Reflections on Typological Characterization of Chinese Grammar[*]

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Chinese has been characterized in different typological frameworks as isolating, analytic, discourse-oriented, pragmatics-oriented, topic-prominent, tense-lacking, pervasive in iconicity, and satellite-framed or equi-pollent-framed, and so on. This paper takes a relativist view and leans toward functionalism and cognitive grammar. It proposes that isolating and analytic features together with monosyllabicity cluster holistically as the 'gestalt' of Chinese. It also suggests the desirability of examining Chinese from the perspectives of sign languages and creoles.

Keywords: Chinese, typology, relativism, analyticity, iconicity, sign language, creoles

1. Introduction

The main purpose of this paper is to reflect on the characteristics of Chinese grammar within different frameworks of language typology. Since the characteristics of any language can only become apparent when they are compared to those of other languages within different typological frameworks, it is necessary to consider the goal of linguistic typology within different theoretical frameworks with different philosophical orientations.

The goal of linguistic typology is not only to provide a description of the range of variation among natural languages but also to search for general principles and language-specific rules. The general principles cannot properly be stated without reference to theoretical frameworks with different philosophical orientations toward nature of human language in both form and meaning (cf. Comrie 1981, Hammond et al. 1988, Shibatani & Bynon 1995).

There have been two different philosophical orientations that provide the backdrop for studies in linguistic typology since the historical and comparative study of languages in 18th and 19th centuries in Europe, namely, rationalism and empiricism. Linguistic universalism is based on rationalism, assuming that there are underlying mental invariants and variants exist only on the surface, and thus one can take a deductive approach to uncover invariants and surface variations by parameterization. In contrast, linguistic relativism is based on empiricism, taking the position that individual languages are historical entities developed by their speakers according to cultural needs for communication to construct their respective societies for survival. Each individual language thus represents a unique segmentation of the external world and the universe of human experience.

Linguistic universalists are rationalists. They adopt a deductive approach and focus on the underlying similarities across languages. They feel confident to apply the metalanguage developed from one single language, say English, to those of other individual languages to uncover universality. They also adopt formal analyses for the purpose of constructing universals and parameterization principles. For example, in the works of practitioners of different versions of generative grammar, and their corresponding typological studies, categorial universalism is assumed, and cross-linguistic formal categories are adopted, and parameterization principles for variants are discrete (Newmeyer 2010).

Linguistic relativists are empiricists. They adopt an inductive approach and focus on the differences and variants rather than similarities and invariants. They take the position that individual languages are developed for communication in different cultures and societies, and they often opt for functional approaches and cognitive-functional approaches.[1] Their typological framework assumes categorial particularism and comparative concepts such as relative clause, passive voice, and adposition (Haspelmath 2010a, 2010b). Furthermore, instead of discrete parameterization, gradient divergence from prototype as stated in Sapir (1921) is the rule of thumb for language typology.

It should be noted that with respect to universalism vs. relativism, scholars in the past made a distinction between lexicon and syntax. For example, Humboldt supported universalism for grammar but he departed from the universalist position in claiming that concepts are language-specific.[2] Chomsky (1980) made a clear distinction between the computational and the conceptual system for human

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[1] Language for communication is the basic tenet for functionalism. The caveat, as pointed out by one anonymous reviewer, is that "not all functional linguists reject the existence of linguistic universals, but they typically assume that any universals, should they exists, are likely to be grounded in certain functional or cognitive primitives." Also, in theory, formal analyses need not preclude an empirical approach as often in practice.

[2] See Losonsky (1999) on Humbolt's view of language diversity and Chomsky's misinterpretation of Humbolt's thoughts on human language.

languages. Computational system is universal, even innate, but conceptual system can be relative from culture to culture. One is tempted to assume that while computational system underlies the core syntax in minimalism, conceptual system involves conceptualization in lexicons and language-specific morphological and syntactic constructions which have construction meanings (Tai 2002a).[3] However, the distinction between lexicon and syntax along with innate universals has been rejected by cognitive grammarians (Langacker 1987, 1991, Goldberg 1995, 2013, Croft 2001). One important reason for me to adopt a relativist approach to Chinese grammar is that due to the lack of an indigenous metalanguage for analyzing Chinese grammar. Chinese grammarians have in general adopted metalanguage compatible with inflectional Indo-European languages since *Ma-shi Wentong* (馬氏文通) in 1898.[4]

2. Chinese in different typological frameworks

While it is commonly held that linguistic typology was developed by Greenberg in the 1960s, European scholars in the 19th century had already worked on language classification based on morphological characteristics (Greenberg 1974:10-34). Indeed, Shibatani & Bynon (1995:1-25) noted that August Schleicher (1821-68) observed that morphologically different types of languages have different ways of expressing grammatical relations of subject and object. He pointed out that in 'isolating' languages such as Chinese which do not have morphology, the grammatical relations of subject and object are expressed by word order; while in 'agglutinative' languages, they are expressed by affixes

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[3] As pointed out by the anonymous reviewer that to mix minimalism and construction grammar would be to put two incompatible linguistic ideas together.

[4] See Tai (1989) for a brief discussion of metalanguage issues and his proposed cognition-based functional grammar of Chinese for a partial solution.

attached to the root, and in 'inflectional' languages, they are expressed fusionally with the unit expressing the root meaning. Chinese was characterized as an isolating language in which the grammatical relations are expressed by word order (Shibatani & Bynon 1995:1-25).[5] In this view, Chinese is an SVO language.[6]

Sapir (1921) also added a dimension of 'synthesis' in terms of morphological complexity in words. This dimension is also gradient, ranging from 'analytic' to 'synthetic' to 'polysynthetic', with 'mildly synthetic', and 'mildly polythetic'. Thus, Chinese is both 'isolating' and 'analytic', in contrast with 'fusional' and 'analytic' languages (e.g. English), 'agglutinative' and 'polysynthetic' languages (e.g. Nookta), and 'fusional' and 'polysynthetic' languages (e.g. Algonquin), and so on. In the total classificatory scheme arrived at by Sapir, Chinese is 'pure-relational, isolating, and analytic' (ibid.:138).

The analyticity and monosyllabicity of words in Chinese allows the language to use a small set of monosyllabic words to generate a larger set of compound words by subcategorization based on the modifier-head categorization principle. To wit,

(1) a. *che* 'vehicle': *huoche* 'train', *qiche* 'car', *kache* 'truck', etc.
   b. *yu* 'fish': *guiyu* 'salmon', *xueyu* 'cod', *zunyu* 'trout', etc.
   c. *hua* 'flower': *lanhua* 'orchid', *meiguihua* 'rose', *mudanhua* 'peony'
   d. *cai* 'vegetable': *baoxincai* 'cabbage', *qincai* 'celery', *huayecai* 'cauliflower', etc.

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[5] It appears that this important observation of correlative patterns in language anticipated the different versions of implicational universals proposed later by Sapir (1921), Jakobson (1941), and Greenberg (1966).

[6] However, Tai (1973) argued that Chinese can also be characterized as an SOV language based on Greenberg's implicational universals (1966).

Tai (1984) argues that Chinese in general doesn't have monosyllabic accomplishment verbs. Instead, resultative verb compounds which express action and result are used. Thus, there is no monosyllabic Chinese word for 'to kill' (Tai & Chou 1975). Instead, one finds,

(2) *shasi* 'to kill by using instruments', *dasi* 'to hit to death', *dusi* 'poison', etc.

I have taken the position that the resultative complements are semantic heads serving as the center of predication, with the action verbs serving as modifiers specifying the various methods to 'to cause to die' (Tai 2003). Here, *si* (死) 'to die, to cause to die' is subcategorized by different kinds of action verbs. The contrast between opaque English accomplishment verbs and transparent Chinese action-verb compounds again attest to the explanatory value of Sapir's characterization of Chinese as analytic. Chinese resultative verb compounds also present a problem for Talmy's (1985) well-known typological dichotomy between 'verb-framed' languages like French and Spanish on the one hand, and 'satellite-framed' languages like English and German. Talmy (1985) also treated Chinese as a 'satellite-framed' language since the cognitive component of Manner is incorporated in verbs in this language. However, Slobin (2000) argues that serial verb languages including Chinese should belong to the third-type, referred to as 'equi-pollent' language.[7]

Constructions based on modifier-head categorization principle are also pervasive in nominal phrases and relative clauses (both gapped and gapless)

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[7] Slobin (2000) remarks that "serial-verb languages like Chinese may represent a third type of lexicalization pattern, lying between S-languages and V-languages." (ibid.:134) This third type is referred to by Slobin as 'equi-pollent' in contrast with 'satellite-framed' and 'verb-framed' languages.

constructed with the modifier marker *de* (的) in Chinese. An illustration,

(3) ta de shu
    he DE book
    'his book'

(4) hao de shu
    good DE book
    'good books'

(5) shujia-shang de shu
    bookshelf-top DE book
    'books on the bookshelf'

(6) ta xie Ø de shu   (gapped relative clause)
    he write GAP DE book
    'the books he wrote'

(7) ta shuo hua de shengyin   (gapless relative clause)
    he speak word DE voice
    'the voice of his talking'

The function of relative clauses is to restrict and identify referents, and categorization is a necessary first step for referential identification. Examples (3)-(7) also show that the *de* (的) construction does not differentiate between relative clauses from other types of modifying constructions. Comrie (1996) and Shuanfan Huang (2007) therefore argue that Chinese doesn't have relative clauses. On the other hand, the existence of relative clauses is supported by formal arguments made by Huang, Li & Li (2009) and the experimental findings made by Charles Lin (2008) that Chinese subject-extracted relative clauses are easier

than object-extracted relative clauses to process, no different from English and other languages. Nonetheless, in accordance with a series of works by Matsumoto (1988, 1997) on Japanese relative clauses, I would like to take a relativist view to the effect that both East Asian languages and European languages have structurally-operated relative clauses for the same function of restricting and identifying referents, but East Asian languages use the nominal categorization marker *de* (的) to group both gapped and gapless relative clauses under the general category of noun modification constructions.

In recent years, C.-T. James Huang (2005, 2012) has adopted the concept of analyticity to the analysis of light verb in Chinese to account for some systematic differences between Chinese and English syntax, including the absence of English denominal verbs (e.g. *to water, to shelf*, etc.). Thus, it appears that 'analyticity' as well as 'isolating' typological features string lexicon and syntax together, as been observed by earlier Chinese scholars, morphology and syntax in Chinese share the same combinatory rules.

Sapir's approach, though morphology-based, took two important departures from the 19th century classical morphological typology in Europe. First, it is gradient and relative, as opposed to absolute. Second, languages types are defined in terms of combination of properties, as opposed to single features. In essence, the classical theory is based on the classical approach to categorization, while Sapir's approach is based on the prototype theory of categorization. Greenberg was a student of Sapir. The well-known implicational universals proposed by Greenberg (1966:73) take the logic form of X → Y, that is, in a particular language, if we find X, we always find Y, but not conversely. The implicational universals are based on surface syntactic structures sampled from 30 languages with a wide range of genetic and areal coverage. Generative grammarians of different generations, however, have translated Greenberg's statistical tendencies across languages into law-like implicational universals for the sake of formal formulation as well as for exhibiting the explanatory power of different versions of generative grammars. It appears that while most cognitive linguists subscribe to prototype theory of categorization, generativists subscribe to the classical theory of categorization. The notion of 'type' in Sapir's framework is 'holistic', arising from a 'cluster of properties' (Greenberg 1974). In essence, the 'analyticity' together with 'monosyllabicity' can be used to characterize 'holistically' the 'gestalt' of Chinese.

With this 'holistic' view, we can give a brief review of typological characteristics of Chinese which have been stated by various Chinese grammarians. First, Chinese has been characterized by various scholars as more 'discourse-oriented' or 'pragmatic-oriented' (Chao 1968, Tsao 1990, Y. Huang 1994, Chu 1998). Chao's (1968) proposal of double-subjects in Chinese was redefined by Li & Thompson's (1976) characterization of Chinese as a topic-prominent language. In a similar vein, Tsao (1990) proposed that discourse chunks linked to the same topic form a long but one single sentence rather finite sentences defined by tense in English. C.-T. James Huang's (1984, 1989) proposal of Chinese as a pro-drop language in GB, and researches on word order and definiteness/specificity of bare nouns, and occurrences of BA and BEI sentences in conversations and texts are all pointing to the discourse-oriented nature of the Chinese grammar. In accounting of tense/aspect interpretations, Li & Thompson (1981) use a functional approach to describe how Chinese uses aspect to derive tense interpretation, and in a series of work on tense and aspect in the framework of formal semantics, Jo-wang Lin (2006) also views Chinese as a pragmatic-oriented language lacking formal tense categories but relies on aspect marking to determine tense in a sentence.

Tai (1985, 2002b, 2011) has demonstrated that word order in Chinese can be explained in terms of the principle of temporal sequence to the effect that 'the relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world' (Tai 1985:50). An illustration:

(8) 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.'

While the principle of temporal sequence is characterized by Tai as a syntactic principle of linearization in Chinese, Newmeyer (1992, 1998) argues that temporal sequence in Chinese is not a syntactic principle, but rather a grammaticalized discourse principle. He argues that the meaning difference in the two sentences in (4) can be accounted for by the well-known conversational implicature in temporally-ordered conjoined sentences.

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

Putting the debate between Newmeyer and Tai aside, it is clear that Chinese word order is more in line with temporal sequence than English word order as can be illustrated by (10).

(10) a. Ta cong gongyuan   zou-dao   tushuguan.
         he from park   walk-arrive   library
                1   2   3
         'He walked from the library to the park.'

     b. *Ta zou-dao   tushuguan   cong gongyuan.
         he walk-arrive   library   from park
         'He walked to the park from the library.'

Newmeyer cannot explain why temporal sequence is more pervasive in word order in Chinese. As a matter of fact, the so-called prepositions in Chinese were treated as 'co-verbs' (DeFrancis 1964, Li & Thompson 1974). Tai (2011) argues that 'co-verbs', like main verbs, are susceptible to temporal interpretation. Thus, 'cong' means 'starting from' and not just 'from', and 'dao' doesn't mean 'to' but means 'to arrive at'. Various types of sentences including serial verb constructions as illustrated below are subject to the principle of temporal sequence.

(11) Didi   da-po-le   beizi.   (action-result)
     younger brother   hit-break-ASP   cup
     'The younger brother broken the cup.'

(12) Mama   qu shichang   mai cai.   (action-purpose)
     mother go market   buy vegetable
     'The mother went to the market to buy vegetable.'

(13) Meimei   zhuanshen   likai   fangjian. (consecutive actions)
     younger sister   turn around   leave   room
     'The younger sister turned around and left the room.'

(14) Chushi <u>yong dao</u> <u>qie rou</u>.   (manner-action)

cook   use   knife cut meat

'The cook cut the meat with a knife.'

Chinese is 'pragmatic-oriented' can further be observed in the relatively free selection of surface arguments in Chinese (Tzong-Hong Lin 2001) as illustrated below,

(15) chi niuroumian   (theme object)

eat   beef noodles

'eat beef noodles'

(16) chi Sichuan guan   (location)

eat   Sichuan restaurant

'dine at a Sichuan restaurant'

(17) chi da   wan   (instrument)

eat   big bowl

'eat the food in the big bowl'

(18) chi wanshang   (time)

eat   evening

'(The banquet) is in the evening.'

(19) chi touteng   (reason)

eat   headache

'(The medicine) is for headache.'

(20) Zaijia chi fumu, chuwai   chi pengyou. (metaphorical)

at home eat   parents go outside eat   friend

'One lives on his parents when at home, but on friends when traveling.'

Examples (15)-(20) 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 metaphorical expressions as its object argument. Tzong-Hong Lin (2001) adopted light verb analysis to account for this and other kinds of selection of 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* (吃) 'to eat' is much higher than *he* (喝) 'to drink' and other related verbs. Tzong-Hong Lin (2001) also observes similar phenomenon in subject selection for Chinese verbs. Thus, in addition to agent argument (21), locative and patient arguments can also be selected in the subject position as shown in (22) and (23).

(21) Laozhang kai-le   yi-liang tanke-che.   (agent)

Laozhang drive-ASP one-CL   tank

'Laozhang drove a tank.'

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

express-highway drive-ASP one-CL   tank

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

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

this-classifier broken car drive-DE I   scare-die LE

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

The relative free selection of arguments on the surface structure 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 (to be discussed in §3). It is important to observe 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 (Tai 1997). Perhaps, following Sapir's idea of gradient typology, we can develop a framework in which we can measure different degrees of being 'pragmatically-oriented'.

As a matter of fact, pragmatics entrenches every language with various kinds of deictic categories as can be illustrated by (24) of which all three deictic categories of person, time, and place are employed.

(24) I'll be here tomorrow.

The famous Chinese ambiguous sentences like (25) are no different from English sentences like (26). Both are subject to different interpretations depending on contexts.

(25) Ji   chi-le.

    chicken   eat-ASP

    'The chicken was fed.' / '(We) have eaten the chicken.'

(26) Missionaries are ready to eat.

We also find some aspects of English syntax to be more pragmatically oriented than in Chinese. This has to do with abundance of denominal verbs, be they established or innovative.

3. Denominal verbs

In English and many other languages including French, German, Spanish, and Indonesian, certain words naming concrete objects, such as 'bottle', 'skin', 'truck' and 'water', can also be used as verbs. These verbs, 'to bottle', 'to skin', 'to 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 has been treated by Jespersen (1942) as a shift in morphological category from noun to verb. This 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 & 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 & Jackendoff (2005) correctly point out that Hale & 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 & Clark (1979) to realize that the creation and meaning of denominal verbs in English as well in other language are determined by pragmatic and not syntactic factors.

Clark & 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 & 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 the kind of situation that he has good reason to believe that on this occasion the listener can readily compute **uniquely** on the basis of their mutual knowledge 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. (Clark & Clark 1979:787)

The main idea in Clark & Clark's theory is that, in using an innovative denominal verb, the speaker intends the listener to come to a unique inter-

pretation 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. Clark & 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 ever 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'. In short, every language is pragmatically oriented, but in different degrees and in different manners. Thus, with respect to some aspects of syntax, Chinese is more pragmatically-oriented than English, but with respects to some other aspects of syntax, English is more pragmatically-oriented than English. It is only after we have identified all or most of the principles of pragmatic entrenchment in syntax that we are able to construct a continuum for the degree of pragmatic entrenchment in different languages.

4. Iconicity

In a series of works arguing against the arbitrariness and autonomy thesis of syntax, Tai (1985, 1993, 1994) has demonstrated the pervasiveness of iconicity in Chinese grammar. Important iconic motivations identified by Haiman (1980, 1985) are (1) order motivation, (2) distance motivation, (3) separateness motivation, (4) juxtaposition motivation, and (5) reduplication motivation. They appear more clearly in Chinese than in English. For instance, the order motivation can be stated as "the order of linguistic expressions corresponds to their order in the conceptual order". The principle of temporal sequence is just an obvious application of this principle. Iconicity in signs in human languages originally proposed by Peirce (1932), expounded later mainly by Jakobson (1968[1941]), and Haiman (1980, 1983) presents a fundamental different view against Saussurian doctrine of arbitrariness of human languages. As a matter of fact, Saussure (1959[1916]) also proposes the notion of motivation to account for the transparency and translucency of internal structure of lexical items.

We have earlier noted the analytic nature of Chinese noun and verb compounds. It is also worth noting that a large number of nominal expressions such as names for the twelve months and names for the seven days in a week are constructed with numbers. For example, *shieryue* (十二月) 'December' and *xingqiliu* (星期六) 'Saturday'. The decimal system for accounting in Chinese also provides an epitome of analyticity and transparency of numerals. For example, *shiyi* (十一) 'eleven' and *shier* (十二) 'twelve'. Recently, Tsai (2011) has also argued that iconicity in Chinese syntax is also largely due to the analyticity of syntactic structures for the transparent mapping between syntax and semantics.

5. Chinese, Creole and sign language

There are two major modalities of natural human language: visual-gestural modality of signed languages and auditory-vocal modality of spoken languages. These two modalities of human language share several fundamental properties. However, there are also modality effects which contribute to the drastic differences between signed and spoken languages in lexicon, morphology and syntax. Two most important effects are iconic representation of objects and actions and indexic/ostensive identification of referents in signed languages (Meier 2002). These two modality effects result in relative uniformity in morphology and syntax across signed languages.

At the same time, signed languages share some similarities with creoles because of their similar ambience of language acquisition (Fischer 1978, Aronoff, Meir & Sandler 2005). As summarized in Aronoff, Meir & Sandler (2005), "These commonalities [between creoles and sign languages] include: no distinction between tensed and infinitival clauses, no tense marking but a rich aspectual system, no pleonastic subjects, no true passives, the occurrence of transitive verbs with agent subjects as intransitives with patient/theme subjects as well, pervasive topic-comment word order; both young creole languages and ASL make extensive use of content words as grammatical markers; neither young creole languages nor ASL use prepositions to introduce oblique cases; both use preverbal free morphemes to express completive aspect; and both rely heavily on prosodic cues for expressing certain syntactic relations (such as those encoded by relative clauses and conditionals in other languages)." (ibid.:307)

One cannot fail to notice that Chinese grammar also exhibits common structural features shared between sign languages and young creole languages. Yet, Chinese is not a young language. The Chinese puzzle is therefore created: if

the development of inflectional morphology in spoken language is a function of age as cogently argued by (Aronoff, Meir & Sandler 2005), why didn't Chinese, during the course of its long history, develop a rich inflectional morphology, as did European languages? The question can be tentatively answered, if pending further evidence, we hypothesize that Chinese was a creole language to start with, and that Chinese had opted to utilize functional mappings rather than inflections for making distinctions among different word classes to indicate different parts of speech. This strategy of functional mapping is compatible with Nisbett's (2003) theory that Chinese cognition focuses on relations between individuals rather than on the attributes of an individual. The introduction of Chinese characters for monosyllabic words in the early history of this language may also have contributed to the perpetuation of the monosyllabic structure.

6. Conclusion

In this paper, I have briefly examined different frameworks of language typology and how Chinese grammar has been characterized in these different frameworks. In summary, Chinese is isolating, analytic, verb-initial or verb-final, discourse-oriented, pragmatic oriented, topic-prominent, tense-lacking, pervasive in iconicity, creole-like, and satellite-framed or equi-pollent-framed, and so on, depending on different philosophical orientations, different theoretical frameworks and approaches to linguistic analysis and language universals. One thing that seems to be clear is the continuum with respect to any typological features employed for cross-linguistic comparison. On this continuum, lexicon is then largely relative, while syntax is limitedly relative. Relative clause constructions serve as a good case in point. While recursive and embedded structure along with communication function of identifying a referent in discourse is cross-linguistic

the same, other details can be very different. Thus, relative clauses in Chinese subsume both 'gapped' and 'gapless' under the modification construction marked with *de* (的). In contrast, English only allows 'gapped' relative clauses and uses *wh*-words as relative pronouns. Similarly, grammatical categories including traditional notions of parts of speech can be relative within and across languages (McCawley 1992, Bisang 2008).

Following Sapir (1921), I have explored language typology of Chinese in an attempt to construct a holistic view with which we can hope to find the 'gestalt' of Chinese grammar. Jakobson (1971) points out that in contrast to Saussure's claim that "signs that are wholly arbitrary realize better than the others the ideal of the semiological process" (1959[1916]:68), Peirce's thesis is that a system of signs blending as equally as possible all three types of signs—namely, icon, index and symbol—is 'the most perfect of signs' (Jakobson 1971). This means that each language blends the three types of signs differently, and the 'gestalt' of each language is to be in the particular way it blends all the grammatical rules of the three types.

In this paper, I have also suggested the desirability to use typological characteristics drawn from signed languages to provide new perspectives for language typology. Design features of human language and language universals as well as language typology cannot be constructed solely based on spoken languages.

Along with sign language, co-speech gestures have recently gained the attention of cognitive linguistics (McNeill 2000, Kendon 2004). From the view point of functionalism, we communicate not only with speech or sign but also with the accompanying gestures. If we do not want to limit ourselves to only idealized spoken language, then a comprehensive theory of language universals

and typology must encompass our deep understanding of both co-speech gestures and signed languages.[8]

References

Aronoff, Mark, Irit Meir, and Wendy Sandler. 2005. The paradox of sign language morphology. *Language* 81.2:301-344.

Bisang, Walter. 2008. Precategoriality and syntax-based parts-of-speech: the case of Late Archaic Chinese. *Studies in Language* 32.3:568-589.

Chao, Yuen Ren. 1968. *A Grammar of Spoken Chinese*. Berkeley: University of California Press.

Chomsky, Noam. 1980. *Rules and Representations*. New York: Columbia University Press.

Chu, Chauncey C. 1998. *A Discourse Grammar of Chinese*. New York: Peter Lang.

Chui, Kawai. 2002. Categorization of gestures in communication. *Form and Function: Linguistic Studies in Honor of Shuanfan Huang*, ed. by Lily I-wen Su, Chinfa Lien & Kawai Chui, 105-129. Taipei: Crane.

Clark, Eve V., and Herbert H. Clark. 1979. When nouns surface as verbs. *Language* 55.4:767-811.

Comrie, Bernard. 1981. *Language Universals and Linguistic Typology: Syntax and Morphology*. Chicago: University of Chicago Press.

Comrie, Bernard. 1996. The unity of noun-modifying clauses in Asian languages. *Pan-Asiatic Linguistics: Proceedings of the Fourth International Symposium on Languages and Linguistics*, Vol. 3, 1077-1088. Salaya: Institute of Language and Culture for Rural Development, Mahidol University.

Croft, William. 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford & New York: Oxford University Press.

Culicover, Peter W., and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford & New York: Oxford University Press.

DeFrancis, John. 1964. *Intermediate Chinese*. New Haven: Yale University Press.

Fillmore, Charles J. 1997. *Lectures on Deixis*. Stanford: CSLI.

Fischer, Susan D. 1978. Sign language and creoles. *Understanding Language through Sign Language Research*, ed. by Patricia A. Siple, 309-331. New York: Academic Press.

Goldberg, Adele E. 1995. *A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.

Goldberg, Adele E. 2013. Explanation and constructions: response to Adger. *Mind and Language* 28.4:479-491.

Green, Georgia M. 1974. *Semantics and Syntactic Regularity*. Bloomington: Indiana University Press.

Greenberg, Joseph H. 1966. Some universals of grammar with particular reference to the order of meaningful elements. *Universals of Language* (2nd edition), ed. by Joseph H. Greenberg, 73-113. Cambridge: MIT Press.

Greenberg, Joseph H. 1974. *Language Typology: A Historical and Analytic Overview*. The Hague: Mouton.

Haiman, John. 1980. The iconicity of grammar: isomorphism and motivation. *Language* 56.3:515-540.

Haiman, John. 1983. Iconic and economic motivation. *Language* 59.4:781-819.

Haiman, John. (ed.) 1985. *Iconicity in Syntax*. Amsterdam & Philadelphia: John Benjamins.

Hale, Kenneth L., and Samuel Jay Keyser. 2002. *Prolegomena to a Theory of Argument Structure*. Cambridge: MIT Press.

Hammond, Michael, Edith A. Moravcsik, and Jessica R. Wirth. 1988. *Studies in Syntactic Typology*. Amsterdam & Philadelphia: John Benjamins.

Haspelmath, Martin. 2010a. Comparative concepts and descriptive categories in crosslinguistic studies. *Language* 86.3:663-687.

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[8] As a case in point, while Spanish is verb-framed languages with 'manner' component of the main verbs expressed with a adjunctive clause expressing manner (e.g. 'He entered the room running' in English), Spanish speakers can simply substitute the 'running' by gesture (McNeill 2000). In fact, it has been reported by Chui (2002) that gesture can complement a Chinese verb such as *zai* (載) 'to carry' with gestures indicating to carry with a motorcycle or car.

Haspelmath, Martin. 2010b. The interplay between comparative concepts and descriptive categories (Reply to Newmeyer). *Language* 86.3:696-699.

Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15.4:531-574.

Huang, C.-T. James. 1989. Pro-drop in Chinese: a generalized control theory. *The Null Subject Parameter*, ed. by Osvaldo Jaeggli & Kenneth J. Safir, 185-214. Dordrecht & Boston: Kluwer.

Huang, C.-T. James. 2005. On syntactic analyticity and the other end of the parameter. Lecture notes from 2005 LSA Linguistic Institute course. Manuscript. Cambridge: Harvard University.

Huang, C.-T. James. 2012. On macrovariations and microvariations in parametric theory. *Proceedings of the 13th International Symposium on Chinese Languages and Linguistics (IsCLL 13)*, ed. by Yung-O Biq & Lindsey Chen, 1-18. Taipei: National Taiwan Normal University.

Huang, C.-T. James, Y.-H. Audrey Li, and Yafei Li. 2009. *The Syntax of Chinese.* Cambridge & New York: Cambridge University Press.

Huang, Shuanfan. 2007. Is there a relative construction in spoken Chinese? Paper presented at the First Conference on Language, Discourse and Cognition, May 18-19, 2007. Taipei: National Taiwan University.

Huang, Yan. 1994. *The Syntax and Pragmatics of Anaphora: A Study with Special Reference to Chinese.* Cambridge & New York: Cambridge University Press.

Jackendoff, Ray. 1990. *Semantic Structures.* Cambridge: MIT Press.

Jakobson, Roman. 1968[1941]. *Child Language Aphasia and Phonological Universals.* The Hague: Mouton.

Jakobson, Roman. 1971. Quest for the essence of language. *Selected Writings*, Vol. 2: *Word and Language*, 343-359. The Hague: Mouton.

Jespersen, Otto. 1942. *A Modern English Grammar on Historical Principles*, Vol. 6: *Morphology.* Copenhagen: Munksgaard.

Kendon, Adam. 2004. *Gesture: Visible Action as Utterance.* Cambridge & New York: Cambridge University Press.

Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*, Vol. 1: *Theoretical Prerequisites.* Stanford: Stanford University Press.

Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*, Vol. 2: *Descriptive Application.* Stanford: Stanford University Press.

Li, Charles N., and Sandra A. Thompson. 1974. Co-verbs in Mandarin Chinese: verbs or prepositions? *Journal of Chinese Linguistics* 2.3:257-278.

Li, Charles N., and Sandra A. Thompson. 1976. Subject and topic: a new typology of language. *Subject and Topic*, ed. by Charles N. Li, 457-489. New York: Academic Press.

Li, Charles N., and Sandra A. Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar.* Berkeley: University of California Press.

Lin, Chien-Jer Charles. 2008. The processing foundation of head-final relative clauses. *Language and Linguistics* 9.4:813-838.

Lin, Jo-wang. 2006. Time in a language without tense: the case of Chinese. *Journal of Semantics* 23.1:1-53.

Lin, T.-H. Jonah. 2001. *Light Verb Syntax and the Theory of Phrase Structure.* Irvine: University of California dissertation.

Losonsky, Michael. (ed.) 1999. *On Language: On the Diversity of Human Language Construction and its Influence on the Mental Development of the Human Species.* Cambridge & New York: Cambridge University Press.

Lyons, John. 1977. *Semantics*, Vol. 2. Cambridge & New York: Cambridge University Press.

Matsumoto, Yoshiko. 1988. *Grammar and Semantics of Adnominal Clauses in Japanese.* Berkeley: University of California dissertation.

Matsumoto, Yoshiko. 1997. *Noun-modifying Constructions in Japanese: A Frame Semantic Approach.* Amsterdam & Philadelphia: John Benjamins.

McCawley, James D. 1971. Prelexical syntax. *Linguistic Development of the Sixties: Viewpoints for the Seventies*, ed. by Richard J. O'Brien, 19-33. Washington, DC: Georgetown University Press.

McCawley, James D. 1992. Justifying part-of-speech assignments in Mandarin Chinese.

Journal of Chinese Linguistics 20.2:211-245.

McNeill, David. (ed.) 2000. *Language and Gesture*. Cambridge & New York: Cambridge University Press.

Meier, Richard P. 2002. Why different, why the same? Explaining effects and non-effects of modality upon linguistic structure in sign and speech. *Modality and Structure in Signed and Spoken Languages*, ed. by Richard P. Meier, Kearsy Cormier & David Quinto-Pozos, 1-25. Cambridge & New York: Cambridge University Press.

Newmeyer, Frederick J. 1992. Iconicity and generative grammar. *Language* 68.4:756-796.

Newmeyer, Frederick J. 1998. *Language Form and Language Function*. Cambridge: MIT Press.

Newmeyer, Frederick J. 2010. On comparative concepts and descriptive categories: a reply to Haspelmath. *Language* 86.3:688-695.

Nisbett, Richard E. 2003. *The Geography of Thought: How Asians and Westerners Think Differently and Why*. New York: Free Press.

Peirce, Charles S. 1932. *Elements of Logic*. Cambridge: Belknap Press of Harvard University Press.

Pinker, Steven. 1989. *Learnability and Cognition*. Cambridge: MIT Press.

Sapir, Edward. 1921. *Language: An Introduction to the Study of Speech*. New York: Harcourt, Brace and Company.

Saussure, Ferdinand de. 1959[1916]. *Course in General Linguistics*, ed. by Charles Bally & Albert Sechehaye, translated by Wade Baskin. New York: McGraw-Hill.

Shibatani, Masayoshi, and Theodora Bynon. 1995. Approaches to language typology: a conspectus. *Approaches to Language Typology*, ed. by Masayoshi Shibatani & Theodora Bynon, 1-25. Oxford: Clarendon Press.

Slobin, Dan I. 2000. Verbalized events: a dynamic approach to linguistic relativity and determinism. *Evidence for Linguistic Relativity*, ed. by Susanne Niemeier & René Dirven, 107-138. Amsterdam & Philadelphia: John Benjamins.

Tai, James H-Y. 1973. Chinese as a SOV language. *Chicago Linguistic Society (CLS)* 9:659-671. Chicago: Chicago Linguistic Society.

Tai, James H-Y. 1984. Verbs and times in Chinese: Vendler's four categories. *Papers*

from the Parasession on Lexical Semantics, 289-296. Chicago: Chicago Linguistic Society.

Tai, James H-Y. 1985. Temporal sequence and Chinese word order. *Iconicity in Syntax*, ed. by John Haiman, 49-72. Amsterdam & Philadelphia: John Benjamins.

Tai, James H-Y. 1989. Towards a cognition-based functional grammar of Chinese. *Functionalism and Chinese Grammar*, ed. by James H-Y. Tai & Frank F. S. Hsueh, 187-226. South Orange: Chinese Language Teachers Association.

Tai, James H-Y. 1993. Iconicity: motivations in Chinese grammar. *Principles and Prediction: The Analysis of Natural Language*, ed. by Mushira Eid & Gregory K. Iverson, 153-174. Amsterdam & Philadelphia: John Benjamins.

Tai, James H-Y. 1994. Chinese classifier systems and human categorization. *In Honor of William S-Y. Wang: Interdisciplinary Studies on Language and Language Change*, ed. by Matthew Y. Chen & Ovid J. L. Tzeng, 479-494. Taipei: Pyramid Press.

Tai, James H-Y. 1997. Category shifts and word-formation redundancy rules in Chinese. *Chinese Languages and Linguistics*, Vol. 3: *Morphology and Lexicon*, ed. by Feng-fu Tsao & H. Samuel Wang, 435-468. Taipei: Institute of History and Philology, Academia Sinica.

Tai, James H-Y. 2002a. Gainian jiegou yu feizizhuxing yufa: Hanyu yufa gainian xitong chutan [Conceptual structures and non-autonomous syntax: some conceptualization principles in Chinese grammar]. *Dangdai Yuyanxue [Contemporary Linguistics]* 2002.1:1-12.

Tai, James H-Y. 2002b. Temporal sequence in Chinese: a rejoinder. *Form and Function: Linguistic Studies in Honor of Shuanfan Huang*, ed. by Lily I-wen Su, Chinfa Lien & Kawai Chui, 331-351. Taipei: Crane.

Tai, James H-Y. 2003. Cognitive relativism: resultative construction in Chinese. *Language and Linguistics* 4.2:301-316.

Tai, James H-Y. 2005. Conceptual structure and conceptualizations in Chinese. *Language and Linguistics* 6.4:539-574.

Tai, James H-Y. 2006. On modality effects and relative uniformity of sign languages. Pre-Conference Proceedings of 14th Annual Conference of the International

Association of Chinese Linguistics (IACL-14) & 10th International Symposium on Chinese Languages and Linguistics (IsCLL-10), 222-240. Taipei: Academia Sinica.

Tai, James H-Y. 2007. Zhongwen gouci yu jufa de gainian jiegou [Conceptualization in Chinese grammar]. *Journal of Chinese Language Teaching* 4.1:1-30.

Tai, James H-Y. 2008a. The nature of Chinese grammar: perspectives from sign language. *Proceedings of the 20th North American Conference on Chinese Linguistics (NACCL-20)*, Vol. 1, ed. by Marjorie K. M. Chan & Hana Kang, 21-40. Columbus: The Ohio State University.

Tai, James H-Y. 2008b. Entrenchment of pragmatics in syntax. Paper presented at the Second Conference on Language, Discourse, and Cognition, May 17-18, 2008. Taipei: National Taiwan University.

Tai, James H-Y. 2011. Zailun shijian shunxu yuanze [On principle of temporal consequence revisited]. *Renzhi Yufa yu Duiwai Hanyu Jiaoxue Lunji* [*Monograph on Cognitive Grammar and Teaching Chinese as a Second Language*], ed. by Xiliang Cui, 66-85. Beijing: Peking University Press.

Tai, James H-Y., and Jane Chou. 1975. On the equivalent of 'kill' in Mandarin Chinese. *Journal of the Chinese Language Teachers Association* 10.2:48-52.

Talmy, Leonard. 1983. How language structures space. *Spatial Orientation: Theory, Research, and Application*, ed. by Herbert L. Pick & Linda P. Acredolo, 225-282. New York: Plenum Press.

Talmy, Leonard. 1985. Lexicalization patterns: semantic structure in lexical forms. *Language Typology and Syntactic Description*, Vol. 3: *Grammatical Categories and the Lexicon*, ed. by Timothy Shopen, 57-149. Cambridge & New York: Cambridge University Press.

Talmy, Leonard. 2000. *Toward a Cognitive Semantics*, Vol. 1 & 2. Cambridge: MIT Press.

Tao, Hongyin. 2000. Cong "chi" kan dongci lunyuan jiegou de dongtai tezheng ['Eating' and emergent argument structure]. *Yuyan Yanjiu* [*Studies in Language and Linguistics*] 2000.3:21-38.

Tsai, Wei-tien Dylan. 2011. Cong yufa-renzhi jiemian tan Hanyu yufa jiaoxue: yi yiwen zhuangyu he fanshen zhuangyu wei li [On pedagogy of teaching Chinese as a second language from syntax-cognition interface: a case study of *wh-* and reflexive adverbials]. *Renzhi Yufa yu Duiwai Hanyu Jiaoxue Lunji* [*Monograph on Cognitive Grammar and Teaching Chinese as a Second Language*], ed. by Xiliang Cui, 1-17. Beijing: Peking University Press.

Tsao, Feng-fu. 1990. *Sentence and Clause Structure in Chinese: A Functional Perspective.* Taipei: Student Book.

漢語語法類型學特徵的反思

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　　在不同的類型學架構下，漢語被描述爲具有構詞獨立性與分析性，語法擬象性，同時是言談取向與語用取向，主題比主語更重要的語言。本文從語言相對論觀點，在功能主義與認知語法的架構下，重新檢驗漢語語法類型學的特徵。由於漢語與手語及克里歐語言具有類似的特徵，可藉以擴增語言類型學的分析角度。

關鍵詞：漢語，語言類型學，語言相對論，分析性，擬象性，手語，克里歐語