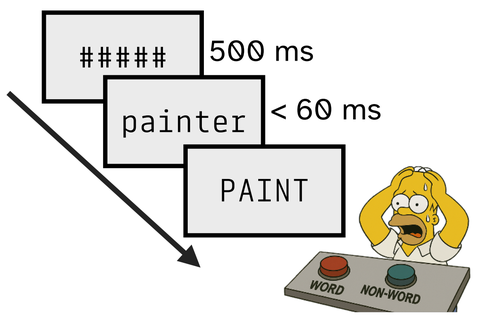
جامعة نيويورك أبوظبي
NYU ABU DHABI

NO PSEUDO-MORPHOLOGICAL DECOMPOSITION DURING LEXICAL ACCESS, BUT ACTUAL MORPHOLOGICAL ANALYSIS IN THE LEXICON

Roberto Petrosino, Jon Sprouse & Diogo Almeida

BACKGROUND

MORPHO-ORTHOGRAPHIC DECOMPOSITION (RASTLE ET AL. 2004)



(30 ≈ 23) > **2** ms

painter PAINT — corner CORN — cashew CASH

Semantically blind process

more than orthographic similarity

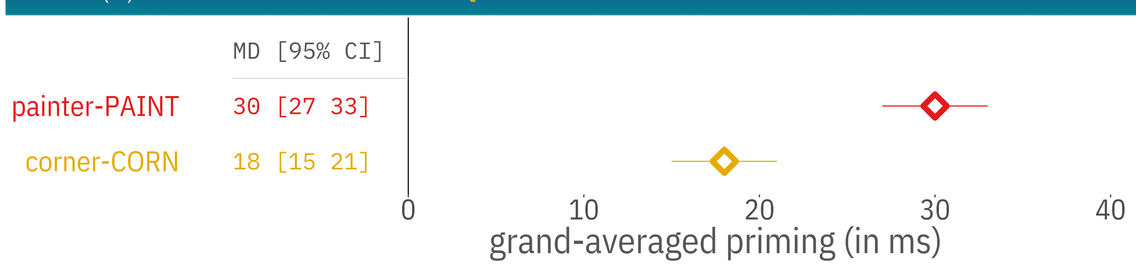
MORPHO-ORTHOGRAPHIC DECOMPOSITION HYPOTHESIS

sublexical phenomenon based on the mere *appearance* of morphological complexity

(Rastle & Davis 2008; Lavric et al. 2007)

THREE PROBLEMS

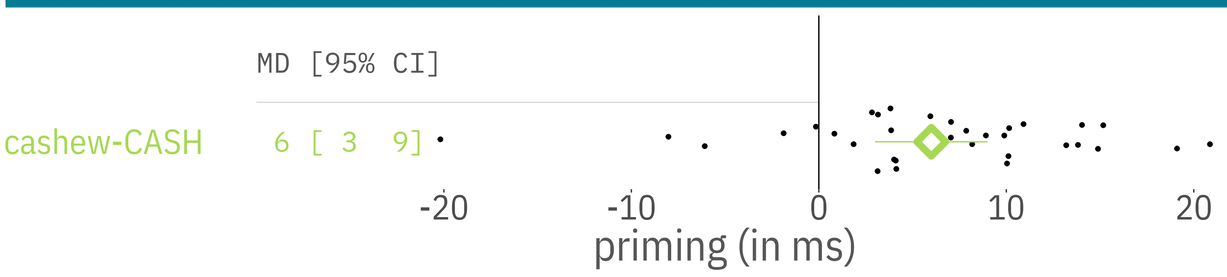
(1) TRANSPARENT > OPAQUE



(2) PSEUDOMORPHOLOGY (OPACITY): HARD TO DEFINE & OPERATIONALIZE

fruitless-FRUIT	listless-LIST	planet-PLAN
transparent	Very low-freq. meaning; potentially transparent	non-productive affixes

(3) ORTHOGRAPHIC FACILITATION > 0 & HIGHLY VARIABLE



high variability

Go see poster #302!

lexical status of the prime?

flexible-FLEX ≈ flexire-FLEX (Morris et al. 2011)

orthographic/phonological overlap?

against-AGAIN > cashew-CASH

OUR STUDIES

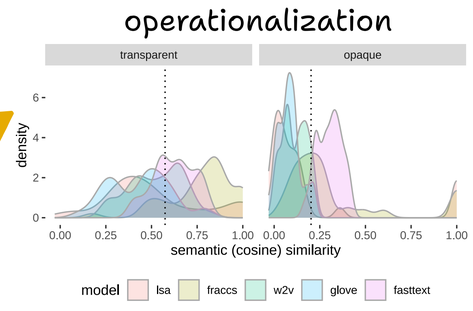
SEVEN REPLICATED STUDIES; IN-LAB AND ONLINE

#	Setting	Platform	SOA	Recruitment	N
1	in-lab	PsychoPy	2 frames	University	83
2	online	PsychoJS	33 ms	AMT	139
3	online	PsychoJS	2 frames	AMT	138
4	online	PCIbex	33 ms	AMT	153
5	online	PCIbex	2 frames	AMT	155
6	online	Labvanced	33 ms	Prolific	167
7	online	Labvanced	33 ms	Prolific	400
					Total 1,235

DESIGN

Condition	prime	TARGET
identity	fuss	FUSS
transparent	painter	PAINT
opaque	wander	WAND
form/syllabic	canvas	CAN
form/non-syllabic	starch	STARCH

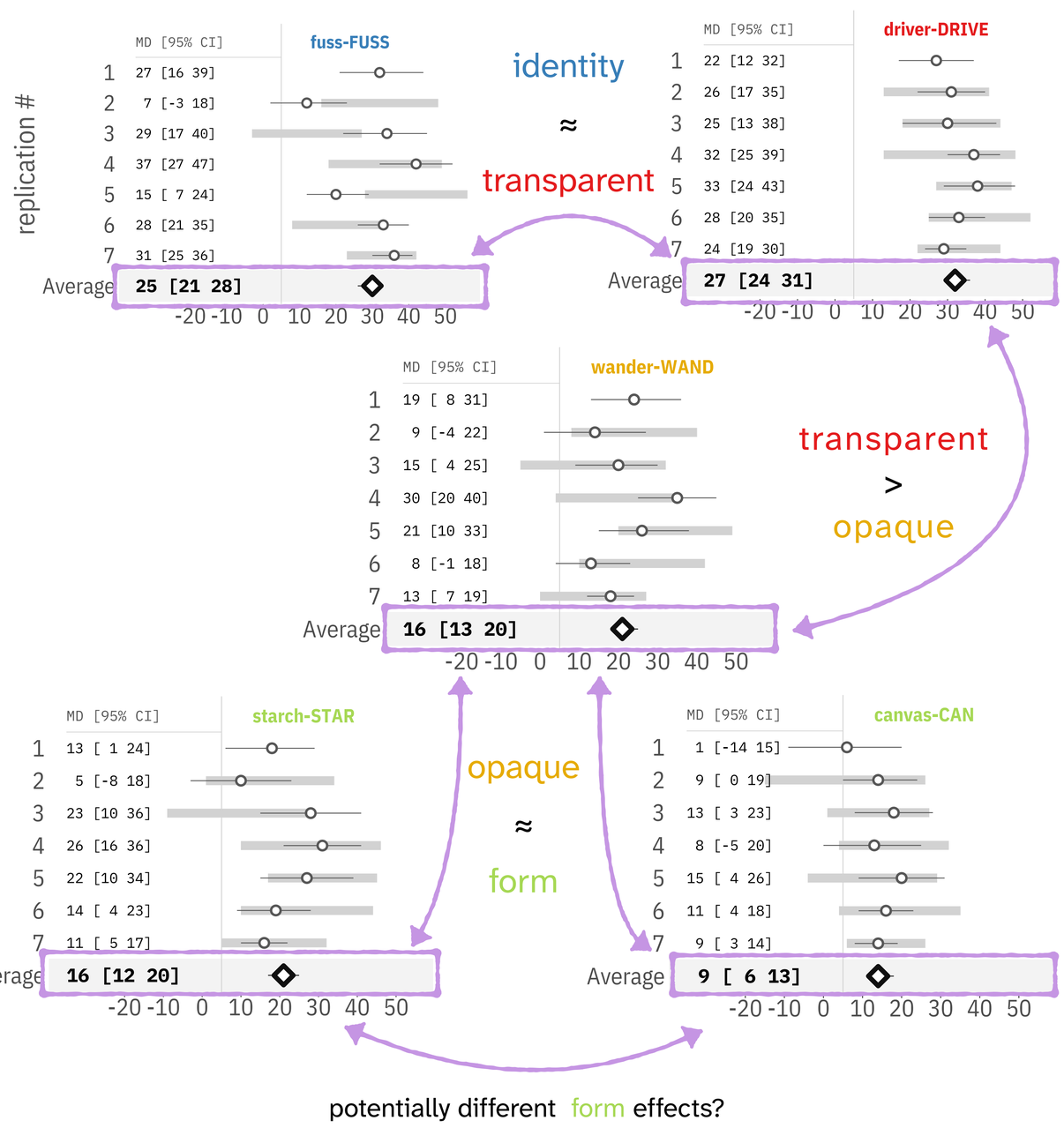
Stricter operationalization



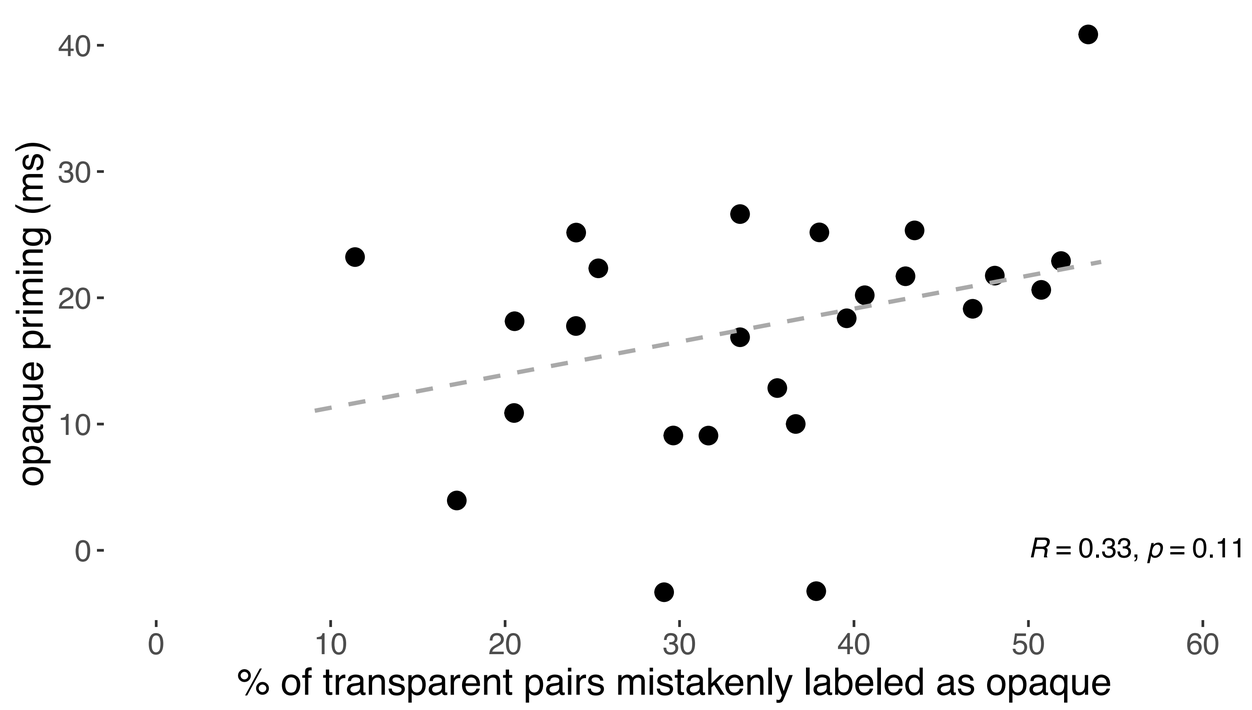
form priming as a function of ortho/phonological factors?

RESULTS

VARYING-COEFFICIENT META-ANALYSIS (BONNET, 2009) · PREDICTION INTERVALS



OPAQUE PRIMING CORRELATES WITH # OF POTENTIALLY TRANSPARENT PAIRS



CONCLUSIONS

TWO EARLY MECHANISMS: LEXICAL VS SUBLEXICAL

1. **Morphological decomposition** occurs only for truly morphologically complex words (*painter→**PAINT**; driver→**PAINT***), and triggers the same activation as **identity priming** (**fuss→FUSS**).
2. The morphological structure of words is therefore already accessible at early stages, in contrast with the MORPHO-ORTHOGRAPHIC DECOMPOSITION HYPOTHESIS.
3. **Sublexical activation** occurs for orthographically similar words (*starch→STAR; canvas→CAN*), regardless of their *apparent* morphological relationship (*corner→CORN; wander→WAND*).

REFERENCES

Bonett, D. G. (2009). Meta-analytic interval estimation for standardized and unstandardized mean differences. *Psych. Meth.* 14(3). • Lavric, A. *et al.* (2007). ERP evidence of morphological analysis from orthography: A masked priming study. *JCN* 19(5). • Morris, J. *et al.* (2011). Effects of lexical status and morphological complexity in masked priming: An ERP study. *LCP* 26(4-6). • Rastle, K., & Davis, M. H. (2008). Morphological decomposition based on the analysis of orthography. *LCP* 23(7-8). • Rastle, K. *et al.* (2004). The broth in my brother's brothel: morpho-orthographic segmentation in visual word recognition. *PBR* 11(6).