It is often assumed that second language learners should ideally acquire both the grammatical knowledge of the L2 and the same processing routines used by native speakers to implement this knowledge in online language comprehension. Here, we present a rare case in which failure to acquire native-like processing actually helps L2 speakers to avoid a native-like processing error. Results from a self-paced reading and a speeded acceptability experiment indicate that L1 Chinese learners of English are sensitive to subject-verb agreement violations in online processing, but, unlike native speakers, do not show any evidence of experiencing an illusion of grammaticality in sentences with agreement attraction configurations. In fact, since the L2 learners do not seem to experience an illusion of grammaticality, they are in a sense processing the input more accurately than the native speakers.

We investigate how advanced learners of English whose L1 is Chinese (which lacks overt agreement) process subject-verb agreement in English, which often involves cue-based retrieval of the subject from memory and is susceptible to interference from a structurally inaccessible noun that matches the number cue of the verb (1). In native speakers, misretrieval of a number-matching attractor leads to facilitated processing of an agreement violation (Wagers et al., 2009), which suggests that both structural and number features are used as cues. In order for this facilitative similarity-based interference to occur, the number cue on the verb has to be used for retrieval in addition to the structural cue. We ask whether Chinese learners of English show not only knowledge of subject-verb agreement, but have also learned to use the number cue for retrieval in online processing.

1. The key to the cabinet/cabinets was/were rusty and had to be replaced.

In Experiment 1, we manipulated attractor number and grammaticality, as in (1), in a moving-window self-paced reading paradigm. The L2 group (N=33) showed a clear impact of grammaticality, with a slow-down in the ungrammatical conditions (Chen et al., 2007; Lim & Christianson, 2016; but cf. Jiang, 2004, 2007). However, unlike in the native control group (N=30), the response to an agreement violation was equally strong in the presence of a plural attractor (figure 1).

Somewhat puzzlingly, in a post-experiment offline whole-sentence judgment task administered after the SPR task, designed to evaluate grammatical knowledge without time pressure, both L1 and L2 subjects’ responses showed an attraction effect. We suspected that presenting the whole sentence on the screen may have led to backtracking proofreading strategies in which the shorter linear distance between the verb and the attractor vs. the verb and the head noun might have had an impact. Therefore, in Experiment 2 we used a speeded acceptability judgment task, in which sentences were displayed word-by-word (SOA: 600ms) and participants had only 2 seconds to judge their acceptability. The L2 group (N=24) again showed clear and significant sensitivity to subject-verb agreement violations. However, unlike the native control group (N=24), and consistent with the self-paced reading results, they were not more likely to accept ungrammatical sentences when the attractor matched the plural number cue of the verb, see figure 2.

These results demonstrate that these advanced Chinese learners of English have successfully acquired the grammatical knowledge associated with subject-verb agreement in English and are sensitive to it in online processing. However, there was no evidence of facilitative similarity-based interference with number-matching attractors in either reading times or acceptance rates, suggesting that these learners might be limited to using the structural retrieval cue available in their native language, and not the number retrieval cue specific to their L2. We suggest that the acquisition of grammatical knowledge is not necessarily accompanied by changes to the retrieval cues for processing long-distance dependencies.
Figure 1: Region-by-region average RTs in self-paced reading for L2 group (error bars indicate standard error of the mean, N=33)

Figure 2: Acceptance rate by condition in speeded acceptability judgment task
L1 Group (N=24)  L2 Group (N=24)

References