Studies in Language 14-2. 291-323 (1990).

A FUNCTIONAL ANALYSIS OF COPULA CONSTRUCTIONS IN MANDARIN CHINESE

KEES HENGEVELD
University of Amsterdam

0. Introduction[1]

This paper examines the Mandarin system of non-verbal predication and the use of copula morphemes within that system, taking the Copula Support Hypothesis (CSH) as developed by Dik (1980, 1983a, 1987) within the framework of Functional Grammar (FG)[2] as a point of departure. The CSH is based on the assumption that the copula is a semantically empty supportive device, whose main function is to carry those grammatical distinctions which cannot be expressed otherwise in a given language. The basic idea behind the CSH is that an approach in which the copula is inserted only in those contexts in which it is required is psycholinguistically and typologically more adequate than an approach in which the copula is first generated in all underlying structures containing a non-verbal predicate and afterwards deleted in those contexts in which it does not have to appear. In fact, the constraints which FG imposes on possible grammars would disallow the latter approach.

Linguistic expressions are represented in FG in underlying predications, in which semantic functions (Agent, Goal, etc.) specify the relation between the participants in the State of Affairs (SoA) designated by that predication, syntactic functions (Subject, Object) the perspective from which the SoA is presented, and pragmatic functions (Topic, Focus, Theme, Tail) the informational status of the arguments. To form a predication the speaker selects a predicate frame from the lexicon, such as:

(1) $give_V\ (x_i)_{Ag}\ (x_j)_{Go}\ (x_k)_{Rec}$

This predicate frame provides the information that *give* is a verbal predicate which takes three arguments with the semantic functions Agent, Goal, and Recipient. Through term insertion into the argument slots of the predicate frame and specification of the relevant operators a predication like the following is reached:

(2) Past $give_V$ $(d1x_i: Mary\ (x_i))_{Ag}$ $(i1x_j: book\ (x_j))_{Go}$ $(d1x_k: John\ (x_k))_{Rec}$

Terms are referring expressions of the following general format:

(3) $(\Omega X_i: \phi_1(x_i): \phi_2(x_i): \ldots :\phi_n(x_i))$

in which x is a term variable, ϕ a predicate and Ω represents one or more term operators. Each $\phi(x)$ constitutes an "open predication in x" which further restricts the set of potential referents of the term. Operators represent grammatically coded semantic distinctions. Term operators capture distinctions like definite (d) versus indefinite (i) and singular (1) versus plural (m). Predicate operators capture distinctions generally coded on or near the predicate, such as Tense, Mood, Aspect, and Polarity. The final expression of an underlying predication is handled by expression rules, which in the case of (2) would have to result in:

(4) Mary gave a book to John.

Verbal and non-verbal predicates are represented in the same way in the lexicon. Thus, instead of (1) the speaker may select (5):

(5) $clever_A\ (x_i)_\emptyset$

This predicate frame provides the information that *clever* is an adjectival predicate which takes one argument with the semantic function Zero. It is in the expression of underlying predications built on non-verbal predicate frames that a rule of Copula Support becomes relevant. Consider the following underlying predication:

(6) Pres $clever_A\ (x_i: Mary\ (x_i))_\emptyset$

In the final expression of this underlying predication the copula will have to appear. This is ensured by a Copula Support Rule of the following general format:

(7) COPULA SUPPORT
input: π $predicate_\beta$ (x_1) (x_2) .. (x_n)
conditions: $\pi =$ ..
$\beta =$ ..
.. = ..
output: π $copula_\tau$ predicateβ (x_1) (x_2) .. (x_n)

The conditions to be specified in the rule are language specific: in some languages certain predicate operators (π) will trigger Copula Support, in others the predicate type (β), properties of the argument (x), or other factors will be relevant. Possibly some languages will not need a Copula Support Rule at all. If they do, the copula type (τ) is relevant. To account for the appearance of the copula *be* in English Dik (1983a) formulates the following rule:

(8) *BE* SUPPORT
input: π $predicate_\beta$ (x_1) (x_2) .. (x_n)
conditions: $\pi =$ any specified predicate operator
$\beta \neq V$
output: π be_V $predicate_\beta$ (x_1) (x_2) .. (x_n)

This rule is based on the idea that the appearance of a copula in English is a result of the fact that all predicate operators need to be expressed on a verbal predicate. In all cases in which no such verbal predicate is present, the empty verb *be* is inserted. Application of rule (8) to (6) results in:

(9) Pres be_V $clever_A$ $(x_i: Mary\ (x_i))_\emptyset$

which will be expressed as:

(10) Mary is clever.

Apart from bare non-verbal predicates there are also derived non-verbal predicates. Among them are predicates derived from terms, as in:

(11) A cat is an animal.

and predicates derived from terms provided with a semantic function, as in:

(12) The cat is in the garden.

The term "adpositional predicate" will be used in this paper to refer to the latter predicate type. The predicates involved are produced by a predicate formation rule of the following format (see Dik 1980):

(13) TERM-PREDICATE FORMATION
Input: $(t)_{(sf)}$
Output: $\{(t)_{(sf)}\}\ (x_1)_{\emptyset}$

Other types of non-verbal predicates will be introduced in 3.

Being an analytic language, Mandarin Chinese is particularly interesting in the context of the Copula Support Hypothesis. The hypothesis predicts that in analytic languages, in which grammatical distinctions are expressed in separate morphemes, and not marked on a (verbal) predicate, the presence of the operators involved would not be a triggering condition for the appearance of a copula. Therefore, one would expect that if such a language makes use of one or more copulas, these uses should depend crucially on other triggers, such as properties of the predicate or the ø-argument, and that these triggering conditions have a different explanation.

The organization of this paper is as follows. In Section 1. the basic uses of the Mandarin copulas *shi* and *you* are summarized. These uses do not present any particular problem to the approach outlined above. In the following sections some constructions are studied in greater detail: constructions with *you* in Section 2., and with *shi* in Section 3. Section 4. is concerned with non-verbal auxiliary constructions. In Section 5. I try to relate the findings to the general principles underlying the CSH. In conclusion, I propose a number of rules to capture these findings. Unless indicated otherwise, examples used in this paper are taken from Li and Thompson (1981).

1. Basic uses of *shi* and *you*

Mandarin has two copulas: *shi*, which is optional except if negated, and *you*. *You* has a negative counterpart, *mei*, which may optionally be followed by *you*. *You* is generally referred to as an existential morpheme, but since the present paper is concerned with demonstrating that both *shi* and *you* can be treated as semantically empty supportive devices, I will refer to both morphemes as copulas. The main uses of these copulas are:

Shi: Term-predicates.

(14) a. *Zhangsan (shi) yi -ge hushi*
Zhangsan (COP) one CL nurse
'Zhangsan is a nurse.'

b. *Wo bu shi Zhongguo-ren*
1SG not COP China person
'I'm not a Chinese.'

You/Mei(you): Adpositional predicates with an indefinite ø-argument.

(15) *You yi -ge ren zai waimian jiao -men*
COP one CL person LOC outside knock door
'There's someone outside knocking at the door.'

No copula: Adpositional predicates with a definite ø-argument.

(16) *Lisi zai hai-bian*
Lisi LOC sea side
'Lisi is at the coast.'

Informally, these different uses are captured by the following representations:

(17) (*Shi*): $\{(x_i)\}\ (x_1)_{\emptyset}$
You / Mei(*You*): $\{(x_i)_{sf}\}\ (ix_1)_{\emptyset}$
No copula: $\{(x_i)_{sf}\}\ (dx_1)_{\emptyset}$

In the following sections some of these constructions will be studied in more detail.

2. The existential copula *you*

In Section 1. *you* was characterized as a copula which is used in the context of an adpositional predicate with an indefinite ø-argument. Some examples are:

(18) *You yi -ge ren dou -le*
COP one CL person shake PF
'There was someone who shook.'

(19) *(Zai) wuzi -li you san -ge ren*
(LOC) house in COP three CL person
'In the house, there are three people.'

(20) *You yi -zhi gou zai yuanzi-li*
COP one CL dog LOC yard in
'There's a dog in the yard.'

(21) *Ta you san -ge haizi*
3SG COP three CL children
'He has three children.'

These examples illustrate that *you* can be used in several types of existential constructions, i.e. pure existential (18), existential-locative (19)-(20), and existential-possessive (21) constructions. These will be referred to as existential, locative and possessive constructions respectively in the following sections.

2.1 *Existential and locative constructions*

For the analysis of existential constructions Dik (1980: ch.4) proposed the following structure:[3]

(22) $\{(\emptyset)_{Loc}\}\ (ix_1)_{\emptyset}$

This representation is based on the idea that existence can be viewed as being situated at an unspecified location, and predicts a correspondence between existential and locative constructions: their underlying structure is the same, but in locative constructions the location is specified, whereas in existential constructions it is not. This analysis can be applied straightforwardly to (18) and (20):

(23) $\{(\emptyset)_{Loc}\}\ (i1x_i\text{: } ren_N\ (x_i)\text{: Pf } dou_V\ (Rx_i))_{\emptyset}$

(24) $\{(x_i\text{: yuanzi-li}_N\ (x_i))_{Loc}\}\ (i1x_j\text{: } gou_N\ (x_j))_{\emptyset}$[4]

The situation with respect to (19) is less clear cut. The preposition *zai* 'at' is optional if it is in initial position (in presentative constructions, see Li and Thompson 1981: ch.17), whereas it is obligatory in other contexts, such as (20) and (25):

(25) *ta zai zhuozi-shang tiao*
3SG LOC table on jump
'He is jumping on the table.'

The question is how the locative phrase in (19) should be analyzed. If it is analyzed as a locative predicate, the optional absence of *zai* is hard to explain. If it is analyzed as a Subject, which would make a translation like "the house has three people (in it)" more appropriate, it is difficult to account for the optional presence of the preposition, as Subject assignment masks the expression of semantic functions in Mandarin (see Shen 1987a).

This leads me to consider a third possibility: the analysis of the locative phrase as a Theme.[5] The extraclausal pragmatic function Theme is assigned in FG to the constituent which "presents a domain or universe of discourse with respect to which it is relevant to pronounce the following Predication" (Dik 1978: 130). The general schema for Theme-Predication constructions is given in (26):

(26) $(x_i)_{Theme,}$ Predication

If (19) is analyzed as a Theme-Predication construction it can be regarded as an existential predication with a locative Theme, as represented in (27):

(27) $(x_i\text{: wuzi-li}_N\ (x_i))_{(Loc)Theme,}\ \{(\emptyset)_{Loc}\}\ (i3x_j\text{: } ren_N\ (x_j))_{\emptyset}$

The optional appearance of *zai* is explained here as dependent upon the question whether or not the Theme constituent is assigned the semantic function which it would have if it were to occupy a position within the Predication.[6]

Confirmation for the Theme analysis of the sentence-initial locative phrase can be derived from sentences like (28) (Li 1972):

(28) *Zai yueqiu-shangmian you ganlao zai ner*
LOC moon on COP cheese LOC there
'On the moon there is cheese there.'

The occurrence of *zai ner* in (28) can be explained as a measure to resume the Theme within the Predication, or, in other words, to fill the empty predicate with an anaphoric element, as represented in (29):

(29) $(x_i\text{: yueqiu-shangmian } (x_i))_{Loc\ Theme,}\ \{(Ax_i)_{Loc}\}\ (x_j\text{: gan-lao } (x_j))_{\emptyset}$

For those cases in which *zai* does occur, the sentence-initial locative phrase may possibly be ambiguous in that it may be analyzed, as has been done here, as a constituent external to the predication, a Theme, or it may be analyzed as a constituent internal to the predication, a locative predicate. If correct, these two interpretations might be related diachronically, a question to which I will return in 5.1.

2.2 *Possessive constructions*

Turning now to the possessive construction[7] in (21) the same analysis may be proposed:

(30) $(x_i$: ta $(x_i))_{(Poss)\ Theme,}$ $\{(\emptyset)_{Loc}\}$ $(i3x_j$: haizi$_N$ $(x_j))$

Since the semantic function Possessor has no expression in Mandarin Chinese (see Section 3.), a comparison with locative constructions is hard to make. There is however some evidence to support the analysis in (30). The empty locative predicate can be filled with an appropriate term, as in the following example (taken from Li 1972):

(31) *Taikongren you nei -zhong yueshi zai taikongchuan-li*
Astronauts COP that kind moonrocks LOC spaceship in
'The astronauts have that kind of moonrocks in the spaceship.'

This sentence can be represented as in (32):

832) $(x_i$: taikongren $(x_i))_{Theme,}$ $\{(x_j$: taikongchuan-li $(x_j))_{Loc}\}$ $(ix_k$: yueshi $(x_k))_{\emptyset}$

An implication of the Theme analysis of possessive and locative constructions with a sentence-initial constituent specifying possessor or location is that the two constructions are structurally similar if the locative semantic function is not expressed. This fits in with the observation in Li and Thompson (1981: 513) that the similarity of *you* constructions resides in the fact that "[...] something is being claimed to exist; the difference is whether it is said to exist with respect to a place or to another entity".[8]

3. The classifying copula *shi*

In Section 1. the basic function of the optional copula *shi* was characterized as linking a term and a term-predicate. Many of the different uses of *shi* can be explained in this way, in particular its use with predicates containing an adjectival or possessive predicate (3.1). Other uses ask for a refinement of this basic definition: its use as a focus marker (3.2), and its occurrence in veridical constructions (3.3).

3.1 *Adjectival and possessive predicates*

Mandarin Chinese has very few true adjectives,[9] next to a large class of adjectival verbs. True adjectives cannot be put to predicative use, but have to be nominalized first. Consider the following example:

(33) *nei -feng xin (shi) jia de*
that CL letter COP fake NOM
'That letter is a fake.'

The true adjective *jia* is nominalized by means of the particle *de* and treated as a term-predicate, witness the optional appearance of *shi*. According to Li and Thompson (1981) the true adjectives which behave in this way can be roughly characterized as designating absolute properties. Adjectival verbs, most of which designate scalar properties, can be used predicatively without further measures being taken.

The particle *de* in (33) deserves some attention. It has been characterized as a nominalizer, but is in fact a multipurpose particle, which can be used to introduce all kinds of restrictors of the head of a term, such as relative clauses (34), associative phrases (35), possessive phrases (36), and adjectives (37):

(34) *Zhangsan mai de qiche*
Zhangsan buy DE car
'The car that Zhangsan bought'

(35) *kexue de fazhan*
science DE development
'The development of science'

(36) *ni -de nei -ben shu*
2SG DE DEM CL book
'That book of yours'

(37) *hong de hua*
red DE flower
'A red flower'

In all cases, the main function of *de* is to mark restrictors of the head noun. Since in FG the head noun too is conceived of as a restrictor of the term variable, one could say that *de* introduces non-first restrictors.

Given this basic function of *de* its nominalizing function can be explained. Since *de* is used only to introduce non-first restrictors, its appearance in, for instance, the predicate in (33), *jia de* 'a fake', indicates that a first restrictor is understood. A possible paraphrase for (33) could be: "that letter is a fake letter", or: "that letter is a fake one". To account for these facts an underlying structure like the following, adapted from de Groot (1983), may be hypothesized:

(38) $\{(x_i\colon A\phi_N\,(x_i)\colon \text{jia}_A\,(x_i))\}\,(x_j\colon \text{xin}\,(x_j))_\phi$

Jia de 'a fake' is analyzed in (38) as a term-predicate, derived from a term in which the first restrictor is an anaphoric nominal predicate, restricted by the adjective *jia* 'fake'. The optional appearance of *shi* runs parallel to its appearance with other term-predicates.

A similar phenomenon may be observed in possessive constructions in which the term referring to the possessed entity is definite. Consider:

(39) *Chensan (shi) wo -de*
Shirt (COP) 1SG DE
'The shirt is mine.'

Again we find the particle *de* and an optional copula *shi*. The appearance of *de* in constructions like these might lead one to assume that *de* is a genitive marker, but given the analysis of *de* as a particle introducing non-first restrictors another representation is possible, which runs parallel to (38):

(40) $\{(x_i\colon A\phi_N\,(x_i)\colon \{(x_j\colon \text{wo}\,(x_j))_{\text{Poss}}\}\,(x_i))\}\,(x_k\colon\text{chensan}\,(x_k))_\phi$

De Groot (1983) proposed this representation for one type of possessive construction in Hungarian. Like *jia de* 'a fake one' in (38), *wo de* 'mine' in (40) is analyzed as a term-predicate, derived from a term in which the first restrictor is an anaphoric nominal predicate, restricted by the possessive predicate *wo*. The appearance of *de* is triggered by the presence of a second restrictor within the term-predicate. Note that an implication of this analysis is that the semantic function Possessor has no expression in Mandarin Chinese. This is consistent with the findings in 2. The term-predicate analysis of possessive constructions of the type under discussion furthermore explains the optional appearance of *shi*.

The structural similarity between term-predicates derived from a true adjective and those derived from a possessive predicate asks for some closer attention. First of all, note that it is not only in the predicative domain that true adjectives and possessive predicates behave similarly. Examples (36)-(37), repeated here as (41)-(42), showed part of their similarity in the attributive domain:

(41) *ni -de nei -ben shu*
2SG DE DEM CL book
'That book of yours'

(42) *hong de hua*
red DE flower
'A red flower'

If there is a close connection between the entity and the property attributed to that entity the particle *de* can be omitted both if the restrictor is a true adjective and if it is a possessive predicate:

(43) a. *hong de hua*
red DE flower
'a red flower'

b. *hong hua*
red flower
'a redflower'

(44) *ni de nei -ben shu*
1SG DE DEM CL book
'that book of yours'

b. *ni nei -ben shu*
1SG DEM CL book
'your book'

To explain this similarity in behavior of (absolute) adjectives and possessive predicates let me turn to a possible extension of the Copula Support theory. Until now I have treated terms as if they constituted a single undifferentiated category. Terms may, however, refer to different kinds of entities. In the present context a subclassification according to whether the terms in question refer to a first, second or third-order entity (Lyons 1977: 442-3) is useful. Physical objects belong to the class of first-order entities, SoA's to the class of second-order entities, and propositions to the class of third-order entities.[10] First-order entities can be evaluated with respect to their location, second-order entities with respect to both their location and time of occurrence, and third-order entities with respect to neither of these two concepts. Not all kinds of predicates can be applied to all kinds of entities. Table 1 gives an overview of some of the possible combinations. For each possible combination a label indicating the semantic relation expressed by that combination is provided. To distinguish between terms referring to first, second, and third-order entities the variables x, e, and X are used respectively.

Table 1. Semantic relations in non-verbal predication

	$(X_1)_\phi$	$(e_1)_\phi$	$(X_1)_\phi$
$\{(x_i)_{\text{Poss}}\{$	Possession	—	—
$\{(x_i)_{\text{Loc}}\}$	Location	Occurrence	—
$\{(\phi)_{\text{Loc}}\}$	Existence	Reality	—
$\{(x_i)_{\text{Time}}\}$	—	Time	—
Pred_A	Property ass.	Evaluation	Judgment

What is indicated in Table 1 is that possession can be predicated of concrete objects, but not of SoA's and propositions; that both concrete entities and SoA's can be located,[11] but not propositions; and so on. Adjectival predicates (as a class in a crosslinguistic sense) can be applied to all kinds of entities, but there are restrictions with respect to the subclasses of adjectives to be applied to the different types of entities. Physical objects can have properties such as "alive", "big" or "red", SoA's properties such as "possible" or "regrettable", and propositions properties such as "true". If we look at the possibility to apply scalar and absolute adjectives to first and second-order entities[12] the picture given in table 2 emerges.

Table 2. Absolute and scalar adjectives

	$(X_1)_\emptyset$	$(e_1)_\emptyset$
$Pred_{A\text{-}abs.}$	Property ass.	—
$Pred_{A\text{-}sc.}$	Property ass.	Evaluation

The evaluative nature of adjectives which can be applied to second-order entities seems to be incompatible with the character of absolute adjectives, which therefore generally cannot take a predication as their argument, whereas scalar adjectives can.

The few true adjectives in Mandarin all designate absolute properties of first-order arguments.[13] Scalar properties are designated by adjectival verbs, both if they are predicated of first-order arguments, as in (45), and if they are predicated of second-order arguments as in (46):

(45) *ta hen pang*
3SG very fat
'He is very fat.'

(46) *zai nali mai dongxi hen mafan*
LOC there buy thing very troublesome
'It's a lot of trouble to shop there.'

What we find then is that the two classes of predicate which apply to first-order entities only, true adjectives and possessive predicates, are the two classes which cannot be used predicatively in Mandarin Chinese. The special treatment given to these predicates can be seen as a measure to restrict these two types of predicate to the attributive domain.

3.2 *Focus constructions*

Consider the following sentences, taken from Teng (1979):

(47) *zai gongyuan-li zhao-dao ni de gou de shi wo*
LOC park in find ASP 2SG DE dog DE COP 1SG
'The one who found your dog in the park was I.'

(48) *Shi wo zai gongyuan-li zhao-dao ni de gou de*
COP 1SG LOC park in find ASP 2SG DE dog DE
'It was I who found your dog in the park'

These sentences are examples of the pseudo-cleft and cleft construction in Mandarin. Dik (1980: ch.10) argues that cleft and pseudo-cleft constructions are focus constructions which can be analyzed as identifying constructions. What is identified is "an entity of which the existence is presupposed". In (47)-(48) this presupposed entity is described in the form of a headless relative and its identity is given in the form of a focused term-predicate, as represented in (49):

(49) $\{(x_i\text{: wo } (x_i))_{Foc}\}\ (x_j\text{: } A\phi_N\ (x_j)\text{: Asp Zhao}_V\ (Rx_j)\ (x_k\text{: gou } (x_k)\text{: } \{(x_l\text{: ni } (x_l))_{Poss}\}\ (x_k)))_\emptyset$

This term-predicate analysis of cleft and pseudo-cleft[14] constructions explains the appearance of *shi*.

By the side of (47)-(48), one finds constructions like the following (Teng 1979):

(50) a. *Shi wo mingtian dao Niu Yue qu*
SHI 1SG tomorrow DIR New York go
'**I** am going to New York tomorrow.'

b. *Wo shi mingtian dao Niu Yue qu*
'I'm going to New York **tomorrow**.'

c. *Wo mingtian shi dao Niu Yue qu*
'I'm going to **New York** tomorrow.'

The use of *shi* in these examples coincides with the ones given in (47)-(48), in that it precedes the focused constituent, but it differs in that the particle *de,* marking the headless relative, is absent and in that it does not link a clearly separated term-predicate and a ø-argument. The function of *shi* seems to be simply that of marking the focused constituent. Even the predicate may be focalized in this way, as in (50d) (Shen personal communication):

(50) d. *Wo mingtian dao Niu Yue shi qu*
'I'm **going** to New York tomorrow.'

There is evidence from other languages that focus markers may develop out of copulas. The following examples are from Wambon, a Papuan language (see de Vries 1986):

(51) *ev -o lan -e kolamop-nde*
DEM CONN woman CONN long COP
'That woman is long.'

(52) *woyo, lakhai-nde takhimo-knde*
No, fish FOC buy 3PL.PRES
'No, they buy **fish**.'

Like de Vries (1986: 31), I take it that the source of this development is the cleft/pseudo-cleft focus construction. The following stages may be hypothesized to account for this development:

(53) FROM COPULA TO FOCUS MARKER
(i) Cleft/Pseudo Cleft construction
(ii) Loss of relative clause characteristics / Focus marker bound to a specific position
(iii) Generally applicable focus marker

Stage (ii) can be observed in English, as shown in the following examples:

(54) a. It's Mary wants the book.
b. It's the book Mary wants.
c. It's to the party Mary goes.

(55) a. *Mary wants it's the book.
b. *Mary goes it's to the party.

The Mandarin copula *shi* seems to have reached stage three. The examples in (50) show that, unlike *be* in English, *shi* may occupy any position. I conclude, therefore, that *shi* has developed a secondary function as focus marker.

This analysis may at the same time shed some light on what has been called the "illogical" copula construction, as exemplified in (56), taken from Hashimoto (1969):

(56) *wo shi jifan*
1SG SHI chicken:rice
'I — chicken-rice'

A literal translation of (56) would be: "I am chicken rice", which is not the intended reading. Another example is:

(57) *wo shi Zhangsan*
1SG SHI Zhangsan
'I — Zhangsan'

Of course this is a "logical" copula sentence if it is uttered by Zhangsan, but what is intended here is a situation in which someone else utters (57).

Sentences like (56)-(57) can only be understood within the context in which they are used. So, for instance, (56) would be appropriate in the following context:

(58) *nimen jiao le shenme cai a? :: wo shi jifan,*
2SG order PF what dish FP? :: 1SG SHI chicken:rice,
ta shi ...
3SG SHI ...
'What have you ordered? :: I - chicken-rice, he - ...'

And (57) can be used in a context like:

(59) *nimen xuan le shei a? :: wo shi Zhangsan,*
2SG vote:for PF who FP? :: 1SG SHI Zhangsan,
ta shi ...
3SG SHI ...
'Who have you voted for? :: I — Zhangsan, he — ...'

According to Li and Thompson (1981: 150) sentences like (56)-(57) indicate that, in an appropriate context, *shi* "allows a very loose linkage or connection between the referential subject noun phrase and the non-referential noun phrase following the copula". I would like to consider another possible analysis.

The contexts given in (58)-(59) seem to indicate that *shi* substitutes for verbs which have been mentioned in the immediately preceding conversation. Hashimoto (1969: 90) uses the term "pro-verb" to characterize this use of *shi*. A representation like the one given in (60) could capture this characteristic:

(60) $A\phi_V\ (dx_i\text{: wo } (x_i))_{Ag}\ (ix_j\text{: jifan } (x_j))_{Go}$

The anaphoric predicate would then have to be expressed as *shi* by the final expression rules. But, as (58)-(59) show, the "illogical" copula appears in contexts in which the constituent following *shi* is focalized. This brings me to an alternative analysis, given in (61):

(61) $A\phi_V\ (dx_i\text{: wo } (x_i))_{Ag}\ (ix_j\text{: jifan } (x_j))_{GoFoc}$

This representation differs from (60) only in that Focus is assigned to the Goal argument. The appearance of *shi* can now be attributed to the presence of this Focus marker, as in the case of sentences like (56)-(57), while the understood predicate remains unexpressed, just like the anaphoric predicates discussed in 3.1.

The same analysis can be applied to sentences like the following, which would be more difficult to capture within a pro-verb analysis:

(62) *daochu* *dou* *shi* *xue*
everywhere all COP snow
'What's everywhere is snow.'

where one would expect (see section 2):

(63) *daochu* *dou* *you* *xue*
everywhere all COP snow
'There's snow everywhere.'

As the translation suggests, (62) identifies a presupposed entity located everywhere, whereas (63) presents an entity located everywhere. Or, as Chao (1948: 153), cited by Hashimoto (1969: 89) puts it, for (62) "it is understood that there is something everywhere, and it is snow", whereas for (63) "there might or might not be anything anywhere, but actually there is something — snow". *Shi*, then, is used in constructions in which an entity, the existence of which is presupposed by the Addressee, is identified, whereas *you* is used to present new referents. Again *shi* precedes the focused constituent. If it is, therefore, analyzed as a focus marker in constructions like these too, the question remains which predicate is understood in sentences like (62). Recall that in Section 2 I gave the following representation for locative constructions with an indefinite ø-argument:

(64) $(x_i)_{Theme,}\ \{(\emptyset)_{Loc}\}\ (x_j)_{\emptyset}$

Suppose now the presupposed entity identified in constructions like (62) is introduced in a question like:

(65) Everywhere, there's what?

Following the pattern given in (64), what is then missing in (62), if *shi* is regarded as a focus marker, is the empty locative predicate. The missing predicate in "illogical" copula sentences, then, is not necessarily a verb, as

in (56)-(57), but can be of the non-verbal type too. This leads to the following general representation for "illogical" copula sentences;[15]

(66) $((x_1)_{Theme,})\ A\phi_\beta\ \ldots\ (x_n)_{Foc}\ \ldots$

The occurrence of *shi* can be accounted for by a rule like:

(67) $(x_n)_{Foc} \rightarrow$ shi (x_n)

3.3 *Veridical constructions*

The term "veridical construction" is used here, following Kahn (1973), to refer to those constructions through which the speaker expresses his attitude with respect to the truth of a proposition given in the context. Here are some examples:

(68) *Bu* *shi* *wo* *bu* *yao* *lai,* *shi* *ta* *bu* *rang* *wo* *lai*
NEG COP 1SG NEG want come, COP 3SG NEG let 1SG come
'It's not that I don't want to come, it's that she won't let me come.'

(69) *Wo* *shi* *bu* *chi* *la* *de*
1SG COP NEG eat hot NOM
'I really can't eat hot food'

Before going into the analysis of the use of the copula in the constructions given here let me return to the basic distinction between first, second and third-order entities, which has been applied to property-assigning expressions in 3.1. Given that terms may refer to either of these three types of entity, one expects that term-predicates can be classified according to the type of the term from which they are derived, as in Table 3.

Table 3 Term/predication/proposition-predicates

$\{(x_i)\}\ (x_1)_{\emptyset}$	Object classification
$\{(e_i)\}\ (e_1)_{\emptyset}$	SoA classification
$\{(X_I)\}\ (X_1)_{\emptyset}$	Proposition classification

Examples of the first and second predicate type listed in Table 3 are:

(70) *ta fuqin shi waijiao buzhang*
3SG father COP foreign:affair minister
'His father is the foreign minister'

(71) *ni bu qu jiu shi bu fucong mingling*
2SG NEG go EMPH COP NEG obey command
'Your not going is disobedience of command.'

In fact, it would be better to term the second and third predicate type, to which I will turn my attention presently, "predication-predicates" and "proposition-predicates" respectively.[16] The motivation for this approach will become clear if the different variables are situated in a model for the clause.[17] In my view, an utterance can be analyzed in terms of Figure 1.

Figure 1. A model for the clause

E_1: ILL (S) (A) (X_1: [proposition] (X_1)) (E_1)

e_1: [$Pred_\beta$ (x_1) (x_2) . . . (x_n)] (e_1)

At the lowest level in Figure 1 the general structure for the predication in FG is presented as a restrictor of the SoA-variable e. This level represents the narrated event. At the highest level the speech event (E) is structured on the basis of an illocutionary frame, which represents the basic illocution of the linguistic expression involved. The content of the utterance (the proposition X) is seen here as a participant in the speech event, together with Speaker (S) and Addressee (A). Dik (1989) proposes that the basic illocutions of linguistic expressions be represented by means of illocutionary operators which take a predication in their scope.[18] The paraphrase he gives for, for instance, the DECL(arative) operator has to be adapted slightly to apply to the DECL(arative) frame which is used in the approach outlined above:

(72) DECL (S) (A) (X_1) Speaker (S) wishes the Addressee (A) to add the content X_1 to his pragmatic information.

Given the analysis presented in Figure 1, every utterance (E) introduces, or refers to, three kinds of referents: propositions (X), SoA's (e), and individuals (x).

In the context of the veridical constructions in Mandarin as exemplified by (68)-(69) it is especially the possibility to refer to propositions that is relevant. Crucial for such a construction is that it "[...] strongly affirms [or denies KH] a piece of information in earlier discourse which now follows the *shi*" (Li and Thompson 1981: 154). In (68) a piece of information is denied and replaced by another, in a contrastive sense. In (69) a piece of information is simply affirmed. Supposing now that the affirmed or denied piece of information has the indexed proposition variable X_J, then (68)-(69) can be represented, somewhat simplified, as:

(73) DECL(X_K: Neg {(X_J: wo bu yao lai (X_J))$_{Foc}$} (X_K)),
DECL(X_K: Pos {(X_M: ta bu rang wo lai (X_M))$_{Foc}$} (X_K))

(74) DECL(X_K: Pos {(X_J: bu chi la de (X_J))} (X_J))

Paraphrases for (73)-(74) are (75)-(76):

(75) "The content which I wish you to add to your pragmatic information is not X_J but positively X_M."

(76) "The content which I wish you to add to your pragmatic information is positively X_J."

Veridical constructions in Mandarin can thus be classified as based on a predicate of the third type given in Table 3, expressing the semantic relation of proposition classification, more in particular, proposition identification.

The rule for term-predicate formation given in Section 1 may now be reformulated as a term/predication/proposition-predicate formation rule, as in (77), in which α stands for x, e, or X:

(77) TERM/PREDICATION/PROPOSITION-PREDICATE FORMATION
Input: $(\alpha_i)_{(sf)}$
Output: $\{(\alpha_i)_{(sf)}\}$ $(\alpha_1)_\emptyset$

Note that, apart from the realization of α, there is a strong correlation between the focus constructions dealt with in 3.2 and the veridical constructions treated here. This correlation is reflected in the ambiguity of the following sentence, if intonation contour is left out of consideration:

(78) *shi wo zai nar da gu*
COP 1SG LOC there hit drum
'It's I who's been playing drums over there.' or:
'It's true that I've been playing drums over there.'

The first interpretation is appropriate if heavy stress is put on *wo* 'I', the second if heavy stress is put on *shi* 'be' (Li and Thompson 1981: 153-4).

In 3.2 it was pointed out that languages may develop a focus marker out of a copula. Similarly, some languages may develop an assertive marker out of a copula.[19] The appearance of *shi* near the predicate in sentences like (69) might indicate that *shi* is developing in the same direction. This would be a second parallelism between the uses of *shi* in focus and veridical constructions.

4. Non-verbal auxiliary constructions

To complete the picture of the Mandarin system of non-verbal predication, this Section is concerned with those non-verbal constructions which have developed a specific grammatical meaning, in the sense that they are used to give expression to aspectual distinctions. Each of the three possible constructions (without a copula (4.1), with the copula *you* (4.2), with the copula *shi* (4.3)) has such a specialized application.

The idea that auxiliary copula constructions can be analyzed as special instances of non-verbal predication was first put forward in Dik (1983a) and further developed in Dik (1987). Language specific proposals in the same field have been made by Shiratsuki (1985), Hengeveld (1986) and de Groot (1987).

4.1 *Non-verbal auxiliary constructions without a copula*

Consider the following examples:

(79) *Lisi zai jieshi wenfa*
Lisi DUR explain grammar
'Lisi is explaining grammar'

(80) *Zhangsan zai da Lisi*
Zhangsan DUR hit Lisi
'Zhangsan is hitting Lisi'

The durative aspect marker *zai* which appears in these examples is identical to the preposition which introduces locative arguments. Dik (1987) discusses the "localist channel" as one of the possible origins of copula auxiliarization, which in this case would be the result of the conceptualization of a SoA as a spatial object. The absence of a copula in (79)-(80) does not affect

the analysis; in fact it supports it, since in the non-verbal construction which would be the source for the auxiliary construction exemplified here, it would be absent too. The following representation could be given to (79):

(81) $\{(e_i\text{: [jieshi}_V\ (x_i)_{Ag}\ (x_j\text{: wenfa}_N\ (x_j))_{Go}](e_i))_{Loc}\}$
$(x_i\text{: Lisi}_N\ (x_i))_{\emptyset}$

A literal paraphrase of this representation would be: "Lisi is in the explaining of grammar". Whether the above representation can be said to be synchronically relevant is hard to say. Nevertheless, it seems a likely source for the durative aspect marker *zai*.

4.2 *Non-verbal auxiliary constructions with the copula* you.

Li and Thompson (1981: ch.12) point to an interesting phenomenon in the speech of southern speakers of Mandarin. Under the influence of Taiwanese and Cantonese these speakers would use sentences like the following, which has a perfective value:

(82) *wo you xie -cuo nei -ge zi*
1SG PF write wrong that CL character
'I wrote that character wrong.'

The regular negative counterpart of (82) would be:

(83) *wo mei(you) xie -cuo nei -ge zi*
1SG NEG write wrong that CL character
'I didn't write that character wrong.'

According to Li and Thompson (1981: 421) *mei* negates the completion of an event. Note that the negative element *mei* is optionally followed by *you*. The same phenomenon may be observed in copula constructions which in the affirmative require *you*, as in:

(84) *mei (you) ren zai waimian*
NEG (COP) person LOC outside
'There's no one outside.'

(85) *wo mei (you) qian*
1SG NEG (COP) money
'I don't have any money.'

This seems to indicate that sentences like (82)-(83) can be analyzed in terms of the underlying structure that was hypothesized for sentences like (84)-(85), as in:

(86) $(x_i$: wo $(x_i))_{Theme}$, (Neg)$\{(\emptyset)_{Loc}\}$ $(e_i$: [xie-cuo$_V$ $(x_i)_{Ag}$ $(x_j$: zi $(x_j))_{Go}]$ $(e_i))_\emptyset$

A paraphrase for this representation would be: "there is/isn't my writing that character wrong".

The question now is how, if this analysis is correct, the completion/non-completion value of the construction should be explained. Recall that in 3.1 the predicate frame used in (86) was said to express the semantic relation Reality. The existence of a SoA is at the same time its reality. A tentative explanation for the perfective interpretation of (86) could be that a SoA is conceptualized as "being in the world" or "real" once it is completed and "not being in the world" or "unreal" if it is not completed.

Statements like these can most easily be made with respect to past events. A further step in the grammaticalization of *you/mei (you)* therefore could involve its reinterpretation as a past tense marker. In some restricted cases (Li and Thompson 1981: 429) *mei(you)* has acquired the status of a past tense negative particle, which might be a first step in this direction.

4.3 *Non-verbal auxiliary constructions with the copula* shi.

A final construction to be dealt with is the so called *(shi) ... de* construction. Here are some examples:

(87) *ta (shi) zuotian lai de*
3SG (COP) yesterday come DE
'The situation is that she arrived yesterday'

(88) *zhei-ben xiaoshuo (shi) wo muqin xie de*
this CL novel (COP) 1SG mother write DE
'This novel is written by my mother.'

These examples manifest some structural similarities with the term-predicates based on an adjective or a possessive predicate (3.1) and the focus construction (3.2): the presence of the particle *de*, and the optional presence of the copula *shi*.

Li and Thompson (1981: 590) note that constructions like (87)-(88) are appropriate to explain a situation. The sentence given in (87) could be used to give an answer to a question like "Why couldn't he speak English", whereas its counterpart (89) could be used as an answer to "Has he arrived yet":

(89) *ta zuotian lai le*
3SG yesterday come PF
'He came yesterday.'

One could say that in (87) the speaker explains a present situation by referring to a past event. The event referred to may also be located in the present or (near) future, as in:

(90) *wo (shi) gen ni kaiwanxiao de*
1SG (COP) with 2SG joke DE
'I'm joking with you.'

(91) *women (shi) bu hui qifu nimen de*
1PL (COP) NEG likely bully 2PL DE
'We aren't going to bully you.'

Dik (1987: 9) recognizes a category of Phasal Aspect distinctions which "[...] serve to describe what is the case at some reference point on the temporal axis in relation to the occurrence of some SoA". Applying this characterization to (87), (88), and (90) yields paraphrases like "She is someone who arrived yesterday", "This novel is one that my mother wrote" and "I am someone who jokes with you". Representations which reflect these interpretations are given in (92)-(94):[20,21]

(92) Pres e_j: [$\{(ix_i$: $A\phi_N$ (x_i): Past e_i: Lai_V $(Rx_i)_{Ag}$ (e_i): zuotian $(e_i))\}$ $(x_j$: ta $(x_j))_\emptyset]$ (e_j)

(93) Pres e_j: [$\{(ix_i$: $A\phi_N$ (x_i): Past e_i: xie_V $(x_j$: muqin $(x_j))_{Ag}$ $(Rx_i)_{Go}$ $(e_i))\}$ $(dx_k$: xiaoshu $(x_k))_\emptyset]$ (e_j)

(94) Pres e_j: [$\{(ix_i$: $A\phi_N$ (x_i): Pres e_i: kaiwanxiao$_V$ (Rx_i) $(dx_j$: ni $(x_j))_{Com}$ $(e_i))\}$ $(x_k$: wo $(x_k))_\emptyset]$ (e_j)

A literal paraphrase for (92) would be: "She is someone who is characterized by her arriving yesterday". The presence of the anaphoric nominal predicate accounts for the occurrence of *de*, while the term-predicate analysis accounts for the optional appearance of *shi*.

A problem often mentioned with respect to the analysis of the *(shi) ... de* construction is illustrated in (95), taken from Hashimoto (1969: 100):

(95) *ta (shi) zuotian mai de shu*
3SG (COP) yesterday buy DE book
'He (is someone who) bought books yesterday.'

The problem here is the position of *de*, which would normally mark the end of the headless relative. Hashimoto (1969) approaches this problem from the point of view of the object: How can the inverted position of the object be explained? I would like to look at the problem from the opposite direction: How can the inverted position of *de* be explained?

Looking at the problem from this angle, the most important feature of (95) is that *de* has ended up in a position next to the predicate, the preferred position for predicate operators. This might point in the direction of a certain grammaticalization of the *(shi)* ... *de* construction. The direction of this grammaticalization can be derived from one of the restrictions on the appearance of *de* following the predicate. There are several restrictions with regard to constructions like (95), one of which is that the SoA designated by the headless relative must be situated in the past.[22] This might indicate that out of the different phasal aspect distinctions which may be expressed by the regular *(shi)* ... *de* construction the resultative variant is selected for a treatment which might lead to an incorporation of *de* in the group of regular aspect markers in Mandarin.

5. Explanations for the use of *shi* and *you*

A final question to be answered is why Mandarin should use copulas at all. Except for the obligatory uses of *shi*, where its occurrence may be said to be motivated by the fact that polarity operators have to be expressed on a bare predicate (Adjective or Verb), there does not seem to be an obvious answer to this question. In this section I have one more look at *you* and *shi* and try to give some explanations for the existence of Copula Support in Mandarin Chinese.

5.1 *You*

Although many languages show a restricted use of a copula, it is hard to find languages which do not use a copula (or some other verb) in the existential construction. The reason for this becomes apparent if one considers the underlying structure for an existential construction:

(96) $\{(\emptyset)_{Loc}\}\ (ix_i: \text{boy}\ (x_i))_{\emptyset}$

Given the fact that the locative predicate is empty, the resulting expression, if no copula were inserted, would be:

(97) A boy.

The use of a single term as a full predication, as in (97), although perhaps possible in exclamatives, would cause a lot of ambiguity, as a result of the fact that it makes no sense to refer without at the same predicating something of the entity referred to. This leads to an explanation of the obligatory appearance of *you* in non-negative existential constructions: its occurrence "reveals" the presence of the underlying empty predicate. As such *you* functions as a sign of (existential) predication.

In negative contexts *you* is optional. If one accepts that the use of *mei* as a non-completion marker can be analyzed in terms of an underlying existential construction (see 4.2), *mei* can only be used in existential constructions. Given that *mei* gives expression to a predicate operator, it can by itself fulfil the same function as *you*.

The same explanation can be applied to *you* constructions with a sentence-initial locative or possessive phrase under the Theme-Predication analysis (2.1, 2.2). Under this analysis, the conditions within the predication are the same as those in (96), as in:

(98) $(x_i)_{(Loc/Poss)Theme},\ \{(\emptyset)_{Loc}\}\ (x_j)_{\emptyset}$

The explanation used here is not valid for those constructions in which the *zai* phrase should be analyzed as a predicate. A distinction has to be made here between the locative predicate following *you* and the sentence-initial *zai* phrase, which, as I suggested in 2.1, might be ambiguous between a theme and a predicate reading.

With respect to the locative predicate following *you*, it should be noted that *zai* originally was a verb, meaning something like 'to live' or 'to stay'. In the context of an existential predication, it may have been used to give a further qualification of the entity the existence of which was predicated. The development of the *zai* phrase into a locative predicate would then run parallel to the development of *zai* from a main verb to a preposition through its use in serial verb constructions.

Under the Predicate analysis of the sentence-initial locative phrase (see 2.1) the Theme-Predication construction given in (98) could have been the source for the locative predicate construction. The examples of the equivalent construction in Classical Chinese given by Graham (1967: 6) seem to point in this direction. Consider:

(99) *Sung yu fu jen*
Sung COP rich man
'There was a rich man in Sung.'

This example, like the others given in Graham (1967), shows a sentence-initial constituent specifying the location, which has no locative preposition. Within the analysis given in 2.1 this would make the sentence-initial constituent unambiguously qualify for Theme status.

I suggest that the occurrence of *you* in constructions with a locative predicate can be explained as a result of the development of *you* from a primarily existential copula to a copula of wider application through reinterpretation of the serial verb construction on the one hand, and the Theme-Predication construction on the other.

5.2 *Shi*

That *shi* is not entirely optional can be derived from some of the conditions under which its presence is preferred. Consider the following examples, taken from Hashimoto (1969):

(100) a. *zhe shu*
DEM book
'This book' or:
'This is a book'

b. *Yuehan xiaohair*
John child
'The child John' or:
'John is a child'

The examples given here are ambiguous between a term and a predication reading. To render the second reading unambiguously, either *shi* or a pause should be inserted in between the two constituents. Insertion of a pause results in a Theme-Predication construction, where the pause signals the beginning of a predication. Insertion of a copula marks a predicative relation within the predication. In both cases the predication reading is imposed upon the construction.

A second condition under which *shi* is strongly preferred is illustrated by (101), taken from Li and Thompson (1977: 422):

(101) *chi pingguo de nei -ge ren shi wo xihuan de*
eat apple DE DEM CL person COP 1SG like DE
pengyou
friend
'The person who is eating an apple is the friend I like'

If the subject term in classifying constructions is long and complex, as in (101), the insertion of a copula is preferred. Junger (1981: 127), discussing a similar construction in Hebrew, notes that the function of the copula in sentences like these is to separate the Subject term from the predicate so as to ease the processing of the sentence.

These uses can most easily be understood in the light of the history of *shi*. Li and Thompson (1977) note that *shi* began its career as a copula as a demonstrative pronoun. In Archaic Chinese it came to be used as a pronoun resuming the Theme in a Theme-Predication construction, as in:

(102) *ji yu qi sheng you yu qi si, shi*
already wish him live also wish him die, DEM
huo ye
indecision FP
'Wishing him to live while wishing him to die, that is indecision.'

The pronoun *shi* here resumes the complex Theme. According to Li and Thompson (1977: 424) the Theme-Predication (Topic-Comment in Li and Thompson's terminology) construction gradually developed into "a subject-predicate construction with the anaphoric demonstrative pronoun *shi* being reanalyzed as a copula". Junger (1981) observes a similar phenomenon in Hebrew and explains this development in terms of markedness shift (see Dik 1978: 111). Traces of the development of *shi* under this analysis, which I find quite plausible, can still be found in the present uses of *shi*: the conditions which motivated its development into a copula are the same as those under which it is strongly preferred.

Note that the *shi* constructions present a mirror image of the *you* constructions (with a sentence-initial locative phrase): whereas the non-existential copula uses of the latter were hypothesized to be the result of reinterpretation of the Theme- Predication construction as a Predicate Subject relation, the former are hypothesized to be the result of reinterpretation of the Theme-Predication construction as a Subject Predicate relation.

6. Copula support rules in Mandarin

By way of conclusion, I will now try to capture the different conditions for the insertion of a copula in a number of support rules. Separate rules are given here for the optional and obligatory uses of *shi* and *you*.

Starting with *you*, the rules may be formulated as in (103)-(104):

(103) OBLIGATORY *YOU* SUPPORT
input: π predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$
conditions $\pi \neq$ Neg
$\beta = \{(\alpha_i)_{sf}\}$
Ω = i
output: π you$_V$ predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$

(104) OPTIONAL *YOU* SUPPORT
input: π predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$
conditions π = Neg
$\beta = \{(\alpha_i)_{sf}\}$
Ω = i
output: π you$_V$ predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$

These rules account for the appearance of *you* in constructions based on adpositional predicates, in which the ø-argument is indefinite: existential and locative constructions (2.1), possessive constructions (2.2), and the perfective auxiliary construction (4.2). *You* support is obligatory except if the predicate operator Neg is present, in which case *mei*, the expression of Neg in an existential context, is optionally followed by *you*.

Turning to *shi*, the rules given in (105)-(106) may be formulated:

(105) OBLIGATORY *SHI* SUPPORT
input: π predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$
conditions π = Pos, Neg
$\beta = \{(\alpha_i)\}$
output: π shi$_V$ predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$

(106) OPTIONAL *SHI* SUPPORT
input: π predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$
conditions $\pi \neq$ Pos, Neg
$\beta = \{(\alpha_i)\}$
output: π shi$_V$ predicate$_{\beta}$ $(\Omega\alpha_1)_{\emptyset}$

These rules account for the appearance of *shi* in constructions which are based on a term/predication/proposition-predicate, including the derived adjectival and possessive construction (3.1), the cleft and pseudo-cleft construction (3.2), the veridical construction (3.3), and the *(shi) ... de* construction (4.3). *Shi* support is optional except if the predicate operator Neg or Pos[23] is present, and therefore presents the mirror image of *you* support.

Author's address:

Kees Hengeveld
Dept. of Spanish
University of Amsterdam
Spuistraat 134
NL-1012 VB Amsterdam
The Netherlands

NOTES

1. Thanks are due to Simon Dik, Shen Jia Xuan, Mike Hannay, Peter Kahrel and an anonymous referee of *Studies in Language* for valuable comments on an earlier version of this paper, which is a revised version of *Working Papers in Functional Grammar* 23.

2. See Bolkestein *et al.* (1981), Bolkestein *et al.* (eds) (1985a, 1985b), Dik (1978, 1980, 1989), Dik (ed.) (1983b), Hoekstra *et al.* (eds) (1981). Abbreviations used in this paper: CSH=Copula Support Hypothesis, FG=Functional Grammar, SoA=State of Affairs; Glosses: ASP=Aspect, CL=Classifier, CONN=Connective, COP=Copula, DEM=Demonstrative, DIR=Directional, DUR=Durative aspect, EMPH=Emphatic, FP=Final particle, LOC=locative case marker, NEG=Negative, NOM=Nominalizer, PERF=Perfect, PF=Perfective, POS=Positive, sg=singular, pl=plural; Representations: Semantic functions: Ag=Agent, Go=Goal, Rec=Recipient, ø=Zero, Loc=Location, Poss=Possessor, Com=Comitative, sf=any semantic function; Syntactic functions: Subj=Subject; Pragmatic functions: Foc=Focus; Predicate operators: Asp=Aspect, Pf=Perfective, Pres=Present, Neg=Negative, Pos=Positive; Term operators: d=definite, i=indefinite, 1=singular, m=plural, A=anaphoric operator, R=relativizing operator; Word classes: A=Adjective, N=Noun, V=Verb.

3. See also Hannay (1985).

4. Since locative suffixes in Mandarin Chinese have a number of nominal characteristics, I analyze them as part of the predicate rather than as the expression of a locative semantic function.

5. See Li and Thompson (1981: 15) on the "Topic Prominence" of Mandarin. Their definition of Topic coincides with that of Theme in FG. See Shen (1987b) for a FG analysis of Themes in Mandarin.

6. See Dik (1978: ch.6) for some Russian examples of the same phenomenon.

7. See Bolkestein (1983), de Groot (1983) and Vet (1983) for FG analyses of possessive constructions in Latin, Hungarian and French respectively.

8. See also Clark (1978) who, following Lyons (1967, 1968), groups together possessive, locative and existential constructions in one class of "locationals".

9. The main distinguishing feature of true adjectives in Mandarin is that they can be used attributively without requiring relativization.

10. I leave out of consideration here the question of how abstract concepts such as "love" and "hate" should be classified. This question does not affect the present discussion.

11. Cf. Hannay (1985), who distinguishes between two kinds of existentials: entity existentials and SoA existentials.

12. There are only few adjectives which can be applied to third-order entities. Examples are *true*, *convincing*, and *undeniable*. I restrict myself to first- and second-order entities here.

13. The group includes members such as *hao* 'good', *jia* 'false, fake', *hong* 'red', *jiu* 'old', and several others.

14. The underlying structure given in (52) is intended to capture both the cleft and the pseudo-cleft construction. The differences in the expression of the two constructions can be captured by placement rules. See Dik (1980: ch.10).

15. It could be that in some contexts "illogical" copula sentences should be analyzed as veridical constructions, which in some respects are similar to focus constructions (see 3.3).

16. See Mackenzie (1986) and Shen (1987b) on the application of predication-predicates in other contexts.

17. See Hengeveld (1987, 1989, forthcoming) for a more elaborate treatment of the clause model presented here.

18. See also Moutaouakil (1986).

19. For instance, the assertive particle *-dir* in Turkish developed out of a copula.

20. See Vet (1986) for the representation of tense and time adverbials used here.

21. There are no grammatical Tense distinctions in Mandarin. The Tense operators used in these representations are simply meant to represent the understood temporal reference points. I do not mean to imply that Tense operators are a necessary element of a FG of Mandarin.

22. Another restriction is that the resulting construction should not cause ambiguity. Ambiguity arises easily with human objects where the subject of the main clause is human too, as in (i) (see Hashimoto 1969: 100):

(i) *ta (shi) qunian sheng de xiaohair*
3SG (COP) last.year born DE child
'She is a child who was born last year.'/
'She gave birth to a child last year.'

In the case of sentences like (99) an interpretation like "He is a book that was bought yesterday" would not be a likely one.

23. Note that the Pos operator is restricted to those affirmative sentences in which positive polarity is made explicit, i.e. overtly expressed or stressed, as in the veridical construction.

REFERENCES

Auwera, J. van der; Goossens, L. (eds). 1987. *Ins and outs of the predication*. Dordrecht: Foris.

Bolkestein, A.M. 1983. "Genitive and dative possessors in Latin." In: Dik (ed.) 1983a: 55-91.

Bolkestein, A.M.; Combe, H.A.; Dik, S.C.; de Groot, C.; Gvozdanovic, J.; Rijksbaron, A.; and Vet, C. 1981. *Predication and Expression in Functional Grammar*. London and New York: Academic Press.

Bolkestein, A.M.; de Groot, C. and Mackenzie, J.L. (eds). 1985a. *Syntax and pragmatics in Functional Grammar*. Dordrecht: Foris.

Bolkestein, A.M.; de Groot, C. and Mackenzie, J.L. (eds). 1985b. *Predicates and terms in Functional Grammar*. Dordrecht: Foris.

Bolkestein, A.M.; Nuyts, J. and Vet, C. (eds). Forthcoming. *Layers and levels of representation in language theory: a functional approach*. Amsterdam: Benjamins (to appear).

Chao Y.R. 1948[3]. *Mandarin Primer*. Cambridge MA: Harvard University Press.

Clark, E.V. 1978. "Locationals: existential, locative, and possessive constructions." In: Greenberg (ed.) 1978: 85-126.

Dik, S.C. 1978[3]. *Functional Grammar*. Dordrecht: Foris.

Dik, S.C. 1980. *Studies in Functional Grammar*. London: Academic Press.

Dik, S.C. 1983a. "Auxiliary and copula *be* in a functional grammar of English." In: Heny and Richards (eds) 1983: 121-43.

Dik, S.C. (ed.). 1983a. *Advances in Functional Grammar*. Dordrecht: Foris.

Dik, S.C. 1987. "Copula auxiliarization: how and why?." In: Harris and Ramat (eds) 1987: 53-84.

Dik, S.C. 1989. *The theory of Functional Grammar. Part I: The structure of the clause*. Dordrecht: Foris.

Graham, A.C. 1967. "'Being' in Classical Chinese." In: Verhaar (ed.) 1967: 1-39.

Greenberg, J.H. (ed.). 1978. *Universals of human language*, vol.4. Stanford: Stanford University Press.

Groot, C. de. 1983. "On non-verbal predicates in Functional Grammar: the case of possessives in Hungarian." In: Dik (ed.) 1983b: 93-122.

Groot, C. de. 1987. "On the predicative verbal adverbial construction." In: Kenesei (ed.) 1987: 273-98.

Hannay, M. 1985. *English existentials in Functional Grammar*. Dordrecht: Foris.
Harris, M.; and Ramat, P. (eds). 1987. *Historical development of auxiliaries*. Berlin: Mouton.
Hashimoto A.Y. 1969. "The verb 'to be' in Modern Chinese." In: J.W.M. Verhaar (ed.) 1969: 72-111.
Hengeveld, K. 1986. "Copular verbs in a functional grammar of Spanish." *Linguistics* 24.2: 393-420.
Hengeveld, K. 1987. "Clause structure and modality in Functional Grammar." In: van der Auwera and Goossens (eds) 1987: 53-66.
Hengeveld, K. 1989. "Layers and operators in Functional Grammar." *Journal of Linguistics* 25.1: 127-57.
Hengeveld, K. Forthcoming. "Semantic relations in non-verbal predication." In: Bolkestein, Nuyts and Vet (eds) Forthcoming.
Heny, F.; and Richards, B. (eds). 1983. *Linguistic categories: auxiliaries and related puzzles*, vol.2. Dordrecht: Reidel.
Hoekstra, T.; van der Hulst, H. and Moortgat, M. (eds). 1981. *Perspectives on Functional Grammar*. Dordrecht: Foris.
Junger, J. 1981. "Copula constructions in Modern Hebrew." In : Hoekstra et al. (eds) 1981: 117-34.
Kahn, C.H. 1973. *The verb "be" in Ancient Greek*. Dordrecht: Reidel [= Verhaar (ed.) 1973].
Kenesei, I. (ed.). 1987. *Approaches to Hungarian. Volume Two: Theories and analyses*. Szeged: JATE.
Li, C.N. (ed.). 1977. *Mechanisms of Syntactic Change*. Austin: University of Texas Press.
Li, C.N.; and Thompson, S.A. 1977. "A mechanism for the development of copula morphemes." In: Li (ed.) 1977: 419-44.
Li, C.N.; and Thompson, S.A. 1981. *Mandarin Chinese*. Berkeley etc.: University of California Press.
Li Y-C. 1972. "Sentences with *be*, *exist*, and *have* in Chinese." *Language* 48: 573-83.
Lyons, J. 1967. "A note on possessive, existential and locative sentences." *Foundations of Language* 3: 390-396.
Lyons, J. 1968. "Existence, location, possession and transitivity." In: van Rootselaar and Staal (eds) 1968: 495-504.
Lyons, J. 1977. *Semantics*. 2 vols. Cambridge: Cambridge University Press.

Mackenzie, J.L. 1986. "Aspects of nominalization in English and Dutch." *Working Papers in Functional Grammar* 15.
Moutaouakil, A. 1986. "Towards an adequate representation of illocutionary force in FG." *Working Papers in Functional Grammar* 10.
Rootselaar, B. van; and Staal, J.F. (eds). 1968. *Logic, Methodology and Philosophy of Science III*. Amsterdam: North Holland.
Shen J-X. 1987a. "Subject function and double subject construction in Mandarin Chinese." *Cahiers de Linguistique - Asie Orientale* 16.2: 195-211.
Shen J-X. 1987b. "A reexamination of Theme function in Functional Grammar: Text Theme vs. Discourse Theme." Paper, Chinese Academy of Social Sciences.
Shiratsuki, N. 1985. "Two types of resultative constructions in Basque and their non-aspectual meanings." In: Bolkestein et al. (eds) 1985b: 183-202.
Teng S-H. 1979. "Remarks on cleft sentences in Chinese." *Journal of Chinese Linguistics* 7: 101-14.
Verhaar, J.W.M. (ed.). 1967. *The verb "be" and its synonyms*, vol. 1. Dordrecht: Reidel.
Verhaar, J.W.M. (ed.). 1969. *The verb "be" and its synonyms*, vol. 4. Dordrecht: Reidel.
Verhaar, J.W.M. (ed.). 1973. *The verb "be" and its synonyms*, vol. 6. Dordrecht: Reidel.
Vet, C. 1983. "Possessive constructions in French." In: Dik (ed.) 1983b: 123-40.
Vet, C. 1986. "A pragmatic approach to tense in Functional Grammar." *Working Papers in Functional Grammar* 16.
Vries, L. de. 1986. "The Wambon relator system." *Working Papers in Functional Grammar* 17.