

# Searching for word stress in Chinese: a hunt for the Yeti?



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# What is word stress (WS, lexical stress)?

**Phonological (structural) capability** of a particular syllable in polysyllabic word to be **phonetically prominent**, e.g.

*to**M**orrow, bon**J**OUR*



**Important feature of WS:**

**stability of its position** in particular word



# Position of word stress in various languages - different

- **Fixed WS:** whole lexicon - the same position (in relation to word boundary) E.g.
  - first syllable (Czech)
  - last syllable (French)
  - penult syllable (Polish)
- **Free, variable WS:** any position (any syllable) - hard to find the rule (“free” does not mean “random”!)
  - English, Russian...



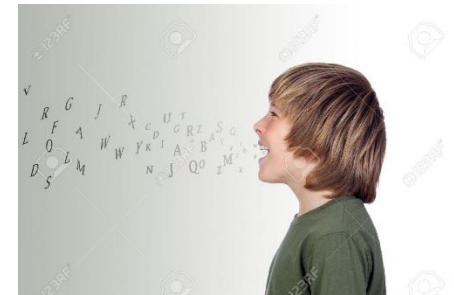
# Functions of word stress

Helps the listener to **identify word boundary** in connected speech

(the words are not separated by pauses in speech)

Contributes to speech **rhythm**:

*Kindly forgive me my mistake*



# Problems with the concept of word stress in Chinese

- The concept of WS was established **for non-tone languages**
- It is commonly applied in Chinese (词重音), **BUT it is not sure whether it is also fit for it...**
- WHY? Because **Chinese is different**, it is **a tone language** with a complicated relationship between tone and stress



# Chinese disyllabic words

The crucial question: **WS** in disyllabic words,  
such as *dòufu* 豆腐, *lǎoshī* 老师 .....

**WHY?** Because disyllabic words represent the  
majority of Chinese lexicon:  
**almost 70% of common vocabulary!**

Therefore I will only be concerned with  
**disyllabic words**



# Two types of disyllabic words:

- 1) **T+0** Words with a lexical “neutral tone”, 轻声 on the second syllable (no tone mark in dictionary)  
*dòufu* 豆腐, *háizi* 孩子, *pútao* 葡萄...

This is the only 100% reliable group:  
always left stress, trochee, ●●

BUT it only represent **about 15%** of all disyllabic words ☹  
(Yin 1982)

- 2) **T+T** Words with **both syllables tonal** (major group):  
*jīdàn* 鸡蛋, *lǎoshī* 老师, *dàxué* 大学...

**PROBLEMS!**



# 1. WS = perceptually inconspicuous (phonetically “elusive nature”)

Often hard to tell which syllable is more prominent

*jīdàn* 鸡蛋, *lǎoshī* 老师, *dàxué* 大学

1st syllable? 2nd syllable? Both equally prominent?



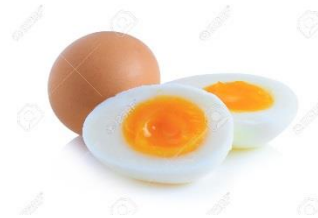
**Native speakers: inconsistent judgments, disagreement**





## 2. Unstable position (variability)

*jīdàn* 鸡蛋 eggs



*chǎo jīdàn* 炒鸡蛋

“scrambled eggs”

- right stress

*Jīdàn* *hěn guì.* 鸡蛋很贵

“eggs are expensive”

- left stress



# Phonetic experiments (perception tests)

Formerly the linguists mostly investigated **words in isolation, out of the sentence context**

This had two crucial disadvantages:

- 1) Word pronunciation was influenced by **final (prepausal) lengthening** (universal phenomenon)

Thus, in isolation, most T+T words

sound as right-stressed, ●● 大学 dàxué, 鸡蛋 jīdàn

- 2) Possible **variability of accentuation** could not be discovered (no context)



# continued

**Current phonetic experiments** (words in context!)  
support the view that **functional, phonologic WS**  
**is not present in Chinese**

**Important exception: minimal pairs** such as 东西  
(stress **is** phonemic here)

东西 *dōngxī* = “east-west”

东西 *dōngxī* = “thing”



# Views of WS in Chinese

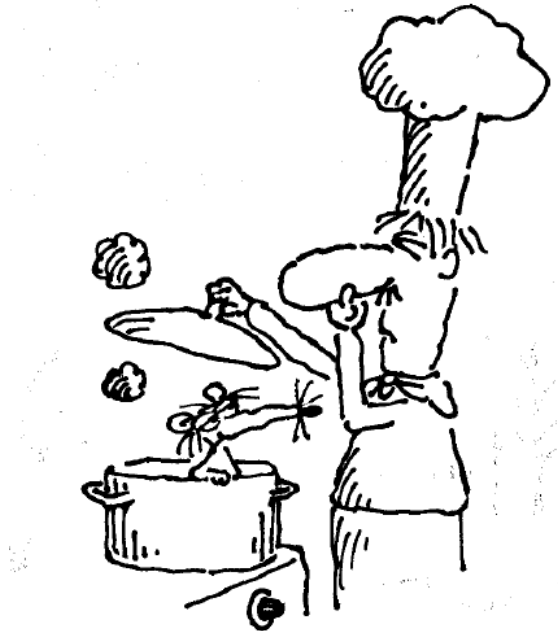
numerous, often contradictory, no consensus

- WS **does not exist** in Chinese
- WS exists **only as a phonetic phenomenon**, it is not a structural, phonological property of a word in the lexicon
- Basic WS pattern is **final stress** ●●, right stress, 右重, 中重, iamb (there may be exceptions to this rule) - **traditional view**
- Basic WS pattern is **initial stress** ●●, left stress, trochee, 左重; 重中 or 重轻 (there may be exceptions to this rule) - **recent view**, e.g. Lin Hua 2001
- Development **from final stress** ●● **to initial stress** ●● “stress shift” (Kratochvil 1974)
- **Free word stress** (as in English, e.g. Yin Zuoyan 1982)



**Unfortunately, none of these theories won so far!**  
There must be something wrong with the analysis

We should smell a rat...



# Solution for T+T words - so far:

- The linguists ask which syllable in a particular word is **underlyingly strong** (= bears word stress)

*jīdàn*  
鸡蛋



# Reverse concept for T+T words (my proposal)

- We should not ask which syllable in a T+T word is **underlyingly strong**
- Instead, we can ask which syllable in a T+T word is **underlyingly weak** (if any)



# Accentuation types of O. Švarný (1974)

Oldřich Švarný (Czech phonetician) explored **variability of accentuation of Chinese disyllabic words** (by means of statistics). Large corpus → many occurrences of **the same word in different contexts**

He investigated how much **the second syllable** of a particular word is **resistant to weakening**:

**7 degree scale (7 accentuation types)**

from zero resistance..... to almost (!) 100% resistance

dòufu  
豆腐



kāihui  
开会





# *Xiandai Hanyu Cidian* 现代汉语词典

Three patterns of disyllabic words:

*huǒchē* 火车: *huǒchē* (Švarný's other types)  
majority of disyllabic words

*zhuōzi* 桌子: *zhuō•zi* (Švarný's type **o** )  
obligatory *qingsheng* 必读轻声

*yīnwèi* 因为: *yīn•wèi* (Švarný's type **w** )  
optional *qingsheng* 可读轻声

# My proposal for Chinese

- To give up the confusing term **word stress** 词重音  
That is, to give up searching for an **underlyingly stressed syllable (marked)** in a word
- Adopt a category of **normal, regular syllable (unmarked)**  
(all tonal morphemes)  
**“normal syllable”** 正常音  
(cf. Y. R. Chao’s term “*normal stress*”, 正常重音)
- ...and a contrasting category of a **weak syllable (marked)**  
(morphemes without a lexical tone: 孩子)  
**“weak syllable”** 弱音, **“light syllable”** 轻音
- Find the situations **when the “normal syllable” becomes weakened** - surface variation  
term: **WORD ACCENTUATION (instead of WORD STRESS)**

How does it work:



# 1. Disyllabic words of T+0 type

*dòufu* 豆腐, *háizi* 孩子...

always left stress, trochee, ●●

normal syllable 常音 + light syllable 轻音

underlying pattern: 常轻

## DESCRIPTION:

“Word **non-stress** rests on the **second** syllable”

crucial structural fact: the second syllable is ALWAYS weak (because it carries lexical neutral tone)



## 2. Disyllabic words of T+T type

*jīdàn* 鸡蛋, *dàxué* 大学...

**Reject the concept of two underlying stress patterns**

**final stress** ●● (iamb, right stress, 中重)

**initial stress** ●● (trochee, left stress, 重中)

**Why?** Because such analysis has serious problems:

We are forced to decide between the two options, BUT the reality is **often dubious**, native speakers disagreement. Moreover, the position of stressed syllable can change - **variability**



## continued (T+T words)

Instead, I suggest to adopt **another two underlying patterns:**

### 1) 常常

normal syllable + normal syllable  
different **surface forms** in different contexts  
(*jīdàn*, *jīdàn*, *jīdàn*)

We should investigate **conditions and functions** of such variation.

### 2) 常•常

normal syllable + normal syllable which is **very often**  
realized **in neutral tone** 轻声  
(*yīn•wèi* 因为, *zuò•wèi* 座位)

# Conclusion

- The concept of word stress was developed for **non-tone languages** with a very different sound structure
- This “Western” concept cannot be applied in Chinese in a mechanical fashion.
- Word stress in the strict sense of the word **is not present in the majority of Chinese lexicon** (this is possibly caused by a tonal character of Chinese)
- Thus, searching for word stress in Chinese seems to be **a hunt for the Yeti**



The topic needs to be re-considered

Bye bye..

