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INTRODUCTION

AIM

To examine how the neural underpinnings of **online morpho-syntactic processing** in **late second language (L2) learners of English** might be influenced by:
(1) **L1-background** (i.e. language transfer); (2) **L2 proficiency**

BACKGROUND

Transfer effects:

- Structural **similarities or differences** between L1-L2 → **positive or negative transfer** [3]
- **Controversial** whether **absence of L2 features in L1** → **native-like L2 processing** [1] vs. [5]
- **ERP evidence** of transfer effects is still quite **scarce** [2]

Proficiency effects:

- Distinct patterns of processing in late acquired L2 vs. native speakers
- However, reliance on **native-like mechanisms may increase with L2 proficiency** [6]

Precise ways in which **L1-background/transfer and proficiency modulate brain responses still to be understood**

PRESENT STUDY

- **Native-French (N=23) and native-Mandarin (N=21) late learners of English** were compared to **native-English monolinguals (N=17)** in a **reading ERP study in English**
- **Nominal morphology**: articles and their interaction with singular/plural markers [7, 8]
- **English and French make use of nominal morphology** [cf. Table 1]
- **Mandarin: no singular indefinite determiner and no singular/plural morphology** [4]
- Target sentences contained NPs involving **mismatching plural morphology and singular indefinite articles**

Table 1

	English	Mandarin	French
i)	<i>They put a book ...</i>	?	✓ ... un livre
ii)	<i>They put a books ...</i>	?	✗ ... un livres

METHODS

MATERIALS & PROCEDURE

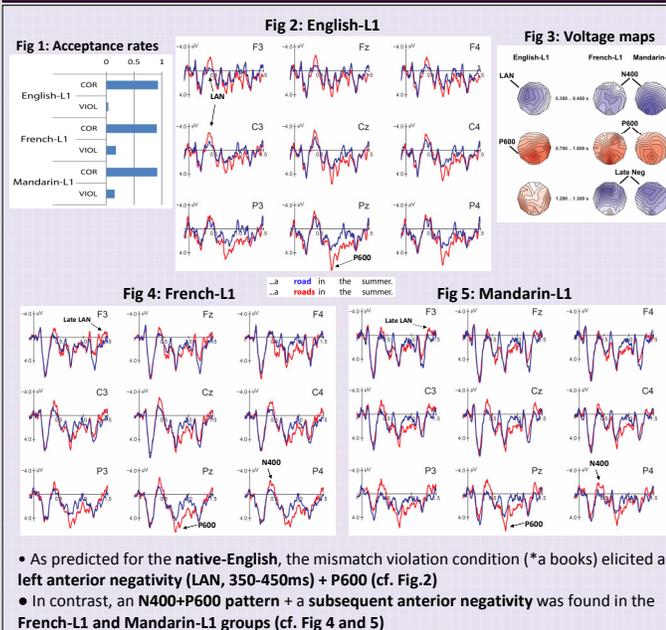
- Target sentences intermixed with 8 types of filler sentences
- Rapid serial visual presentation (300ms, 200ms ISI)
- ERP epochs: -100ms – 1500ms
- Proficiency measures: **Cloze-test** (overall L2 proficiency) and **behavioral acceptability judgments** (structure-specific L2 proficiency)
- Age of acquisition (French-L1 mean = 14 years; Mandarin-L1 mean = 10 years)

PREDICTIONS

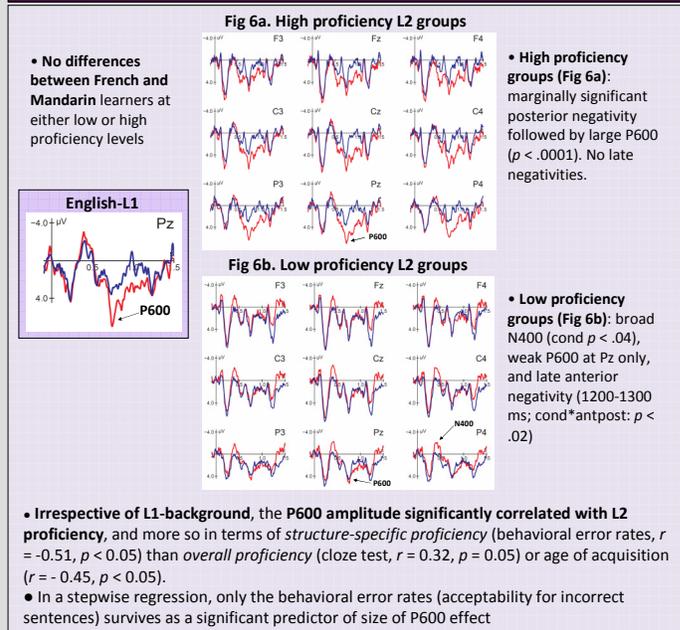
- (1) **English native-speakers**:
 - Morphological violation expected to elicit morphosyntactic response (LAN/P600)
- (2) **French and Mandarin late L2 learners of English**:
 - LAN/P600?
 - Possible variations in brain responses related to differences in L1-background, age of acquisition and L2-proficiency measures (cloze-test and error rates in behavioral tasks)

RESULTS

L1-BACKGROUND



PROFICIENCY LEVEL



DISCUSSION & CONCLUSIONS

- **Native-speakers vs. L2 groups**: N400/L2 vs. LAN/L1 difference is consistent with lexical/declarative vs. grammatical/procedural basis for morphosyntax in L2 vs. L1
- Late negativity in L2 groups was an unexpected finding (and not easily explainable)
- **French vs. Mandarin groups**: Similar patterns regardless of L1-background → no clear support for either positive or negative transfer effects

- **L2 proficiency level** significantly modulated P600 amplitude
- In line with models predicting that **neural underpinnings of L2 processing** are better described in terms of **proficiency-dependent continuum** than categorical L1 vs. L2 distinction (or AOA dependent)
- **Structure-specific proficiency** more important than cloze test (overall L2 proficiency) in **predicting native-like L2 processing**

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