Contraction

Contraction refers to phonological processes by which a sequence of sounds that constitutes one or more words is reduced or fused (Trask 1996:92). The reduction may be accompanied by additional changes of the sound segments; these changes usually belong to the family of *lenition* processes (Kuo 2010, Bauer 1988). From the perspective of the process itself, contraction in Chinese does not differ notably from contraction in other languages. In a similar way in which Latin *atque* "and also" can be reduced to *ac*, Classical Chinese *zhīyú* 之於 "this at" can be reduced to *zhū* 諸 (Mandarin character readings are given for convenience here; the earlier readings were, of course, quite different, as will be clarified below). However, due to the monosyllabicity of most of its morphemes (Norman 1988:138) and the morpheme-syllabic character of its writing system (Chao 1968:102), Chinese shows specific characteristics regarding the perception of contraction. Thus, contraction is more prominently perceived if it results in syllable reduction, although this is not a necessary consequence of the process. This is also reflected in the literature where *syllable contraction* (Tseng 2008), also called *syllable fusion* (Kennedy 1940), or *syllable merger* (Duanmu 2000:302f), is the most frequently discussed instance of contraction, and *fusion words* (words resulting from the fusion of two or more syllables) are the most frequently given examples. Nevertheless, there are many cases in spoken Chinese where sound sequences are reduced but no syllable reduction occurs. Thus, Standard Chinese *jìdé* 記得 "remember" is often realized as [tɕi⁵¹ə¹] instead of [tɕi⁵¹tə³⁵], and *xiānshēng* 先生 "Mr." is often realized as [ɕiɛ̃⁵⁵ən³] instead of [ɕiɛn⁵⁵ʂən⁵⁵] (Chung 2006:79). In both cases, the original number of syllables is retained in the contracted forms, and there is no change in written representation.

Fusion Words, Ligatures, and Portmanteaux

Due to the dominant role the writing system played and plays in the history of Chinese linguistics, fusion words are often confused with ligatures or portmanteau characters (Branner 2011). Fusion words are phenomena of the spoken language, while ligatures and portmanteau characters (or portmanteaux) are phenomena of the written language. Fusion words (Kennedy 1940, Norman 1988:86), also called *allegro forms* (Fowler 1990), or *coalescent compounds* (Tseng 2005), are

words that originated as a result of contraction, but were later lexicalized and usually also given a distinct written representation. A ligature is a character formed from two separate characters which refer to two separate monosyllables. It may either be read as one contracted form or as two separate forms. An example is the ligature 粴 consisting of the characters *lí* 厘 "milli-" and *mǐ* 米 "meter" (Branner 2011:74). As a written form of the word "millimeter", it can be read as either *límǐ* or as the contracted form *lí*. A portmanteau is a character that consist of two separate characters but represents a single monosyllable, such as 歪, consisting of the characters *bù* 不 "not" and *zhèng* 正 "straight", which writes *wāi* "crooked" (Branner 2011:75). Both ligatures and portmanteaux are the results of processes belonging to the domain of writing, while fusion words result from processes belonging to the domain of phonetics and phonology, which are independent of their written representation. In the Chinese literature, the problem of domain-distinction is reflected in the discussion regarding the distinction between *jiāncí* 兼詞 and *héyīncí* 合音詞 (Lǐ 2011). The former usually refers to any kind of "bimorphemic" characters (Pulleyblank 1995:9) which denote a complex meaning that would normally be expressed by means of two monosyllables (Xiàng 2007:129f). The latter is defined as the phonological merger of two or more syllables into one (Cuī 1994), hence corresponding directly to the term *fusion words* in the sense given above.

Reflection of Contraction in Writing

Given the morpheme-syllabic character of the Chinese writing system, there is no way to render contracted forms in a regular manner. The phenomenon is therefore usually not reflected in writing. In some cases, however, especially where syllable fusion is involved, the contracted forms may become so common that they are perceived as being distinct from their original forms bisyllabic forms and receive a written representation of their own, usually by repurposing an existing character whose conventional pronunciation resembles that of the contracted form. Although these fusion words are not very common, they can be attested in almost all stages of the history of Chinese. Apart from several examples in Classical Chinese, such as *pǒ* 叵 MC *phaX* "cannot" from *bùkě* 不可 MC *pjut-khaX*, or *sā* 仨 MC *sa* "three (persons)" from *sānge* 三個 MC *sam-kaH* (Tseng 2005; Middle Chinese readings follow Baxter 1992; for phonological details of ancient contractions, see below), there are also contractions that developed more recently and are found in

the modern standard language, such as *béng* 甭 "need not" from *búyòng* 不用 or *liǎ* 倆 "two" from *liǎngge* 兩個 (Zhōu 2011). The written representation of fusion words is also quite popular in dialect writing. As an example, consider cases such as Xiàmén 廈門 [liap⁵] 廿 "twenty" which is a merger of 二十 [li²¹ʦap⁵], or Píngyáo 平遙 [ŋɑ⁵³] 啞 "we" which is a merger of [ŋʌʔ⁵³məŋ³⁵] 我們 (data taken from Hóu 2004). Contractions that aren't conventionalized can be found in unofficial written forms used in informal written communication (internet chat, SMS, blog posts). An example is Taiwan Mandarin *zhèyàngzi* 這樣子 "in this way" whose contracted form *jiàngzi* is often written as *jiàngzi* 醬子, employing the characters for "sauce" + {nominal suffix} (Chung 2006:71, Tseng 2005:236f). It is possible that such contractions will eventually be conventionalized and become part of the standard written language.

Perception of Contraction

Despite being common in all varieties of Chinese, contraction is seldom recognized by speakers (Chung 2006:70). Thus, although in most situations Chinese *wǒmen* 我們 "we" is realized as [wom²¹⁴] in Standard Chinese (Duanmu 2000:303), or as [ɣan²⁴] in the Dēngfēng 登封 dialect (Fāng 2012:65), only a few speakers are probably aware of the fact that they pronounce the respective word as one syllable. One possible reason for speakers' lack of awareness regarding contraction phenomena lies in the highly restricted syllable structure of Chinese language varieties. Due to the syllabic character of the Chinese writing system, only those forms that have regularly attested syllable shapes can be easily reflected in writing. Since contracted forms may be phonotactically unusual, many forms, such as Standard Chinese [pʷəi⁵¹] < *búhuì* 不會 "can't be", or [ta:⁵¹⁵] < *dàjiā* 大家 (Duanmu 2000:303), cannot be rendered in the written language and are therefore also less easily recognized by speakers (Tseng 2005:250f).

Phonetic and Phonological Aspects

So far, research on contraction in Chinese linguistics has mainly focused on the reflection of the phenomenon in the writing system. In recent phonetic and phonological work, however, the focus has begun to shift from the written to the spoken language. Thus, laboratory experiments on

contraction in Taiwan Mandarin suggest a gradient character of the phenomenon. Apparently, contraction depends on duration and only occurs if the speed of speech exceeds a certain threshold (Chen 2009). In phonology, much attention has been paid to the processes which drive and accompany the input and output of contraction. The most common model to deal with contraction in Chinese is the so-called *edge-in* model (Yip 1988). According to this model, the phonetic appearance of the output syllable is derived by a combination of the sound segments of the input syllables, starting from the outermost segments (edges) and proceeding to the inner segments (Yip 1988:553). As an example, consider Wǔhàn 武漢 [sa⁴²kuo] 啥個 "who?" and its uncontracted form [sɿ³⁵na⁴²kuo] 是哪個 (data taken from Hóu 2004). The output is derived from the initial of the first syllable and the final of the second syllable, including its tone: [s] + [a⁴²]. However, not all cases of contraction follow this principle directly. The Mǐn 閩 dialects notably show patterns of syllable contraction where the derivation of the new syllable's nucleus varies, sometimes being based on the left input syllable, sometimes on the right. This can be seen from examples such as Southern Mǐn of Táiběi [to⁵⁵ui³³] 倒位 "where", where the nucleus of the left syllable prevails in the contracted form [toi⁵³], as opposed to [bu⁵⁵to³³] 舞蹈 "dance" where the nucleus of the right syllable prevails in the contracted form [buo⁵³] (forms taken from Myers and Li 2009). In order to account for these differences, scholars have proposed enhanced versions of the *edge-in* model. In these models the nucleus selection is directed by additional parameters, especially by vowel sonority (Hsu 2003, see Li and Myers 2005 for an Optimality-Theoretic account). However, these proposals are still incapable of explaining cases, like the above-mentioned contraction of Standard Chinese *wǒmen* 我們 "we" to [wom²¹⁴]. Alternative approaches have therefore emphasized the discourse-related characteristics of contraction. Assuming that the main intention of a speaker is to be understood, even when speaking fast, the speaker will try to make sure that contracted forms keep a certain degree of transparency, preserving the perceptual distinctiveness of the input syllables regardless of where they occur in the input forms (Tseng 2005 and 2008). According to this view, the advantage of [wom²¹⁴] is that the overall phonetic similarity between [wo²¹mən⁴] and [wom²¹⁴] is greater than for other possible candidates (such as, for example, [wən²¹⁴]). Although the form is not in concordance with Standard Chinese phonotactics, it is given preference by speakers since it can more easily be identified with its source than can alternative contractions.

Historical Aspects

As mentioned above, fusion words are attested in all historical stages of Chinese. However, due to the specific character of the Chinese writing system, the presence of contractions is obscured in several ways. While on-going contractions are rather unlikely to be reflected in writing, lexicalized contractions are masked as monosyllabic morphemes if they are written by a single character. It is therefore not always easy to prove that the word denoted by a given character is indeed a result of contraction. Thus, only a few fusion words, such as, for example, Classical Chinese *zhū* 諸 Old Chinese (OC) **ta* "this at" < *zhī* 之 OC **tə* "it" + *yú* 於 OC **ʔa* "at" (OC forms follow Baxter & Sagart 2011), or *ěr* 耳 OC **nəʔ* "that's all" < *ér* 而 OC **nə* "and" + *yǐ* 已 OC **ɢəʔ* "already", are well-accepted. Other cases, such as, Classical Chinese *yān* 焉 OC **ʔan* "thereupon", are controversially discussed in the literature (Fowler 1990, Goldin 2003, Pulleyblank 2003).

References

Bauer, L. "What is lenition?" *Journal of Linguistics* 24, 1988, 381–392.

Baxter, W. and L. Sagart, *Baxter-Sagart Old Chinese reconstructions, Version of 20 February 2011*, 2011, URL: http://crlao.ehess.fr/docannexe.php?id=1203.

Baxter, W. *A handbook of Old Chinese phonology*. Berlin and New York: Mouton de Gruyter, 1992.

Branner, D. P., "Portmanteau characters in Chinese". *Journal of the American Oriental Society* 131.1, 2011, 173–82.

Chao, Y., *A grammar of spoken Chinese*. Berkeley, Los Angeles, and London: University of California Press, 1968.

Cheng, C. and Y. Xu, "Extreme reductions. Contraction of disyllables into monosyllables in Taiwan Mandarin", *Proceedings of Interspeech 2009*, 2009, 456–459.

Chung, K. S, "Contraction and backgrounding in Taiwan Mandarin". *Concentric: Studies in Linguistics* 32.1, 2006, 69–88.

Cuī Lí 崔黎, "*Hànyǔ héyīn xiànxiàng jiǎnlùn* 汉语合音现象简论 [On contraction in Chinese]". *Journal of Zhengzhou University* 3, 2006, 118–120.

Duanmu, S., *The phonology of Standard Chinese*. 2nd ed., Oxford: Oxford University Press, 2000 [2007].

Fāng Shǎopéng 方少鹏, "*Dèngfēng fāngyán de héyīncí yǔ fēnyīncí* 登封方言中的合音词与分音词 [Allegro and lento forms in the Dēngfēng dialect]". *Journal of Puyang Vocational and Technical College* 25.1, 2012, 64–67.

Fowler, V. K., "Generative phonology sheds light on Old Chinese 'allegro' forms". *Monumenta Serica: Journal of Oriental Studies* 39, 1990, 159–167.

Goldin, P. R., "The Old Chinese Particles yan 焉 and and 安". *Journal of the American Oriental Society* 123.1, 2003, 169–173.

Hsu, H.-C., "A sonority model of syllable contraction in Taiwanese Southern Min", *Journal of East Asian Linguistics* 12.4, 2003, 349–377.

Hóu Jīng 侯精 (editor), *Xiàndài Hànyǔ fāngyán yīnkù* 现代汉语方言音库 [Phonological database of Chinese dialects], CD-ROM, Shanghai, 2004.

Kennedy, G. A. "A study of the particle yen", *Journal of the American Oriental Society* 60, 1940, 193-207.

Kuo, G. "Production and perception of Taiwan Mandarin syllable contraction", *UCLA Working Papers in Phonetics* 108, 2010, 1-34.

Lǐ Chūnlíng 李春玲, "*Lùn jiāncí yǔ héyīncí* 试论兼词与合音词 [On *jiāncí* and *héyīncí*]". *Journal of Qinghai Normal University* 33.2, 2011, 105–108.

Li, Y. and J. Myers, "Modeling variation in Taiwan Southern Min syllable contraction". *Taiwan Journal of Linguistics* 3.2, 2005, 79–118.

Myers, J. and Y. Li, "Lexical frequency effects in Taiwan Southern Min syllable contraction". *Journal of Phonetics* 37, 2009, 212–230.

Norman, J., *Chinese*. Cambridge: Cambridge University Press, 1988.

Pulleyblank, E. G., *Outline of Classical Chinese grammar*. Vancouver: UBC, 1995.

Pulleyblank, E. G., "Once Again Old Chinese *yan* 焉 and *an* 安". *Journal of the American Oriental Society* 123.3, 2003, 635–639.

Trask, R. L., *Dictionary of phonetics and phonology*. London and New York: Taylor & Francis Routledge, 1996.

Tseng, S.-C., "Monosyllabic word merger in Mandarin". *Language Variation and Change* 17, 2005,

231–256.

Tseng, S.-C., "Spoken corpora and analysis of natural speech". *Taiwan Journal of Linguistics* 6.2, 2008, 1-26.

Xiàng Xī 向熹, *Gǔdài Hànyǔ zhìshi cídian* 古代汉语知识辞典 [Dictionary of Old Chinese terminology]. Chengdu: Sichuan Cishu Chubanshe, 2007.

Yip, M., "The Obligatory Contour Principle and Phonological Rules: A Loss of Identity". *Linguistic Inquiry* 19.1, 1988, 65–100.

Zhāng Yùxiá 张玉霞 and Yú Sīxiāng 于思湘, "Qiǎntán Hànyǔ 'héyīncí' 浅谈汉语"合音词" [On Chinese fusion words]", *Journal of Zibo University* 17.4, 2001, 58–60.

Zhōu Xiáng周翔, "Hànyǔ héyīncí shēnwēi 汉语合音词探微 [The Sound Compound Words in Chinese]", *Journal of Anhui Agricultural University* 20.4, 2011, 105–109.

Johann-Mattis List