

Appendix A: Simulation word / nonword sets.

The following pages contain simulation word / nonword sets for:

The Word Similarity Simulation (Chapter 4).

The Monolingual Priming Simulation (Chapter 6).

- Word set.
- Orthographic and Semantic Codes

The Bilingual Single Network Model (Chapter 7).

- Languages A and B.
- Orthographic and Semantic Codes

The Word Similarity Simulation (Chapter 4).

| Language One (OGs) | | | | | | | | Language Two (AYs) | | | | | | | | | |
|--------------------|---------------------------|--------|--------------------------------|--------|------------------------------|--------|----|--------------------|----------------|---------------------------|--------|--------------------------------|--------|------------------------------|--------|----|--------------|
| Bases Words | Word Similarity condition | | Language Information condition | | Mapping Similarity condition | | | Mapping Type | Bases Words | Word Similarity condition | | Language Information condition | | Mapping Similarity condition | | | Mapping Type |
| | Input | Output | Input | Output | Input | Output | | | | Input | Output | Input | Output | Input | Output | | |
| dog | - | - | A | A | A | A | au | | tay | - | - | B | B | B | B | au | |
| fog | - | - | A | A | A | A | au | | gay | - | - | B | B | B | B | au | |
| lip* | - | - | A | A | A | A | au | | fop* | - | - | B | B | B | B | au | |
| log | - | - | A | A | A | A | au | | day | - | - | B | B | B | B | au | |
| bog | - | - | A | A | A | A | au | | zay | - | - | B | B | B | B | au | |
| get* | - | - | A | A | A | A | au | | zat* | - | - | B | B | B | B | au | |
| mog | - | - | A | A | A | B | tr | | fay | - | - | B | B | B | A | tr | |
| sog | - | - | A | A | A | B | tr | | bay | - | - | B | B | B | A | tr | |
| bep* | - | - | A | A | A | B | tr | | set* | - | - | B | B | B | A | tr | |
| tog | - | - | A | A | A | B | tr | | lay | - | - | B | B | B | A | tr | |
| gog | - | - | A | A | A | B | tr | | may | - | - | B | B | B | A | tr | |
| bat* | - | - | A | A | A | B | tr | | biy* | - | - | B | B | B | A | tr | |

Mapping Types: au = "Autoassociation"
 tr = "Transformation"

Starred words do not conform to their language's predominant regularity.

The Monolingual Priming Simulation (Chapter 6).

| Words | Nonwords | | | |
|-------|----------|-----|-----|-----|
| bad | ban | gen | pin | sow |
| ber | bar | ger | pir | sud |
| bir | baw | gew | pod | sur |
| bor | bed | gid | pon | suw |
| gar | ben | gir | por | tad |
| gin | bew | giw | pud | taw |
| god | bid | gon | pun | ted |
| gun | bin | gor | puw | ten |
| ped | biw | gow | san | ter |
| piw | bod | gud | sar | tew |
| pow | bon | gur | saw | tin |
| pur | bow | guw | sed | tir |
| sad | bud | pad | sen | tiw |
| sew | bun | pan | ser | tod |
| sod | bur | par | sid | tor |
| sun | buw | paw | sin | tow |
| tan | gad | pen | sir | tud |
| tar | gan | per | siw | tun |
| tid | gaw | pew | son | tur |
| ton | ged | pid | sor | tuw |

Bilingual Single Network simulation (Chapter 7).

Key.

V = Vowel (a, e, i, o, u)

C = Consonant (b, f, g, s, t)

HF = High Frequency

LF = Low Frequency (30% of HF learning rate.)

SINGLE = Word form exists in only one language

BOTH = Word form exists in both languages.

LL = Legal in both languages

LN/NL = Legal in one language, Non-legal in the other.

COG = Cognate homograph (same form and meaning in each language)

NCG = Non-cognate homograph (same form, different meaning in each language).

Language A

| # | I1 | I2 | I3 | word | lang | rule | frequency | word type |
|----|----|----|----|------|------|------|-----------|-----------|
| 1 | b | u | u | buu | A | CVV | HF | SINGLE_LL |
| 2 | g | e | a | gea | A | CVV | HF | SINGLE_LL |
| 3 | t | u | e | tue | A | CVV | HF | SINGLE_LL |
| 4 | g | i | i | gii | A | CVV | HF | SINGLE_LL |
| 5 | g | i | o | gio | A | CVV | HF | SINGLE_LL |
| 6 | g | o | i | goi | A | CVV | HF | SINGLE_LL |
| 7 | f | e | a | fea | A | CVV | HF | SINGLE_LL |
| 8 | g | i | e | gie | A | CVV | HF | SINGLE_LL |
| 9 | s | o | o | soo | A | CVV | HF | SINGLE_LL |
| 10 | f | i | u | fiu | A | CVV | HF | SINGLE_LL |
| 11 | s | i | o | sio | A | CVV | LF | SINGLE_LL |
| 12 | b | o | u | bou | A | CVV | LF | SINGLE_LL |
| 13 | b | i | u | biu | A | CVV | LF | SINGLE_LL |
| 14 | t | i | u | tiu | A | CVV | LF | SINGLE_LL |
| 15 | f | u | o | fuo | A | CVV | LF | SINGLE_LL |
| 16 | s | a | e | sae | A | CVV | LF | SINGLE_LL |
| 17 | t | a | u | tau | A | CVV | LF | SINGLE_LL |
| 18 | b | u | e | bue | A | CVV | LF | SINGLE_LL |
| 19 | s | u | o | suo | A | CVV | LF | SINGLE_LL |
| 20 | b | a | e | bae | A | CVV | LF | SINGLE_LL |
| 21 | s | u | u | suu | A | CVV | HF | BOTH_COG |
| 22 | b | u | o | buo | A | CVV | HF | BOTH_COG |
| 23 | f | a | a | faa | A | CVV | HF | BOTH_NCG |
| 24 | f | i | a | fia | A | CVV | HF | BOTH_NCG |
| 25 | t | i | e | tie | A | CVV | LF | BOTH_COG |
| 26 | g | a | o | gao | A | CVV | LF | BOTH_COG |
| 27 | b | o | a | boa | A | CVV | LF | BOTH_NCG |
| 28 | b | a | a | baa | A | CVV | LF | BOTH_NCG |
| 29 | t | a | b | tab | A | CVC | HF | SINGLE_LL |
| 30 | g | i | g | gig | A | CVC | HF | SINGLE_LL |
| 31 | s | u | b | sub | A | CVC | HF | SINGLE_LL |
| 32 | b | a | s | bas | A | CVC | HF | SINGLE_LL |
| 33 | t | a | s | tas | A | CVC | HF | SINGLE_LL |
| 34 | f | o | s | fos | A | CVC | HF | SINGLE_LL |
| 35 | b | i | f | bif | A | CVC | HF | SINGLE_LL |
| 36 | s | o | t | sol | A | CVC | HF | SINGLE_LL |
| 37 | b | e | f | bef | A | CVC | HF | SINGLE_LL |
| 38 | s | i | t | sit | A | CVC | HF | SINGLE_LL |
| 39 | g | i | f | gif | A | CVC | LF | SINGLE_LL |
| 40 | f | a | s | fas | A | CVC | LF | SINGLE_LL |
| 41 | g | e | g | geg | A | CVC | LF | SINGLE_LL |
| 42 | s | u | s | sus | A | CVC | LF | SINGLE_LL |
| 43 | t | i | f | tif | A | CVC | LF | SINGLE_LL |
| 44 | g | u | t | gut | A | CVC | LF | SINGLE_LL |
| 45 | b | a | g | bag | A | CVC | LF | SINGLE_LL |
| 46 | b | u | f | buf | A | CVC | LF | SINGLE_LL |
| 47 | s | u | t | sut | A | CVC | LF | SINGLE_LL |
| 48 | f | o | t | fof | A | CVC | LF | SINGLE_LL |
| 49 | f | a | t | fat | A | CVC | HF | BOTH_COG |
| 50 | b | a | f | baf | A | CVC | HF | BOTH_COG |

Language B

| # | I1 | I2 | I3 | word | lang | rule | frequency | word type |
|----|----|----|----|------|------|------|-----------|-----------|
| 1 | s | a | u | sau | B | CVV | HF | SINGLE_LL |
| 2 | t | e | u | teu | B | CVV | HF | SINGLE_LL |
| 3 | t | o | u | tou | B | CVV | HF | SINGLE_LL |
| 4 | g | o | o | goo | B | CVV | HF | SINGLE_LL |
| 5 | t | i | o | tio | B | CVV | HF | SINGLE_LL |
| 6 | g | a | e | gae | B | CVV | HF | SINGLE_LL |
| 7 | s | u | e | sue | B | CVV | HF | SINGLE_LL |
| 8 | t | a | i | tai | B | CVV | HF | SINGLE_LL |
| 9 | s | i | e | sie | B | CVV | HF | SINGLE_LL |
| 10 | t | a | o | tao | B | CVV | HF | SINGLE_LL |
| 11 | b | e | i | bei | B | CVV | LF | SINGLE_LL |
| 12 | g | o | u | gou | B | CVV | LF | SINGLE_LL |
| 13 | t | e | o | teo | B | CVV | LF | SINGLE_LL |
| 14 | f | u | i | fui | B | CVV | LF | SINGLE_LL |
| 15 | g | i | a | gia | B | CVV | LF | SINGLE_LL |
| 16 | s | e | o | seo | B | CVV | LF | SINGLE_LL |
| 17 | s | o | i | soi | B | CVV | LF | SINGLE_LL |
| 18 | f | o | a | foa | B | CVV | LF | SINGLE_LL |
| 19 | f | o | i | foi | B | CVV | LF | SINGLE_LL |
| 20 | t | e | e | tee | B | CVV | LF | SINGLE_LL |
| 21 | s | u | u | suu | B | CVV | HF | BOTH_COG |
| 22 | b | u | o | buo | B | CVV | HF | BOTH_COG |
| 23 | f | a | a | faa | B | CVV | HF | BOTH_NCG |
| 24 | f | i | a | fia | B | CVV | HF | BOTH_NCG |
| 25 | t | i | e | tie | B | CVV | LF | BOTH_COG |
| 26 | g | a | o | gao | B | CVV | LF | BOTH_COG |
| 27 | b | o | a | boa | B | CVV | LF | BOTH_NCG |
| 28 | b | a | a | baa | B | CVV | LF | BOTH_NCG |
| 29 | g | a | t | gat | B | CVC | HF | SINGLE_LL |
| 30 | t | a | f | taf | B | CVC | HF | SINGLE_LL |
| 31 | b | i | b | bib | B | CVC | HF | SINGLE_LL |
| 32 | s | i | f | sif | B | CVC | HF | SINGLE_LL |
| 33 | b | o | g | bog | B | CVC | HF | SINGLE_LL |
| 34 | f | i | f | fif | B | CVC | HF | SINGLE_LL |
| 35 | t | e | s | tes | B | CVC | HF | SINGLE_LL |
| 36 | f | e | f | fef | B | CVC | HF | SINGLE_LL |
| 37 | b | i | t | bit | B | CVC | HF | SINGLE_LL |
| 38 | t | o | f | tof | B | CVC | HF | SINGLE_LL |
| 39 | b | u | g | bug | B | CVC | LF | SINGLE_LL |
| 40 | g | e | t | get | B | CVC | LF | SINGLE_LL |
| 41 | t | e | g | teg | B | CVC | LF | SINGLE_LL |
| 42 | b | u | t | but | B | CVC | LF | SINGLE_LL |
| 43 | g | a | s | gas | B | CVC | LF | SINGLE_LL |
| 44 | s | e | g | seg | B | CVC | LF | SINGLE_LL |
| 45 | f | u | g | fug | B | CVC | LF | SINGLE_LL |
| 46 | t | u | s | tus | B | CVC | LF | SINGLE_LL |
| 47 | b | o | s | bos | B | CVC | LF | SINGLE_LL |
| 48 | s | o | b | sob | B | CVC | LF | SINGLE_LL |
| 49 | f | a | t | fat | B | CVC | HF | BOTH_COG |
| 50 | b | a | f | baf | B | CVC | HF | BOTH_COG |

Continued.

Language A

| # | l1 | l2 | l3 | word | lang | rule | frequency | word type |
|----|----|----|----|------|------|------|-----------|-----------|
| 51 | f | o | b | fob | A | CVC | HF | BOTH_NCG |
| 52 | s | a | b | sab | A | CVC | HF | BOTH_NCG |
| 53 | t | i | g | tig | A | CVC | LF | BOTH_COG |
| 54 | t | a | g | tag | A | CVC | LF | BOTH_COG |
| 55 | s | o | g | sog | A | CVC | LF | BOTH_NCG |
| 56 | s | o | s | sos | A | CVC | LF | BOTH_NCG |
| 57 | i | t | o | ito | A | VCV | HF | SINGLE_LN |
| 58 | a | t | a | ata | A | VCV | HF | SINGLE_LN |
| 59 | a | b | u | abu | A | VCV | HF | SINGLE_LN |
| 60 | u | t | a | uta | A | VCV | HF | SINGLE_LN |
| 61 | o | g | e | oge | A | VCV | HF | SINGLE_LN |
| 62 | u | f | i | ufi | A | VCV | HF | SINGLE_LN |
| 63 | u | g | e | uge | A | VCV | HF | SINGLE_LN |
| 64 | u | s | a | usa | A | VCV | HF | SINGLE_LN |
| 65 | i | b | u | ibu | A | VCV | HF | SINGLE_LN |
| 66 | a | s | o | aso | A | VCV | HF | SINGLE_LN |
| 67 | e | f | a | efa | A | VCV | LF | SINGLE_LN |
| 68 | u | b | a | uba | A | VCV | LF | SINGLE_LN |
| 69 | u | s | u | usu | A | VCV | LF | SINGLE_LN |
| 70 | o | t | a | ota | A | VCV | LF | SINGLE_LN |
| 71 | u | b | i | ubi | A | VCV | LF | SINGLE_LN |
| 72 | u | g | u | ugu | A | VCV | LF | SINGLE_LN |
| 73 | o | f | e | ofe | A | VCV | LF | SINGLE_LN |
| 74 | a | b | e | abe | A | VCV | LF | SINGLE_LN |
| 75 | i | g | a | iga | A | VCV | LF | SINGLE_LN |
| 76 | i | f | i | ifi | A | VCV | LF | SINGLE_LN |
| 77 | i | i | f | iif | A | VVC | HF | SINGLE_LN |
| 78 | i | o | g | iog | A | VVC | HF | SINGLE_LN |
| 79 | u | e | t | uet | A | VVC | HF | SINGLE_LN |
| 80 | o | i | t | oit | A | VVC | HF | SINGLE_LN |
| 81 | e | e | f | eef | A | VVC | HF | SINGLE_LN |
| 82 | a | u | b | aub | A | VVC | HF | SINGLE_LN |
| 83 | u | e | g | ueg | A | VVC | HF | SINGLE_LN |
| 84 | o | u | g | oug | A | VVC | HF | SINGLE_LN |
| 85 | o | i | g | oig | A | VVC | HF | SINGLE_LN |
| 86 | o | u | t | out | A | VVC | HF | SINGLE_LN |
| 87 | a | a | t | aat | A | VVC | LF | SINGLE_LN |
| 88 | e | i | g | eig | A | VVC | LF | SINGLE_LN |
| 89 | u | a | g | uag | A | VVC | LF | SINGLE_LN |
| 90 | a | a | g | aag | A | VVC | LF | SINGLE_LN |
| 91 | o | u | s | ous | A | VVC | LF | SINGLE_LN |
| 92 | e | a | f | eaf | A | VVC | LF | SINGLE_LN |
| 93 | i | a | t | iat | A | VVC | LF | SINGLE_LN |
| 94 | e | o | f | eof | A | VVC | LF | SINGLE_LN |
| 95 | a | a | b | aab | A | VVC | LF | SINGLE_LN |
| 96 | i | a | s | ias | A | VVC | LF | SINGLE_LN |

Language B

| # | l1 | l2 | l3 | word | lang | rule | frequency | word type |
|----|----|----|----|------|------|------|-----------|-----------|
| 51 | f | o | b | fob | B | CVC | HF | BOTH_NCG |
| 52 | s | a | b | sab | B | CVC | HF | BOTH_NCG |
| 53 | t | i | g | tig | B | CVC | LF | BOTH_COG |
| 54 | t | a | g | tag | B | CVC | LF | BOTH_COG |
| 55 | s | o | g | sog | B | CVC | LF | BOTH_NCG |
| 56 | s | o | s | sos | B | CVC | LF | BOTH_NCG |
| 57 | g | g | u | ggu | B | CCV | HF | SINGLE_LN |
| 58 | b | s | a | bsa | B | CCV | HF | SINGLE_LN |
| 59 | s | s | i | ssi | B | CCV | HF | SINGLE_LN |
| 60 | b | s | o | bso | B | CCV | HF | SINGLE_LN |
| 61 | s | g | i | sgi | B | CCV | HF | SINGLE_LN |
| 62 | s | t | o | sto | B | CCV | HF | SINGLE_LN |
| 63 | b | t | e | bte | B | CCV | HF | SINGLE_LN |
| 64 | f | f | o | ffo | B | CCV | HF | SINGLE_LN |
| 65 | b | g | i | bgi | B | CCV | HF | SINGLE_LN |
| 66 | s | g | e | sge | B | CCV | HF | SINGLE_LN |
| 67 | s | t | u | stu | B | CCV | LF | SINGLE_LN |
| 68 | t | t | a | tta | B | CCV | LF | SINGLE_LN |
| 69 | g | f | a | gfa | B | CCV | LF | SINGLE_LN |
| 70 | f | s | o | fso | B | CCV | LF | SINGLE_LN |
| 71 | b | f | i | bfi | B | CCV | LF | SINGLE_LN |
| 72 | g | f | o | gfo | B | CCV | LF | SINGLE_LN |
| 73 | s | s | u | ssu | B | CCV | LF | SINGLE_LN |
| 74 | b | t | a | bta | B | CCV | LF | SINGLE_LN |
| 75 | g | s | i | gsi | B | CCV | LF | SINGLE_LN |
| 76 | s | b | u | sbu | B | CCV | LF | SINGLE_LN |
| 77 | e | s | b | esb | B | VCC | HF | SINGLE_LN |
| 78 | o | b | t | obt | B | VCC | HF | SINGLE_LN |
| 79 | o | s | b | osb | B | VCC | HF | SINGLE_LN |
| 80 | u | t | f | utf | B | VCC | HF | SINGLE_LN |
| 81 | u | g | b | ugb | B | VCC | HF | SINGLE_LN |
| 82 | e | g | b | egb | B | VCC | HF | SINGLE_LN |
| 83 | o | f | b | ofb | B | VCC | HF | SINGLE_LN |
| 84 | i | g | b | igb | B | VCC | HF | SINGLE_LN |
| 85 | i | f | f | iff | B | VCC | HF | SINGLE_LN |
| 86 | e | g | s | egs | B | VCC | HF | SINGLE_LN |
| 87 | u | b | f | ubf | B | VCC | LF | SINGLE_LN |
| 88 | u | s | f | usf | B | VCC | LF | SINGLE_LN |
| 89 | o | f | s | ofs | B | VCC | LF | SINGLE_LN |
| 90 | i | t | s | its | B | VCC | LF | SINGLE_LN |
| 91 | e | t | t | ett | B | VCC | LF | SINGLE_LN |
| 92 | o | g | t | ogt | B | VCC | LF | SINGLE_LN |
| 93 | o | b | g | obg | B | VCC | LF | SINGLE_LN |
| 94 | e | g | t | egt | B | VCC | LF | SINGLE_LN |
| 95 | a | b | g | abg | B | VCC | LF | SINGLE_LN |
| 96 | i | t | g | itg | B | VCC | LF | SINGLE_LN |

Orthographic and Semantic Codes for languages used in the Bilingual Single Network model.

Cognate homographs are indicated by bold text.
 Non-cognate homographs are indicated by italicised text.
 In each language list, translation equivalents appear in the same position.
 Presence of a dark square indicates an activated unit.

Language A.

Orthographic Code

Language Code

Semantic Code

First letter

Second letter

4 per language

Semantic Features 1-120

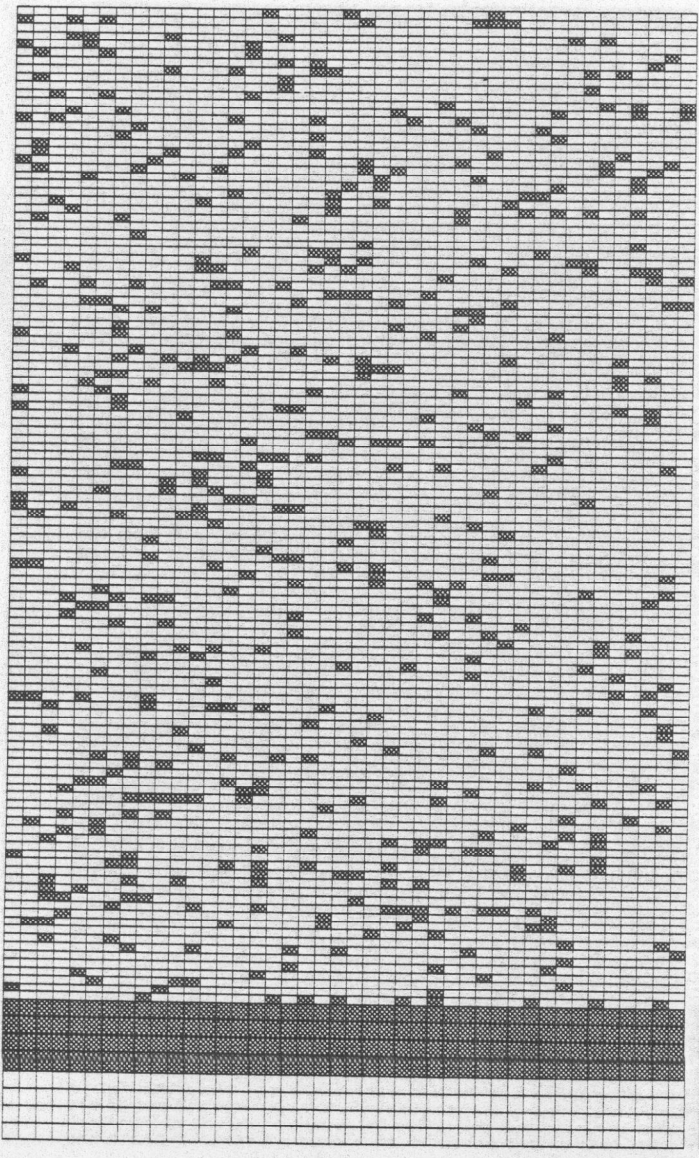
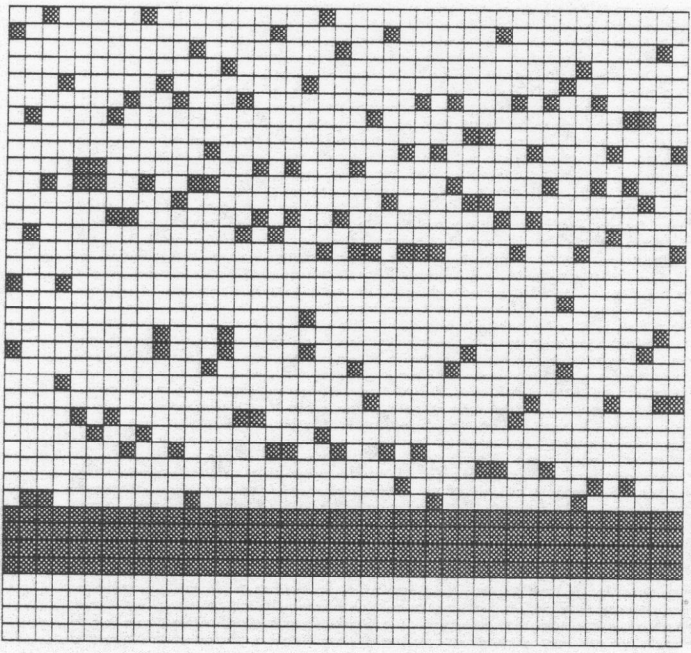
Third letter

Language Code

4 per language

Word

| |
|------|
| suo |
| lio |
| lea |
| las |
| soo |
| bss |
| out |
| uge |
| bag |
| sio |
| bhu |
| sig |
| geg |
| gea |
| bee |
| sul |
| bul |
| sus |
| ael |
| lno |
| lue |
| fl |
| sub |
| usa |
| fl |
| ael |
| lu |
| hou |
| ota |
| saa |
| lil |
| pad |
| lita |
| sub |
| chl |
| lu |
| lud |
| lhu |
| lhl |
| bal |
| toi |
| ela |



Orthographic Code

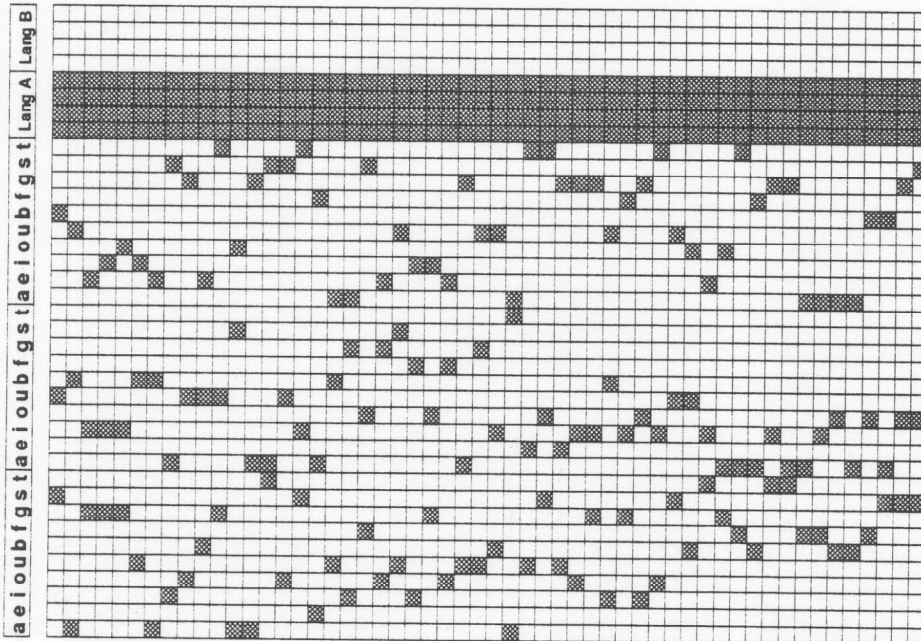
First letter

Second letter

Third letter

Word

- sub
- abu
- gie
- gii
- gio
- ubi
- abe
- ias
- oug
- bue
- guf
- aso
- aaq
- tas
- ous
- sif
- epi
- uba
- iga
- fas
- ope
- usu
- fil
- poi
- ois
- usg
- ugu
- ihu
- ata
- uef
- sot
- ung
- ong
- gig
- abu
- gri
- og
- oit
- suu
- buo
- tie
- gao
- fat
- bat
- tig
- tag
- faa
- fia
- bou
- baa
- fab
- sab
- sog
- sos



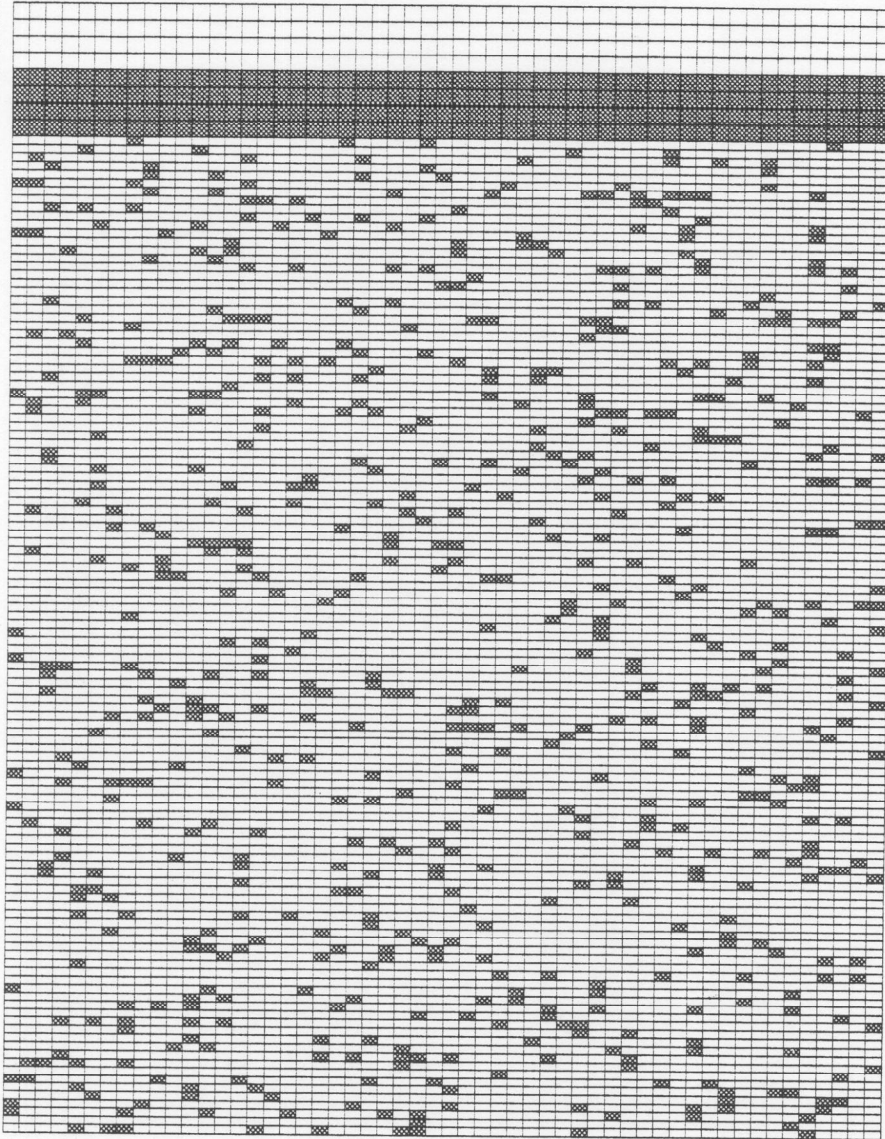
Language Code

4 per language

Semantic Code

Semantic Features 1-120

Lang A Lang B



Language Code

4 per language

Language B

Orthographic Code

First letter

Second letter

Third letter

Word

tou gal ris lee bli gla bib sue upb bos tus ggu ggl gpl lao bli oei oei eps epp epp bis lio lio ifi bli bli obi obi sag lio lio lio lio oib oib abg abg sau sau usi usi fia fia stu stu but but uoi uoi bea bea toi toi bei bei fer fer sgi sgi bug bug lig lig urf urf toi

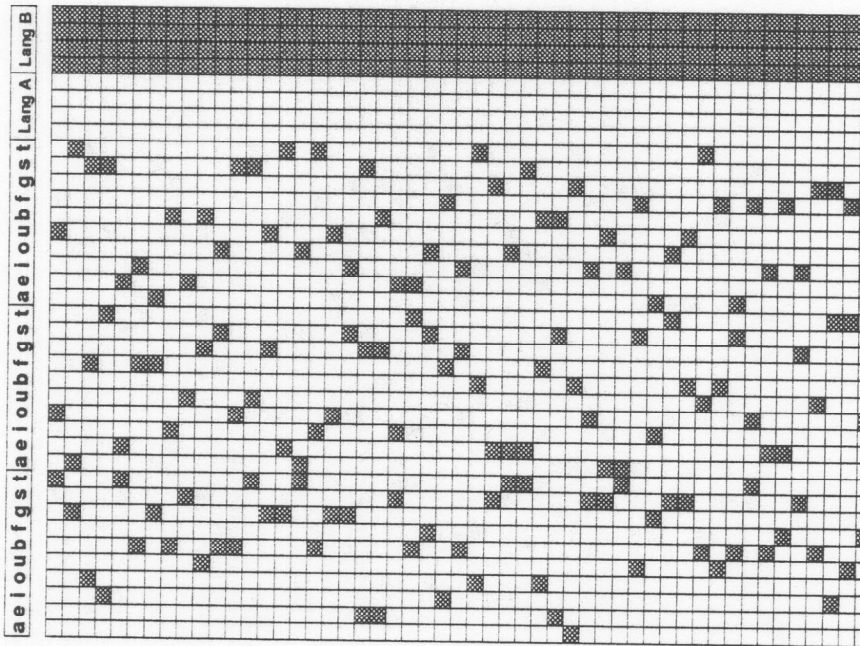
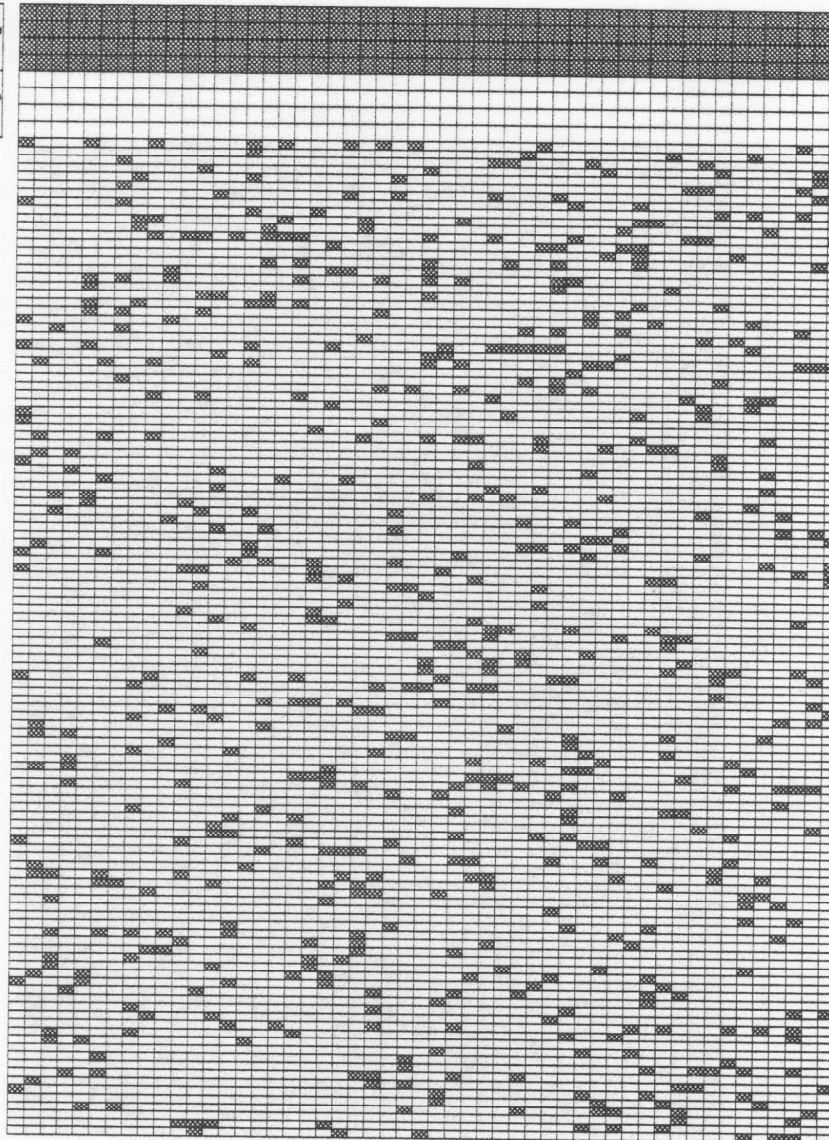
Language Code Semantic Code

4 per language Semantic Features 1-120

Language Code

4 per language

Lang A Lang B



Appendix B: Experimental Stimulus Sets.

The following pages contain Experimental Stimulus sets for:

The Bilingual Priming Study.

The first Bilingual Language Switching Study.

The second Bilingual Language Switching Study.

Test stimuli used in the Bilingual Priming Study.

English meaning of Non-Cognate Homographs

| Group 1 | Same WP in both languages? | KF-Freq | | Imag | |
|---------|----------------------------|---------|--------|---------|--------|
| | | English | French | English | French |
| BILLET | Y | 1 | 436 | 436 | 543 |
| CAR | N | 274 | 638 | 638 | 634 |
| CHAT | Y | 5 | 453 | 453 | 492 |
| COMMENT | N | 42 | 453 | 453 | 617 |
| DENT | Y | 2 | 486 | 486 | 634 |
| FOND | Y | 13 | 363 | 363 | 543 |
| HATE | Y | 42 | 462 | 462 | 378 |
| LENT | N | 5 | 556 | 556 | 488 |
| LOIN | N | 1 | 550 | 550 | 416 |
| MINCE | N | 1 | 419 | 419 | 377 |
| PAYS | N | 172 | 485 | 485 | 427 |
| POUR | N | 9 | 495 | 495 | 394 |
| RIDE | N | 49 | 483 | 483 | 110 |
| SEIZE | N | 4 | 416 | 416 | 539 |
| TOUT | N | 1 | 430 | 430 | 2 |

English Singles

| Group 1 | KF-Freq | | Imag | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| BUTLER | 4 | 4 | 543 | 543 |
| GIRL | 220 | 220 | 634 | 634 |
| COIL | 6 | 6 | 492 | 492 |
| PLAIN | 48 | 48 | 617 | 617 |
| RULER | 3 | 3 | 634 | 634 |
| CLEVER | 17 | 17 | 543 | 543 |
| ANGER | 48 | 48 | 378 | 378 |
| PIER | 3 | 3 | 488 | 488 |
| DIAL | 1 | 1 | 416 | 416 |
| BRIBE | 1 | 1 | 377 | 377 |
| ALONE | 195 | 195 | 427 | 427 |
| SLICE | 31 | 31 | 394 | 394 |
| SPOT | 57 | 57 | 539 | 539 |
| SEVER | 3 | 3 | 216 | 216 |
| CLOVE | 1 | 1 | 589 | 589 |

French meaning of Non-Cognate Homographs

| Group 1 | KF-Freq | | Imag | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| BILLET | 16 | 16 | 574 | 574 |
| CAR | 883 | 883 | 216 | 216 |
| CHAT | 23 | 23 | 617 | 617 |
| COMMENT | 834 | 834 | 230 | 230 |
| DENT | 20 | 20 | 624 | 624 |
| FOND | 109 | 109 | 498 | 498 |
| HATE | 9 | 9 | 416 | 416 |
| LENT | 60 | 60 | 377 | 377 |
| LOIN | 427 | 427 | 411 | 411 |
| MINCE | 92 | 92 | 502 | 502 |
| PAYS | 324 | 324 | 539 | 539 |
| POUR | 9489 | 9489 | 216 | 216 |
| RIDE | 2 | 2 | 589 | 589 |
| SEIZE | 20 | 20 | 491 | 491 |
| TOUT | 3001 | 3001 | 332 | 332 |

French Singles

| Group 1 | KF-Freq | | Imag | |
|----------|---------|--------|---------|--------|
| | English | French | English | French |
| TANTE | 22 | 22 | 567 | 567 |
| TROP | 832 | 832 | 261 | 261 |
| PLAGE | 61 | 61 | 667 | 667 |
| TRES | 769 | 769 | 243 | 243 |
| SAVON | 22 | 22 | 600 | 600 |
| VIDE | 64 | 64 | 479 | 479 |
| PEINE | 9 | 9 | 429 | 429 |
| CHER | 54 | 54 | 374 | 374 |
| PROCHAIN | 394 | 394 | 386 | 386 |
| LOURD | 110 | 110 | 495 | 495 |
| MATIN | 211 | 211 | 579 | 579 |
| AVANT | 1016 | 1016 | 255 | 255 |
| SABOT | 2 | 2 | 598 | 598 |
| SENTIER | 44 | 44 | 537 | 537 |
| FAIT | 1125 | 1125 | 351 | 351 |

Nonwords legal in both languages. (see Appendix C for explanation of these values).

| Group 1 | Bigram | | Trigram | | Count | |
|----------|---------|--------|---------|--------|---------|--------|
| | English | French | English | French | English | French |
| BAIR | 2.48 | 1.97 | 3.41 | 3.16 | 3.16 | 3.16 |
| CLASE | 2.24 | 2.15 | 3.17 | 3.34 | 3.34 | 3.34 |
| ETORAL | 2.02 | 2.01 | 2.93 | 3.24 | 3.24 | 3.24 |
| EXCATE | 2.13 | 2.20 | 2.68 | 3.25 | 3.25 | 3.25 |
| GRICE | 2.15 | 2.19 | 2.99 | 3.12 | 3.12 | 3.12 |
| LADITION | 2.07 | 1.98 | 2.74 | 2.57 | 2.57 | 2.57 |
| MATION | 1.96 | 1.92 | 2.50 | 2.34 | 2.34 | 2.34 |
| MERAL | 1.91 | 1.67 | 2.92 | 2.20 | 2.20 | 2.20 |
| PERATES | 1.92 | 1.69 | 2.57 | 2.30 | 2.30 | 2.30 |
| RAPATE | 2.02 | 1.92 | 2.66 | 3.11 | 3.11 | 3.11 |
| SARE | 2.01 | 1.85 | 3.23 | 3.41 | 3.41 | 3.41 |
| TAMPLE | 2.21 | 2.27 | 3.24 | 3.36 | 3.36 | 3.36 |
| TELANT | 1.94 | 1.86 | 2.79 | 2.62 | 2.62 | 2.62 |
| VORSION | 2.15 | 2.06 | 2.86 | 2.62 | 2.62 | 2.62 |
| VOSE | 2.41 | 2.22 | 3.39 | 3.43 | 3.43 | 3.43 |

Group 2

| Group 2 | Same WP in both languages? | KF-Freq | | Imag | |
|---------|----------------------------|---------|--------|---------|--------|
| | | English | French | English | French |
| CHOSE | N | 37 | 299 | 299 | 307 |
| COIN | Y | 10 | 603 | 603 | 615 |
| CRANE | Y | 5 | 562 | 562 | 585 |
| FIN | Y | 2 | 551 | 551 | 551 |
| FORT | N | 55 | 559 | 559 | 559 |
| HABITS | Y | 23 | 418 | 418 | 430 |
| LIT | N | 17 | 542 | 542 | 541 |
| MAIN | N | 119 | 309 | 309 | 283 |
| OURS | N | 29 | 289 | 289 | 316 |
| PAIN | Y | 88 | 502 | 502 | 494 |
| PLUS | Y | 72 | 347 | 347 | 365 |
| SABLE | N | 2 | 419 | 419 | 390 |
| SALE | N | 44 | 422 | 422 | 417 |
| SON | N | 166 | 560 | 560 | 538 |
| VENT | Y | 10 | 582 | 582 | 580 |

| Group 2 | KF-Freq | | Imag | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| IMPROVE | 39 | 39 | 307 | 307 |
| MOUSE | 10 | 10 | 615 | 615 |
| APRON | 7 | 7 | 585 | 585 |
| TAIL | 24 | 24 | 551 | 551 |
| CHAIN | 50 | 50 | 559 | 559 |
| HIDE | 22 | 22 | 430 | 430 |
| BURN | 15 | 15 | 541 | 541 |
| FORMER | 131 | 131 | 283 | 283 |
| SPARE | 23 | 23 | 316 | 316 |
| NINE | 81 | 81 | 494 | 494 |
| SAVE | 62 | 62 | 365 | 365 |
| GILT | 3 | 3 | 390 | 390 |
| DROP | 59 | 59 | 417 | 417 |
| SPACE | 184 | 184 | 538 | 538 |
| BUTTON | 10 | 10 | 580 | 580 |

| Group 2 | KF-Freq | | Imag | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| CHOSE | 229 | 229 | 401 | 401 |
| COIN | 115 | 115 | 556 | 556 |
| CRANE | 3 | 3 | 609 | 609 |
| FIN | 410 | 410 | 462 | 462 |
| FORT | 202 | 202 | 463 | 463 |
| HABITS | 89 | 89 | 529 | 529 |
| LIT | 127 | 127 | 535 | 535 |
| MAIN | 431 | 431 | 598 | 598 |
| OURS | 11 | 11 | 572 | 572 |
| PAIN | 41 | 41 | 619 | 619 |
| PLUS | 2216 | 2216 | 264 | 264 |
| SABLE | 28 | 28 | 603 | 603 |
| SALE | 36 | 36 | 485 | 485 |
| SON | 6987 | 6987 | 337 | 337 |
| VENT | 63 | 63 | 535 | 535 |

| Group 2 | KF-Freq | | Imag | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| COUT | 391 | 391 | 383 | 383 |
| SOIR | 133 | 133 | 559 | 559 |
| POUCE | 10 | 10 | 598 | 598 |
| HAUT | 497 | 497 | 463 | 463 |
| DUR | 202 | 202 | 460 | 460 |
| GLACE | 45 | 45 | 635 | 635 |
| HIVER | 83 | 83 | 621 | 621 |
| TETE | 424 | 424 | 593 | 593 |
| GANT | 9 | 9 | 596 | 596 |
| LAIT | 49 | 49 | 638 | 638 |
| QUAND | 2331 | 2331 | 231 | 231 |
| BAIN | 26 | 26 | 601 | 601 |
| MALADE | 51 | 51 | 456 | 456 |
| NON | 2201 | 2201 | 361 | 361 |
| LUNE | 60 | 60 | 585 | 585 |

| Group 2 | Bigram | | Trigram | | Count | |
|---------|---------|--------|---------|--------|---------|--------|
| | English | French | English | French | English | French |
| ANTER | 1.81 | 1.60 | 2.50 | 2.19 | 2.19 | 2.19 |
| BARET | 2.04 | 1.95 | 3.04 | 3.09 | 3.09 | 3.09 |
| DESPATE | 2.07 | 1.95 | 2.74 | 3.01 | 3.01 | 3.01 |
| DEVIN | 2.11 | 2.13 | 3.49 | 3.31 | 3.31 | 3.31 |
| FAND | 2.09 | 2.22 | 2.82 | 3.26 | 3.26 | 3.26 |
| FARGE | 2.29 | 2.41 | 3.42 | 3.34 | 3.34 | 3.34 |
| GADE | 2.29 | 2.24 | 3.30 | 3.52 | 3.52 | 3.52 |
| GOVE* | 2.52 | 2.67 | 3.34 | 4.35 | 4.35 | 4.35 |
| HOTE | 2.10 | 2.15 | 3.42 | 3.24 | 3.24 | 3.24 |
| HOUL | 2.26 | 2.34 | 3.35 | 3.33 | 3.33 | 3.33 |
| LENCE | 2.04 | 1.92 | 2.97 | 2.90 | 2.90 | 2.90 |
| MOIT | 2.35 | 2.24 | 4.13 | 3.58 | 3.58 | 3.58 |
| MONNE | 2.04 | 1.88 | 2.87 | 3.24 | 3.24 | 3.24 |
| NANCE | 2.11 | 2.19 | 2.96 | 2.86 | 2.86 | 2.86 |
| PLUGE | 2.54 | 2.59 | 3.80 | 3.86 | 3.86 | 3.86 |

| Group 1 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 41 | 476 | 495 | 495 |
| Std | 75 | 65 | 60 | 60 |

| Group 2 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 45 | 464 | 463 | 463 |
| Std | 46 | 109 | 107 | 107 |

| Group 2 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 43 | 470 | 479 | 479 |
| Std | 63 | 90 | 89 | 89 |

| Group 2 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 1,021 | 442 | 442 | 442 |
| Std | 2,363 | 136 | 136 | 136 |

| Group 2 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 434 | 519 | 519 | 519 |
| Std | 735 | 117 | 117 | 117 |

| Group 2 | Mean | | Std | |
|---------|---------|--------|---------|--------|
| | English | French | English | French |
| Mean | 2.11 | 2.00 | 2.94 | 2.94 |
| Std | 0.17 | 0.16 | 0.28 | 0.43 |

* NB The trigram_OVE_ does not appear in the French corpus.

KEY: KF-Freq = Kucera and Francis (1967) frequency rating, in counts per million. Imag = Paivio and Gilhooly-Logie Imagibility rating from Quinlan (1994). Trigram and Bigram frequencies from author's corpus counts.

Test stimuli used in the first Bilingual Language Switching Study.

Non-cognate homographs
(English reading).

| Group 1 | KF-Freq | Imag |
|---------|---------|------|
| BILLET | 1 | 436 |
| CAR | 274 | 638 |
| CHAT | 5 | 453 |
| COMMENT | 42 | 453 |
| DENT | 2 | 486 |
| FOND | 13 | 363 |
| HATE | 42 | 462 |
| LENT | 5 | 556 |
| LOIN | 1 | 550 |
| MINCE | 1 | 419 |
| PAYS | 172 | 495 |
| POUR | 9 | 495 |
| RIDE | 49 | 483 |
| SEIZE | 4 | 416 |
| LAI | 77 | 493 |
| TOUT | 1 | 430 |

English Singles to appear in the
correct language context.

| KF-Freq | Imag |
|---------|------|
| BUTLER | 4 |
| GIRL | 220 |
| COIL | 6 |
| PLAIN | 48 |
| RULER | 3 |
| CLEVER | 17 |
| ANGER | 48 |
| PIER | 3 |
| DIAL | 1 |
| BRIBE | 1 |
| ALONE | 195 |
| SLICE | 31 |
| SPOT | 57 |
| SEVER | 3 |
| BITTER | 53 |
| CLOVE | 1 |

English Singles to appear in the
wrong language context.

| KF-Freq | Imag |
|---------|------|
| GUTTER | 1 |
| ISLAND | 167 |
| FOUL | 4 |
| PRIDE | 42 |
| TUNE | 10 |
| FASTER | 18 |
| TASTE | 59 |
| OTTER | 5 |
| SNAIL | 1 |
| TOIL | 1 |
| LIVES | 177 |
| BOIL | 12 |
| SPLIT | 30 |
| HAUL | 5 |
| SAFE | 58 |
| CUE | 0 |

Cognate homographs to appear
in an English context.

| KF-Freq | Imag |
|----------|------|
| BARON | 2 |
| COLLEGE | 267 |
| MOLECULE | 6 |
| BRAVE | 24 |
| BRUTE | 6 |
| REGRET | 9 |
| CRIME | 34 |
| MAT | 5 |
| CANAL | 3 |
| CASTE | 3 |
| NATURE | 191 |
| FATIGUE | 11 |
| SILENCE | 52 |
| AMUSE | 3 |
| REGION | 76 |
| FABLE | 2 |

Group 2

| KF-Freq | Imag |
|---------|------|
| GHOSE | 37 |
| COIN | 10 |
| CRANE | 5 |
| FIN | 2 |
| FORT | 55 |
| HABITS | 23 |
| LIT | 17 |
| MAIN | 119 |
| OURS | 29 |
| PAIN | 88 |
| PLUS | 72 |
| SABLE | 2 |
| SALE | 44 |
| SON | 166 |
| CHAIR | 65 |
| VENT | 10 |

| KF-Freq | Imag |
|---------|------|
| IMPROVE | 39 |
| MOUSE | 10 |
| APRON | 7 |
| TAIL | 24 |
| CHAIN | 50 |
| HIDE | 22 |
| BURN | 15 |
| FORMER | 131 |
| SPARE | 23 |
| NINE | 81 |
| SAVE | 62 |
| GILT | 3 |
| DROP | 59 |
| SPACE | 184 |
| NOSE | 60 |
| BUTTON | 10 |

| KF-Freq | Imag |
|---------|------|
| SCHEME | 33 |
| SAIL | 12 |
| BLADE | 13 |
| PIER | 3 |
| BONE | 33 |
| BORE | 24 |
| BITE | 10 |
| CLAIM | 98 |
| FALSE | 29 |
| HELL | 95 |
| CLOSER | 61 |
| SPOUT | 1 |
| TREND | 46 |
| HAIR | 148 |
| RAIN | 70 |
| TIDE | 11 |

| KF-Freq | Imag |
|---------|------|
| EXAMINE | 33 |
| CAVE | 9 |
| LECTURE | 16 |
| CAGE | 9 |
| CONCERT | 39 |
| PASSION | 28 |
| DOME | 17 |
| CHANCE | 131 |
| PRECISE | 33 |
| PATIENT | 86 |
| THEME | 55 |
| AGILE | 2 |
| CONTENT | 53 |
| SQUARE | 143 |
| AVENUE | 46 |
| BRONZE | 11 |

Both Gps

| | |
|--------|----|
| Mean | 45 |
| Std | 61 |
| Median | 20 |

| |
|----|
| 46 |
| 57 |
| 24 |

| |
|----|
| 40 |
| 48 |
| 21 |

| |
|----|
| 44 |
| 60 |
| 21 |

Group 1

| |
|----|
| 44 |
| 73 |
| 7 |

| |
|----|
| 43 |
| 65 |
| 12 |

| |
|----|
| 37 |
| 55 |
| 11 |

| |
|----|
| 43 |
| 74 |
| 8 |

Group 2

| |
|----|
| 47 |
| 45 |
| 33 |

| |
|----|
| 49 |
| 48 |
| 32 |

| |
|----|
| 43 |
| 40 |
| 31 |

| |
|----|
| 44 |
| 41 |
| 33 |

Non-cognate homographs
(French reading).

| | KF-Freq | Imag |
|---------|---------|------|
| BILLET | 16 | 574 |
| CAR | 883 | 216 |
| CHAT | 23 | 617 |
| COMMENT | 834 | 230 |
| DENT | 20 | 624 |
| FOND | 109 | 498 |
| HATE | 9 | 416 |
| LENT | 60 | 377 |
| LOIN | 427 | 411 |
| MINCE | 92 | 502 |
| PAYS | 324 | 539 |
| POUR | 9489 | 216 |
| RIDE | 2 | 589 |
| SEIZE | 20 | 491 |
| LAID | 21 | 491 |
| TOUT | 3001 | 332 |

| | | |
|--------|------|-----|
| CHOSE | 229 | 401 |
| COIN | 115 | 556 |
| CRANE | 3 | 609 |
| FIN | 410 | 462 |
| FORT | 202 | 463 |
| HABITS | 89 | 629 |
| LIT | 127 | 635 |
| MAIN | 431 | 598 |
| OURS | 11 | 572 |
| PAIN | 41 | 619 |
| PLUS | 2216 | 264 |
| SABLE | 28 | 603 |
| SALE | 36 | 485 |
| SON | 6997 | 337 |
| CHAIR | 52 | 567 |
| VENT | 63 | 535 |

| | | |
|--------|-------|-----|
| Mean | 759 | 486 |
| Std | 1,939 | 128 |
| Median | 76 | 519 |

| | | |
|--------|-------|-----|
| Mean | 958 | 445 |
| Std | 2,320 | 134 |
| Median | 76 | 491 |

| | | |
|--------|-------|-----|
| Mean | 691 | 521 |
| Std | 1,709 | 107 |
| Median | 102 | 562 |

Both Gps

Group 1

Group 2

French Singles to appear in the
correct language context.

| | KF-Freq | Imag |
|----------|---------|------|
| TANTE | 22 | 567 |
| TROP | 832 | 261 |
| PLAGE | 61 | 667 |
| TRES | 769 | 243 |
| SAVON | 22 | 600 |
| VIDE | 64 | 479 |
| PEINE | 9 | 429 |
| CHER | 54 | 374 |
| PROCHAIN | 394 | 386 |
| LOURD | 110 | 495 |
| MATIN | 211 | 579 |
| AVANT | 1016 | 255 |
| SABOT | 2 | 598 |
| SENTIER | 44 | 537 |
| PRIX | 28 | 517 |
| FAIT | 1125 | 351 |

| | | |
|--------|------|-----|
| COUT | 391 | 383 |
| SOIR | 133 | 559 |
| POUCE | 10 | 599 |
| HAUT | 497 | 463 |
| DUR | 202 | 460 |
| GLACE | 45 | 635 |
| HIVER | 83 | 621 |
| TETE | 424 | 593 |
| GANT | 9 | 596 |
| LAIT | 49 | 638 |
| QUAND | 2331 | 231 |
| BAIN | 26 | 601 |
| MALADE | 51 | 456 |
| NON | 2201 | 361 |
| PONT | 98 | 608 |
| LUNE | 60 | 585 |

| | | |
|--------|-----|-----|
| Mean | 362 | 497 |
| Std | 592 | 124 |
| Median | 63 | 542 |

| | | |
|--------|-----|-----|
| Mean | 298 | 459 |
| Std | 386 | 130 |
| Median | 63 | 487 |

| | | |
|--------|-----|-----|
| Mean | 413 | 524 |
| Std | 716 | 115 |
| Median | 91 | 589 |

French Singles to appear in the
wrong language context.

| | KF-Freq | Imag |
|----------|---------|------|
| SAC | 42 | 570 |
| BON | 807 | 374 |
| MENTON | 27 | 608 |
| DERNIER | 676 | 367 |
| POULE | 22 | 597 |
| BORD | 78 | 495 |
| VOLER | 5 | 448 |
| UTILE | 58 | 334 |
| TARD | 179 | 387 |
| HUIT | 104 | 501 |
| PLANCHER | 158 | 544 |
| PAS | 4609 | 253 |
| PECHE | 3 | 613 |
| JETER | 42 | 477 |
| SAUT | 24 | 506 |
| COMME | 1290 | 352 |

| | | |
|----------|------|-----|
| SOIN | 162 | 383 |
| MUR | 160 | 576 |
| CHEVILLE | 8 | 613 |
| OUVERT | 319 | 425 |
| AGIR | 283 | 433 |
| RIRE | 22 | 613 |
| MER | 95 | 606 |
| MAISON | 591 | 606 |
| FROMAGE | 9 | 592 |
| SUCRE | 34 | 595 |
| SONT | 4393 | 262 |
| COLLINE | 72 | 607 |
| LAVER | 37 | 522 |
| MEME | 1171 | 338 |
| BRAS | 94 | 593 |
| PIED | 70 | 597 |

| | | |
|--------|-------|-----|
| Mean | 462 | 497 |
| Std | 1,035 | 117 |
| Median | 75 | 533 |

| | | |
|--------|-------|-----|
| Mean | 508 | 464 |
| Std | 1,117 | 106 |
| Median | 68 | 486 |

| | | |
|--------|-------|-----|
| Mean | 470 | 523 |
| Std | 1,053 | 112 |
| Median | 95 | 593 |

Cognate homographs to appear
in a French context.

| | KF-Freq | Imag |
|-----------|---------|------|
| FRUIT | 35 | 587 |
| POSSIBLE | 373 | 249 |
| PRINCE | 33 | 606 |
| CONDITION | 91 | 297 |
| PIANO | 38 | 630 |
| GENERAL | 497 | 491 |
| EPISODE | 12 | 370 |
| INTENSE | 40 | 340 |
| DIRECTION | 134 | 399 |
| CAPITAL | 85 | 518 |
| VILLAGE | 72 | 578 |
| APPARENT | 57 | 266 |
| BISCUIT | 2 | 571 |
| MINUTE | 53 | 473 |
| CARDINAL | 15 | 531 |
| IMPORTANT | 369 | 341 |

| | | |
|------------|-----|-----|
| EVIDENCE | 204 | 356 |
| AUDIENCE | 115 | 555 |
| BOUQUET | 4 | 599 |
| POINT | 395 | 481 |
| MILLION | 204 | 440 |
| ORANGE | 23 | 626 |
| ANIMAL | 68 | 575 |
| TABLE | 198 | 582 |
| TUNNEL | 10 | 578 |
| MALE | 37 | 587 |
| MOMENT | 246 | 334 |
| GRAVE | 33 | 619 |
| DATE | 103 | 501 |
| DIFFERENCE | 148 | 298 |
| TRAIN | 82 | 593 |
| PAGE | 66 | 55 |

| | | |
|--------|-----|-----|
| Mean | 111 | 475 |
| Std | 123 | 139 |
| Median | 67 | 525 |

| | | |
|--------|-----|-----|
| Mean | 119 | 453 |
| Std | 147 | 125 |
| Median | 55 | 482 |

| | | |
|--------|-----|-----|
| Mean | 121 | 486 |
| Std | 103 | 151 |
| Median | 93 | 565 |

Test stimuli used in the second Bilingual Language Switching Study.

Orthographically Non-specific English Singles

| | KF-Freq | Imag |
|---------|---------|------|
| NURSE | 17 | 617 |
| ENGINE | 50 | 595 |
| NAIL | 6 | 588 |
| RIFLE | 63 | 581 |
| PICTURE | 162 | 581 |
| FIVE | 286 | 529 |
| PASTE | 10 | 529 |
| RIPE | 14 | 490 |
| GAME | 123 | 490 |
| BEFORE | 1016 | 255 |
| COVER | 88 | 443 |
| CARE | 162 | 383 |
| LATE | 179 | 387 |
| SHAPE | 85 | 471 |
| CIRCLE | 60 | 591 |
| FIRE | 187 | 634 |

Orthographically Non-specific French Singles

| | KF-Freq | Imag |
|----------|---------|------|
| CANARD | 9 | 632 |
| USINE | 32 | 608 |
| BERGER | 3 | 600 |
| SOLDAT | 39 | 578 |
| BATIMENT | 160 | 578 |
| JOUR | 686 | 526 |
| FAIM | 17 | 526 |
| VERSER | 9 | 495 |
| LIRE | 173 | 499 |
| APRES | 1070 | 217 |
| CLAIR | 219 | 456 |
| BESOIN | 360 | 327 |
| CRISE | 82 | 375 |
| AMER | 53 | 457 |
| VERT | 116 | 609 |
| VOITURE | 274 | 638 |

Orthographically Specific English Singles

| | KF-Freq | Imag |
|---------|---------|------|
| ARROW | 14 | 619 |
| LAKE | 54 | 616 |
| SWORD | 7 | 597 |
| COAST | 61 | 588 |
| BOOK | 193 | 591 |
| LIGHT | 333 | 542 |
| BLOOD | 12 | 524 |
| SILK | 12 | 510 |
| DEEP | 109 | 498 |
| KNOW | 683 | 278 |
| POOR | 113 | 447 |
| SIMILAR | 157 | 324 |
| ANSWER | 152 | 388 |
| EDGE | 78 | 495 |
| BLACK | 203 | 589 |
| KNIFE | 76 | 633 |

Orthographically Specific French Singles

| | KF-Freq | Imag |
|----------|---------|------|
| GATEAU | 13 | 624 |
| NEZ | 60 | 605 |
| SEAU | 7 | 586 |
| BAIE | 57 | 570 |
| CHEVEU | 148 | 580 |
| JEUNE | 385 | 521 |
| VOLEUR | 8 | 529 |
| SOIE | 12 | 510 |
| LIGNE | 298 | 491 |
| LEUR | 1069 | 264 |
| DIEU | 318 | 461 |
| VRAI | 231 | 365 |
| LONGUEUR | 116 | 395 |
| NEUF | 81 | 494 |
| VERRE | 99 | 585 |
| PEAU | 47 | 638 |

Group 2

| | | |
|--------|-----|-----|
| LEMON | 18 | 632 |
| GOLD | 52 | 594 |
| OVEN | 7 | 599 |
| STONE | 58 | 585 |
| RED | 197 | 585 |
| HOT | 130 | 551 |
| LIGE | 2 | 532 |
| MATE | 21 | 506 |
| INCOME | 109 | 475 |
| MATTER | 308 | 298 |
| RISE | 102 | 451 |
| INSIDE | 174 | 371 |
| TRADE | 143 | 390 |
| MASTER | 72 | 495 |
| SEAT | 54 | 574 |
| HORSE | 117 | 624 |

| | | |
|-----------|-----|-----|
| RENARD | 13 | 607 |
| NUAGE | 28 | 595 |
| BOUTON | 10 | 580 |
| GRAS | 60 | 574 |
| SELON | 139 | 576 |
| ETAT | 808 | 511 |
| BRULER | 15 | 541 |
| BASSIN | 7 | 542 |
| MORT | 277 | 498 |
| DEPENDENT | 552 | 247 |
| TIRER | 51 | 446 |
| TORT | 129 | 344 |
| FERMER | 234 | 420 |
| SEUL | 195 | 480 |
| ROCHER | 75 | 612 |
| JARDIN | 60 | 635 |

| | | |
|---------|------|-----|
| FLOWER | 23 | 618 |
| ROOF | 59 | 604 |
| BROOK | 3 | 597 |
| MOON | 60 | 585 |
| GLASS | 99 | 585 |
| ROOM | 383 | 545 |
| WENCH | 0 | 520 |
| GLEAM | 4 | 511 |
| HEAVY | 110 | 495 |
| WHAT | 1908 | 249 |
| WARM | 67 | 441 |
| EASY | 125 | 321 |
| FEELING | 172 | 370 |
| NARROW | 63 | 491 |
| DESK | 65 | 574 |
| SNAKE | 44 | 627 |

Both Gps

| | | |
|--------|-----|-----|
| Mean | 127 | 514 |
| Std | 178 | 97 |
| Median | 87 | 531 |

| | | |
|--------|-----|-----|
| Mean | 186 | 510 |
| Std | 251 | 109 |
| Median | 79 | 534 |

| | | |
|--------|-----|-----|
| Mean | 170 | 512 |
| Std | 340 | 106 |
| Median | 72 | 533 |

Group 1

| | | |
|--------|-----|-----|
| Mean | 157 | 512 |
| Std | 235 | 100 |
| Median | 87 | 529 |

| | | |
|--------|-----|-----|
| Mean | 206 | 508 |
| Std | 282 | 115 |
| Median | 99 | 526 |

| | | |
|--------|-----|-----|
| Mean | 141 | 515 |
| Std | 164 | 104 |
| Median | 94 | 533 |

Group 2

| | | |
|--------|----|-----|
| Mean | 98 | 516 |
| Std | 79 | 95 |
| Median | 87 | 542 |

| | | |
|--------|-----|-----|
| Mean | 166 | 513 |
| Std | 215 | 102 |
| Median | 68 | 542 |

| | | |
|--------|-----|-----|
| Mean | 199 | 508 |
| Std | 450 | 108 |
| Median | 64 | 533 |

| | | |
|--------|-----|-----|
| Mean | 164 | 512 |
| Std | 220 | 101 |
| Median | 94 | 520 |

| | | |
|--------|-----|-----|
| Mean | 184 | 514 |
| Std | 256 | 99 |
| Median | 90 | 525 |

| | | |
|--------|-----|-----|
| Mean | 143 | 510 |
| Std | 175 | 103 |
| Median | 100 | 515 |

Singles presented in the wrong language context.

Orthographically Non-specific English Singles

| | K-Freq | Imag |
|--------|--------|------|
| SUMMER | 134 | 618 |
| SMILE | 58 | 615 |
| SISTER | 38 | 613 |
| NOVEL | 59 | 547 |
| VOICE | 226 | 489 |
| UNDER | 707 | 426 |
| EVENT | 81 | 334 |
| SENSE | 368 | 368 |

| | | |
|--------|-----|-----|
| Mean | 209 | 501 |
| Std | 215 | 108 |
| Median | 108 | 518 |

Orthographically Non-specific French Singles

| | K-Freq | Imag |
|---------|--------|------|
| CHEVAL | 117 | 624 |
| NAVIRE | 83 | 612 |
| LAPIN | 11 | 611 |
| GARE | 105 | 554 |
| TRAVAIL | 760 | 458 |
| COTE | 380 | 386 |
| PIRE | 50 | 339 |
| MOINS | 438 | 286 |

| | | |
|--------|-----|-----|
| Mean | 243 | 484 |
| Std | 244 | 126 |
| Median | 111 | 506 |

Orthographically Specific English Singles

| | K-Freq | Imag |
|--------|--------|------|
| BLOOD | 121 | 620 |
| TREE | 59 | 622 |
| SHOWER | 15 | 615 |
| TOWN | 212 | 553 |
| BACK | 967 | 483 |
| GROWTH | 155 | 426 |
| SLIGHT | 53 | 317 |
| THUS | 312 | 267 |

| | | |
|--------|-----|-----|
| Mean | 237 | 488 |
| Std | 290 | 131 |
| Median | 138 | 518 |

Orthographically Specific French Singles

| | K-Freq | Imag |
|-----------|--------|------|
| BOUTEILLE | 76 | 619 |
| PLUIE | 70 | 618 |
| OEUF | 12 | 599 |
| GUERRE | 464 | 551 |
| TROIS | 610 | 495 |
| OUEST | 235 | 426 |
| FAUX | 22 | 323 |
| VOICI | 750 | 278 |

| | | |
|--------|-----|-----|
| Mean | 280 | 489 |
| Std | 272 | 125 |
| Median | 156 | 523 |

Appendix C: Orthographic Characteristics.

The following pages contain an explanation of the orthographic characteristics measure, and then measurements for the experimental stimuli. These are initially summarised for all the experiments, and then shown individually for:

The Bilingual Priming Study.

Language Switching Study 1.

Language Switching Study 2.

Orthographic characteristics of Experimental Stimuli.

The following pages contain tables listing the stimuli used in the empirical studies, along with values indicating how characteristic they are of the English and French language. The values indicate the log of the mean probability of occurrence of the bigrams / trigrams comprising each item, according to English and French corpus counts. All bigram and trigram log probabilities are negative, since they are less than one. However, for convenience, they are shown in the tables as positive values.

A frequently occurring bigram or trigram will generate a small negative log probability - thus the higher the value, the rarer the letter string.

In the difference column:

A positive number corresponds to a string that comprises grams more probable in French.

A negative number corresponds to a string that contains grams more probable in English.

The corpuses were obtained from a set compiled on the Oxford University Central Computing Services, available by anonymous ftp at ermine@ox.ac.uk, in the /languages/ directory.

The gram probabilities are not scaled according to frequency of usage of the words in spoken or written language.

Example 1: VOICE.

The word VOICE decomposes into the bigrams VO, OI, IC, and CE; and to the trigrams VOI, OIC, and ICE. The probabilities of these grams occurring in each language are as follows:

| | English | French |
|-----|----------|----------|
| VO | 0.000967 | 0.001654 |
| OI | 0.001369 | 0.002771 |
| IC | 0.009640 | 0.002998 |
| CE | 0.005205 | 0.004856 |
| VOI | 0.000071 | 0.000380 |
| OIC | 0.000102 | 0.000005 |
| ICE | 0.000902 | 0.000643 |

The mean bigram probability is thus 0.004295 in English and 0.003070 in French. The mean trigram probability is 0.000358 in English and 0.000343 in French.

The negatives of the logs of these values gives the following indexes for this word.

| Bigrams | | Trigrams | | Difference | |
|--------------|-------------|--------------|-------------|------------|---------|
| Mean English | Mean French | Mean English | Mean French | Bigram | Trigram |
| 2.37 | 2.51 | 3.45 | 3.46 | -0.15 | -0.02 |

This word has a fairly similar characteristics in French and English.

Example 2: POOR.

The word POOR decomposes into the bigrams PO, OO, and OR; and into the trigrams POO and OOR. The probabilities of these grams occurring in each language are as follows:

| | English | French |
|-----|----------|----------|
| PO | 0.004113 | 0.003768 |
| OO | 0.003205 | 0.000153 |
| OR | 0.010666 | 0.006237 |
| POO | 0.000173 | 0.000005 |
| OOR | 0.000157 | 0.000032 |

The mean bigram probability is thus 0.005995 in English and 0.003386 in French. The mean trigram probability is 0.000165 in English and 0.000019 in French.

The negatives of the logs of these values gives the following indexes for this word.

| Bigrams | | Trigrams | | Difference | |
|--------------|-------------|--------------|-------------|------------|---------|
| Mean English | Mean French | Mean English | Mean French | Bigram | Trigram |
| 2.22 | 2.47 | 3.78 | 4.73 | -0.25 | -0.95 |

This word is much more characteristic of English than of French.

Note that not all words that appear characteristic of just one language will necessarily have this fact reflected in their bigram and trigram stats: these differences may only arise in higher order statistics.

Bilingual Priming Study.

Table showing the orthographic characteristics in English and French, for the filler stimuli in the Bilingual Priming Study. Values show the negative of the logs of the mean gram probabilities of occurrence averaged over all the grams in each string, and over all strings. The larger the number, the rarer the components of a string.

| | | Mean Bigram Frequencies | | | | Mean Trigram Frequencies | | | |
|----------|---------|-------------------------|------|---------------|------|--------------------------|------|---------------|------|
| | | English Corpus | | French Corpus | | English Corpus | | French Corpus | |
| | | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| Words | English | 2.17 | 0.17 | 2.12 | 0.25 | 3.11 | 0.33 | 3.19 | 0.44 |
| | French | 2.15 | 0.15 | 2.04 | 0.23 | 3.18 | 0.32 | 3.04 | 0.41 |
| Nonwords | | 2.17 | 0.33 | 2.07 | 0.23 | 3.14 | 0.44 | 3.10 | 0.55 |

Language Switching Study 1.

Scores show the Negative of Logs of Mean Gram Probabilities for each string.

Non-Cognate Homographs

| Word | Bigrams | | | Trigrams | | | Difference | |
|---------|------------------|--------|---------|------------------|--------|---------|------------|---------|
| | Mean Probability | French | English | Mean Probability | French | English | Bigram | Trigram |
| BILLET | 2.16 | 2.20 | 2.92 | 2.66 | -0.04 | 0.27 | | |
| CAH | 2.02 | 2.23 | 2.89 | 3.13 | -0.21 | -0.24 | | |
| CHAR | 2.07 | 2.27 | 3.07 | 2.98 | -0.19 | 0.09 | | |
| COMMENT | 2.11 | 1.88 | 2.70 | 2.27 | 0.23 | 0.43 | | |
| DEVOY | 2.96 | 1.64 | 2.49 | 2.00 | 0.32 | 0.49 | | |
| FOND | 2.90 | 1.96 | 3.44 | 3.07 | 0.15 | 0.37 | | |
| HATE | 1.95 | 2.04 | 2.45 | 3.15 | -0.09 | -0.70 | | |
| LENT | 1.90 | 1.95 | 2.52 | 2.01 | 0.25 | 0.51 | | |
| LOIN | 2.08 | 2.24 | 3.53 | 3.45 | -0.17 | 0.08 | | |
| MINGE | 2.68 | 2.53 | 2.85 | 2.85 | -0.13 | -0.02 | | |
| PAYS | 2.65 | 2.16 | 3.16 | 3.96 | -0.09 | 0.21 | | |
| POUR | 2.28 | 2.16 | 3.17 | 3.59 | 0.12 | 0.48 | | |
| RIDE | 2.12 | 2.00 | 3.17 | 3.24 | 0.12 | -0.32 | | |
| SEIZE | 2.64 | 2.40 | 4.09 | 4.22 | 0.24 | -0.13 | | |
| LAID | 2.23 | 1.97 | 3.51 | 3.04 | 0.31 | 0.47 | | |
| TOUT | 2.26 | 2.29 | 3.27 | 3.04 | -0.02 | 0.23 | | |

Group 2

| | | | | | | | | |
|--------|------|------|------|------|-------|-------|--|--|
| CHOSE | 2.25 | 2.22 | 3.18 | 3.34 | 0.02 | -0.15 | | |
| COIN | 2.02 | 2.11 | 3.65 | 3.52 | -0.08 | 0.13 | | |
| CRANE | 2.01 | 1.89 | 2.87 | 2.97 | 0.12 | -0.10 | | |
| FIN | 1.99 | 2.16 | 3.37 | 3.42 | -0.17 | -0.06 | | |
| FORT | 2.25 | 2.44 | 2.83 | 2.98 | -0.19 | -0.15 | | |
| HABITS | 2.39 | 2.38 | 3.60 | 3.42 | 0.01 | 0.17 | | |
| LIT | 2.11 | 2.01 | 3.01 | 3.13 | 0.09 | -0.12 | | |
| MAIN | 2.02 | 1.89 | 3.17 | 3.16 | 0.13 | 0.01 | | |
| COURS | 2.34 | 2.19 | 3.27 | 2.78 | 0.14 | 0.49 | | |
| PAIN | 2.07 | 1.89 | 3.21 | 3.23 | 0.19 | -0.03 | | |
| PLUS | 2.39 | 2.56 | 3.44 | 3.84 | -0.17 | -0.40 | | |
| SABLE | 2.19 | 2.22 | 2.64 | 2.96 | -0.03 | -0.31 | | |
| SALE | 2.03 | 2.08 | 3.10 | 3.09 | -0.06 | 0.01 | | |
| SON | 2.01 | 1.81 | 2.82 | 2.86 | 0.20 | -0.04 | | |
| CHAIR | 2.34 | 2.01 | 3.12 | 2.94 | 0.33 | 0.18 | | |
| VENT | 2.00 | 1.70 | 2.52 | 2.00 | 0.29 | 0.52 | | |

Both

| | | | | | | | | |
|--------|------|------|------|------|------|------|--|--|
| Mean | 2.16 | 2.11 | 3.12 | 3.05 | 0.05 | 0.07 | | |
| Std | 0.18 | 0.25 | 0.42 | 0.50 | 0.17 | 0.30 | | |
| Median | 2.10 | 2.19 | 3.11 | 3.06 | 0.06 | 0.05 | | |

Group 1

| | | | | | | | | |
|--------|------|------|------|------|------|------|--|--|
| Mean | 2.17 | 2.12 | 3.14 | 3.00 | 0.05 | 0.14 | | |
| Std | 0.21 | 0.27 | 0.51 | 0.58 | 0.18 | 0.34 | | |
| Median | 2.11 | 2.18 | 3.00 | 3.04 | 0.05 | 0.22 | | |

Group 2

| | | | | | | | | |
|--------|------|------|------|------|------|-------|--|--|
| Mean | 2.15 | 2.10 | 3.11 | 3.10 | 0.05 | 0.01 | | |
| Std | 0.15 | 0.23 | 0.31 | 0.39 | 0.16 | 0.24 | | |
| Median | 2.09 | 2.09 | 3.15 | 3.11 | 0.06 | -0.03 | | |

Cognate Homographs

| Word | Bigrams | | | Trigrams | | | Difference | |
|------------|------------------|--------|---------|------------------|--------|---------|------------|---------|
| | Mean Probability | French | English | Mean Probability | French | English | Bigram | Trigram |
| EVIDENCE | 2.25 | 2.10 | 3.00 | 3.02 | 0.16 | -0.02 | | |
| AUDIENCE | 2.30 | 2.04 | 3.21 | 2.70 | 0.26 | 0.51 | | |
| BOUQUET | 2.47 | 2.31 | 3.60 | 2.94 | 0.16 | 0.66 | | |
| POINT | 2.07 | 1.94 | 3.12 | 3.06 | 0.13 | 0.06 | | |
| MILLION | 2.11 | 2.00 | 2.73 | 2.51 | 0.11 | 0.22 | | |
| ORANGE | 1.99 | 1.97 | 2.87 | 2.94 | 0.02 | -0.08 | | |
| ANIMAL | 2.05 | 2.21 | 3.17 | 3.30 | -0.16 | -0.13 | | |
| TABLE | 2.13 | 2.22 | 2.62 | 2.94 | -0.09 | -0.32 | | |
| TUNNEL | 2.33 | 2.35 | 3.48 | 2.99 | -0.02 | 0.50 | | |
| MALE | 1.96 | 2.11 | 3.05 | 3.07 | -0.15 | -0.03 | | |
| MOMENT | 2.10 | 1.86 | 2.65 | 2.23 | 0.24 | 0.41 | | |
| GRAVE | 2.25 | 2.04 | 3.01 | 3.09 | 0.22 | -0.08 | | |
| DATE | 1.98 | 2.06 | 2.45 | 3.12 | -0.08 | -0.66 | | |
| DIFFERENCE | 2.14 | 1.87 | 3.07 | 2.63 | 0.26 | 0.44 | | |
| TRAIN | 2.00 | 1.76 | 2.83 | 2.22 | 0.24 | 0.61 | | |
| PAGE | 2.39 | 2.36 | 3.10 | 2.93 | 0.03 | 0.17 | | |

| | | | | | | | | |
|---------|------|------|------|------|-------|-------|--|--|
| BARON | 1.99 | 1.92 | 3.07 | 2.58 | 0.07 | 0.49 | | |
| COLLEGE | 2.16 | 2.18 | 3.11 | 2.92 | -0.02 | 0.19 | | |
| MALICIE | 2.16 | 2.21 | 3.26 | 3.11 | -0.04 | 0.15 | | |
| BOULE | 2.26 | 2.04 | 3.15 | 3.23 | 0.21 | -0.08 | | |
| BEUTE | 2.23 | 2.22 | 3.50 | 3.24 | 0.01 | 0.26 | | |
| REGRET | 2.24 | 1.86 | 3.22 | 3.04 | 0.27 | 0.17 | | |
| CRIME | 2.24 | 2.13 | 3.19 | 3.05 | 0.10 | 0.14 | | |
| MAT | 1.98 | 2.16 | 3.06 | 3.09 | -0.26 | -0.26 | | |
| CANAL | 2.01 | 2.15 | 3.02 | 3.29 | -0.16 | -0.22 | | |
| CAST | 2.02 | 2.08 | 2.93 | 3.06 | -0.05 | -0.22 | | |
| NATURE | 2.09 | 1.99 | 2.98 | 3.06 | 0.02 | 0.03 | | |
| FATIGUE | 2.26 | 2.28 | 3.12 | 2.98 | 0.02 | 0.05 | | |
| SILENCE | 2.10 | 2.01 | 3.05 | 3.03 | 0.09 | 0.02 | | |
| AMUSE | 2.31 | 2.26 | 3.35 | 3.16 | 0.05 | 0.19 | | |
| REGION | 2.11 | 1.85 | 2.84 | 2.54 | 0.26 | 0.30 | | |
| FABLE | 2.22 | 2.32 | 2.66 | 2.99 | -0.09 | -0.33 | | |

| | | | | | | | | |
|--------|------|------|------|------|------|------|--|--|
| Mean | 2.15 | 2.09 | 3.04 | 2.94 | 0.06 | 0.10 | | |
| Std | 0.13 | 0.16 | 0.26 | 0.27 | 0.14 | 0.30 | | |
| Median | 2.13 | 2.09 | 3.06 | 3.02 | 0.06 | 0.15 | | |

| | | | | | | | | |
|--------|------|------|------|------|------|------|--|--|
| Mean | 2.16 | 2.08 | 3.00 | 2.86 | 0.08 | 0.14 | | |
| Std | 0.15 | 0.17 | 0.29 | 0.30 | 0.14 | 0.35 | | |
| Median | 2.12 | 2.05 | 3.03 | 2.94 | 0.12 | 0.12 | | |

| | | | | | | | | |
|--------|------|------|------|------|------|------|--|--|
| Mean | 2.14 | 2.11 | 3.07 | 3.02 | 0.03 | 0.06 | | |
| Std | 0.10 | 0.15 | 0.21 | 0.20 | 0.14 | 0.23 | | |
| Median | 2.14 | 2.15 | 3.09 | 3.05 | 0.03 | 0.15 | | |

English Singles appearing in the correct language context.

| Word | Bigrams | | Trigrams | | Difference | |
|--------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| BUTLER | 2.10 | 1.92 | 3.32 | 2.97 | 0.18 | 0.35 |
| GIRL | 2.68 | 2.58 | 3.93 | 4.13 | 0.11 | 0.20 |
| COIL | 2.28 | 2.20 | 3.66 | 3.83 | 0.07 | 0.02 |
| PLAIN | 2.09 | 1.96 | 3.04 | 2.93 | 0.18 | 0.11 |
| RULLER | 2.00 | 1.82 | 3.43 | 2.73 | 0.18 | 0.70 |
| CLEVER | 2.07 | 1.89 | 3.00 | 3.01 | 0.18 | -0.01 |
| ANGER | 1.93 | 1.80 | 3.02 | 2.93 | 0.12 | 0.09 |
| HIVE | 2.38 | 2.54 | 2.98 | 3.19 | -0.15 | -0.27 |
| DIAL | 2.13 | 2.34 | 2.98 | 3.44 | -0.21 | -0.46 |
| BRIBE | 2.32 | 2.30 | 3.30 | 3.45 | 0.01 | -0.15 |
| ALONE | 2.00 | 1.93 | 3.10 | 3.20 | 0.06 | -0.10 |
| SLICE | 2.23 | 2.40 | 3.13 | 3.49 | -0.17 | -0.36 |
| SPOT | 2.44 | 2.59 | 3.31 | 3.59 | -0.15 | -0.28 |
| SEVER | 2.07 | 1.79 | 2.96 | 2.95 | 0.05 | 0.28 |
| BITTER | 2.02 | 1.82 | 2.74 | 2.62 | 0.20 | 0.13 |
| CLOVE | 2.42 | 2.58 | 3.33 | 3.95 | -0.15 | -0.62 |

Group 1

English Singles appearing in the wrong language context.

| Word | Bigrams | | Trigrams | | Difference | |
|---------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| GUITTER | 2.07 | 1.86 | 2.80 | 2.63 | 0.20 | 0.16 |
| ISLAND | 2.38 | 2.32 | 3.63 | 3.21 | 0.03 | -0.31 |
| FOUL | 2.17 | 2.06 | 2.96 | 3.18 | 0.11 | -0.22 |
| PRIDE | 2.32 | 2.38 | 3.67 | 3.90 | -0.06 | -0.23 |
| LUNE | 1.98 | 1.83 | 2.66 | 2.60 | 0.15 | 0.06 |
| FASTER | 2.01 | 2.05 | 2.87 | 3.08 | -0.05 | -0.22 |
| TASTE | 1.99 | 1.79 | 2.67 | 2.50 | 0.20 | 0.17 |
| SNAIL | 2.44 | 2.07 | 3.48 | 3.11 | 0.07 | 0.37 |
| THAIL | 2.34 | 2.40 | 3.78 | 3.67 | 0.06 | 0.11 |
| LIVES | 2.22 | 2.02 | 3.01 | 3.18 | 0.20 | -0.17 |
| BOUL | 2.27 | 2.44 | 3.66 | 3.87 | 0.04 | -0.00 |
| SPLIT | 2.21 | 2.23 | 3.25 | 3.28 | 0.04 | -0.03 |
| HALT | 2.11 | 2.52 | 3.70 | 3.66 | -0.11 | 0.03 |
| SAFE | 2.68 | 2.51 | 4.06 | 4.27 | 0.17 | -0.21 |
| CUE | 2.67 | 2.35 | 4.35 | 3.84 | 0.32 | 0.49 |

Group 2

| Word | Bigrams | | Trigrams | | Difference | |
|--------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| SCHEME | 2.27 | 2.26 | 3.11 | 2.78 | 0.01 | 0.32 |
| SAIL | 2.40 | 1.92 | 3.40 | 2.79 | 0.48 | 0.62 |
| BLADE | 2.19 | 2.22 | 3.25 | 3.47 | -0.03 | -0.22 |
| PIER | 2.07 | 1.67 | 3.39 | 2.65 | 0.16 | 0.13 |
| BONE | 2.05 | 1.89 | 3.02 | 3.50 | 0.16 | -0.48 |
| BORE | 2.04 | 1.90 | 3.13 | 3.21 | 0.14 | -0.08 |
| BITE | 2.07 | 1.99 | 3.04 | 2.83 | 0.07 | 0.21 |
| CLAIM | 2.36 | 2.06 | 3.37 | 3.09 | 0.31 | 0.28 |
| FALSE | 2.29 | 2.25 | 3.74 | 3.96 | 0.04 | -0.22 |
| HELL | 2.17 | 2.32 | 2.90 | 3.16 | -0.15 | -0.26 |
| CLOSER | 2.12 | 1.89 | 3.27 | 2.74 | 0.23 | 0.53 |
| SPOUT | 2.38 | 2.36 | 3.30 | 3.17 | 0.02 | 0.13 |
| TREND | 2.00 | 1.78 | 2.98 | 2.52 | 0.22 | 0.46 |
| HAIR | 2.42 | 1.96 | 3.31 | 3.13 | 0.45 | 0.18 |
| RAIN | 1.96 | 1.69 | 3.06 | 2.12 | 0.27 | 0.93 |
| TIDE | 2.09 | 2.05 | 3.02 | 3.28 | 0.05 | -0.25 |

Both

| Mean | 2.23 | 2.10 | 3.28 | 3.17 | 0.13 | 0.10 |
|--------|------|------|------|------|------|------|
| Std | 0.19 | 0.24 | 0.40 | 0.48 | 0.16 | 0.34 |
| Median | 2.30 | 2.06 | 3.25 | 3.17 | 0.13 | 0.09 |
| Mean | 2.28 | 2.18 | 3.35 | 3.32 | 0.10 | 0.03 |
| Std | 0.22 | 0.24 | 0.51 | 0.49 | 0.14 | 0.24 |
| Median | 2.30 | 2.15 | 3.36 | 3.20 | 0.09 | 0.02 |

Group 1

| Mean | 2.20 | 2.15 | 3.21 | 3.28 | 0.04 | -0.06 |
|--------|------|------|------|------|------|-------|
| Std | 0.20 | 0.31 | 0.31 | 0.43 | 0.15 | 0.31 |
| Median | 2.11 | 2.08 | 3.12 | 3.20 | 0.09 | -0.06 |
| Mean | 2.26 | 2.19 | 3.12 | 3.34 | 0.07 | -0.12 |
| Std | 0.15 | 0.21 | 0.21 | 0.40 | 0.11 | 0.26 |
| Median | 2.28 | 2.17 | 3.09 | 3.21 | 0.07 | -0.11 |

Group 2

| Mean | 2.23 | 2.17 | 3.17 | 3.26 | 0.06 | -0.09 |
|--------|------|------|------|------|------|-------|
| Std | 0.18 | 0.26 | 0.27 | 0.42 | 0.13 | 0.29 |
| Median | 2.22 | 2.17 | 3.10 | 3.20 | 0.07 | -0.10 |
| Mean | 2.20 | 2.15 | 3.21 | 3.28 | 0.04 | -0.06 |
| Std | 0.20 | 0.31 | 0.31 | 0.43 | 0.15 | 0.31 |
| Median | 2.11 | 2.08 | 3.12 | 3.20 | 0.09 | -0.06 |

French Singles appearing in the correct language context.

| Word | Bigrams | | Trigrams | | Difference | |
|----------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| TANTE | 1.91 | 1.79 | 2.88 | 2.37 | 0.12 | 0.31 |
| TROP | 2.19 | 2.16 | 2.88 | 3.13 | 0.03 | -0.25 |
| PLAGE | 2.32 | 2.35 | 3.00 | 2.92 | -0.04 | 0.08 |
| TRES | 2.04 | 1.70 | 2.84 | 2.49 | 0.34 | 0.34 |
| SAVON | 2.27 | 2.04 | 4.06 | 3.69 | 0.23 | 0.37 |
| VIDE | 2.30 | 2.22 | 3.01 | 3.24 | 0.08 | -0.23 |
| PEINE | 2.03 | 2.22 | 2.95 | 2.93 | -0.08 | 0.10 |
| CHER | 1.96 | 1.75 | 2.71 | 2.61 | 0.21 | 0.10 |
| PROCHAIN | 2.15 | 2.05 | 3.02 | 2.98 | 0.09 | 0.03 |
| LOURD | 2.30 | 2.25 | 3.35 | 3.03 | 0.05 | 0.32 |
| MATIN | 1.90 | 2.07 | 2.89 | 2.78 | -0.18 | -0.10 |
| AVANT | 2.12 | 1.95 | 2.86 | 2.58 | 0.17 | 0.28 |
| SABOT | 2.44 | 2.46 | 3.53 | 3.46 | -0.02 | 0.07 |
| SENTIER | 1.96 | 1.62 | 2.77 | 2.27 | 0.34 | 0.51 |
| PRIX | 2.30 | 2.18 | 3.37 | 3.39 | 0.12 | -0.02 |
| FAIT | 2.38 | 1.91 | 3.80 | 2.45 | 0.47 | 1.36 |

| Word | Bigrams | | Trigrams | | Difference | |
|--------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| COUT | 2.21 | 2.12 | 3.13 | 2.85 | 0.08 | 0.28 |
| SOIR | 2.55 | 2.36 | 4.13 | 3.46 | 0.19 | 0.67 |
| POUCE | 2.37 | 2.32 | 3.81 | 3.40 | 0.05 | 0.41 |
| HAUT | 2.44 | 2.52 | 3.53 | 3.30 | -0.08 | 0.23 |
| DUR | 2.47 | 2.36 | 3.83 | 3.84 | 0.11 | -0.02 |
| GLACE | 2.28 | 2.39 | 3.22 | 3.40 | -0.10 | -0.18 |
| FIVER | 2.10 | 1.89 | 2.82 | 2.94 | 0.21 | -0.12 |
| LETTE | 1.91 | 1.87 | 3.21 | 3.09 | 0.04 | 0.11 |
| SAIT | 2.00 | 1.84 | 2.71 | 2.45 | 0.16 | 0.26 |
| LAIT | 2.19 | 1.86 | 3.53 | 2.98 | 0.33 | 1.16 |
| CUAND | 2.18 | 2.24 | 2.89 | 3.15 | -0.06 | -0.26 |
| BAIN | 2.08 | 2.11 | 3.23 | 3.25 | 0.17 | -0.02 |
| MALADE | 2.03 | 2.03 | 3.41 | 3.41 | -0.09 | -0.23 |
| NON | 2.02 | 1.83 | 3.17 | 3.15 | 0.19 | 0.42 |
| PONT | 2.00 | 1.70 | 3.07 | 2.59 | 0.30 | 0.51 |
| LUNE | 2.33 | 2.42 | 3.66 | 3.59 | -0.09 | -0.35 |

| Mean | 2.18 | 2.08 | 3.22 | 3.03 | 0.10 | 0.16 |
|--------|------|------|------------------------------------------------|------|------|------|
| Std | 0.18 | 0.25 | 0.41 <td>0.44</td> <td>0.15</td> <td>0.36</td> | 0.44 | 0.15 | 0.36 |
| Median | 2.18 | 2.10 | 3.15 | 3.06 | 0.10 | 0.11 |
| Mean | 2.16 | 2.04 | 3.09 | 2.90 | 0.12 | 0.20 |
| Std | 0.17 | 0.23 | 0.40 | 0.41 | 0.16 | 0.37 |
| Median | 2.17 | 2.06 | 2.98 | 2.92 | 0.11 | 0.09 |

| Mean | 2.20 | 2.11 | 3.35 | 3.17 | 0.09 | 0.18 |
|--------|------|------|------|------|------|------|
| Std | 0.18 | 0.26 | 0.38 | 0.44 | 0.14 | 0.38 |
| Median | 2.18 | 2.15 | 3.23 | 3.20 | 0.10 | 0.17 |
| Mean | 2.19 | 2.03 | 3.28 | 3.07 | 0.16 | 0.21 |
| Std | 0.17 | 0.24 | 0.32 | 0.40 | 0.15 | 0.24 |
| Median | 2.16 | 2.07 | 3.19 | 2.98 | 0.22 | 0.16 |

French Singles appearing in the wrong language context.

| Word | Bigrams | | Trigrams | | Difference | |
|----------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| SAC | 2.36 | 2.28 | 3.83 | 3.54 | 0.07 | 0.19 |
| BON | 2.03 | 1.83 | 3.31 | 3.48 | 0.19 | -0.17 |
| MENTON | 1.98 | 1.73 | 2.62 | 2.22 | 0.25 | 0.40 |
| DEFINIR | 2.02 | 1.68 | 3.17 | 2.79 | 0.34 | 0.84 |
| POULE | 2.15 | 2.15 | 3.57 | 3.03 | 0.00 | 0.38 |
| BORD | 2.26 | 2.22 | 3.23 | 3.28 | -0.20 | -0.04 |
| VOIER | 2.06 | 2.06 | 3.18 | 2.75 | 0.18 | 0.44 |
| UTILITE | 2.06 | 2.06 | 3.18 | 3.16 | -0.02 | 0.02 |
| TARD | 2.12 | 2.12 | 3.30 | 3.85 | 0.16 | -0.07 |
| HUIT | 2.44 | 2.39 | 3.65 | 3.61 | 0.15 | -0.31 |
| PLANCHER | 2.03 | 2.04 | 3.59 | 3.59 | 0.15 | -0.07 |
| PAS | 2.33 | 2.37 | 3.39 | 3.27 | 0.09 | 0.04 |
| PECHE | 2.24 | 2.25 | 3.14 | 2.78 | 0.05 | -0.08 |
| JETER | 1.98 | 1.78 | 2.72 | 2.51 | 0.01 | 0.37 |
| SAUT | 2.52 | 2.29 | 3.56 | 3.93 | 0.21 | 0.20 |
| COMME | 2.26 | 2.23 | 3.06 | 2.90 | 0.13 | 0.19 |

| Word | Bigrams | | Trigrams | | Difference | |
|----------|------------------|--------|------------------|--------|------------|---------|
| | Mean Probability | French | Mean Probability | French | Bigram | Trigram |
| SOIN | 2.11 | 2.24 | 3.65 | 3.56 | -0.13 | 0.66 |
| MUR | 2.46 | 2.56 | 3.83 | 3.80 | 0.10 | 0.93 |
| CHEVILLE | 2.21 | 2.25 | 3.02 | 2.71 | -0.04 | 0.81 |
| OUVERT | 2.15 | 1.91 | 3.06 | 2.98 | 0.23 | 0.10 |
| AGIR | 2.55 | 2.43 | 3.83 | 3.60 | 0.11 | 0.23 |
| RIPE | 2.05 | 1.77 | 3.38 | 2.84 | 0.27 | 0.53 |
| MER | 1.89 | 1.59 | 3.00 | 2.75 | 0.31 | 0.25 |
| MAISON | 2.11 | 1.80 | 3.22 | 2.63 | 0.32 | 0.59 |
| FROMAGE | 2.28 | 2.29 | 3.15 | 3.17 | -0.02 | -0.02 |
| SUCRE | 2.29 | 2.04 | 3.45 | 3.50 | 0.25 | -0.05 |
| SONT | 2.00 | 1.70 | 2.87 | 2.52 | 0.30 | 0.35 |
| COLLINE | 2.04 | 2.11 | 2.81 | 2.97 | -0.07 | -0.16 |
| LAVIER | 2.05 | 1.85 | 2.98 | 3.03 | 0.20 | -0.05 |
| MEME | 2.27 | 2.10 | 3.39 | 2.81 | 0.16 | 0.59 |
| BRAS | 2.18 | 1.92 | 3.15 | 2.68 | 0.26 | 0.47 |
| PIED | 2.46 | 2.10 | 3.66 | 3.59 | 0.35 | 0.07 |

| Mean | 2.18 | 2.06 | 3.24 | 3.07 | 0.12 | 0.17 |
|--------|------|------|------|------|------|------|
| Std | 0.17 | 0.25 | 0.33 | 0.40 | 0.15 | 0.24 |
| Median | 2.15 | 2.10 | 3.18 | 3.00 | 0.14 | 0.18 |
| Mean | 2.17 | 2.09 | 3.20 | 3.06 | 0.06 | 0.14 |
| Std | 0.17 | 0.25 | 0.33 | 0.40 | 0.14 | 0.24 |
| Median | 2.14 | 2.19 | 3.18 | 3.09 | 0.08 | 0.18 |

Language Switching Study 2.

Scores show the Negative of Logs of Mean Gram Probabilities for each string.

Singles presented in the Correct Language Context.

Non-Specific English

| Group 1 | Word | Bigrams | | Trigrams | | Difference | |
|---------|---------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | NURSE | 2.40 | 2.20 | 3.43 | 3.24 | 0.20 | 0.19 |
| | ENGINE | 2.01 | 1.91 | 2.99 | 3.07 | 0.01 | -0.08 |
| | MAIL | 2.93 | 1.91 | 3.60 | 3.36 | 0.24 | 0.46 |
| | RIFLE | 2.16 | 2.10 | 3.12 | 3.12 | 0.06 | 0.23 |
| | PICTURE | 2.20 | 2.10 | 3.12 | 3.12 | 0.10 | 0.20 |
| | FIVE | 2.43 | 2.46 | 3.44 | 3.21 | 0.10 | 0.27 |
| | PASTE | 2.04 | 2.08 | 2.84 | 3.05 | -0.03 | -0.21 |
| | RIPE | 2.22 | 2.15 | 3.43 | 3.62 | 0.08 | -0.19 |
| | GAME | 2.35 | 2.36 | 3.31 | 3.39 | 0.01 | -0.08 |
| | BEFORE | 2.20 | 2.09 | 3.18 | 3.33 | 0.11 | -0.15 |
| | COVER | 2.05 | 1.84 | 2.98 | 3.13 | 0.22 | -0.15 |
| | BEFORE | 2.05 | 1.84 | 2.98 | 3.13 | 0.22 | -0.15 |
| | CARE | 1.97 | 1.86 | 2.96 | 3.18 | 0.11 | -0.23 |
| | LATE | 1.91 | 1.99 | 2.98 | 3.00 | -0.08 | -0.62 |
| | SHAPE | 2.33 | 2.54 | 3.33 | 3.72 | -0.21 | -0.39 |
| | CIRCLE | 2.32 | 2.30 | 3.48 | 3.60 | 0.02 | -0.12 |
| | FIRE | 2.20 | 1.89 | 3.24 | 2.92 | 0.31 | 0.33 |

Non-Specific French

| Group 1 | Word | Bigrams | | Trigrams | | Difference | |
|---------|----------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | CANARD | 2.06 | 2.22 | 2.96 | 3.28 | -0.16 | -0.32 |
| | USINE | 2.01 | 2.14 | 2.87 | 2.92 | -0.13 | -0.04 |
| | BERGER | 2.01 | 1.72 | 3.07 | 3.06 | 0.29 | 0.01 |
| | SOLDAT | 2.26 | 2.49 | 3.43 | 3.73 | -0.23 | -0.31 |
| | BATIMENT | 2.05 | 1.90 | 2.70 | 2.33 | 0.14 | 0.36 |
| | FOUR | 2.39 | 2.24 | 3.39 | 2.91 | 0.15 | 0.47 |
| | TOUR | 1.97 | 2.02 | 2.94 | 2.63 | 0.55 | 0.32 |
| | VERSER | 2.09 | 1.97 | 2.82 | 2.87 | 0.26 | 0.31 |
| | LIRE | 2.00 | 1.84 | 2.96 | 2.87 | 0.26 | 0.19 |
| | APRES | 2.15 | 1.84 | 2.96 | 2.66 | 0.53 | 0.25 |
| | CLAIR | 2.37 | 2.02 | 3.20 | 2.94 | 0.35 | 0.25 |
| | BESON | 2.16 | 2.07 | 3.01 | 2.59 | 0.68 | 0.02 |
| | CRISE | 2.15 | 1.89 | 3.05 | 2.53 | 0.26 | 0.52 |
| | AMER | 2.00 | 1.74 | 3.04 | 2.90 | 0.26 | 0.15 |
| | VERT | 2.01 | 1.77 | 2.79 | 2.84 | 0.24 | -0.05 |
| | VOITURE | 2.28 | 2.04 | 3.20 | 3.04 | 0.24 | 0.16 |

Specific English

| Group 1 | Word | Bigrams | | Trigrams | | Difference | |
|---------|---------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | ARROW | 2.17 | 2.27 | 3.25 | 3.32 | -0.10 | -0.07 |
| | LAKE | 2.37 | 2.66 | 3.37 | 5.02 | -0.29 | -1.65 |
| | SWORD | 2.41 | 2.70 | 3.21 | 3.66 | -0.29 | -0.45 |
| | COAST | 2.17 | 2.26 | 3.17 | 3.75 | -0.10 | -0.58 |
| | BOOK | 2.51 | 3.08 | 3.31 | 5.24 | -0.47 | -1.93 |
| | LIGHT | 2.46 | 2.57 | 3.01 | 3.82 | -0.10 | -0.81 |
| | SLICED | 2.33 | 2.60 | 3.45 | 4.16 | -0.27 | -0.71 |
| | FLIGHT | 2.39 | 2.43 | 3.61 | 4.03 | -0.04 | -0.41 |
| | DEEP | 2.38 | 2.43 | 3.61 | 4.03 | -0.04 | -0.41 |
| | KING | 2.38 | 2.43 | 3.61 | 4.03 | -0.04 | -0.41 |
| | POOR | 2.38 | 2.43 | 3.61 | 4.03 | -0.04 | -0.41 |
| | SIMILAR | 2.16 | 2.26 | 3.21 | 3.41 | -0.13 | -0.20 |
| | ANSWER | 2.08 | 1.85 | 3.42 | 3.65 | -0.23 | -0.20 |
| | EDGE | 2.51 | 2.60 | 3.43 | 4.41 | -0.09 | -0.98 |
| | BLACK | 2.25 | 2.48 | 3.09 | 3.56 | -0.23 | -0.47 |
| | KNIFE | 2.64 | 2.64 | 3.71 | 3.75 | -0.00 | -0.03 |

Specific French

| Group 1 | Word | Bigrams | | Trigrams | | Difference | |
|---------|----------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | GATEAU | 2.11 | 2.21 | 2.71 | 3.31 | -0.10 | -0.61 |
| | NEZ | 2.40 | 2.02 | 4.63 | 3.51 | 0.38 | 1.12 |
| | SEAU | 2.31 | 2.21 | 3.59 | 3.66 | 0.10 | -0.08 |
| | BAIE | 2.48 | 1.82 | 4.45 | 2.46 | 0.66 | 1.99 |
| | CHEVEU | 2.42 | 2.42 | 3.32 | 3.01 | 0.01 | 0.31 |
| | JEUNE | 2.49 | 2.43 | 4.12 | 3.84 | 0.06 | 0.28 |
| | VOLEUR | 2.27 | 2.23 | 3.37 | 2.98 | 0.03 | 0.39 |
| | SOLE | 2.56 | 2.07 | 4.45 | 3.55 | 0.05 | 0.34 |
| | LENE | 2.51 | 2.27 | 3.36 | 3.04 | 0.05 | 0.34 |
| | DEU | 2.50 | 2.27 | 3.36 | 3.04 | 0.05 | 0.34 |
| | VRAI | 2.30 | 2.12 | 3.45 | 3.53 | 0.14 | 1.58 |
| | LONGUEUR | 2.27 | 2.12 | 3.45 | 3.53 | 0.14 | 1.58 |
| | NEUF | 2.52 | 2.53 | 3.92 | 3.74 | 0.13 | 0.18 |
| | VERRE | 1.99 | 1.70 | 2.86 | 2.69 | 0.29 | 0.00 |
| | PEAU | 2.35 | 2.48 | 3.51 | 3.64 | -0.12 | -0.12 |

| Group 2 | Word | Bigrams | | Trigrams | | Difference | |
|---------|---------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | FLOWER | 2.21 | 2.01 | 3.35 | 4.34 | 0.20 | -0.99 |
| | ROOF | 2.35 | 2.38 | 3.38 | 5.32 | -0.03 | -1.94 |
| | BROOK | 2.40 | 2.45 | 3.22 | 3.80 | -0.05 | -0.57 |
| | MOON | 2.12 | 2.00 | 3.64 | 5.72 | 0.12 | -2.06 |
| | GLASS | 2.32 | 2.26 | 3.12 | 3.00 | 0.06 | 0.12 |
| | ROOM | 2.23 | 2.26 | 3.31 | 5.04 | -0.05 | -1.74 |
| | WENCH | 2.19 | 2.04 | 3.29 | 3.14 | 0.15 | 0.15 |
| | GLEAM | 2.21 | 2.36 | 3.26 | 3.92 | -0.16 | -0.66 |
| | HEAVY | 2.45 | 2.74 | 3.42 | 5.02 | -0.29 | -1.60 |
| | WHAT | 2.19 | 2.48 | 3.57 | 4.29 | -0.29 | -0.71 |
| | WARM | 2.23 | 2.53 | 3.19 | 3.76 | -0.30 | -0.58 |
| | EASY | 2.40 | 2.56 | 3.42 | 4.50 | -0.16 | -1.08 |
| | FEELING | 2.13 | 2.25 | 2.77 | 3.46 | -0.13 | -0.70 |
| | NARROW | 2.19 | 2.29 | 3.22 | 3.39 | -0.10 | -0.17 |
| | DESK | 2.26 | 1.91 | 3.39 | 2.91 | 0.35 | 0.47 |
| | SNAKE | 2.59 | 2.95 | 3.47 | 5.08 | -0.36 | -1.62 |

| Group 2 | Word | Bigrams | | Trigrams | | Difference | |
|---------|-----------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | REWARD | 2.02 | 1.86 | 2.97 | 2.76 | 0.15 | 0.21 |
| | NUAGE | 2.56 | 2.55 | 3.28 | 3.12 | 0.01 | 0.16 |
| | BOUTON | 2.15 | 2.05 | 3.08 | 3.02 | 0.10 | 0.06 |
| | GRAS | 2.18 | 1.92 | 2.95 | 2.62 | 0.26 | 0.33 |
| | SELO | 2.05 | 1.91 | 3.32 | 3.25 | 0.15 | 0.07 |
| | ETAT | 2.04 | 2.20 | 2.98 | 3.12 | -0.16 | -0.14 |
| | BRULER | 2.07 | 1.90 | 3.47 | 2.83 | 0.17 | 0.64 |
| | BASSIN | 2.13 | 2.18 | 3.06 | 2.92 | -0.05 | 0.15 |
| | MORT | 2.20 | 2.40 | 2.91 | 3.00 | -0.20 | -0.09 |
| | DEPENDENT | 2.11 | 1.97 | 2.99 | 2.79 | 0.14 | 0.20 |
| | TIRER | 1.92 | 1.65 | 3.44 | 2.64 | 0.28 | 0.80 |
| | TORT | 2.15 | 2.39 | 2.68 | 3.03 | -0.25 | -0.35 |
| | FERMER | 2.01 | 1.71 | 3.08 | 2.98 | 0.30 | 0.10 |
| | SEUL | 2.40 | 2.14 | 4.23 | 3.77 | 0.26 | 0.46 |
| | ROCHER | 2.04 | 1.87 | 2.91 | 2.83 | 0.17 | 0.08 |
| | JARDIN | 2.10 | 2.30 | 3.15 | 3.36 | -0.20 | -0.21 |

| Group 2 | Word | Bigrams | | Trigrams | | Difference | |
|---------|--------|------------------|---------|----------|--------|------------|---------|
| | | Mean Probability | English | French | Bigram | Trigram | Trigram |
| | LEMON | 2.03 | 1.91 | 3.13 | 3.13 | 0.12 | 0.00 |
| | GOLD | 2.51 | 2.82 | 3.39 | 4.28 | -0.32 | -0.89 |
| | OVEN | 2.15 | 1.99 | 3.04 | 3.30 | 0.17 | -0.25 |
| | STONE | 1.98 | 1.95 | 2.79 | 3.27 | 0.03 | -0.48 |
| | RED | 2.07 | 1.80 | 3.08 | 3.05 | 0.26 | 0.02 |
| | HOT | 2.35 | 2.73 | 3.55 | 3.76 | -0.38 | -0.21 |
| | LICE | 2.12 | 2.28 | 3.00 | 3.32 | -0.15 | -0.31 |
| | MATE | 1.92 | 2.02 | 2.99 | 2.97 | -0.10 | -0.59 |
| | INCOME | 2.07 | 2.12 | 2.91 | 2.97 | -0.05 | -0.06 |
| | MATTER | 1.93 | 1.83 | 2.69 | 2.56 | 0.10 | 0.12 |
| | RISE | 2.07 | 1.78 | 2.99 | 2.41 | 0.28 | 0.59 |
| | INSIDE | 2.09 | 2.04 | 2.97 | 3.14 | 0.05 | -0.17 |
| | TRADE | 2.10 | 1.90 | 2.84 | 2.86 | 0.20 | -0.01 |
| | MASTER | 1.93 | 1.81 | 2.65 | 2.60 | 0.12 | 0.05 |
| | SEAT | 2.07 | 2.12 | 3.23 | 4.10 | -0.05 | -0.37 |
| | HORSE | 2.21 | 2.22 | 3.15 | 3.60 | -0.01 | -0.44 |

| Both | Mean | Std | Median |
|------|------|------|--------|
| | 2.15 | 2.10 | 3.08 |
| | 2.16 | 2.26 | 3.30 |
| | 2.11 | 2.06 | 3.06 |
| | 2.11 | 2.06 | 3.16 |
| | 2.11 | 2.06 | 3.16 |

| Group 1 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.20 | 2.12 | 3.15 |
| | 2.16 | 2.20 | 3.00 |
| | 2.20 | 2.10 | 3.21 |
| | 2.20 | 2.10 | 3.21 |
| | 2.20 | 2.10 | 3.21 |

| Group 2 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.10 | 2.08 | 2.99 |
| | 2.15 | 2.30 | 3.28 |
| | 2.07 | 2.00 | 3.00 |
| | 2.15 | 2.30 | 3.28 |
| | 2.07 | 2.00 | 3.00 |

| Both | Mean | Std | Median |
|------|------|------|--------|
| | 2.32 | 2.42 | 3.36 |
| | 0.16 | 0.30 | 0.22 |
| | 2.29 | 2.44 | 3.36 |
| | 2.29 | 2.44 | 3.36 |
| | 2.29 | 2.44 | 3.36 |

| Group 1 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.36 | 2.51 | 3.40 |
| | 0.18 | 0.31 | 0.23 |
| | 2.35 | 2.52 | 3.40 |
| | 2.35 | 2.52 | 3.40 |
| | 2.35 | 2.52 | 3.40 |

| Group 2 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.28 | 2.34 | 3.31 |
| | 0.13 | 0.27 | 0.19 |
| | 2.23 | 2.33 | 3.31 |
| | 2.23 | 2.33 | 3.31 |
| | 2.23 | 2.33 | 3.31 |

| Both | Mean | Std | Median |
|------|------|------|--------|
| | 2.37 | 2.21 | 3.57 |
| | 0.20 | 0.23 | 0.49 |
| | 2.34 | 2.21 | 3.55 |
| | 2.34 | 2.21 | 3.55 |
| | 2.34 | 2.21 | 3.55 |

| Group 1 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.34 | 2.14 | 3.67 |
| | 0.15 | 0.23 | 0.52 |
| | 2.33 | 2.16 | 3.55 |
| | 2.33 | 2.16 | 3.55 |
| | 2.33 | 2.16 | 3.55 |

| Group 2 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.40 | 2.28 | 3.48 |
| | 0.24 | 0.22 | 0.44 |
| | 2.34 | 2.25 | 3.48 |
| | 2.34 | 2.25 | 3.48 |
| | 2.34 | 2.25 | 3.48 |

| Both | Mean | Std | Median |
|------|------|------|--------|
| | 2.37 | 2.21 | 3.57 |
| | 0.20 | 0.23 | 0.49 |
| | 2.34 | 2.21 | 3.55 |
| | 2.34 | 2.21 | 3.55 |
| | 2.34 | 2.21 | 3.55 |

| Group 1 | Mean | Std | Median |
|---------|------|------|--------|
| | 2.36 | 2.51 | 3.40 |
| | 0.18 | 0.31 | 0.23 |
| | 2.35 | 2.52 | 3.40 |
| | 2.35 | 2.52 | 3.40 |
| | 2.35 | 2.52 | 3.40 |

| Group 2 | Mean | Std | Median |
|---------|------|-----|--------|
|---------|------|-----|--------|

Singles presented in the Wrong Language Context.

Non-specific English

| Word | Bigrams | | Trigrams | | Mean Probability | | Difference | |
|--------|---------|--------|----------|--------|------------------|--------|------------|---------|
| | English | French | English | French | English | French | Bigram | Trigram |
| SUMMER | 2.18 | 1.84 | 3.29 | 3.18 | 0.24 | 0.12 | 0.24 | 0.12 |
| SMILE | 2.19 | 2.26 | 3.22 | 3.46 | -0.07 | -0.24 | -0.07 | -0.24 |
| SISTER | 1.92 | 1.74 | 2.61 | 2.64 | 0.18 | 0.07 | 0.18 | 0.07 |
| NOVEL | 2.35 | 2.51 | 3.34 | 3.63 | -0.15 | -0.48 | -0.15 | -0.48 |
| VOICE | 2.37 | 2.51 | 3.45 | 3.47 | -0.15 | -0.02 | -0.15 | -0.02 |
| UNDER | 2.03 | 1.81 | 2.90 | 2.96 | 0.22 | 0.48 | 0.22 | 0.48 |
| EVENT | 2.10 | 1.81 | 2.63 | 2.15 | 0.29 | 0.48 | 0.29 | 0.48 |
| SENSE | 2.11 | 1.77 | 3.08 | 3.00 | 0.34 | 0.08 | 0.34 | 0.08 |
| Mean | 2.16 | 2.04 | 3.07 | 3.07 | 0.11 | -0.01 | 0.11 | -0.01 |
| Std | 0.14 | 0.31 | 0.30 | 0.50 | 0.19 | 0.26 | 0.19 | 0.26 |
| Median | 2.15 | 1.88 | 3.15 | 3.09 | 0.20 | 0.03 | 0.20 | 0.03 |

Non-specific French

| Word | Bigrams | | Trigrams | | Mean Probability | | Difference | |
|---------|---------|--------|----------|--------|------------------|--------|------------|---------|
| | English | French | English | French | English | French | Bigram | Trigram |
| CHEVAL | 2.24 | 2.36 | 3.26 | 2.82 | -0.12 | 0.34 | -0.12 | 0.34 |
| NAVIRE | 2.58 | 2.05 | 3.45 | 3.71 | 0.23 | 0.34 | 0.23 | 0.34 |
| LAPIN | 2.08 | 2.25 | 3.35 | 3.64 | -0.17 | 0.33 | -0.17 | 0.33 |
| GARF | 2.02 | 1.69 | 3.10 | 2.66 | 0.35 | 0.14 | 0.35 | 0.14 |
| TRAVAIL | 2.29 | 1.84 | 3.41 | 3.19 | 0.03 | 0.22 | 0.03 | 0.22 |
| COTE | 2.03 | 2.00 | 3.41 | 3.19 | 0.03 | 0.22 | 0.03 | 0.22 |
| PIPE | 2.18 | 1.90 | 3.25 | 2.88 | 0.28 | 0.28 | 0.28 | 0.28 |
| MOINS | 2.17 | 2.11 | 3.28 | 3.27 | 0.06 | 0.02 | 0.06 | 0.02 |
| Mean | 2.16 | 2.06 | 3.28 | 3.15 | 0.10 | 0.12 | 0.10 | 0.12 |
| Std | 0.10 | 0.16 | 0.11 | 0.23 | 0.17 | 0.23 | 0.17 | 0.23 |
| Median | 2.17 | 2.03 | 3.27 | 3.15 | 0.09 | 0.18 | 0.09 | 0.18 |

Specific English

| Word | Bigrams | | Trigrams | | Mean Probability | | Difference | |
|--------|---------|--------|----------|--------|------------------|--------|------------|---------|
| | English | French | English | French | English | French | Bigram | Trigram |
| BLOOD | 2.40 | 2.73 | 3.28 | 4.17 | -0.33 | -0.89 | -0.33 | -0.89 |
| TREE | 2.18 | 1.64 | 3.09 | 2.76 | 0.28 | 0.30 | 0.28 | 0.30 |
| SHOWER | 2.18 | 2.06 | 3.35 | 5.60 | 0.15 | 1.37 | 0.15 | 1.37 |
| TOWN | 2.48 | 2.84 | 3.02 | 4.22 | -0.38 | -1.29 | -0.38 | -1.29 |
| BACK | 2.37 | 2.84 | 3.64 | 4.11 | -0.13 | -0.49 | -0.13 | -0.49 |
| GROWTH | 2.38 | 2.51 | 3.64 | 4.11 | -0.13 | -0.49 | -0.13 | -0.49 |
| SLIGHT | 2.53 | 2.66 | 3.10 | 3.94 | -0.13 | -0.84 | -0.13 | -0.84 |
| THUS | 2.32 | 2.75 | 3.68 | 4.89 | -0.43 | -1.21 | -0.43 | -1.21 |
| Mean | 2.34 | 2.52 | 3.32 | 4.31 | -0.18 | -1.00 | -0.18 | -1.00 |
| Std | 0.13 | 0.36 | 0.24 | 0.78 | 0.25 | 0.70 | 0.25 | 0.70 |
| Median | 2.37 | 2.65 | 3.31 | 4.20 | -0.21 | -1.05 | -0.21 | -1.05 |

Specific French

| Word | Bigrams | | Trigrams | | Mean Probability | | Difference | |
|-----------|---------|--------|----------|--------|------------------|--------|------------|---------|
| | English | French | English | French | English | French | Bigram | Trigram |
| ROUTEILLE | 2.16 | 2.14 | 3.12 | 3.12 | 2.77 | 0.02 | 0.02 | 0.02 |
| POUE | 2.33 | 2.18 | 4.00 | 3.76 | 0.42 | 0.44 | 0.42 | 0.44 |
| CEUE | 3.13 | 2.76 | 5.41 | 5.88 | 0.37 | 0.22 | 0.37 | 0.22 |
| CLIERRE | 2.16 | 1.98 | 3.25 | 5.86 | 0.34 | 0.34 | 0.34 | 0.34 |
| TOGIST | 2.17 | 1.98 | 3.10 | 2.93 | 0.22 | 0.16 | 0.22 | 0.16 |
| QUEST | 2.56 | 2.72 | 4.18 | 3.48 | 0.11 | 0.69 | 0.11 | 0.69 |
| FAUX | 2.56 | 2.72 | 4.18 | 3.48 | 0.11 | 0.69 | 0.11 | 0.69 |
| VOICI | 2.42 | 2.57 | 3.44 | 3.48 | -0.15 | -0.03 | -0.15 | -0.03 |
| Mean | 2.46 | 2.26 | 3.70 | 3.32 | 0.19 | 0.38 | 0.19 | 0.38 |
| Std | 0.35 | 0.36 | 0.75 | 0.46 | 0.18 | 0.38 | 0.18 | 0.38 |
| Median | 2.30 | 2.16 | 3.35 | 3.29 | 0.22 | 0.29 | 0.22 | 0.29 |

Pseudowords.

Strings orthographically legal in both English and French.

| Nonword | Bigrams | | Trigrams | | Difference | |
|-----------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| CLANET | 2.08 | 2.15 | 2.99 | 3.13 | -0.07 | -0.14 |
| LONIT | 1.98 | 1.70 | 3.07 | 2.54 | 0.28 | 0.53 |
| SISTENT | 1.96 | 1.77 | 2.63 | 2.31 | 0.20 | 0.32 |
| HAME | 2.28 | 2.53 | 3.17 | 3.38 | -0.05 | -0.21 |
| AFFICIENT | 2.25 | 1.97 | 2.94 | 2.65 | 0.28 | 0.57 |
| NABLE | 2.16 | 2.56 | 2.65 | 2.39 | -0.10 | -0.34 |
| SARE | 2.01 | 1.85 | 3.23 | 3.41 | 0.16 | 0.16 |
| JOME | 2.39 | 2.57 | 3.11 | 3.69 | 0.02 | -0.39 |
| CORIT | 2.10 | 2.50 | 2.88 | 2.99 | -0.69 | 0.11 |
| GAIR | 2.58 | 2.87 | 3.05 | 3.21 | -0.65 | 0.14 |
| AGE | 2.19 | 1.96 | 3.44 | 3.03 | 0.23 | 0.41 |
| PITE | 2.08 | 1.98 | 3.04 | 2.82 | 0.68 | 0.22 |
| GADP | 2.29 | 2.24 | 3.00 | 2.92 | 0.05 | -0.22 |
| DEND | 2.03 | 1.84 | 2.89 | 2.88 | 0.19 | 0.01 |
| PRELUSION | 2.11 | 1.97 | 2.87 | 2.86 | 0.14 | 0.21 |

Group 1

| Nonword | Bigrams | | Trigrams | | Difference | |
|-----------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| TRONJ | 2.05 | 2.09 | 3.13 | 3.20 | -0.04 | -0.07 |
| RAMENT | 2.03 | 1.73 | 2.65 | 2.22 | 0.30 | 0.43 |
| BOTION | 2.09 | 1.97 | 2.65 | 2.44 | 0.12 | 0.22 |
| TOND | 2.02 | 1.94 | 2.90 | 2.57 | 0.05 | -0.07 |
| LAPTURE | 2.23 | 2.08 | 3.21 | 3.17 | 0.15 | 0.05 |
| SANT | 2.00 | 1.81 | 2.68 | 2.88 | 0.19 | 0.30 |
| LENCE | 2.04 | 1.92 | 2.97 | 2.80 | 0.12 | 0.07 |
| BROP | 2.30 | 2.29 | 3.08 | 3.05 | 0.01 | -0.26 |
| SRELATION | 1.98 | 1.94 | 2.64 | 2.49 | 0.06 | 0.14 |
| ENTAIN | 1.98 | 1.72 | 2.71 | 2.25 | 0.26 | 0.46 |
| CAND | 2.02 | 2.16 | 2.73 | 3.11 | -0.14 | -0.39 |
| MAVE | 2.29 | 2.43 | 3.35 | 3.56 | -0.14 | -0.21 |
| MENSE | 2.12 | 1.60 | 2.89 | 2.72 | 0.31 | 0.17 |
| DAIN | 2.10 | 1.92 | 3.20 | 3.17 | 0.18 | 0.03 |
| RORD | 2.12 | 2.18 | 3.37 | 3.44 | -0.06 | -0.07 |
| GARADE | 2.10 | 1.98 | 3.11 | 3.20 | 0.11 | -0.09 |

Both

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.13 | 2.03 | 3.00 | 2.95 | 0.10 | 0.05 |
| Sid | 0.13 | 0.20 | 0.24 | 0.41 | 0.15 | 0.28 |
| Median | 2.10 | 1.97 | 3.01 | 2.99 | 0.11 | 0.04 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.17 | 2.05 | 3.04 | 2.99 | 0.11 | 0.05 |
| Sid | 0.15 | 0.21 | 0.23 | 0.39 | 0.17 | 0.32 |
| Median | 2.13 | 1.98 | 3.04 | 2.99 | 0.11 | 0.08 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.09 | 2.00 | 2.95 | 2.81 | 0.10 | 0.04 |
| Sid | 0.10 | 0.19 | 0.25 | 0.42 | 0.14 | 0.23 |
| Median | 2.07 | 1.95 | 2.93 | 3.04 | 0.11 | 0.04 |

Group 2

Strings orthographically legal strings in English, illegal strings in French.

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| DWOLL | 2.46 | 2.65 | 3.43 | 3.76 | -0.19 | -0.32 |
| WANDOW | 2.22 | 2.44 | 3.92 | 3.50 | -0.22 | -0.46 |
| REPHH | 1.37 | 2.53 | 3.87 | 4.05 | -0.26 | -0.34 |
| KONKEY | 2.33 | 2.65 | 3.87 | 3.82 | 0.10 | 0.05 |
| WECK | 2.33 | 2.28 | 3.93 | 4.05 | -0.05 | -0.36 |
| VOUGH | 2.81 | 2.97 | 3.08 | 4.68 | -0.24 | -1.82 |
| RIGHTE | 2.51 | 2.97 | 3.08 | 4.68 | -0.24 | -1.82 |
| PLUOE | 2.22 | 2.56 | 3.51 | 3.81 | -0.24 | 0.10 |
| WLOTE | 2.52 | 2.69 | 3.58 | 3.71 | -0.24 | -0.13 |
| BOFFE | 2.65 | 2.88 | 3.58 | 3.62 | 0.01 | -0.03 |
| SCEIGHT | 2.58 | 2.73 | 3.18 | 3.97 | -0.15 | -0.69 |
| DROOK | 2.42 | 2.46 | 3.22 | 3.89 | -0.04 | -0.87 |
| BEELING | 2.11 | 2.26 | 2.77 | 3.46 | -0.16 | -0.70 |
| DACK | 2.40 | 2.69 | 3.13 | 4.42 | -0.23 | -1.29 |
| TEEP | 2.16 | 2.05 | 3.39 | 3.85 | 0.11 | 0.04 |
| PANK | 2.14 | 2.26 | 3.30 | 3.81 | -0.12 | -0.31 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| KNOG | 2.69 | 2.90 | 3.80 | 4.51 | -0.21 | -0.71 |
| SHOOM | 2.95 | 2.87 | 3.32 | 4.70 | -0.52 | -1.38 |
| DOOF | 2.65 | 3.10 | 3.83 | 6.30 | -0.45 | -2.47 |
| KOOD | 2.70 | 3.42 | 3.88 | 6.32 | -0.73 | -2.85 |
| PLAKE | 2.41 | 2.64 | 3.17 | 3.44 | -0.22 | -0.27 |
| WELVE | 2.42 | 2.61 | 3.51 | 4.56 | -0.20 | -1.04 |
| POUGH | 2.47 | 2.47 | 3.38 | 3.65 | 0.01 | -0.27 |
| GIBBLE | 2.34 | 2.46 | 2.94 | 3.34 | -0.12 | -0.41 |
| VARROW | 2.24 | 2.32 | 3.32 | 3.41 | -0.09 | -0.10 |
| HADOW | 2.37 | 2.59 | 3.25 | 3.25 | -0.22 | 0.01 |
| HOON | 2.10 | 2.02 | 3.40 | 5.48 | 0.08 | -2.07 |
| NOLLOW | 2.32 | 2.51 | 3.19 | 3.50 | -0.19 | -0.31 |
| TATCH | 2.15 | 2.31 | 3.05 | 3.63 | -0.15 | -0.58 |
| WEASH | 2.37 | 2.69 | 3.30 | 4.63 | -0.32 | -1.33 |
| FEACH | 2.30 | 2.44 | 3.42 | 3.41 | -0.14 | 0.01 |
| LOAST | 2.22 | 2.41 | 3.19 | 3.84 | -0.19 | -0.65 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|-------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.37 | 2.54 | 3.35 | 4.04 | -0.17 | -0.69 |
| Sid | 0.17 | 0.29 | 0.26 | 0.78 | 0.18 | 0.73 |
| Median | 2.36 | 2.50 | 3.35 | 3.79 | -0.17 | -0.44 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|-------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.37 | 2.47 | 3.36 | 3.84 | -0.10 | -0.47 |
| Sid | 0.18 | 0.22 | 0.28 | 0.96 | 0.13 | 0.46 |
| Median | 2.35 | 2.48 | 3.39 | 3.79 | -0.13 | -0.35 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|-------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.38 | 2.61 | 3.34 | 4.25 | -0.23 | -0.91 |
| Sid | 0.17 | 0.33 | 0.23 | 1.00 | 0.19 | 0.88 |
| Median | 2.36 | 2.55 | 3.32 | 3.74 | -0.19 | -0.62 |

Orthographically legal strings in French, illegal strings in English.

| Nonword | Bigrams | | Trigrams | | Difference | |
|------------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| BEVIL | 2.51 | 2.42 | 4.09 | 3.39 | 0.09 | 0.70 |
| PAITE | 2.62 | 2.91 | 2.97 | 2.66 | 0.21 | 0.32 |
| VAUF | 2.89 | 2.70 | 3.71 | 3.71 | 0.21 | 0.63 |
| JAUFRE | 2.99 | 2.98 | 3.62 | 3.56 | 0.03 | 0.23 |
| SEUNE | 2.36 | 2.36 | 3.97 | 3.68 | 0.17 | 0.29 |
| MAVEU | 2.06 | 2.18 | 2.87 | 3.26 | -0.10 | -0.53 |
| LEAU | 2.14 | 2.12 | 3.52 | 3.67 | -0.10 | -0.38 |
| NETTRE | 2.12 | 1.96 | 3.21 | 2.97 | 0.16 | 0.24 |
| GAUTERELLE | 2.03 | 1.87 | 2.66 | 2.54 | 0.16 | 0.30 |
| DREU | 2.27 | 1.93 | 3.61 | 3.34 | 0.34 | 0.27 |
| TREUVE | 2.26 | 2.03 | 3.62 | 3.09 | 0.23 | 0.53 |
| VOIGNON | 2.38 | 2.19 | 3.69 | 3.24 | 0.18 | 0.45 |
| OUSSI | 2.23 | 2.17 | 2.79 | 2.94 | 0.06 | -0.16 |
| HEUX | 2.57 | 2.52 | 4.37 | 3.58 | 0.05 | 0.78 |
| PILOX | 2.34 | 2.13 | 3.59 | 3.25 | 0.21 | 0.34 |
| SULLER | 2.09 | 1.91 | 3.05 | 2.59 | 0.18 | 0.46 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|----------|------------------|---------|----------|------------------|------------|---------|
| | Mean Probability | English | French | Mean Probability | English | Trigram |
| GADEAU | 2.33 | 2.36 | 3.43 | 3.58 | -0.03 | -0.15 |
| PAISSE | 2.28 | 1.85 | 3.38 | 2.40 | 0.43 | 0.97 |
| CEUDI | 2.49 | 2.41 | 3.91 | 3.99 | 0.07 | -0.08 |
| GOUTELLE | 2.17 | 2.15 | 3.14 | 2.80 | 0.02 | 0.34 |
| GOLF | 2.80 | 2.65 | 4.63 | 4.19 | 0.15 | 0.44 |
| SEUF | 2.66 | 2.20 | 4.33 | 3.82 | 0.36 | 0.50 |
| AISEAU | 2.28 | 1.90 | 3.99 | 2.50 | 0.38 | 0.89 |
| DOEUF | 2.91 | 2.76 | 4.80 | 4.35 | 0.16 | 0.46 |
| TOISSON | 2.18 | 1.96 | 3.22 | 2.81 | 0.22 | 0.42 |
| HOIS | 2.31 | 2.09 | 3.74 | 3.34 | 0.21 | 0.40 |
| COEUD | 2.51 | 2.41 | 4.26 | 4.18 | 0.11 | 0.08 |
| MOLEIL | 2.21 | 2.28 | 3.42 | 3.36 | -0.07 | 0.06 |
| TIEUX | 2.39 | 2.05 | 3.97 | 3.17 | 0.35 | 0.80 |
| BOIX | 2.78 | 2.76 | 4.45 | 4.01 | 0.02 | 0.44 |
| POEUR | 2.55 | 2.40 | 3.83 | 3.09 | 0.15 | 0.75 |
| REUVE | 2.29 | 2.01 | 4.20 | 3.47 | 0.29 | 0.74 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.37 | 2.22 | 3.69 | 3.32 | 0.15 | 0.36 |
| Sid | 0.22 | 0.26 | 0.55 | 0.51 | 0.13 | 0.35 |
| Median | 2.31 | 2.17 | 3.62 | 3.34 | 0.16 | 0.41 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.30 | 2.17 | 3.49 | 3.21 | 0.12 | 0.28 |
| Sid | 0.20 | 0.23 | 0.53 | 0.37 | 0.11 | 0.36 |
| Median | 2.26 | 2.16 | 3.60 | 3.25 | 0.16 | 0.32 |

| Nonword | Bigrams | | Trigrams | | Difference | |
|---------|---------|------|----------|------|------------|------|
| | Mean | Sid | Mean | Sid | Mean | Sid |
| Mean | 2.44 | 2.26 | 3.88 | 3.44 | 0.18 | 0.44 |
| Sid | 0.22 | 0.28 | 0.51 | 0.60 | 0.15 | 0.33 |
| Median | 2.36 | 2.24 | 3.87 | 3.41 | 0.16 | 0.44 |

Appendix D: Additional t-tests for the Bilingual Priming Study.

The following pages contain two additional tables of t-tests for the Bilingual Priming Study (see Chapter 8).

Table D.1 shows the differences between unprimed and primed RT conditions using independent samples t-tests over pooled data.

Table D.2 shows the differences between first and second presentation RTs using paired samples t-tests for subjects' individual data.

| Language | Condition | Mean RT (ms) | SD (ms) | t-value | p-value |
|----------|-----------|--------------|---------|---------|---------|
| English | Unprimed | 740 | 100 | -1.2 | .23 |
| | Primed | 730 | 95 | | |
| | Unprimed | 750 | 105 | | |
| | Primed | 745 | 100 | | |
| French | Unprimed | 760 | 110 | -1.5 | .14 |
| | Primed | 750 | 105 | | |
| | Unprimed | 770 | 115 | | |
| | Primed | 765 | 110 | | |
| Spanish | Unprimed | 780 | 120 | -1.8 | .08 |
| | Primed | 770 | 115 | | |
| | Unprimed | 790 | 125 | | |
| | Primed | 785 | 120 | | |
| German | Unprimed | 800 | 130 | -2.1 | .04 |
| | Primed | 790 | 125 | | |
| | Unprimed | 810 | 135 | | |
| | Primed | 805 | 130 | | |

Table D.1: Results of the Cross-language priming study. Scores show the mean response time in msecs in the lexical decision task for a stimulus in the identical context, when unprimed and when primed. Responses are only included for (1st presentation - 2nd presentation) pairs that were both correct. Responses for each word type were pooled across subjects. Mean unprimed and primed RTs were compared using independent samples t-tests. This has the disadvantage of confusing inter-subject variability with variability in the size of the priming effect (only the latter is of interest here).

| Stimulus Type | Example | Repetition Type | Presentation Context | | Response Time (ms) | | Difference | S Error | t-test p-val | p<0.05? |
|------------------------|---------|------------------|----------------------|---------|--------------------|--------|------------|---------|--------------|---------|
| | | | Prime | Target | Unprimed | Primed | | | | |
| Non-Cognate Homographs | MAIN | Within language | English | English | 692 | 605 | 88 | 37 | 0.018 | sig |
| | | Between language | English | French | 750 | 661 | 89 | 47 | 0.057 | |
| | | Between language | French | English | 692 | 742 | -50 | 53 | 0.350 | |
| | | Within language | French | French | 750 | 608 | 142 | 35 | 0.000 | sig |
| English Singles | RAIN | Within language | English | English | 630 | 574 | 56 | 26 | 0.031 | sig |
| | | Between language | English | French | 899 | 909 | -11 | 55 | 0.844 | |
| | | Between language | French | English | 630 | 646 | -16 | 30 | 0.589 | |
| | | Within language | French | French | 899 | 803 | 96 | 46 | 0.039 | sig |
| French Singles | BAIN | Within language | English | English | 807 | 748 | 59 | 34 | 0.081 | |
| | | Between language | English | French | 669 | 617 | 53 | 25 | 0.035 | sig |
| | | Between language | French | English | 807 | 834 | -28 | 48 | 0.571 | |
| | | Within language | French | French | 669 | 574 | 95 | 22 | 0.000 | sig |
| Nonwords | SARE | Within language | English | English | 744 | 696 | 49 | 37 | 0.191 | |
| | | Between language | English | French | 720 | 832 | -112 | 38 | 0.004 | sig |
| | | Between language | French | English | 744 | 645 | 100 | 30 | 0.001 | sig |
| | | Within language | French | French | 721 | 724 | -3 | 28 | 0.911 | |

Table D.2: Results of the Cross-language priming study. Scores show the mean response time in msec in the lexical decision task for the first and second presentation of a stimulus, when both responses were correct. The difference between mean RTs for each subject were tested using a paired samples t-test. This has the advantage of factoring out inter-subject variability. However, it confuses priming effects with differences in base rate performance between context. Thus in between language repetition conditions, there might appear to be a priming effect merely because the subject is faster in the second language than the first.

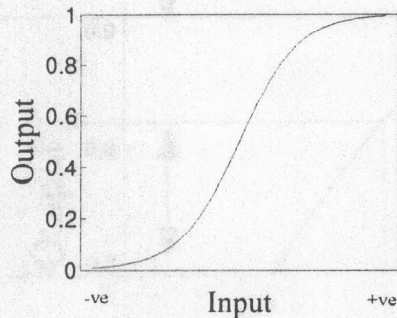
| Stimulus Type | Example | Repetition Type | Presentation Context | | Response Time (ms) | | S Error | t-test p-val | p<0.05? | |
|------------------------|---------|------------------|----------------------|---------|--------------------|-----------|---------|--------------|---------|------------|
| | | | Prime | Target | 1st Pres. | 2nd Pres. | | | | Difference |
| Non-Cognate Homographs | MAIN | Within language | English | English | 742 | 605 | 138 | 38 | 0.001 | sig |
| | | Between language | English | French | 647 | 661 | -15 | 36 | 0.691 | |
| | | Between language | French | English | 793 | 742 | 51 | 55 | 0.355 | |
| | | Within language | French | French | 717 | 608 | 109 | 26 | 0.000 | sig |
| English Singles | RAIN | Within language | English | English | 640 | 574 | 66 | 19 | 0.001 | sig |
| | | Between language | English | French | 617 | 909 | -293 | 37 | 0.000 | sig |
| | | Between language | French | English | 939 | 646 | 292 | 48 | 0.000 | sig |
| | | Within language | French | French | 862 | 803 | 59 | 38 | 0.132 | |
| French Singles | BAIN | Within language | English | English | 789 | 748 | 41 | 20 | 0.046 | sig |
| | | Between language | English | French | 827 | 617 | 210 | 34 | 0.000 | sig |
| | | Between language | French | English | 660 | 834 | -174 | 53 | 0.003 | sig |
| | | Within language | French | French | 674 | 574 | 100 | 16 | 0.000 | sig |
| Nonwords | SARE | Within language | English | English | 754 | 696 | 58 | 23 | 0.014 | sig |
| | | Between language | English | French | 734 | 832 | -99 | 28 | 0.001 | sig |
| | | Between language | French | English | 678 | 645 | 34 | 23 | 0.156 | |
| | | Within language | French | French | 758 | 724 | 34 | 31 | 0.273 | |

Appendix E.

The frequency-by-priming interaction in 3-layer networks.

Hidden units and output units in 3-layer networks conventionally employ a sigmoid activation function (see Fig. E1) to convert the net input activation arriving at a given unit to its output activation state. Net input activations of large magnitudes cause the unit's resulting activation state to tend towards 0 for negative values and 1 for positive values.

Figure E1: The sigmoid activation function.



For poorly trained mappings (e.g. low frequency words), the extra training involved in priming can move unit activations from intermediate values towards 0 or 1 as required by the mapping. For well trained mappings (e.g. high frequency words), unit activations will already be close to 0 or 1. Extra training will generally only serve to increase the magnitude of the net input activation to a unit, in an attempt to push it ever closer to 0 or 1. The increase in performance from a given number of training cycles will be less for well trained mappings than poorly trained mappings. This is the ceiling effect.

Fig. E.2 illustrates a frequency-by-priming interaction arising out of applying the asymptoting output activation function to the additive input contributions of frequency and priming. The identical contribution of priming at input has a much weaker effect on high frequency words than on low frequency words. Only the top half of the sigmoid function is shown in this figure.

Figure E2: An example of the frequency by priming interaction for a unit involved in word recognition (after Plaut et al, 1996).

