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# Adverbial NP-*Shang* and the Growing Adverbial Suffix *shang* in Mandarin Chinese: The Lexicalization and Grammaticalization Induced by Chinese Character-Based Contact

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## Abstract

*This article presents a case study of language contact based on Chinese characters used in Chinese and Japanese. While the use of Chinese characters facilitates communication, it can sometimes obscure the specific details of language contact processes. Using historical materials as a basis, this article attempts to restore the original nature of the contact. In the study of the adverbial NP-*shang* (NP-上) structure, which consists of disyllabic noun phrases and the localiser *shang* “on, top”, the article reveals that in addition to direct borrowing NP-*jō* (NP-上), there is also a form of calquing Japanese 上 as *shang*. Furthermore, the discussion goes beyond the lexical level to explore the lexicalization of NP-*shang* and the grammaticalization of *shang* from a clitic to a suffix in the intense contact process, demonstrating that vocabulary is not only borrowed for its external significance, but also for its relational significance (Ramchand, 2018).*

**Keywords:** NP-*shang*, language contact, grammaticalization, lexicalization

## 1. Introduction

The language contact between Chinese and Japanese is essentially differentiated from the interaction between these two languages and other alphabetic languages. They can take the shared Chinese characters as the vehicle and directly borrow the form and the meaning altogether from one language to the other one (Zhu, 2020). From this perspective, the borrowing is not even calquing, but rather a copy, since there is little transformation through this process, at most changing certain minor differences in the strokes of characters.

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<sup>1</sup> Liu (1998) translates *shang* as “on” and Huang et al. (2009) as “top”. In the body of text, we will take the translation of “on” in order to better represent the semantics of *shang*.

However, borrowing between languages also carries relational significance, as even lexical items bear syntactic features that affect their grammatical combination with other formatives (Ramchand, 2018). The relational significance carried by the loanwords also needs further investigation.

In this article, adverbial NP-*shang*, an NP followed by *shang*, is taken as a case study to find possible relational change in character-based language contact. Furthermore, thorough investigation also proves that there is more than one direct way of borrowing even in these two character-based languages. In fact, we found both typical patterns of contact, borrowing and calque.

The paper is organized as follows. Section 2 presents and discusses previous research on NP-*shang* and highlights the importance of adopting a diachronic and contact perspective. Section 3 mainly focuses on contact between Chinese and Japanese, and summarizes two paths of lexical borrowing for NP-*shang*. Section 4 discusses the lexicalization and grammaticalization effects that occur through and after the process of lexical borrowing. Section 5 concludes.

## 2. Previous Research on Adverbial NP-*shang*

In Mandarin Chinese, 上 *Shang* “on, top” is regarded as a localiser indicating the upper position (Chao, 1968). Zhu (1961) discusses that among all the localisers, 里 *li* “in, inside” and *shang* have the greatest activity. Chu (1997) further argues that “almost all strong morphological nouns can form the NP-*shang* structure” (p. 37).

Syntactically, the localiser phrase (LP) NP-*shang* acts similarly to the noun phrase (NP) and can occupy either the subject or object position in a sentence. According to Huang et al. (2009), “the pre-L nominal does not form a compound with L” (p. 16). Liu (1998) claims that the locative particles, such as *shang* and *li*, do not have a syntactic status and should be regarded as clitics. She adopted Anderson's (1992) view that clitics and affixes share parallel mechanisms with different scopes, i.e. clitics are applied to phrases and affixes words.

However, this conclusion can be challenged by a particular category of LP. It is observed that there are NP-*shang* compounds represented by 实际上 *shiji-shang* “on reality” and 原则上 *yuanze-shang* “on principle”. These compounds can be used as adverbs, thus named adverbial NP-*shang* in this article and making the *shang* an adverbial affix in this sense. A more detailed discussion is given in section 4.

In fact, the adverbial NP-*shang* structure has been identified and discussed by some scholars in recent years.

Zhang (2012) assumes that in X and X-*shang* structures, X is the multi-category word of noun and adverb before combining with *shang*. This opinion might twist the cause and the consequence by merely comparing the words synchronically. She regards *yuanze*, a typical noun, as an adverb, confusing the concepts of multi-category and temporary N-Adv shift. The reason why X has an adverbial attribute is that X undergoes semanticization when constantly used as the omitted form of X-*shang* in utterance (Hopper & Traugott, 2003), such as 基本 *jiben* “basic”.

Pan (2016) detailedly analyzes how 事实上 *shishi-shang* “on fact” and *shiji-shang* are lexicalized from a phrase into a discourse marker, arguing that *shishi-shang* initially appears in the frame preposition “*zai..... shang*” while *shiji-shang* appeared directly as *shiji-shang*. Fang (2013) discusses that NP-*shang* is a construction which has already been lexicalised, such as *shiji-shang*, because these structures are added into authoritative dictionaries; some are still in the process of lexicalization, e.g., *yuanze-shang*; and others are yet to be lexicalised, e.g., 主观上 *zhuguan-shang* “on subjectivity”.

Although existing studies are fully aware of the phenomenon of lexicalization in these NP-*shang* structures, they focus mainly on the description and provide less historical facts and theoretical analysis of the formation process of the lexicalization. In view of the specific connection between these words themselves and their Japanese counterparts, this article attempts to analyze how these adverbial NP-*shang* were lexicalized and how *shang* shifted from a clitic to a suffix from the perspective of language contact, taking into account their relationship with their Japanese origins.

### 3. Two Paths of Generating Adverbial NP-*Shang* From Japanese

As mentioned, to trace back how these adverbial NP-*shangs* were generated, it is necessary to analyse the Chinese language in its historical context of contact with Japanese. From the late 19th century to the early 20th century, the Chinese Language, especially modern vernacular Chinese, was in flux. The Chinese Language was undoubtedly influenced by other languages, of which Japanese accounted for a large proportion. A host of documents can be found on phenomena such as Chinese and Japanese phonetic mixing, lexical borrowing and special grammatical patterns. Meanwhile, Mandarin, the official language in China, was built mainly on exemplary modern vernacular writings (Zhou, 1956). Most of these authors had experience studying in Japan,

intensifying language contact between these two languages further.

In this instance, the majority of NPs within the adverbial NP-*shang*s are closely associated with the Japanese language. Examples of this included 原则 *yuanze* “principle” and 理论 *lilun* “theory”, which are typical loanwords and directly borrowed from their Japanese equivalents, 原則 *gensoku* and 理論 *rilun*, respectively (Liu et al., 1984). While other words like 实际 *shiji* “reality”, 基本 *jiben* “base”, 表面 *biaomian* “surface”, and 形式 *xingshi* “form” can be traced back to ancient Chinese texts, they have undergone semantical transformations over the past century, evolving from concrete to abstract, with considerable extensions and expansions in their meanings. Originating as Chinese words, they were introduced to Japan in the 5th-6th centuries CE. In the latter half of the 19th century, due to the impact of Rangaku<sup>2</sup>, the Japanese counterparts of *shiji* (*jissai*), *jiben* (*kihon*) etc., took the head in abstraction and influenced the Chinese ones in turn. According to Shen (2010), such borrowings can be classified as “Chinese and Japanese interactive words”<sup>3</sup>. Due to limited space, we cannot illustrate the historical evidence in detail, but we can take this as a clue to explore the originality and exoticism of these NP-*shang*s.

According to our research, there are two kinds of generation paths of adverbial NP-*shang*, the standard path and the non-standard path:

- Path I (standard): borrowing the Japanese NP-*jō* directly
- Path II (non-standard): translating the Japanese adverbial morpheme *ni* into Chinese localiser *shang*, calquing

### 3.1 The standard generation path of NP-*shang*

There is a suffix *jō* in Japanese which shares the same character with Chinese localiser *shang* as “上”. Therefore, it is easier for translators to copy the Japanese NP-*jō* directly. Zhu (2020) analyses the trisyllabic Japanese loanwords in newspapers like *ShiWuBao* (1896-1898), *QingYiBao* (1898-1901) and *YiShuHuiBian* (1900-1903) and finds that any “disyllable-*shang*” that has a counterpart in original Japanese text is a copy of the Japanese word. We also found direct evidence in other parallel materials. As shown in the example of *shiji*-

<sup>2</sup> Rangaku is a general term for the European studies, culture and technology that came to Japan through the Netherlands during the Edo period. The Chinese characters for Rangaku is “蘭学”.

<sup>3</sup> Shen (2010) divides newly-minted words into three categories: Chinese and Japanese interactive words, Chinese-Japanese words and Japanese-Chinese words.

shang<sup>4</sup> in (1), it is the title of a chapter in *Experiences and Ideals of Primary School Education* (1910) in the Japanese version, written by Kazuharu Takeshita. Then in 1911, this chapter was translated into Chinese by Yu Chen and published in *Tongzhou Normal Alumni Association Magazine*. Yu Chen borrowed the word *jissai-jō* directly and rewrote it as *shiji-shang* via their identical characters. Several typical Path I NP-shangs and their Japanese counterparts are listed in Table 1.

(1)	[J]	<u>實際上</u>	の	諸問題
		<i>jissai-jō</i>	<i>no</i>	<i>shomondai</i>
		<u>reality-on</u>	GEN	PL-problem
		“problems in reality”		
	[MoC]	<u>實際上</u>	之	問題
		<i>shiji-shang</i>	<i>zhi</i>	<i>wenti</i>
		<u>reality-on</u>	GEN	problem
		“problems in reality”		

Table 1  
NP-shang under the standard generation path

NP	Pinyin	Meaning	NP-shang [MC]	NP-jō [J]	NP-teki-ni [J]
实际	shiji	reality	实际上	實際上	實際的に
理论	lilun	theory	理论上	理論上	理論的に
名义	mingyi	name	名义上	名義上	名義的に
形式	xingshi	form	形式上	形式上	形式的に
表面	biaomian	surface	表面上	表面上	表面的に
总体	zongti	entireness	总体上	総体上	総体的に

4 实际上 is the simplified Chinese for 實際上. In mainland China, traditional Chinese characters were used in the early 20th century until implementing the Scheme for Simplifying Chinese Characters in the 1950s. Before the simplification, Chinese 實際上 is the same as the Japanese one.

基本	jiben	base	基本上	基本上	基本的に
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Note. MoC stands for Mandarin Chinese and J stands for Japanese.

3.2 The non-standard way of translation

However, not all NP-*shang* correspond strictly to the Japanese words NP-*jō*, as shown in Table 2. Zhu (2020) states that the Chinese coined only a marginal part of “disyllable-*shang*” in the late Qing dynasty under the influence of Japanese. He does not give further explanation on the specific mechanism of their word formation. In this part, we aim to provide another reasonable possibility of lexical borrowing.

Table 2  
*NP-shang under the non-standard generation path*

NP	Pinyin	Meaning	NP- <i>shang</i> [MC]	NP- <i>teki-ni</i> [J]	Others [J]
大体	dati	generality	大体上	/	大体、大体 において
本质	benzhi	essence	本质上	本质的に	/
原则	yuanze	principle	原则上	原則的に	原則として

Note. “Others” stands for other Japanese possible translations.

There exists another translation contrast between NP-*shang* and NP-*teki-ni*, which is also applicable to Path I words. Here is how Lu Xun, a well-known modern Chinese writer, undertook this approach in his translation of Akutagawa Ryunosuke's *The Nose* in 1921:

(2)	[J]	一つ	は	実際的に、	鼻	の	長い	の
		<i>hitotsu</i>	<i>wa</i>	<i>jissai-teki ni</i>	<i>hana</i>	<i>no</i>	<i>nagai</i>	<i>no</i>
		first	TOPIC	<i>reality-ADV</i>	nose	GEN	long	GEN
		が	不便だった	から	である			
		<i>ga</i>	<i>fuben-datta</i>	<i>kara</i>	<i>dearu</i>			

	SBJ		inconvenient-STR		ABL		be-PRS	
	“For one thing, it was practically inconvenient to have a long nose.”							
[Moc]	其一，因為		鼻子	之	長	在實際上	很	不便。
	qi-yi yinwei		bizi	zhi	chang	<u>zai-shiji-shang</u>	hen	bubian
	firstly because		nose	GEN	long	<u>at-reality-on</u>	very	inconvenient
	“For one thing, it was practically inconvenient to have a long nose.”							

Lu Xun employed the phrase 在實際上 *zai-shiji-shang* to translate the Japanese phrase *jissai-teki-ni*, a *na*-adjective *jissai-teki* followed by the adverbial morpheme に *ni*. *Ni* is a unique Japanese hiragana rather than a kanji (Chinese character). Consequently, when translating a sentence that contains *ni* from Japanese to Chinese, a conversion is necessary on the part of the translator. It is worth noting that *ni* is richly used as a functional morpheme in Japanese. In addition to the adverbial usage mentioned, there are also common uses of the locative or dative particle. What is noteworthy here is Lu Xun's decision to utilize the locative function of “*ni*” when translating, a decision that is quite intriguing. This hypothesis is further supported by the presence of the preposition 在 *zai* “at”.

In Japanese, において *ni-oite* “in, on, regarding” can be used as the locative *ni*, thus considered as a variant of Path II. Yet, the analysis of Path II alone is insufficient to account for the phenomenon. The translation of Path II is complicated and fuzzy with various possibilities. The phrase 大体において *daitai-teki-ni* can correspond not only to 大体上 *dai-shang* “on generality” but also to 大体来说 *dai-laishuo* “generally speaking” and 大体来看 *dai-laikan* “from a general perspective”. It is the overall derivation of NP-*shang* in Mandarin Chinese that attracts these non-standard examples to appear in a solid form. *Dati*, *shiji*, and *jiben* belong to a relatively closed category of words that have a higher degree of abstraction and relate to the evaluation system, similar to English adverbs “principally”, “basically”, and “generally” (Biber and Finegan, 1988; Conrad and Biber, 2000). Assimilated by the existing structure, *dai* is more likely to adopt the form of NP-*shang* in the conversion process.

Based on the preceding discussion, we aim to elaborate more on the concepts of standard and non-standard paths. The distinguishing criteria between the two are primarily based on the following dimensions. Firstly, in terms of directness, borrowing from Japanese *jō*, which shares the same Chinese character, is a more



straightforward process. Conversely, converting hiragana *ni* and *ni-oite* into Chinese requires greater effort on the part of the translator for calquing. Secondly, the frequency of transformation from NP-*jō* to Chinese NP-*shang* in the Japanese-Chinese parallel corpus is significantly higher than in other ways. This is exemplified by Zhu's (2020) observation that 11 of the 13 instances of NP-*shang* (general NP-*shang*) appearing in *YiShuHuiBian* (1900-1903) correspond to Japanese NP-*jō*. Thirdly, in terms of timing, Lu Xun's non-standard (1921) example, cited earlier, appeared later than the example from *Tongzhou Normal Alumni Association Magazine* (1910) in terms of *shiji-shang*. *ShiWuBao* (1896-1898) and *QingYiBao* (1898-1901) contain 8 instances of NP-*shang*, all of which correspond to Japanese NP-*jō*. Only later in *YiShuHuiBian* are there two examples of NP-*shang* that do not directly correspond to it. Fourthly, the order of influence reflects the mainstream. As illustrated, the non-standard forms are not stable in the translation process due to the absence of direct guidance on Chinese characters. Therefore, existing NP-*shang* may influence their translation preferences. In (2), Lu Xun opted to translate from the perspective of a locative rather than directly from the adverbial morpheme *ni*. This choice may have been influenced by both the alternative locative usage of *ni* and the emergence of NP-*shang* in Chinese. This point will be further explored in the discussion on lexicalization.

#### 4. Lexicalization and grammaticalization in NP-*shang*

Both lexicalization and grammaticalization are transitions in linguistic structure. Lexicalization captures the shift from analytic processing to holistic processing (Lehmann, 2002; Hilpert, 2019), and requires fusion with the loss of morpheme boundaries (Brinton and Traugott, 2005). “Words that are or were earlier morphologically analysable but which could not be formed with their present meaning by the current rules of word-formation” (Huddleston and Pullum, 2002, p. 1629). On the other hand, grammaticalization is defined by Kurylowiz (1965) such that it “consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one” (p. 52).

It is evident that both lexicalization and grammaticalization share the feature of changing from explicit forms to more ambiguous ones and are characterized by unidirectionality (Dong, 2002; Brinton and Traugott, 2005). In particular, when it comes to affixation, the grammaticalization of an affix is also parallel to its

lexicalization. This study observes a similar transition with the NP-*shang* turning into an adverbial phrase as a whole, while the attached localiser *shang* has undergone a period of grammaticalization.

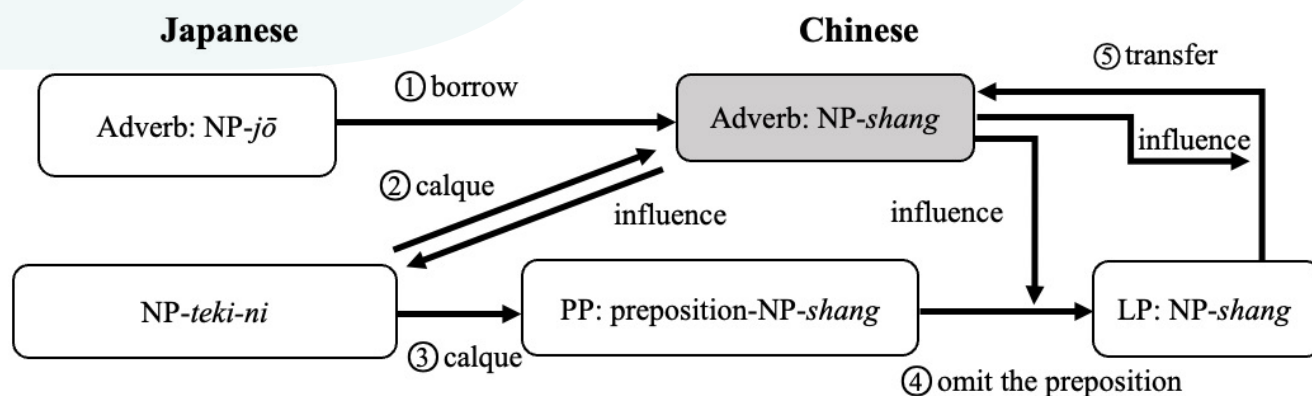
This section will explain and present evidence for lexicalization and grammaticalization respectively.

#### 4.1 The lexicalization of NP-*shang*

Lexical borrowing or calquing may be treated as a case of lexicalization (Brinton and Traugott, 2005; Blank, 2001). According to Nomura (1978), Akimoto (1991, 1994), and Zhang (2019), when NP is an abstract phrase, the Japanese NP-*jō* carries an adverbial function and can be treated as an adverb as a whole. Since Path I borrows NP-*jō* directly and uses NP-*shang* in a similar or even the same context, it is reasonable for NP-*shang* to inherit NP-*jō*'s usage as well as its adverbial property, as in Figure 1.

Figure 1

*The lexicalization process of Chinese NP-shang under the influence of Japanese*



Path II, while less explicit than Path I, also includes the adverbial element *ni* or *ni-oite*, thus producing the overall function of the adverb when combined with the part preceding them. However, when translating NP-*teki-ni* into Chinese, two translation patterns emerge. One is similar to the conversion process of NP-*jō* to NP-*shang*, shown in Figure 1, while the other is translated as a prepositional phrase, as seen in example (2) *zai-shiji-shang* above and illustrated in Figure 1. The existing adverb NP-*shang* has a significant impact on the changes in other links due to its lexicalized and idiomatized solidity, further contributing to the overall evolution of the structure, such as prompting the omission of the omitted preposition in and the conversion

from LPs to NPs. Additionally, the presence of these NP-*shangs* leads to a shift in the nature of shang itself, from clitic to suffix, which will be discussed in the part of grammaticalization. It should be pointed out that NP-*shang* is itself a productive structure in Chinese (Zhu, 1961), e.g. 桌子上 *zhuozi-shang* “on the table”, so the omission process may also be influenced by general LPs. This illustration only focuses on the transformation process of the potential adverbial NP-*shang*.

From the illustration, it is evident that the farthest way towards the adverb is the PP. Given our explanation for the generation process above, it can be deduced that the PP has the following structure :

$$(3) \quad [_{PP} P[[_{LP} [_{NP} \dots N] L]]$$

Initially, the prepositional phrase should be distinguished from the localiser phrase. Localiser phrases are phrases combined with locative particles, such as *shang* and 里 *li* “in”. There is a tendency to regard LPs as PPs with a circumposition omitting its preposition, thus denying the existence of the LP (Fang 2013), i.e. LP here is taken as the postposition phrase (Tai, 1973; Ernst, 1988). However, Liu (1998) argues that LPs are different from PPs, and that locative particles are essentially clitics. She uses the coordination of 家里 *jiali* “at home” and 学校 *xuexiao* “school” in example (4) to make a strong case for this view since NPs and PPs cannot be coordinated.

- (4) 小明          在      家里          和      学校          都      不      听话。  
*Xiaoming      zai      Jia-li          he      xuexiao          dou      bu      tinghua*  
 Xiaoming      at      home-in          and      school          all      NEG      behave  
 “Xiaoming does not behave either at home or at school.”

After confirming that *shang* functions as a clitic in LP, this article will demonstrate two distinct forms of NP-*shangs*: LP and adverb, the latter of which is the product of lexicalization. Although Chinese lacks overt morphological spell-outs in this case, there are several cues that can distinguish adverbial NP-*shangs* from locative ones. One key factor is the difference in their syntactic structures. For example, in sentence (5)<sup>5</sup>, if 原则上 *yuanze-shang* “on principle” is an LP, it undergoes movement and its original position is the specifier of

5 This example is formulated by the author.

the NP with head 怀疑 *huaiyi* “doubt”. Thus, the sentence means “we cannot doubt the principle(s).” Since “the principle(s)” is/are definite, interlocutors can infer the referent from the context. In contrast, the adverbial phrase *yuanze-shang* occupies a higher position and modifies the entire sentence, indicating “principally, we cannot have any doubt.” There is no direct relationship between “principle” and the targeted referent of “doubt”, and “principle” does not refer to specific rules or regulations. Instead, it functions like “definitely” or “basically” in English, emphasizing the extent to which something must or cannot be done.

- (5)       原则上               我们       不       能       有       任何   怀疑。
- yuanze-shang*        *women*       *bu*       *neng*   *you*       *renhe*   *huaiyi*
- principle-on        we           NEG   can       have   any       doubt
- “We cannot have any doubt on the principle.” / “Principally, we cannot have any doubt.”

Besides, there are also phonological clues on their stress patterns. It is not acceptable to stress the *shang* in the adverbial NP-*shang*, following the compound stress pattern. But for the LP NP-*shang*, it is still prepared for the stress falling on *shang* to express a stronger emphasis on referential principles. Also, LPs can share a similar unstressed *shang* with adverbs, for the reason that *shang* in LP is a clitic.

## 4.2 The grammaticalization of *shang*

Based on Ramchand's (2018) theory of external and relational significance, the localizer *shang* itself possesses a relational significance, having carried grammatical information ever since it was generated. Shi (2021) furthers this theory by dividing Ramchand's (2018) relational significance into “for self” and “for others”, and a typical grammatical constituent should clarify a syntagmatic linguistic symbol or construct a logical relationship between the two components, which means relational significance for others is crucial to grammaticalization. Sapir (1921) also mentions the pure relational concept, roughly corresponding to the concept proposed by Shi (2021).

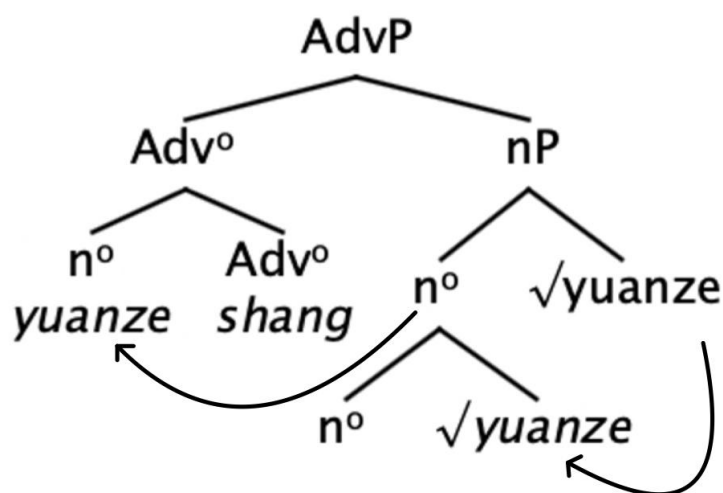
Given that the essence of grammaticalization is relationalization, *shang* does develop its new relational significance for others. The adverbial NP-*shangs* share the same phenomenon with the commentary adverbs in English, like “principally”, “basically”, and “theoretically”, with *shang* corresponding to “-ly”. In Chinese, these NP-

*shangs* usually occupy the pre-front field in the sentence. Müller (2005) argues that the majority of discourse markers occur at the beginning of a discourse unit. Therefore, it's not surprising to see this kind of NP-*shangs* turning to discourse markers. Such NP-*shangs* can be used to connect clauses, multiple sentences and even sentence groups, and finally become quasi-conjunctions. Due to the reapplication of those fixed NP-*shangs*, the function of connecting is frozen to *shang* and grammaticalized as well.

Since there are typical adverbial NP-*shangs* like *yuanze-shang* “on principle/principally”, *shiji-shang* “on reality/actually”, and *jiben-shang* “on base/basically”, the commentary adverbs can also be temporarily produced when the grammaticalized *shang* is attached to other ordinary abstract nouns when in the pre-front field of the sentence, such as 功能上 *gongneng-shang* “on function”, 颜色上 *yanse-shang* “on colour”, and 工作上 *gongzuo-shang* “on work”. This means that at this stage, *shang* has become a semi-productive adverbial suffix like “-ly” in English. To illustrate this morphological change, a tree diagram depicting the incorporation of the locative particle *shang* is provided.

Figure 2

The morphosyntactic tree for the adverbial *yuanze-shang*



Based on this observation, it is not hard to see that there is a tendency for *shang* to be grammaticalized, and this grammaticalization is driven by a group of lexicalized adverbial NP-*shangs*, which are the products of Chinese-Japanese language contact.

## 5. Conclusion

This paper explored the adverbial NP-*shang* as a case study of Chinese character-based Chinese-Japanese language contact. On the one hand, this discussion helps to explore the phenomenon of adverbialized NP-*shang* itself, and its causes and paths of adverbialization. On the other hand, it is also an exploration of the paths and effects of Chinese-Japanese language contact. In terms of effect, the two paths of generation for NP-*shang* interact with each other and eventually contribute to the lexicalization of the phrase itself. For *shang*, its relational significance is also preserved and further manifested in the process of language contact, resulting in a growing suffix.

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