher high level tones, lower low level tones, and an expanded frequency range with contour tones. Syllables following focal syllables are deaccented with concurrent lowering of f_0 and compression of the f_0 range. The contrast in prosody between deaccented material and preceding focal material also seems to play a role in the identification of the focus category. Chen and Braun (2006) present evidence to the effect that in replies to constituent questions speakers produce expanded f_0 ranges on focal syllables that target both lower and higher f_0 targets, whereas corrective focus tends to lead to higher maximum f_0 targets only. Chen (2008) presents analogous findings concerning the prosody of contrastive focus in Shanghai Chinese.

3. Topics and related matters

The overview of topic structures and related matters in Mandarin Chinese will be organized along the following dimensions. Following the introduction to this volume, aboutness topics in the sense of Reinhart (1982) are distinguished from frame-setters in the sense of Chafe (1976) by the correspondence of the former to "file cards". File cards are Reinhart's (1982) concept to capture the fact that, in a discourse, information about topical discourse referents is accumulated and kept track of as if it was written on individual file cards for each referent. Frame-setting expressions, by contrast, restrict the domain for which the rest of the utterance is claimed to be true, or relevant. This first distinction is illustrated in (19) and (20).

(19) (aboutness topic)

[Guānyú zhè-ge wèntí]_{abT}, wǒ zhījié gēn Lǎo Wáng liànxì.
 about this-CL question I directly with Old Wang get.in.contact
 '[About this problem]_{abT}, I'll contact Old Wang directly.'

(20) (frame-setting expression)

[Wǔ-diǎn zhōng]_{Ft}, tā hái méi lái.
 5-o'clock time (s)he not have come
 '[At five o'clock]_{Ft}, (s)he still hadn't arrived.'

Unless the discourse in which (20) is embedded is about all the things that happened at five o'clock, this sentence is a clear example of a frame-setting expression. (19), on the other hand, features a clear aboutness topic.

The second dimension along which topics and related matters vary, is their property of indicating alternatives. I will follow Krifka and Musan (this volume) by assuming that frame-setters always indicate alternatives, aboutness topics may or may not do so. Aboutness topics which indicate alternatives are called "contrastive topics"; (21) presents an example of contrastive topic use.

(21) Q: Zhāngsān fūqī-liǎng zài zuò shénme?

Zhangsan spouses-two ASP do what
 'What are Zhangsan and his wife doing?'

A: [Zhāng tàitai]_{CT} [zài shàng bān]_F [Zhāngsān]_{CT} [zài xiūxi]_F.
 Zhang Mrs. ASP go.to.work Zhang Mr. ASP rest
 '[Mrs. Zhang]_{CT} [is at work]_F. [Zhangsan]_{CT} [takes a break]_F.'

The distinctions made thus far yield the classification in Table 1.

Table 1. Feature matrix for topics and frame-setters

	description	corresponds to a file card	indicates alternatives
aboutness topic (non-contrastive)	non-contrastive aboutness topic	+	–
contrastive topic	contrastive aboutness topic	+	+
frame-setter	frame-setter (always with a contrastive component)	–	+

The tradition dealing with topics and related matters in Chinese makes frequent reference to two further concepts: dangling topics and multiple, or stacked, topics. A dangling topic is a topic which does not correspond to an argument position in the comment; cf. (22) with a dangling aboutness topic.

(22) [Zhèi-jiàn shì]_{abT}, nǐ bù néng guāng máfǎn yì-ge rén.
 this-CL matter you not can only bother 1-CL person
 '[This matter], you can't bother only one person (with it).'

A standard example of a multiple topic structure is found in (23).

(23) Zhōngguó_{abT3}, [dà chéngshì]_{abT2}, Běijīng_{abT1/Subject} zuì yǒu yìsi.
 China big city Beijing most interesting
 'Among [the big cities of China_{abT3}], Beijing_{abT1} is the most interesting one.'

It is assumed here that the two leftmost topics in (23) are (higher-order) aboutness topics, and not frame-setters, but this view may be subject to revision once more studies with a fine-grained information-structural toolkit have been prepared in this empirical domain. Note that multiple topics are always dangling topics (except for the rightmost one).

From among the host of empirical and theoretical issues tied to topics and related matters in Chinese, we will discuss the following five in some more detail here: (i) the purportedly exotic status of dangling topics; (ii) semantic subkinds of multiple topics; (iii) objects as topics; (iv) *bǎ*-marked objects as secondary topics.

3.1. Dangling topics

The availability of dangling topics in Chinese is often taken to be a special feature of this language, or of typologically and/or areally related languages. Some more examples of this type of topic are provided in (24) ((24a) equals (19), except for the omitted preposition in sentence-initial position; (24b/c) are from Li and Thompson 1981: 96, translations are mine; D.H.).

(24) a. [Zhè-ge wèntí], wǒ zhījié gēn Lǎo Wáng liànxì.
 this-CL question I directly with Old Wang get.in.contact
 '[This problem], I'll contact Old Wang (about it) directly.'

- b. [Zhèi-jiàn shì], nǐ bù néng guāng máfǎn yì-ge rén.
this-CL matter you not can only bother 1-CL person
'[This matter], you can't bother only one person (with it).'
- c. [Nèi-chǎng huǒ], xiāofangduì lái-de kuài.
that-CL fore fire brigade come-DE fast
'That fire, the fire brigade came quickly (to take care of it).'
- d. [Chúfáng] rén hěn duō.
kitchen people very many
'The kitchen, there are many people (in it).'

Gasde (1999) points out that German, for instance, has dangling topics just like Chinese once spoken varieties are taken into account. This observation, which can probably be extended to other languages, greatly reduces the purported exotic status of dangling topics in Chinese. It may be nullified altogether once it is acknowledged that Chinese topic structures as in (24) tend to be colloquial and are avoided in written registers.

3.2. Semantic subtypes of multiple topics

Example (23) was a multiple topic structure with a part-whole relationship holding between the initial and the second topic. The relationship between the second and the rightmost topic was of the kind-instance type. (25) presents some more examples.

- (25) a. [Xiàng_{abT2}, [bizi_{abT1/Subject} cháng]]. (Li and Thompson 1981: 92)
elephant nose long
'Elephants have long trunks.'
- b. [Wǔ-ge píngguǒ]_{abT2}, [liǎng-ge]_{abT1/Subject} huài le.
5-CL apple 2-CL bad PRT
'Of the five apples, two are spoiled.'
- c. Zhāngsān_{abT2}, [nǚ péngyǒu]_{abT1/Subject} duō.
Zhangsan girlfriends many
'Zhangsan has many girlfriends.'
(lit.: 'Zhangsan, his girlfriends are numerous.')
- d. Huā_{abT2}, méiguī_{abT1/Subject} zuì piàoliang.
flower rose most pretty
'Roses are the most beautiful flowers.'

(25a–c) can all be subsumed under the notions of part/whole or possession, where (25c) might also be said to instantiate an "aspect-of" relationship, rather than possession (Zhangsan's girlfriends and the matters associated with them may constitute an aspect of Zhangsan's as opposed to a part of his possession). (25d) features a kind-subkind relationship. There may be other relationships underlying multiple topic structures, but the ones discussed here are certainly the most frequent ones.

3.3. Objects as topics

The nominals in (26) are aboutness topics, but their grammatical function has been a matter of debate.

- (26) a. [Nèi-běn shū]_{abT} chūbǎn le. b. Yú_{abT} chī le.
that-CL book publish PRT fish eat PRT
(i) 'That book, (someone) published it.' (i) 'The fish, (someone) has eaten it.'
(ii) 'That book has been published.' (ii) 'The fish has been eaten (up).'

Li and Thompson (1981: 88–89) argue that (26a) is a sentence with a topic, but with no subject nominal (spelled out as reading (i)). A different analysis, favored here at least as a further structural option, would assign the nominal subject status in a passivized structure without overt passive morphology (reading (ii)). The same point is illustrated by the classical example from Chao (1969) in (26b), with the additional complication that the string has a third plausible analysis as an agent-verb sequence (which is of no interest in our context).

3.4. Preposed objects as secondary topics

It has been claimed that Chinese has a secondary topic position between the subject and the VP. Both shifted objects with no specific marking as in (27a) (Shyu 2001, Paul 2005) and *bǎ*-marked nominals as in (27b) (Tsao 1987) have been given analyses along these lines (cf. Li 2001 for a survey of the Chinese *bǎ*-construction, a standard problem of Chinese grammar writing; *bǎ* is a functional element (preposition or light verb) which licenses nominals in pre-verbal position).

- (27) a. *Tā huǒchē méi gǎnshàng.* b. *Tā bǎ shū kàn-wán le.*
 (s)he train not.have catch (s)he BA book read-finish PRT
 '(S)He didn't catch the train.' '(S)He finished reading the book.'

(28A) presents two clear cases where the *bǎ*-marked objects are *contrastive* secondary topics.

- (28) Q: *Tā bǎ shū hé zázhì dōu kàn-wán le?*
 (s)he BA book and magazine all read-finish PRT
 'Has he finished the book and the magazine?'
 A: *Tā bǎ [shū]_{CT} kàn-wán le, [zázhì]_{CT} hái méi kàn-wán.*
 (s)he BA book read-finish PRT magazine still not read-finish
 'The book, he finished; the magazine, he hasn't finished yet.'

3.5. Prosodic aspects of topics in Chinese

Plain aboutness topics have a rather neutral prosody (Chen and Braun 2006). They are neither affected by focal pitch range expansion or longer focal duration, nor by post-focal deaccentuation, nor by compression (cf. §2.5.). Contrastive topics appear to be marked in a similar way as foci in the comment, namely by higher f_0 targets, and by a longer duration than non-focal/non-contrastive segments. Low f_0 targets may be affected less with contrastive topics than with foci in comments. Put differently, contrastive topics seem to involve a mere upper f_0 range expansion while leaving lower f_0 targets unaffected, or even slightly raising them. These generalizations involve some interpretation of my own because the delimitation of information-structural categories like topic or background varies among studies, and sometimes it does not coincide with the one favored in this survey (Chen and Braun 2006, Wang and Xu 2006, Chen 2008).

4. Given vs. new

Major issues pertaining to the given/new dichotomy in Mandarin Chinese include (i) definiteness effects depending on syntactic function/position and (ii) the array of anaphoric expression types in Chinese as well as restrictions on their (non-)use. To appreciate these phenomena in their systematic context, the following characteristics of Chinese nominals must briefly

be mentioned. Chinese does not mark number on nouns (the suffix *-men* on nouns denoting humans which is sometimes discussed in this context derives collective denotations). Argument positions may either be occupied by bare nouns or by more complex nominals. Whenever demonstratives or numerical expressions precede the noun, classifiers must be used between these functional elements and the noun. Given these basic properties of Chinese nominals, bare nouns constitute an especially interesting domain of investigation because they contain no functional morphemes indicating their status as *given* or *new*. Despite the lack of definiteness marking, bare nouns display definiteness effects in some syntactic environments. The first such effect concerns subjects vs. objects. Bare nouns in a non-subject (and non-topical) position are typically interpreted as indefinite (unless they denote inherently definite entities), whereas they are invariably definite in the subject position preceding the verb; cf. (29). This contrast is particularly striking with unaccusative verbs of (dis-)appearance, which allow their sole arguments to surface either preverbally or postverbally; cf. (30).

- (29) a. *Zhāngsān yùdào-le wàiguórén.*
 Zhangsan meet-PRF foreigner
 'Zhangsan met foreigners/a foreigner.'
 b. *Wàiguórén yùdào-le Zhāngsān.*
 foreigner meet-PRF Zhangsan
 'The foreigner met Zhangsan.'
- (30) a. *Lái-le kèrén le.*
 come-ASP guest PRT
 'Guests have/A guest has arrived.'
 b. *Kèrén lái le.*
 guest come PRT
 'The guest(s) has/have arrived.'

In the object position, indefinite nominals with the basic structure *yī* 'one' + classifier + N are frequently used as equivalents of expressions with indefinite articles in English; this allows Chinese speakers to make a choice between (29a) and (31) if they want to describe an event in which Zhangsan met a single discourse-new foreigner. Statistical determinants influencing the choice between either option probably include specificity and whether the foreigner will be topical in the ensuing discourse. Both factors appear to favor the use of the more articulate structure in (31).

- (31) *Zhāngsān yùdào-le yī-ge wàiguórén.*
 Zhangsan meet-ASP 1-CL foreigner
 'Zhangsan met a foreigner.'

Indefinite subjects are barred from non-thetic sentences, at least in written registers; cf. (32a). 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. **Yī-ge wàiguórén yùdào-le Zhāngsān.*
 1-CL foreigner meet-PRF Zhangsan
 int.: 'A foreigner met Zhangsan.'
 b. *Yǒu yī-ge wàiguórén yùdào-le Zhāngsān.*
 EXS 1-CL foreigner meet-PRF Zhangsan
 'A foreigner met Zhangsan.'

There is a class of potential counterexamples to the definiteness restriction on subjects in Chinese. Two such examples are provided in (33).

- (33) a. *Yī-zhāng chuáng shuì sān-ge rén.*
 one-CL bed sleep 3-CL people
 'One bed accommodates three people.'
 b. *Wǔ-ge xiǎohái chībúwán shí-wǎn fàn.*
 5-CL children cannot.eat 10-bowl rice
 'Five children cannot finish ten bowls of rice.'

The peculiar measuring semantics of this type of sentence, and independent syntactic reasons, lead Li (1998) to a treatment of phrases of the type 'numeral + CL + NP' in (33) as NumPs, i.e., as phrases headed by a number head with no empty determiner structure on top. For cases like (31) or (32), however, she assumes a fully projected DP with an empty (in)definite D head. This move, which Li (1998) demonstrates to be independently motivated, allows us to maintain the ban on indefinites in the subject position of non-thetical sentences, where NumPs do not count as indefinite DPs.

Taken together, Chinese is a prime example of a language which renders transparent the close link between the discourse relation of topicality and the grammatical relation of subjecthood. Unlike languages such as English, where subjects just tend to be definite, subject DPs in Chinese must be interpreted as definite.

In §3.4. we discussed the secondary topic position preceding the VP in which the functional element *bǎ* allows preposed objects. A definiteness effect is observed for this secondary topic position, too (cf. (34)).

- (34) a. preposed *bǎ* object
Tā bǎ shū kàn-wán-le.
 (s)he BA book read-finished-PRF
 '(S)He finished reading the/*a book(s).'
 b. *in-situ* object
Tā kàn-wán-le shū.
 (s)he read-finish-PRF book
 '(S)He finished reading a book/books/the book.'

We will now turn to the use of pronouns and anaphoric expressions. These expressions have a givenness feature in their lexical specification, and this makes them relevant objects of study in the domain of information structure. This holds true especially against the background of the fact that Mandarin Chinese is a highly discourse-oriented pro-drop language (as opposed to syntax-oriented languages) which allows for a lot of zero anaphora. 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 hypothesize 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 generalizations, Li and Thompson (1979: 333–334) identify two environments where zero anaphora does not occur: (i) after prepositions as in (35) (there is no preposition stranding in Chinese) and (ii) with so-called pivotal verbs as in (36) (*qǐng* 'invite', *mìnglìng* 'order', etc.), with ditransitive control verbs, that is, which subcategorize for an addressee nominal and an infinitival clause.

- (35) *Wǒ gēn *(tā) xué.*
 I with (s)he learn
 'I learn from him/her.'
 (36) *Wǒ mìnglìng *(tā) chī fàn.*
 I order (s)he eat
 'I order him/her to eat.'

Huang (1984) adopts the general characterization of Chinese as discourse-oriented, but he further assumes the cross-classifying dimension of richness vs. poverty of agreement morphology to distinguish among pro-drop languages with a considerable amount of agreement morphology (most Romance languages, e.g.) and pro-drop languages with less or no agreement morphology (Chinese, Japanese). He combines this classification of Chinese with a more syntax-based view of pronominalization and ellipsis options than previous authors did (cf. the increasingly polemic debate in Xu and Langendoen 1985, Huang 1984, Xu 1986, Huang 1987, cf. also Huang 1999). Huang's (1984) most important generalization for Chinese is that zero anaphora of direct objects in Chinese is more restricted than zero anaphora of subjects, and he relates this observation to analogous asymmetries in Japanese (Kuroda 1965) and topic drop in German (Ross' 1982 "Pronoun Zap"). The contrasts in (37), especially between (37a) and (37b), exemplify the generalization in (38) (Huang 1984: 538; the rather theory-neutral and narrow wording of (38), which does not do justice to the wider consequences of Huang's observation, is mine; D.H.).

- (37) a. *Zhāngsān_i xīwàng* [$\emptyset_{i/k}/t\bar{a}_{i/k}$ *kěyǐ kànjian* *Lǐsǐ_j*].
 Zhangsan hope \emptyset / (s)he can see Lisi
 'Zhangsan_i hopes that he_{i/j} can see Lisi.'
- b. *Zhāngsān_i xīwàng* [*Lǐsǐ_j kěyǐ kànjian* $\emptyset_{*i/*j/k}$].
 Zhangsan hope Lisi can see \emptyset
 'Zhangsan_i hopes that Lisi can see him_{*i/j}.'
- c. *Zhāngsān_i xīwàng* [*Lǐsǐ_j kěyǐ kànjian* *tā_{i/*j/k}*].
 Zhangsan hope Lisi can see (s)he
 'Zhangsan_i hopes that Lisi can see him_{i/j}.'

- (38) The antecedent of an elided object in an embedded clause cannot be the matrix subject.

(37a) shows that subjects of embedded clauses, no matter if they are pronominal or elliptical, may refer to the matrix subject, or to a discourse-given topical entity. Things are different in (37b). Here the matrix subject is not a possible antecedent of the elliptical object; only discourse-given topics are. (37c) shows that the pronominal object again has the wider range of interpretive options known from (37a). (The local subject antecedent in (37b/c) is excluded because this configuration would require the reflexive form (*tā*-*zìjǐ*). The pattern follows if empty objects, but not empty

subjects, always correspond to constituents that were topicalized first, and then deleted (or if they are, more generally, interpreted as variables bound from A-positions; this is Huang's 1985, 1987 generalization). To recapitulate Huang's (1984) implementation of this pattern (cf. also Li's 2007 fresh look at the facts) would lead us too far afield. The point to be brought home is that zero anaphora in Mandarin Chinese is a phenomenon that is not as unconstrained by syntax as it seemed to be at first glance.

Acknowledgements

This chapter is based on work that was conducted with support from the *Deutsche Forschungsgemeinschaft* (i) within the Collaborative Research Center SFB 632 "Information Structure" (Project A5 conducted by Malte Zimmermann) and (ii) in the context of a Heisenberg fellowship grant (Ho 2557/3-1). This support is gratefully acknowledged. I benefitted from discussions with, and written comments prepared by, the editors, Jin Cui (Stuttgart/Cologne) and Jingyang Xue (Göttingen). Mistakes are mine.

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The information structure of English

Susanne Winkler

The current article describes the linguistic encoding of focus, topic, and givenness in English as dimensions of information structure that regulate the flow of information in the continuous update of the common ground.

Consider example (1). The alternative responses to the question in (1A) show different packaging possibilities of the same constituent due to certain variations with respect to word order, particles, length, or elaboration:

- (1) A: *What did Peter buy for his daughter?*
 B1: *Peter bought a [Bicycle].*
 B2: *A [Bicycle].*
 B3: *Peter bought for his daughter a [Bicycle].*
 B4: *A [Bicycle], he bought.*
 B5: *Only a [Bicycle] did he buy for his daughter (not a CAR).*
 B6: *What he bought, was a [Bicycle].*
 B7: *He bought a [Bicycle] for his [DAUGHTer] and a [SKATEboard] for his [SON].*

The responses (B1–7) are similar, as each of them serves as a felicitous answer to the same question, which requires the specification of Peter's present for his daughter. The constituent *a bicycle*, which corresponds to the *wh*-phrase in (1A), provides the missing information in the answer and adds it to the common ground. This constituent, which is intonationally highlighted by the main accent and bracketed, is generally referred to in the literature as the *focus* of the sentence. The unbracketed parts of the clauses are not intonationally highlighted and may serve different discourse functions, such as discourse *givenness* or *topichood*. The subject of the answer in (1B1), for example, functions as the *unmarked topic*, since *Peter* is what the discourse is about (cf. Reinhart 1982). It is important to notice that although the different answers to the question in (1A) are felicitous answers since they all provide the same focus constituent *a bicycle*, some answers seem to correspond more optimally to the speaker's request for information than others. Compare, for example, the fragmentary answer in (1B2) to the elaborate answer in (1B7). One could argue that the fragmentary answer is the more appropriate answer to the question, because it is brief, while (1B7)