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[illegible] 2006; [illegible] 12 [illegible] 2007; [illegible] 12 [illegible] 2007
[illegible] 20 [illegible] 2007

Abstract

[illegible] A. [illegible], & [illegible], A. (1991). [illegible] *Brain and Language*, *40*, 106 144; [illegible], A. [illegible], & [illegible], A. (1995). [illegible] *Cognitive Neurops[illegible]cholog[illegible]*, *12*, 187 227] [illegible]
2007 [illegible]

Ke[illegible] words: [illegible]

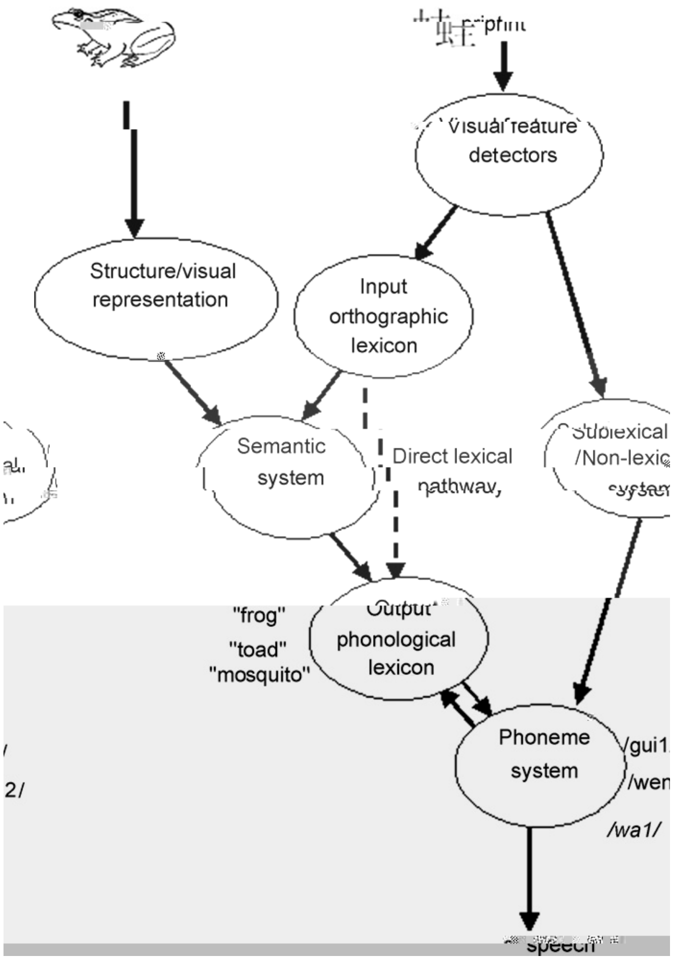
1. Introduction

[illegible] 30 [illegible] 1978; [illegible] 2001; [illegible] 1). [illegible]

[illegible]

* [illegible] +86 10 5880 2911; [illegible]: +86 10 5880 2911.
E mail address: [illegible]

0028-3932/$ [illegible] 2007 [illegible]
[illegible]:10.1016/j.[illegible].2007.02.007


Structure/visual
representation
Visual feature
detectors
Input
orthographic
lexicon
Semantic
system
Direct lexical
pathway
Sublexical
/Non-lexical
system
Output
phonological
lexicon
"frog"
"toad"
"mosquito"
Phoneme
system
/gui1/
/wen
/wa1/
speech

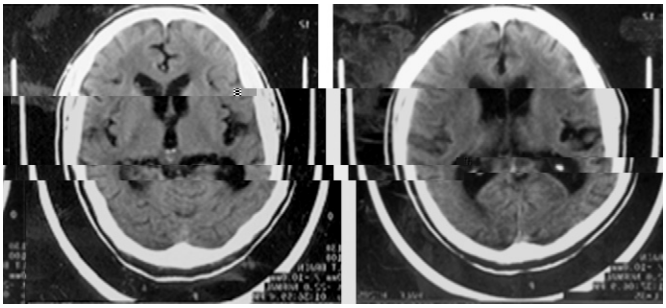
[illegible]

[illegible]

[illegible] [illegible] [illegible] [

2. Case background

References



[illegible]. 2. [illegible]

[illegible] k (39/40), [illegible] (2/2) [illegible] (10/10). [illegible]

“这个人拿着一个小孩，上面是果品一类的东西，这个手里拿着一个圈子，这的东西都砸了，一筐一筐的，有饭碗，这有一鸟，蹬着圆凳够东西，小孩跟小孩玩，往嘴里吃呢。这是一男孩，一女孩.”

[illegible] 8/15 [illegible]; 10/20 [illegible]; 9/15 [illegible]; 11/20 [illegible] (56/130) [illegible] (2/11). [illegible] 鹿 ([illegible], / 4/) [illegible] 羊 ([illegible], / 2/). [illegible] (=4). [illegible] (53/57, [illegible][2] [illegible]. A [illegible] 龟 / 1/→(电) / [illegible] 4/, 妆 /z [illegible] 2/→(汝) /r 3/, 坡 / 1/→/ [illegible] 1/, 横 / [illegible] 2/→/ [illegible] 3/. [illegible] ([illegible], 1983) [illegible] ([illegible] et al., 1997), [illegible] ([illegible] et al., 1997) [illegible] 1, [illegible] 2, [illegible]

3. Experiment 1: Comparison across lexical tasks

3.1. Method

[illegible] 226 [illegible] (1980) [illegible] ([illegible], 1989). [illegible] (1989). A [illegible]

[illegible] 226 [illegible] (1989) [illegible] 162 [illegible] 1 [illegible] 2- [illegible]

3.2. Results

[illegible]: (1) [illegible]; (2) [illegible] 嘴, /z 3/→耳朵, [illegible] 0/); (3) [illegible] 摩托车, [illegible] 2 1 [illegible] 1/→自行车, [illegible] /z 4 2 [illegible] 1/); (4) [illegible] 蛋糕, [illegible] 4 [illegible] 1/→帽子, [illegible] 4 z 0/); (5) [illegible]; (6) [illegible]

[2] [illegible]

Table 1
Errors in naming pictures and in reading words aloud (accuracy %)

	N	Semantic errors	Visual errors	Mixed errors	Formal errors	Unrelated errors	Omissions
Pictures/non-living things	162	56 (91)	22 (35)		3 (5)		
Pictures/living things	162	41 (67)	20 (32)		1 (2)		
Words/non-living things	226	45 (101)	26 (59)	3 (7)	0 (0)	18 (40)	8 (19)
Words/living things	226	94 (213)	0	1 (3)	1 (2)	3 (8)	0

Note: In Table 1a and 2, the data are presented as percentage correct responses. The number of errors is given in parentheses. The total number of items presented for each condition is 162. The data were analyzed using the following statistical tests: (1) the Fisher exact probability test was used to compare the number of semantic errors in the naming and reading tasks; (2) the Fisher exact probability test was used to compare the number of semantic errors and visual errors in the naming task.

If the number of semantic errors in naming is greater than that in reading (naming: 35/162 or 5/162, $\chi_1^2 = 25.67$, $p < 0.0001$; reading: 32/162 or 2/162, $\chi_1^2 = 29.57$, $p < 0.0001$). The semantic errors in naming are mainly due to the confusion between the following pairs: 椅子 (chair, /y 3 z 0/)→床 (bed, / 2/), 骆驼 (camel, / 4 0/)→马 (horse, / 3/), 青蛙 (frog, / 1 1/)→螃蟹

Table 3
Mean number of errors and standard deviation (SD) in the two experiments

Experiment	Group	Character	N	Frequency (/1.8 million)	Mean number of errors	SD
Experiment 1	Beijing	柄	30	175	2.77	9.90
	Beijing	盯	30	208	2.50	9.30
	Inner Mongolia	狐	30	204	2.67	9.77
Experiment 2	Beijing	俱	20	226	2.90	9.55
	Beijing	漠	20	215	2.80	9.40
	Inner Mongolia	猜	20	191	2.70	9.65

[illegible] 14 [illegible] 7 [illegible] 7- [illegible] 1 [illegible] 5.73 [illegible] 3.25 [illegible] $t(149) = 41.9$, $p < 0.000001$. [illegible] 3 [illegible] [illegible] $F_s = 0.19$–0.94, $p_s = 0.455$–0.966.

[illegible] 48. [illegible] [illegible] 150 [illegible] 16 [illegible] 7- [illegible] 1 [illegible] 7 [illegible]. [illegible] (1 [illegible]; 7 [illegible]). [illegible] 5.37 [illegible] 3.90, [illegible] $t(148) = 7.3$, $p < 0.001$, [illegible] 3.85 [illegible] 2.66 $t(148) = 7.6$, $p < 0.001$. [illegible] 2003, [illegible] 2004.

4.2. Results

[illegible] (/[illegible] 3/, [illegible]) [illegible] (/[illegible] 2/, [illegible]) [illegible] [illegible] 46/66, [illegible] 38/66, $\chi_1^2 = 2.1$, $p = 0.15$; [illegible] 16/66, [illegible] 13/66, $\chi_1^2 < 1$). [illegible] (1 [illegible]: $\chi_1^2 = 19.6$, $p < 0.000$; 2 [illegible]: $\chi_1^2 = 33.4$, $p < 0.000$). [illegible] 44% [illegible] 31%, $\chi_1^2 = 5.1$, $p < 0.05$). [illegible] (69% [illegible] 64%, $\chi_1^2 < 1$).

4.3. Semantic radicals and comprehension

[illegible] ($\chi_1^2 < 1$, [illegible] 4). [illegible] ($\chi_1^2 = 3.75$, $p = 0.053$) [illegible] ($\chi_1^2 = 3.76$, $p = 0.052$). [illegible] 5.37 [illegible] 3.90, [illegible] $t(148) = 7.3$, $p < 0.001$, [illegible] 3.85 [illegible] 2.66 $t(148) = 7.6$, $p < 0.001$. [illegible] (33 [illegible]) [illegible] (228; 218) [illegible] [illegible] 46/66, [illegible] 38/66, $\chi_1^2 = 2.1$, $p = 0.15$; [illegible] 16/66, [illegible] 13/66, $\chi_1^2 < 1$). [illegible] (1 [illegible] 2 [illegible]). [illegible] ($p < 0.0001$) [illegible] ($p = 0.001$) [illegible] ($p = 0.090$) [illegible] ($p = 0.982$) [illegible] ($p = 0.090$) [illegible].

4.4. Phonetic radicals and reading

[illegible] 5, [illegible]: $\chi_1^2 < 10.9$, $p < 0.0001$; [illegible] 1: $\chi_1^2 < 7.6$, $p < 0.01$; [illegible] 2: $\chi_1^2 < 4.2$, $p < 0.05$), [illegible] ($\chi_1^2 < 1$). [illegible].

[3] [illegible] [illegible] (2000) [illegible].

[illegible] 4
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	A[illegible]	15 (9/60)	18 (11/60)	28 (17/60)	21 (37/180)
	[illegible]	22 (13/60)	18 (11/60)	27 (16/60)	22 (40/180)
	[illegible]	63 (38/60)	63 (38/60)	45 (27/60)	57 (103/180)
	[illegible]	100 (60/60)	100 (60/60)	100 (60/60)	100 (180/180)
[illegible]	A[illegible]	25 (10/40)	15 (6/40)	15 (6/40)	18 (22/120)
	[illegible]	23 (9/40)	13 (5/40)	5 (2/40)	13 (16/120)
	[illegible]	53 (21/40)	73 (29/40)	80 (32/40)	68 (82/120)
	[illegible]	100 (40/40)	100 (40/40)	100 (40/40)	100 (120/120)

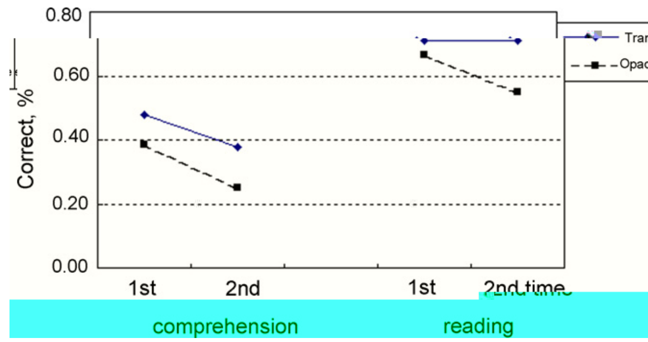
[illegible]

4.5. Comprehension and reading

[illegible] 5 [illegible] 1, [illegible] 35 [illegible] 31 [illegible] 84 [illegible] 45% [illegible] ($\chi^2_1 = 5.916$, $p = 0.015$) [illegible] $\chi^2_1 < 1$) [illegible] ($T = 2$, [illegible] 5). A [illegible] (71% [illegible] 55%, $\chi^2_1 = 4.090$, $p < 0.05$) [illegible] 3).

4.6. Summar

[illegible] independent [illegible]



[illegible] 3. [illegible]

[illegible] (& [illegible], 1991).

5. General discussion

[illegible] 2005; & [illegible], 1995; [illegible], 1995; [illegible], 2000; [illegible] & [illegible], 1996; [illegible], 1979). [illegible]

[illegible] 5
[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	A[illegible]	100 (10/10)	100 (10/10)	100 (15/15)	100 (35/35)
	[illegible]	100 (14/14)	100 (10/10)	100 (7/7)	100 (31/31)
	[illegible]	69 (18/26)	37 (11/30)	32 (9/28)	45 (38/84)
	[illegible]	84 (42/50)	62 (31/50)	62 (31/50)	69 (104/150)
2	A[illegible]	100 (9/9)	100 (7/7)	100 (8/8)	100 (24/24)
	[illegible]	88 (7/8)	100 (6/6)	100 (11/11)	96 (24/25)
	[illegible]	67 (22/33)	43 (16/37)	35 (11/31)	49 (49/101)
	[illegible]	76 (38/50)	58 (29/50)	60 (30/50)	65 (97/150)

(如, 看/kan4/), 跑(如, 跑/pao3/), 行(如, 行走/xing2zou3/). 这些动词的语义表征可以从两个方面来考虑: 一方面, 这些动词的语义表征可以从感觉运动经验中获得, 如, 看/kan4/, 跑/pao3/, 行走/xing2zou3/. 另一方面, 这些动词的语义表征也可以从言语经验中获得, 如, 看/kan4/, 跑/pao3/, 行走/xing2zou3/. 这两种观点并不是相互排斥的, 而是相互补充的. 例如, 对于具体名词的语义表征, 一些研究者认为, 其语义表征既可以从感觉运动经验中获得, 也可以从言语经验中获得(Barsalou, 1999; Barsalou & Wiemer-Hastings, 2005; Pulvermüller, 1999). 对于具体动词的语义表征, 一些研究者也认为, 其语义表征既可以从感觉运动经验中获得, 也可以从言语经验中获得(Barsalou et al., 2003; Hauk et al., 2004; Pulvermüller et al., 2005). 例如, 对于动词"看/kan4/", 其语义表征既可以从看的感觉运动经验中获得, 也可以从言语经验中获得. 对于动词"跑/pao3/", 其语义表征既可以从跑的感觉运动经验中获得, 也可以从言语经验中获得. 对于动词"行走/xing2zou3/", 其语义表征既可以从行走的感觉运动经验中获得, 也可以从言语经验中获得.

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Acknowledgments

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Appendix A. Stimuli used in Experiment 2

Stimuli: (1) [illegible]; (2) [illegible]; (3) [illegible]; (4) [illegible]; (5) [illegible]

1	2	3	4	5	1	2	3	4	5
[illegible]									
轮	/lun2/	[illegible]	/lun2/	[illegible]	钩	/gou1/	[illegible]	/gou1/	[illegible]
浓	/nong2/	[illegible]	/nong2/	[illegible]	拧	/ning3/	[illegible]	/ning3/	[illegible]
境	/jing4/	[illegible]	/jing4/	[illegible]	萝	/luo2/	[illegible]	/luo2/	[illegible]
碗	/wan3/	[illegible]	/wan3/	[illegible]	掏	/tao1/	[illegible]	/tao1/	[illegible]
钢	/gang1/	[illegible]	/gang1/	[illegible]	烤	/kao3/	[illegible]	/kao3/	[illegible]

A A (*Continued*)

1	2	3	4	5	1	2	3	4	5
捷	/jie2/		/jie2/		阀	/fa2/		/fa2/	
绅	/shen1/		/shen1/		伸	/shen1/		/shen1/	
键	/jian4/		/jian4/		伦	/lun2/		/lun2/	
距	/ju4/		/ju4/		腐	/fu3/		/fu3/	
密	/mi4/		/mi4/		滚	/gun3/		/gun3/	
伟	/wei3/		/wei3/		仗	/ hang4/		/ hang4/	
慢	/man4/		/man4/		奖	/jiang3/		/jiang3/	
蚊	/wen2/		/wen2/		泥	/ni2/		/ni2/	
碑	/bei1/		/bei1/		沾	/ han1/		/ han1/	
材	/cai2/		/cai2/		葱	/cong1/		/cong1/	
拌	/ban4/		/ban4/		揍	/ ou4/		/ ou4/	
奶	/nai3/		/nai3/		返	/fan3/		/fan3/	
舱	/cang1/		/cang1/		洋	/ ang2/		/ ang2/	
盯	/ding1/		/ding1/		抬	/tai2/		/tai2/	
秧	/ ang1/		/ ang1/		苞	/bao1/		/bao1/	
护	/hu4/		/hu4/		渔	/ u2/		/ u2/	
惊	/jing1/		/jing1/		躬	/gong1/		/gong1/	
捶	/chui2/		/chui2/		枝	/ hi1/		/ hi1/	
评	/ping2/		/ping2/		绒	/rong2/		/rong2/	
译	/ i4/		/ i4/		粮	/liang2/		/liang2/	
瞄	/miao2/		/miao2/		叮	/ding1/		/ding1/	
爸	/ba4/		/ba4/		惜	/xi1/		/xi1/	
窃	/qie4/		/qie4/		褐	/he4/		/he4/	
逗	/dou4/		/dou4/		供	/gong4/		/gong4/	
邮	/ ou2/		/ ou2/		犹	/ ou2/		/ ou2/	
陷	/xian4/		/xian4/		寞	/mo4/		/mo4/	
漠	/mo4/		/mo4/		型	/xing2/		/xing2/	
径	/jing4/		/jing4/		低	/di3/		/di3/	
球	/qiu2/		/qiu2/		稀	/xi1/		/xi1/	
依	/ i1/		/ i1/		丛	/cong2/		/cong2/	
消	/xiao1/		/xiao1/		苍	/cang1/		/cang1/	
郊	/jiao1/		/jiao1/		颊	/jia2/		/jia2/	
狐	/hu2/		/gua1/		瞎	/xia1/		/hai4/	
扭	/niu3/		/chou3/		污	/wu1/		/kui1/	
悦	/ ue4/		/dui4/		扯	/che3/			

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