

Introduction

- The cross-linguistic asymmetry of affixation with respect to structural properties, combinatorial constraints and frequency is well-attested (cf. Sapir, 1921; Plank, 1988; Hyman, 2008). This behaviour is generally ascribed to either the informational material (i.e. the meaning, cf. Hawkins & Gilligan 1988), or temporal arrangement (cf. Cutler et al., 1985) of the complex word.
- Some evidence of asymmetrical behaviour is also present in psycholinguistic studies: Marslen-Wilson et al. (1994) is perhaps the most influential paper in this regard, where the authors found that suffixed words failed to prime each other (e.g. *governor* did not prime *government*).
- Overall, it appears that **priming configurations containing suffixed words** (e.g. suffix → suffix and stem → suffix) as visual targets reveal **less** evidence of facilitation (cf. Grainger et al., 1991; Marslen-Wilson et al., 1994; Gonnerman & Anderson, 2000; Feldman & Larabee, 2001).
- While there are numerous studies on the processing of morphologically complex words, few studies test more than one or two priming configurations: that is, they only focus on one type of relationship (e.g. only prefixed words → stems). However, given the asymmetry in findings related to affixed items, it is well worth examining this using:
 - a complete set of conditions (i.e. containing all directions and configurations)
 - a language rich with derivational morphology, where the affix set can be more strictly controlled in terms of history and synchronic behaviour: Bengali.

Experimental Design and Stimuli

- Five cross-modal lexical decision tasks with auditory primes and visual targets
- Stimuli: derivationally complex semantically transparent Bengali words & their stems

	Exp1	Exp2	Exp3	Exp4	Exp5
Structure	stem ↔ prefix	stem ↔ suffix	prefix - prefix	suffix - suffix	prefix ↔ suffix
Prime	aʃa 'hope'	dʒea 'compassion'	dur-din 'bad times'	bʰag:o-ban 'fortunate'	ɔ-bitʃar 'injustice'
Target	dur-aʃa 'without hope'	dʒea-lu 'compassionate'	ʃu-din 'happy times'	bʰag:o-hin 'unlucky'	bitʃar-ok 'judge'
Stem	aʃa 'hope'	dʒea 'compassion'	din 'times'	bʰag:o 'fate'	bitʃar 'judgement'

↔ indicates presentation in both directions

Participants

Participants

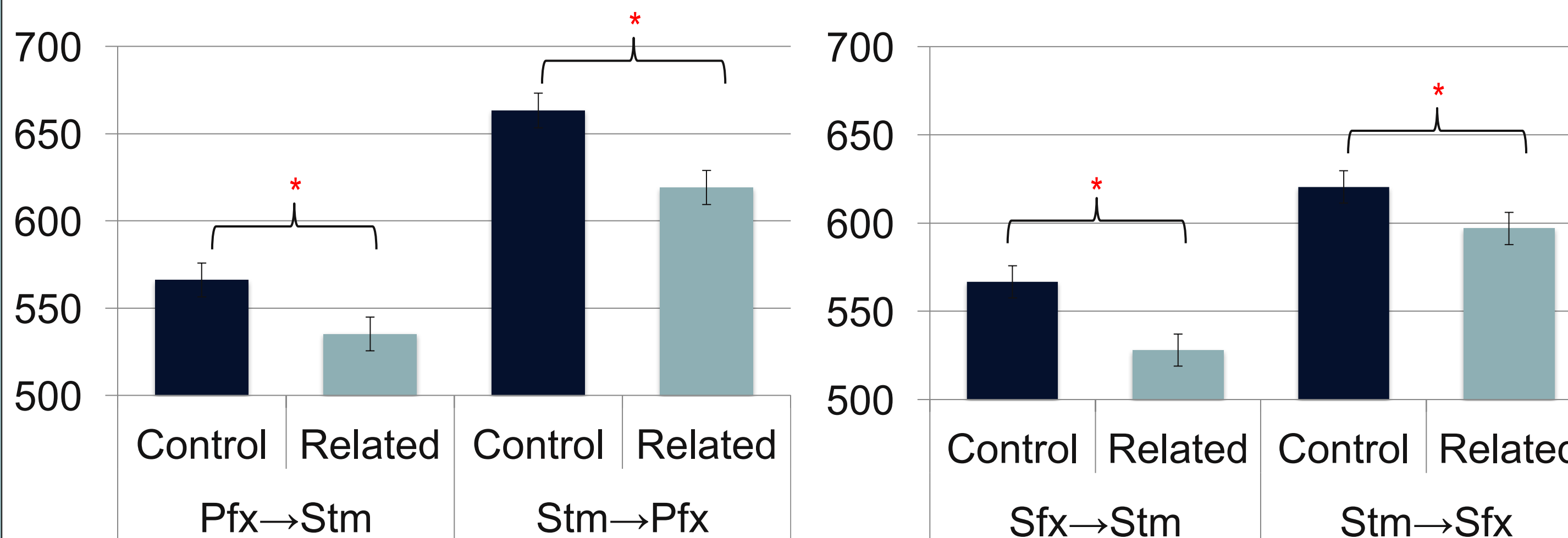
- 64 adult native speakers of Bengali for Experiments 1, 2 and 5
- 32 adult native speakers of Bengali for Experiments 3 and 4
- all university students at Jadavpur University and Bethune College, Kolkata, India

Predictions

Predictions:

- We expect to find evidence of asymmetry in the processing of prefixed and suffixed words due to differences in salience of morpheme boundaries between stem and affix.
- However, if morphological decomposition is a must, then it follows that prime-target pairs of two semantically-transparent suffixed items should not lead to inhibition. Therefore, we expect suffix-suffix pairs to prime in Bengali.

Results



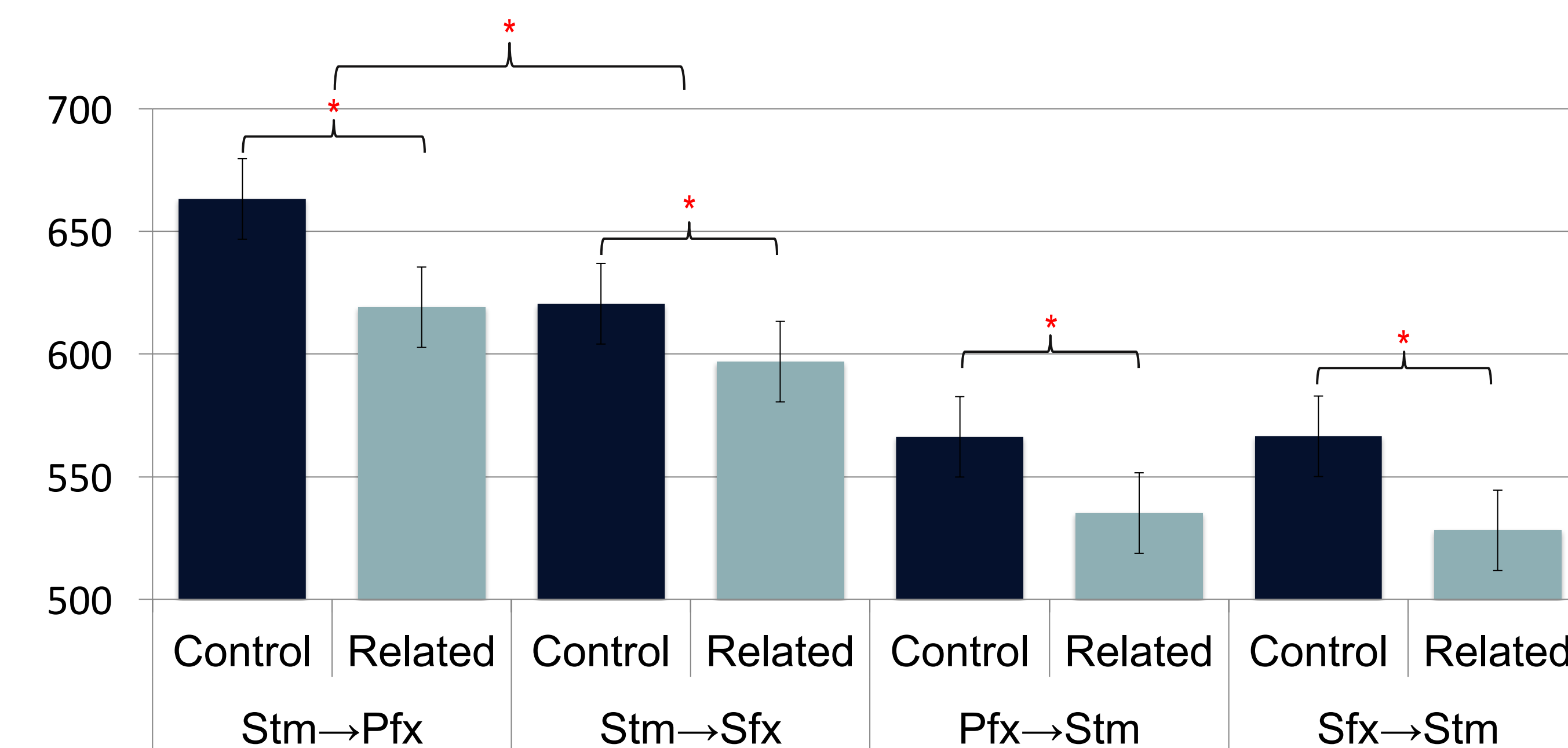
Experiment 1: Stem ↔ prefix

- Main effect of relatedness, $p < .001$
- Main effect of direction, $p < .001$
- No interaction

Experiment 2: Stem ↔ suffix

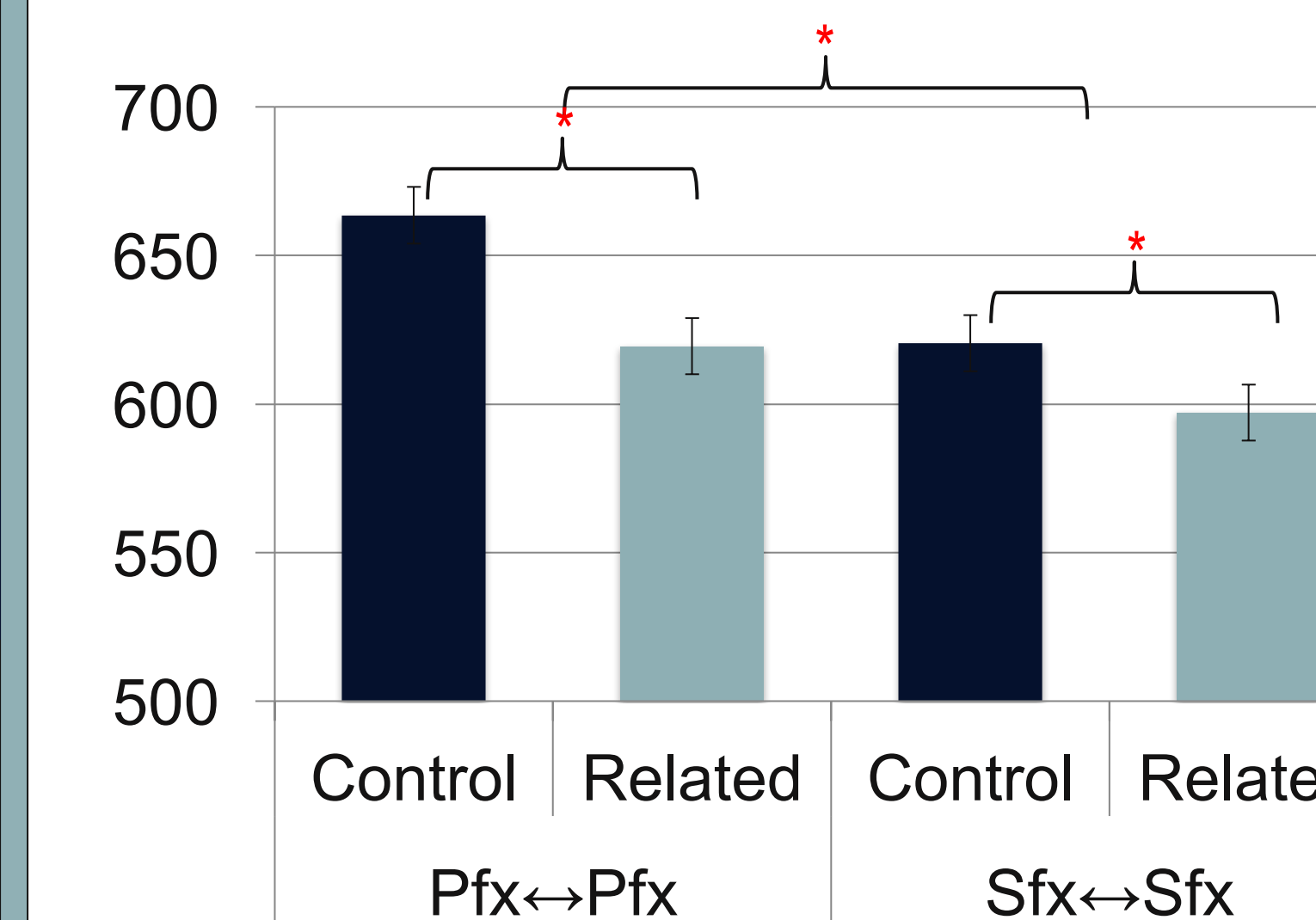
- Main effect of relatedness, $p < .001$
- Main effect of direction, $p < .001$
- No interaction

Comparison of stem ↔ prefix and stem ↔ suffix



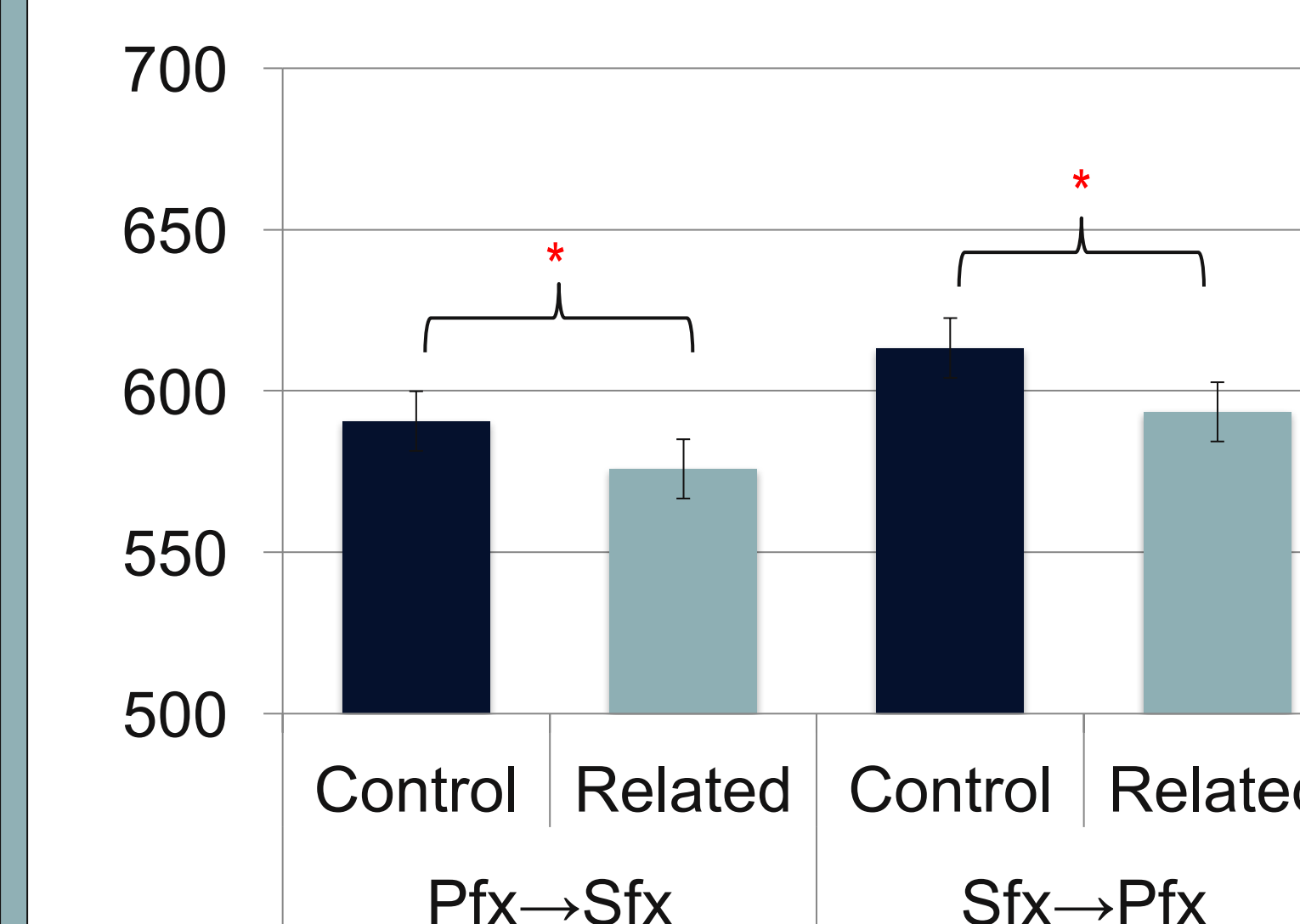
- Main effect of relatedness, $p < .001$
- Main effect of configuration, $p < .001$
- Main effect of target type, $p < .001$
- Three-way interaction between relatedness, configuration and target type, $p = .034$

Experiment 3 & 4: Prefix – prefix and suffix – suffix (and comparison)



- Main effect of relatedness for prefix-prefix pairs, $p < .001$
- Main effect of relatedness for suffix-suffix pairs, $p < .001$
- Interaction between relatedness and configuration, $p = .04$

Experiment 5: Prefix ↔ suffix



- Main effect of relatedness, $p < .001$
- No effect of direction
- No interaction

Key Findings

Stems as targets

- Similar degree of facilitation for stems when primed by prefixed and suffixed words.

Affixed forms as targets

- Stems primed prefixed words **more** than they primed suffixed words.
- Suffixed words primed suffixed words** (Exp 4), although there was significantly **less** facilitation for suffix-suffix pairs than prefix-prefix (Exp 3) pairs.

Evidence of asymmetry:

- greater priming by a stem for prefixed words than for suffixed words
- and greater priming for prefix-prefix pairs than suffix-suffix pairs.

We propose that the asymmetry is not only due to differences in perception, reading, or inhibition from the phonological cohort, but also attributable to the salience of the morpheme boundaries of affixed-word representations during recognition.

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Selected References

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