

Morphological Decomposition and Representation of French Verbs

1. French Verbs

French verbal inflection is a rich morphology system where we can identify different degrees of stem regularity¹:

- (1) Regular: **entr-e, entr-i-ons**
- (2) Morphophonological: **jett-e, jet-i-ons**
moqu-e, moqu-i-ons
- (3) Irregular: **vien-s, ven-i-ons**

Despite stem change suffixes represent mode/tense and number/person in a regular manner while prefixes change the stem meaning.

2. What Kind of Representation?

In order to explore stem representation and verbal decomposition, we tested the influence of the stem regularity degree and of the number of morphological operations on written word recognition.

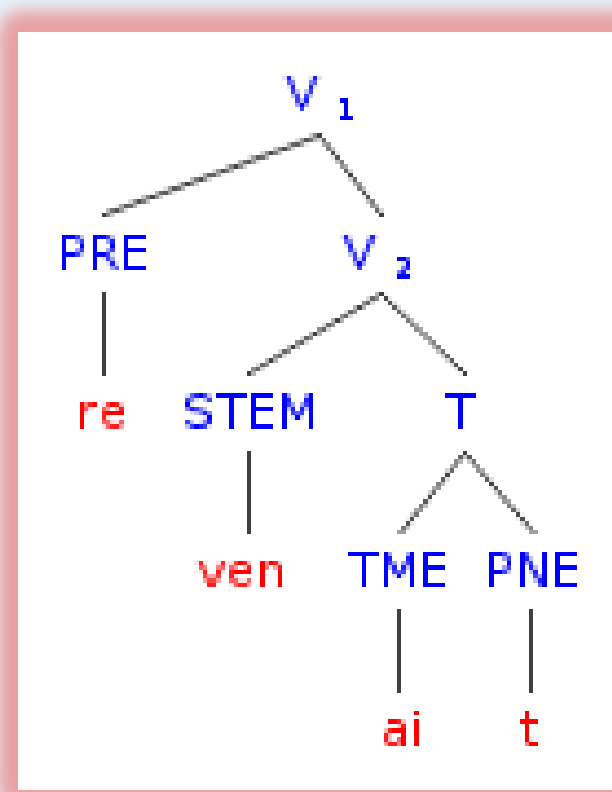


Figure 1: Verb structure.

4. Results

✓ All verbs presented a significant effect of **surface frequency** reflecting a) the base and affixes recombination or b) the whole word access.

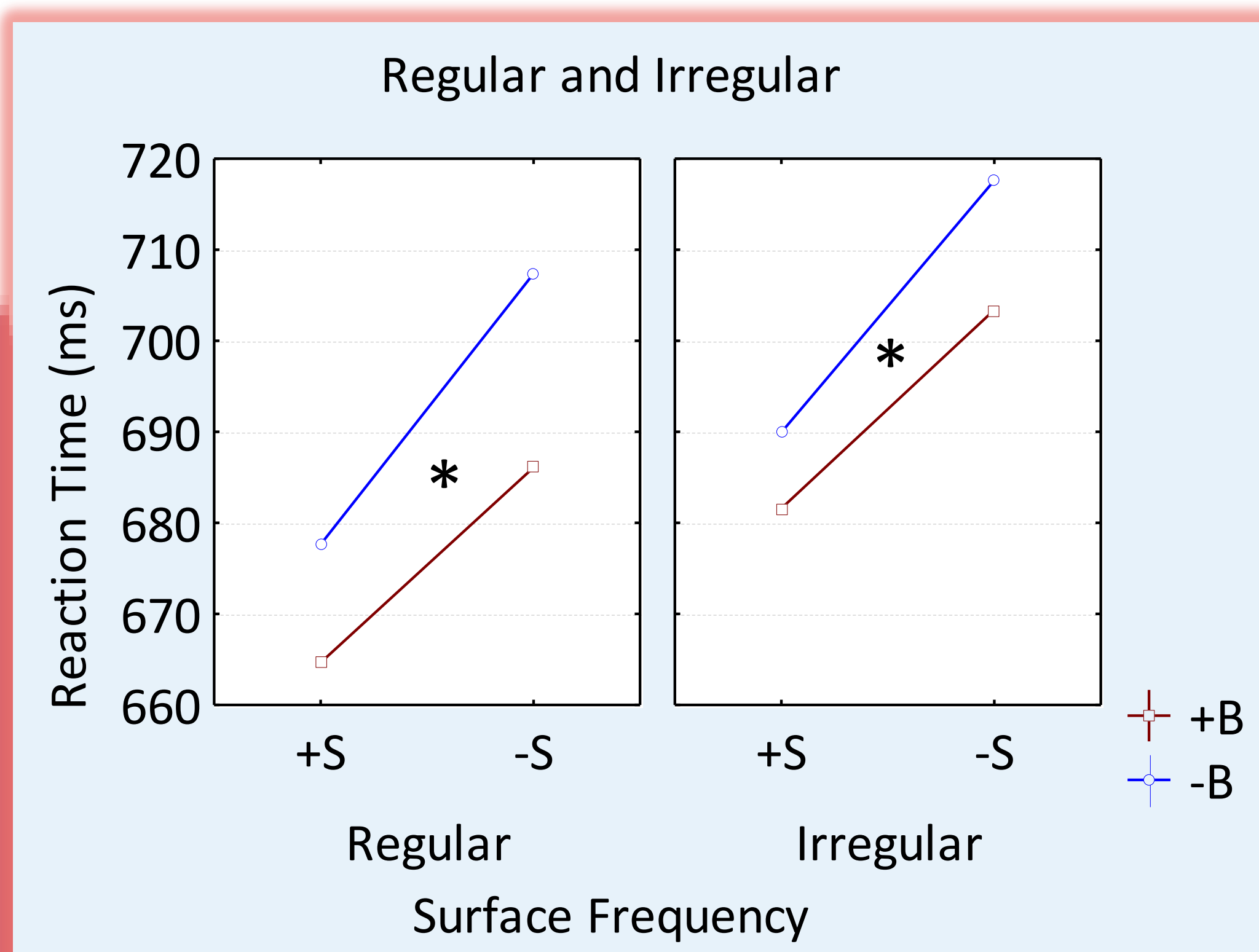


Figure 2: Regular and irregular verbs.

✓ **Regular and irregular**: the effect of **base frequency** indicate the verb decomposition and different representations for irregular allomorphs.

✓ **Morphophonological**: the lack of effect between allomorphs and the effect of **total base frequency** suggest an abstract phonological representation of the stem.

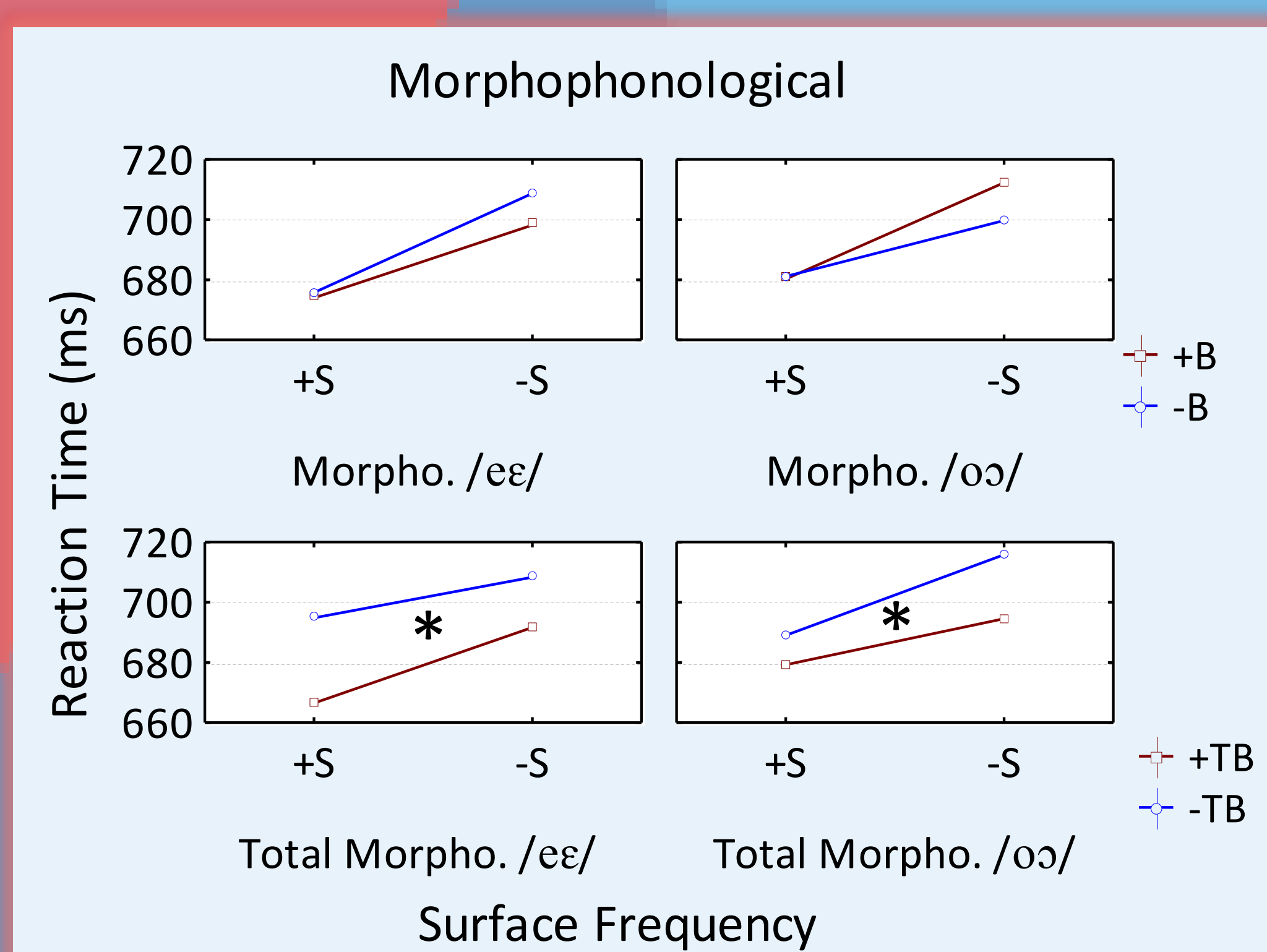


Figure 3: Morphophonological /εε/ and /oɔ/.

3. Method

Subjects: 32 subjects, 16 females, mean age of 20 years.

Task: visual lexical decision task: accuracy and RT.

Design: manipulation of the a) surface frequency, b) base frequency and c) morphological operations.

Stimuli: 20 verbal pairs per condition matched in number of letters and surface or base frequencies.

	+BF		-BF	
	+SF	-SF	+SF	-SF
Regular	entr-ai-t	entr-ez	chant-ai-s	chant-ez
Morpho. /εε/	répét-ai-t	répét-i-ons	répèt-e	répèt-es
Morpho. /oɔ/	ador-ai-s	ador-i-ez	ador-ent	ador-es
Irregular	buv-ai-ent	buv-i-ez	boiv-ent	boiv-es
	+P		-P	
	+O	-O	+O	-O
Operation	re-touch-ai-s	re-touch-ons	touch-i-ez	touch-ez

Table 1: Sample of stimuli.

✓ **Operation**: the number of **affixes** systematically influenced on the RT and confirm verb decomposition. The prefix seems to have a heavier cost than suffixes while TME has a heavier cost than PNE.

$$+P+O > +P-O > -P+O > -P-O$$

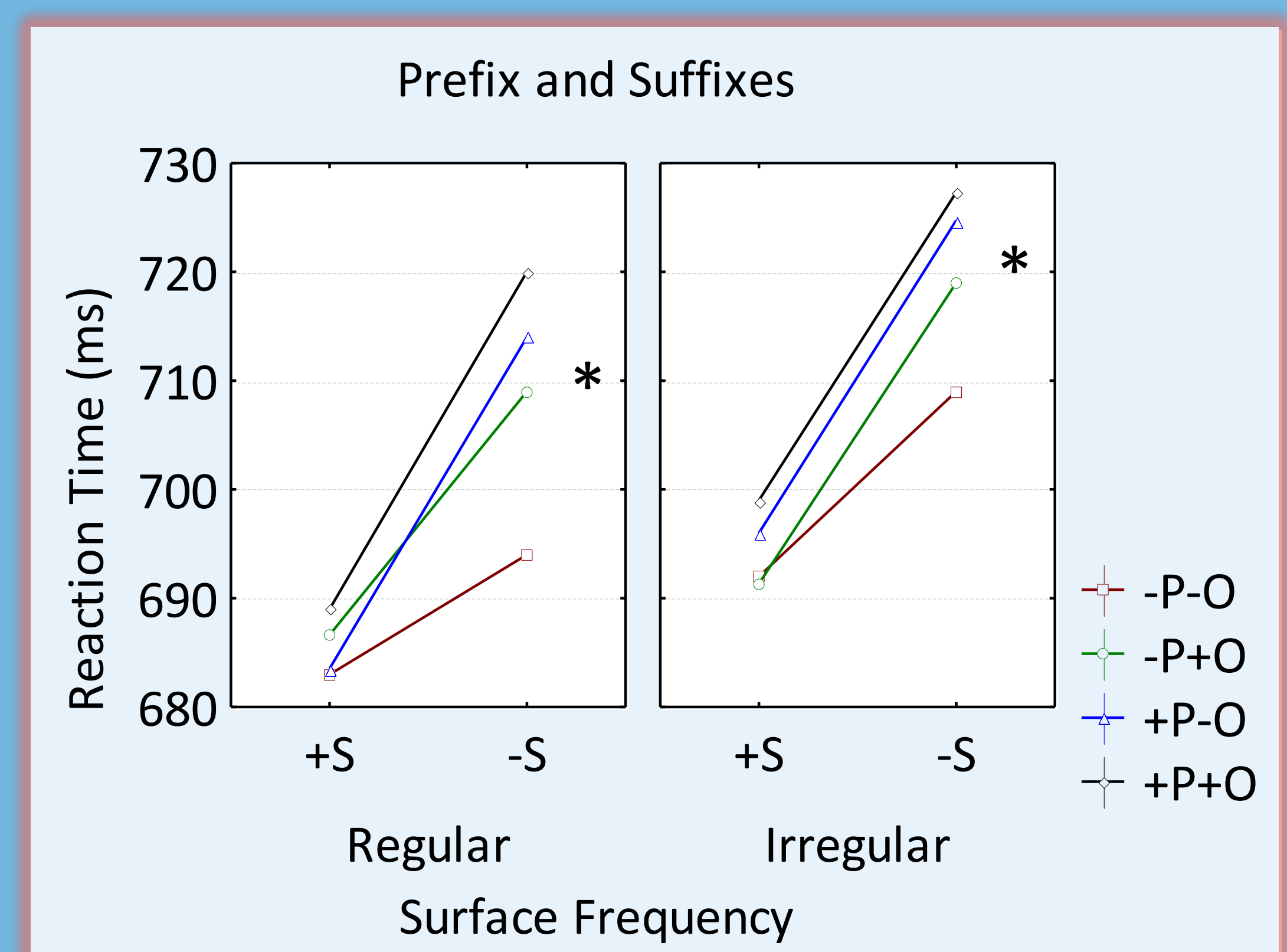


Figure 4: Morphological operations.

5. Discussion

Decomposition and representation of French verbs depends on their decomposability. These results can be explained by an obligatory decomposition model² or a revised dual-route model^{3,4}. The different morphological operations influence the time recognition and will be further explored.

References

- ¹Meunier, F., & Marslen-Wilson, W.D. (2004). *Language and Cognitive Processes*, 19(4).
- ²Taft, M. (2004). *The Quarterly Journal of Experimental Psychology*, 57(4).
- ³Clahsen, H. (2006). In: Wunderlich, D. (ed.). *Advances in the Theory of the Lexicon*. Mouton de Gruyter: Berlin.
- ⁴Baayen, R.H., Dijkstra, T., & Schreuder, R. (1997). *Journal of Memory and Language*, 37.