Word Order in Mandarin Chinese and Grammatical Relations

Antoine Tremblay Department of Linguistics, University of Alberta 4-32 Assiniboia Hall, Edmonton, Alberta, Canada T6G 2E7 antoinet@ualberta.ca

Abstract

It has been argued by LaPolla (1993, 1995) and Van Valin and LaPolla (1997) -- among others -that word order in Mandarin Chinese (henceforth MC) is (almost) exclusively determined by informational/communicative considerations. Though it cannot be denied that word order does encode informative/communicative considerations such as identifiability, foregrounding, and focalization, it is argued here that word order also encodes grammatical relations and that word order in MC can be nicely accounted for if stated in terms of subject, direct and indirect object. To put it briefly, in both communicatively unmarked and marked basic/ordinary sentences, the subject must occur in immediate pre-verbal position (except for unidentifiable subjects in basic sentences), and the indirect object necessarily appears in immediate post-verbal position. If subjects and (morphologically unmarked) indirect object, it must appear in immediate post-verbal position in unmarked ordinary monotransitive sentences and immediately after the indirect object, or indirect object does not affect word order in any way.

1. Introduction

It has been argued by LaPolla (1993, 1995) and Van Valin and LaPolla (1997) that word order in Mandarin Chinese (henceforth MC) cannot be used to define grammatical relations given that word order is (almost exclusively) determined by informational/communicative considerations. In this respect, LaPolla (1995: 297) writes "aside from a semantic rule that the actor of a verb, if expressed, must precede that verb, it is pragmatic relations (information structure) that are the main determinants of word order in Chinese". Li & Thompson (1989: 19) also argue that MC is a topic prominent language. That is, "the order in which basic words and phrases occur is governed to a large extent by considerations of meaning rather than of grammatical functions". Nonetheless, the data presented in this paper demonstrates that word order in communicatively marked and unmarked basic/ordinary MC sentences IS SENSITIVE TO SYNTACTIC RELATIONS. Though word order may encode information/communicative considerations, it is argued here that word order in MC also encodes grammatical relations. To demonstrate this, I will begin with a discussion of word order and grammatical relations in what Mel'čuk (1988) defines as the 'basic' sentence in MC.

2. The Notion of Basic Sentence

Building on Keenan (1976), Mel'čuk (1988) and Beck (2000) consider that basic sentences consist of a semantically intransitive verb in the least marked, lexicographic form (i.e., indicative mood, present tense, etc.) and an NP. The basic sentence is also communicatively unmarked (i.e., a sentence that does not encode any specialized or particular information/communicative structure). The only NP in such basic sentences is taken to be the grammatical subject. From such sentences one can abstract (at least some of) the subject properties for a given language and then use these to identify subjects in more complex sentences. In this paper, I also take into account monotransitive and ditransitive sentences in their ordinary form (i.e., two and three NPs respectively plus a verb). At least some direct and indirect object properties can be abstracted from these sentences.

3. Definition of Communicatively Unmarked

Communicatively unmarked sentences can be defined as follows. Let there be a set of allosentences (i.e., propositionally synonymous sentences) consisting of sentences A, B, and C and a set of communicative situations α , β , γ , and θ . Sentence A is unmarked compared to sentences B and C if the former can be used in more communicative situations than the two latter. For instance, sentence A is appropriate in situations α and γ , whereas sentence B can only be used in situations β , and sentence C only in situation γ . Then sentence A is communicatively unmarked with respect to sentences B ands C.

4. Basic MC Sentences

We will see in this section that (i) SV is the unmarked word order in basic MC sentences; (ii) there is no correlation between the notion of grammatical subject and thematic roles; and (iii) MC encodes the identifiability of the subject NP in intransitive sentences via word order.

Let us first consider the basic Mandarin Chinese sentence given in (1).

(1) ke4.ren2 lai2–le guest/client arrive–ASP
'the guest(s)/client(s) has/have arrived'

The pre-verbal NP in (1) is an Agent. However, the following basic sentences show that the thematic identity of the subject does not affect its positioning in the sentence.

(2) a. ke4.ren2 dao3-le guest/client fall-ASP 'the guest(s)/client(s) fell'
b. ke4.ren2 si3-le guest/client die-ASP 'the guest(s)/client(s) died'

These sentences taken together with the one shown in (1) demonstrate that the thematic role of an NP does not affect word order. Though the subject is an Agent in (1), a Theme in (2a), and a Patient in (2b), they all occur in pre-verbal position.

The sentence in (1) can be used in situations such as the following. In a restaurant, waitresses know clients are coming (because they made reservations or something). When the clients come in, the waitress who sees the clients can say *ke4 ren2 lai2 le* meaning 'the clients have arrived'. The clients here are identifiable and this fact is encoded by the SV word order. Aside from their declarative function, SV sentences can be used in question-answer sequences. For example, the sentence shown in (3) can be used as the answer to questions like *shei2 pao3 le?* 'who ran?' (where *zhang1 san1* in (3) would be rhematic) and *zhang1 san1 zuo4 shen2 me le?* 'what did Zhangsan do?' (where *zhang1 san1* in (3) would be thematic).

(3) zhang1.san1 pao3 le Zhangsan run ASP 'Zhangsan ran'

Note that an answer of the form VS (cf. the sentence in (4)) is ungrammatical here.

(4) *pao3 le zhang1.san1 run ASP Zhangsan 'Zhangsan ran'

This shows that identifiable subjects are thus obligatorily pre-verbal.

4.1. Encoding the Unidentifiability of Subject NPs: VS Sentences

Sentences with VS word order do exist. Consider the one given in (5).

 (5) lai2 ke4.ren2 le arrive guest/client ASP '(a/some) guest(s)/client(s) has/have arrived'

Such a sentence can only be used in (unexpected) situations similar to the following. In a restaurant, the waitresses do not know specific clients are coming (though they are expecting some clients to come in, as is normal in a restaurant). All of a sudden, one waitress sees that some clients have come into the restaurant. She would then say to the others *lai2 ke4 ren2 le* meaning '(some) clients have arrived'. Note that the sentence #ke4 ren2 lai2 le 'the clients have arrived' is inappropriate here given that ke4 ren2 designates identifiable clients.^{*} Let us consider another situation. Person A is at home, busy working in the basement. All of a sudden the doorbell rings but he cannot answer the door. Person A shouts to person B *lai2 ren2 le*, qu4 kai1 men2 ba 'people are here, go answer the door please'. Here again, the SV sentence #ren2 lai2 le 'someone has arrived' is communicatively unacceptable given the identifiability of the NP ren2 'someone'.

The point to be made here is that the unidentifiability of the subject NP of intransitive sentences is encoded via its post-verbal position thus giving rise to VS sentences, while the identifiability of the subject is indicated by the subject appearing before the verb.[†] Note that if a speaker wants to have the unidentifiable subject in pre-verbal position he has to use a *you3* construction: *you3 ren2 lai2 le* 'someone has arrived'. Nonetheless, according to the definition of basic sentence given in section 2, such a construction is not basic.

VS sentences are more marked than their SV counterparts given that the latter can be used in more communicative situations than the former (which are thus not basic sentences). VS sentences can be used as declarative sentences when the subject is unidentifiable as well as an answer to a question like *shei2 lai2 le?* 'who has arrived?'. However, they cannot be used as a reply to a question like *shei2 san1 zuo4 shen2 me le?* 'what did Zhangsan do?', contrary to SV sentences.

4.2.Word Order Rules in MC Basic Sentences

The main points we have seen in this section are the following. SV sentences (cf. the ones in (1), (2), and (3)) are the least marked sentence type. They can be used as declarative sentences when the subject is identifiable as well as answers to questions of the type *shei2 v le?* 'who ved?' and *x zuo4 shen2 me le?* 'what did X do?' where v stands for 'verb' and x for 'person'.

VS sentences (cf. the one in (5)) are more marked than SV sentences. They are used when the subject is unidentifiable as declarative sentences and as answers to questions of the type *shei2 v le?* 'who Ved?'. However, contrary to SV sentences, they cannot be used to answer questions like *x zuo4 shen2 me le?* 'what did X do?'. It can be claimed according to the definitions of basic sentence in section 2 and communicatively unmarked sentence in section 3 that word order in basic MC

^{*} Following Lambrecht (1994) and Mel'čuk (2001), the hash sign # stands for 'communicatively unacceptable, though grammatically well formed'.

[†] Lambrecht (1994: 143) briefly mentions that Chinese encodes unidentifiability of an NP by word order inversions.

sentences is SV and that basic subjects are pre-verbal. It is thus expected that subjects in ordinary transitive sentences also occur in pre-verbal position.

5. Ordinary Monotransitive MC Sentences

It is demonstrated in this section that subjects must occur in pre-verbal position and, in addition, direct objects in communicatively unmarked ordinary monotransitive sentences must occupy the post-verbal position.

Let us consider a situation where two people are in a restaurant; person A sees someone he knows named Zhangsan sitting at another table. He wants to know what he is eating but cannot see clearly enough. He thus asks person B: *zhang1 san1 chi1 shen2 me?* 'what is Zhangsan eating?'. Person B can answer with sentence (6a) or (6b), but not with (6c) (note that the vertical bar | indicates a pause):[‡]

(6)	a.	ta1	chi1	yi4–loi	ng2-jiao	3.zi	
		3sg	eat	one-CI	LS-dump	olings	
		's/he is	s eating	one me	asure of	dumpli	ings'
	b.	yi4-lo	ng2–jia	.03.zi		ta1	chi1
				· ·	PAUSE		eat
		'One n	neasure	of dum	plings, s	/he is e	ating'
	c.	*yi4–l	ong2–ji	iao3.zi	ta l	chi1	
		one-0	CLS-du	mplings	3sg	eat	
		'One	measur	e of dur	nplings	s/he is e	eating'

Note that the sentence in (6a) is the less marked one according to the definition of markedness given in section 3. It is less marked in that it can be used to declare that Zhangsan is eating one measure of dumplings and to answer the questions *zhang1 san1 chi1 shen2 me?* 'what is Zhangsan eating?', *zhang1 san1 zuo2 shen2 me?* 'what is Zhangsan doing?', and *shei2 chi1 yi4 long2 jiao3 zi?* 'who is eating one measure of dumplings?'. On the other hand, the object-focalized sentence in (6b) can only be used to answer the question *zhang1 san1 chi1 shen2 me?* 'what is Zhangsan eating?'.[§] It is important to point out that SVO is the only possible word order in the unmarked ordinary sentence given in (6a), and O|SV the only possible one in the marked sentence shown in (6b). Any other word order is ungrammatical.

The foregrounded (non-focalized) OSV sentence shown in (6c) is unacceptable because the direct object *yi4 long2 jiao3 zi*? 'one measure of dumplings' is unidentifiable. If it were identifiable, as in *zhe4 yi4 long2 jiao3 zi* 'this measure of dumplings', (6c) would be an acceptable object-foregrounded sentence (even without a pause), e.g., *zhe4 yi4 long2 jiao3 zi ta1 chi1* 'this one measure of dumplings s/he is eating'. In such a case, the sentence is more marked than the SVO sentence in (6a) given that it can only be used as an answer to the question *zhang1 san1 chi1 shen2 me*? 'what is Zhangsan eating?'.

Furthermore, the ungrammatical object-foregrounded OSV sentence shown in (6c) can be made grammatical if *wan2 le* 'finished' is added after the verb *chi1* 'eat', thus indicating that the action of eating has reached its end point. In a similar situation as the one described above, person A sees that Zhangsan has finished eating something but he cannot see what. Wanting to know, he asks

[‡] Other possible answers are: (i) *yi4 long2 jiao3 zi* 'one measure of dumplings' and *chi1 yi4 long2 jiao3 zi* 'is eating a measure of dumplings'. The elision of *ta1* 'he' and *chi1* 'is eating', respectively, is possible because in this case *yi4 long2 jiao3 zi* 'one measure of dumplings' is the rhematic focus. See Mel'čuk 2001 for more details on this notion.

[§] This sentence is an example of left-dislocation of the direct object/rhematic focus without resumptive pronoun; see Mel'čuk (2001) for more details on these notions.

person B *zhang san1 chi1 wan2 le shen2 me?* 'what did Zhangsan finish eating?'. Person B might answer by using one of the following sentences:

(7)	a.	ta1 chi1-wan2-le	yi4–le	ong2–jia	ao3.zi
		3SG eat-finish-ASP	one-0	CLS–dun	nplings
		'he finished eating one	e measure	of dump	olings'
	b.	yi4–long2–jiao3.zi	tal c	hi1–wai	n2—le
		one-CLS-dumplings	3sg e	at-finisl	h–ASP
		'One measure of dump	olings he f	finished	eating'
	c.	yi4–long2–jiao3.zi		ta l	chi1-wan2-le
		one-CLS-dumplings	PAUSE	3sg	eat-finish-ASP
		'One measure of dump	olings, he	finished	eating'

The least marked sentence is the SVO sentence in (7a). It can be used as a declarative sentence as well as an answer to the questions *zhang1 san1 chi1 wan2 le shen2 me?* 'what did Zhangsan finish eating?', *zhang1 san1 zuo2 le shen2 me?* 'what did Zhangsan do?', and *shei2 chi1 wan2 le yi4 long2 jiao3 zi?* 'who finished eating one measure of dumplings?'. Sentence (7b) is more marked: It can only be used to answer the question *zhang1 san1 chi1 wan2 le shen2 me?* 'what did Zhangsan finish eating?'. Finally, sentence (7c) is also more marked than the SVO sentence in (7a) because it too can only be used as an answer to the question *zhang1 san1 chi1 wan2 le shen2 me?* 'what did Zhangsan finish eating?'. Therefore, SVO type sentences are the least marked ones.

As is expected, the subject of either marked or unmarked monotransitive sentences must occur in pre-verbal position and the direct object of unmarked sentences must appear in post-verbal position. ANY OTHER WORD ORDER IS EITHER UNGRAMMATICAL OR INDICATES A PARTICULAR INFORMATIONAL/COMMUNICATIVE STRUCTURE -- that is, it is marked.

5.1.Word Order Rules in Ordinary MC Monotransitive Sentences

This section can be summarized as follows. SVO type sentences are the least marked monotransitive sentences. They can be used as declarative sentences and as answers to questions pertaining to the subject, the direct object or the event. Object-foregrounded OSV and object-focalized O|SV sentences are more marked than SVO sentence in that they can only be used to answer questions pertaining to direct objects. In marked as well as unmarked ordinary sentences, the subject must appear in immediate pre-verbal position and in unmarked ordinary sentences the direct object must occur in immediate post-verbal position. Note that the thematic role of the subject and direct object does not affect word order in any way.

6. Ordinary Ditransitive MC Sentences

In this section it is demonstrated that in marked or unmarked sentences subjects must occur in preverbal position, (morphologically unmarked) indirect objects must occur in immediate post-verbal position, and in unmarked sentences direct objects must occur after the indirect object.

Let us consider the following situation. Zhangsan asked person A to give person B a book. The same day, person A meets person B and while taking the book out of his bag he says the S-V-IO-DO sentence shown in (8).

 (8) zhang1.san1 gei3 ni3 zhe4-ben3-shu1 zhang.san give 2sG this-CLS-book
 'Zhangsan is giving you this book' Person B having not heard correctly asks *shei2 gei3 wo3 zhe4 ben3 shu1?* 'who is giving me this book?'. Person A answers back using either sentence (8) or the subject-focalized P_i -|- S_i -V-IO-DO sentence in (9), where P stands for prolepsis and | for a pause.

(9) zhang1.san1_i | ta1_i gei3 ni3 zhe4-ben3-shu1 zhang.san_i PAUSE 3SG_i give 2SG this-CLS-book 'Zhangsan, he is giving you this book'

Note that that focalization of the subject is encoded by left dislocation: The subject NP *zhang1 san1* 'Zhangsan' becomes a prolepsis, a pause is inserted after it, and a resumptive pronoun *ta1* 'he' -- coreferential with the prolepsis *zhang1 san1* 'Zhangsan' -- appears in immediate pre-verbal subject position. Note that if the resumptive pronoun is absent or if it is in any other position the sentence is ungrammatical.

Turning back to the situation described above, B then asks A *zhang1 san1 gei3 wo3 shen2 me?* 'what is Zhangsan giving me?', to which A can answer with sentence (8) or with one of the sentences shown in (10), but not with the subject-focalized sentence in (9).

(10)	a. zhe4-ben3-shu1	zhang1.sa	n1 gei3	ni3	
	this-CLS-book	zhang.san	give	2sg	
	'this book, Zhangs	san is giving	it to you'		
	b. zhe4-ben3-shu1	z	hang1.san1	gei3	ni3
	this-CLS-book			give	2sg
	'this book, Zhangs	san is giving	it to you'		

The sentence in (10a), of the form DO-S-V-IO, foregrounds (without focalizing) the DO by having it proleptized, that is, the DO appears in sentence-initial position. The sentence in (10b) focalizes the DO: It is left dislocated and a pause appears after it. It is important to point out that in (10) the subject must occur in immediate pre-verbal position and the indirect object in immediate post-verbal position; ANY OTHER WORD ORDER IS UNGRAMMATICAL. Note that sentences having the form DO-S-V-IO or DO-|-S-V-IO cannot be used to answer a question such as *shei2 gei3 wo3 zhe4 ben3 shu1?* 'who is giving me this book?'. Also note that sentences (10) cannot be used as an answer to a question such as *zhang1 san1 zuo4 shen2 me?* 'what is Zhangsan doing?', but the S-V-IO-DO sentence given in (8) can. The latter sentence type is thus the least marked one.

Now person B asks person A *zhang1 san1 gei3 shei2 zhe4 ben3 shu1?* 'to whom is Zhangsan giving this book?'. Person A can answer with the sentence in (8) or, if he wishes to focalize the indirect object, he can use the sentence in (11a), but not the ones in (10) nor (11b) nor (11c) -- the double underline indicates an elongated pronunciation, which is in this case licensed by indirect object focalization.

(11)	a.	zhang	1.san1	gei3	<u>ni3</u>	zhe	4–bei	n3-shu1
			.san					–book
		'Zhan	gsan is g	giving	you thi	is bo	ok'	
	b.	*ni3	zhang	l.san1	gei3	zh	e4-b	en3-shu1
		2sg	zhang.	san	give	th	is–Cl	s–book
		'to y	ou Zhar	igsan g	ives th	is bo	ook'	
	c.	*ni3		zhan	ig1.san	1 8	gei3	zhe4-ben3-shu1
		2sg	PAUSE	zhan	ig.san	Ę	give	this-CLS-book
	'to you, Zhangsan gives this book'							

Sentences (11b) and (11c) are ungrammatical because MC prohibits indirect objects to be proleptized (i.e., from appearing in sentence-initial position) or left dislocated (i.e., from appearing in sentence-initial position followed by a pause). A focalized IO can only receive primary stress (expressed via an elongated pronunciation in MC). Note that the indirect-object-focalized sentence in (11a) cannot be used to answer a question like *shei2 gei3 wo3 zhe4 ben3 shu1* 'who is giving me this book?' or *zhang1 san1 gei3 wo3 shen2 me?* 'what is Zhangsan giving me?'. It is therefore more marked than sentence (8). Also note that in (11a), ANY OTHER WORD ORDER IS UNGRAMMATICAL.

Finally, in the event where person C sees person A giving the book to person B and asks person D *tal zuo4 shen2 me?* 'what is he doing?', person D could only answer with the sentence given in (8), not with the others in (9)-(11). If we add it all up, S-V-IO-DO type sentences such as the one in (8) turn out to be the least marked ditransitive sentence type. Indeed, they can occur in more communicative situations than any other ditransitive sentence type.

6.1.Word Order Rules in Ordinary MC Ditransitive Sentences

This section can be summarized as follows. S-V-IO-DO sentences are the least marked ordinary ditransitive sentence type because they can be used as a declarative sentence as well as an answer to questions pertaining to the subject, the direct object, the indirect object, and the event. Direct-object-foregrounded DO-S-V-IO sentences are more marked than the former type given that they can only occur as answers to questions pertaining to the direct object. In both communicatively unmarked and marked ordinary ditransitive sentences, the subject must occur in immediate preverbal and the indirect object necessarily appears in immediate post-verbal position.^{**} If the subject and the (morphologically unmarked) indirect object occupy any other position, the sentence is ungrammatical. As for the direct object, it must appear in immediately after the indirect object in unmarked ordinary ditransitive sentences. Note that the thematic role of the subject, direct and indirect objects does not affect word order in any way.

7. Conclusion

To sum up the paper, we have seen that word order in MC encodes a number of things, namely (i) the identifiability of subject NPs; (ii) foregrounding, (iii) focalization; and (iv) grammatical relations. Regarding the first case, pre-verbal subjects are identifiable, while unidentifiable subjects are post-verbal. Turning to direct-object foregrounding, the DO is proleptized, that is, it occurs in sentence-initial position. In what concerns subject focalization, the subject NP is left dislocated, that is, it appears in sentence-initial position, a pause is inserted after the prolepsis, and a resumptive pronoun occurs in (immediate pre-verbal) subject position. Focalization of the direct object also implies left dislocation: The DO occurs in sentence-initial position and a pause is inserted after it. Focalization of the indirect object can only be done by elongating its pronunciation. With regards to grammatical relations, in both communicatively unmarked and marked basic/ordinary sentences the subject must occur in immediate pre-verbal position (except for unidentifiable subjects in basic sentences), and the indirect object necessarily appears in immediate post-verbal position. If subjects and (morphologically unmarked) indirect objects occupy any other position, the sentence is ungrammatical. As for the direct object, it must appear in immediate postverbal position in unmarked ordinary monotransitive sentences and immediately after the indirect object in unmarked ordinary ditransitive sentences. Note that the thematic role of the subject, direct and indirect objects does not affect word order in any way. The findings discussed in this paper are

^{**} Note that the indirect object of certain ditransitive verbs, namely of *reng1* 'throw', can be (restrictively) moved around by inserting the coverb *gei3* in front of it. Consider *tal reng1 (gei3) ni3 zhe4 kuai4 mu4 tou2* 'he throws you this piece of wood' vs. *tal reng1 zhe4 kuai4 mu4 tou2 gei3 ni3* ' he throws this piece of wood to you' vs. *tal gei3 ni3 reng1 zhe4 kuai4 mu4 tou2* 'this piece of wood he throws to you'. The DO in the first case is a secondary theme and the IO a secondary rheme. In the second case, the IO is foregrounded. Note that a bare IO or a *gei3*+NP IO can never appear in sentence initial position.

summarized in Table 1 below (P stands for 'prolepsis', N/C for 'not considered', and *Other for 'any other word order is ungrammatical').

	Intransitive	Ordinary monotransitive	Ordinary ditransitive	
Unmarked	SV	SVO	S-V-IO-DO	
	*Other	*Other	*Other	
Unidentifiable S	VS	N/C	N/C	
	*Other			
Foregrounded DO	N/A	OSV	OD-S-V-IO	
		*Other	*Other	
Focalized S	N/C	P _i - -S _i -V-O	P _i - -S _i -V-IO-DO	
		*Other	*Other	
Focalized DO	N/A	O SV	DO- -S-V-IO	
		*Other	*Other	
Focalized IO	N/A	N/A	S-V- <u>IO</u> -DO	
			*Other	

Table 1: Word order rules in MC basic/ordinary sentences.

It can thus be claimed that (i) identifiability of a subject, foregrounding, focalization, and grammatical relations are all encoded by strict word order; and (ii) these notions are not to be conflated with one another.

8. Acknowledgements

Many thanks to David Beck, professor at the University of Alberta, my wife Zhu Xiaolei, and all the participants in China and Canada who have helped me with grammaticality judgements. This paper could not have been written without the aforementioned people's help. This paper has been supported in part by the Chinese Graduates Association of Alberta Graduate Award.

9. References

- Beck, David. 2000. Semantic agents, syntactic subjects, and discourse topics: How to locate Lushootseed sentences in space and time. *Studies in Language*, 24, pp. 277-317.
- Keenan, Edward L. 1976. Towards a universal definition of 'subject'. In Charles N. Li (Ed.), *Subject and Topic*, pp. 305-33. New York, San Francisco and London: Academic Press.
- Lambrecht, Knud. 1994. Information Structure and Sentence Form. Topic, Focus, and the Mental Represention of Discourse Referents. Cambridge: Cambridge University Press.
- LaPolla, Randy J. 1995. Pragmatic relations and word order in Chinese. In Pamela Dowing & Michale Noonan (Eds.), *Word Order in Discourse*, pp. 297-329. Amsterdam and Philadelphia: John Benjamins.
- LaPolla, Randy J. 1993. Arguments against 'Subject' and 'Direct Object' as Viable Concepts in Chinese. *Bulletin of the Institute of History and Philology*, 63, pp. 759-813.
- Li, Charles N. and Sandra A. Thompson. 1989. *Mandarin Chinese. A Functional Reference Grammar*. London and New York: University of California Press.
- Mel'čuk, Igor A. 2001. Communicative Organization in Natural Language: The Semantic-Communicative Structure of Sentences. Amsterdam and Philadelphia: John Benjamins.
- Mel'čuk, Igor A. 1988. Dependency Syntax: Theory and Practice. New York: SUNY Press.
- Van Valin Jr., R.D. and R.J. LaPolla. 1997. *Syntax. Structure, Meaning and Function*. Cambridge: Cambridge University Press.