Is There a Lexical Switching Mechanism between English and Japanese?

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Abstract: The study examined the speed of word classification when lexical switching between English and Japanese was required. Thirty four university students participated in the experiment (17 each of high and low English proficiency). After the tasks (stimuli) were presented in a Japanese or an English sentence such as 'Is ( ) an animal?', a target word in Japanese or English (e.g., 'cat') was shown on the screen. The results showed latencies in classification tasks were significantly shorter when questions and target words were presented in Japanese rather than in English, indicating the relative proficiency level of the subjects' weaker language. Although the mean latencies were shorter when the sentences and the target words were presented unilingually rather than in mixed languages, the difference was not significant. Thus, the results did not favor the existence of an input switch.

INTRODUCTION

Bilingual speakers are able to keep their two languages separate in use and are able to switch from one language to the other. This seems to suggest the existence of two distinct psycholinguistic systems, one for each language, and a language-switching mechanism which enables bilingual to

function alternatively in the two independent language systems. The operation of alternating between two language systems is considered to take some time. The present study investigated whether Japanese university students have a language-switching mechanism.

Research findings (e. g., Kolers, 1966 ; Macnamara & Kushnir, 1971) suggest the existence of a language switch. In an experiment by Kolers (1966), subjects read a paragraph in either monolingual or bilingual conditions. The subjects took more time to read mixed-language paragraphs than monolingual ones. Similarly, in the second experiment of Macnamara and Kushnir (1971), the subjects read a sentence and judge whether it was true or false (an English verification task). The results showed that for both groups of subjects (16 native speakers of English and 14 native speakers of French) reading mixed language sentences (e. g., Every *femme* eats *maisons*) was slower than reading unilingual ones, indicating that language switching takes an observable amount of time[1]. Macnamara and Kushnir argued that since the input switch is automatic, attempts to bring it under voluntary control could only disrupt its functioning. It was also found that for both types of subjects, times for all switching conditions (i. e., one, two, or three language switches) were longer than those for responses to sentences in the subjects' weaker language. This appears to support the view that bilingual speakers do not usually translate from their weaker to their stronger language.

The above two studies were criticized because the stimuli used for the experiments were strange and grammatically disrupted (Paradis, 1980)[2]. Using tasks which were unrelated to the issue of grammaticality, some studies (Dalrymple-Alford & Aamiry, 1967 ; Caramazza & Brones, 1980) indicated that there is no language-switching mechanism. Dalrymple-

Alford and Aamiry (1967) presented subjects with two-word unilingual *and* mixed language signals, which indicated which one of six keys was to be pressed (e. g., right-red, left-green, etc.). Half of the signals were unilingual (English-English or Arabic-Arabic) and half were linguistically mixed (Arabic-English or English-Arabic). The results showed that responses to two-word signals were not affected by whether or not the words were from the same language. Caramazza and Brones (1980) also showed that the subjects were able to decide whether the referent of a particular noun belonged to a particular category (e. g., robin-bird) just as quickly when the word and the category name were presented in different languages as when they were presented in the same language.

However, the results obtained in the above two studies are questionable because these studies repeatedly used a very limited number of stimuli[3] (cf. Meyer & Ruddy, 1974). Avoiding the repeated use of stimuli, Meyer and Ruddy (1974) showed that the responses to a monolingual word pair were 62 milliseconds faster than those to a bilingual word pair. Moreover, using the phoneme-triggered lexical decision task, Soares and Grosjean (1984)[4] showed the subjects' lexical decision responses were faster in monolingual conditions (e. g., After lunch, the children asked for a piece of *cake* for desert.) than in mixed-language conditions (e. g., Depois do LUNCH os miudos pediram uma fatia de CAKE para DESSERT.)

In the present experiment, stimuli were presented in a Japanese or an English sentence in the following manner. 'Is ( ) an animal?'. Then, a target word in Japanese or English (e. g., 'cat') was shown on the screen after an interval of 700 milliseconds. Thus the materials were adequately natural and grammaticality was not disrupted. The use of 4 sets of stimuli meant that repeated presentations of the same materials were kept to a

minimum. In Popiel (1987), orthographically similar languages (English and French) were used, whereas in the present study, orthographically different Japanese and English were used[5]. Therefore, the results of the experiment were expected to further refine previous research findings about the lexical switch hypothesis.

METHOD

Subjects

Using an English comprehension test produced by the authors, 17 subjects with high English proficiency, and 17 subjects with low English proficiency (overall, 6 males and 28 females) were selected from 49 university students at the Department of English, Matsuyama University. Since all the English words used in the present study were selected from those which appear in the English textbooks used at junior high school level (Grade 7-10), so that the stimulus items are not particularly difficult for Japanese university students, it was assumed that the subjects' mental abilities and English language skills should be sufficient enough to cope with the tasks of the present study. The means and standard deviations of the subjects' ages, as adjusted for the month of experimentation, January, 1991, were 244.53 months with a standard deviation of 4.94 months, (M= 245.12 months with SD=5.78 for the students with high English proficiency, and M=243.94 months with SD=4.02 for the ones with low English proficiency). The result of the English comprehension test was 28.06 with a standard deviation of 5.93 ; M=32.94 with SD=2.73 for the high-proficiency students and M=23.18 with SD=3.40 for the low-proficiency students. The means of the English comprehension test performed by the students with

high and low English proficiency in the present study were adequately apart from each other.

Procedure

The 34 university students were tested individually in a quiet room on campus, and were required to press either the right or the left key on a computer keyboard, depending on whether a target word belonged to the category specified by the questions presented on the computer screen. A lap-top computer, the Toshiba J-3100GT, was used for the experiment. The tasks were presented in a Japanese or an English sentence such as 'Is ( ) an animal?'. A target word (e. g., 'cat') was shown in Japanese or English on the screen after an interval of 700 milliseconds. For example, if the task sentence 'Is ( ) a country?' and the target word 'England', were displayed on the central area of the screen, the subjects had to press the left key. (See Appendix I for examples.) The stimuli were displayed on the screen at random. The presented word stayed on the screen until the subject pressed the right or the left key. The session began with the presentation of 16 task familiarization trials using the practice stimuli presented in each of the four experimental conditions (i. e., JS-JW, ES-JW, JS-EW, and ES-EW[1]). The subjects were instructed to respond as quickly and accurately as possible.

Feedback concerning correct or incorrect responses and reaction time was shown on the screen after each response to maintain the subjects' motivation. The feedback for an incorrect response was "Good try!", to

1) JS-JW means Japanese task sentences followed by Japanese target words. ES-JW means English sentences followed by Japanese target words. JS-EW means Japanese sentences followed by English target words. ES-EW means English sentences followed by English target words.

avoid discouraging subjects from continuing the tasks. When the space key was pressed following each response, the next stimulus appeared after a 700-millisecond interval. During the interval, an asterisk was shown on the fixation point to indicate the center of the screen. Accuracy and the length of time between the presentation of a word and a subject's response were recorded for every stimulus.

Stimuli

Using the word frequency index on the basis of the junior and senior high school textbooks (Miura, 1987), 60 words at the junior high school level of difficulty were selected for positive responses in the classification task. The stimuli for the experiment were classified into four types according to a combination of the language used for presenting task sentences (Japanese or English) and the language used for presenting target words (English or Japanese). We used the same method to select 60 more words for the negative responses in the classification task. Then the authors created three other sets of stimuli by changing the combination of the stimulus items. The four different groups of stimuli were given at random to the students except that the percentages of stimuli given were kept equivalent between the high and low English proficiency groups.

RESULTS

In the word classification task, the subjects had to decide whether or not each target word fitted the category specified by each task sentence. This may reflect two different types of cognitive processes (i. e., positive responses and negative responses). Furthermore, the experiment required

Table 1
Means and Standard Deviations (in Parentheses) for Lexical Decision Times (Rounded to the Nearest Millisecond)

Reading Level	Classified Items				Unclassified Items			
	JS-JW	ES-JW	JS-EW	ES-EW	JS-JW	ES-JW	JS-EW	ES-EW
High	607	651	773	786	659	684	818	814
	(103)	(141)	(139)	(151)	(108)	(129)	(179)	(161)
Low	657	680	813	836	671	713	851	845
	(120)	(156)	(221)	(263)	(119)	(181)	(262)	(238)
Both	632	666	793	811	665	699	834	829
	(113)	(147)	(183)	(213)	(112)	(155)	(221)	(201)

the subjects to press a different key for each classification decision. Therefore, the response times for each type of task should be treated differently in the data analysis.

The means and standard deviations resulting from the modified decision times for word classifications are presented in Table 1. For the reaction time data, a 2 (type of tasks ; classified or unclassified[2]) × 2 (the language used for presenting the task sentences) × 2 (the language of target word presentation) ANOVA with repeated measures was performed. The results of the three-way repeated measures ANOVA on decision times for word classification are presented in Table 2.

There was no significant main effect of students' English proficiency on reaction times. This result suggests that the subjects' high/low English proficiency did not show any significant effect on decision times in the word classification task. Yet, it should be noted that the readers with higher English proficiency constantly performed better than the lower level

2) Classified refers to word categorization tasks which required positive responses, while unclassified means word categorization tasks which demanded negative responses.

Table 2
Analysis of Variance in Lexical Decision Times of English Word Processing by English Proficiency

Source of Variation	SS	df	MS	F
Between Subjects				
Proficiency Level	79000.04	1	79000.04	0.39
Error-Between	6450309.16	32	201572.16	
Within Subjects				
TASK Presentation	67773.55	1	67773.55	7.27**
TASK-Pre × P-Level	4443.72	1	4443.72	0.48
Error (TASK-Pre)	298135.63	32	9316.74	
Task-Pre	27472.21	1	27472.21	7.98**
Task-Pre × P-Level	16.83	1	16.83	0.00
Error (Task-Pre)	110119.08	32	3441.22	
Word-Presentation	1563328.45	1	1563328.45	87.18****
Word-Pre × P-Level	1101.49	1	1101.49	0.06
Error (Word-Pre)	573860.74	32	17933.15	
Task-Pre × Word-Pre	12697.59	1	12697.59	3.96
Task- × Word-Pre × P-Level	160.00	1	160.00	0.05
Error (Task- × Word-Pre)	102658.08	32	3208.07	

* P< .05 ** P< .01 **** P< .0001

readers. This may suggest that word classification of the lower level readers required, to a greater degree, more controlled processing than the higher level readers.

There was a highly significant effect of the type of the task (classified or unclassified) on decision times [F (1, 32)=7.27 p <.01]. There was also a highly significant effect of the language of presenting task sentences on decision times [F (1, 32)=7.98, p <.01] . In addition, we found a highly significant effect of the language of presenting target words [F (1, 32)=87.18 ,

$p < .0001$].

The results showed that the tasks presented in Japanese sentences (classified $M = 712$; unclassified $M = 750$) were processed faster than the tasks presented in English sentences (classified $M = 738$; unclassified $M = 764$). What is more important, the target words presented in Japanese (classified $M = 649$; unclassified $M = 682$) were processed faster than the target words presented in English (classified $M = 802$; unclassified $M = 832$). These three main factors (i. e., the type of task, the language of task sentence presentation, and the language of target word presentation) affected the speed of decision times for the word classification task by the Japanese university students.

As for the unclassified items, there was a significant interaction between the within-factors of the language used for presenting task sentences and the language used for presenting target words [$F(1,32) = 3.96$, $p < .05$]. As regards the classified items, there was no significant interaction between these two within-factors (i. e., the language for presenting the task sentences, and the language of the target word presentations).

The present study also compared mean monolingual latencies and mean

Table 3
Mean Latencies (msec) of Classified and Unclassified Responses

Condition of Presentation	Classified Items			Unclassified Items		
	Both	High	Low	Both	High	Low
monolingual	**722**	**697**	**747**	**747**	**737**	**758**
Js-Jw	632	607	657	665	659	671
Es-Ew	811	786	836	829	814	845
bilingual	**729**	**712**	**747**	**767**	**749**	**782**
Es-Jw	666	651	680	699	684	713
Js-Ew	793	773	813	834	818	851

Table 4
Mean Latencies (msec) of Correct Responses

Condition of Presentation	Type of Comparison Concrete	Abstract
monolingual	**1,669**	**1,858**
English	1,537	1,718
French	1,800	1,998
bilingual	**1,711**	**1,872**
English First	1,748	1,854
French First	1,673	1,889

(Adapted from Popiel, 1987, p. 569 ; the present authors obtained the numbers (in bold) by adding the mean times of each condition and dividing the total by two)

bilingual latencies. The mean monolingual latencies were computed by halving the sum of the two monolingual latencies (English-English and Japanese-Japanese). Mean response latencies for bilingual conditions were calculated in the same way. As Table 3 illustrates, there was a slight difference between the means of monolingual and bilingual presentations, but this difference was not significant. As Tabls 3 and Table 4 show, the pattern of the results in the present experiment was very similar to that of Popiel (1987).

DISCUSSION

The present experiment investigated the assumption that lexical switching between English and Japanese would be involved when Japanese ESL students had to shift from one lexicon to the other. The results showed that there was no significant effect of the English proficiency level on decision times in the word classification task. However, it should be noted

that ESL students with higher English proficiency constantly classified English and Japanese target words faster than those with lower English proficiency. This may indicate that word classification of the proficient readers, to a greater degree, requires less controlled processing than the lower level readers.

The task sentences in Japanese were processed more quickly than the same ones in English. Similarly, the target words presented in Japanese were classified faster than the same ones in English. These results seem to reflect the readers' language proficiency level. As Table 1 shows, for both skilled and less skilled subjects, response latencies were slower when they had to shift from their stronger language (i. e., Japanese) to their weaker language (i. e., English). This result appears to be in agreement with Macnamara and Kushnir (1971), which supported the view that bilingual speakers do not usually translate from their weaker language to their stronger language.

As indicated in Table 3, for both skilled and less-skilled subjects, mean response times for monolingual presentations did not differ significantly. This is consistent with the results of other studies (Dalrymple-Alford, 1985[6]; Desrochers & Petrusic, 1983; Popiel, 1987) which supported the view that there was no input switch.

In one study by Desrochers and Petrusic (1983), subjects were asked to make comparative judgements about concrete concept pairs (e. g., mouse vs. whale). They found that there was no difference in latencies between monolingual and bilingual conditions. However, Popiel (1987) argued that the subjects in the above experiment may have been able to use an imagery-based strategy to compare the concrete concept pairs because the stimuli used in the experiment were composed only of concrete concept words[7].

Popiel (1987) asked subjects to make comparative judgements about both concrete concept pairs (e. g., cow vs. panther) and abstract word pairs (e. g., joy vs. sorrow), which were presented unilingually or in mixed languages. The results showed that there was no difference in latencies for unilingual and mixed language concept pairs, whether the pairs were concrete or abstract. The results of Popiel (1987) seems to be in agreement with the results of the present experiment.[8]

In sum, the findings of the present study, as well as those of other studies (e. g., Popiel, 1987) are inconsistent with the view that there are two independent language systems and a lexical switching mechanism. Yet, it would be necessary to explain the small but consistent difference between the means of monolingual and bilingual latencies. Thus, it should be cautioned that although the present results were not compatible with the notion of a lexical switch, this does not necessarily reject the possibility that psycholinguistically distinct but interdependent language systems do exist.

Notes

1. Macnamara & Kushnir (1971) estimated the input switch to be approximately 0.2 seconds.
2. See Wakefield, Bradely, Yom, & Doughtie (1975); Chan, Chau, & Hoosain (1983). These studies showed that subjects responses were slower when they had to switch languages within a major grammatical constituent or when they had to read passages containing random language alternations.
3. In Dalrymple-Alford and Aamiry (1967), for example, there were six possible responses (right-red key, left-red key, etc.) and four conditions (Arabic-Arabic, Arabic-English, English-English and English-Arabic), making a total of 24 different signals. And all the subjects had to respond to the 24 signals four times over (i. e., the series of 96 signals).
4. Soares & Grosjean (1984) assume that bilingual search both their lexicons in

monolingual conditions, but that in decoding bilingual texts they scan the base language lexicon first.

5. Fang, Tzeng, & Alva (1981) found interlingual interference to be higher when the two languages shared the same script (Spanish-English) than when they had different scripts (Chinese-English and Japanese-English).

6. Dalrymple-Alford (1985) had subjects to read aloud word lists containing language alternations. Monolingual word lists were read faster than mixed-language lists when the lists were composed of semantically unrelated word pairs. However, when the lists were composed of semantically related word pairs or translation equivalents, there was no significant difference between monolingual conditions and mixed language conditions. Thus the result of Dalrymple-Alford (1985) is not in agreement with a lexical switching theory.

7. Popiel (1987) also pointed out that a week before the experiment, the subjects were instructed to study the list of the whole stimuli, and a very limited set of stimuli were repeatedly used (cf. Meyer & Ruddy, 1974).

8. The results of the experiment by Popiel (1987) are, however, inconsistent with the dual-code view of bilingual memory suggested by Paivio & Desrochers (1980). In this view the bilingual is considered to possess two language-specific psycholinguistic systems but one nonverbal image system. These three systems are all independent but partially interconnected. Since the concrete concept pairs can be directly processed by the image system, latencies for concrete concept pairs were expected to be shorter than for abstract concept pairs. However, the item analysis (Popiel, 1987) showed there was no significant difference in latencies for concrete and abstract concept pairs.

Hamers & Blanc (1989) disagreed with Paivio & Desrochers (1980). They criticized the view that semantic memory is language-specific and postulated a common semantic memory fed by the two separate verbal channels.

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Appendix I

Japanese sentences followed by Japanese target words (JS-JW)

( )は_____ですか？_____		( )は_____ですか？_____	
動物	イヌ	動物	ボール
動物	サル	動物	ピアノ
動物	ウマ	動物	地図

動物	ネコ	動物	コップ
機械	テレビ	機械	日記
機械	カメラ	機械	アルバム
機械	ラジオ	機械	切手
機械	時計	機械	チョーク
スポーツ	野球	スポーツ	スープ
スポーツ	テニス	スポーツ	ガス
スポーツ	サッカー	スポーツ	エンジン
スポーツ	ゴルフ	スポーツ	バイオリン
衣類	コート	衣類	ナイフ
衣類	スカート	衣類	屋根
衣類	ジャケット	衣類	友達
衣類	セーター	衣類	空気
色	赤	色	冬
色	緑	色	木
色	黒	色	月
色	青	色	皿
果物	リンゴ	果物	少年
果物	バナナ	果物	映画
果物	ブドウ	果物	物語
果物	オレンジ	果物	ゲーム
国	アメリカ	国	フォーク
国	カナダ	国	プール
国	フランス	国	シルク
国	イギリス	国	ピクニック
職業	教師	職業	手紙
職業	技師	職業	パーティー
職業	警官	職業	宿題
職業	医者	職業	ペット
乗り物	タクシー	乗り物	ロープ
乗り物	船	乗り物	婦人
乗り物	汽車	乗り物	石鹸
乗り物	バス	乗り物	ニュース
花	バラ	花	スプーン
花	サクラ	花	ゲスト
花	チューリップ	花	カード
花	ユリ	花	ベル
野菜	トマト	野菜	ペン
野菜	キャベツ	野菜	ギター
野菜	タマネギ	野菜	歌
野菜	ニンジン	野菜	人形
建物	ホテル	建物	インク
建物	銀行	建物	バター

建物	劇場	建物	女王
建物	病院	建物	記憶
飲物	紅茶	飲物	鉄砲
飲物	ミルク	飲物	テント
飲物	ワイン	飲物	指輪
飲物	コーヒー	飲物	鉛筆
家具	テーブル	家具	ベルト
家具	机	家具	石油
家具	椅子	家具	身長
家具	ベッド	家具	写真
鳥	白鳥	鳥	帽子
鳥	ワシ	鳥	ボタン
鳥	ニワトリ	鳥	タオル
鳥	アヒル	鳥	計画

English sentences followed by Japanese target words (ES-JW)

Is ( )_____?	_____	Is ( )_____?	_____
an animal	ネコ	an animal	カップ
an animal	イヌ	an animal	ボール
an animal	サル	an animal	ピアノ
an animal	ウマ	an animal	地図
a machine	時計	a machine	チョーク
a machine	テレビ	a machine	日記
a machine	カメラ	a machine	アルバム
a machine	ラジオ	a machine	切手
a sport	ゴルフ	a sport	バイオリン
a sport	野球	a sport	スープ
a sport	テニス	a sport	ガス
a sport	サッカー	a sport	エンジン
clothing	セーター	clothing	空気
clothing	コート	clothing	ナイフ
clothing	スカート	clothing	屋根
clothing	ジャケット	clothing	友達
a colour	青	a colour	皿
a colour	赤	a colour	冬
a colour	緑	a colour	木
a colour	黒	a colour	月
a fruit	オレンジ	a fruit	ゲーム
a fruit	リンボ	a fruit	少年
a fruit	バナナ	a fruit	映画
a fruit	ブドウ	a fruit	物語
a country	イギリス	a country	ピクニック

a country	アメリカ	a country	フォーク
a country	カナダ	a country	プール
a country	フランス	a country	シルク
a job	医者	a job	ペット
a job	教師	a job	手紙
a job	技師	a job	パーティー
a job	警官	a job	宿題
transportation	バス	transportation	ニュース
transportation	タクシー	transportation	ロープ
transportation	船	transportation	婦人
transportation	汽車	transportation	石鹸
a flower	ユリ	a flower	ベル
a flower	バラ	a flower	スプーン
a flower	サクラ	a flower	ゲスト
a flower	チューリップ	a flower	カード
a vegetable	ニンジン	a vegetable	人形
a vagetable	トマト	a vegetable	ペン
a vegetable	キャベツ	a vegetable	ギター
a vegetable	タマネギ	a vegetable	歌
a building	病院	a building	記憶
a building	ホテル	a building	インク
a building	銀行	a building	バター
a building	劇場	a building	女王
a drink	コーヒー	a drink	鉛筆
a drink	紅茶	a drink	鉄砲
a irink	ミルク	a drink	テント
a drink	ワイン	a drink	指輪
furniture	ベッド	furniture	写真
furniture	テーブル	furniture	ベルト
furniture	机	furniture	石油
furniture	椅子	furniture	身長
a bird	アヒル	a bird	計画
a bird	白鳥	a bird	帽子
a bird	ワシ	a bird	ボタン
a bird	ニワトリ	a bird	タオル

Japanese sentences followed by English target words (JS-EW)

( )は_____ですか？_____		( )は_____ですか？_____	
動物	horse	動物	map
動物	cat	動物	cup
動物	dog	動物	ball
動物	monkey	動物	piano

機械	radio
機械	clock
機械	television
機械	camera
スポーツ	soccer
スポーツ	golf
スポーツ	baseball
スポーツ	tennis
衣類	jacket
衣類	sweater
衣類	coat
衣類	skirt
色	black
色	blue
色	red
色	green
果物	grape
果物	orange
果物	apple
果物	banana
国	France
国	England
国	America
国	Canada
職業	policeman
職業	doctor
職業	teacher
職業	engineer
乗り物	train
乗り物	bus
乗り物	taxi
乗り物	ship
花	tulip
花	lily
花	rose
花	cherry
野菜	onion
野菜	carrot
野菜	tomato
野菜	cabbage
建物	theater
建物	hospital
建物	hotel
機械	stamp
機械	chalk
機械	diary
機械	album
スポーツ	engine
スポーツ	violin
スポーツ	soup
スポーツ	gas
衣類	friend
衣類	air
衣類	knife
衣類	roof
色	moon
色	dish
色	winter
色	tree
果物	story
果物	game
果物	boy
果物	movie
国	silk
国	picnic
国	fork
国	pool
職業	homework
職業	pet
職業	letter
職業	party
乗り物	soap
乗り物	news
乗り物	rope
乗り物	lady
花	card
花	bell
花	spoon
花	guest
野菜	song
野菜	doll
野菜	pen
野菜	guitar
建物	queen
建物	memory
建物	ink

建物	bank	建物	butter
飲物	wine	飲物	ring
飲物	coffee	飲物	pencil
飲物	tea	飲物	gun
飲物	milk	飲物	tent
家具	chair	家具	height
家具	bed	家具	picture
家具	table	家具	belt
家具	desk	家具	oil
鳥	cock	鳥	towel
鳥	duck	鳥	plan
鳥	swan	鳥	hat
鳥	eagle	鳥	button

English sentences followed by English target words (ES-EW)

Is ( )_____?	_____	Is ( )_____?	_____
an animal	monkey	an animal	piano
an animal	horse	an animal	map
an animal	cat	an animal	cup
an animal	dog	an animal	ball
a machine	camera	a machine	album
a machine	radio	a machine	stamp
a machine	clock	a machine	chalk
a machine	television	a machine	diary
a sport	tennis	a sport	gas
a sport	soccer	a sport	engine
a sport	golf	a sport	violin
a sport	baseball	a sport	soup
clothing	skirt	clothing	roof
clothing	jacket	clothing	friend
clothing	sweater	clothing	air
clothing	coat	clothing	knife
a colour	green	a colour	tree
a colour	black	a colour	moon
a colour	blue	a colour	dish
a colour	red	a colour	winter
a fruit	banana	a fruit	movie
a fruit	grape	a fruit	story
a fruit	orange	a fruit	game
a fruit	apple	a fruit	boy
a country	Canada	a country	pool
a country	France	a country	silk

a country	England	a country	picnic
a country	America	a country	fork
a job	engineer	a job	party
a job	policeman	a job	homework
a job	doctor	a job	pet
a job	teacher	a job	letter
transportation	ship	transportation	lady
transportation	train	transportation	soap
transportation	bus	transportation	news
transportation	taxi	transportation	rope
a flower	cherry	a flower	guest
a flower	tulip	a flower	card
a flower	lily	a flower	bell
a flower	rose	a flower	spoon
a vegetable	cabbage	a vegetable	queen
a vegetable	onion	a vegetable	song
a vegetable	carrot	a vegetable	doll
a vegetable	tomato	a vegetable	pen
a building	bank	a building	butter
a building	theater	a building	queen
a building	hospital	a building	memory
a building	hotel	a building	ink
a drink	milk	a drink	tent
a drink	wine	a drink	ring
a drink	coffee	a drink	pencil
a drink	tea	a drink	gun
furniture	desk	furniture	oil
furniture	chair	furniture	height
furniture	bed	furniture	picture
furniture	table	furniture	belt
a bird	eagle	a bird	button
a bird	cock	a bird	towel
a bird	duck	a bird	plan
a bird	swan	a bird	hat