Dear Editor:

We would like to submit our manuscript entitled “The specificity of sequential Statistical Learning.” The material contained in the manuscript has not been published and is not under consideration for publication elsewhere. Data and analysis scripts are available at https://figshare.com/s/034ffd692a26bbf91024. (The link will be changed to DOI 10.25383/city.15066468 should the manuscript be accepted.)

Statistical Learning allows humans and other animals to link together regular co-occurring elements in many domains. In humans, such Statistical Learning mechanisms may support many cognitive processes, especially language acquisition. However, while such mechanisms are often remarkably tuned to specific learning situations, their function during language acquisition is debated. Focusing on how words are learned from fluent speech, we find reliable Statistical Learning under the conditions used in all earlier investigations of statistical word learning, presumably because these conditions are conducive for predicting upcoming elements. However, we do not observe Statistical Learning under conditions where words actually need to be acquired and show that it is dissociable from the memory mechanisms required to acquire words. Statistical Learning and (declarative) memory might thus have distinct and specialized functions during language acquisition.

We believe that this manuscript will be exciting news for the readership of *PNAS*, and we hope that you agree.

Sincerely,

Ansgar Endress & Maureen de Seyssel