

Entrenchment of Pragmatics in Syntax

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Abstract

Syntax generates infinite sentences for semantic representation with compositionality principle, pragmatics yield infinite meanings of a sentence in utterances in context with relevance principle. Relevance principle in pragmatics is based on the least effort principle which governs not only language use but also different areas of human behaviors and cognition. It belongs to the central thought and governs all cognitive modules including language. Language is thus designed for communicative efficiency through the interface between syntax/semantics and pragmatics. Pragmatic rules and principles can be grammaticalized and become fully integrated in syntax and thus entrenched in syntax. Thus, apparent syntactic phenomena can better be understood with pragmatic perspectives. Other general cognitive principles such as disambiguation principle can interact with syntactic principles. Thus, syntax can be made even simpler than Culicover and Jackendoff have recently proposed.

1. Introduction

The syntax/semantics/pragmatics triplets date back to the philosopher Charles Morris when he outlined a general theory of semiotics (Levinson 1983:1-3). By now, it should be clear to linguists, if not to anthropologists, that a general theory of semiotics cannot explain linguistic structures adequately. For instance, structural linguistics developed by Saussure and Jakobson greatly has influenced the work of Levis-Strauss and his followers in the analysis of various systems of cultural beliefs and practices (Foley 1997). In contrast, we have not seen the study of rituals and religious beliefs which would shed light to the understanding of linguistic structures. Nevertheless, the triplets have somehow become the trinity not only in the investigation of logic and language, but also in contemporary linguistics. The term 'pragmatics' as used in contemporary linguistics is also variously defined, ranging from that pragmatics is meaning minus truth conditions to that "pragmatics is the study of those relations between language and context that are grammaticalized, or encoded in the structure of a language"(Levinson 1983:9-12). In fact, the quoted

definition has inspired the topic of this talk, the entrenchment of pragmatics in syntax. In other words, the aspects of pragmatics which help shape the syntactic structure rather than other areas of pragmatics which deals with language in context such as speech acts, illocutionary force, implicit import, and metaphorical or ironical meanings. In spite of different definitions and scopes of pragmatics, it is generally agreed in linguistic literature that while syntax generates sentences for semantic representation, pragmatics interprets utterances in context.

In their well-known work, Sperber and Wilson (1995) has proposed a theory of "relevance" to subsume Grice's cooperative principle and its maxims to account for all aspects of language use in context. To capture the intuition of relevance in a context, they first give the following definition for the concept of *Relevance*: an assumption is relevant in a context if and only if it has some contextual effect in that context." (ibid 122). To have a contextual effect is to add new information to the old information in such a way that would result in contextual implications. In terms of standard deductive logic, old and new information as premises would yield a synthetic implication (ibid 109). The concept of *relevance* is a comparative concept involving degrees of relevance. Noting that comparative concepts are best defined in terms of "extent" conditions, Sperber and Wilson refine the above definition as follows:

Relevance

Extent condition 1: an assumption is relevant in a context to the extent that its contextual effects in this context are large.

Extent condition 2: an assumption is relevant in a context to the extent that the effort required to process it in this context is small.

In essence, the two conditions intuitively amount to a common sense notion of 'least effort with maximal effect' expounded in Zipf (1935, 1945). I will simply refer to the notion as 'the least effort principle' and regard the principle as a very global cognitive strategy of human behaviors which interfaces all the cognitive modules including visual, auditory, olfactory, tactile, and language modules. I will also take the position that the least effort principle is a property of central thought rather than a module along with other modules (Fodor 1983). Thus, the least effort principle as well as the notion of relevance are like the formation of scientific hypotheses which cannot be studied formally. Unlike modules, the property of central thought cannot be verified just like the creation of scientific hypothesis (Fodor 1983, Sperber and Wilson 1995). I should hasten to add here that while the creation of scientific hypotheses, like other creative activities, cannot be formally stated, the hypotheses

themselves can be confirmed or disconfirmed through experiments with deductive logic, which is formal in nature.

Zipf (1949) proposes the least effort principle for all kinds of human behaviors, including language use. He also notices that there are actually two competing forces in language use. On the one hand, there is the Force of Unification in the interest of Speaker's Economy. On the other hand, there is the Force of Diversification in the interest of Auditor's Economy. In a very insightful paper, Horn (1984) has demonstrated that these two competing forces are largely responsible for Grice's conversational maxims and pragmatic inferences derived therefrom.

In this talk, I would like to examine some aspects of interface between syntax and pragmatics which can be understood in terms of the notion of relevance and the least effort principle and to draw some conclusions on the triplet of the syntax/semantics/ for human communication. This talk is organized as follows: section 2 extends the traditional categories of deixis; section 3 re-examines denominal verbs as contextual expressions; sections 4 and 5 explore the role of pragmatics in word order and argument selection; section 6 concludes this talk with some relevant remarks.

2. Deixis Categories

The most obvious interface between syntax and pragmatics involves the use of deictic (or indexical) expressions. The traditional categories of deixis are person, place, and time, as illustrated in

(1) I'll be back here tomorrow.

Here "I" refers to the speaker who utters the sentence, and "here" to the place the speaker is located at the time of utterance, and tomorrow to the next day from the day in which the utterance is made. This sentence can be uttered by infinite number of speakers, in infinite number of places on infinite occasions of time, yielding infinite number of meanings in terms of truth conditions. To these traditional categories, discourse deixis and social deixis have been added (Lyons 1977, Fillmore 1997). Analogously to "last week" and "next week", we have discourse deixis such as "last paragraph" and "next chapter". Social deixis makes distinction between the speaker and the addressee(s) with respect to their social relationship. Honorifics is an important kind of social deixis as it concerns with relationship and respect.

In addition, the definite description as in 'The man who just walked into the room is Professor Huang' also has the indexical function. In fact, I can say this sentence and pointing to the person who just walked into the room. Pointing is sometimes necessary when we use deictic expressions such as 'this' and 'that'. If I say 'this book' and not 'that book' without somekind of pointing, you would not be able to be sure which book I really want. Pointing with figure, head turn, and eye gaze plays even a more crucial role in signed language than in spoken language. Pronouns and subject-object relationship in agreement verbs in sign language all involve pointing (Liddell 2003). Putting the two modalities of human language together, I am inclined to think that deictic expressions in spoken language is pointing in nature.

Barwise and Perry (1983) point out that names are somewhat indexical. The referent a speaker associates a name with at a given time is contextually construed. For instance, 'James' can be used to refer to a huge number of persons, depending on who is uttering the name, when, where and for what purpose. While names are indexical in nature, language users tend to think that they can pick up the unique referents without resorting much to contexts. But this is often misleading.. It is a well-known fact that In Taiwan, there are many 'market names' (菜市阿名), and 怡君 is one of them. The surname doesn't help at all. Therefore, there are many 郭怡君 and 陳怡君 in Taiwan. In most contexts, these 'market names' do not present serious problems. But one can easily imagine that they can be misused for various purposes. 救國團 in Taiwan used to have a 張老師專線, a counselling line of which all counsellors are so addressed. I believe that in some middle schools in Taiwan, 張老師 stands for a counsellors. Names like 'George and Mary ' in English and '志明與春嬌' have very low function of indexicality. Finally, 張三、李四 and 阿狗、阿貓 have lost the indexicality totally.

I want to go one step further than Barwise and Perry (1983) to treat expressions such as 'the usual' and 'the same' used in bars as deixis. In the States, I used to frequent local bars to enjoy happy hours. There, the bar-tender would greet me first, and ask me 'the usual?'. If I want to have the same beer as I usually drink, say, Miller Light, I would simply nod my head or repeat 'the usual' in a low tone with affirmative facial expression. The next customer comes in and he also takes his usual, except, his usual is not my usual, he takes a 'Scotch on Rock'. In Taipei, sometimes, I have to stand in a long line to get my breakfast, and if I want to order the same kind of breakfast as the guy before me, say, 火腿三明治, I don't have to repeat "火腿三明治". I can say "跟他一樣" or simply "一樣". As a matter of fact, I always order my

火腿三明治" with the egg rid of yolk (due to my high cholesterol). So every morning I walk into my favorite breakfast stand, the owner would ask me "一樣嗎" just for sure. Thus, the expressions such as "the usual" and "the same" are indexical in nature, since they refer to infinite number of referents and must be contextually construed to pick up the right referent(s).

Let me go one step further. I need coffee to wake me up every morning. Being a lazy person who doesn't really know how to savour coffee, I go to Starbucks to order "本日中杯". It is obvious that "本日" is indexical, and "本日中杯" is also indexical, as the kind of coffee it refers to varies everyday at different Starbuck stores and needs to be contextually construed. In addition to its indexicality, "本日中杯" is also an abbreviation. However, abbreviations need not be indexical to be grammaticalized. In American breakfast restaurants, the waitresses would say "three large oranges" to mean "three large glasses of orange juice" and "two waters" to mean "two glasses of water". Here the mass noun "water" is treated as a count noun which can be pluralized. Similarly, "two buds" and "three lights" stand for "two Budweiser beers" and "three light beers" respectively. Of course, abbreviations yield ambiguity and misunderstanding without contexts. For instance, OSU can stand for Ohio State University, Oklahomo State University, and Oregon State University. Only in Ohio or Midwest, OSU can have a unique referent, referring to the Ohio State University located in Columbus, Ohio. Thus, abbreviations of proper names lead to the loss of indexicality. In Taiwan, both National Cheng Chi University and National Chung Cheng University are abbreviated as NCCU. In proper contexts, they don't yield ambiguity. Yet, for the obvious reason, their e-mail addresses need to be distinguished as [@nccu.edu.tw](mailto:nccu.edu.tw) and [@ccu.edu.tw](mailto:ccu.edu.tw) respectively. Disambigulation helps point to the right referent and the intended meaning. It is a pragmatic principle but it does shape syntactic structure in important ways. (Tai 2005).

3. Denominal verbs

In English and many other languages including French, German, Spanish, and Indonesian, words naming concrete objects, such as 'bottle', 'skin', 'truck' and 'water', can also be used as verbs. These verbs, 'to bottle', 'to skin', 'truck' and 'to water', are used to name events associated with the corresponding concrete objects. In the literature on English grammar, these verbs have been referred to as 'denominal verbs' and are derived from the corresponding nouns. This grammatical relation in English has been treated by Jespersen (1942) as a shift in morphological category from noun

to verb. The morphological process has been referred to as 'conversion' or 'zero derivation' (Lyons 1977: 522ff). Generative semanticists such as McCawley (1971) and Green (1974) derived denominal verbs from a conflation of underlying universal semantic constants, such as 'to cause something to be in the bottle' and 'to cause the skin to be removed'. In a more recent treatment by generative syntacticians such as Hale and Keyser (2002), the Larsonian VP-shells theory was applied to derive denominal verbs from moving a noun upward to position of 'light' verb in the VP-shell. Culicover and Jackendoff (2005), however, correctly point out that Hale and Keyser's treatment of denominal verbs is inadequate for at least three reasons. First, one cannot predict which particular nouns can become verbs. For instance, 'chair' and 'table' can become 'to chair' and 'to table' but 'desk' and 'sofa' cannot. Second, the theory cannot predict idiosyncratic meanings associated with denominal verbs. For instance, 'to father a child' means 'to bring about the child's birth', but 'to mother his students' means 'to treat his students like a mother.' Third, the light verb treatment cannot predict the thematic status of the associated nouns. For instance, 'to carpet the van' means 'to cover the van with carpet', but not 'to put her van in the carpet' as in "to garage the van", which means to put the van in the garage. In fact, we need only to take a good look at the denominal verbs in English as documented in Clark and Clark (1979) to realize that the creation and use of denominal verbs in English as well in other language is pragmatic but not syntactic in nature. Let me here just to use an Indonesian example (Rose 1972) to make a point. In Indonesian, the sentence 'The mother stoned the rice' can mean 'The mother used the stone to thresh the rice', "The mother add the stone to the rice" (so that the rice will weigh more for better price), and "The mother removed the stone from the rice". How can one interpret either 'to add' or 'to remove' without contexts?

Clark and Clark (1979) argue that denominal verbs should be treated as contextual expressions rather than denotational or indexical expressions. Particularly with respect to innovative denominal verbs, such as 'to porch the newspaper' (meaning 'to put the newspaper on the porch' as by the newspaper carrier) and 'to Houdini one's way of the locked closet' (meaning 'to escape by trickery'), they propose that such contextual expressions shifted sense and denotation according to different contexts. These are distinguished from denotational expressions, such as 'man' and 'bachelor', which have fixed sense and denotation, and from indexical expression, such as 'he' and 'the bachelor'.

Clark and Clark propose a denominal verb convention to treat innovative denominal verbs in English. This convention, the Innovative Denominal Verb

Convention (IDVC), patterned after Grice's cooperative principle, is stated as below:

The Innovative Denominal Verb Convention (IDVC)

In using an innovative denominal verb sincerely, the speaker means to denote

- (a) the kind of situation
- (b) that he has good reason to believe
- (c) that on this occasion the listener can readily compute
- (d) uniquely
- (e) on the basis of their mutual knowledge
- (f) in such a way that the parent noun denotes one role in the situation, and the remaining surface arguments of the denominal verb denote other roles in the situation.

The leading idea in Clark and Clark's theory is that, in using an innovative denominal verb, the speaker intends the listener to come to a unique interpretation of what he has said, not only from the meanings of the words alone, but also from the context as well on the basis of what they mutually know. Thus, as contextual expressions, innovative denominal verbs can have, in theory, a very large, if not infinite, number of senses. Aronoff (1980) accepts the fact of contextuality associated with denominal verbs but argues against the necessity of introducing a denominal verb convention and the semantic category 'contextual'. His solution is to generate denominal verbs from their corresponding nouns by a word formation rule and to use what he has referred to as 'phrase semantics' in conjunction with general pragmatic principles to provide a range of interpretations for denominal verbs.

Clark and Clark's theory appears to account for established denominal verbs as well as innovative ones. It explains the phenomenon in English that an established denominal verb can often have a number of conventionalized meanings. For example, 'to water' in English can mean 'to moisten, to sprinkle, to soak with water'; in addition, it has other meanings, including 'to supply with water for drink', 'to supply water to' and 'to dilute by the addition of water'.

It should be noted that the demarcation between innovative verbs and established innovative verbs cannot always be clearly made. Once an innovative denominal verb is introduced, it may become fully established. Alternatively, it may have become established for some speakers but not for others in a speech community; or, it may even fall into disuse completely. For example, 'to parent' is still not acceptable to many speakers even though it is widely used. The denominal verb 'to money' now

seems unacceptable in British English even though the *Compact Oxford English Dictionary* lists the following meanings: 'to mint money; to supply with money; to furnish money for an undertaking'.

Although Mandarin Chinese exhibits a paucity of denominal transitive verbs, established as well as innovative (Tai 1997), the language is very productive in innovative denominal intransitive verbs. This can be illustrated by the following examples.

- (2) Zhe ge ren hen jiche.
this Cl. person very motorcycle
'This person is lacking (in some respect, depending on context of use)'
- (3) FIN.K.L de Taiwan yinxiang hen jiche. (China Times 1999.7.10)
GEN impression very JICHE
'FIN.K.L's impression of Taiwan is quite negative.'
- (4) Daxue hen jiche. (China Times 2004.11.)
university
'There are too many motorcycles running around the university.'
- (5) Zuotian Zhanghua huochezhan hen Ouzhou.
yesterday ZH train-station very Europe
'Yesterday Zhanghua train-station was full of European atmosphere.'
- (6) Tamen bi Lidenghui geng Lidenghui.
They compare LDH even more LDH
'They are more of Lidenghui's spirit than Lidenghui himself.'
- (7) Zhongzheng jiantian hen huaxue.
CCU today very chemistry
'Today CCU is of chemistry.'
- (8) 黃宣範很台南，戴浩一很鹿港，兩個人都很台。
- (9) 這種人太杜正勝了。(聯合報/E7, 2007-02-08)
- (10) 倫敦愛樂抵台，新「雙星」很東方。(中國時報/A18, 2008-03-18)
- (11) 人人學爬，東河國小樹規矩。(聯合報/A9, 2008-04-12)
- (12) 正港王牌，建仔完投紅襪。(自由時報/A1, 2008-4-13) .

It should be noted, though, that innovative denominal verbs are more often used in headlines or as a topic than in the texts. The readers have to read the texts to fully understand their meanings. The texts thus provide the innovative

denominal verbs with contexts. Notice that in (11) and (12) transitive denominal verbs are used.

4. Word order in Chinese grammar

Pragmatic inferences help to map linguistic expressions into conceptual structures with which humans communicate and act (Jackendoff 1990, Tai 2005). Pragmatic inferences also serve to shape linguistic forms required for effective communication. Individual languages employ different strategies of pragmatic inferences to simplify syntactic structures. Let us take a look at how pragmatics plays a role in word order in Chinese. As pointed out by Pinker (1989), 'animacy' is an object property contained in one of the subsystems in conceptual structure. This object property is relevant for categorization in classifier systems (Tai 1992) but also for word order in Chinese. When a sentence with animate subject and inanimate object, native speakers of Peking Mandarin seem to accept all the six possible orders except VSO. This can be illustrated in (23) with the intended meaning 'He ate the apple.'

- (13) a. Pingguo ta chi-le. 'He ate the apple.'
 apple he eat-Asp
 b. Ta pingguo chi-le.
 c. Ta chi-le pingguo.
 d. Chi-le pingguo, ta.
 e. Pingguo chi-le, ta.
 f. *Chi-le ta, pingguo.

It is worth noting here that in American Sign Language, for a sentence like 'The boy likes ice-cream', the only unacceptable word order is also VSO (Fischer 1975).

When both subject and object are animate, there are two scenarios. In the first scenario, the relation that the verb denotes is unlikely to be reversed in the real world. For example, it is unlikely for the rabbit to eat the tiger. We would expect (14b) to be as acceptable as (14a). However, native speakers of Peking Mandarin still feel uncomfortable with it, even though there is no misunderstanding of the meaning of the sentence.

- (14) a. Tuzi laohu chi-le. 'The tiger ate the rabbit.'
 rabbit tiger eat-ASP
 b. ?Laohu tuzi chi-le.
 c. Laohu chi-le tuzi.
 d. Chi-le tuzi, laohu.
 e. ?Tuzi chi-le, laohu.
 f. *Chi-le laohu, tuzi.

In the second scenario, both subject and object are animate and their relation denoted by the verb can be reversed in the real world as in the case of (15). In this situation, (15b) is ungrammatical with the intended meaning. It can only mean 'The lion ate the tiger'.

- (15) a. Shizi laohu chi-le. 'The tiger ate the lion.'
 lion tiger eat-ASP
 b. *Laohu shizi chi-le.
 c. Laohu chi-le shizi.
 d. Chi-le shizi, laohu.
 e. ?Shizi chi-le, laohu.
 f. *Chi-le laohu, shizi.

(13b), (14b) and (15b) taken together show that the functional role of word order arises to meet the need to avoid ambiguity in semantic distinction between agent and patient. I have contemplated that in some languages like Chinese, syntactic notions such as subject and object are secondary to the semantic notion. They also show that the object property of animacy plays an important role in Chinese word order. Our observation here is consistent with previous psycholinguistic findings that animacy as a validity cue weighs more than the syntactic function of word order in the Competition Model proposed by Bates and MacWhinney (cf. Li and Bates 1993).

Tai (1985) proposes the principle of temporal sequence to account for a large number of seemingly unrelated word order constraints in Chinese. The principle is stated as:

The relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world.
 (ibid:50)

Tai treats this principle as a syntactic principle based on the general cognitive principle of temporal sequence and thus argues against the autonomy thesis of syntax.

However, Newmeyer (1992, 1998) argues that temporal sequence in Chinese is not a syntactic principle, but rather than a grammaticalized discourse principle. He first argues that temporal sequence is a general discourse principle, and then argues that the principle is only grammaticalized in Chinese. To do so, he begins by pointing out the well-known conversational implicature in temporally-ordered conjoined sentences in English, as illustrated in (16).

- (16) a. Mary bought some motor oil and went to the supermarket.
- b. Mary went to the supermarket and bought some motor oil.

That the meaning difference in the two sentences in (16) can be accounted for by conversational implicature is evidenced by the fact that the temporal order in these sentences can be cancelled, for example, by adding "but not in that order", as shown in (16').

- (16') a. Mary bought some motor oil and went to the supermarket --but not in that order.
- b. Mary went to the supermarket and bought some motor oil--but not in that order.

In other words, (16a) conversationally implicates, but does not entail, that Mary bought some motor oil prior to going to the supermarket. Similarly, (16b) does not entail that Mary went to the supermarket before buying some motor oil. Conversational implicature in (16) can therefore be accounted for by one of Grice's maxims governing successful conversations, namely, "Be orderly".

Newmeyer then argues that the Gricean maxim has been grammaticalized in Chinese so that the interpretation of (17a) and (17b) in real time must follow the grammatical ordering of the serial verb constructions in these sentences. In other words, an interpretation of (17a), in which Zhangsan had a book before going to the library, is impossible. By the same token, (17b) cannot be interpreted with Zhangsan going to the library before the action of taking out a book.

- (17) a. Zhangsan [dao tushuguan] [na shu].
 Zhangsan reach library take book
 'John went to the library to get the book.'
- b. Zhangsan [na shu] [dao tushuguan].
 Zhangsan take book reach library
 'John took the book to the library.'

Chinese does not have the exact equivalent of the English phrase, "but not in that order", as given in (16'). Nonetheless, a cancelling test can still be designed with in Chinese (Tai 1984). For example,

(18) Zhangsan sha-le Lisi san ci, dou mei sha-si ta.
'John performed the action of attempting to kill Bill, but Bill didn't die.'

(19) Ta xue-le hao-ji nian riwen, keshi mei xue-hui
'He studied Japanese for many years, but he didn't learn it.'

However, the cancellation test doesn't apply to sentences like (17a) and (17b) as shown below:

(20')a. *Zhangsan [dao tushuguan] [na shu], keshi ta xian na shu.
'John went to the library to get the book, but he took the book first.'

b. *Zhangsan [na shu][dao tushuguan], keshi ta xian dao tushuguan.
'John took the book to the library, but he went to the library first.'

Newmeyer takes the position that (17a) and (17b) should be treated as the grammaticalization of a Gricean implicature, rather than be constrained by an independent grammatical principle of temporal sequence, as proposed in Tai 1985. He argues that Chinese has not in general grammaticalized the maxim, "Be orderly". He claims that Chinese sentences conjoined with *bingqie* 'and' are interpreted in the same way as English sentences conjoined with "and"; that is, temporal ordering is conversational implicature but not logical entailment. To illustrate, Newmeyer(1992:776) provides the following examples:

(21) a. Zhangsan mai-le yixie jiyou bingqie qu-le shangdian.
Zhangsan buy-ASP some motor.oil and go-ASP store
'John bought some motor oil and went to the store.'

b. Zhangsan mai-le yixie jiyou bingqie qu-le shangdian,
Zhangsan buy-ASP some motor.oil and go-ASP store,
keshi ta xian qu shangdian.
but he first go store
'John bought some motor oil and went to the store,

but he went to the store first.

Crucially, Newmeyer equates *bingqie* with the simple conjunction "and" in English. *Bingqie*, however, is not a simple conjunction, but is, in fact, more similar to English 'besides, moreover', and is regularly used atemporally. The closer equivalent in Chinese of English simple "and" is zero marking, with a potential pause, so that the sentences in (16), for example, are rendered in Chinese as:

- (22) a. ?Mali mai-le yixie jiyou, qu-le shangdian.
Mali buy-ASP some motor.oil, go-ASP store
'Mary bought some motor oil and went to the supermarket.'
- b. Mali qu-le shangdian, mai-le yixie jiyou.
Mali go-ASP store, buy-ASP some motor.oil
'Mary went to the supermarket and bought some motor oil.'

The two Chinese sentences in (22) are not equally grammatical. (22b) is better than (22a) because the temporal order in (22b) reflects a natural ordering of going to the store and buying something. In contrast, in (22a), one has to impose a temporal ordering to make the sentence grammatical, by imagining a situation wherein one would want to juxtapose, in a single sentence, the two activities, buying motor oil before going to the supermarket. A possible scenario would be going to the gas station to buy motor oil and then driving to the supermarket. A more grammatical rendition of (22a) would be the inclusion of the conjunction, *ranhou* 'then', as in (22'a). In contrast, (22b) becomes less acceptable if *ranhou* is inserted, as in (22'b).

- (22')a. Mali mai-le yixie jiyou, ranhou qu-le shangdian.
Mali buy-ASP some motor.oil, then go-ASP store
'Mary bought some motor oil, and then went to the supermarket.'
- b. ?Mali qu-le shangdian, ranhou mai-le yixie jiyou.
Mali go-ASP store, then buy-ASP some motor.oil
'Mary went to the supermarket, and then bought some motor oil.'

The oddity in example (22'b) can be accounted for by the assumption that the conjunct *ranhou* is redundantly used for two clauses which represent two temporally ordered events in our conceptual world. As a matter of fact, the temporal entailment cannot easily be cancelled in Chinese conjoined sentences with 'zero conjunct'. This

can be illustrated demonstrated by the unacceptability of (23).

- (23) *Mali qu-le shangdian, mai-le yixie jiyou,
Mali go-ASP store, buy-ASP some motor.oil,
keshi ta xian mai-le yixie jiyou.
but she first buy-ASP some motor.oil
'Mary went to the supermarket (and) bought some motor oil,
but she first bought the motor oil.'

(22a), (22b) and (23) show that the interpretation of temporal order in conjoined sentences in Chinese with no overt conjunctions is stronger than English conjoined sentences containing "and". Tai (2002) therefore concludes that the pragmatic principle of temporal order is so entrenched in Chinese grammar that it functions as a syntactic principle interacting with other structurally-based syntactic principles in Chinese grammar.

5. Argument selection in Chinese grammar

We now turn to argument selection in Chinese to see how pragmatics plays a role in argument selection in Chinese grammar. Consider the following verbal phrases in construction with the verb *chi* 'to eat.'

- (25) Chi niuroumian.
'Eat beef noodles.'
(26) Chi Sichuan guan.
'Dine at a Sichuan restaurant.'
(27) Chi da wan.
'Eat a large bowl (of food).'
(28) Chi wanshang.
'(The banquet) is in the evening.'
(29) Chi touteng.
'(The medicine) is for headache.'
(30) Zaijia chi fumu, chuwai chi pengyou.
'One lives on his parents when at home, but on friends when traveling.'

(25)-(30) examples show that a transitive verb in Mandarin Chinese like *chi*'to eat', besides its regular theme object argument, can take location, instrument, time, reason, and other expressions as its object argument. Lin (2001) adopted light verb analysis to

account for this and other kinds of unselected subject and object arguments in Mandarin Chinese. Thus, the surface transitive verb *chi* embedded under the empty higher light verb phrase and verb phrases containing abstract verbs such as AT, USE, and FOR. However, the formal account would not be able to explain why the transitive verb *he* 'to drink' cannot have the same set of unselected object arguments as *chi* 'to eat'. One is tempted to speculate here that eating activities occupy a central place in Chinese culture, and for communicative efficiency, its syntax is simplified with pragmatic inferences. In a frequency count by Tao (2000), the frequency of *chi* is much higher than *he* and other related verbs. According to Zipf's (1935) law, the more frequently a word is used in a language, the shorter the word becomes. We can extend this law from the length of a word to the length of a phrase or sentence to the effect that the more salient a kind of activity occurs in a society, the shorter the sentence becomes with richer pragmatic inferences. Lin (2001) also observes similar phenomenon in subject selection for Chinese verbs. For example,

(31) Laozhang kai-le yi-liang tanke-che.

'Laozhang drove a tank.'

(32) Gaosu-gonglu kai-zhe yi-pai tanke-che.

'There is a line of tanks on the expressway.'

(33) Zhe-liang poche kai-de wo xia-si le.

'Driving this broken car made me scared to death.'

The unselectedness of subject and object arguments abounds in Chinese. While the light verb theory accounts for the phenomena in elegant syntactic manners, I am tempted to think that on closer examination, the light verb theory would run into the same kind of complication as it is applied to the derivation of denominal verbs. It is interesting to note that while Chinese grammar tends to be more pragmatically oriented in argument selection than English, it is not so pragmatically oriented as English in the formation of denominal verbs. Language typology such as X language is more pragmatically oriented may be misleading. Instead, we should talk about different degrees of syntax-pragmatics interface with respect to different aspects of syntax.

6. Conclusions

I have chosen some aspects of grammaticalization in language use to show that pragmatic rules and principles can become fully integrated in syntax and thus entrenched in syntax. They are entrenched in the sense that they interact with

syntactic principles closely at the syntactic level. Thus, apparent syntactic phenomena can better be understood with pragmatic perspectives. Other general cognitive principles such as disambiguation principle can also interact with syntactic principles. Recently, Culicover and Jackendoff (2005) have advocated a new approach to syntax. Their approach, referred to as Simpler Syntax, is to mediate form and meaning through the level of conceptual structure rather than through the level of syntax. The mapping from syntactic surface forms to semantics and thereby to utterance meanings requires both logical inferences and pragmatic inferences. In this talk, my attempt is to show that syntax can be made even simpler than Culicover and Jackendoff 's sympler syntax if we mediate form and meaning with both conceptual structure and pragmatic principles. In the special issue on discourse and cognition of *Language and Linguistics* (6.4), Shuanfan Huang succinctly summarizes the recent development of cognitive linguistic in the following paragraph:

"A converging development in cognitive linguistics has been motivated by the idea that complex high level cognitive structures lie behind our every day use of language and such structures can be uncovered by using the evidence provided by grammar. Such cognitive structures include metaphoric projection, frame organization, viewpoints, figure-ground configurations, metonymic inference, mental space links, cognitive schemas and cultural models." (ibid:514)

I am inclined to think that these cognitive structures also belong to the central thought rather than to language module.

Let me also make a three- way distinction here from syntax to semantics and to utterance meaning. Generative syntax accounts for the generation of infinite sentences for semantic interpretations based on compositionality principle, cognitive semantics accounts for different usage of a word or sentence in different cognitive frameworks, and cognitive pragmatics accounts for o the infinite meanings of an utterances in infinite contexts based on relevance principle. We can regard utterances of a word or sentence in different contexts as functions which map a word or sentence into different uses and meanings. For example, "knife" has different functions in different contexts, e.g., "knife on the dinner table", "knife in the kitchen", "knife in the war field", and "knife in the operation room." In his discussion on word meanings, Miller (1996:165-169) pointed out a very important relationship between function and categorization on the one hand and function and word meaning on the other. For instance, a tree stump has no perceptual attributes of a table, and in neutral context, a tree stump can hardly be a kind of table, and therefore it is unacceptable to say "The

stump is a table". This predication would not be acceptable either under the standard predication rule of X is Y, where X is a member of the set or category defined by Y or through the alternative prototype theory. Yet, in the context of picnic in the woods, it is perfectly alright for us to say "The stump is a good table", or even "the rock is a good table" (when the rock has a flat surface). The fact that functions can change our categorization was also noticed in Labov's (1973) well-known experiment on "cup" and "bowl" in which the categorical distinction between the two objects shifts according to the context. Herskovits (1985) points out that contextual factors also affect the choice and interpretation of a locative preposition in English. For example, 'the bulb in the socket' but not 'the bulb under the socket'. This has to do with the fact that we need the bulb to be in socket to function. Yet in contexts where bulb functioning is not the topic, one can say, for instance, 'Place bulb and socket assembly in such a way that the bulb is under the socket'. It is obvious that functions vary with the goals of human activities as in all the examples given here. The notion of relevance therefore cannot be independent of the goals of human activities. Thus, a deeper understanding of the notions of 'context' and 'relevance' calls for a taxonomy of different types of contexts and functions predicated on the goals of human activities.

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