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The amount of language exposure determines nonlinguistic tone grouping biases in infants from a bilingual environment [Texto impreso]/ Monika Molnar, Marie Lallier, Manuel Carreiras

Este artículo se encuentra disponible en su edición impresa y electrónica. Los datos para su localización y/o acceso electrónico están accesibles a través del enlace al título de la publicación.

References: p. 61-64

Duration-based auditory grouping preferences are presumably shaped by language experience in adults and infants, unlike intensity-based grouping that is governed by a universal bias of a loud-soft preference. It has been proposed that duration-based rhythmic grouping preferences develop as a function of native language phrasal prosody. Additionally, it has been suggested that phrasal prosody supports syntax acquisition (e.g., prosodic bootstrapping of word order within phrases). Using a looking preference procedure, in the current study, 9-to-10-month-old Spanish-dominant and Basque-dominant bilingual infants' rhythmic preferences in response to nonlinguistic tones alternating in duration or intensity were assessed. In the intensity-based condition no effects of language experience were present. In the duration-based condition, however, infants exhibited grouping patterns as predicted by the phrasal prosody of their dominant input. Considering the proposed link between syntactic bootstrapping and perceptual tone grouping, our overall results suggest that syntax acquisition (e.g., learning the rules of word order) is supported by different auditory perceptual mechanisms for the dominant syntax than for the less dominant syntax in the infant's dual language input.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 45-64

1. Bilingualism 2. Infancy 3. Language dominance 4. Nonlinguistic tones 5. Novelty and familiarity preference 6. Perceptual grouping 7. Prosodic bootstrapping

2

Discrimination of rhythmic pattern at 4 months and language performance at 5 years [Texto impreso] : a longitudinal analysis of data from german-learning children / Barbara Höhle, Sabina Pauen, Volker Hesse, Jürgen Weissenborn

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References: p. 158-164

In this article we report on early rhythmic discrimination performance of children who participated in a longitudinal study following children from birth to their 6th year of life. Thirty-four children including 8 children with a family risk for developmental language impairment were tested on the discrimination of trochaic and iambic disyllabic sequences when they were 4 months old. At 5 years of age, standardized measures on language performance (SETK3-5) and nonverbal intelligence (SON-R) were obtained. Overall, evidence of discrimination of the rhythmic patterns was found only for children without a family risk. The performance in early rhythmic discrimination correlated with the later outcomes in SETK3-5 subtests on sentence comprehension and morphological skills, but not with subtests related to memory performance nor with nonverbal intelligence. Our results suggest that indicators of language development can be discovered as early as 4 months of age, and seem to correlate with later outcomes in rather specific language skills.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 141-164

1. Early speech perception and later language performance 2. Family risk for SLI 3. Rhythmic discrimination

3**Languages as categories [Texto impreso] : reframing the "one language or two" question in early bilingual development/ Krista Byers-Heinlein**

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References: p. 195-201

One of the most enduring questions in the field of bilingualism is whether bilingual infants and children initially have one language system or two. Research with adults indicates that, while bilinguals do not represent their languages in two fully encapsulated language systems, they are able to functionally differentiate their languages. This article proposes that bilinguals differentiate their languages insofar as they can treat elements of their languages as belonging to different categories. Several lines of research with bilingual adults and children are considered in the context of perceptual and conceptual language categories. The article ends with a discussion of how language categories might emerge over the course of early bilingual development and outlines directions for future research.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 184-201

1. Bilingualism 2. Categorization 3. Children 4. Language differentiation 5. Language discrimination 6. Language separation

4**The neural substrates of infant speech perception [Texto impreso] / Fumitaka Homae, Hama Watanabe, Gentaro Taga**

Este artículo se encuentra disponible en su edición impresa y electrónica. Los datos para su localización y/o acceso electrónico están accesibles a través del enlace al título de la publicación.

References: p. 23-26

Infants often pay special attention to speech sounds, and they appear to detect key features of these sounds. To investigate the neural foundation of speech perception in infants, we measured cortical activation using near-infrared spectroscopy. We presented the following three types of auditory stimuli while 3-month-old infants watched a silent movie: (1) normal speech sounds; (2) sine wave speech (SWS) sounds consisting of three sine waves that tracked the first, second, and third formants of speech sounds; and (3) synthesized tones composed of three pure tones. Statistical analyses of oxygenated hemoglobin (oxy-Hb) signals revealed significant activation in the left and right auditory areas in all conditions. Direct comparisons of oxy-Hb signal changes between SWS and synthesized tones showed significant differences in the left frontal and temporal regions. Furthermore, comparisons of oxy-Hb signal changes between speech sounds and SWS exhibited significant differences in a left posterior temporal region. These results demonstrated that functional differentiation occurs in the left temporal cortex while infants perceive different types of auditory information. Coactivation of the left temporal and frontal regions by speech sounds suggests the initial formation of a left fronto-temporal network related to infant speech processing. Clarification of the functional role of this left-lateralized network will help understand the speech code.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 6-26

1. Developing brain 2. Formant 3. Functional connectivity 4. Functional differentiation 5. Language acquisition 6. Language network 7. NIRS 8. Speech sounds

5

Distributional language learning [Texto impreso] : mechanisms and models of category formation / Richard N. Aslin, Elissa L. Newport

Este artículo se encuentra disponible en su edición impresa y electrónica. Los datos para su localización y/o acceso electrónico están accesibles a través del enlace al título de la publicación.

References: p. 103-105

In the past 15 years, a substantial body of evidence has confirmed that a powerful distributional learning mechanism is present in infants, children, adults and (at least to some degree) in nonhuman animals as well. The present article briefly reviews this literature and then examines some of the fundamental questions that must be addressed for any distributional learning mechanism to operate effectively within the linguistic domain. In particular, how does a naive learner determine the number of categories that are present in a corpus of linguistic input and what distributional cues enable the learner to assign individual lexical items to those categories? Contrary to the hypothesis that distributional learning and category (or rule) learning are separate mechanisms, the present article argues that these two seemingly different processes—acquiring specific structure from linguistic input and generalizing beyond that input to novel exemplars actually represent a single mechanism. Evidence in support of this single-mechanism hypothesis comes from a series of artificial grammar-learning studies that not only demonstrate that adults can learn grammatical categories from distributional information alone, but that the specific patterning of distributional information among attested utterances in the learning corpus enables adults to generalize to novel utterances or to restrict generalization when unattested utterances are consistently absent from the learning corpus. Finally, a computational model of distributional learning that accounts for the presence or absence of generalization is reviewed and the implications of this model for linguistic-category learning are summarized.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 86-105

1. Child language 2. Generalization 3. Grammatical categories 4. Infancy 5. Rule learning 6. Statistical learning

6

The role of production in infant word learning [Texto impreso]/ Marilyn May Vihman, Rory A. DePaolis, Tamar Keren-Portnoy

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References: p. 136-140

Studies of phonological development that combine speech-processing experiments with observation and analysis of production remain rare, although production experience is necessarily relevant to developmental advance. Here we focus on three proposals regarding the relationship of production to word learning: (1) Articulatory filter: The hypothesis that children are influenced in noticing words in input speech by their resemblance to patterns they can produce has recently received experimental support. (2) Systematization and regression: It is proposed that the decline in accuracy that follows first-word production is the consequence of an increase in systematicity (with renewed accuracy emerging only later). (3) Word-production experience facilitates new word learning: Evidence that expressive vocabulary growth in itself facilitates new word learning supports the idea that knowledge is gradient, involving increases in stability and reliability with repeated exposure and use.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 121-140

1. Articulatory filter 2. Infant speech processing 3. Infant vocal production 4. Phonological templates 5. Word learning

7**Sounds and meanings working together [Texto impreso] : word learning as a collaborative effort / Jenny Saffran**

Este artículo se encuentra disponible en su edición impresa y electrónica. Los datos para su localización y/o acceso electrónico están accesibles a través del enlace al título de la publicación.

References: p. 118-120

Over the past several decades, researchers have discovered a great deal of information about the processes underlying language acquisition. From as early as they can be studied, infants are sensitive to the nuances of native-language sound structure. Similarly, infants are attuned to the visual and conceptual structure of their environments starting in the early postnatal period. Months later, they become adept at putting these two arenas of experience together, mapping sounds to meanings. How might learning sounds influence learning meanings, and vice versa? In this article, I describe several recent lines of research suggesting that knowledge concerning the sound structure of language facilitates subsequent mapping of sounds to meanings. I will also discuss recent findings suggesting that, from its beginnings, the lexicon incorporates relationships among the sounds and meanings of newly learned words.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 106-120

1. Infancy 2. Speech perception 3. Statistical learning 4. Word learning

8**Toward establishing continuity in linguistic skills within early infancy [Texto impreso] / Amanda Seidl, Brian French, Yuanyuan Wang, Alejandrina Cristia**

Este artículo se encuentra disponible en su edición impresa y electrónica. Los datos para su localización y/o acceso electrónico están accesibles a través del enlace al título de la publicación.

References: p. 181-183

A growing research line documents significant bivariate correlations between individual measures of speech perception gathered in infancy and concurrent or later vocabulary size. One interpretation of this correlation is that it reflects language specificity: Both speech perception tasks and the development of the vocabulary recruit the same linguistic modules. However, correlations between infant cognitive measures (such as visual recognition memory) and vocabulary are also significant and display comparable strength. Can all of these correlations be reduced to extremely general rather than specific factors affecting performance in all laboratory tests? We take a first step in addressing this possibility by estimating the covariance matrix among two speech tasks (preference for the predominant stress pattern and native vowel discrimination) and two cognitive tasks (visual recognition memory and A-not-B), all of them gathered in the same group of infants tested between 5 and 8 months of age. Only the correlation between the two speech tasks was significant, lending little support to the generalist explanation. These data illustrate how a multivariate approach may inform our understanding of how infants build language in the first year of life and beyond. Future multivariate work following up on the same infants longitudinally will be better able to tease apart cognitive and linguistic contributions to vocabulary development.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 165-183

1. Early predictors 2. Individual differences 3. Infant speech perception

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**Utterance-final lengthening is predictive of infants' discrimination of english accents
[Texto impreso] / Laurence White, Caroline Floccia, Jeremy Goslin, Joseph Butler**

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References: p. 40-43

Infants in their first year manifest selective patterns of discrimination between languages and between accents of the same language. Prosodic differences are held to be important in whether languages can be discriminated, together with the infant's familiarity with one or both of the accents heard. However, the nature of the prosodic cues that actually facilitate infant discrimination has not been directly examined. We analyzed the accent discrimination of 5- and 7-month-old British English infants, looking for durational features that could predict a range of discrimination results using the Headturn Preference Procedure. We previously found that both 5- and 7-month-olds based in Plymouth could discriminate Plymouth-accented and Welsh-accented English, while 5-month-olds could not discriminate Welsh-accented and Scottish-accented English. Most surprisingly, 7-month-olds failed to discriminate Plymouth-accented and French-accented English. From half of all utterances used in these four experiments, we calculated a range of durational metrics, both globally across utterances and locally at utterance-final edges. Utterance-edge metrics were the relative duration of the final consonant+vowel interval ($n_{finalCV}$) and the final vowel alone (n_{finalV}). Separately for 5- and 7-month-olds, we determined the difference in scores for all durational metrics between: (a) familiar training and novel test utterances and (b) familiar test and novel test utterances. Regression analyses showed unique predictors of discrimination. For 5-month-olds, the predictor was the difference in $n_{finalCV}$ between familiar training and novel test utterances. For 7-month-olds, the predictor was the difference in n_{finalV} between familiar test and novel test utterances. This demonstrates an early sensitivity to precisely those localized timing features that are useful across languages for segmentation. We therefore predict that similar sensitivity should be shown in infants of other language backgrounds.

Language learning. -- 2014 (September), v. 64, supp. 2, p. 27-44

1. Accent discrimination 2. Final lengthening 3. Infant speech perception 4. Prosody