



Seminar Series for Joint East-West Early Language Project

アジア欧米言語獲得研究“JEWEL”プロジェクト セミナーシリーズ

Seminar Series #11

*Modeling early phonetic
learning from natural speech*



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30 Jun. 2023

9:00-10:30 (JST)

Zoom Webinar

Admission: Free

Registration site ↓



This seminar series was supported by JSPS Grant-in-Aid for Specially Promoted Research Grant number JP20H05617: “Compensatory contribution of linguistic and social factors for early language acquisition: Cross linguistic study between European and Asian languages”

Modeling early phonetic learning from natural speech

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Theories of language acquisition have typically been developed using an idealization of the phonetic learning problem. For example, phonetic category learning models have used input that is much less variable than the speech children hear and have assumed that learners already know which dimensions of the speech signal to pay attention to. In this talk, I use a series of modeling studies to argue that taking seriously the complexity of children's speech input has major implications for theories of phonetic learning.

We have worked to create models that work on naturalistic speech after finding that phonetic learning models that were developed on simplified data fail when trained on more realistic data. Our first strategy has been to question theories of what is being learned: perhaps infants are acquiring a language-specific perceptual space during their first year of life, rather than a set of phonetic categories. Our second strategy has been to question theories of the learning mechanism: perhaps rather than looking for distinct acoustic clusters of sounds corresponding to phones, learners can use statistical information that is more reliable in naturalistic speech. In each case, we have found that the models that succeed in phonetic learning on naturalistic speech differ in important ways from previous theories. This work raises new questions about what young infants know about the sounds of their language and underscores the need to take into account the complexity of the data that children hear when building theories of language acquisition.

This is joint work with Kasia Hitczenko, Thomas Schatz, Yevgen Matuskevych, Xuan-Nga Cao, Herman Kamper, Emmanuel Dupoux, and Sharon Goldwater.