CORRIGENDUM

Implicit and explicit knowledge in second language acquisition—CORRIGENDUM

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There was an error in German Example (3b) on page 836 and an incorrect reference citation on page 853, both of which are reprinted herein. We regret these errors and any problems they may have caused.

REFERENCE

Rebuschat, P., & Williams, J. N. (2012). Implicit and explicit knowledge in second language acquisition. *Applied Psycholinguistics, 33*, 829–856.

(1) Simple sentence (one-clause construction; simple predicate)
    a. English: Yesterday John bought the newspaper in the supermarket.
    b. German: Gestern kaufte John die Zeitung im Supermarkt.
    c. Stimulus: Yesterday bought John the newspaper in the supermarket.
(2) Simple sentence (one-clause construction; complex predicate)
    a. English: Yesterday John has bought the newspaper in the supermarket.
    b. German: Gestern hat John die Zeitung im Supermarkt gekauft.
    c. Stimulus: Yesterday has John the newspaper in the supermarket bought.
(3) Complex sentence (two-clause construction; sequence: main–subordinate)
    a. English: Last year Susan visited Melbourne because her daughter studied in Australia.
    b. German: Letztes Jahr besuchte Susan Melbourne, weil ihre Tochter in Australien studierte.
    c. Stimulus: Last year visited Susan Melbourne because her daughter in Australia studied.
(4) Complex sentence (two-clause construction; sequence: subordinate–main)
    a. English: Since his parents needed groceries, David purchased everything necessary.
    b. German: Weil seine Eltern Lebensmittel brauchten, kaufte David alles Notwendige ein.
    c. Stimulus: Since his parents groceries needed, purchased David everything necessary.

As is evident from the examples, the elements within phrase boundaries were left intact, whereas the specific ordering of the phrases was altered. In (1), for example, the verb phrase (VP) was moved from third position in the phrasal sequence to second. In (2), the auxiliary was placed in second position, whereas the participle was moved to the end of the sentence. In (3), the VP of the main clause was moved to second position, whereas the VP of the subordinate clause was placed in final position. Finally, in (4) the VP of the subordinate clause was moved to final position, whereas the VP of the main clause was shifted to first position.

The linguistic focus in this experiment was on four rules that determine the placement of VPs in the semiartificial language. The verb placement rules in this experiment were based on German syntax and stated that, depending on the type of predicate (simple vs. complex), the type of clause (main vs. subordinate) and the type of clause sequence (main–subordinate vs. subordinate–main), finite verbs had to be placed either in first (V1), second (V2), or final position (VF) in terms of the phrasal sequence. Table 1 illustrates the four rules in question.

Rules V2 and split VP applied to main clauses that were not preceded by a subordinate clause. They differed in that the former rule applied to simple predicates and the latter rule to complex predicates. In the semiartificial language, simple predicates occurred both in simple and in complex sentences; complex predicates only occurred in simple sentences. Rule V1 also applied to main clauses but only to those that were preceded by a subordinate clause. In contrast, rule VF applied to all subordinate clauses, irrespectively of whether a main clause preceded or followed.

A total of 192 sentences were drafted for this experiment. The sentences were read out by a male native speaker of English, digitally recorded on a Sony Mini-Disc player (MZ-R700) and subsequently edited with sound processing software

rule learning in the vast majority of subjects. It suggests that subjects in these types of experiments (and perhaps in natural language acquisition) do not acquire linguistic rules. The results support Shanks (1995; Johnstone & Shanks, 2001), who argues against the possibility of implicit rule learning. Additional research is necessary to characterize the nature of what was learned incidentally and to determine more precisely what conditions might lead to successful rule acquisition. For example, it would be important to establish whether increased exposure would lead to the development of rule knowledge under incidental learning conditions.

Although adults can acquire unconscious knowledge, the experiments reported in this article demonstrate that adult syntactic learning results predominantly in a conscious (but largely unverbalizable) knowledge base. This might explain why learning was very much constrained across all experiments. *VF sentences, for example, were generally accepted as grammatical, even though this option was restricted to subordinate clauses. It would be of interest to run the same, or a slightly adapted, version of Experiments 1 and 2 with children in order to determine whether there are child–adult differences in syntactic learning. Young learners, especially preschoolers without extensive metalinguistic knowledge, might display more implicit learning than adults. It would be also interesting to establish whether this would lead to greater learning effects across patterns. If this were the case, then the fact that adults are potentially less likely to engage in implicit learning of a novel language might help explain why they frequently fail to achieve nativelike levels of proficiency in a novel language, despite prolonged periods of exposure.

From a methodological perspective, the results of the experiments confirm that relying on verbal reports as a measure of awareness is not sufficient (for alternative measures, see Rebuschat, in press-a). The verbal reports collected at the end of the experiment were helpful in determining what aspects of the semiartificial language subjects had consciously noticed. At the same time, verbal reports were clearly not sensitive enough to assess whether subjects were aware of the knowledge they had acquired. Confidence ratings and source attributions provided a very useful method for capturing low levels of awareness and to observe the conscious status of both structural and judgment knowledge. Future experiments on first language and L2 acquisition would benefit from the introduction of this relatively simple, but effective way of measuring implicit and explicit knowledge.

As far as the assessment of learning effects is concerned, it would be useful to explore whether the binary grammaticality judgments used in this study are an adequate measure of learning. It could be, for example, that learning would not have appeared as constrained if more sensitive measures had been used. Scott and Dienes (2008) have shown that familiarity is the essential source of knowledge in AGL, which suggests that, in terms of offline measures, familiarity or preference judgments might be more suitable. The use of online measures in particular, for example, tracking eye movements, recording response latency (e.g., in a rapid serial visual presentation task), or measuring event-related potentials (e.g., Tokowicz & MacWhinney, 2006), seems to be a promising way to assess the knowledge underlying native-speaker intuitions. Finally, it should also be noted that the two experiments above focused on comprehension tasks. Given that communication involves both comprehension and production of language, it would be important