

Manifold alignment, vocal imitation, and the perceptual magnet effect

Andrew R. Plummer

The Ohio State University
plummer@ling.ohio-state.edu

Poster Presented at the International Child Phonology Conference, June 5, 2012

References

- Boë, L.-J. and Maeda, S. (1997). Modélisation de la croissance du conduit vocal. Éspace vocalique des nouveaux-nés et des adultes. Conséquences pour l'ontogenèse et la phylogénèse. In *Journée d'Études Linguistiques: "La Voyelle dans Tous ces États"*, pages 98–105. Nantes, France.
- Davenport, R. K. (1976). Cross modal perception in apes. *Annals of the New York Academy of Sciences*, 280:143–149.
- Fitch, W. T. (2004). Evolving honest communication systems: Kin selection and "mother tongues". In Oller, D. K. and Griebel, U., editors, *Evolution of Communication Systems: A Comparative Approach*, pages 275–296. MIT Press., Cambridge, Massachusetts.
- Fitch, W. T. (2010). Musical protolanguage: Darwin's theory of language evolution revisited. *Language Log*.
- Guenther, F. H. and Gjaja, M. N. (1996). The perceptual magnet effect as an emergent property of neural map formation. *J. of the Acoustical Society of America*, 100:1111–1121.
- Ham, J., Lee, D. D., and Saul, L. K. (2005). Semisupervised alignment of manifolds. In Ghahramani, Z. and Cowell, R., editors, *Proc. of the Ann. Conf. on Uncertainty in AI*, volume 10, pages 120–127.
- James, W. (1890). *The Principles of Psychology*. Macmillan, London.
- Kuhl, P. K. (1991). Human adults and human infants show a "perceptual magnet effect" for the prototypes of speech categories, monkeys do not. *Perception & Psychophysics*, 50:93–107.
- Kuhl, P. K. and Meltzoff, A. N. (1982). The bimodal perception of speech in infancy. *Science*, 218(4577):1138–1141.
- Kuhl, P. K. and Meltzoff, A. N. (1996). Infant vocalizations in response to speech: Vocal imitation and developmental change. *Journal of the Acoustical Society of America*, 100(4):2425–2438.
- Lippmann, W. (1922). *Public Opinion*. The Macmillan Company, New York, NY.
- Masataka, N. (2003). *The Onset of Language*. Cambridge University Press, Cambridge, UK.
- Meltzoff, A. (2007). The 'like me' framework for recognizing and becoming an intentional agent. *Acta Psychologica*, 124:26–43.
- Moore, B. C. J., Glasberg, B. G., and Baer, T. (1997). A model for the prediction of thresholds, loudness, and partial loudness. *Journal of the Audio Engineering Society*, 45(4):224–240.
- Munson, B., Ménard, L., Beckman, M. E., Edwards, J., and Chung, H. (2010). Sensorimotor maps and vowel development in English, Greek, and Korean: A cross-linguistic perceptual categorization study (A). *Journal of the Acoustical Society of America*, 127:2018.
- Wolpert, D. M., Ghahramani, Z., and Jordan, M. I. (1995). An internal model for sensorimotor integration. *Science*, 269(5232):1880–1882.