

PLINX204 PSYCHOLINGUISTICS LANGUAGE ACQUISITION - 2006

This course, which is open to BA and MA students, will extend over one term, beginning at 10 a.m. on Thursday January 12th, 2006 in the Lankester Lecture Theatre.

This year's course will be devoted to evidence concerning the genetic (innate) basis for language acquisition. I plan to cover most of the topics indicated in the following schedule of lectures, but I reserve the right to make changes to this list at short notice.

The faculty of language "is some kind of expression of the genes" (Chomsky, 2000:187),

1. Overview

The 'innateness hypothesis' and its implications.
Nature *versus* nurture and the need for both. Risk factor analysis.
Types of evidence: *A priori* evidence; evidence from linguistics, from learnability; from neuro-anatomy and brain-imaging; from behavioural and molecular genetics. The challenge of Minimalism – is anything innate specific to language?

Basic reading: Smith, 2005: ch.9; Stromswold, 2001; Bishop, 2003.

2. Linguistic evidence (1)

Universals; Poverty of the Stimulus; speed and age dependence of normal first *versus* second language acquisition (Critical periods); Emergent categories.

Basic reading: Scholz & Pullum, 2002; Smith, 2002: ch. 16.

3. Linguistic evidence (2)

Evolutionary considerations; FLB *vs.* FLN; Comparative analysis; Species-specificity; Domain specificity; Convergence among grammars; Parametric cascades (if there are any); Modality – signed *vs.* spoken language.

Basic reading: Hauser et al, 2002; Petitto, 2005.

4. Behavioural Genetics (1)

Heritability and individual differences. Epidemiology and familial aggregation; the KE family. Individual differences in the rate of language acquisition by children, and proficiency in the adult. Variance in language disorders. Written *vs.* spoken language abilities/disorders. Multivariate genetic analysis.

Basic reading: Plomin et al, 2002; Marcus & Fisher, 2003; Stromswold, 2001.

5. Behavioural Genetics (2)

Twin (MZ/DZ), Adoption and Linkage studies. TEDS; Colorado Adoption Project. Modularity vs. modularisation. Continuity vs. discontinuity (maturation).

Basic reading: Plomin & Dale, 2000; Stromswold, 2001; Friederici, 2005.

Reading week

6. Molecular genetics (1)

Elementary genetics: from genotype to phenotype. Mendel's laws; chromosomes, genes, alleles, polymorphism. Pleiotropy vs. convergence – i.e. polygenic phenomena (e.g. autism). Epigenetic considerations. FOXP2 – the KE family revisited; of mice and men

Basic reading: Plomin et al, 2000; Stromswold, 2001; Newbury et al, 2005. Müller (2004), Elman et al. 1996.

7. Molecular genetics (2)

QTL (Quantitative Trait Locus) analysis. Developmental dysphasia and dyslexia. Spoken and written language. PET (Positron Emission Tomography) and the genetics of Phonology. NWR (Non-word repetition) and STM (Short-term memory); The relation to SLI. Risk-factor models.

Basic reading: Stromswold, 2001; Plomin et al, 2002; Newbury et al, 2005

8. Language acquisition in pathology (1)

Autism and SLI.

Basic reading: Müller, 2004; Bartlett et al, 2002; Bishop, 2003.

9. Language acquisition in pathology (2)

Williams syndrome and Down syndrome.

Basic reading: Scerif & Karmiloff-Smith, 2005; Zukowski, 2004.

10. Are there really 'disorders' of language and its acquisition, or just a continuum of differential ability? Universals revisited: Individual differences and their central importance. Risk factor analysis. Summary and Conclusions.

Basic reading: Plomin & Dale, 2000; Plomin & Kovas, 2005; Bishop, 2003.

I will not presuppose any knowledge of genetics, but will provide relevant background information as appropriate.

References for the 'basic reading' are given below. A fuller list will be handed out at the first lecture and further items may be specified in hand-outs at the respective lectures. A good general overview (albeit intermittently contentious) is provided by Bishop, 2003.

Back-up classes will be with Richard Breheny (for BA students) or me (for MA students). Richard's back-ups will be at 1.00 – 2.00 on Mondays in Room 5, 20 Gordon Square, and at 10.00 -11.00 on Wednesdays in Cruciform B.1. The MA back-up will be scheduled at the first lecture.

The course will be evaluated on the basis of an essay or project on a subject approved by Richard and/or me. A list of possible essay titles will be distributed at the first lecture. It is usual, but not necessary, that the subject of your essay be restricted to topics covered in the lectures – hence to one of the topics suggested, but if you wish to discuss Motherese in Amharic, the acquisition of Tzeltal Morphology, Connectionist accounts of phonological development in Danish, or whatever, consult me.

Undergraduate essays, which should be about 3000 words long, must be handed in to the departmental secretary in 20 Gordon Square by 12 noon on Tuesday 2nd May, 2006 without fail. MA students taking Language Acquisition as their Option should write an essay of about 5000 words, which should be handed in to the departmental secretary by the same time and date.

References

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Bishop, D. (2003) "Genes and language". In: T. Krude (Ed.), *DNA: Changing Science and Society*. Cambridge, Cambridge University Press. pp 144-165.

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Friederici, A. (2005) "Neurophysiological markers of early language acquisition: from syllables to sentences". *Trends in Cognitive Sciences* 9:481-488.

Hauser, M., N. Chomsky & W. Tecumseh Fitch (2002) "The faculty of language: What is it, who has it, and how did it evolve?" *Science* 298:1569-1579 (November 22).

Marcus, G. & S. Fisher (2003) "FOXP2 in focus: what can genes tell us about speech and language?" *Trends in Cognitive Sciences* 7:257-262.

- Müller, R.-A. (2004) “Genes, language disorders, and developmental archaeology: What role can neuroimaging play?” In M.L. Rice & S.F. Warren (eds.) *Developmental Language Disorders: From Phenotypes to Etiologies*. Erlbaum. pp. 291-328.
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- Scerif, G. & A. Karmiloff-Smith (2005) “The dawn of cognitive genetics? Crucial developmental caveats”. *Trends in Cognitive Sciences* 9:126-135.
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