# To Phrase or Not to Phrase: The Effect of Focus in Standard Chinese

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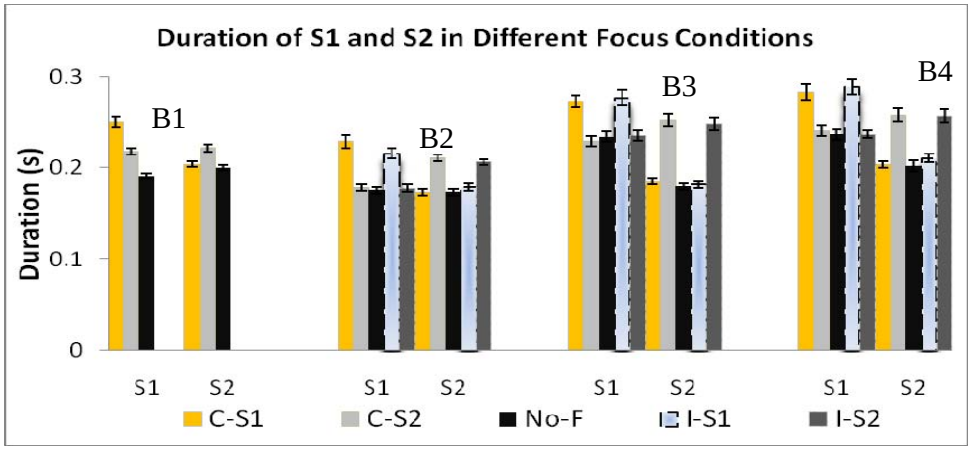
It is by now widely accepted that utterances are phrased into a string of hierarchically-structured prosodic constituents (Selkirk 1986, Nespor & Vogel 1986). Such a structure, in turn, governs the phonetic shape of the constituents. Within this framework of prosody, much work has been done on the relation between information structure (in particular focus) and prosodic phrasing. One line of proposal is that focus has a direct effect on phrasing either by requiring the focused element to form a prosodic constituent of its own (e.g., Kanerva 1990, Downing 2002), or by aligning/inserting a specific level of prosodic boundary to the left/right edge of the focused element (e.g., Hayes & Lahiri 1991, Shih 1997). Another line of research takes a more indirect view. Focus has been proposed to call for prominence in a specific prosodic domain (e.g. intonational phrase) and the concurrence of that domain edge with the focus element is due to more general alignment constraints (e.g. Selkirk 2002 & 2006). Despite the different mechanisms proposed, one thing shared in the literature is the recognition of some kind of prosodic edge alignment with the focused constituent, which has figured prominently in the theoretical advancement of the prosodic reflexes of focus.

There has been, however, a growing awareness that some empirical (mainly impressionistic) descriptions of focus-phrasing interaction may not stand the test of more rigorous experimental investigations (e.g., Chen 2004 for Standard Chinese, Downing 2010 for Chichewa), which raises questions to the general theory of focus and phrasing interaction. To further understand the issue, we report upon an acoustic experiment investigating the interaction of focus and phrasing in Standard Chinese (SC). Focus in SC has been argued to insert a prosodic boundary to the left edge of a focused constituent and consequently, block the application of Low tone sandhi (i.e. the realization of a Low tone with a rising pitch contour before another Low tone) (Shih 1997). It is, however, not clear whether the type of focus matters and which level of prosodic boundary focus inserts. Chen (2004) tested the hypothesis that contrastive focus in SC introduces an intonational phrase (IP) boundary before a focused constituent by examining the durational adjustment of monosyllabic words in different prosodic positions (i.e. IP initial vs. IP medial) and focus conditions (i.e. contrastively focused vs. unfocused). Results showed that focus does not insert an intonational phrase boundary; rather, focus introduces significant amount of lengthening over the focused word, which is different from the lengthening of prosodic domain edges.

In the current study, we extended the test conducted in Chen (2004) by examining the effect of two different **focus types** (i.e. contrastive vs. informational) on the realization of four morphosyntactic **boundaries**: within a bi-syllabic compound (B1: S1+S2), verb-object phrase (B2: $S1_{endofverb}$+$S2_{beginningofobject}$), subject-predicate (B3: $S1_{endofsubject}$+$S2_{beginningofpredicate}$), and clause (B4: $S1_{endofclause1}$+$S2_{beginningofclause2}$). These constructions are commonly recognized to have fundamental syntactic distinctions which are expected to map onto different prosodic domains. Three pairs of low tone homophones were included for S1 and S2 across the four boundaries. Different **focus locations** were elicited, which included contrastive focus on constituents containing S1 (C-S1) or S2 (C-S2) for all B1-B4 boundaries; informational focus on constituents containing S1 (I-S1) or S2 (I-S2) for B2-B4 boundaries (but not for B1 as it is difficult to elicit informational focus on part of a compound). S1S2 were also elicited without focus (No-F). Data from 5 subjects were recorded. Both the application of Low tone sandhi and the durational pattern of the S1S2 syllables were examined.

Preliminary results show an interaction of **focus type**, **focus location**, and **boundary** for the application of Low tone sandhi. Specifically, the Low tone on S1 before a clause boundary (B4) was usually realized as the canonical low tone when focused, although more

often under contrastive focus than informational focus. Boundaries below the clause level did not seem to block low tone sandhi regardless of focus type and location. Mean duration of S1 and S2 (as plotted in the following figure) showed that regardless of focus type, focus introduced a salient amount of lengthening (e.g., S1 in C-S1 and S2 in C-S2 condition vs. their counterparts in No-F condition). Across focus type and focus location, there was a general trend of durational increase (B2<B3<B4), suggesting that boundary edge duration at least partially correlated with the strength of the morphosyntactic congruency (verb+object < subject+predicate < clause). This pattern further suggests that the presence of focus influences the phonetic realization of the boundaries rather than inserts a specific prosodic boundary. While more detailed analyses will be performed and more data will be recorded, we conclude here that focus in Standard Chinese does not insert a prosodic boundary to the left edge of the focused constituent. Implications of this study on the general interaction of focus and phrasing, as well as on the methodological issues of what constitutes as evidence for phonological phrasing will be discussed.

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