Native speakers of Mandarin Chinese processing L2 Japanese relative clauses

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In the field of sentence processing, there is currently much debate on the metric of integration used in prenominal (head-final) relative clause (RC) processing for filler-gap dependencies. For languages such as Korean and Japanese, a syntactic searching metric (O’Grady, 1997) has been understood to show support for object-extracted relative clause (ORC) difficulty in comparison to subject-extracted relative clauses (SRC). In Mandarin, however, there is growing evidence that a linear/temporal metric (Gibson, 2000; Lewis & Vasishth, 2005) is used for gap-filling processes. This demonstrates an ORC advantage. The current study investigates how L1 Mandarin speakers process RCs in L2 Japanese. In other words, we investigated whether they suffer from ORC or SRC difficulty when reading Japanese sentences with RCs (e.g., [RC senator-ACC/NOM attacked] reporter-NOM retired.). Using eye-tracking and a sentential decision task (sentential plausibility), reading times were recorded at each part of the sentence. The results revealed both an ORC advantage and disadvantage. When the head noun (e.g., reporter) is first read, SRCs were shown to have significantly longer reading times which spilled over into matrix verb (e.g., retired). Considering that this result would be in conflict with both expectation-based effects (Hale, 2001; Levy, 2008) and structural-integration, we interpret this as an effect of a linear/temporal integration mechanism. However, in later reading times it was shown that ORCs eventually became more difficult to process and comprehend. This may be attributed to either a general frequency effect or a similarity-based interference. In summary, we argue that L1 Mandarin speakers use a linear/temporal integration metric not currently supported for L1 Japanese speakers nor L1 Korean speakers of L2 Japanese, while effects of experience and similarity interference appear congruent. Overall, these results would implicate that Mandarin learners of Japanese carry over their L1 integration metric if L1 Japanese speakers truly utilize a structural-based one.

Keywords: L1 Mandarin Chinese, integration, L2 Japanese, relative clause, eye-tracking.