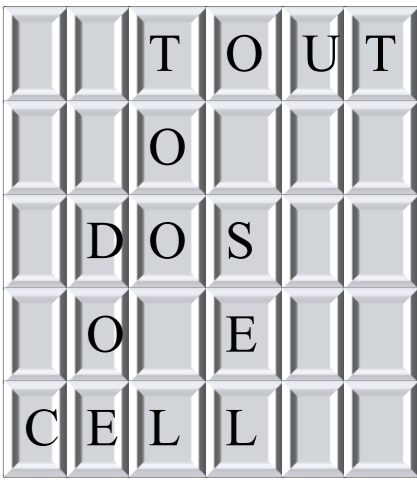




THE LIBRARY OF BABEL: COGNITIVE NEUROSCIENCE & THE DICTIONARY OF THE MULTILINGUAL MIND

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Interlingual Homonyms

English/French: *pain, chat*
Dutch/English: *angel, glad*

Which dictionary are they in? English? French?
How many dictionaries are there?

SOP Cognates hotel film lip	SO Cognates fruit [frøyt] Chaos [xaos] Jury [ʒri]	SP Cognates news/nieus boat/boot wheel/wiel
OP False Friends step (scooter) arts (doctor) kin (chin)	Interlingual Homographs glad [xlat] (slippery)	Interlingual Homophones [lif] 'leaf' 'lief' (dear)

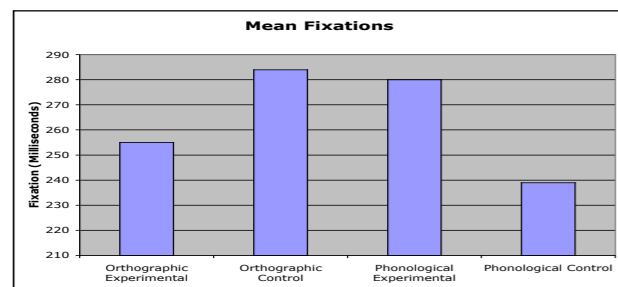
Semantics, Orthography, Phonology overlaps (Dutch/English)

Dijkstra et al. (1999) on Lexical Decision Task
Orthographic overlap **facilitated** response time
Phonological similarity **inhibited** response time



Eye Tracking

(Nakayama & Archibald, 2005)
•compared fixation times on homographs and homophones compared with frequency matched controls in neutral context
Homograph: It look's like Bob's **glad/coat**.
Homophone: The **leaf/fair** was a sign that autumn had come.



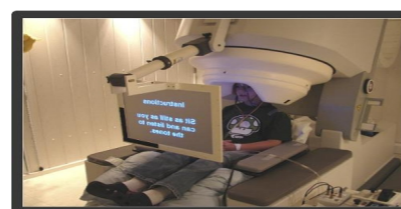
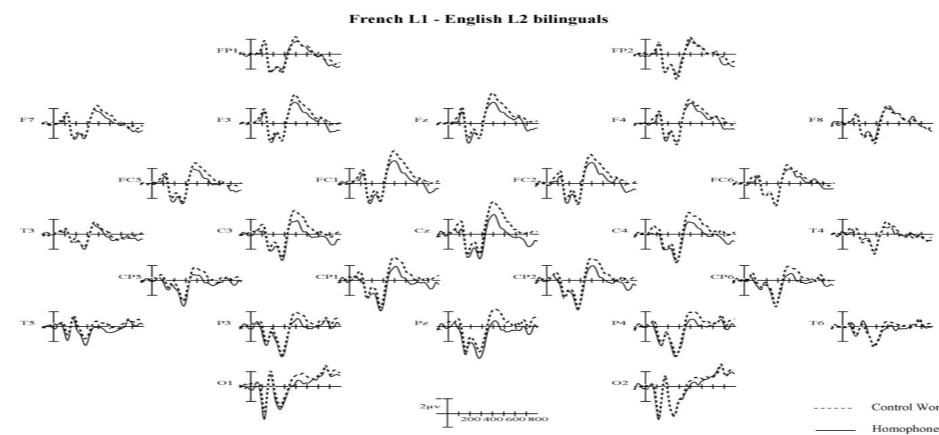
Interlingual homographs **facilitate** lexical access (as shown by shorter fixation times).
Interlingual homophones **inhibit** lexical access (as shown by Longer fixation times).



Event-Related Potentials (ERP)

Knee/nid

Carrasco-Ortiz et al. (2012) found reduced amplitude on N400 in IL homophones
They argue this = **facilitation** but it could also be **frequency** (Lau, Phillips & Poeppel, 2008)



Magnetoencephalography (MEG)

Different 'senses' of a polyseme behave differently than homonyms.

English homonym: *bank* (money)
vs. *bank* (river)

English polyseme: *paper* (A4)
vs. *paper* (*The Sun*)

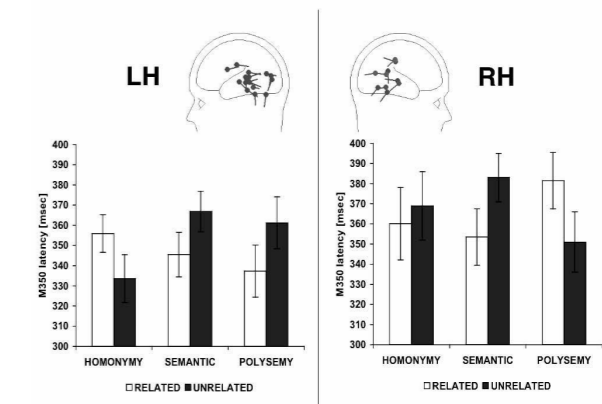
How many lexical entries there are can be signalled by the M350 in a priming paradigm.

The M350 is sensitive to frequency and repetition. It Also sensitive to constituent (rather than whole word) frequency (which suggests access to the *morphological root*).

Morphological Roots

Halle & Marantz (1993) argue for category neutral roots which link sound and meaning

Reduced latencies = **facilitation** while increased latencies would signal competition between entries



- Homonyms have separate lexical entries (and no RH pattern).
- Polysemes share a morphological root (and a RH delay).

What If??

Words which have the same meaning but different phonological spell out – let's call them **interlingual allomorphs** – compete for post-syntactic insertion.

Consistent with Libben (2000) Homogeneity Hypothesis. Consistent with tenets of Distributed Morphology (Embick, 2010).

Whether we are looking at:

Pain/pain
Tout/too
Chien/dog

They are all linked in a single repository: *The Library of Babel*.

References

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