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The production and perception of tonal variation -: evidence from Tianjin Mandarin

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APPENDICE

Appendix I

The size and location of the visual stimuli in the Visual World Paradigm were calculated as follows, as illustrated in Figure I. As shown in Figure Ia, the diameter (D) of the 5° visual circle (parafoveal visual region, as illustrated with circles in Figure I) on the screen was calculated according to the formula: $D = 2 \times d \times \tan \frac{\theta}{2}$. Therefore, given the distance from the eyes to the monitor ($d=69\text{cm}$), the diameter of each circle should be 6.03cm.

the distance (d) to the display is 69 cm.

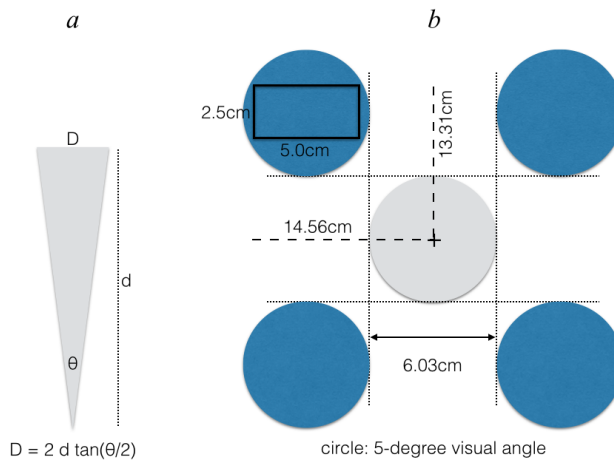


Figure I *Illustration of the size and location of the disyllabic words.*

As shown in Figure I, the fixation cross was located at the very center of the screen (as illustrated with a black cross in Figure I). The screen was then divided into nine regions according to the central circle with the fixation cross as the center. The circles for the four words were located at the four corners respectively.

Each disyllabic word was typed in Song, and resized into a 2.5cm * 5cm rectangle (as illustrated with the solid black rectangle in Figure I), which was maximally fit into the circle; the farther side edge of the words were 14.56cm to the left or right of the screen central vertical lines, and 13.31cm to the upper or lower of the screen central horizontal lines.

Appendix II

The full lists of disyllabic and trisyllabic words used in Chapter 3 are given below.

II-1. Disyllabic word list.

Tonal Sequences	Morpho-syntactic Structures		
	Compound	Modifier+Head	Verb+Object
T1T1	爹妈 die ¹ ma ¹ <i>parents</i>	家猫 jia ¹ mao ¹ <i>domestic cat</i>	弯腰 wan ¹ yao ¹ <i>to bend down</i>
T1T2	规模 gui ¹ mo ² <i>scale</i>	歌迷 ge ¹ mi ² <i>fans</i>	猜谜 cai ¹ mi ² <i>to guess a riddle</i>
T1T3	枢纽 shu ¹ niu ³ <i>hub</i>	糙米 cao ¹ mi ³ <i>brown rice</i>	推理 tui ¹ li ³ <i>to reason</i>
T1T4	归纳 gui ¹ na ⁴ <i>to conclude</i>	闺蜜 gui ¹ mi ⁴ <i>girlfriends</i>	揭密 jie ¹ mi ⁴ <i>to reveal a secret</i>
T2T1	拿捏 na ² nie ¹ <i>to ponder</i>	白猫 bai ² mao ¹ <i>white cat</i>	行医 xing ² yi ¹ <i>to practice medicine</i>
T2T2	皮毛 pi ² mao ² <i>fur</i>	活埋 huo ² mai ² <i>to bury alive</i>	回眸 hui ² mou ² <i>to look back</i>
T2T3	涂抹 tu ² mo ³ <i>to smear</i>	鸵鸟 tuo ² niao ³ <i>ostrich</i>	淘米 tao ² mi ³ <i>to wash rice</i>
T2T4	稠密 chou ² mi ⁴ <i>dense</i>	胡闹 hu ² nao ⁴ <i>to make trouble</i>	夺目 duo ² mu ⁴ <i>dazzling</i>
T3T1	扭捏 niu ³ nie ¹ <i>coy</i>	奶妈 nai ³ ma ¹ <i>nanny</i>	爽约 shuang ³ yue ¹ <i>to fail to keep an appointment</i>
T3T2	楷模 kai ³ mo ² <i>model</i>	铁牛 tie ³ niu ² <i>tractor</i>	起锚 qi ³ mao ² <i>to raise anchor</i>
T3T3	子女 zi ³ nü ³ <i>child</i>	舞女 wu ³ nü ³ <i>dancing girl</i>	洗脑 xi ³ nao ³ <i>to brainwash</i>
T3T4	美妙 mei ³ miao ⁴ <i>wonderful</i>	果木 guo ³ mu ⁴ <i>fruit tree</i>	把脉 ba ³ mai ⁴ <i>to take one's pulse</i>

T4T1	触摸 chu ⁴ mo ¹ <i>to touch</i>	后妈 hou ⁴ ma ¹ <i>step mother</i>	喂猫 wei ⁴ mao ¹ <i>to feed the cat</i>
T4T2	计谋 ji ⁴ mou ² <i>stratagem</i>	亚麻 ya ⁴ ma ² <i>linen</i>	蓄谋 xu ⁴ mou ² <i>to premeditate</i>
T4T3	购买 gou ⁴ mai ³ <i>to buy</i>	密码 mi ⁴ ma ³ <i>password</i>	喂奶 wei ⁴ nai ³ <i>to breastfeed</i>
T4T4	咒骂 zhou ⁴ ma ⁴ <i>to curse</i>	内幕 nei ⁴ mu ⁴ <i>inside story</i>	盗墓 dao ⁴ mu ⁴ <i>to rob a grave</i>

II-2. Trisyllabic list 1: $\sigma\sigma\sigma$.

Tonal Sequences	Word 1	Word 2
T1T1T1	乌拉圭 wu ¹ la ¹ gui ¹ <i>Uruguay</i>	撒哈拉 sa ¹ ha ¹ la ¹ <i>Sahara</i>
T1T1T2	西班牙 xi ¹ ban ¹ ya ² <i>Spain</i>	阿拉伯 a ¹ la ¹ bo ² <i>Arab</i>
T1T1T3	希拉里 xi ¹ la ¹ li ³ <i>Hilary</i>	巴哈马 ba ¹ ha ¹ ma ³ <i>Babamas</i>
T1T1T4	伊拉克 yi ¹ la ¹ ke ⁴ <i>Iraq</i>	科威特 ke ¹ wei ¹ te ⁴ <i>Kuwait</i>
T1T2T1	昆德拉 kun ¹ de ² la ¹ <i>Kundera</i>	科伦坡 ke ¹ lun ² po ¹ <i>Colombo</i>
T1T2T2	科摩罗 ke ¹ mo ² luo ² <i>Comoros</i>	巴格达 ba ¹ ge ² da ² <i>Baghdad</i>
T1T2T3	巴拿马 ba ¹ na ² ma ³ <i>Panama</i>	多明我 duo ¹ ming ² wo ³ <i>Domingo</i>
T1T2T4	加拿大 jia ¹ na ² da ⁴ <i>Canada</i>	匈牙利 xiong ¹ ya ² li ⁴ <i>Hungary</i>
T1T3T1	安卡拉 an ¹ ka ³ la ¹ <i>Ankara</i>	詹姆斯 zhan ¹ mu ³ si ¹ <i>James</i>

T1T3T2	苏里南 su ¹ li ³ nan ² <i>Surinam</i>	多里达 duo ¹ li ³ da ² <i>Derrida</i>
T1T3T3	托马里 tuo ¹ ma ³ li ³ <i>Tomari</i>	扎卡里 zha ¹ ka ³ li ³ <i>Zachry</i>
T1T3T4	多普勒 duo ¹ pu ³ le ⁴ <i>Doppler</i>	冈比亚 gang ¹ bi ³ ya ⁴ <i>Gambia</i>
T1T4T1	菲律宾 fei ¹ lv ⁴ bin ¹ <i>Philippine</i>	阿克拉 a ¹ ke ⁴ la ¹ <i>Accra</i>
T1T4T2	喀麦隆 ka ¹ mai ⁴ long ² <i>Cameroon</i>	乌克兰 wu ¹ ke ⁴ lan ² <i>Ukraine</i>
T1T4T3	哈勒姆 ha ¹ le ⁴ mu ³ <i>Haarlem</i>	安道尔 an ¹ dao ⁴ er ³ <i>Andorra</i>
T1T4T4	伽利略 jia ¹ li ⁴ lue ⁴ <i>Galilei</i>	巴洛克 ba ¹ luo ⁴ ke ⁴ <i>Baroque</i>
T2T1T1	尼加拉 ni ² jia ¹ la ¹ <i>Niagara</i>	达拉斯 da ² la ¹ si ¹ <i>Dallas</i>
T2T1T2	柏拉图 bo ² la ¹ tu ² <i>Plato</i>	德黑兰 de ² hei ¹ lan ² <i>Tebran</i>
T2T1T3	博拉美 bo ² la ¹ mei ³ <i>Polamer</i>	卢森堡 lu ² sen ¹ bao ³ <i>Luxembourg</i>
T2T1T4	黎巴嫩 li ² ba ¹ nen ⁴ <i>Lebanon</i>	明斯克 ming ² si ¹ ke ⁴ <i>Minsk</i>
T2T2T1	吉隆坡 ji ² long ² po ¹ <i>Kuala Lumpur</i>	俄罗斯 e ² luo ² si ¹ <i>Russia</i>
T2T2T2	婆罗门 po ² luo ² men ² <i>Brahman</i>	迪德罗 di ² de ² luo ² <i>Diderot</i>
T2T2T3	德雷姆 de ² lei ² mu ³ <i>Dremu</i>	尼泊尔 ni ² bo ² er ³ <i>Nepal</i>
T2T2T4	尤迪特 you ² di ² te ⁴ <i>Udeet</i>	格兰特 ge ² lan ² te ⁴ <i>Grant</i>

T2T3T1	牙买加 ya ² mai ³ jia ¹ <i>Jamaica</i>	莱比锡 lai ² bi ³ xi ¹ <i>Leipzig</i>
T2T3T2	梅里达 mei ² li ³ da ² <i>Merida</i>	图瓦卢 tu ² wa ³ lu ² <i>Tuvalu</i>
T2T3T3	劳卡鲁 lao ² ka ³ lu ³ <i>Lokarus</i>	伯里瓦 bo ² li ³ wa ³ <i>Bolivar</i>
T2T3T4	伯努利 bo ² nu ³ li ⁴ <i>Bernoulli</i>	维也纳 wei ² ye ³ na ⁴ <i>Vienna</i>
T2T4T1	摩纳哥 mo ² na ⁴ ge ¹ <i>Monaco</i>	伯利兹 bo ² li ⁴ zi ¹ <i>Belize</i>
T2T4T2	罗纳德 luo ² na ⁴ de ² <i>Ronald</i>	卢旺达 lu ² wang ⁴ da ² <i>Rwanda</i>
T2T4T3	伯克里 bo ² ke ⁴ li ³ <i>Berkeley</i>	尼日尔 ni ² ri ⁴ er ³ <i>Niger</i>
T2T4T4	维克特 wei ² ke ⁴ te ⁴ <i>Victor</i>	华盛顿 hua ² sheng ⁴ dun ⁴ <i>Washington</i>
T3T1T1	塔波拉 ta ³ bo ¹ la ¹ <i>Tabora</i>	美因兹 mei ³ yin ¹ zi ¹ <i>Mainz</i>
T3T1T2	比基尼 bi ³ ji ¹ ni ² <i>Bikini</i>	马拉维 ma ³ la ¹ wei ² <i>Malawi</i>
T3T1T3	果哥里 guo ³ ge ¹ li ³ <i>Gogol</i>	里斯本 li ³ si ¹ ben ³ <i>Lisbon</i>
T3T1T4	法拉利 fa ³ la ¹ li ⁴ <i>Ferrari</i>	索菲亚 suo ³ fei ¹ ya ⁴ <i>Sofia</i>
T3T2T1	海明威 hai ³ ming ² wei ¹ <i>Hemingway</i>	马尼拉 ma ³ ni ² la ¹ <i>Manila</i>
T3T2T2	卡琳达 ka ³ lin ² da ² <i>Kalinda</i>	所罗门 suo ³ luo ² men ² <i>Solomon</i>
T3T2T3	马德里 ma ³ de ² li ³ <i>Madrid</i>	纽伦堡 niu ³ lun ² bao ³ <i>Nuremberg</i>

T3T2T4	马其顿 ma ³ qi ² dun ⁴ <i>Macedonia</i>	塔吉克 ta ³ ji ² ke ⁴ <i>Tajik</i>
T3T3T1	卡米拉 ka ³ mi ³ la ¹ <i>Camilla</i>	马耳他 ma ³ er ³ ta ¹ <i>Malta</i>
T3T3T2	马里兰 ma ³ li ³ lan ² <i>Maryland</i>	土耳其 tu ³ er ³ qi ² <i>Turkey</i>
T3T3T3	索马里 suo ³ ma ³ li ³ <i>Somalia</i>	卡塔尔 ka ³ ta ³ er ³ <i>Qatar</i>
T3T3T4	柬埔寨 jian ³ pu ³ zhai ⁴ <i>Cambodia</i>	雅典娜 ya ³ dian ³ na ⁴ <i>Athena</i>
T3T4T1	卡耐基 ka ³ nai ⁴ ji ¹ <i>Carnegie</i>	瓦杜兹 wa ³ du ⁴ zi ¹ <i>Vaduz</i>
T3T4T2	普契尼 pu ³ qi ⁴ ni ² <i>Puccini</i>	比利时 bi ³ li ⁴ shi ² <i>Belgium</i>
T3T4T3	马六甲 ma ³ liu ⁴ jia ³ <i>Malacca</i>	马绍尔 ma ³ shao ⁴ er ³ <i>Marshall</i>
T3T4T4	玛丽娜 ma ³ li ⁴ na ⁴ <i>Marina</i>	以色列 yi ³ se ⁴ lie ⁴ <i>Isreal</i>
T4T1T1	孟加拉 meng ⁴ jia ¹ la ¹ <i>Bengal</i>	墨西哥 mo ⁴ xi ¹ ge ¹ <i>Mexico</i>
T4T1T2	布拉格 bu ⁴ la ¹ ge ² <i>Prague</i>	圣基茨 sheng ⁴ ji ¹ ci ² <i>Saint Kitts</i>
T4T1T3	爱丁堡 ai ⁴ ding ¹ bao ³ <i>Edinburgh</i>	奥巴马 ao ⁴ ba ¹ ma ³ <i>Obama</i>
T4T1T4	麦当娜 mai ¹ dang ¹ na ⁴ <i>Madonna</i>	奥斯陆 ao ⁴ si ¹ lu ⁴ <i>Oslo</i>
T4T2T1	洛仑兹 luo ⁴ lun ² zi ¹ <i>Lorentz</i>	慕尼黑 mu ⁴ ni ² hei ¹ <i>Munich</i>
T4T2T2	不来梅 bu ⁴ lai ² mei ² <i>Bremen</i>	布隆迪 bu ⁴ long ² di ² <i>Burundi</i>

T4T2T3	洛伦佐 luo ⁴ lun ² zuo ³ <i>Lorenzo</i>	立陶宛 li ⁴ tao ² wan ³ <i>Lithuania</i>
T4T2T4	奥兰治 ao ⁴ lan ² zhi ⁴ <i>Orange</i>	克林顿 ke ⁴ lin ² dun ⁴ <i>Clinton</i>
T4T3T1	帕美拉 pa ⁴ mei ³ la ¹ <i>Pamela</i>	萨瓦多 sa ⁴ wa ³ duo ¹ <i>Salvador</i>
T4T3T2	布吕尼 bu ⁴ lü ³ ni ² <i>Bruni</i>	爱尔兰 ai ⁴ er ³ lan ² <i>Ireland</i>
T4T3T3	亚美里 ya ⁴ mei ³ li ³ <i>Amelie</i>	曼海姆 man ⁴ hai ³ mu ³ <i>Mannheim</i>
T4T3T4	布鲁诺 bu ⁴ lu ³ nuo ⁴ <i>Bruno</i>	利比亚 li ⁴ bi ³ ya ⁴ <i>Libya</i>
T4T4T1	洛佩兹 luo ⁴ pei ⁴ zi ¹ <i>Lopez</i>	鹿特丹 lu ⁴ te ⁴ dan ¹ <i>Rotterdam</i>
T4T4T2	拜占庭 bai ⁴ zhan ⁴ ting ² <i>Byzantium</i>	密克罗 mi ⁴ ke ⁴ luo ² <i>Mikro</i>
T4T4T3	瑞贝卡 rui ⁴ bei ⁴ ka ³ <i>Rebecca</i>	洛丽塔 luo ⁴ li ⁴ ta ³ <i>Lolita</i>
T4T4T4	奥地利 ao ⁴ di ⁴ li ⁴ <i>Austria</i>	意大利 yi ⁴ da ⁴ li ⁴ <i>Italy</i>

II-3. Trisyllabic list 2: $\sigma\sigma+\sigma$.

Tonal Sequences	Word 1	Word 2
T1T1T1	拖拉机 tuo ¹ la ¹ ji ¹ <i>tractor</i>	出租车 chu ¹ zu ¹ che ¹ <i>taxi</i>
T1T1T2	公安局 gong ¹ an ¹ ju ² <i>police station</i>	工商局 gong ¹ shang ¹ ju ² <i>Trade and Industry Bureau</i>
T1T1T3	拉丁舞 la ¹ ding ¹ wu ³ <i>Latin dance</i>	飞机场 fei ¹ ji ¹ chang ³ <i>airport</i>

T1T1T4	基督教 ji ¹ du ¹ jiao ⁴ <i>Christianity</i>	夫妻店 fu ¹ qi ¹ dian ⁴ <i>family-run shop</i>
T1T2T1	金鱼缸 jin ¹ yu ² gang ¹ <i>goldfish tank</i>	天狼星 tian ¹ lang ² xing ¹ <i>Sirius</i>
T1T2T2	乌龙球 wu ¹ long ² qiu ² <i>own goal</i>	安全局 an ¹ quan ² ju ² <i>Security Bureau</i>
T1T2T3	葱油饼 cong ¹ you ² bing ³ <i>onion pancake</i>	冰球手 bing ¹ qiu ² shou ³ <i>hockey player</i>
T1T2T4	资格证 zi ¹ ge ² zheng ⁴ <i>certificate</i>	侏罗纪 zhu ¹ luo ² ji ⁴ <i>Jurassic</i>
T1T3T1	资本家 zi ¹ ben ³ jia ¹ <i>capitalist</i>	风景区 feng ¹ jing ³ qu ¹ <i>scenic district</i>
T1T3T2	宗主国 zong ¹ zhu ³ guo ² <i>suzerain</i>	资产权 zi ¹ chan ³ quan ² <i>property rights</i>
T1T3T3	斑点狗 ban ¹ dian ³ gou ³ <i>Dalmatian dog</i>	深水港 shen ¹ shui ³ gang ³ <i>deepwater harbor</i>
T1T3T4	天主教 tian ¹ zhu ³ jiao ⁴ <i>Catholicism</i>	斑马线 ban ¹ ma ³ xian ⁴ <i>zebra line</i>
T1T4T1	音乐家 yin ¹ yue ⁴ jia ¹ <i>musician</i>	生物钟 sheng ¹ wu ⁴ zhong ¹ <i>biocronometer</i>
T1T4T2	机器人 ji ¹ qi ⁴ ren ² <i>robot</i>	工作狂 gong ¹ zuo ⁴ kuang ² <i>workaholic</i>
T1T4T3	登记表 deng ¹ ji ⁴ biao ³ <i>registration form</i>	工艺品 gong ¹ yi ⁴ pin ³ <i>handicraft</i>
T1T4T4	关帝庙 guan ¹ di ⁴ miao ⁴ <i>Temple of General Kuan</i>	生物链 sheng ¹ wu ⁴ lian ⁴ <i>food chain</i>
T2T1T1	楼梯间 lou ² ti ¹ jian ¹ <i>stairwell</i>	红灯区 hong ² deng ¹ qu ¹ <i>red light district</i>
T2T1T2	鱼肝油 yu ² gan ¹ you ² <i>fish oil</i>	传播学 chuan ² bo ¹ xue ² <i>communication</i>

T2T1T3	服装厂 fu ² zhuang ¹ chang ³ <i>garment factory</i>	流星雨 liu ² xing ¹ yu ³ <i>meteor shower</i>
T2T1T4	牙周病 ya ² zhou ¹ bing ⁴ <i>periodontal disease</i>	神经病 shen ² jing ¹ bing ⁴ <i>psycho</i>
T2T2T1	南极洲 nan ² ji ² zhou ¹ <i>Antarctica</i>	流行歌 liu ² xing ² ge ¹ <i>pop song</i>
T2T2T2	蝴蝶结 hu ² die ² jie ² <i>bow knot</i>	直肠癌 zhi ² chang ² ai ² <i>rectum cancer</i>
T2T2T3	篮球场 lan ² qiu ² chang ³ <i>basketball court</i>	流行语 liu ² xing ² yu ³ <i>popular word</i>
T2T2T4	能源部 neng ² yuan ² bu ⁴ <i>Ministry of Energy</i>	神农架 shen ² nong ² jia ⁴ <i>(a place in Hubei Province)</i>
T2T3T1	平板车 ping ² ban ³ che ¹ <i>trolley</i>	平顶山 ping ² ding ³ shan ¹ <i>(a city in Henan Province)</i>
T2T3T2	龙井茶 long ² jing ³ cha ² <i>Longjing tea</i>	牛仔裙 niu ² zai ³ qun ² <i>jeans skirt</i>
T2T3T3	长短腿 chang ² duan ³ tui ³ <i>leg length discrepancy</i>	华表奖 hua ² biao ³ jiang ³ <i>Marble Pillar Award</i>
T2T3T4	营养液 ying ² yang ³ ye ⁴ <i>nutrient</i>	寒武纪 han ² wu ³ ji ⁴ <i>Cambrian</i>
T2T4T1	杂技班 za ² ji ⁴ ban ¹ <i>acrobatic team</i>	杂货摊 za ² huo ⁴ tan ¹ <i>grocery stall</i>
T2T4T2	国庆节 guo ² qing ⁴ jie ² <i>National Day</i>	杂技团 za ² ji ⁴ tuan ² <i>acrobatic society</i>
T2T4T3	游乐场 you ² le ⁴ chang ³ <i>playground</i>	玩具厂 wan ² ju ⁴ chang ³ <i>toy factory</i>
T2T4T4	疾病册 ji ² bing ⁴ ce ⁴ <i>list of diseases</i>	糖尿病 tang ² niao ⁴ bing ⁴ <i>diabetes</i>
T3T1T1	闪光灯 shan ³ guang ¹ deng ¹ <i>flash light</i>	镁光灯 mei ³ guang ¹ deng ¹ <i>limelight</i>

T3T1T2	火车头 huo ³ che ¹ tou ² <i>locomotive</i>	母亲河 mu ³ qin ¹ he ² <i>mother river</i>
T3T1T3	奖金卡 jiang ³ jin ¹ ka ³ <i>bonus card</i>	广东省 guang ³ dong ¹ sheng ³ <i>Guangdong Province</i>
T3T1T4	火车票 huo ³ che ¹ piao ⁴ <i>train ticket</i>	火车站 huo ³ che ¹ zhan ⁴ <i>train station</i>
T3T2T1	主人翁 zhu ³ ren ² weng ¹ <i>hero</i>	里程碑 li ³ cheng ² bei ¹ <i>milestone</i>
T3T2T2	狗头铡 gou ³ tou ² zha ² <i>kobold guillotine</i>	北极熊 bei ³ ji ² xiong ² <i>polar bear</i>
T3T2T3	打折卡 da ³ zhe ² ka ³ <i>coupon</i>	死亡谷 si ³ wang ² gu ³ <i>death valley</i>
T3T2T4	友情价 you ³ qing ² jia ⁴ <i>friendly price</i>	恐龙蛋 kong ³ long ² dan ⁴ <i>dinosaur egg</i>
T3T3T1	古董车 gu ³ dong ³ che ¹ <i>antique car</i>	宝马车 bao ³ ma ³ che ¹ <i>BMW car</i>
T3T3T2	火把节 huo ³ ba ³ jie ² <i>torch festival</i>	理想国 li ³ xiang ³ guo ² <i>Utopia</i>
T3T3T3	演讲稿 yan ³ jiang ³ gao ³ <i>speech text</i>	总统府 zong ³ tong ³ fu ³ <i>president office</i>
T3T3T4	雅宝路 ya ³ bao ³ lu ⁴ <i>Yabao Road</i>	老虎凳 lao ³ hu ³ deng ⁴ <i>tiger bench</i>
T3T4T1	可乐机 ke ³ le ⁴ ji ¹ <i>coke machine</i>	百叶窗 bai ³ ye ⁴ chuang ¹ <i>venetian blind</i>
T3T4T2	保健球 bao ³ jian ⁴ qiu ² <i>bowling</i>	乳腺癌 ru ³ xian ⁴ ai ² <i>breast cancer</i>
T3T4T3	统计表 tong ³ ji ⁴ biao ³ <i>statistic form</i>	笔记本 bi ³ ji ⁴ ben ³ <i>notebook</i>
T3T4T4	感叹句 gan ³ tan ⁴ ju ⁴ <i>exclamatory sentence</i>	打印店 da ³ yin ⁴ dian ⁴ <i>print shop</i>

T4T1T1	外交官 wai ⁴ jiao ¹ guan ¹ <i>diplomat</i>	地方官 di ⁴ fang ¹ guan ¹ <i>local official</i>
T4T1T2	太空船 tai ⁴ kong ¹ chuan ² <i>spaceship</i>	电机房 dian ⁴ ji ¹ fang ² <i>engine room</i>
T4T1T3	贵宾卡 gui ⁴ bin ¹ ka ³ <i>VIP card</i>	便签纸 bian ⁴ qian ¹ zhi ³ <i>sticker</i>
T4T1T4	外交部 wai ⁴ jiao ¹ bu ⁴ <i>Ministry of Foreign Affairs</i>	太空站 tai ⁴ kong ¹ zhan ⁴ <i>space station</i>
T4T2T1	地球村 di ⁴ qiu ² cun ¹ <i>earth village</i>	共鸣腔 gong ⁴ ming ² qiang ¹ <i>resonance cavity</i>
T4T2T2	太平洋 tai ⁴ ping ² yang ² <i>Pacific Ocean</i>	橡皮泥 xing ⁴ pi ² ni ² <i>plasticine</i>
T4T2T3	互联网 hu ⁴ lian ² wang ³ <i>Internet</i>	棒球手 bang ⁴ qiu ² shou ³ <i>baseball player</i>
T4T2T4	外来妹 wai ⁴ lai ² mei ⁴ <i>girls from other places</i>	空格键 kong ⁴ ge ² jian ⁴ <i>space bar</i>
T4T3T1	电子钟 dian ⁴ zi ³ zhong ¹ <i>electronic clock</i>	样板间 yang ⁴ ban ³ jian ¹ <i>sample room</i>
T4T3T2	盗版盘 dao ⁴ ban ³ pan ² <i>pirated CD</i>	电影节 dian ⁴ ying ³ jie ² <i>film festival</i>
T4T3T3	电子表 dian ⁴ zi ³ biao ³ <i>electronic watch</i>	电影展 dian ⁴ ying ³ zhan ³ <i>movie exhibition</i>
T4T3T4	电影票 dian ⁴ ying ³ piao ⁴ <i>movie ticket</i>	电影院 dian ⁴ ying ³ yuan ⁴ <i>cinema</i>
T4T4T1	纪念碑 ji ⁴ nian ⁴ bei ¹ <i>monument</i>	计算机 ji ⁴ suan ⁴ ji ¹ <i>computer</i>
T4T4T2	纪念馆 ji ⁴ nian ⁴ tang ² <i>memorial hall</i>	电信局 dian ⁴ xin ⁴ ju ² <i>tele-comm office</i>
T4T4T3	信用卡 xin ⁴ yong ⁴ ka ³ <i>credit card</i>	记忆体 ji ⁴ yi ⁴ ti ³ <i>RAM</i>

T4T4T4	数据库 shu ⁴ ju ⁴ ku ⁴ <i>database</i>	计算器 ji ⁴ suan ⁴ qi ⁴ <i>calculator</i>
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II-4. Trisyllabic list 3: $\sigma + \sigma\sigma$.

Tonal Sequences	Word 1	Word 2
T1T1T1	高工资 gao ¹ gong ¹ zi ¹ <i>high salary</i>	新飞机 xin ¹ fei ¹ ji ¹ <i>new aircraft</i>
T1T1T2	新中国 xin ¹ zhong ¹ guo ² <i>new China</i>	多功能 duo ¹ gong ¹ neng ² <i>multi-function</i>
T1T1T3	宽肩膀 kuan ¹ jian ¹ bang ³ <i>wide shoulder</i>	光污染 guang ¹ wu ¹ ran ³ <i>light pollution</i>
T1T1T4	轻音乐 qing ¹ yin ¹ yue ⁴ <i>light music</i>	新花样 xin ¹ hua ¹ yang ⁴ <i>new trick</i>
T1T2T1	干蹄筋 gan ¹ ti ² jin ¹ <i>dry tendon</i>	双职工 shuang ¹ zhi ² gong ¹ <i>working parents</i>
T1T2T2	东柏林 dong ¹ bo ² lin ² <i>East Berlin</i>	西柏林 xi ¹ bo ² lin ² <i>west Berlin</i>
T1T2T3	新油桶 xin ¹ you ² tong ³ <i>new oil tank</i>	鲜牛奶 xian ¹ niu ² nai ³ <i>fresh milk</i>
T1T2T4	新邮件 xin ¹ you ² jian ⁴ <i>new mail</i>	新词汇 xin ¹ ci ² hui ⁴ <i>new vocabulary</i>
T1T3T1	湿纸巾 shi ¹ zhi ³ jin ¹ <i>wet tissue</i>	清辅音 qing ¹ fu ³ yin ¹ <i>voiceless consonant</i>
T1T3T2	猪口条 zhu ¹ kou ³ tiao ² <i>pig tongue</i>	金耳环 jin ¹ er ³ huan ² <i>gold earring</i>
T1T3T3	新总统 xin ¹ zong ³ tong ³ <i>new president</i>	新产品 xin ¹ chan ³ pin ³ <i>new product</i>
T1T3T4	亲姐妹 qin ¹ jie ³ mei ⁴ <i>blood sister</i>	新产业 xin ¹ chan ³ ye ⁴ <i>new industry</i>

T1T4T1	湿面巾 shī ¹ mián ⁴ jīn ¹ <i>wet facial tissue</i>	新校区 xīn ¹ xiào ⁴ qū ¹ <i>new campus</i>
T1T4T2	猪大肠 zhū ¹ dà ⁴ cháng ² <i>pig intestine</i>	新纪元 xīn ¹ jì ⁴ yuán ² <i>new era</i>
T1T4T3	新电影 xīn ¹ diǎn ⁴ yǐng ³ <i>new movie</i>	花大姐 huā ¹ dà ⁴ jiě ³ <i>ladybug</i>
T1T4T4	新概念 xīn ¹ gài ⁴ niàn ⁴ <i>new concept</i>	中世纪 zhōng ¹ shì ⁴ jì ⁴ <i>middle age</i>
T2T1T1	团中央 tuán ² zhōng ¹ yāng ¹ <i>league center</i>	毛蜘蛛 máo ² zhī ¹ zhū ¹ <i>hairy spider</i>
T2T1T2	红蜻蜓 hōng ² qīng ¹ tīng ² <i>red dragonfly</i>	瓷花瓶 cí ² huā ¹ píng ² <i>ceramic vase</i>
T2T1T3	红糙米 hōng ² cǎo ¹ mǐ ³ <i>red rice</i>	零增长 líng ² zēng ¹ zhǎng ³ <i>zero increase</i>
T2T1T4	咸鸭蛋 xián ² yā ¹ dàn ⁴ <i>salty duck egg</i>	皮车座 pí ² chē ¹ zuò ⁴ <i>feather seat</i>
T2T2T1	蓝瓷砖 lán ² cí ² zhuān ¹ <i>blue ceramic tile</i>	男同胞 nán ² tóng ² bào ¹ <i>fellow men</i>
T2T2T2	前王朝 qián ² wáng ² cháo ² <i>previous dynasty</i>	明长城 míng ² cháng ² chéng ² <i>Ming Great Wall</i>
T2T2T3	毒苹果 dú ² píng ² guǒ ³ <i>toxic apple</i>	男旗手 nán ² qí ² shǒu ³ <i>male flag-bearer</i>
T2T2T4	咸白菜 xián ² bái ² cài ⁴ <i>salty cabbage</i>	雌杨树 cí ² yáng ² shù ⁴ <i>female poplar</i>
T2T3T1	纯酒精 chún ² jiǔ ³ jīng ¹ <i>pure alcohol</i>	浊辅音 zhuó ² fǔ ³ yīn ¹ <i>voiced consonant</i>
T2T3T2	红嘴唇 hōng ² zuǐ ³ chún ² <i>red lip</i>	蓝宝石 lán ² bǎo ³ shí ² <i>sapphire</i>
T2T3T3	前总统 qián ² zǒng ³ tǒng ³ <i>former president</i>	男保姆 nán ² bǎo ³ mǔ ³ <i>male nanny</i>

T2T3T4	蓝孔雀 lan ² kong ³ que ⁴ <i>blue peacock</i>	雌孔雀 ci ² kong ³ que ⁴ <i>female peacock</i>
T2T4T1	男卫兵 nan ² wei ⁴ bing ¹ <i>male guard</i>	白衬衫 bai ² chen ⁴ shan ¹ <i>white shirt</i>
T2T4T2	红气球 hong ² qi ⁴ qiu ² <i>red balloon</i>	南半球 nan ² ban ⁴ qiu ² <i>south hemisphere</i>
T2T4T3	源代码 yuan ² dai ⁴ ma ³ <i>source code</i>	红墨水 hong ² mo ⁴ shui ³ <i>red ink</i>
T2T4T4	全自动 quan ² zi ⁴ dong ⁴ <i>automatic</i>	全世界 quan ² shi ⁴ jie ⁴ <i>entire world</i>
T3T1T1	假观音 jia ³ guan ¹ yin ¹ <i>fake Buddha</i>	党中央 dang ³ zhong ¹ yang ¹ <i>party center</i>
T3T1T2	小家庭 xiao ³ jia ¹ ting ² <i>small family</i>	紫蜻蜓 zi ³ qing ¹ ting ² <i>purple dragonfly</i>
T3T1T3	伪君子 wei ³ jun ¹ zi ³ <i>hypocrite</i>	水污染 shui ³ wu ¹ ran ³ <i>water pollution</i>
T3T1T4	冷空气 leng ³ kong ¹ qi ⁴ <i>cold air</i>	总司令 zong ³ si ¹ ling ⁴ <i>general commander</i>
T3T2T1	假投资 jia ³ tou ² zi ¹ <i>fake investment</i>	假结婚 jia ³ jie ² hun ¹ <i>fake marriage</i>
T3T2T2	小提琴 xiao ³ ti ² qin ² <i>violin</i>	老同学 lao ³ tong ² xue ² <i>old classmate</i>
T3T2T3	镁离子 mei ³ li ² zi ³ <i>magnesium ion</i>	钾离子 jia ³ li ² zi ³ <i>potassium ion</i>
T3T2T4	软白菜 ruan ³ bai ² cai ⁴ <i>soft cabbage</i>	软实力 ruan ³ shi ² li ⁴ <i>soft power</i>
T3T3T1	女主播 nü ³ zhu ³ bo ¹ <i>anchorman</i>	死火山 si ³ huo ³ shan ¹ <i>dead volcano</i>
T3T3T2	老党员 lao ³ dang ³ yuan ² <i>old party member</i>	小老头 xiao ³ lao ³ tou ² <i>little old man</i>

T3T3T3	女总统 nǚ ³ zong ³ tong ³ <i>female president</i>	女总理 nǚ ³ zong ³ lǐ ³ <i>female prime minister</i>
T3T3T4	紫孔雀 zǐ ³ kong ³ que ⁴ <i>purple peacock</i>	小眼镜 xiǎo ³ yang ³ jǐng ⁴ <i>small glasses</i>
T3T4T1	小汽车 xiǎo ³ qì ⁴ chē ¹ <i>small car</i>	水立方 shuǐ ³ lì ⁴ fāng ¹ <i>Water Cube</i>
T3T4T2	伪政权 wěi ³ zhèng ⁴ quán ² <i>puppet regime</i>	女队员 nǚ ³ duì ⁴ yuán ² <i>female member</i>
T3T4T3	老电影 lǎo ³ diǎn ⁴ yǐng ³ <i>old movie</i>	伪政府 wěi ³ zhèng ⁴ fǔ ³ <i>puppet government</i>
T3T4T4	假面具 jiǎ ³ miàn ⁴ jù ⁴ <i>guise</i>	小报告 xiǎo ³ bào ⁴ gào ⁴ <i>secret report</i>
T4T1T1	硬钢盔 yìng ⁴ gāng ¹ kuī ¹ <i>hard helmet</i>	市中心 shì ⁴ zhōng ¹ xīn ¹ <i>city center</i>
T4T1T2	旧中国 jiù ⁴ zhōng ¹ guó ² <i>old China</i>	大家庭 dà ⁴ jiā ¹ tīng ² <i>big family</i>
T4T1T3	负增长 fù ⁴ zēng ¹ zhǎng ³ <i>negative increase</i>	重金属 zhòng ⁴ jīn ¹ shǔ ³ <i>heavy metal</i>
T4T1T4	旧家具 jiù ⁴ jiā ¹ jù ⁴ <i>old furniture</i>	半封建 bàn ⁴ fēng ¹ jiàn ⁴ <i>semi-feudal</i>
T4T2T1	半元音 bàn ⁴ yuán ² yīn ¹ <i>semi-vowel</i>	大熊猫 dà ⁴ xióng ² māo ¹ <i>giant panda</i>
T4T2T2	臭流氓 chòu ⁴ liú ² máng ² <i>hooligan</i>	大结局 dà ⁴ jié ² jù ² <i>finale</i>
T4T2T3	热牛奶 rè ⁴ niú ² nǎi ³ <i>hot milk</i>	负离子 fù ⁴ lì ² zǐ ³ <i>anion</i>
T4T2T4	辣白菜 là ⁴ bái ² cài ⁴ <i>spicy cabbage</i>	大屏幕 dà ⁴ píng ² mù ⁴ <i>large screen</i>
T4T3T1	厚脚跟 hòu ⁴ jiǎo ³ gēn ¹ <i>thick heel</i>	副主编 fù ⁴ zhǔ ³ biān ¹ <i>vice editor-in-chief</i>

T4T3T2	厚脸皮 lou ⁴ lian ³ pi ² <i>cheeky</i>	代总裁 dai ⁴ zong ³ cai ² <i>acting CEO</i>
T4T3T3	臭老九 chou ⁴ lao ³ jiu ³ <i>intellectual</i>	大拇指 da ⁴ mu ³ zhi ³ <i>thumb</i>
T4T3T4	旧广告 jiu ⁴ guang ³ gao ⁴ <i>old commercial</i>	电暖器 dian ⁴ nuan ³ qi ⁴ <i>heater</i>
T4T4T1	亚健康 ya ⁴ jian ⁴ kang ¹ <i>sub-health</i>	电饭锅 dian ⁴ fan ⁴ guo ¹ <i>rice cooker</i>
T4T4T2	热气球 re ⁴ qi ⁴ qiu ² <i>hot air balloon</i>	热炕头 re ⁴ kang ⁴ tou ² <i>heated bed</i>
T4T4T3	废报纸 fei ⁴ bao ⁴ zhi ³ <i>waste newspaper</i>	木地板 mu ⁴ di ⁴ ban ³ <i>wooden floor</i>
T4T4T4	慢动作 man ⁴ dong ⁴ zuo ⁴ <i>slow motion</i>	半自动 ban ⁴ zi ⁴ dong ⁴ <i>semi-automatic</i>

Appendix III

The full list of stimuli in Chapter 4 is given below.

III-1. Near-Merger Sandhi targets and respective segmental competitors.

		Stimuli	Log Freq.	N. of Strokes	Bigram Mutual Info.
1	Target	指法 (zhi ³ fa ³) <i>fingering</i>	0.9	17	-0.72
	Segmental Competitor	滞后 (zhi ⁴ hou ⁴) <i>lag</i>	0.95	18	-
2	Target	反响 (fan ³ xiang ³) <i>repercussion</i>	1.83	13	3.72
	Segmental Competitor	范例 (fan ⁴ li ⁴) <i>example</i>	1.23	16	-
3	Target	赌本 (du ³ ben ³) <i>money for gambling</i>	0.48	17	0.61
	Segmental Competitor	杜撰 (du ⁴ zhuan ⁴) <i>to fabricate</i>	1.43	22	-
4	Target	赌友 (du ³ you ³) <i>gambler friend</i>	0.48	16	4.37
	Segmental Competitor	度假 (du ⁴ jia ⁴) <i>to take a vacation</i>	2.85	20	-
5	Target	俯首 (fu ³ shou ³) <i>to be obedient</i>	1	19	8.12
	Segmental Competitor	附录 (fu ⁴ lu ⁴) <i>appendix</i>	0.9	15	-
6	Target	抚养 (fu ³ yang ³) <i>to bring up</i>	2.59	16	7.85
	Segmental Competitor	负债 (fu ⁴ zhai ⁴) <i>debt</i>	1.58	16	-
7	Target	雨水 (yu ³ shui ³) <i>rainwater</i>	1.86	12	5.07
	Segmental Competitor	预购 (yu ⁴ gou ⁴) <i>purchase in advance</i>	0.3	18	-
8	Target	主管 (zhu ³ guan ³) <i>person in charge</i>	2.69	19	4.09
	Segmental Competitor	注释 (zhu ⁴ shi ⁴) <i>annotation</i>	1.49	20	-

9	Target	虎口 (hu ³ kou ³) <i>jaws of death</i>	1.46	11	4.03
	Segmental Competitor	互助 (hu ⁴ zhu ⁴) <i>to help each other</i>	1.8	11	-
10	Target	火把 (huo ³ ba ³) <i>torch</i>	1.91	11	3.14
	Segmental Competitor	货架 (huo ⁴ jia ⁴) <i>goods shelf</i>	1.63	17	-
11	Target	咫尺 (zhi ³ chi ³) <i>very short distance</i>	1.15	13	14.10
	Segmental Competitor	制定 (zhi ⁴ ding ⁴) <i>to formulate</i>	2.51	16	-
12	Target	眼睑 (yan ³ jian ³) <i>eyelids</i>	1.45	23	8.18
	Segmental Competitor	厌恶 (yan ⁴ wu ⁴) <i>to dislike</i>	2.61	16	-
13	Target	使馆 (shi ³ guan ³) <i>embassy</i>	1.57	19	4.32
	Segmental Competitor	事件 (shi ⁴ jian ⁴) <i>event</i>	3.44	14	-
14	Target	土改 (tu ³ gai ³) <i>land reform</i>	0	10	5.63
	Segmental Competitor	兔肉 (tu ⁴ rou ⁴) <i>rabbit meat</i>	1.04	14	-
15	Target	统管 (tong ³ guan ³) <i>overall administration</i>	0.3	23	0.06
	Segmental Competitor	痛恨 (tong ⁴ hen ⁴) <i>to hate</i>	2.32	21	-
16	Target	仰角 (yang ³ jiao ³) <i>angle of elevation</i>	0.3	13	1.84
	Segmental Competitor	样式 (yang ⁴ shi ⁴) <i>pattern</i>	1.81	16	-
17	Target	指导 (zhi ³ dao ³) <i>guide</i>	2.68	15	7.43
	Segmental Competitor	制造 (zhi ⁴ zao ⁴) <i>to manufacture</i>	3.2	18	-
18	Target	起码 (qi ³ ma ³) <i>at least</i>	2.99	18	6.61
	Segmental Competitor	气愤 (qi ⁴ fen ⁴) <i>furious</i>	2.06	16	-

III-2. No-Merger Sandhi targets and respective segmental competitors.

		Stimuli	Log Freq.	N. of Strokes	Bigram Mutual Info.
1	Target	僵尸 (jiang ¹ shi ¹) <i>mummy</i>	2.63	18	9.44
	Segmental Competitor	降落 (jiang ⁴ luo ⁴) <i>to land</i>	2.84	20	-
2	Target	尖刀 (jian ¹ dao ¹) <i>sharp knife</i>	0.9	8	7.25
	Segmental Competitor	渐变 (jian ⁴ bian ⁴) <i>to change gradually</i>	0.3	19	-
3	Target	低压 (di ¹ ya ¹) <i>low pressure</i>	1.23	13	2.24
	Segmental Competitor	地势 (di ⁴ shi ⁴) <i>topography</i>	1.3	14	-
4	Target	肩章 (jian ¹ zhang ¹) <i>shoulder badge</i>	1.15	19	4.72
	Segmental Competitor	健将 (jian ⁴ jiang ⁴) <i>athlete</i>	1.32	19	-
5	Target	交心 (jiao ¹ xin ¹) <i>to lay one's heart bare</i>	1.4	10	-0.99
	Segmental Competitor	教具 (jiao ⁴ ju ⁴) <i>teaching aids</i>	0.78	19	-
6	Target	收心 (shou ¹ xin ¹) <i>to get serious</i>	0	10	-0.28
	Segmental Competitor	授课 (shou ⁴ ke ⁴) <i>to teach</i>	1.32	21	-
7	Target	优生 (you ¹ sheng ¹) <i>healthy birthing</i>	0.3	11	0.88
	Segmental Competitor	诱变 (you ⁴ bian ⁴) <i>mutagenesis</i>	0	17	-
8	Target	收编 (shou ¹ bian ¹) <i>to incorporate armies</i>	0.3	18	3.78
	Segmental Competitor	受贿 (shou ⁴ hui ⁴) <i>to take bribes</i>	1.7	18	-
9	Target	搭车 (da ¹ che ¹) <i>to get a lift</i>	1.11	16	3.46
	Segmental Competitor	大麦 (da ⁴ mai ⁴) <i>barley</i>	1.32	10	-

10	Target	世间 (shì ⁴ jiān ¹) <i>world</i>	2.12	12	4.2
	Segmental Competitor	史册 (shǐ ³ cè ⁴) <i>historical records</i>	1.78	10	-
11	Target	汽车 (qì ⁴ chē ¹) <i>car</i>	3.12	11	9.38
	Segmental Competitor	起义 (qǐ ³ yì ⁴) <i>revolt</i>	1.91	13	-
12	Target	器官 (qì ⁴ guān ¹) <i>organ</i>	2.48	24	6.27
	Segmental Competitor	乞丐 (qǐ ³ gǎi ⁴) <i>beggar</i>	2.12	7	-
13	Target	浴缸 (yù ⁴ gāng ¹) <i>bathtub</i>	2.44	19	11.22
	Segmental Competitor	语录 (yǔ ³ lǔ ⁴) <i>quotation</i>	1.15	17	-
14	Target	市区 (shì ⁴ qū ¹) <i>urban area</i>	2.4	9	5.59
	Segmental Competitor	使坏 (shǐ ³ huài ⁴) <i>to play dirty</i>	1.43	15	-
15	Target	误工 (wù ⁴ gōng ¹) <i>absent from work</i>	0.3	12	3.4
	Segmental Competitor	舞剧 (wǔ ³ jù ⁴) <i>dance drama</i>	0.78	24	-
16	Target	异心 (yì ⁴ xīn ¹) <i>disloyalty</i>	0.48	10	-1.19
	Segmental Competitor	椅背 (yǐ ³ bèi ⁴) <i>back of chair</i>	1.11	21	-
17	Target	滞销 (zhì ⁴ xiāo ¹) <i>unsaleable</i>	0.3	24	9.08
	Segmental Competitor	纸币 (zhǐ ³ bì ⁴) <i>paper money</i>	1.61	11	-
18	Target	面纱 (miàn ⁴ shā ¹) <i>veil</i>	1.77	16	3.46
	Segmental Competitor	免税 (miǎn ³ shuì ⁴) <i>duty-free</i>	1.79	19	-

III-3. No Sandhi targets and respective segmental competitors.

Stimuli	Log Freq.	N. of Strokes	Bigram Mutual Info.
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1	Target	继续 (jì xù ⁴) <i>to continue</i>	3.67	21	11.76
	Segmental Competitor	挤压 (jǐ yā ¹) <i>to press</i>	1.82	15	-
2	Target	意愿 (yì yuàn ⁴) <i>wish</i>	2.45	27	2.3
	Segmental Competitor	乙肝 (yǐ gān ¹) <i>hepatitis B</i>	0.6	8	-
3	Target	事例 (shì lì ⁴) <i>example</i>	1.11	16	2.14
	Segmental Competitor	史诗 (shǐ shī ¹) <i>epic</i>	1.72	13	-
4	Target	教义 (jiào yì ⁴) <i>religious regulations</i>	1.81	14	3.2
	Segmental Competitor	脚尖 (jiǎo jiān ¹) <i>tiptoe</i>	1.93	17	-
5	Target	去世 (qù shì ⁴) <i>to pass away</i>	3.02	10	2.55
	Segmental Competitor	取消 (qǔ xiāo ¹) <i>to cancel</i>	3.28	18	-
6	Target	上市 (shàng shì ⁴) <i>to go on market</i>	1.97	8	0.48
	Segmental Competitor	赏光 (shǎng guāng ¹) <i>to honour with presence</i>	1.45	18	-
7	Target	检查 (jiǎn chá ²) <i>to check</i>	3.37	20	11.24
	Segmental Competitor	见解 (jiàn jiě ³) <i>opinion</i>	2.01	17	-
8	Target	简直 (jiǎn zhǐ ²) <i>simply</i>	3.41	21	8.86
	Segmental Competitor	舰长 (jiàn zhǎng ³) <i>captain</i>	2.2	14	-
9	Target	主题 (zhǔ tí ²) <i>topic</i>	2.77	17	4.5
	Segmental Competitor	住址 (zhù zhǐ ³) <i>home address</i>	2.33	14	-
10	Target	吻合 (wēn hé ²) <i>to match</i>	2.55	13	5.6
	Segmental Competitor	问好 (wèn hǎo ³) <i>to greet</i>	2.64	12	-
11	Target	妥协 (tuō xié ²) <i>to compromise</i>	2.39	13	11.25
	Segmental Competitor	拓展 (tuō zhǎn ³) <i>to develop</i>	1.72	18	-

12	Target	指明 (zhi ³ ming ²) <i>to point out</i>	1.93	17	0.46
	Segmental Competitor	质朴 (zhi ⁴ pu ³) <i>simple</i>	1	14	-
13	Target	史册 (shi ³ ce ⁴) <i>historical records</i>	1.73	10	6.21
	Segmental Competitor	试纸 (shi ⁴ zhi ³) <i>reagent paper</i>	1.08	15	-
14	Target	舞会 (wu ³ hui ⁴) <i>Prom</i>	2.76	20	3.98
	Segmental Competitor	物产 (wu ⁴ chan ³) <i>resource</i>	0.7	14	-
15	Target	享誉 (xiang ³ yu ⁴) <i>to enjoy fame</i>	1.04	21	6.36
	Segmental Competitor	巷口 (xiang ⁴ kou ³) <i>end of alley</i>	0.6	12	-
16	Target	手锯 (shou ³ ju ⁴) <i>hand saw</i>	0.48	17	1.3
	Segmental Competitor	瘦小 (shou ⁴ xiao ³) <i>thin and small</i>	1.63	17	-
17	Target	暑假 (shu ³ jia ⁴) <i>summer vacation</i>	2.25	23	11.06
	Segmental Competitor	术语 (shu ⁴ yu ³) <i>terminology</i>	2.24	14	-
18	Target	简历 (jian ³ li ⁴) <i>resumé</i>	2.22	17	4.6
	Segmental Competitor	健美 (jian ⁴ mei ³) <i>fitness</i>	1.62	19	-

Appendix IV

The full list of stimuli in Chapter 5 is given below.

IV-1. Near-Merger Sandhi targets (T3T3) and respective competitors.

	Stimuli	Log Freq.	N. of Stroke	Bigram Mutual Info.
1	Target 指法 (zhi ³ fa ³) <i>fingering</i>	0.9	17	-0.72
	Toneme Competitor 纸箱 (zhi ³ xiang ¹) <i>carton</i>	1.3	22	-
	Contour Competitor 职称 (zhi ² cheng ¹) <i>professional title</i>	0.48	21	-
	Segmental Competitor 滞后 (zhi ⁴ hou ⁴) <i>lag</i>	0.95	18	-
2	Target 反响 (fan ³ xiang ³) <i>repercussion</i>	1.83	13	3.72
	Toneme Competitor 反击 (fan ³ ji ¹) <i>counter-attack</i>	2.54	9	-
	Contour Competitor 凡间 (fan ² jian ¹) <i>the mortal world</i>	1.2	10	-
	Segmental Competitor 范例 (fan ⁴ li ⁴) <i>example</i>	1.23	16	-
3	Target 赌本 (du ³ ben ³) <i>money for gambling</i>	0.48	17	0.61
	Toneme Competitor 堵车 (du ³ che ¹) <i>traffic jam</i>	2.09	15	-
	Contour Competitor 读音 (du ² yin ¹) <i>pronunciation</i>	1.28	19	-
	Segmental Competitor 杜撰 (du ⁴ zhuan ⁴) <i>to fabricate</i>	1.43	22	-
4	Target 赌友 (du ³ you ³) <i>gambler friend</i>	0.48	16	4.37
	Toneme Competitor 堵车 (du ³ che ¹) <i>traffic jam</i>	2.09	15	-
	Contour Competitor 独资 (du ² zi ¹) <i>exclusive investment</i>	0	19	-
	Segmental Competitor 度假 (du ⁴ jia ⁴) <i>to take a vacation</i>	2.85	20	-

5	Target	俯首 (fu ³ shou ³) <i>to be obedient</i>	1	19	8.12
	Toneme Competitor	辅修 (fu ³ xiu ¹) <i>to minor in</i>	0.3	20	-
	Contour Competitor	伏贴 (fu ² tie ¹) <i>to fit perfectly</i>	0	15	-
	Segmental Competitor	附录 (fu ⁴ lu ⁴) <i>appendix</i>	0.9	15	-
6	Target	抚养 (fu ³ yang ³) <i>to bring up</i>	2.59	16	7.85
	Toneme Competitor	俯身 (fu ³ shen ¹) <i>to bend down</i>	1.49	17	-
	Contour Competitor	服装 (fu ² zhuang ¹) <i>clothes</i>	2.96	20	-
	Segmental Competitor	负债 (fu ⁴ zhai ⁴) <i>to debt</i>	1.58	16	-
7	Target	雨水 (yu ³ shui ³) <i>rainwater</i>	1.86	12	5.07
	Toneme Competitor	雨滴 (yu ³ di ¹) <i>raindrop</i>	1.34	22	-
	Contour Competitor	鱼虾 (yu ² xia ¹) <i>fish and shrimps</i>	0.3	17	-
	Segmental Competitor	预购 (yu ⁴ gou ⁴) <i>to purchase in advance</i>	0.3	18	-
8	Target	主管 (zhu ³ guan ³) <i>person in charge</i>	2.69	19	4.09
	Toneme Competitor	主攻 (zhu ³ gong ¹) <i>main attack</i>	1.3	12	-
	Contour Competitor	竹签 (zhu ² qian ¹) <i>bamboo stick</i>	0	19	-
	Segmental Competitor	注释 (zhu ⁴ shi ⁴) <i>annotation</i>	1.49	20	-
9	Target	虎口 (hu ³ kou ³) <i>jaws of death</i>	1.46	11	4.03
	Toneme Competitor	虎威 (hu ³ wei ¹) <i>power and prestige</i>	0	17	-
	Contour Competitor	湖边 (hu ² bian ¹) <i>lakeside</i>	2.39	17	-
	Segmental Competitor	互助 (hu ⁴ zhu ⁴) <i>to help each other</i>	1.8	11	-

10	Target	火把 (huo ³ ba ³) <i>torch</i>	1.91	11	3.14
	Toneme Competitor	火锅 (huo ³ guo ¹) <i>hot pot</i>	1.34	16	-
	Contour Competitor	活捉 (huo ² zhuo ¹) <i>capture alive</i>	1.92	19	-
	Segmental Competitor	货架 (huo ⁴ jia ⁴) <i>goods shelf</i>	1.63	17	-
11	Target	咫尺 (zhi ³ chi ³) <i>very short</i>	1.15	13	14.10
	Toneme Competitor	指尖 (zhi ³ jian ¹) <i>finger tip</i>	1.75	15	-
	Contour Competitor	职称 (zhi ² cheng ¹) <i>professional title</i>	0.48	21	-
	Segmental Competitor	制定 (zhi ⁴ ding ⁴) <i>to formulate</i>	2.51	16	-
12	Target	眼睑 (yan ³ jian ³) <i>eyelids</i>	1.45	23	8.18
	Toneme Competitor	眼珠 (yan ³ zhu ¹) <i>eyeball</i>	1.83	21	-
	Contour Competitor	严师 (yan ² shi ¹) <i>strict teacher</i>	0	13	-
	Segmental Competitor	厌恶 (yan ⁴ wu ⁴) <i>to dislike</i>	2.61	16	-
13	Target	使馆 (shi ³ guan ³) <i>embassy</i>	1.57	19	4.32
	Toneme Competitor	始发 (shi ³ fa ¹) <i>departure</i>	0.6	13	-
	Contour Competitor	时钟 (shi ² zhong ¹) <i>clock</i>	2	16	-
	Segmental Competitor	事件 (shi ⁴ jian ⁴) <i>event</i>	3.44	14	-
14	Target	土改 (tu ³ gai ³) <i>land reform</i>	0	10	5.63
	Toneme Competitor	土丘 (tu ³ qiu ¹) <i>mound</i>	0.7	8	-
	Contour Competitor	图钉 (tu ² ding ¹) <i>drawing pin</i>	1.3	15	-
	Segmental Competitor	兔肉 (tu ⁴ rou ⁴) <i>rabbit meat</i>	1.04	14	-

15	Target	统管 (tong ³ guan ³) <i>overall administration</i>	0.3	23	0.06
	Toneme Competitor	统称 (tong ³ cheng ¹) <i>general term</i>	0.7	19	-
	Contour Competitor	同桌 (tong ² zhuo ¹) <i>deskmate</i>	0.78	16	-
	Segmental Competitor	痛恨 (tong ⁴ hen ⁴) <i>to hate</i>	2.32	21	-
16	Target	仰角 (yang ³ jiao ³) <i>angle of elevation</i>	0.3	13	1.84
	Toneme Competitor	养生 (yang ³ sheng ¹) <i>to maintain good health</i>	0.7	14	-
	Contour Competitor	羊羔 (yang ² gao ¹) <i>lamb</i>	1.91	16	-
	Segmental Competitor	样式 (yang ⁴ shi ⁴) <i>pattern</i>	1.81	16	-
17	Target	指导 (zhi ³ dao ³) <i>to guide</i>	2.68	15	7.43
	Toneme Competitor	纸巾 (zhi ³ jin ¹) <i>tissue</i>	2.33	10	-
	Contour Competitor	直说 (zhi ² shuo ¹) <i>to speak frankly</i>	2.73	17	-
	Segmental Competitor	制造 (zhi ⁴ zao ⁴) <i>to manufacture</i>	3.2	18	-
18	Target	起码 (qi ³ ma ³) <i>at least</i>	2.99	18	6.61
	Toneme Competitor	起初 (qi ³ chu ¹) <i>in the beginning</i>	2.39	17	-
	Contour Competitor	骑车 (qi ² che ¹) <i>to cycle</i>	2.33	15	-
	Segmental Competitor	气愤 (qi ⁴ fen ⁴) <i>furious</i>	2.06	16	-

IV-2. No-Merger Sandhi targets (T1T1 and T4T1) and respective competitors.

Stimuli	Log Freq.	N. of Stroke	Bigram Mutual Info.
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1	Target	僵尸 (jiang ¹ shi ¹) <i>mummy</i>	2.63	18	9.44
	Toneme Competitor	江南 (jiang ¹ nan ²) <i>the southern Yangtze region</i>	1.38	15	-
	Contour Competitor	奖牌 (jiang ³ pai ²) <i>medal</i>	1.85	21	-
	Segmental Competitor	降落 (jiang ⁴ luo ⁴) <i>to land</i>	2.84	20	-
2	Target	尖刀 (jian ¹ dao ¹) <i>sharp knife</i>	0.9	8	7.25
	Toneme Competitor	奸贼 (jian ¹ zei ²) <i>traitors</i>	0	16	-
	Contour Competitor	简明 (jian ³ ming ²) <i>brief</i>	0.6	21	-
	Segmental Competitor	渐变 (jian ⁴ bian ⁴) <i>to change gradually</i>	0.3	19	-
3	Target	低压 (di ¹ ya ¹) <i>low pressure</i>	1.23	13	2.24
	Toneme Competitor	低垂 (di ¹ chui ²) <i>droop</i>	0.78	15	-
	Contour Competitor	抵达 (di ³ da ²) <i>to arrive</i>	2.54	14	-
	Segmental Competitor	地势 (di ⁴ shi ⁴) <i>topography</i>	1.3	14	-
4	Target	肩章 (jian ¹ zhang ¹) <i>shoulder badge</i>	1.15	19	4,72
	Toneme Competitor	兼容 (jian ¹ rong ²) <i>compatible</i>	1.4	20	-
	Contour Competitor	简洁 (jian ³ jie ²) <i>concise</i>	1.8	22	-
	Segmental Competitor	健将 (jian ⁴ jiang ⁴) <i>athlete</i>	1.32	19	-
5	Target	交心 (jiao ¹ xin ¹) <i>to lay one's heart bare</i>	1.4	10	-0.99
	Toneme Competitor	胶皮 (jiao ¹ pi ²) <i>rubber</i>	0.9	15	-
	Contour Competitor	角膜 (jiao ³ mo ²) <i>cornea</i>	1.48	21	-
	Segmental Competitor	教具 (jiao ⁴ ju ⁴) <i>teaching aids</i>	0.78	19	-

6	Target	收心 (shou ¹ xin ¹) <i>to get serious</i>	0	10	-0.28
	Toneme Competitor	收容 (shou ¹ rong ²) <i>to take in</i>	1.72	16	-
	Contour Competitor	守恒 (shou ³ heng ²) <i>conservation</i>	0.6	15	-
	Segmental Competitor	授课 (shou ⁴ ke ⁴) <i>to teach</i>	1.32	21	-
7	Target	优生 (you ¹ sheng ¹) <i>healthy birthing</i>	0.3	11	0.88
	Toneme Competitor	悠扬 (you ¹ yang ²) <i>melodious</i>	0.9	17	-
	Contour Competitor	友人 (you ³ ren ²) <i>friend</i>	1.36	6	-
	Segmental Competitor	诱变 (you ⁴ bian ⁴) <i>mutagenesis</i>	0	17	-
8	Target	收编 (shou ¹ bian ¹) <i>to incorporate armies</i>	0.3	18	3.78
	Toneme Competitor	收盘 (shou ¹ pan ²) <i>to close</i>	0.6	17	-
	Contour Competitor	手足 (shou ³ zu ²) <i>brothers</i>	1.48	11	-
	Segmental Competitor	受贿 (shou ⁴ hui ⁴) <i>to take bribes</i>	1.7	18	-
9	Target	搭车 (da ¹ che ¹) <i>to get a lift</i>	1.11	16	3.46
	Toneme Competitor	搭桥 (da ¹ qiao ²) <i>to build a bridge</i>	1.48	22	-
	Contour Competitor	打磨 (da ³ mo ²) <i>to polish</i>	1.53	21	-
	Segmental Competitor	大麦 (da ⁴ mai ⁴) <i>barley</i>	1.32	10	-
10	Target	世间 (shi ⁴ jian ¹) <i>world</i>	2.12	12	4.2
	Toneme Competitor	试航 (shi ⁴ hang ²) <i>trial voyage</i>	0	18	-
	Contour Competitor	实情 (shi ² qing ²) <i>truth</i>	2.38	19	-
	Segmental Competitor	史册 (shi ³ ce ⁴) <i>historical records</i>	1.78	10	-

11	Target	汽车 (qi ⁴ che ¹) <i>car</i>	3.12	11	9.38
	Toneme Competitor	汽油 (qi ⁴ you ²) <i>gasoline</i>	2.67	15	-
	Contour Competitor	旗袍 (qi ² pao ²) <i>cheongsam</i>	0.48	24	-
	Segmental Competitor	起义 (qi ³ yi ⁴) <i>revolt</i>	1.91	13	-
12	Target	器官 (qi ⁴ guan ¹) <i>organ</i>	2.48	24	6.27
	Toneme Competitor	气球 (qi ⁴ qiu ²) <i>balloon</i>	2.47	15	-
	Contour Competitor	棋牌 (qi ² pai ²) <i>chess and cards</i>	0.78	24	-
	Segmental Competitor	乞丐 (qi ³ gai ⁴) <i>beggar</i>	2.12	7	-
13	Target	浴缸 (yu ⁴ gang ¹) <i>bath tub</i>	2.44	19	11.22
	Toneme Competitor	预言 (yu ⁴ yan ²) <i>to predict</i>	2.81	17	-
	Contour Competitor	鱼雷 (yu ² lei ²) <i>torpedo</i>	1.99	21	-
	Segmental Competitor	语录 (yu ³ lu ⁴) <i>quotation</i>	1.15	17	-
14	Target	市区 (shi ⁴ qu ¹) <i>urban area</i>	2.4	9	5.59
	Toneme Competitor	市容 (shi ⁴ rong ²) <i>appearance of a city</i>	0.78	15	-
	Contour Competitor	识别 (shi ² bie ²) <i>to identify</i>	2.53	14	-
	Segmental Competitor	使坏 (shi ³ huai ⁴) <i>to play dirty</i>	0.78	15	-
15	Target	误工 (wu ⁴ gong ¹) <i>absent from work</i>	0.3	12	3.4
	Toneme Competitor	务农 (wu ⁴ nong ²) <i>to be a farmer</i>	0.7	11	-
	Contour Competitor	无穷 (wu ² qiong ²) <i>infinite</i>	2.08	11	-
	Segmental Competitor	舞剧 (wu ³ ju ⁴) <i>dance drama</i>	0.78	24	-

16	Target	异心 (yì ⁴ xīn ¹) <i>disloyalty</i>	0.48	10	-1.19
	Toneme Competitor	异同 (yì ⁴ tóng ²) <i>similarities and differences</i>	0.6	12	-
	Contour Competitor	疑难 (yí ² nán ²) <i>difficulty</i>	3.02	24	-
	Segmental Competitor	椅背 (yǐ ³ bei ⁴) <i>back of chair</i>	1.11	21	-
17	Target	滞销 (zhì ⁴ xiāo ¹) <i>unsaleable</i>	0.3	24	9.08
	Toneme Competitor	致癌 (zhì ⁴ ài ²) <i>carcinogenic</i>	1.34	27	-
	Contour Competitor	植皮 (zhì ² pì ²) <i>skin grafting</i>	0.78	17	-
	Segmental Competitor	纸币 (zhǐ ³ bì ⁴) <i>paper money</i>	1.61	11	-
18	Target	面纱 (miàn ⁴ shā ¹) <i>veil</i>	1.77	16	3.46
	Toneme Competitor	面条 (miàn ⁴ tiào ²) <i>noodle</i>	2.47	16	-
	Contour Competitor	绵羊 (mián ² yáng ²) <i>sheep</i>	1.96	17	-
	Segmental Competitor	免税 (miǎn ³ shuì ⁴) <i>duty-free</i>	1.79	19	-

IV-3. No Sandhi targets (T4T4, T3T2 and T3T4) and respective competitors.

	Stimuli	Log Freq.	N. of Stroke	Bigram Mutual Info.	
1	Target	继续 (jì ⁴ xù ⁴) <i>to continue</i>	3.67	21	11.76
	Toneme Competitor	季节 (jì ⁴ jié ²) <i>season</i>	2.49	13	-
	Contour Competitor	机床 (jī ¹ chuáng ²) <i>machine tool</i>	0.3	13	-
	Segmental Competitor	挤压 (jǐ ³ yā ¹) <i>to press</i>	1.82	15	-

2	Target	意愿 (yi ⁴ yuan ⁴) <i>wish</i>	2.45	27	2.3
	Toneme Competitor	意图 (yi ⁴ tu ²) <i>intention</i>	2.5	21	-
	Contour Competitor	衣橱 (yi ¹ chu ²) <i>closet</i>	2.37	22	-
	Segmental Competitor	乙肝 (yi ³ gan ¹) <i>hepatitis B</i>	0.6	8	-
3	Target	事例 (shi ⁴ li ⁴) <i>example</i>	1.11	16	2.14
	Toneme Competitor	试图 (shi ⁴ tu ²) <i>to attempt</i>	3.42	16	-
	Contour Competitor	师徒 (shi ¹ tu ²) <i>master and apprentice</i>	0	16	-
	Segmental Competitor	史诗 (shi ³ shi ¹) <i>epic</i>	1.72	13	-
4	Target	教义 (jiao ⁴ yi ⁴) <i>religious regulations</i>	1.81	14	3.2
	Toneme Competitor	教程 (jiao ⁴ cheng ²) <i>tutorial</i>	1.23	23	-
	Contour Competitor	交流 (jiao ¹ liu ²) <i>to communicate</i>	2.99	16	-
	Segmental Competitor	脚尖 (jiao ³ jian ¹) <i>tiptoe</i>	1.93	17	-
5	Target	去世 (qu ⁴ shi ⁴) <i>to pass away</i>	3.02	10	2.55
	Toneme Competitor	去除 (qu ⁴ chu ²) <i>to eliminate</i>	1.97	14	-
	Contour Competitor	屈服 (qu ¹ fu ²) <i>to surrender</i>	2.4	16	-
	Segmental Competitor	取消 (qu ³ xiao ¹) <i>to cancel</i>	3.28	18	-
6	Target	上市 (shang ⁴ shi ⁴) <i>to go on market</i>	1.97	8	0.48
	Toneme Competitor	上扬 (shang ⁴ yang ²) <i>to raise</i>	1.11	9	-
	Contour Competitor	伤员 (shang ¹ yuan ²) <i>the wounded</i>	1.98	13	-
	Segmental Competitor	赏光 (shang ³ guang ¹) <i>to honor with presence</i>	1.45	18	-

7	Target	检查 (jian ³ cha ²) <i>to check</i>	3.37	20	11.24
	Toneme Competitor	检验 (jian ³ yan ⁴) <i>to test</i>	2.59	21	-
	Contour Competitor	监狱 (jian ¹ yu ⁴) <i>jail</i>	3.67	19	-
	Segmental Competitor	见解 (jian ⁴ jie ³) <i>opinion</i>	2.01	17	-
8	Target	简直 (jian ³ zhi ²) <i>simply</i>	3.41	21	8.86
	Toneme Competitor	简历 (jian ³ li ⁴) <i>resumé</i>	2.42	17	-
	Contour Competitor	监控 (jian ¹ kong ⁴) <i>to monitor</i>	3.01	21	-
	Segmental Competitor	舰长 (jian ⁴ zhang ³) <i>captain</i>	2.2	14	-
9	Target	主题 (zhu ³ ti ²) <i>topic</i>	2.77	17	4.5
	Toneme Competitor	主妇 (zhu ³ fu ⁴) <i>housewife</i>	2.51	11	-
	Contour Competitor	猪肉 (zhu ¹ rou ⁴) <i>pork</i>	2.37	17	-
	Segmental Competitor	住址 (zhu ⁴ zhi ³) <i>home address</i>	2.33	14	-
10	Target	吻合 (wen ³ he ²) <i>to match</i>	2.55	13	5.6
	Toneme Competitor	稳重 (wen ³ zhong ⁴) <i>steady</i>	1.51	23	-
	Contour Competitor	温度 (wen ¹ du ⁴) <i>temperature</i>	2.63	21	-
	Segmental Competitor	问好 (wen ⁴ hao ³) <i>to greet</i>	2.64	12	-
11	Target	妥协 (tuo ³ xie ²) <i>to compromise</i>	2.39	13	11.25
	Toneme Competitor	妥善 (tuo ³ shan ⁴) <i>appropriate</i>	1.72	19	-
	Contour Competitor	托运 (tuo ¹ yun ⁴) <i>to consign for shipment</i>	1.42	13	-
	Segmental Competitor	拓展 (tuo ⁴ zhan ³) <i>to develop</i>	1.72	18	-

12	Target	指明 (zhi ³ ming ²) <i>to point out</i>	1.93	17	0.46
	Toneme Competitor	纸币 (zhi ³ bi ⁴) <i>paper money</i>	1.61	11	-
	Contour Competitor	枝叶 (zhi ¹ ye ⁴) <i>branches and leaves</i>	1.11	13	-
	Segmental Competitor	质朴 (zhi ⁴ pu ³) <i>simple</i>	1	14	-
13	Target	史册 (shi ³ ce ⁴) <i>historical records</i>	1.73	10	6.21
	Toneme Competitor	史前 (shi ³ qian ²) <i>prehistory</i>	1.84	14	-
	Contour Competitor	失陪 (shi ¹ pei ²) <i>excuse me</i>	3.08	15	-
	Segmental Competitor	试纸 (shi ⁴ zhi ³) <i>dipstick</i>	1.08	15	-
14	Target	舞会 (wu ³ hui ⁴) <i>Prom</i>	2.76	20	3.98
	Toneme Competitor	舞台 (wu ³ tai ²) <i>stage</i>	3.28	19	-
	Contour Competitor	巫婆 (wu ¹ po ²) <i>witch</i>	2.38	18	-
	Segmental Competitor	物产 (wu ⁴ chan ³) <i>resource</i>	0.7	14	-
15	Target	享誉 (xiang ³ yu ⁴) <i>to enjoy fame</i>	1.04	21	6.36
	Toneme Competitor	响铃 (xiang ³ ling ²) <i>alarm</i>	1.42	19	-
	Contour Competitor	香浓 (xiang ¹ nong ²) <i>grumous</i>	0	18	-
	Segmental Competitor	巷口 (xiang ⁴ kou ³) <i>end of alley</i>	0.6	12	-
16	Target	手锯 (shou ³ ju ⁴) <i>hand saw</i>	0.48	17	1.3
	Toneme Competitor	守则 (shou ³ ze ²) <i>regulation</i>	2.11	12	-
	Contour Competitor	收集 (shou ¹ ji ²) <i>to collect</i>	2.96	18	-
	Segmental Competitor	瘦小 (shou ⁴ xiao ³) <i>thin and small</i>	1.63	17	-

17	Target	暑假 (shu ³ jia ⁴) <i>summer vacation</i>	2.25	23	11.06
	Toneme Competitor	薯条 (shu ³ tiao ²) <i>French fries</i>	2.56	23	-
	Contour Competitor	抒情 (shu ¹ qing ²) <i>to express one's emotions</i>	1.76	18	-
	Segmental Competitor	术语 (shu ⁴ yu ³) <i>terminology</i>	2.24	14	-
18	Target	简历 (jian ³ li ⁴) <i>resumé</i>	2.22	17	4.6
	Toneme Competitor	简洁 (jian ³ jie ²) <i>concise</i>	1.8	22	-
	Contour Competitor	兼容 (jian ¹ rong ²) <i>compatible</i>	1.4	20	-
	Segmental Competitor	健美 (jian ⁴ mei ³) <i>fitness</i>	1.62	19	-

Appendix V

The full list of target sentences in different boundary conditions in Chapter 6. The critical Tx+N(NN)+T1+T1/T2 structure is marked in bold.

V-1. Below-NP Boundary condition.

Tx+N+T1T1:	
1	他说 他的猫 偷走了那条大鱼。 (Ta ¹ shuo ¹ ta¹ de mao¹ tou¹ zou ³ le na ⁴ tiao ² da ⁴ yu ² .) <i>He said his cat stole that big fish.</i>
2	他说 姨的猫 听到了那个声音。 (Ta ¹ shuo ¹ yi² de mao¹ ting¹ dao ⁴ le na ⁴ ge sheng ¹ yin ¹ .) <i>He said auntie's cat heard that sound.</i>
3	他说 姐的猫 关上了那个小门。 (Ta ¹ shuo ¹ jie³ de mao¹ guan¹ shang ⁴ le na ⁴ ge xiao ³ men ² .) <i>He said elder sister's cat shut that little door.</i>
4	他说 妹的猫 吃完了那袋粮食。 (Ta ¹ shuo ¹ mei⁴ de mao¹ chi¹ wan ² le na ⁴ dai ⁴ liang ² shi.) <i>He said younger sister's cat ate up that bag of grain.</i>
Tx+N+T1T2:	
5	他说 他的猫 离开了那座房子。 (Ta ¹ shuo ¹ ta¹ de mao¹ li² kai ¹ le na ⁴ zuo ⁴ fang ² zi.) <i>He said his cat left that house.</i>
6	他说 姨的猫 夺回了那条大鱼。 (Ta ¹ shuo ¹ yi² de mao¹ duo² hui ² le na ⁴ tiao ² da ⁴ yu ² .) <i>He said auntie's cat took back that big fish.</i>
7	他说 姐的猫 迷上了那个游戏。 (Ta ¹ shuo ¹ jie³ de mao¹ mi² shang ⁴ le na ⁴ ge you ² xi ⁴ .) <i>He said elder sister's cat was crazy about that game.</i>
8	他说 妹的猫 学会了如何爬树。 (Ta ¹ shuo ¹ mei⁴ de mao¹ xue² hui ⁴ le ru ² he ² pa ² shu ⁴ .) <i>He said younger sister's cat learned how to climb a tree.</i>
Tx+NN+T1T1:	
9	他说 妈妈的猫 抓住了那只老鼠。 (Ta ¹ shuo ¹ ma¹ ma¹ de mao¹ zhua¹ zhu ⁴ le na ⁴ zhi ¹ lao ³ shu ³ .) <i>He said mom's cat caught that mouse.</i>
10	他说 爷爷的猫 拉住了那根绳子。 (Ta ¹ shuo ¹ ye² ye² de mao¹ la¹ zhu ⁴ le na ⁴ gen ¹ sheng ² zi.) <i>He said grandpa's cat tugged that rope.</i>
11	他说 姐姐的猫 叼走了那只小鸟。 (Ta ¹ shuo ¹ jie³ jie³ de mao¹ diao¹ zou ³ le na ⁴ zhi ¹ xiao ³ niao ³ .) <i>He said elder sister's cat held that bird in the mouth.</i>

	他说妹妹的猫喝完了那盒牛奶。
12	(Ta ¹ shuo ¹ mei ⁴ mei de mao ¹ he ¹ wan ² le na ⁴ he ² niu ² nai ³ .) <i>He said younger sister's cat drank up that box of milk.</i>
Tx+NN+T1T2:	
	他说妈妈的猫拿走了那个玩具。
13	(Ta ¹ shuo ¹ ma ¹ ma de mao ¹ na ² zou ³ le na ⁴ ge wan ² ju ⁴ .) <i>He said mom's cat took that toy.</i>
	他说爷爷的猫爬上了那棵老树。
14	(Ta ¹ shuo ¹ ye ² ye de mao ¹ pa ² shang ⁴ le na ⁴ ke ¹ lao ³ shu ⁴ .) <i>He said grandpa's cat climbed up that old tree.</i>
	他说姐姐的猫玩坏了那个玩具。
15	(Ta ¹ shuo ¹ jie ³ jie de mao ¹ wan ² huai ⁴ le na ⁴ ge wan ² ju ⁴ .) <i>He said elder sister's cat destroyed that toy.</i>
	他说妹妹的猫停下了它的脚步。
16	(Ta ¹ shuo ¹ mei ⁴ mei de mao ¹ ting ² xia ⁴ le ta ¹ de jiao ³ bu ⁴ .) <i>He said younger sister's cat stopped walking.</i>
Tx+NNN+T1T1:	
	他说妈妈们的猫踢乱了那个线球。
17	(Ta ¹ shuo ¹ ma ¹ ma men de mao ¹ ti ¹ luan ⁴ le na ⁴ ge xian ⁴ qiu ² .) <i>He said moms' cat kicked that thread ball into a mess.</i>
	他说爷爷们的猫推倒了那个鱼缸。
18	(Ta ¹ shuo ¹ ye ² ye men de mao ¹ tui ¹ dao ³ le na ⁴ ge yu ² gang ¹ .) <i>He said grandpas' cat push down that fish tank.</i>
	他说姐姐们的猫扑向了那只蝴蝶。
19	(Ta ¹ shuo ¹ jie ³ jie men de mao ¹ pu ¹ xiang ⁴ le na ⁴ zhi ¹ hu ² die ² .) <i>He said elder sisters' cat leapt on that butter.</i>
	他说妹妹们的猫追上了那只兔子。
20	(Ta ¹ shuo ¹ mei ⁴ mei men de mao ¹ zhui ¹ shang ⁴ le na ⁴ zhi ¹ tu ⁴ zi.) <i>He said younger sisters' cat caught up with that rabbit.</i>
Tx+NNN+T1T2:	
	他说妈妈们的猫咳出了那根鱼刺。
21	(Ta ¹ shuo ¹ ma ¹ ma men de mao ¹ ke ² chu ¹ le na ⁴ gen ¹ yu ² ci ⁴ .) <i>He said moms' cat coughed up that fish bone.</i>
	他说爷爷们的猫赢过了那条野狗。
22	(Ta ¹ shuo ¹ ye ² ye men de mao ¹ ying ² guo ⁴ le na ⁴ tiao ² ye ³ gou ³ .) <i>He said grandpas' cat defeated that wild dog.</i>
	他说姐姐们的猫衔起了它的孩子。
23	(Ta ¹ shuo ¹ jie ³ jie men de mao ¹ xian ² qi ³ le ta ¹ de hai ² zi.) <i>He said elder sisters' cat held its kid in the mouth.</i>
	他说妹妹们的猫回到了它的小窝。
24	(Ta ¹ shuo ¹ mei ⁴ mei men de mao ¹ hui ² dao ⁴ le ta ¹ de xiao ³ wo ¹ .) <i>He said younger sisters's cat went back to its little nest.</i>

V-2. Subject-Predicate Boundary condition.

Tx+N+T1T1:	
1	他说 妈妈 收听了那个节目。 (Ta ¹ shuo ¹ ma¹ ma shou¹ ting¹ le na ⁴ ge jie ² mu ⁴ .) He said mom listened to that program.
2	他说 爷爷 搜刮了很多钱财。 (Ta ¹ shuo ¹ ye² ye sou¹ gua¹ le hen ³ duo ¹ qian ² cai ² .) He said grandpa took a lot of money.
3	他说 姐姐 招收了几个学生。 (Ta ¹ shuo ¹ jie³ jie zhao¹ shou¹ le ji ³ ge xue ² sheng ¹ .) He said elder sister recruited several students.
4	他说 妹妹 发挥了她的实力。 (Ta ¹ shuo ¹ mei⁴ mei fa¹ hui¹ le ta ¹ de shi ² li ⁴ .) He said younger sister gave play to her power.
Tx+N+T1T2:	
5	他说 妈妈 宣传了这次活动。 (Ta ¹ shuo ¹ ma¹ ma xuan¹ chuan² le zhe ⁴ ci ⁴ huo ² dong ⁴ .) He said mom publicized this action.
6	他说 爷爷 缺乏了一些斗志。 (Ta ¹ shuo ¹ ye² ye que¹ fa² le yi ⁴ xie ¹ dou ⁴ zhi ⁴ .) He said grandpa lacked the will to fight.
7	他说 姐姐 发觉了这种现象。 (Ta ¹ shuo ¹ jie³ jie fa¹ jue² le zhe ⁴ zhong ³ xian ⁴ xiang ⁴ .) He said elder sister discovered this phenomenon.
8	她说 妹妹 追求了她的理想。 (Ta ¹ shuo ¹ mei⁴ mei zhui¹ qiu² le ta ¹ de li ³ xiang ³ .) He said elder sister pursued her dreams.
Tx+NN+T1T1:	
9	他说 妈妈们 听说了那件事情。 (Ta ¹ shuo ¹ ma¹ ma men ting¹ shuo¹ le na ⁴ jian ⁴ shi ⁴ qing ² .) He said moms heard of that situation.
10	他说 爷爷们 张贴了一个广告。 (Ta ¹ shuo ¹ ye² ye men zhang¹ tie¹ le yi ² ge ⁴ guang ³ gao ⁴ .) He said grandpas posted an advertisement.
11	他说 姐姐们 接收了那些病人。 (Ta ¹ shuo ¹ jie³ jie men jie¹ shou¹ le na ⁴ xie ¹ bing ⁴ ren ² .) He said elder sisters took over those patients.
12	她说 妹妹们 牺牲了很多利益。 (Ta ¹ shuo ¹ mei⁴ mei men xi¹ sheng¹ le hen ³ duo ¹ li ⁴ yi ⁴ .) He said younger sisters sacrificed a lot of interest.
Tx+NN+T1T2:	
13	他说 妈妈们 安排了一次聚餐。 (Ta ¹ shuo ¹ ma¹ ma men an¹ pai² le yi ² ci ⁴ ju ⁴ can ¹ .) He said moms arranged a dinner.

	他说爷爷们消除了一些误会。
14	(Ta ¹ shuo ¹ ye ² ye men xiao ¹ chu ² le yi ⁴ xie ¹ wu ⁴ hui ⁴ .) He said grandpas eliminated some misunderstandings.
	他说姐姐们经营了一家餐厅。
15	(Ta ¹ shuo ¹ jie ³ jie men jing ¹ ying ² le yi ⁴ jia ¹ can ¹ ting ¹ .) He said elder sisters operated a restaurant.
	他说妹妹们坚持了那个信念。
16	(Ta ¹ shuo ¹ mei ⁴ mei men jian ¹ chi ² le na ⁴ ge xin ⁴ nian ⁴ .) He said younger sisters stuck to that belief.
Tx+NNN+T1T1:	
	他说妈妈们的增加了三百块钱。
17	(Ta ¹ shuo ¹ ma ¹ ma men de zeng ¹ jia ¹ le san ¹ bai ³ kuai ⁴ qian ² .) He said moms' increased by 300 yuan.
	他说爷爷们的开发了新的产品。
18	(Ta ¹ shuo ¹ ye ² ye men de kai ¹ fa ¹ le xin ¹ de chan ³ pin ³ .) He said grandpas' developed new products.
	他说姐姐们的分发了那堆课本。
19	(Ta ¹ shuo ¹ jie ³ jie men de fen ¹ fa ¹ le na ⁴ dui ¹ ke ⁴ ben ³ .) He said elder sisters' distributed that pile of book.
	他说妹妹们的装修了这个房子。
20	(Ta ¹ shuo ¹ mei ⁴ mei men de zhuang ¹ xiu ¹ le zhe ⁴ ge ⁴ fang ² zi.) He said younger sisters' decorated this house.
Tx+NNN+T1T2:	
	他说妈妈们的收集了一堆古董。
21	(Ta ¹ shuo ¹ ma ¹ ma men de shou ¹ ji ² le yi ⁴ dui ¹ gu ³ dong ³ .) He said moms' collected a lot of antiques.
	他说爷爷们的发扬了这项传统。
22	(Ta ¹ shuo ¹ ye ² ye men de fa ¹ yang ² le zhe ⁴ xiang ⁴ chuan ² tong ³ .) He said grandpas' promoted the tradition.
	他说姐姐们的遵循了这种规律。
23	(Ta ¹ shuo ¹ jie ³ jie men de zun ¹ xun ² le zhe ⁴ zhong ³ gui ¹ lv ⁴ .) He said elder sisters' followed this law.
	他说妹妹们的收藏了很多珠宝。
24	(Ta ¹ shuo ¹ mei ⁴ mei men de shou ¹ cang ² le hen ³ duo ¹ zhu ¹ bao ³ .) He said younger sisters' collected many jewelleryes.