



Dyslexie dans différentes langues

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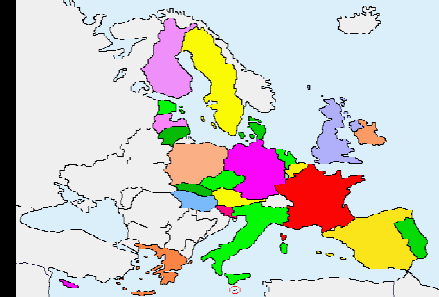


Laboratoire de Psychologie Cognitive



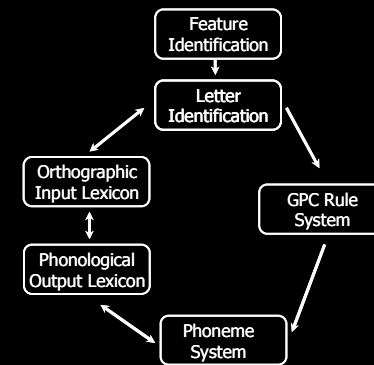
Outline

Chapitre I : Apprendre à lire dans différentes langues : L'importance du décodage phonologique



Chapitre II : Dyslexie dans différentes langues : Plus de similarités que de différences

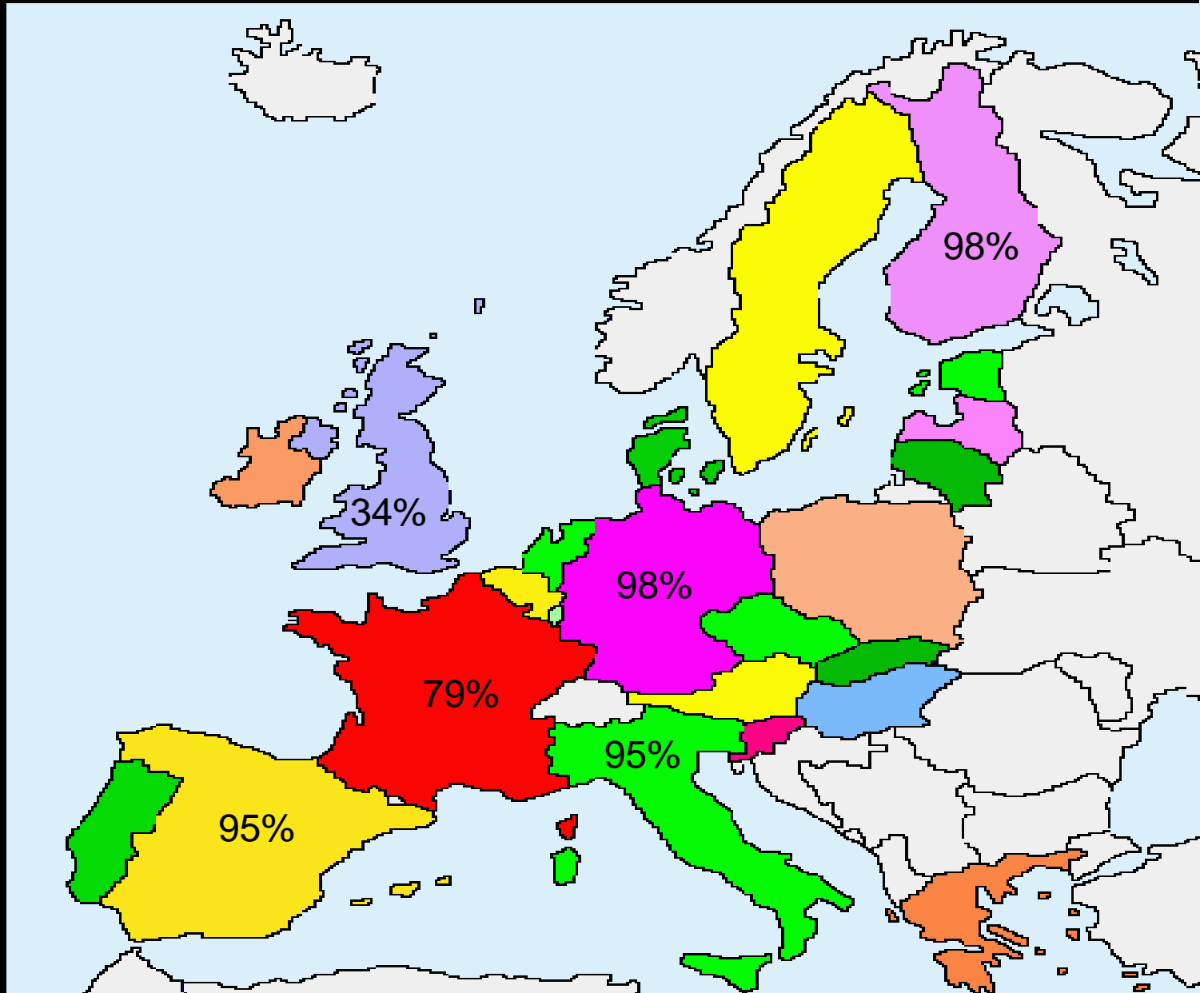
Chapitre III : Modélisation intra-sujet : Une nouvelle approche pour comprendre variabilité et stabilité de la dyslexie





Aprentissage
de la
Lecture

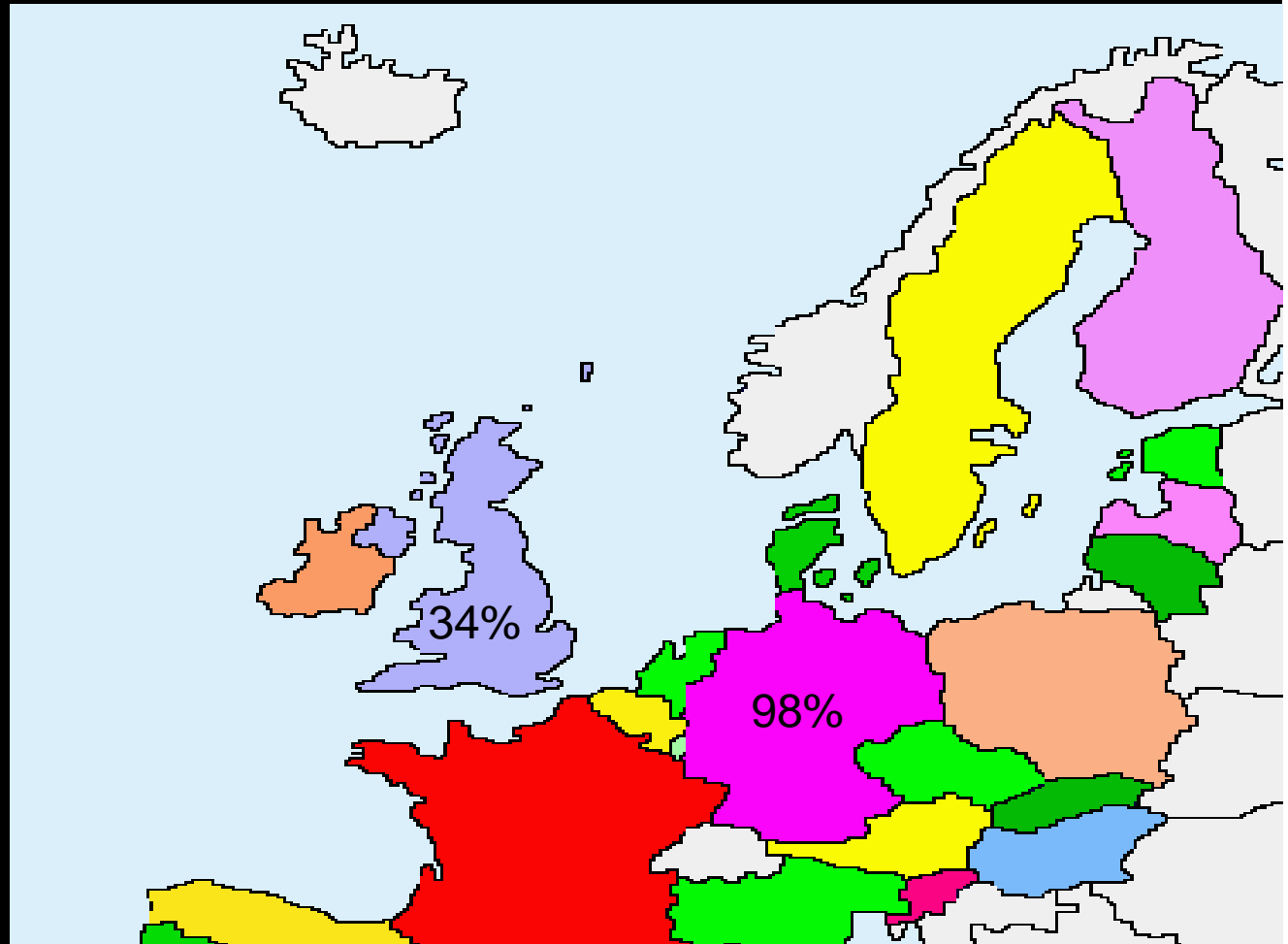
Comparaisons
Inter-langues



L'importance du décodage phonologique



BALL PARK BANK



BALL PARK BANK



bal
park
ban̩k



pa:k
bo:l
bæŋk

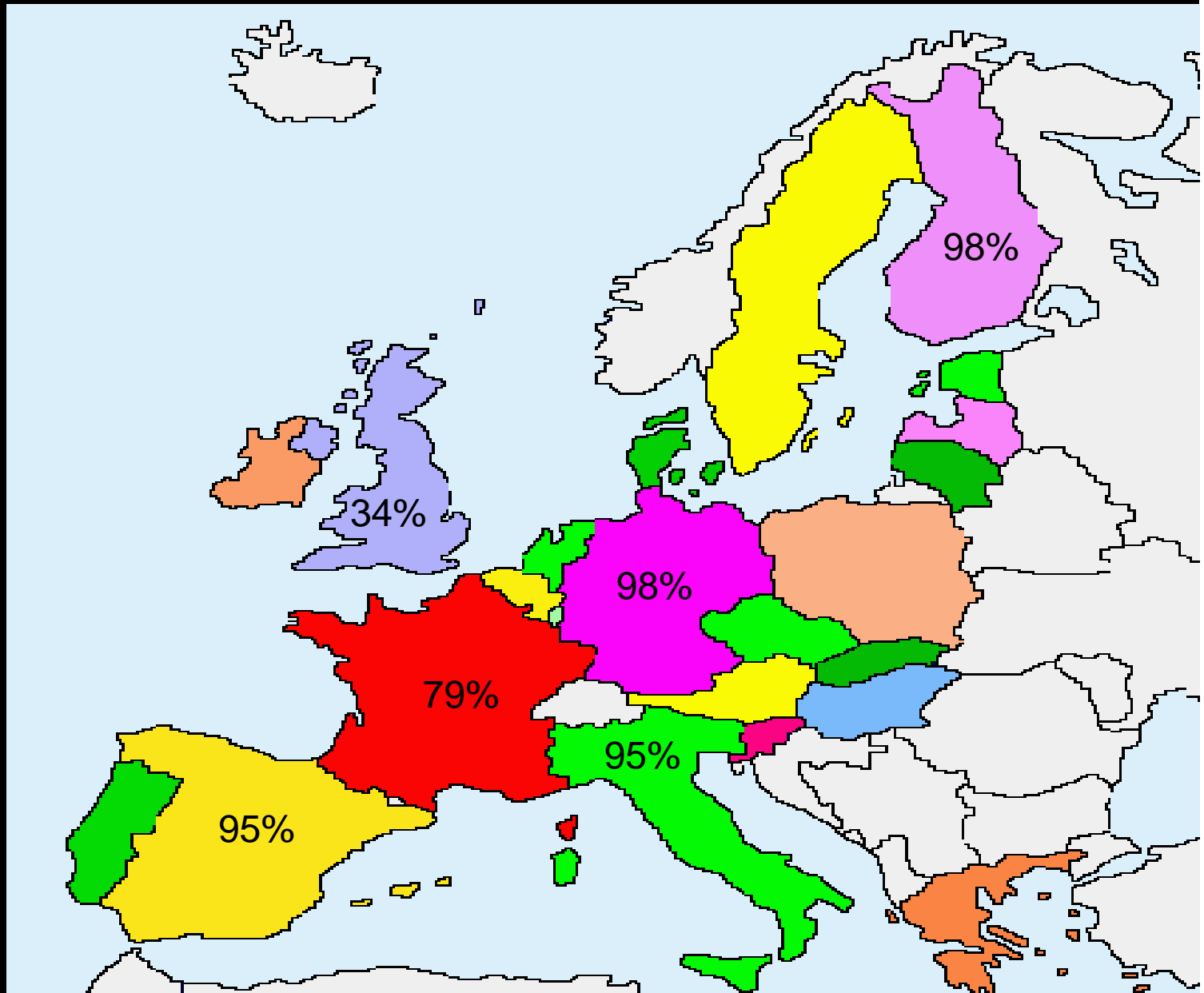
**Pourquoi le décodage phonologique
est-il si important ?**

**...il fournit un mécanisme
d'auto-apprentissage**



Aprentissage
de la
Lecture

Comparaisons
Inter-langues





balle ***parc*** ***banc***

salle

dalle

malle

blanc

flanc

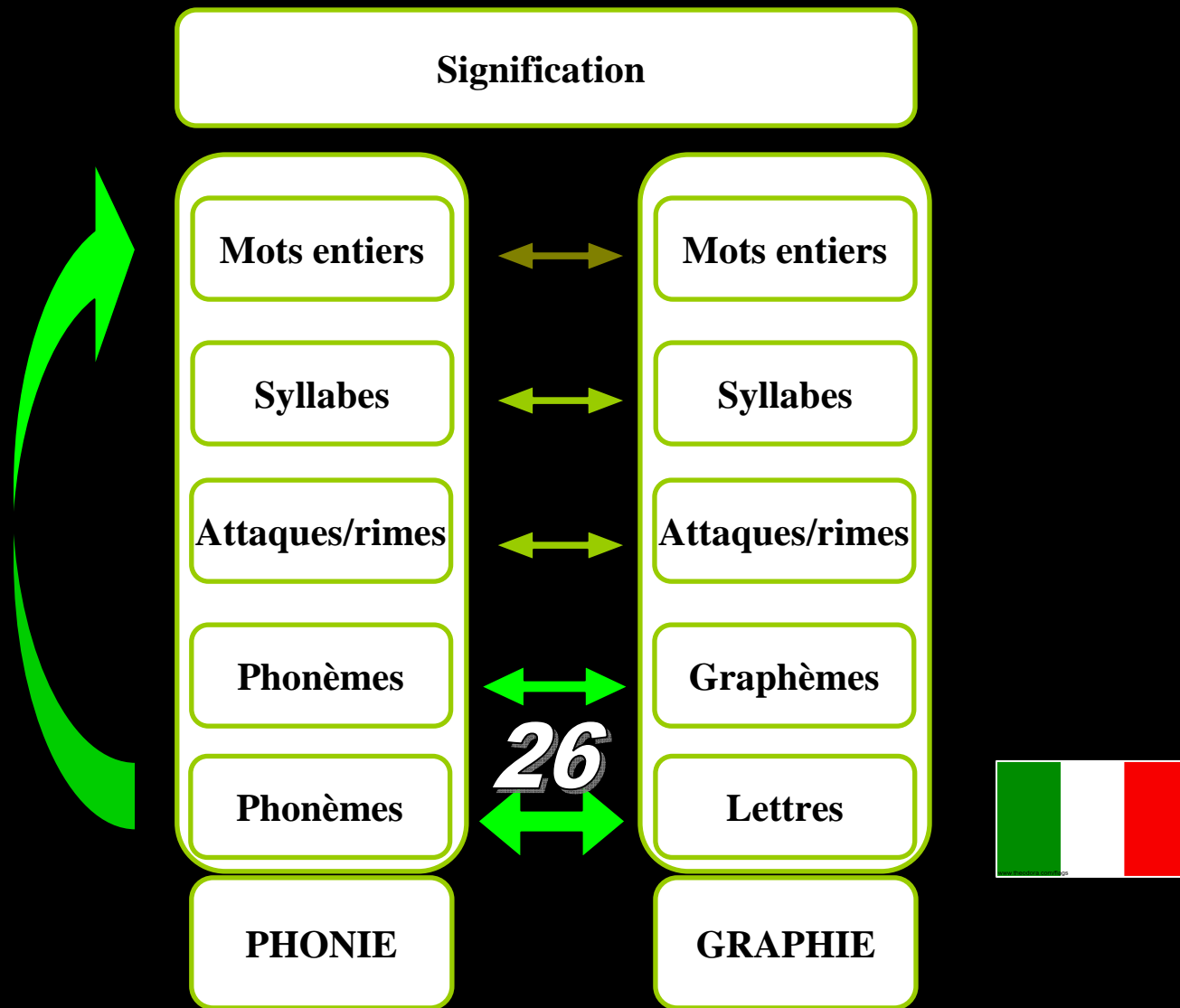
franc

banc

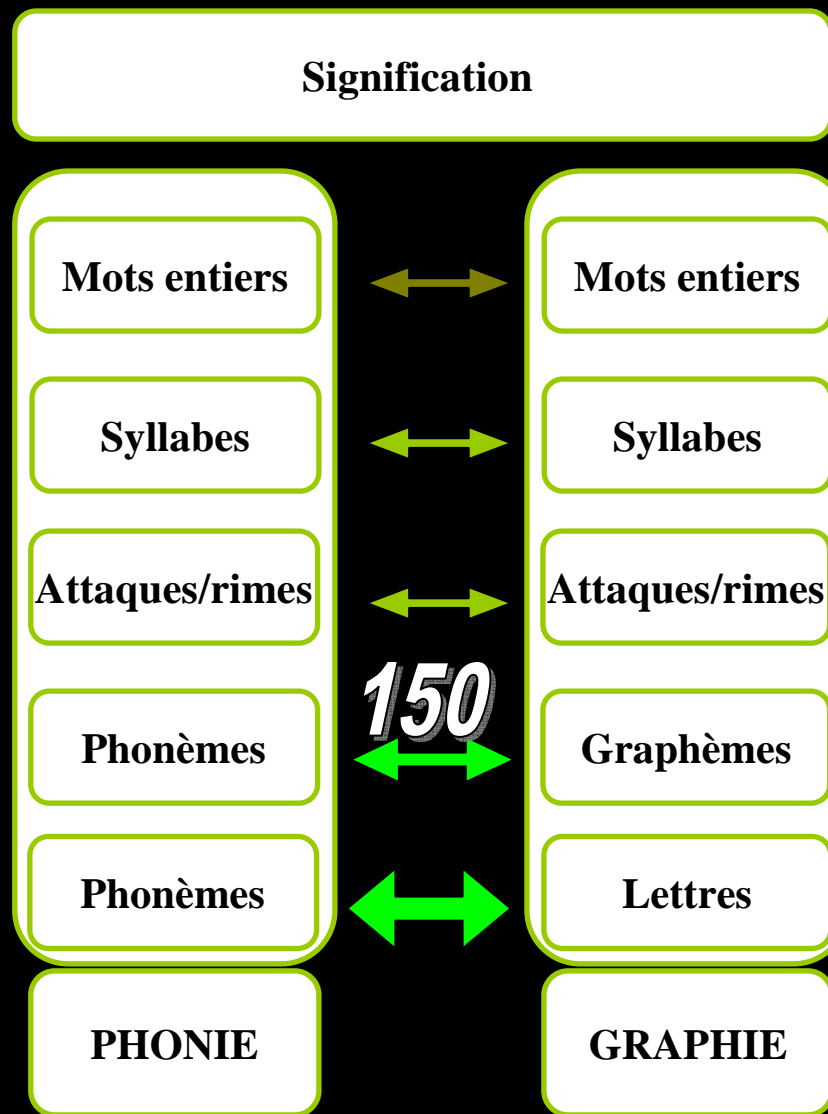


ban (clan)
band (grand)
bant (gant)
bang (sang)
bans (sans)
bent (lent)
bemps (temps)
bamp (camp)
bens (gens)

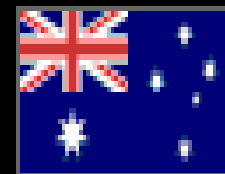
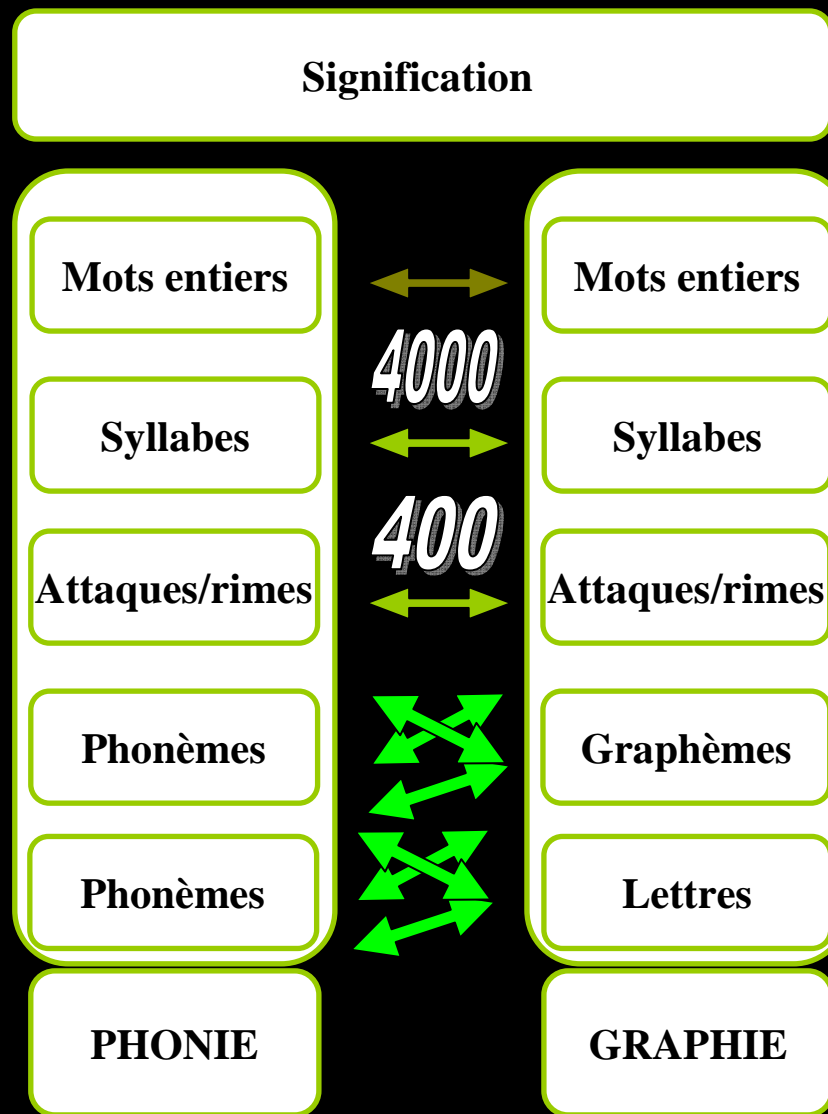
Ziegler & Goswami (2005, 2006), The Psycholinguistic Grain Size Theory



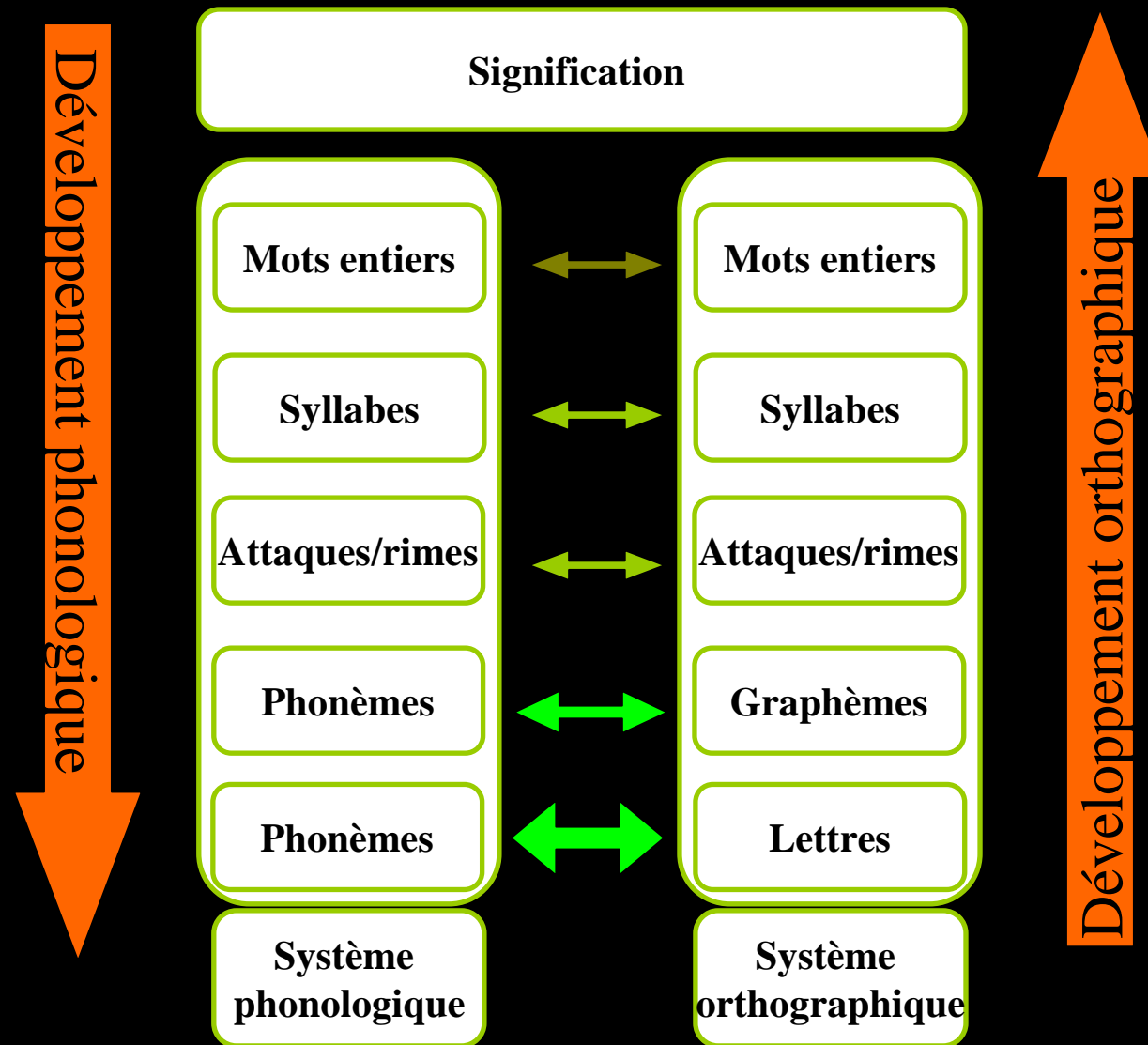
Ziegler & Goswami (2005, 2006), The Psycholinguistic Grain Size Theory



Ziegler & Goswami (2005, 2006), The Psycholinguistic Grain Size Theory

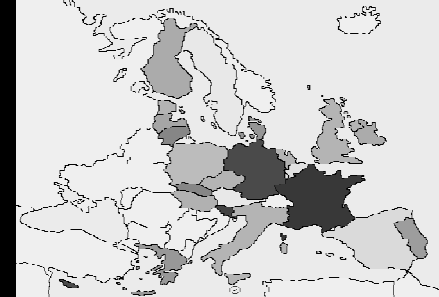


« Finding shared grain sizes in orthography and phonology »



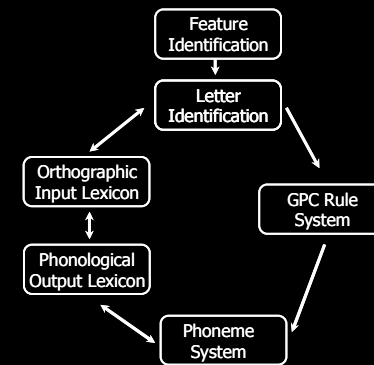
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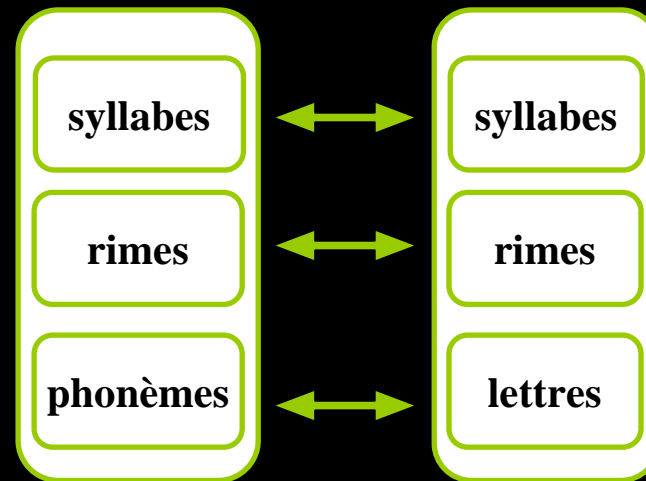
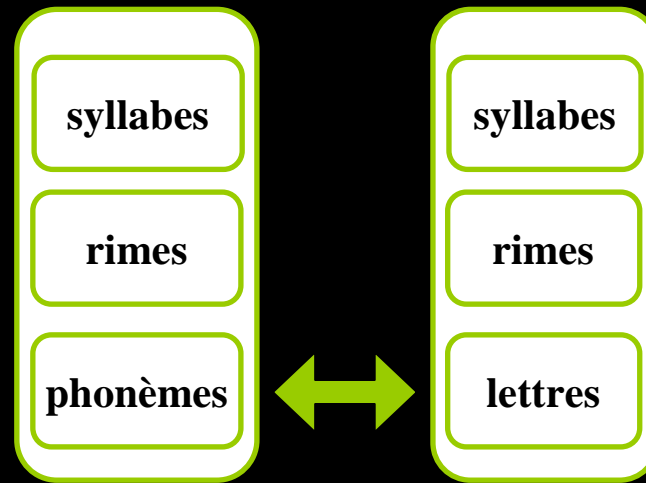


Chapitre II : Dyslexie dans différentes langues : plus de similarités que de différences

Chapitre III : Modélisation intra-sujet : Une nouvelle approche pour comprendre variabilité et stabilité de la dyslexie



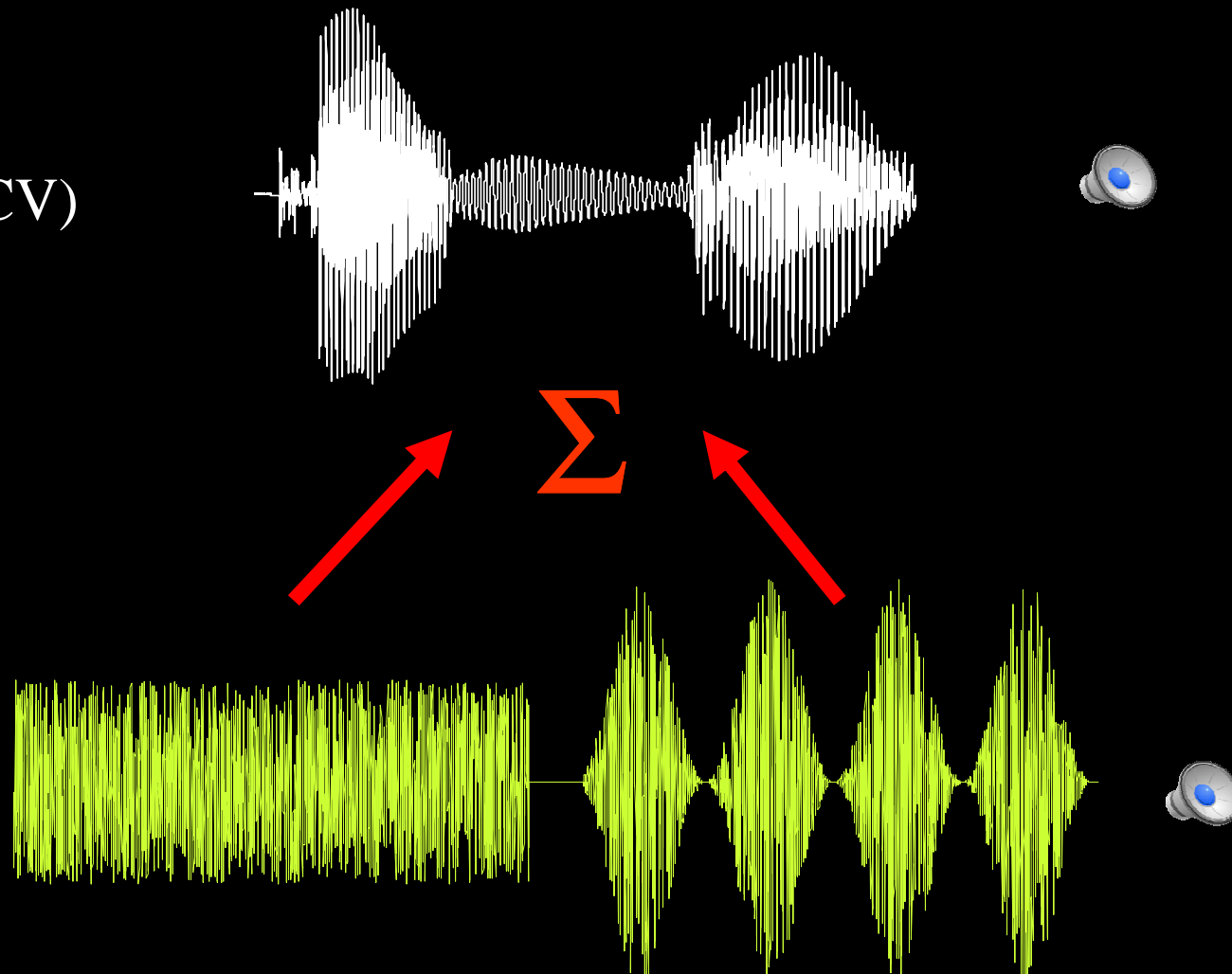
**Deficit
phonologique**

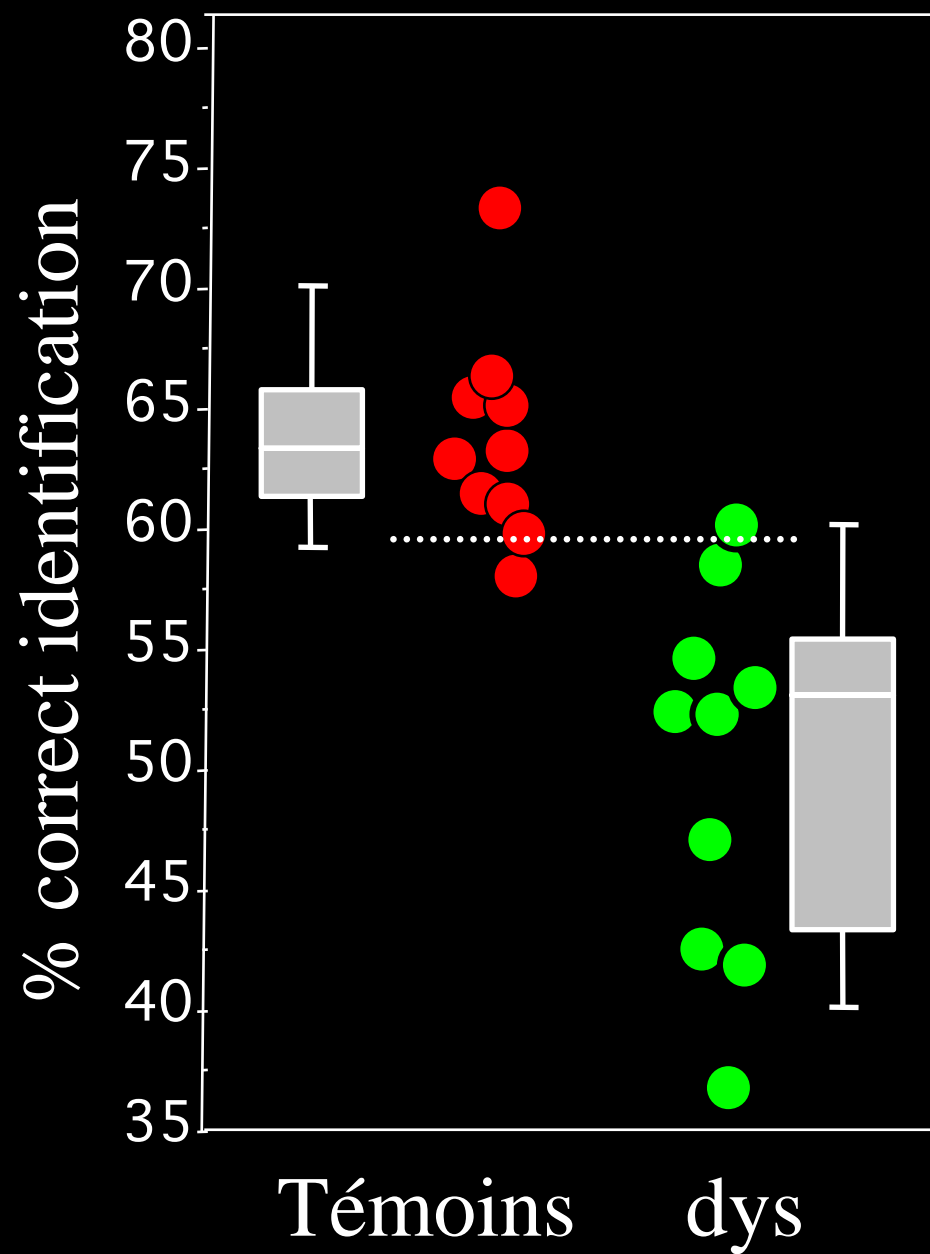


Deficits in speech perception predict language learning impairment

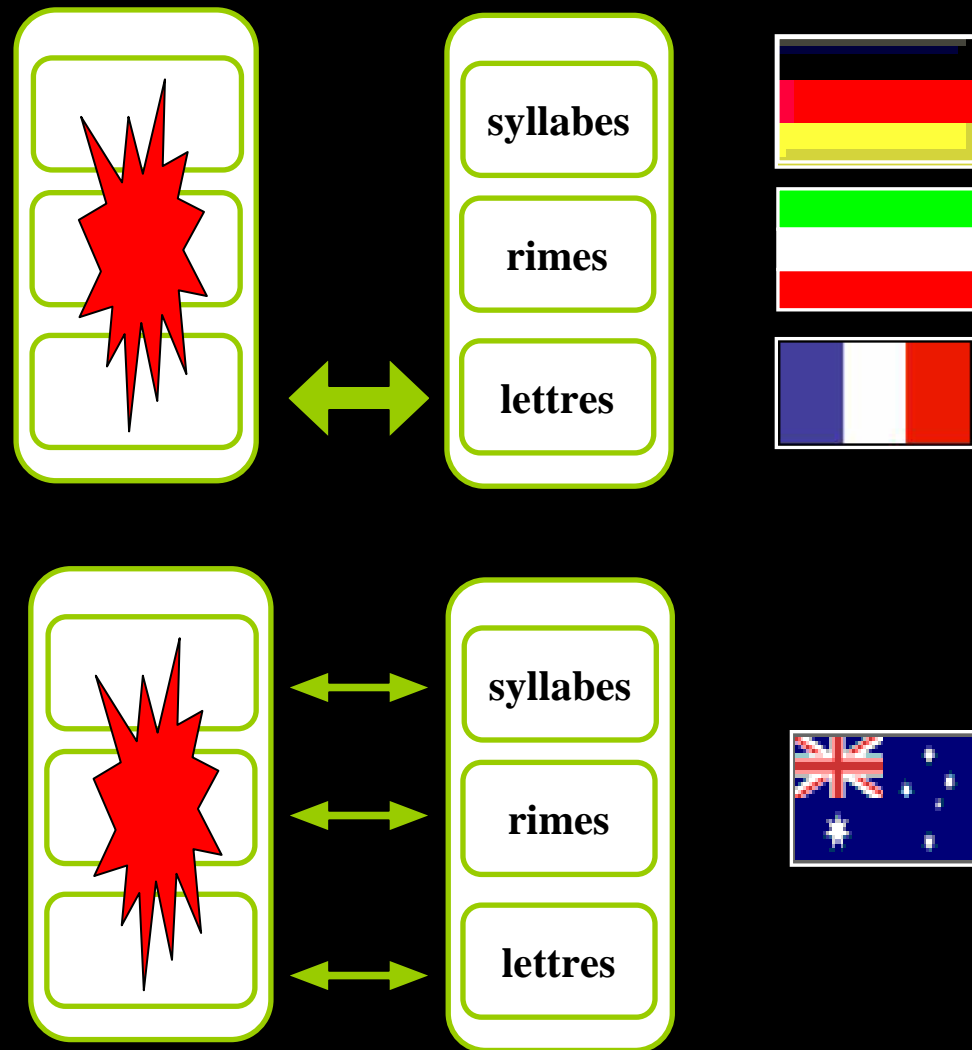
Johannes C. Ziegler, Catherine Pech-Georgel, Florence George, F.-Xavier Alario & Christian Lorenzi

Speech (VCV)





**Prédiction :
plus de similarités
que de différences**



**Le déficit du décodage phonologique est-il
identique à travers les langues ?**



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Journal of
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Child
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Developmental dyslexia in different languages: Language-specific or universal?

Johannes C. Ziegler,^{a,*} Conrad Perry,^b Anna Ma-Wyatt,^c
Diana Ladner,^d and Gerd Schulte-Körne^d

^a *CNRS and Université de Provence, Marseille, France*

^b *Joint Laboratories for Language and Cognitive Neuroscience, The University of Hong Kong, Hong Kong*

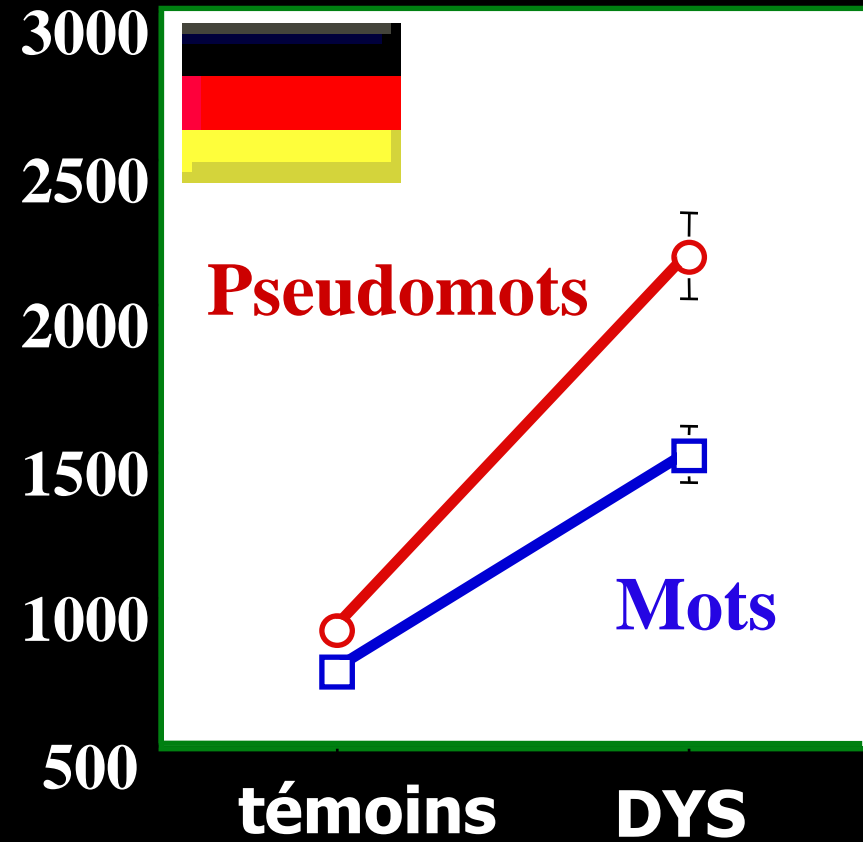
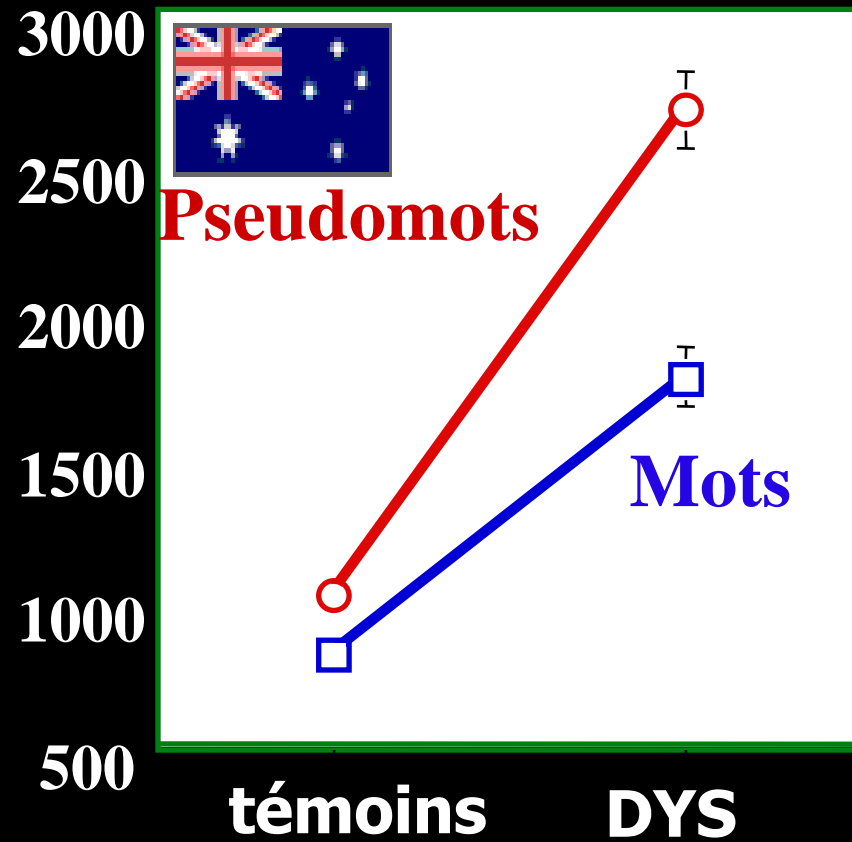
^c *The Smith-Kettlewell Eye Research Institute, San Francisco, USA*

^d *Department of Child and Adolescent Psychiatry, Phillips University of Marburg, Marburg, Germany*

Received 21 April 2003; revised 1 August 2003

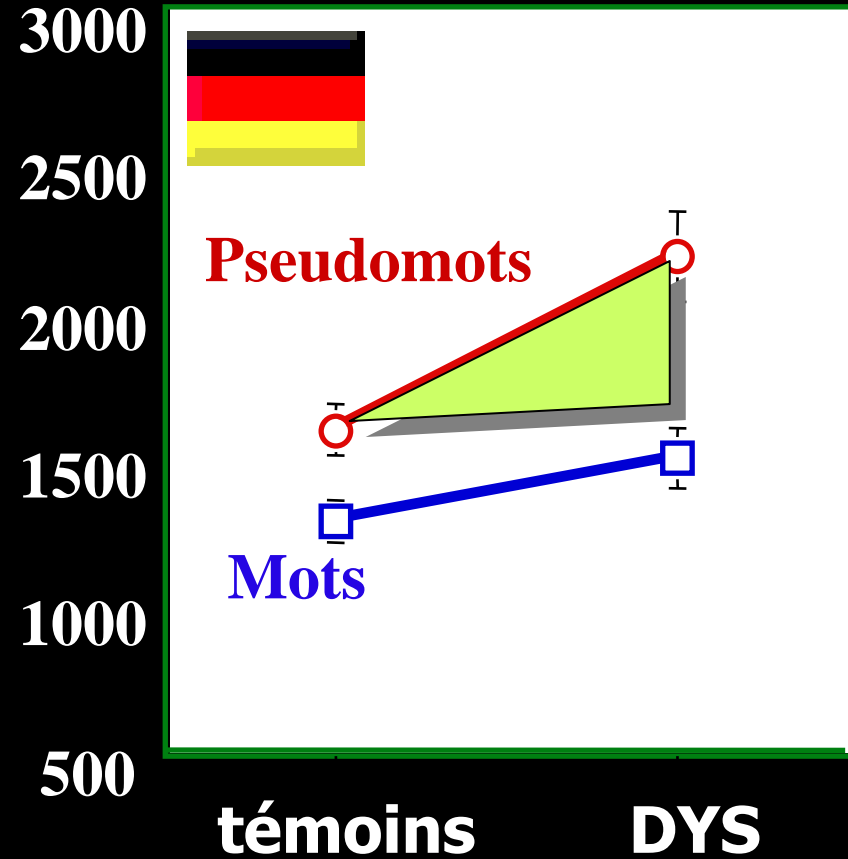
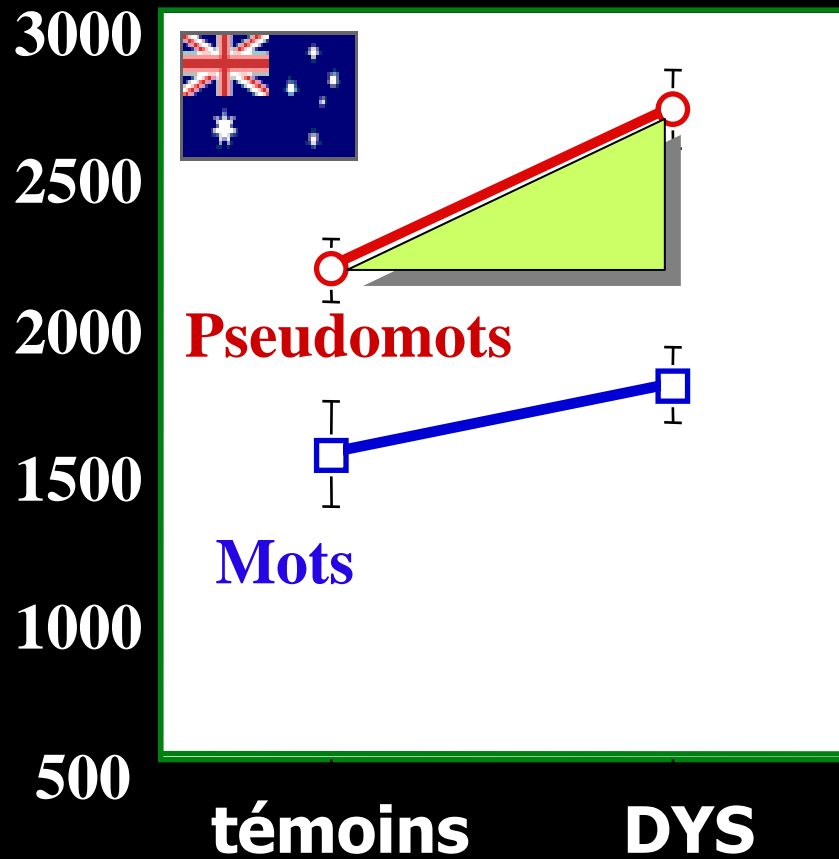
Lecture de pseudomots

Vitesse (ms)

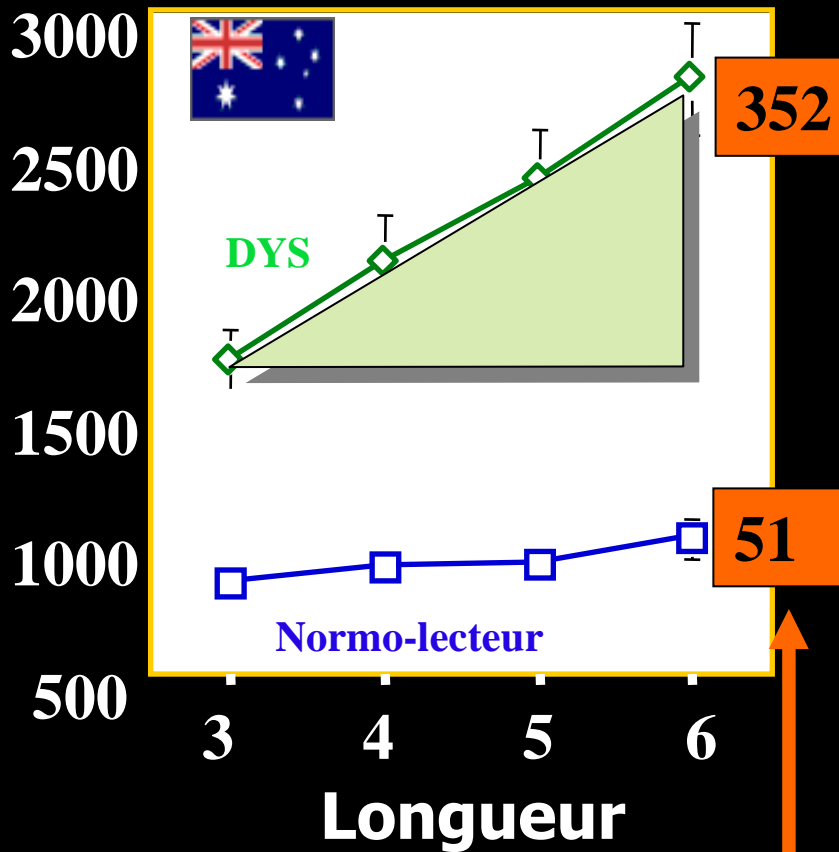


Témoins du même âge de lecture

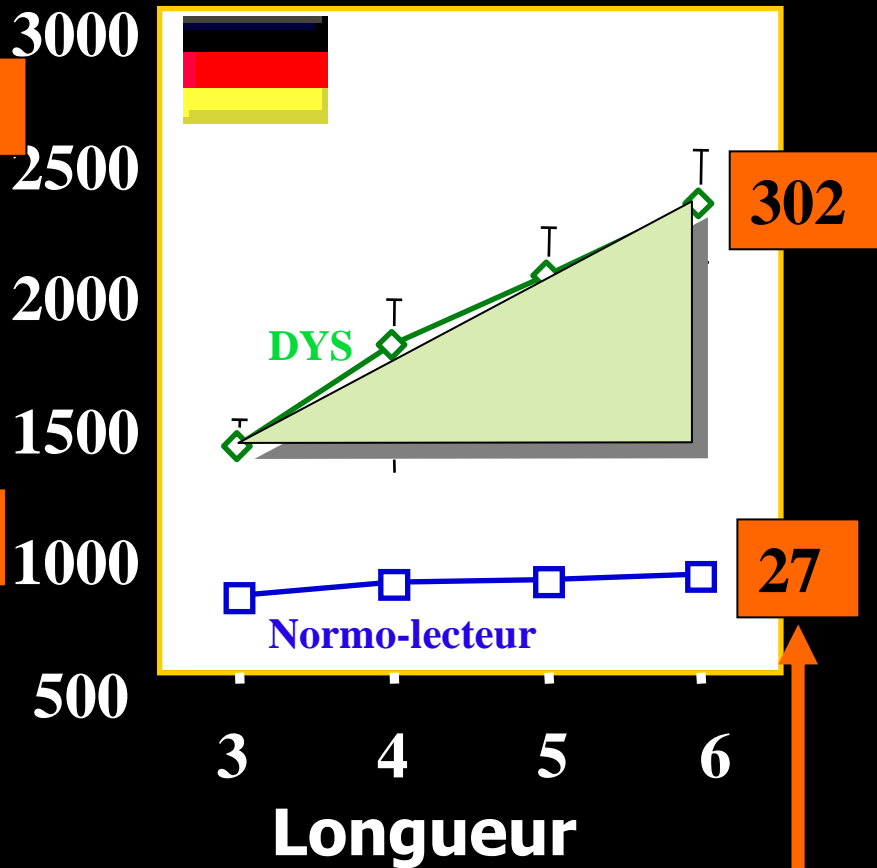
Vitesse (ms)



Vitesse de lecture (ms)



Vitesse de lecture (ms)



Coût pour chaque lettre (ms)



Le garçon regarde la lune en chantant,



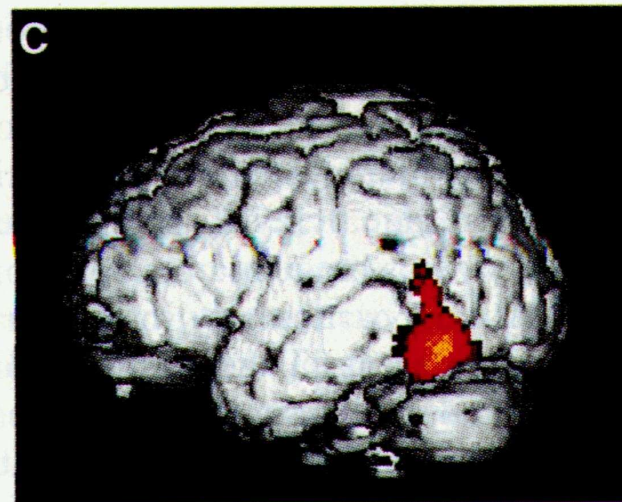
tandis que la petite fille rêve au prince



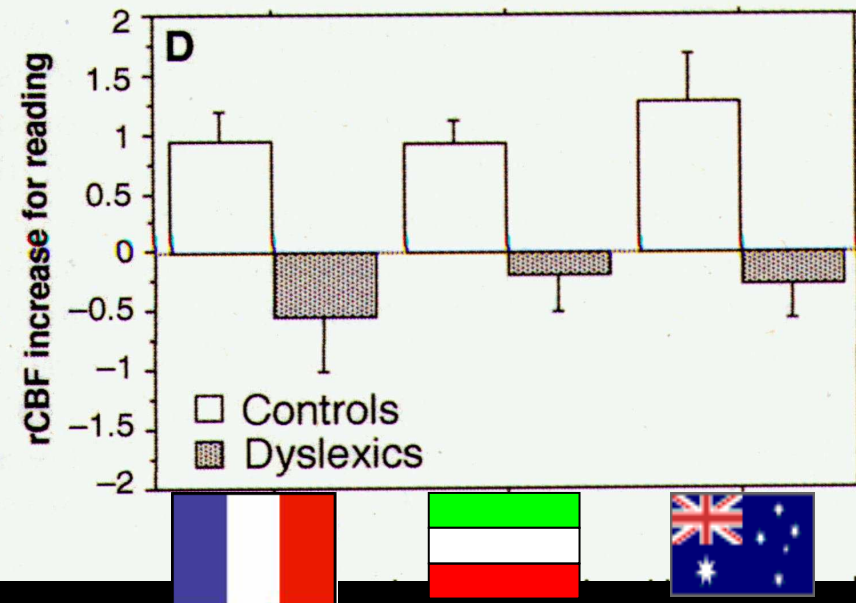
charmant.

Die besten Schüler der Welt in Mathematik leben in Asien. Das haben Forscher mit einer Untersuchung herausgefunden. Sie gaben Kindern aus verschiedenen Ländern unterschiedliche Aufgaben und verglichen die Ergebnisse.

Hutzler, Kronbichler, Jacobs & Wimmer (submitted)

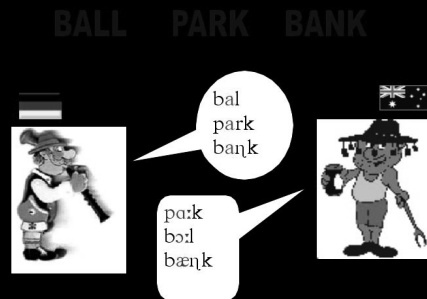
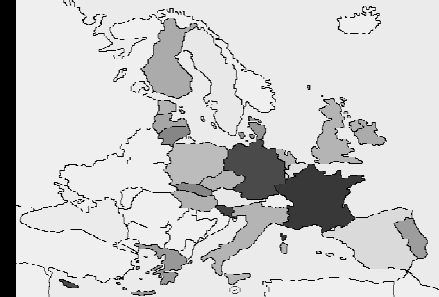


Left temporal region



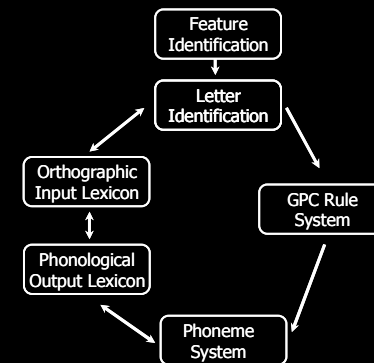
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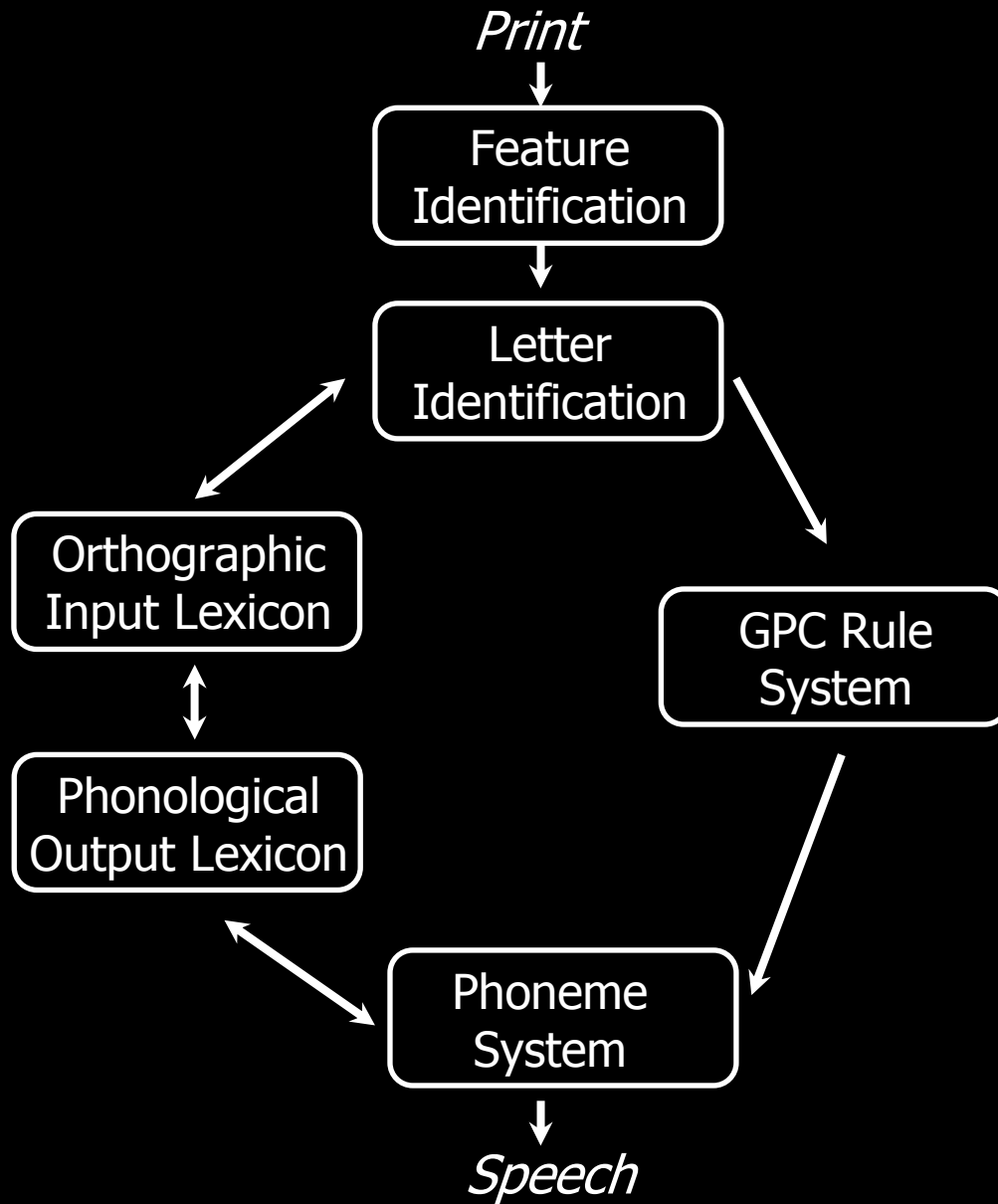
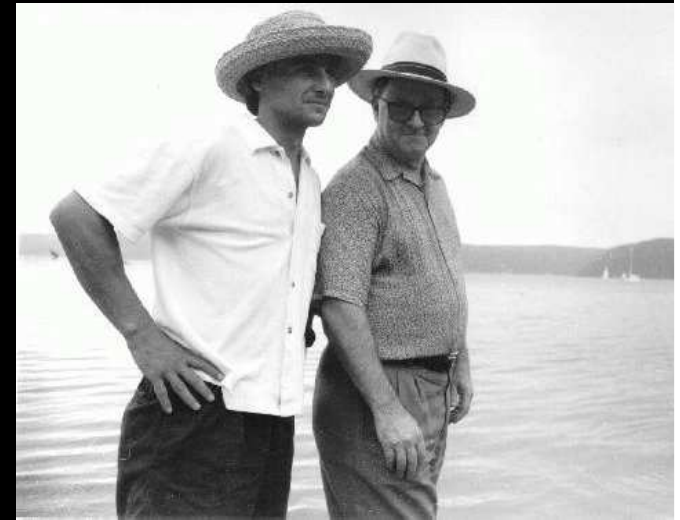


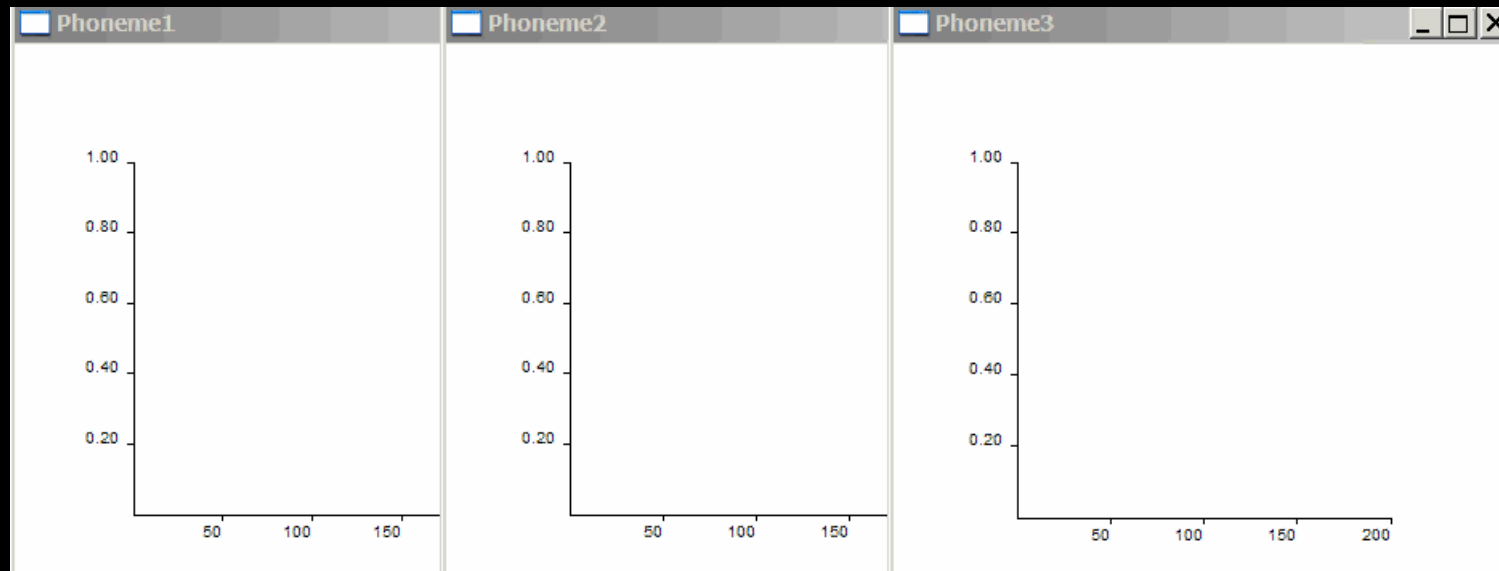
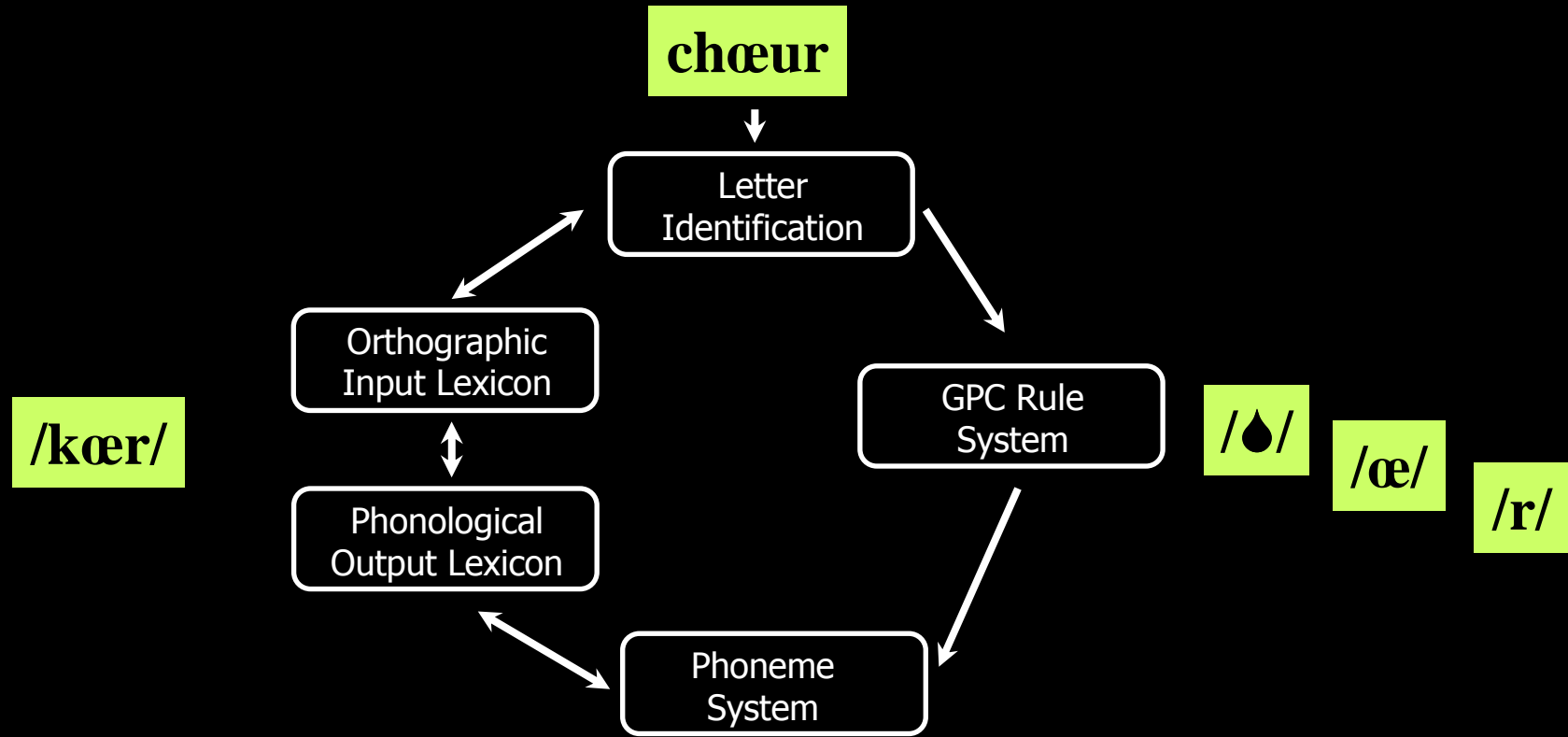
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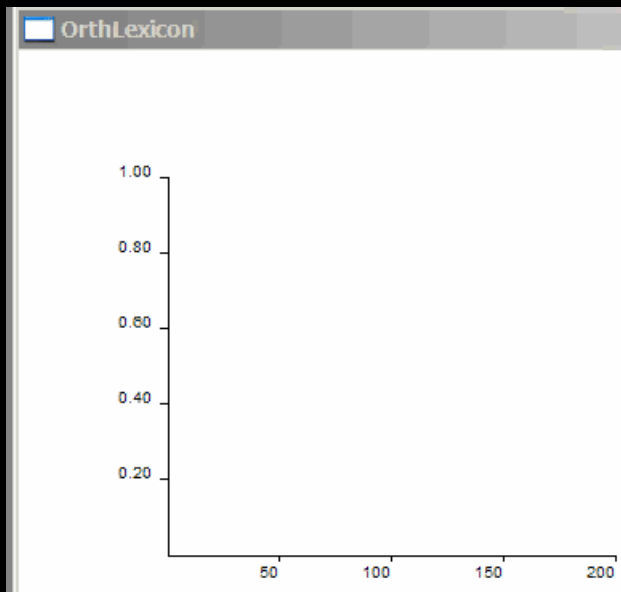
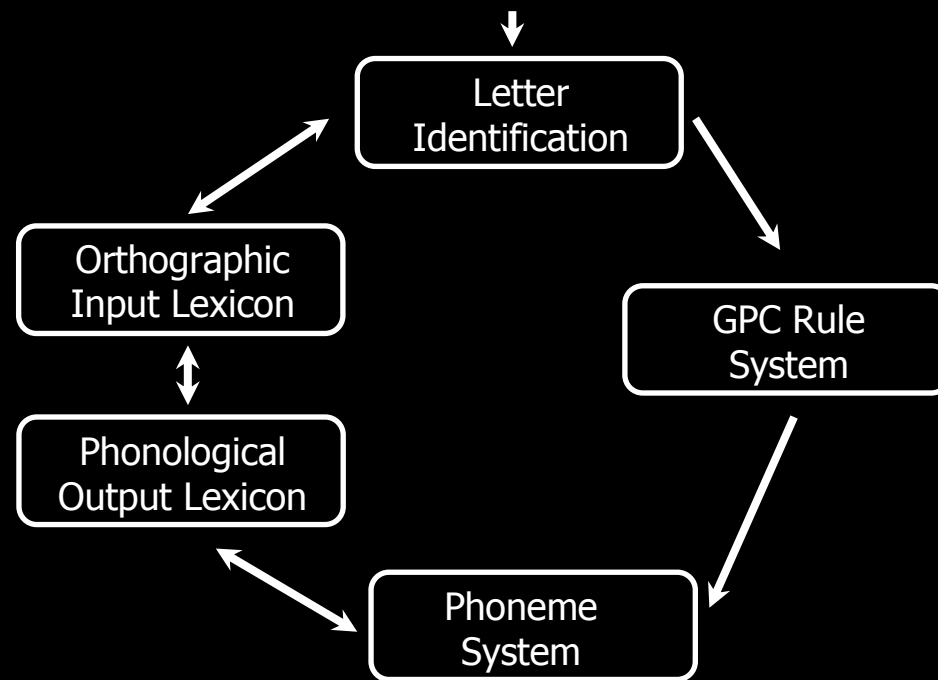


Dual Route Cascaded Model (DRC)
(Coltheart, Rastle, Perry, Langdon, Ziegler, 2001, Psych Rev)





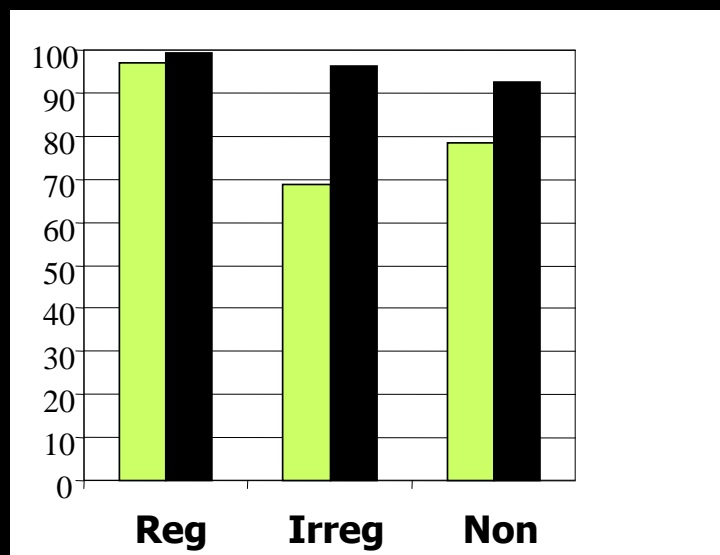
dage



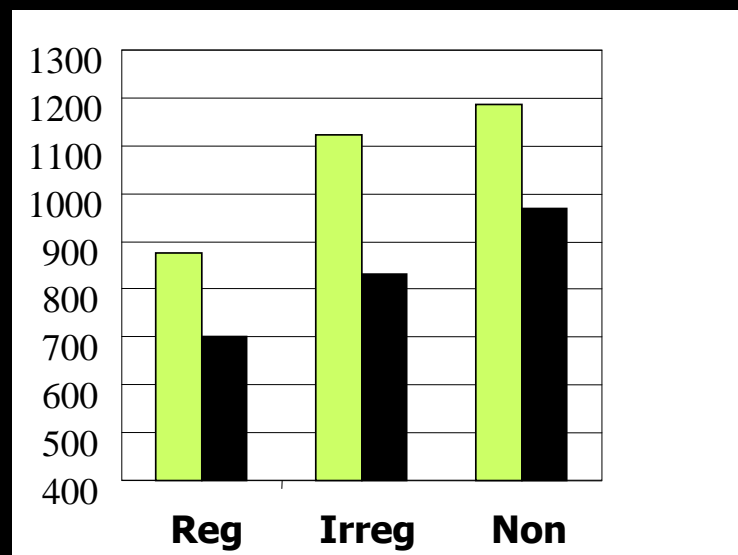
Performance de lecture des enfants dyslexiques français

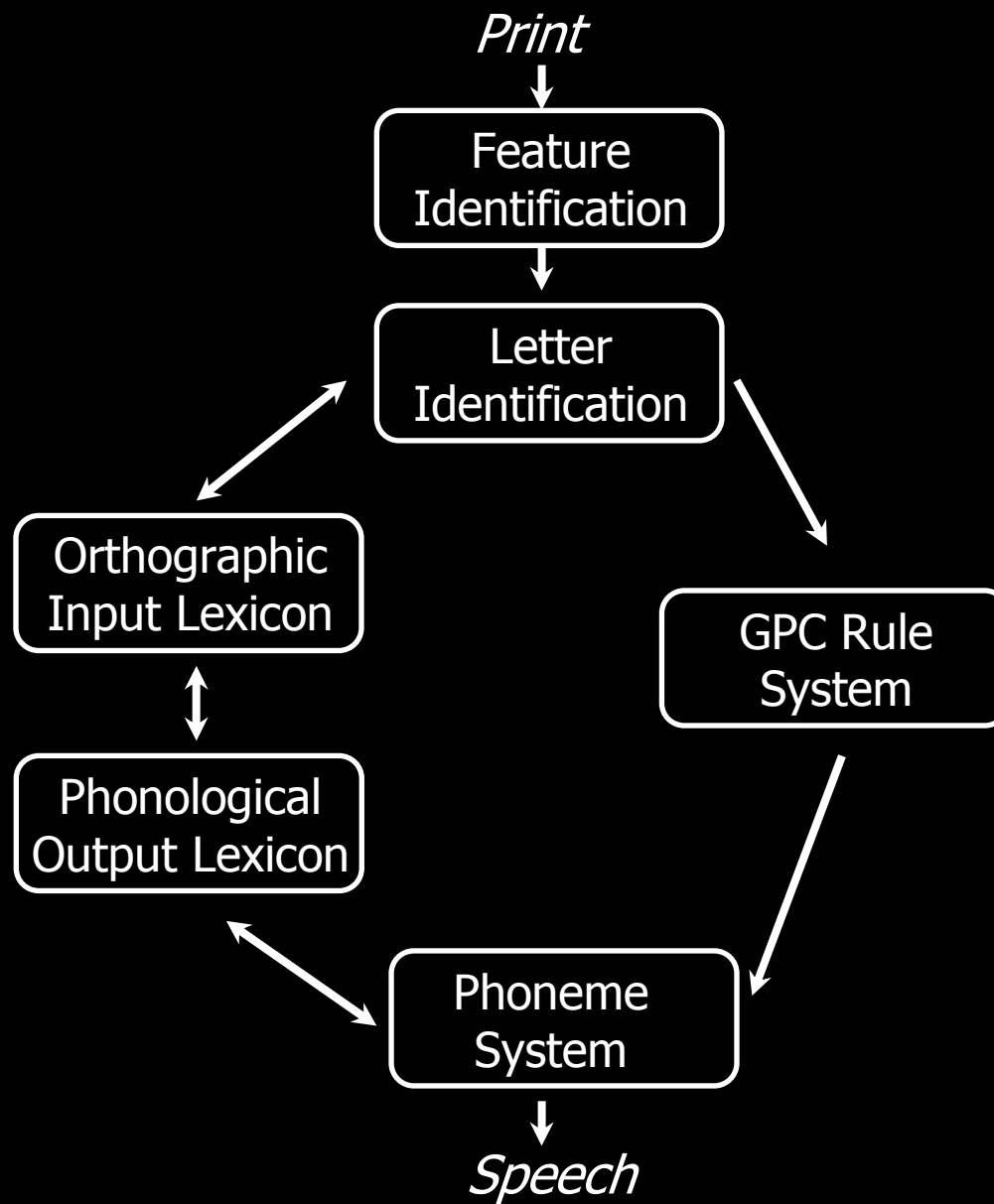
Accuracy (% correct)

■ Dyslexics
■ Controls

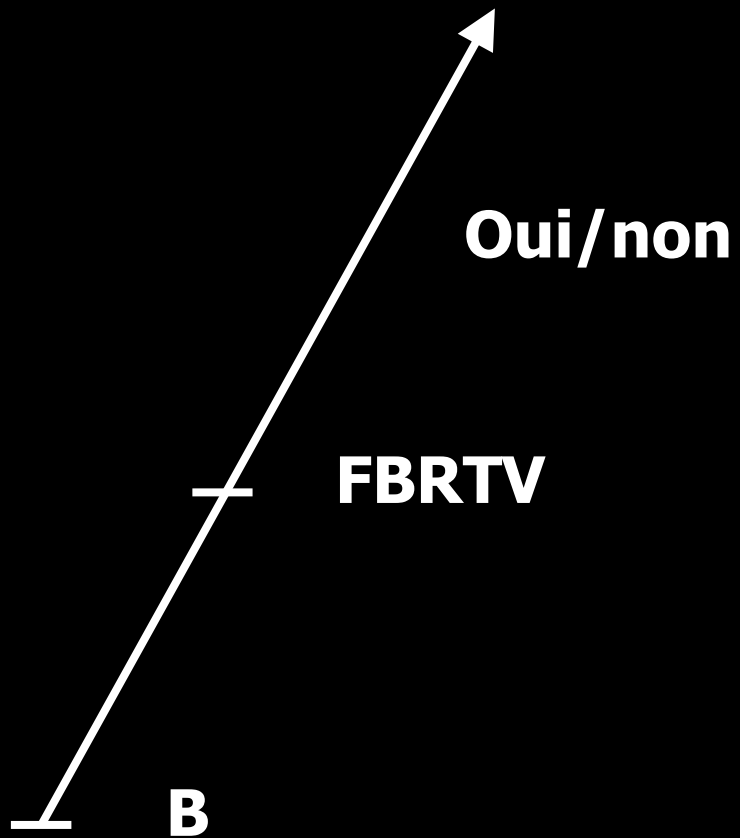


Latency (ms)

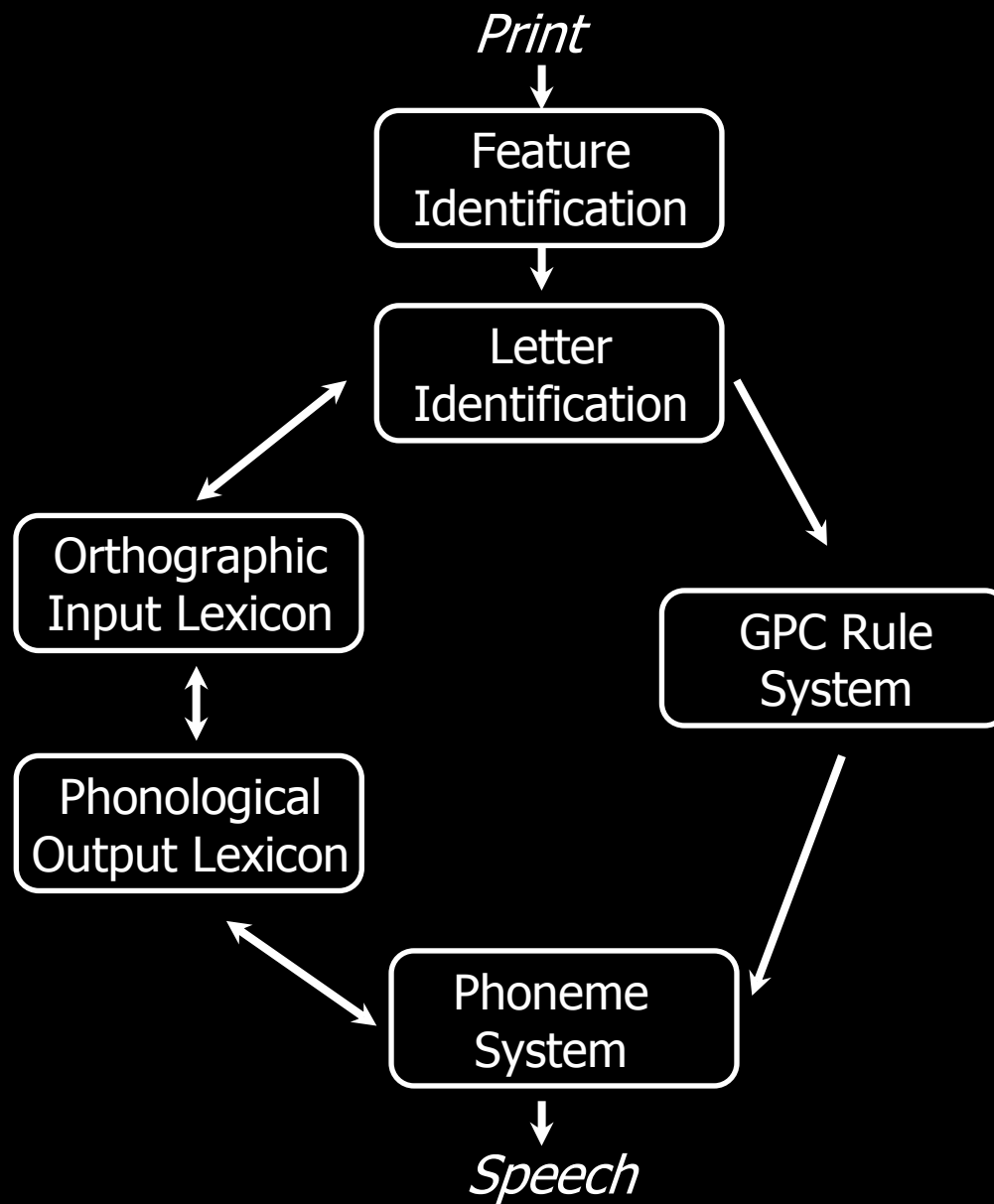




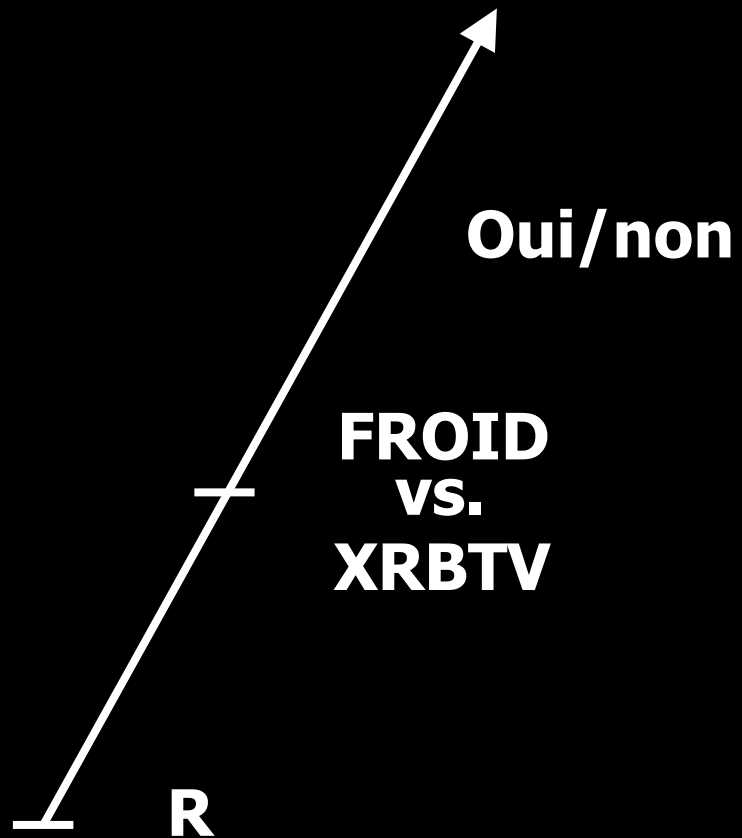
Recherche de Lettres



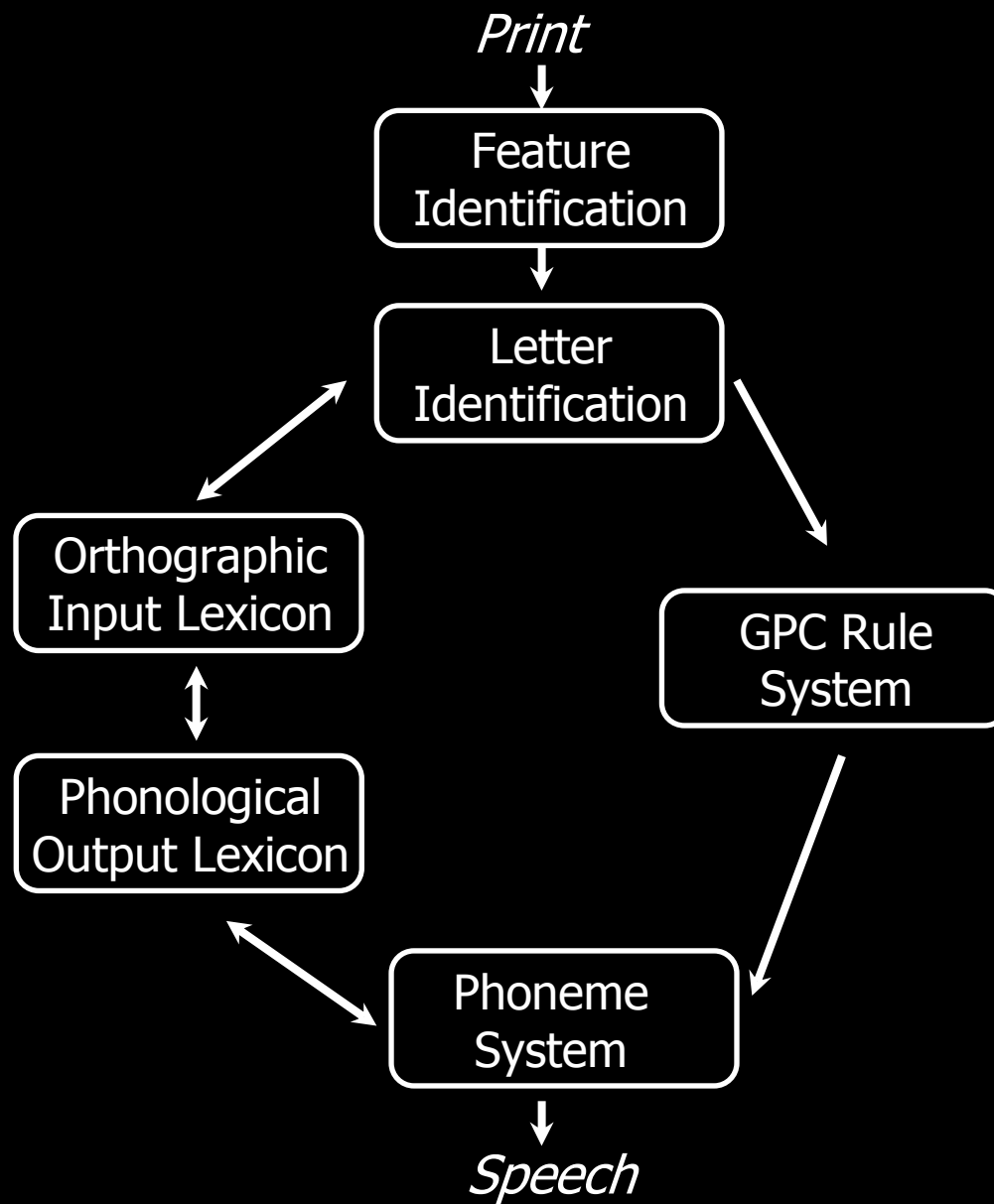
See also Hawelka & Wimmer (2005, 2006)
Valdois et al., (2007)



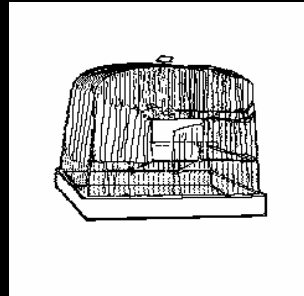
Supériorité des Mots



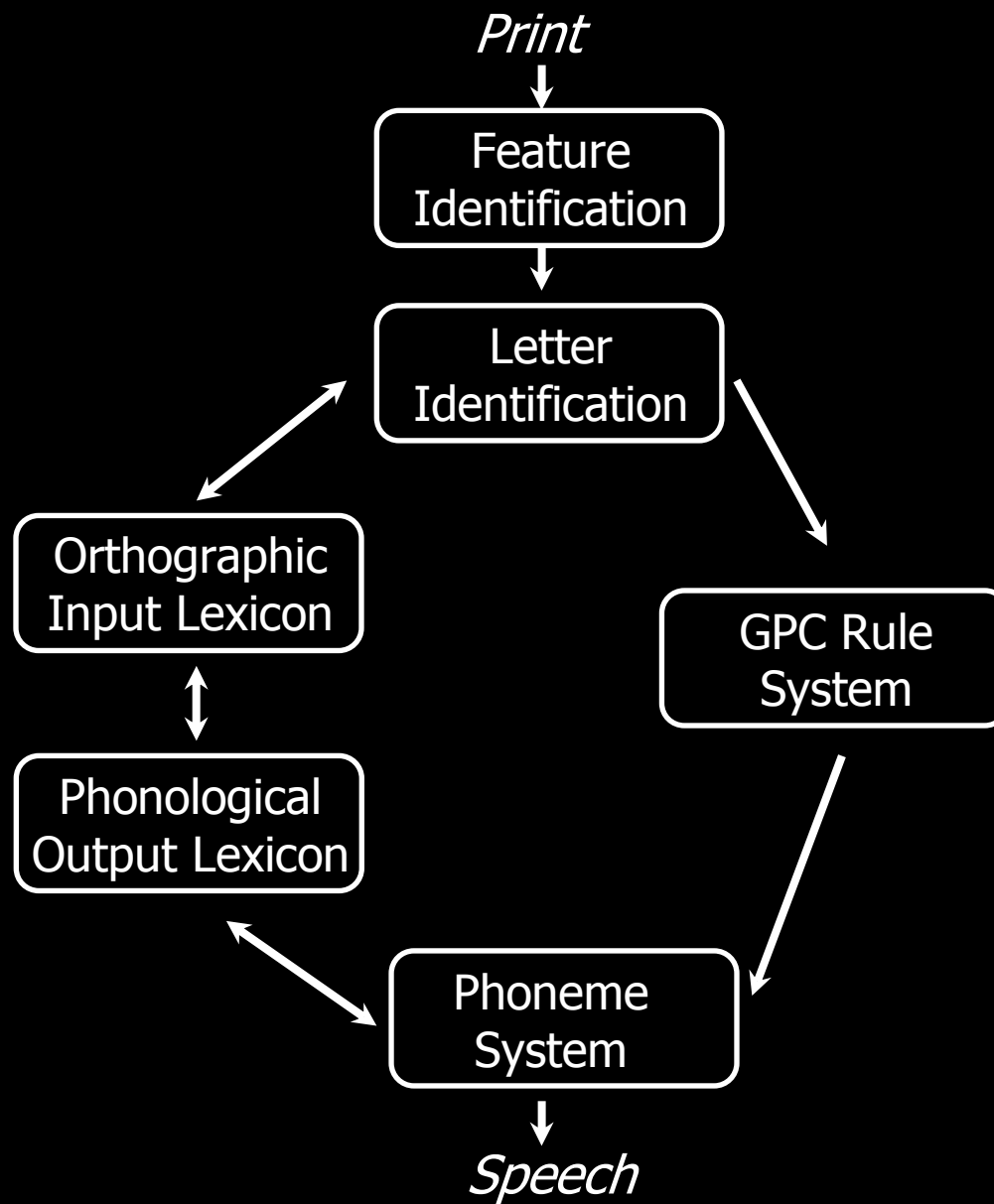
See also Grainger et al. (2003), *Brain & Language*



Dénomination rapide d'objets



See also Levelt et al. (1999) or Caramazza (1997)

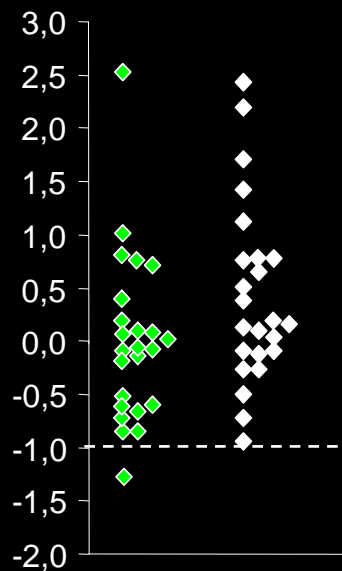


Phoneme matching

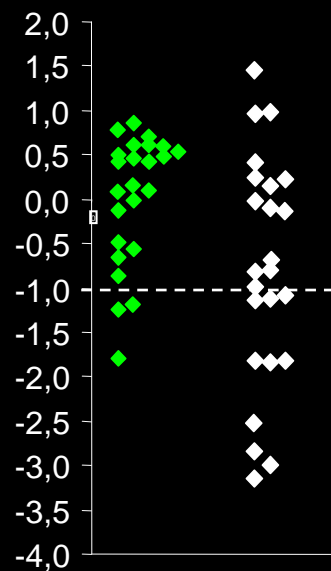


/kyv/ /raj/ /kol/

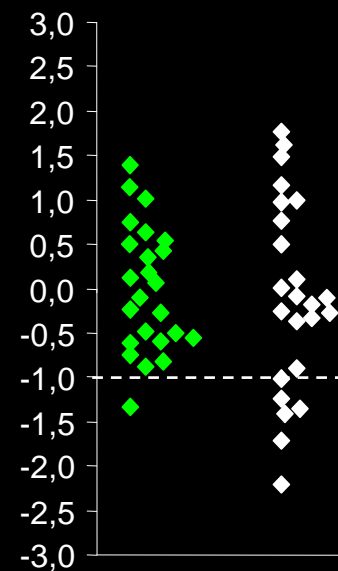
Attention



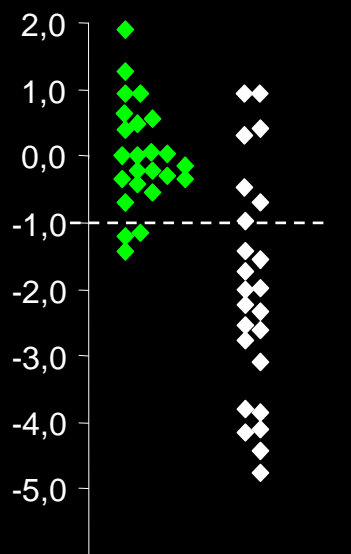
Letter Processing



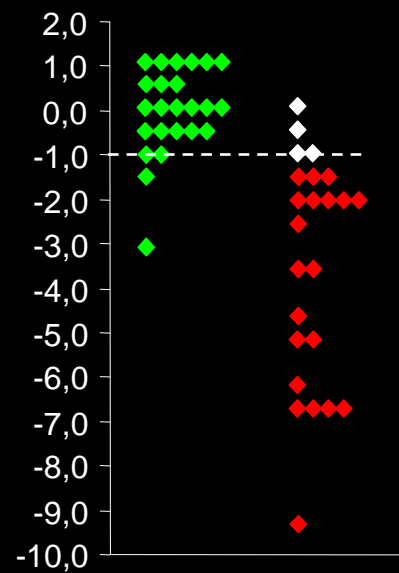
Word Superiority

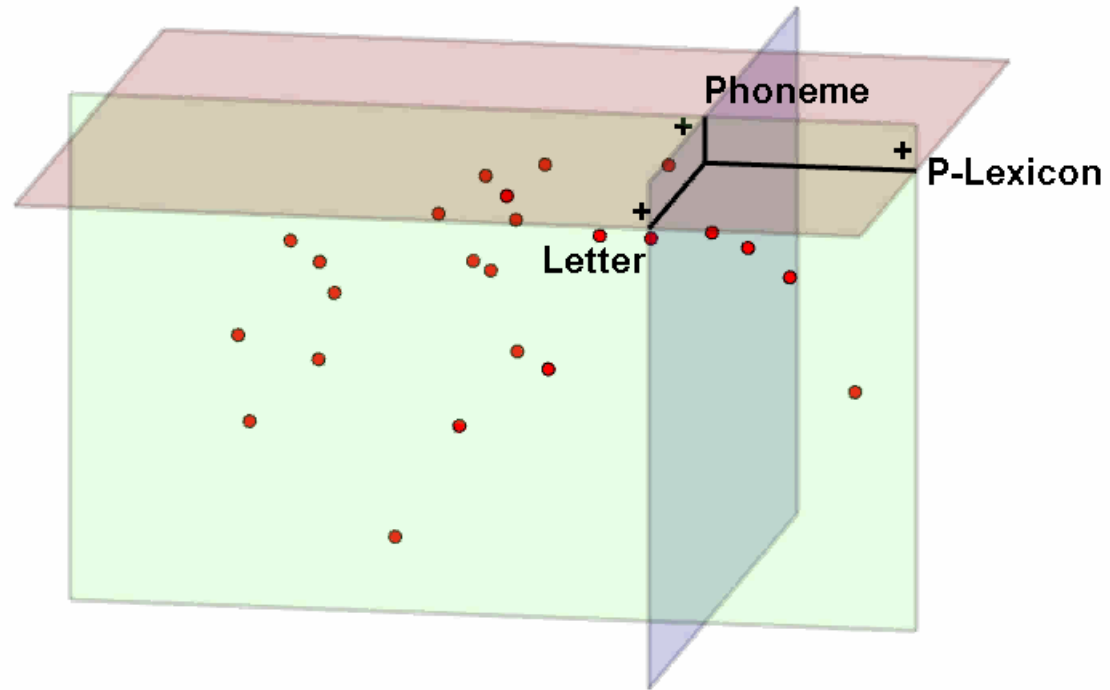


Object Naming



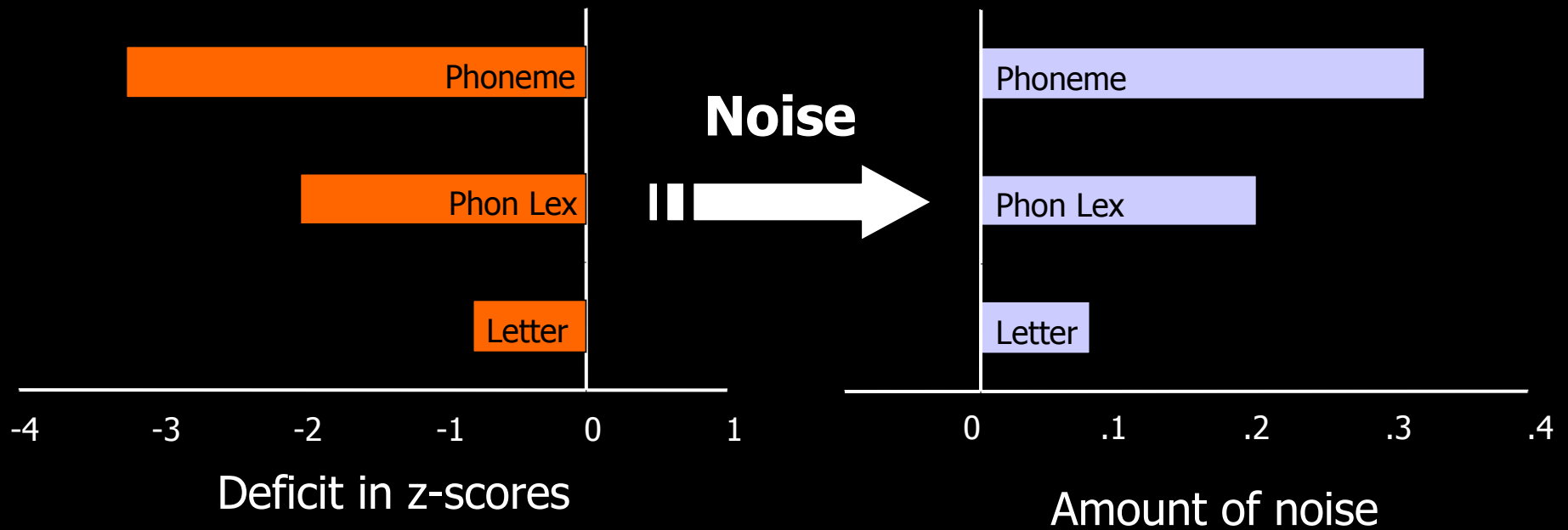
Phoneme Matching



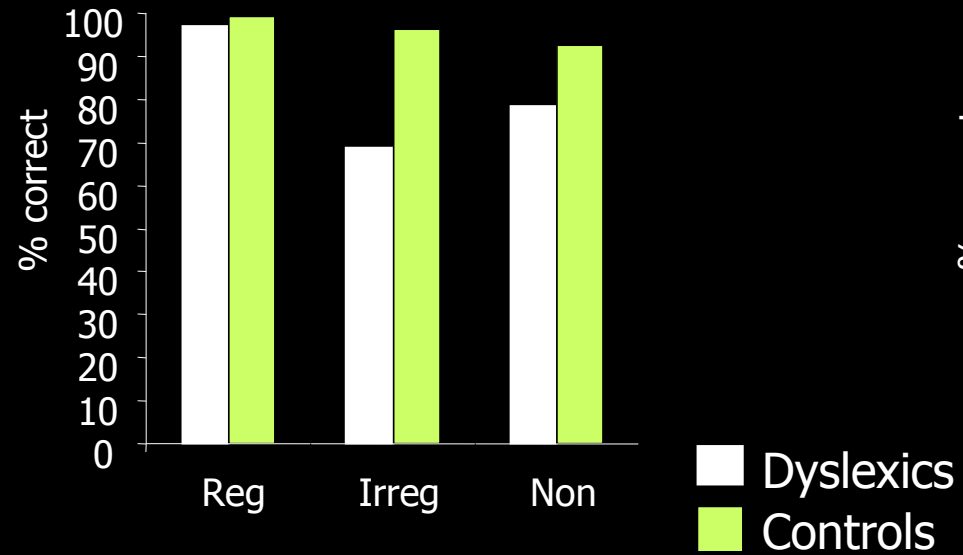


Individual Deficit-Based Simulation Approach

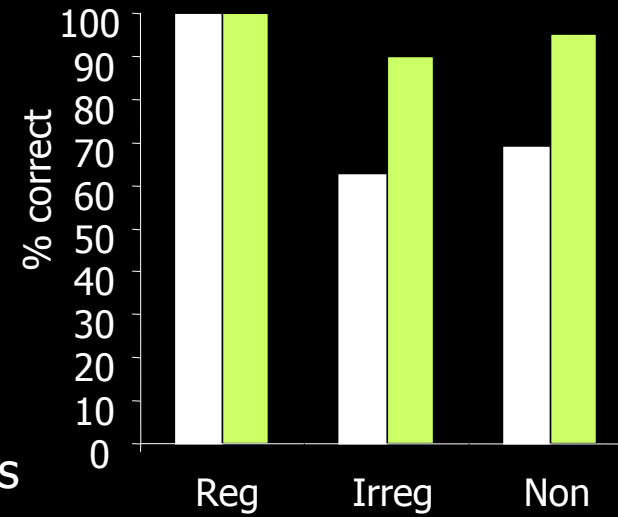
For each dyslexic:



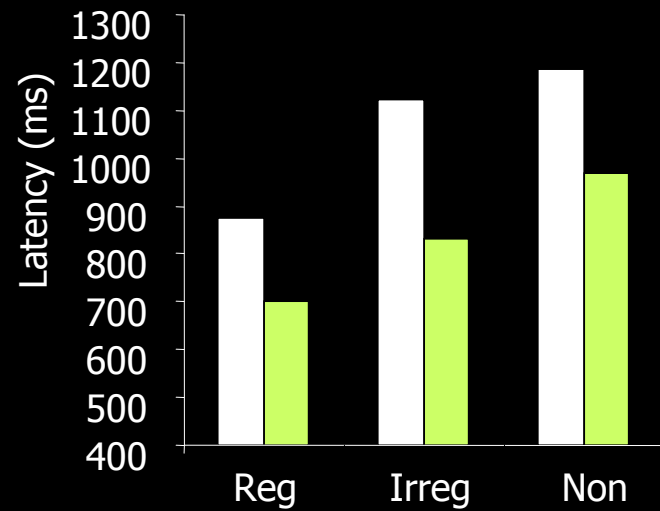
Human Accuracy



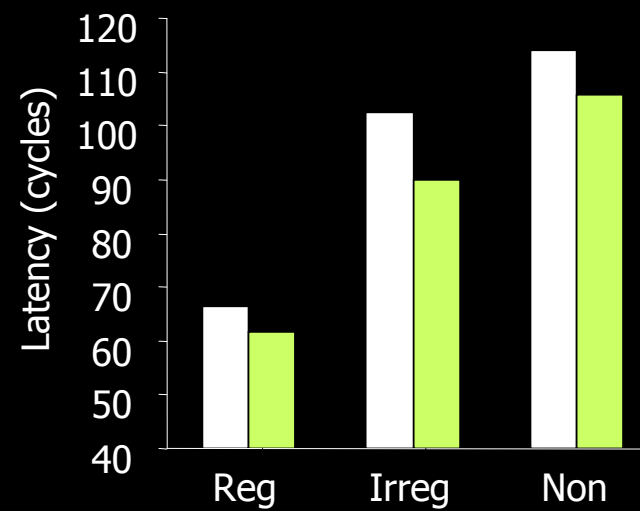
DRC Simulation



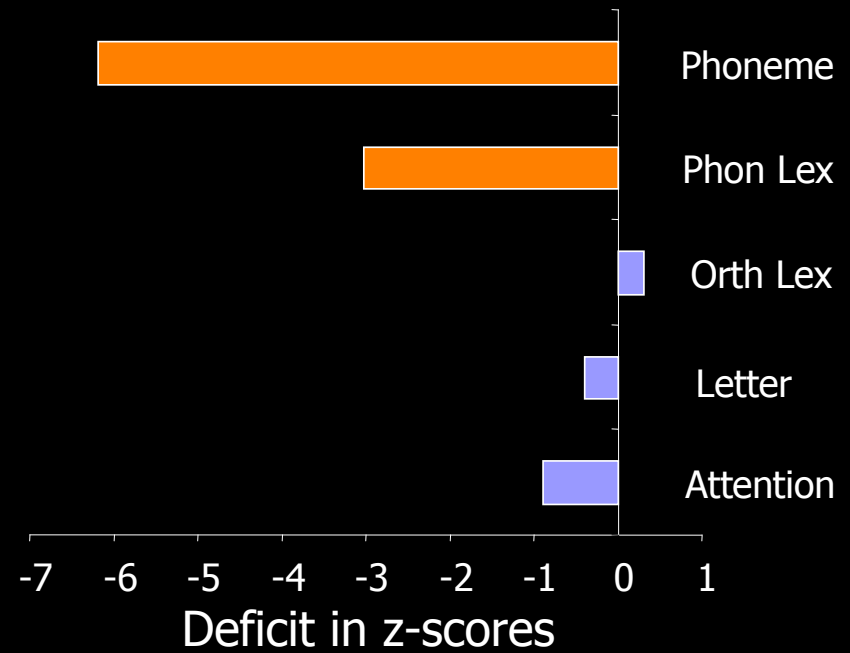
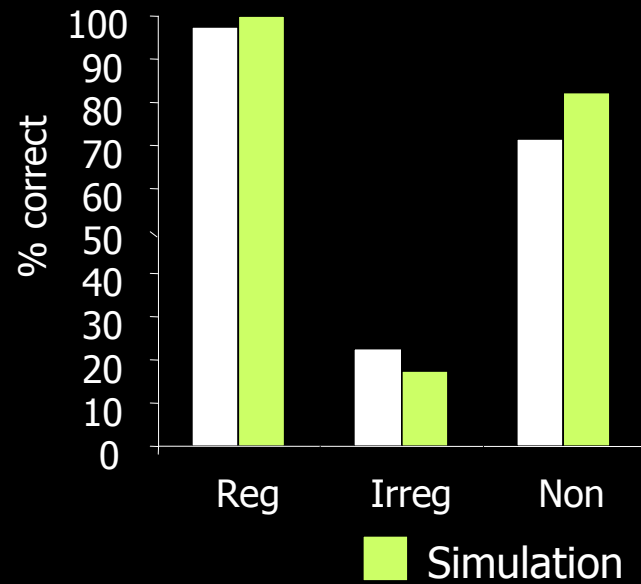
Human Latency



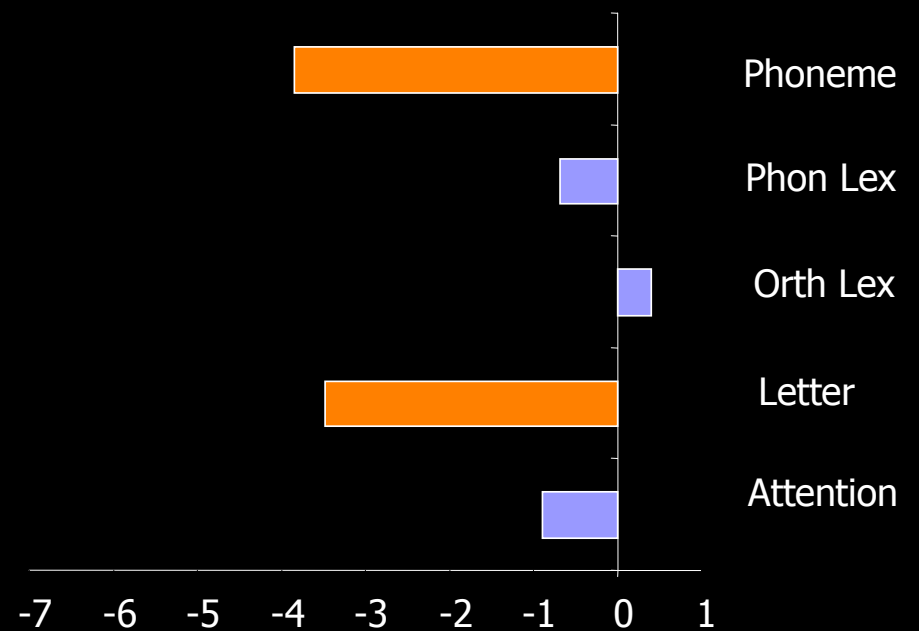
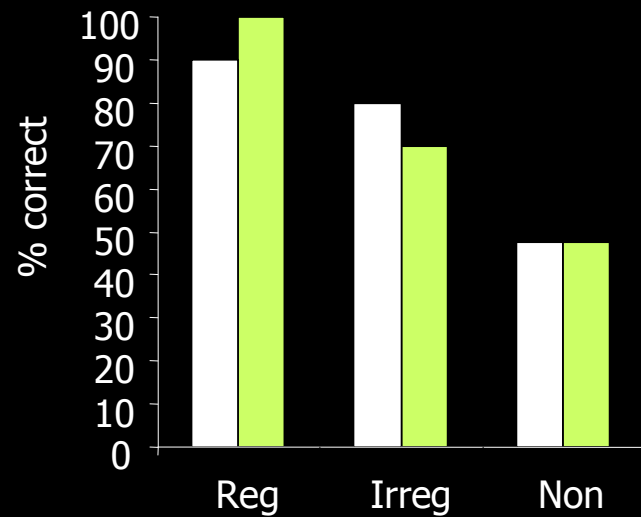
DRC Simulation

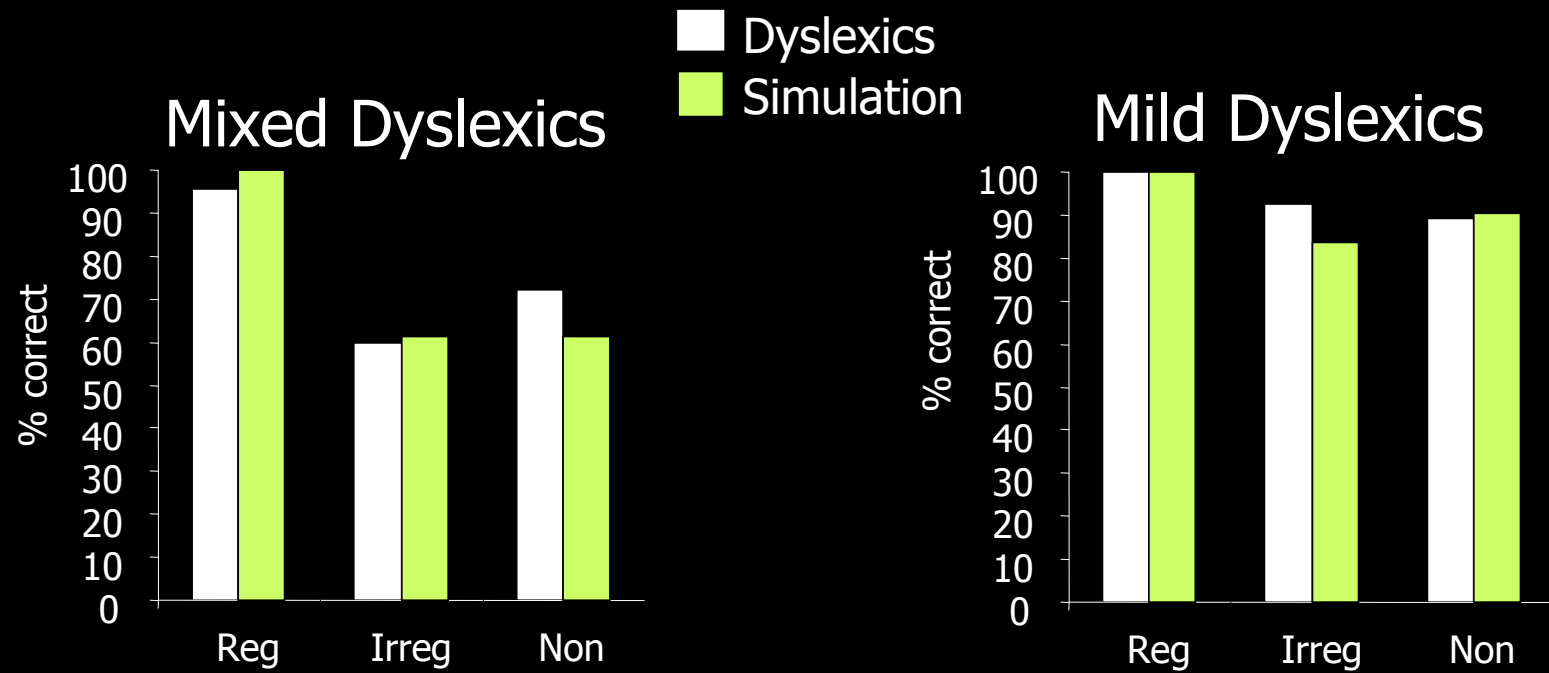


Surface Dyslexics



Phonological Dyslexics





Fit between individual subjects (72 data points)
and individual simulations : $R = .69, p < .0001$

Conclusions

- Le décodage phonologique est au cœur de l'apprentissage de la lecture
- Les déficits du décodage phonologique caractérisent les dyslexiques des différents pays (effet de longueur)
- L'exploration de la dyslexie dans le cadre d'un modèle précis montre une grande variabilité inter-sujets et une prépondérance des déficits phonologiques.
- Prendre en compte les différentes combinaisons de déficits de chaque enfants permet de rendre compte non seulement la performance de lecture de chaque enfants mais également les double dissociations.
- Les résultats vont à l'encontre des explications mono-causales et simplistes de la dyslexie