Common Innovations in Sino-Tibetan Languages *

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Abstract: To establish a classification on the basis of genetic linguistics requires two indispensable conditions: common retention, including cognate lexical retention and cognate morphological retention, and common innovation in a language group. The first condition is primary, and is the motivation for classification and the evidence of a genetic relationship. The second condition is secondary and supportive, and is the feature, approach and sign of a language group. This article focuses on common innovations in the Sino-Tibetan language family. Tone, voiceless aspirated stops, affricates, classifiers, noun prefixes for kinship and overlap are six common innovations that are proposed for defining the Sino-Tibetan language family.

Keywords: Sino-Tibetan Languages, Historical Comparative Study, common innovations, classification

0. Introduction

To establish a classification on the basis of genetic linguistics requires two conditions: one is common retention, including cognate lexical retention and cognate morphological retention. This condition is primary. In recent decades, linguists have been concerned with the problem of this approach. The other condition is common innovation in a language group. This condition is secondary and supportive. The former is the motivation for classification and the evidence of a genetic relationship. The latter is the feature, approach and sign of the language group. Both are indispensable. In the past, classifications of Sino-Tibetan languages based on genetic linguistics have focused more on the former than the latter, perhaps because the latter had not been considered of much importance and thus

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was ignored. Moreover, some scholars look upon common innovation as a form of common retention and thus avoid having to consider it directly. This article expresses some preliminary views in an effort to seek the advice of peers.

Here, common innovation mainly means that all the languages in one language group follow a similar or identical path in their development process, and the new features share some universals. The reason for these universals is either the evolutionary mechanism of the language group itself or the interaction between languages within this group in their evolutionary process. This article considers not the latter, but the former. I will examine some instances of common innovations in Sino-Tibetan below.

1. Tone

As we all know, tone is a significant trait of Sino-Tibetan languages. However, we also know that tone is a new trait that developed after the Sino-Tibetan language family was formed. Moreover, its development among the languages of the Sino-Tibetan language family is extremely asymmetrical. Firstly, some languages have more tones than others. On the one hand, some languages have more than 10 tones, with the maximum number of tones in a Sino-Tibetan language being 15. On the other hand, there are languages with only 2 or 3 tones. Secondly, some have had tones for a long time and some for only a short time. Thousands of years have passed since tones were formed in some languages. However, other languages have acquired tones only recently. There are even tones in some languages that are still in the process of development. Finally, the role that tones play in some languages is more significant than it is in others. Some languages rely on tones to distinguish the meanings of words, but other languages rarely use tones to make such distinctions. Some merely have conventional tones, with phonemic tones not developed as yet.

The generative mechanism of tones in Sino-Tibetan languages can generally be attributed to the evolution of three syllabic elements: a change in the final consonant, loss of the first element in the initial consonant cluster and a change in the quality of the main consonant in the initial consonant cluster. Concretely, the elements of a syllable, including the word-forming elements and morphological elements, have undergone a variety of changes in their historical evolution. These include alternations or changes between voiced/voiceless, aspirated/unaspirated or implosive/non-implosive consonants. Moreover, these also include the emergence and/or loss of some acoustic features of the vowel, like long/short, tense/lax, nasalized/non-nasalized, retroflexed/non-retroflexed and fricative/

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non-fricative. Finally, they are related to the emergence or change of syllabic pitch, which results in its repeated differentiation and thereby forms a tone system at different levels. However, the changes of these phonetic elements impact different Sino-Tibetan languages differently. They influence the pitch in a different order. The number of elements that are involved is also different. Changes of some phonetic phenomena have no effect on pitch at all. Therefore, it is impossible to reconstruct a tone system like that of Chinese for Sino-Tibetan. Nevertheless, it cannot be ruled out that some subgroups of Sino-Tibetan have a similar tone system.

It has been argued that such a similar tone system is the result of mutual influence. I have some reservations about this opinion. Altaic languages, which have been in contact with Sino-Tibetan languages and with which they have experienced intensive mutual influences for thousands of years, have so far not developed tones. In addition, Chinese has also greatly influenced Korean and Japanese, with massive borrowing of Chinese loanwords into these two languages in different historical periods. However, these two languages still do not have any tones. Why? Evidently, mutual influences or borrowing cannot solely explain why a tone system emerges and how it develops. Maybe there are some underlying reasons that have yet to be found. Of course, that possibility cannot be ruled out for individual languages or parts of those languages. But I seriously doubt whether a whole language group with tens of languages can borrow tones from another language. Furthermore, the inner consistency of this system has been reliably demonstrated.

The generative mechanism of tones in Sino-Tibetan languages is generally the same. I suggest that it is closely related to languages with monosyllabic roots. Both ends of the syllable of a monosyllabic root can influence the pitch and eventually lead to the establishment of tones. There are many examples and references that can be cited to support this opinion. It has been argued that the generative mechanism of tones is related to the phonation types of glottis. However, what are the differences between the phonation types of glottis in languages with monosyllabic roots and those in the languages with polysyllabic roots such that the former leads to tones but the latter does not? Further comparative studies are needed, especially research with respect to phonetic features.

2. The aspirated voiceless stop

Most Sino-Tibetan languages have aspirated voiceless stops. There are three sets of stop in Sino-Tibetan: voiceless, voiced and aspirated. This manner of articulation of the stop in

the phonological pattern is called trisection for short. Subsequently, the affricate emerged and it also consists of a set of three: voiceless, voiced and aspirated. As a result, the consonant system of Sino-Tibetan languages is much more complicated than those of other languages.

As we all know, Proto-Sino-Tibetan had only voiceless and voiced stops, with the aspirated voiceless stops emerging later^①. This has become the consensus of the international Sino-Tibetan linguistic community. Of course, how the aspirated voiceless stops emerged or, in other words, the origin of the aspirated voiceless stops, is still controversial. But these opinions are not so different. Early in 1983, when I drafted the introduction of *Tibeto-Burman Phonology and Lexicon* (Sun Hongkai et al., 1991:46-49), I noticed the problem of the aspirated voiceless stop in Tibeto-Burman. Afterwards, when I wrote articles about the causative category in Tibeto-Burman, I found that the roots of verbs changed from voiced stops to voiceless or aspirated voiceless stops due to the loss of prefix *s-* in their historical evolution. This sound change rule can cover nearly all Tibeto-Burman languages. Meanwhile, in research on lexical sound changes, I also found that the loss of the first element in many initial consonant clusters also has a similar influence on the main consonant with respect to sound change. Therefore, to be sure, the origin of the aspirated voiceless stop is the result of the sound change on the lexicon and morphology.

For the phonemic system of a huge language group with hundreds of languages, whether the manner of articulation of the stop is divided into 2 or 3 types is a big problem which involves the phonological pattern of these languages. For the moment, a phonemic system with trisection is rare for most language groups. Only Sino-Tibetan has this pattern. We have to admit that this is a significant common innovation of Sino-Tibetan. As a result, the aspirated voiceless stop was not included in the early version of IPA and was only listed in the appendix by the International Phonetic Association at one time. The reason for this is that it is rare in other languages of the world and Western linguists do not pay much attention to it.

Why, then, does the aspirated voiceless stop emerge as a common innovation in Sino-Tibetan and why was a trisection pattern formed? I consider that it is closely related to the historical evolution of the structure of the syllable in Sino-Tibetan. After the ethnic groups of East Asia evolved from primitive man, they settled over the East Asian continent and bred for generations. During the formation of Proto Sino-Tibetan, the syllabic structure

^① Concerning the stop system in Proto Sino-Tibetan, see Sun Hongkai (2011).

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of its lexicon was basically shaped as the monosyllable. Because of the interaction of the pronunciation mechanism of the elements in the syllable and the need to increase the communicative function, the aspirated voiceless stop gradually developed. Even for some languages, the voiceless fricative also developed with aspirated and unaspirated forms.

In Sino-Tibetan, although most languages developed this phonological pattern, so far very few languages failed to develop the aspirated form and preserve the voiceless/voiced dichotomy pattern. As in the case of the tone pattern in Sino-Tibetan, where many languages are still in the stage of conventional tones which can be casually pronounced, the trisection pattern is not static. Some languages have lost their voiced consonants in the process of sound change. Other languages did not lose their voiced consonants but these have developed into aspirated voiced consonants.

3. The affricate

That there are so many affricates is a prominent feature of Sino-Tibetan. It is also a significant common innovation of its phonological system. Nearly all Sino-Tibetan languages have the affricate. At most, there are five sets: dental, retroflex, postalveolar, alveolo-palatal and palatal. When there are four sets, they usually include: dental, retroflex, postalveolar and alveolo-palatal. For languages with three sets, they are generally dental, retroflex and alveolo-palatal and with two sets usually dental and alveolo-palatal. At the very least, there is one set — dental. Take the example of Qiangic — a branch of Sino-Tibetan — there are four sets on average, with some having five sets and others four.

However, as we all know, the affricate is a newly-developed language phenomenon. How did it develop? In Qiangic languages or dialects, the systematic correspondence of cognates may suggest evidence about the origin of the affricate. According to our analysis, the last element of a consonant cluster in Qiangic can be [l], [r] or [s]. This is a common structural feature of many Sino-Tibetan languages. In their historical evolution, they were affected by the place of articulation of the main consonants and combined with them. As a result, affricates arose at different places of articulation. The correspondence between affricates and consonant clusters in Qiangic, from which we can find the origin of affricates at different articulation places, is shown below:

Table 1. The Correspondence between Affricates and Consonant Clusters in Qiangic

Gloss	North Dialect (Ma Wo)	South Dialect (Tao Ping)	Ways of Changes
three	khsi	tshi ⁵⁵	khs→tsh

chief	gzɿ	dzɿ ³³	gz→dz
jump	qhsu	tshu ³³	qhs→tsh
lay (eggs)	khɿə	tʂhi ⁵⁵	khɿ→tʂh
tendon	gɿə	dzɿ ²⁴¹	gɿ→dzɿ
feces	qhɕɿ	tʂhɿ ³³	qhɕ→tʂh
four	gzɿ	dʒɿ ³³	gzɿ→dʒɿ
dear (to eat)	khɕu	tehu ³³	khɕ→teh
Pian cattle (a yak-cattlehybrid)	khɕi	tehi ⁵⁵	khɕ→teh
wooden slot for kneading dough	gzuku	dʒu ²⁴¹ ku ³³	gz→dz

This table shows ways in which the changes of affricates are available for Qiangic. Further studies are needed to determine whether this can be formulated into a sound law governing the origin of affricates in Sino-Tibetan. Obviously, the origin of affricates is not the only issue. However, in terms of the correspondence between the literary language and the spoken language in Tibetan and Burmese (both languages use alphabetic writing) and the correspondence among Chinese dialects, we can see that the sound law in Qiangic is representative. It is only a matter that the time-depth of the origin and development of affricates and the number of affricates is different for different languages or language groups. Many articles have discussed this issue and, thus, there is no need to say more here.

In terms of the manner of origin and development of the affricate, it is closely related to the syllabic structural components in Sino-Tibetan and its historical evolution. If the origin and development of tone and the voiceless aspirated stop are relevant to the initial and main consonants^① of a consonant cluster, the origin of the affricate is closely related to the final consonant of a consonant cluster in Sino-Tibetan. I have discussed this problem in detail in two articles (Sun Hongkai, 2001a, 2001b). In this sense, the origin and development of the affricate is an inevitable result of the syllabic structural sound change in Sino-Tibetan.

In the early 1950s, when Luo Changpei taught us in his phonetics course, he especially talked about the affricate in IPA, which impressed me. He told us that the symbol for the affricate was invented by Chinese scholars. Because foreign scholars did not consider that the affricate was a single consonant, it was not included in the IPA list of consonants when it was initially designed. But we regarded the affricate as a single consonant and introduced

^① The consonant cluster with three elements in Sino-Tibetan consists of the initial consonant, main consonant and final consonant. See Sun Hongkai (1985).

them into the IPA list. Then the teaching materials of this phonetics course, taught by Luo Changpei, Wang Jun et al. were published by Science Press in 1957. Eleven sets of affricates were listed in the IPA consonant list, and the authors specifically stated that “we do not regard the affricate as a consonant cluster in the structure of Chinese” (Luo Changpei & Wang Jun, 2002[1957]:109, 111). The sentence was highlighted in the text to emphasize this scientific viewpoint. From then on, when we teach phonetics courses or language investigation courses to our students, we introduce the IPA list of consonants including the aspirated stop and the affricate. In recent years, a tie bar joining two symbols has been designed to represent an affricate as a single consonant. Frankly speaking, the discovery and identification of the aspirated stop and the affricate are important contributions to the work of the international linguistic community made by Chinese linguists.

Because Sino-Tibetan languages have the aspirated stop and the affricate at many places of articulation, the structure of the consonant system in these languages is more complicated and the number of consonants in Sino-Tibetan is greater than those in other language families. For example, in the Qiangic branch of Tibeto-Burman, the number of single consonants is generally more than 40 and, in some languages, even more than 50. Shixing, a south Qiangic language, has 53 single consonants.

4. The classifier

There is no doubt that the classifier is another common innovation in Sino-Tibetan. When Hu Qiaomu (1986:166) introduces its grammatical features under the entry for Sino-Tibetan, the classifier is listed as an important characteristic. At present, the classifier occurs in almost all Sino-Tibetan languages. However, the degree of development with respect to function and number varies among the languages. For a very few languages, the classifier is still in its infancy (Sun Hongkai, 1989).

But the classifier in Sino-Tibetan is a newly-developed linguistic phenomenon. Its development goes through different stages and there are many interesting features at every stage, such as the change of order, the emergence and loss of overlap forms, monosyllabic preference, and the addition of new grammatical functions. Why did Sino-Tibetan evolve so many classifiers? There are two explanations and I think there is some truth in both.

Wu Anqi (2005) argues: “The classifier in analytic languages plays a role in noun marking. After this kind of language lost gender, number and case markers, it became necessary to add new redundant information and markers in compensation. As a result, the

classifier arose to meet this need and grew into a separate word class.”

Zhang Jun (2005) argues: “The asymmetric distribution of the classifier in Sino-Tibetan shows that the classifier gradually emerges and evolves from simple to complex. Then what is the underlying motivation? We assume that it is the result of the shift in referential meaning of the noun. When the referential meaning of the noun shifts from specific to general, words with an individualization function are needed to mark the number. In addition, the shift of referential meaning of the noun is possibly related to the morphological simplification of the whole language system.”

Though the perspective of these two opinions is different, there are some similarities between them. They both argue that the emergence and development of the classifier in Sino-Tibetan is related to “morphological simplification” such as “lost gender, number and case markers”. Their implication is that there were gender, number and case markers in Sino-Tibetan at one time and they gradually shrunk and disappeared. Finally the classifier, a new word class, arose in compensation for analytic languages.

We are not sure whether there are gender, number or case markers in Proto Sino-Tibetan similar to those in other language families. There is ample evidence that Proto Sino-Tibetan was an agglutinative language with abundant morphological markers and then after passing through the stage of atypical inflected languages, so far most Sino-Tibetan languages have become languages with monosyllabic roots. I have examined and published some articles on the historical typology of Tibeto-Burman^①. In those articles, I suggest that the historical typology of Tibeto-Burman has evolved from agglutinative language→atypical inflected language→analytic language. Because Tibeto-Burman is a core language branch of Sino-Tibetan, the entire language family generally evolved in the same way. I persist in holding this opinion so far.

At present, I argue that Proto Sino-Tibetan is an agglutinative language with monosyllabic roots and that its historical typology evolved in parallel with the emergence and development of the classifier. A long time ago, Chinese lost most of its morphological markers and developed the classifier and Tibeto-Burman has largely followed the same path. Compared with languages that preserve many morphological markers, those languages in which most morphological markers have disappeared have more classifiers and these classifiers play a more important role in their grammatical systems. The Yipho languages belong to this type. I have examined this issue in detail and reported on it (1989). This is basically consistent with the emergence and development of the classifier in

^① See Sun Hongkai (1992) and Sun Hongkai (2011b).

Sino-Tibetan.

What is the motivation for the emergence and development of the classifier? I agree with Zhang Jun's opinion. In terms of the function of nouns, he suggests that the referential meaning of nouns can be classified into two types — general and specific. Moreover, he compares the usage of number markers for nouns which make a general or specific reference in different languages. For bare nouns, number markers can be affixed to nouns with specific referential meaning, but nouns with general referential meaning can only use numeral-classifier phrases to marker number. From the perspective of cognitive categories, when the referential meaning of nouns changes from specific to general, the classifier emerges as a result of the shift in human thought mode. At the same time, it is also related to the fact that the Sino-Tibetan languages were languages with monosyllabic roots from the very beginning.

From the perspective of prosodic features and typology, it has been argued that the development of the classifier is related to the number of syllables in the numeral. In languages with monosyllabic numerals, it is easy for the classifier to emerge and develop. However, in languages with polysyllabic numerals, this is difficult. Only a few instances that can support this argument have been identified and counter-examples can be found everywhere. For example, though the numeral in Tibetan is monosyllabic and the initial in the Lhasa dialect has lost most of the consonants in the consonant clusters, few classifiers can be found. On the contrary, the numerals 1 to 9 in Dulong and rGyarong(嘉绒) are generally monosyllabic but these two languages have abundant classifiers. Moreover, the word order in these two languages has evolved to noun-numeral-classifier. Therefore, I argue that the emergence and development of the classifier is not related to prosodic features of the numeral, including the number of syllables.

5. The prefix for kinship appellation nouns

The prefix *a-* can be affixed to kinship appellation nouns in most Sino-Tibetan languages. In most Chinese dialects, kinship appellation nouns, such as “a⁵⁵ky⁵⁵” “a⁵⁵sau²¹⁴” “a⁵⁵teie²¹⁴” “a⁵⁵mei⁵¹” “a⁵⁵pa⁵¹” “a⁵⁵ma⁵⁵” “a⁵⁵tie⁵⁵” “a⁵⁵po³⁵” “a⁵⁵su⁵⁵” and so on, are still used on various occasions and to varying degrees. In Chinese, most kinship appellation nouns can be prefixed with *a-* as they can in other Sino-Tibetan languages. When we examine the kinship appellation nouns in the glossary appendices of the Chinese Minority Language Series, we find that the prefix *a-* appears in kinship appellation nouns in most minority languages of southern China. The following examples come from six such

languages.

- 1) Lianshang dialect of Zhuang (Zhang Junru et al., 1999:650-655): ʔa⁰ja⁶ ‘grandmother’, ʔa⁰koŋ¹ ‘grandfather’, ʔa⁰po⁶ ‘father’, ʔa⁰ku⁴ne⁵ ‘mother’, ʔa⁰ne⁵ ‘uncle’, ʔa⁰ku⁴ ‘aunt’, ʔa⁰a:u¹ ‘uncle’, ʔa⁰ta¹ ‘maternal grandfather’, ʔa⁰ta:i⁵ ‘maternal grandmother’.
- 2) Layiping dialect of Miao (Wang Fushi, 1985:172-173): α³⁵phu³⁵ ‘grandfather’, α³⁵ŋa³¹ ‘grandmother’, α³⁵zo³³ ‘uncle’, α³⁵ta³⁵ ‘maternal grandfather’, α³⁵ŋe³³ ‘mother's brother’, α³⁵zo⁵ ‘aunt’, α³⁵na³⁵ ‘brother’, α³⁵za⁴² ‘sister’.
- 3) Lianhua dialect of She (Mao Zongwu & Meng Chaoji, 1986:105): a¹khun⁴ ‘grandfather’, a¹phɿ⁴ ‘grandmother’, a¹pa¹ ‘father’, a¹me⁶ ‘mother’, a¹sin⁵ ‘aunt’, a¹kun⁸ ‘father in law’, a¹ko³ ‘brother’, a¹ŋjuŋ⁶ ‘sister’, a¹the³ ‘brother’, a¹kun⁶taŋ¹ ‘uncle’.
- 4) Dazhai dialect of Hani (Li Yongsui & Wang Ersong, 1986:174-176): a³¹bo⁵⁵ ‘grandfather’, a³¹phi³¹ ‘grandmother’, a³¹da³³ ‘father’, a³¹ma³³ ‘mother’, a³¹su³¹ ‘uncle’, a³¹mu³³ ‘aunt’, a³¹yo³³ ‘uncle’, a³¹go³³ ‘brother’, a³¹za³¹ ‘son-in-law’.
- 5) Xide dialect of Yipho (Chen Shilin, Bian Shiming & Li Xiuqing, 1985:246): a⁴⁴phu³³ ‘grandfather’, a³³ma⁵⁵ ‘grandmother’, a²¹bo³³ ‘father’, a²¹mo²¹ ‘mother’, a⁴⁴bo³³ ‘aunt’ or ‘mother-in-law’.
- 6) Lhasa dialect of Tibetan (Jin Peng, 1983 : 176-177): a⁵⁴ma¹² ‘mother’, a⁵⁴ku⁵⁴ ‘uncle’, a⁵⁴ni¹² ‘aunt’, a⁵⁴tea⁵⁴ ‘sister’, a⁵⁴tee⁵⁴ ‘wife’.

Many articles have discussed the prefix *a-* with regard to its grammatical form, grammatical meaning and word formation process in Chinese minority languages. These papers include Mu Yuzhang (1982), Zhu Jianxin (1984), Wang Chengyou (1994) and Fu Ailan (1996). They discussed the function and origin of the prefix *a-* from different perspectives.

The prefix *a-* has other grammatical functions in many languages, including as an interrogative marker, mood marker, numeral marker, and negation marker. However, these are irrelevant to the issue being discussed here because they are merely homonyms. Moreover, previous studies on the prefix *a-* will not be reviewed separately, as we are just focusing on the prefix *a-* as a common innovation in Sino-Tibetan.

It seems to me that pronominalization^①, which includes verb agreement, the person genitive prefix of the noun, and the first-person genitive prefix *a-* of the noun in Tibeto-Burman, could be found in Sino-Tibetan. Pronominalization means that in order to mark person agreement with the possessor or subject, the noun or verb will be affixed with a grammatical marker that is entire or a part of the relevant person pronoun. This

^① For details of this issue, see Sun Hongkai (2008).

phenomenon exists in many languages of different language families throughout the world. It seems to be a universal phenomenon of human language cognition and Sino-Tibetan is no exception. The difference for Sino-Tibetan only lies in the form and process of grammaticalization. Therefore, as a first-person genitive prefix in Sino-Tibetan, *a-* is a grammatical phenomenon which arose when pronominalization had fully developed in Sino-Tibetan. Subsequently, as result of simplification and losses in the grammar system of some languages, only some relics are preserved as the prefix for kinship appellation nouns. At present, the active aspect of pronominalization can still be found in some Sino-Tibetan languages^①, which is the result of asymmetry in the language development. That is, some languages change rapidly while other languages change slowly. As a result, those languages which change slowly preserve more old features. Thanks to such asymmetry, we can get access to the evidence of common innovation through clues provided by language relics.

6. Overlap and the binome with four syllables

Overlap is both an important method of word formation and a significant morphological process. In short, it is a very common grammatical form in Sino-Tibetan. I have specifically written articles (See my articles in 1996, 2010, etc.) that examine overlap forms and their grammatical meanings in Tibeto-Burman. This form has spread to every word class, including nouns, pronouns, numerals, verbs, adjectives and adverbs. In these articles, I have also examined a variety of variants and derivations of the overlap form. Therefore, the overlap form in Sino-Tibetan languages is not examined separately here. I will merely put forward some views on the reasons why Sino-Tibetan languages use so many overlap forms for word formation and in morphological processes.

I consider Proto Sino-Tibetan to be a language with abundant morphological markers. The primary means by which grammatical meaning is expressed is the morphological affix that is non-syllabic. The clue of the relic of this form in Sino-Tibetan can still be found in some conservative languages or in historical documents. In historical evolution over the long term, on the one hand, with regard to the principle of phonological simplification, the affix gradually eroded and has been lost. On the other hand, because of language contact, the affix in some languages became a syllabic affix. As a result, overlap forms were developed and their number gradually increased, depending on the expression function of the language. Moreover, compared with languages with polysyllabic roots, languages with monosyllabic roots seem to more easily generate overlap forms. In languages with

^① For details concerning this issue in details, see my three articles in 1983, 1984 and 1994.

polysyllabic roots, if roots overlap, word and sentence length will greatly increase, which does not conform to the economy principle and is not a convenient form of expression. Therefore, in many languages with polysyllabic roots, the overlap form is rarely used for word formation and in morphological processes. In conclusion, I argue that overlap is a common innovation in Sino-Tibetan.

In addition, I also suggest that the binome with four syllables is not only an extension of overlap but also is the result of a common innovation in Sino-Tibetan. As we all know, the binome with four syllables exists in most Sino-Tibetan languages. The emergence and application of the binome with four syllables have greatly enriched the rhetoric competence and means of expression in Sino-Tibetan languages. Then what is the relationship between the overlap form and the binome with four syllables? There are eight primary types of the binome with four syllables in Sino-Tibetan: AABB, ABAB, ABAC, ABCB, ABCA, ABCC, AABC, ABCD. In addition, there are some binomes with four syllables for which the components have common initials or rhymes and these are not included among the eight types listed above. The first seven types are closely related to the overlap form from which they developed. The statistics reported in Sun Yan (2005:205) show that the ABAC form appears most frequently in the 32 Sino-Tibetan languages that she examined. Almost all Sino-Tibetan languages have the ABAC form. Next are the AABB and ABCB forms. The binome with four syllables of for which the components have common initials or rhymes is a rhetoric form further derived from the eight types.

Why did the binome with four syllables arise in Sino-Tibetan? Sun Yan (2005:2-3) said: “The typological motivations for the emergence and development of the binome with four syllables include prosodic features, disyllabic preference, lexicalization and overlap. Moreover, the binome with four syllables is restricted by the mechanisms of symmetry, redundancy, economy and analogy...” I think that, among the motivations identified above, overlap is the most important and direct one.

7. Discussion

Six common innovations in Sino-Tibetan are listed as examples above. These examples may be only a small part of the set of common innovations in Sino-Tibetan. Of course, there is no consensus on whether these six examples are proper common innovations. But that does not matter. This is an issue worth discussing and the exchange of different opinions is helpful in deepening our awareness of matter. Now I will list some discussion points and put forward my preliminary ideas.

1) It is generally considered that common innovation is both a sign of grouping and a basis for language classification. Thus, the common innovations discussed here are based on the traditional genetic linguistic idea concerning language classification in Sino-Tibetan, which argues that Sino-Tibetan consists of four subgroups including Chinese, Tibeto-Burman, Miao-Yao and Tai-Kadai. Since the 1990s, a variety of ideas on language classification have been put forward. Some have raised the idea of a Sino-Tibetan-Austronesian language family^①, other have argued that Sino-Tibetan has a genetic relationship with Indo-European^② and still others consider that Sino-Tibetan is related the North Caucasian languages^③. Wang Jingliu (2001:1) suggests that Sino-Tibetan can be combined with the Mon-Khmer of Austro-Asiatic into a new language family named HuaXia. He said: “Language groups, such as Mon-Khmer, Tai-Kadai, Tibeto-Burman and Miao-Yao, are the result of language diversification, which can be explained by the ancestor language theory. However, the HuaXia language family, which consists of Chinese, Mon-Khmer, Tai-Kadai, Tibeto-Burman and Miao-Yao, is the result of language contact, convergence and integration. It cannot be explained by the ancestor language theory.” He also lists 321 “cognates” in these languages and indicates their “systematic correspondence”. Recently Wu Anqi (2013) has written an article on the genetic relationship of the languages of East Asia and the Pacific. He considers: “The etyma of basic words in the languages of East Asia and the Pacific are mostly distributed across language families. In terms of their distribution features, phonology, morphology and ways of expressing concepts, we can find two large closely related language groups — Austronesian-Altaic and Sino-Tibetan-Austro-Asiatic. They were at one time distributed in the western and the eastern parts of East Asia and they have a common ancestor.”

These various ideas on the language classification of Sino-Tibetan are all different from the traditional view which argues that Sino-Tibetan consists of Chinese, Tibeto-Burman, Miao-Yao and Tai-Kadai. It seems that there is a larger language family above the traditional Sino-Tibetan. Whether the evidence that they have given can stand the test of time remains to be seen. Nevertheless, we can assume that there

^① Pan Wuyun (1995) first raised the idea of a Sino-Tibetan-Austronesian language family. Later, Xing Gongwan and Zheng Zhang Shangfang supported his opinion and demonstrated its validity.

^② Pulleyblank first raised this opinion. See (1995).

^③ Russian linguist Starostin raised this opinion in his article presented at the 20th International Conference on Sino-Tibetan Languages and Linguistics in 1987. In this long article, he discusses the genetic relationship among Sino-Tibetan, North Caucasian and Yeniseian languages.

must be a language family at a higher level that incorporates Sino-Tibetan. When it evolved to the phase of Sino-Tibetan — 8,000-10,000 years ago, according to one estimation — the common innovations emerged. This hypothesis is theoretically valid. Even if it is wrong, its exploration will be meaningful.

- 2) As mentioned in the beginning of this article, there are two kinds of common innovation. One is attributed to the internal mechanisms of the language group, and the other is attributed to the interaction between languages. We mainly discuss the former here. After all, what is the nature of the internal mechanisms? This is an important question. As mentioned several times above, the six common innovations are closely related to the fact that Sino-Tibetan languages are languages with monosyllabic roots. It is only in languages with monosyllabic roots that these six language phenomena (maybe there are others) can emerge. This is a prominent characteristic which distinguishes Sino-Tibetan from other languages and is also an internal mechanism of common innovation in Sino-Tibetan. Some scholars may not accept my opinion, but that does not matter. If one has different opinions, she or he can put forward counterevidence. Maybe, someone will indicate that polysyllabic words now make up a large proportion of the vocabularies of some Tibeto-Burman languages in the southern Himalayas. I recognized this problem when I drafted the introduction of *Tibeto-Burman Phonology and Lexicon* in 1983. I think that these polysyllabic words can be attributed to the initial minor syllable which develops from the first component of the initial consonant cluster and is used as a word-formation prefix. This polysyllabic phenomenon is an areal feature which is related to interaction with Indo-European and Austro-Asiatic languages in that area (Sun Hongkai et al., 1991 : 135). This is a newly-formed common innovation in these languages that developed after Tibeto-Burman arose. Therefore, the characterization that these languages are languages with monosyllabic roots remains unchanged.
- 3) At the beginning of this article I proposed that two conditions would be needed to prove a genetic classification between language groups. One is common retention within this language group, including cognate lexical and cognate morphological retention. The other is common innovation in this language group. The former is the motivation for classification and the evidence of genetic relationship. The latter is the feature, approach and sign of the language group. Although the first is primary, both are indispensable. However, a problem arises here: How is the retention of an original feature distinguished from a common innovation? The six language phenomena

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discussed above can all be attributed to the fact that Sino-Tibetan languages are languages with monosyllabic roots. In that case, are they original features retained in this language group?

If we examine the six features in detail, only the prefix *a-* for kinship appellation may be an original feature. Though pronominalization is a common grammatical mechanism in many language groups, it cannot necessarily be reconstructed in Proto Sino-Tibetan since it is the result of the grammaticalization of the personal pronoun.

- 4) At present, the development of the six common innovations differs greatly in Sino-Tibetan languages. Some are in their infancy such as classifiers and tones in some languages. Some are on the rise; and some reached their peak, fell into decline and have been gradually replaced by other language phenomenon, such as pronominalization in some languages. Analyzing these differences and other linguistic phenomena such as original retentions, we can find that, for the structure of the phonology, lexicon and grammar in Sino-Tibetan, there is a historical evolutionary chain from complex to simple which links many languages. It is a responsibility of experts in historical linguistics and diachronic typology^① to reveal the processes of change and evolutionary trends of language groups or language phenomena. We should take on this responsibility.

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^① For diachronic typology, see my article(2011b).

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