

CURRICULUM VITAE

Michael Ramscar

Stanford University
Department of Psychology
356 Jordan Hall, Stanford, 94305
Cognition, Language and Learning Lab
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RESEARCH INTERESTS

- General: Learning; language acquisition; mental representation; meaning and usage; memory; analogy; metaphor; concepts and categorization; cognitive.
- Specific:
- (1) The nature of human knowledge representation
 - (2) Statistical and probabilistic learning
 - (3) Learning and learnability in language acquisition
 - (4) Probabilistic modeling of syntax
 - (5) Language learning and bilingualism
 - (6) The development of human learning processes
 - (7) The nature and development of cognitive control
 - (8) Imitation and the development of cognitive agency
 - (9) The relationship between explicit and implicit learning
 - (10) Levels of representation in mental processing
 - (11) Applications of learning research to education and training

PROFESSIONAL WORK EXPERIENCE

- Academic
- Stanford University, Stanford, CA, (joined faculty 2002)
Presently – Assistant Professor, Psychology Department
- Edinburgh University, Division of Informatics
1999-2000, Lecturer, Computational Models of Human Cognition
- Edinburgh University, Department of Artificial Intelligence
1997-1999, Lecturer (faculty rank)
- Edinburgh University, Department of Architecture
1991-1996, Research Associate

EDUCATION

- 2001 Massachusetts General Hospital, Boston, MA
APA Advanced Training Institute in fMRI
- 1995-1999 Edinburgh University, Edinburgh, Scotland
Ph.D., Cognitive Science & Artificial Intelligence
- 1989-1990 Strathclyde University, Strathclyde, Scotland
MSc, Computer Science & Electronic Engineering
- 1986-1989 Kings College, University of London, England
B.A., Philosophy, with Honours

RESEARCH AWARDS AND GRANTS

- 2007 Received \$750,000 award from NSF (Co-PIs Bresnan, Jurafsky & Wasow) in support of research into the probabilistic nature of grammar.
- 2006 Received \$400,000 CAREER award from NSF in support of language learning research.
- 2003 Awarded \$25,000 grant by Stanford OTL in support of language learning research.
- 1999 Awarded \$100,000 grant by EPSRC in support of analogy modelling research
- 1999 Awarded one of 5 “Enterprise Ireland” Post-Doctoral Fellowships (declined)
- 1994 Awarded \$200,000 by EPSRC to the Department of Architecture, Edinburgh University in support of design modelling research.

PUBLICATIONS IN PEER REVIEWED JOURNALS

In preparation

Ramscar, M., Dye, M., & Yarlett, D. Language as prediction.

Ramscar, M. & Dye, M. No representation without taxation: The costs and benefits of learning to conceptualize the environment.

Ramscar, M. Wittgenstein and the Psychological Utility of Concepts.

Muenke, H. & Ramscar, M. Learning to explore the world through its statistics: Infants' visual search in the A-not-B task

Arnon, I., & Ramscar, M. Granularity and the acquisition of grammatical gender: How order-of-acquisition affects what gets learned.

Under Review

Ramscar, M. & Dye, M. (2009) Expectation and error distribution in language learning: the curious absence of ‘mouses’ in adult speech. Nature.

Ramscar, M., Dye, M., Witten, J., & Klein, J. (2008) Two routes to cognitive flexibility: Learning and response conflict resolution in the dimensional change card sort task. Child Development.

Ramscar, M., Holmes, K., Dye, M., Kirkham, N., & Gitcho, N. (2008) The roles of cognitive control and language in the development of false belief understanding. Child Development.

Yarlett, D., Ramscar, M & Dye, M. (2007) Language learning through similarity-based generalization. Cognitive Science.

Ramscar, M., & Dye, M. (2007) Learning Language from the Input: Why innate constraints aren't needed in compounding. Journal of Experimental Psychology.

2009

Ramscar, M., Yarlett, D., Dye, M., Denny, K., & Thorpe, K. (*in press*) Feature-Label-Order effects and their implications for symbolic learning. Cognitive Science.

Ramscar, M., Matlock, T., & Dye, M. (*in press*) Running down the clock: the role of expectation in our understanding of time and motion. Language and Cognitive Processes.

Thompson-Schill, S., Ramscar, M., & Chrysikou, M. (2009) Cognition without control: When a little frontal lobe goes a long way. Current Directions in Psychological Science, 8(5).

St. Clair, M., Monahan, P., & Ramscar, M. (2009) Relationships between Language Structure and Language Learning: The Sufficing Preference and Grammatical Categorization. Cognitive Science, 33(7): 1317-1329.

2007

Ramscar, M.J.A. & Yarlett, D. (2007) Linguistic self-correction in the absence of feedback: A new approach to the logical problem of language acquisition Cognitive Science, 31, 927-960.

Ramscar, M.J.A. & Gitcho, N. (2007). Developmental change and the nature of learning in childhood. Trends In Cognitive Science, 11(7), 274-279.

2006

Alloway, T.P., Corley, M., & Ramscar, M.J.A. (2006). Seeing ahead: Experience and language in spatial perspective. Memory and Cognition, 34, 380-386.

2005

Matlock, T, Ramscar, M.J.A., & Boroditsky, L. (2005). The experiential link between spatial and temporal language. Cognitive Science, 29, 655-664.

2003

Ramscar, M.J.A. and Yarlett, D.G. (2003) Grounding Semantics in Analogical Processing: An Environmental Approach. Cognitive Science, 27, 41-71.

Yarlett D.G. and Ramscar M.J.A. (2003). Overfurnishing Empiricism? Metascience, 12(3), 279-303.

2002

Ramscar, M.J.A. (2002) The role of meaning in inflection: Why the past tense doesn't require a rule. Cognitive Psychology, 45(2), 45-94.

Boroditsky, L. & Ramscar, M.J.A. (2002) The roles of body and mind in abstract thought. Psychological Science, 13(2), 185-188.

1998

Ramscar, M.J.A., Lee, J.R., and Pain, H.G. (1998) Reply to Per Galle's: 'Product Modelling: 20 years of Stalemate?' Design Studies, 19, 241-244.

1996

Ramscar, M.J.A., Lee, J.R., and Pain, H.G. (1996) A classification-based methodology for the integration of agent views within design systems. Design Studies, 17, 465-483.

ABSTRACTS IN PEER REVIEWED JOURNALS

Davidenko, N., Remus, D., Ramscar, M., & Grill-Spector, K. (2008). Stronger face-selective responses to typical versus distinctive faces when stimulus variability is controlled. Journal of Vision, 8(6), 531

Davidenko, N., & Ramscar, M. (2005). The distinctiveness effect reconsidered: Poorer recognition of distinctive face silhouettes. Journal of Vision, 5(8), 981.

COMMENTARIES IN PEER REVIEWED JOURNALS

Ramscar, M. (2003) The past-tense debate: exocentric form versus the evidence. Trends in Cognitive Science, 7(3), 107-8.

Boroditsky, L. & Ramscar, M.J.A. (2001). "First, we assume a spherical cow..." A commentary on Tenenbaum & Griffiths, Generalization, Similarity, and Bayesian Inference. Behavioral & Brain Sciences.

EDITED BOOK

Hahn, U and Ramscar, M.J.A, (2001). Similarity and Categorization. Oxford: Oxford University Press.

Ramscar, M., Hahn, U., Pain, H., & Cambouropoulos, C. (Eds.) (1997). Proceedings of the International Workshop on Similarity and Categorization, University of Edinburgh 1997. Department of Artificial Intelligence, University of Edinburgh.

BOOK CHAPTERS

Ramscar, M., Boroditsky, L., & Matlock, T. (*in press*). Time, motion and meaning - the experiential basis of abstract thought. In Language is spatial, not special: Using space for language and memory. L. Smith, K. Mix, & M. Gasser (Eds.), Spatial Foundations of Cognition and Language. Oxford University Press.

Hahn, U. and Ramscar, M.J.A. (2001) Mere similarity? In U. Hahn & M.J.A. Ramscar, (eds.) Similarity and Categorization. Oxford: Oxford University Press.

Ramscar, M.J.A. and White, R.H. (1993) A Goal Driven Approach to Knowledge Extraction. In H. Kangassola (ed) Information and Knowledge Modelling - Frontiers in Artificial Intelligence. Amsterdam: ISO Press. 196-206.

SELECTED PUBLICATIONS IN CONFERENCE PROCEEDINGS:

2009

Ramscar, M., & Dye, M. (2009) No representation without taxation: The costs and benefits of learning to conceptualize the environment. 2nd International Analogy Conference, Sophia, Bulgaria.

Ramscar, M., & Dye, M. (2009) Error and expectation in language learning: An inquiry into the many curious incidents of ‘mouses’ in adult speech. Proceedings of the 31st Meeting of the Cognitive Science Society, Amsterdam, Netherlands.

Ramscar, M., Yarlett, D., Dye, M., & Kalchbrenner, N. (2009) The Feature-Label-Order Effect in Symbolic Learning. Proceedings of the 31st Meeting of the Cognitive Science Society, Amsterdam, Netherlands.

Ramscar, M., Dye, M., Witten, J., & Klein, J. (2009) Two routes to cognitive flexibility: Learning and response conflict resolution in the dimensional change card sort task. Proceedings of the 31st Meeting of the Cognitive Science Society, Amsterdam, Netherlands.

Arnon, I., & Ramscar, M. (2009) Granularity and the acquisition of grammatical gender: How order of acquisition affects what gets learned. Proceedings of the 31st Meeting of the Cognitive Science Society, Amsterdam, Netherlands.

2008

Arnon, I., & Ramscar, M. (2008) How order-of-acquisition shapes language learning: the case of grammatical gender. Boston University Conference on Language Development, Boston, MA.

2007

Ramscar, M., Thorpe, K.L., & Denny, K.G., (2007) Surprise in the learning of color words. Proceedings of the 29th Meeting of the Cognitive Science Society, Nashville, TN.

Bannard, C. & Ramscar, M. (2007). Reading time evidence for storage of frequent multiword sequences. Proceedings of Architectures and Mechanisms for Language Processing 2007, Turku, Finland.

2003

Davidenko, N., & Ramscar, M. (2003) Age and gender: similarly cued from silhouetted face profiles. Proceedings of the 25th Annual Conference of the Cognitive Science Society. Boston, MA.

Yarlett D.G. and Ramscar M.J.A (2003). Belief Revision in Causal Induction Proceedings of the 25th Annual Conference of the Cognitive Science Society. Boston, MA.

2002

Yarlett D.G. and Ramscar M.J.A. (2002). A Quantitative Model of Counterfactual Reasoning. Advances in Neural Information Processing Systems 14, MIT Press.

Ramscar, M.J.A. (2002) When the fly flied and when the fly flew: The effects of semantics on past tense inflection, Proceedings of the 24th Annual Conference of the Cognitive Science Society. Fairfax, VA.

Yarlett D.G. and Ramscar M.J.A. (2002). Uncertainty in causal and counterfactual inference. Proceedings of the 24th Annual Conference of the Cognitive Science Society. Fairfax, VA.

Boroditsky, L., Ham, W., & Ramscar, M.J.A (2002) What is universal in event perception? Comparing English & Indonesian speakers. Proceedings of the 24th Annual Conference of the Cognitive Science Society. Fairfax, VA.

2001

Lynott, D & Ramscar, M. J. A. (2001) Can we model conceptual combination using distributional information? Proceedings of the Twelfth Irish Conference on Artificial Intelligence and Cognitive Science, NUI, Maynooth, September, 2001.

Ramscar, M.J.A (2001). The influence of semantics on past-tense inflection. Proceedings of the 23rd Annual Conference of the Cognitive Science Society, University of Edinburgh

Boroditsky, L, Ramscar, M and Frank, M (2001) The roles of body and mind in abstract thought. Proceedings of the 23rd Annual Conference of the Cognitive Science Society. University of Edinburgh.

MacDonald, S and Ramscar, M (2001). Testing the Distributional Hypothesis: The Influence of Context on Judgements of Semantic Similarity. Proceedings of the 23rd Annual Conference of the Cognitive Science Society, University of Edinburgh.

Yarlett, D and Ramscar, M (2001). Structural Determinants of Counterfactual Reasoning. Proceedings of the 23rd Annual Conference of the Cognitive Science Society, University of Edinburgh.

Alloway, T, Ramscar, M and Corley, M (2001). The Role of Language on Thought in Spatio-temporal Metaphors. Proceedings of the 23rd Annual Conference of the Cognitive Science Society, University of Edinburgh.

Connell, L and Ramscar, M (2001). Using Distributional Measures to Model Typicality in Categorization. Proceedings of the 23rd Annual Conference of the Cognitive Science Society, University of Edinburgh

Connell, L. & Ramscar, M. (2001). Modeling canonical and contextual typicality using distributional measures. Proceedings of the Third International Conference on Cognitive Science, Beijing, China.

Lynott, D. & Ramscar, M. (2001). Modeling conceptual combination using distributional information. Proceedings of the Third International Conference on Cognitive Science, Beijing, China.

2000

Ramscar, M.J.A. and Yarlett, D.G. (2000) The use of a high-dimensional, "environmental" context space to model retrieval in analogy and similarity-based transfer. Proceedings of the 22nd Annual Conference of the Cognitive Science Society. University of Pennsylvania.

Yarlett, D.G. and Ramscar, M.J.A. (2000). Structure-Mapping Theory and Lexico-Semantic Information. Proceedings of the 22nd Annual Conference of the Cognitive Science Society. University of Pennsylvania.

Heneveld, A. Bundy, A. Ramscar, M.J.A. and Richardson, J. (2000) Memory-Based Problem Solving and Schema Induction in Go, Proceedings of the 22nd Annual Conference of the Cognitive Science Society. University of Pennsylvania.

Ramscar, M.J.A. (2000) Evidence for the processing of re-representations during the mapping of externally represented analogies. Proceedings of the 22nd Annual Conference of the Cognitive Science Society. University of Pennsylvania.

1998

Ramscar, M.J.A. and Hahn, U. (1998) Wittgenstein and the ontological status of analogy. In Holyoak, K, Gentner, D and Kokinov, B (eds.) Advances in Analogy Research. Sofia, Bulgaria: New Bulgarian University Press.

Ramscar, M.J.A. and Hahn, U. (1998) What family resemblances are not: The continuing relevance of Wittgenstein to the study of concepts and categories. Proceedings of the 20th Annual Conference of the Cognitive Science Society, University of Wisconsin - Madison.

Darrington, S., Lingstadt, T and Ramscar, M.J.A. (1998) Analogy as a sub-process of categorisation. . Proceedings of the 20th Annual Conference of the Cognitive Science Society, University of Wisconsin - Madison.

Ramscar, M.J.A. Pain, H.G., Darrington, S. and Lee, J. R. (1998) Examples and generalisations. Proceedings of the 20th Annual Conference of the Cognitive Science Society, University of Wisconsin - Madison.

1997

Ramscar, M.J.A. (1997) Wittgenstein and the representation of psychological categories, Similarity and categorisation: SimCat 97, Department of Artificial Intelligence, University of Edinburgh.

Ramscar, M.J.A., Pain, H.G., and Cooper, R. (1997) Is there a place for semantic similarity in the analogical mapping process? Proceedings of the 19th Annual Conference of the Cognitive Science Society, Stanford University.

1996

Ramscar, M.J.A. and Pain, H.G. (1996) Can a real distinction be made between cognitive theories of analogy and categorisation? Proceedings of the 18th Annual Conference of the Cognitive Science Society, University of California, San Diego.

ACADEMIC TALKS

2009

- 9th International Conference on Cognitive Modelling, Manchester, UK.
- 35th Annual Meeting for the Society of Philosophy & Psychology, Bloomington, Indiana.
- 31st Annual Conference of the Cognitive Science Society, Amsterdam, Netherlands.
- 42nd Annual Meeting of the Society for Mathematical Psychology, Amsterdam, Netherlands.
- 2nd International Analogy Conference, Sofia, Bulgaria.
- Invited talk, Stanford Humanities Center Research Workshops.
- Invited talk, Psychology Colloquium, UC Merced.

2008

- Invited talk, Department of Brain and Cognitive Sciences, MIT.
- Invited talk, Sackler Institute, Cornell University.
- Invited talk, Institute for Research in Cognitive Science, University of Pennsylvania.
- Invited talk, Social Psychology Seminar, Stanford University.

2007

- Invited talk, Department of Psychology, UT Austin.
- 29th Annual Conference of the Cognitive Science Society, Nashville, TN.

2006

- Invited talk, Distinguished Speaker Series, Department of Cognitive Science, UCSD.
- Invited talk, Department of Psychology, UT Austin.
- Invited talk, Sackler Institute, Cornell University.

2004-5

- Invited talk, Department of Cognitive Science, UCSD.
- Invited talk, Department of Brain and Cognitive Sciences, MIT.
- Invited talk, Department of Linguistics, UCSD.
- Invited talk, Department of Psychology, UC Berkeley.
- 45th Annual meeting of the Psychonomic Society, Minneapolis.

2003

- Invited talk, Workshop on Syntax, Semantics and Statistics, Neural Information Processing Systems, Vancouver, B.C.
- Invited talk, Developmental Brown Bag, Stanford University.
- Invited talk, Workshop on Spatial Foundations of Language, Indiana University, Bloomington.
- Invited talk, Department of Brain and Cognitive Sciences, MIT.
- Boston University Conference on Language Development, Boston, MA.
- 25th Annual Conference of the Cognitive Science Society, Boston, MA.
- 8th International Cognitive Linguistics Conference - Special Session on Fictive Motion.
- Invited talk, Department of Psychology, University of California, Santa Cruz.
- Invited Talk, Experimental Psychology Society Meeting, University College London.
- Invited talk, Symbolic Systems Forum, Stanford University.
- Invited talk, Social Psychology Seminar, Stanford University.

2002

Invited talk, "FRISEM" Cognitive Psychology Seminar, Stanford University.
Invited talk, Developmental Brown Bag, Stanford University.
Invited talk, Department of Psychology, Carnegie Mellon University.
Invited talk, Department of Psychology, Stanford University.
24th Annual Conference of the Cognitive Science Society, George Mason University.
43rd Annual meeting of the Psychonomic Society, Kansas City.
AMLaP (Architectures and Mechanisms for Language Processing), Canary Islands.

2001

Invited talk, Max Planck Institute of Evolutionary Anthropology, Leipzig.
Invited talk, Department of Psychology, Stanford University.
Invited talk, Linguistic Circle, Department of Linguistics, University of Edinburgh.
Invited talk, ICCS/HCRC Seminar, Division of Informatics, University of Edinburgh.
7th International Cognitive Linguistics Conference, UC Santa Barbara.
23rd Annual Conference of the Cognitive Science Society, University of Edinburgh.
Meeting of European Society for Cognitive Psychology and British Psychological Society, University of Edinburgh

2000

Invited talk, Department of Psychology, Stanford University.
Invited talk, Department of Computer Science, University College Dublin.
Invited talk, ICCS/HCRC Seminar, Division of Informatics, University of Edinburgh.
Invited talk, Informatics Jamboree, Division of Informatics, University of Edinburgh.
22nd Annual Conference of the Cognitive Science Society, University of Pennsylvania.

1998-9

Invited talk, Division of Informatics, University of Edinburgh.
20th Annual Conference of the Cognitive Science Society, Wisconsin-Madison.
International Workshop on Analogy, Sofia, Bulgaria.

1996-7

19th Annual Conference of the Cognitive Science Society, Stanford University.
International Workshop on Similarity and Categorisation, Edinburgh.
EuropIA 97, Department of Architecture, University of Edinburgh.
18th Annual Conference of the Cognitive Science Society, San Diego.

TEACHING

Graduate

- Information Theoretic Models of Language and Cognition, with Dan Jurafsky (2009)
- Aping: imitation and the development of control. (2006, 2008 & 2009)
- Seminar on Issues in Cognitive Psychology (2005)
- Birds to Words: Communication Cognition and Language, with Anne Fernald (2004, 2006 & 2007)
- Foundations of Cognition (2002, 2003, 2004, 2005, 2008 & 2009)
- Empirical and Analytical Research Methods (2001)
- Themes and Methods in Cognitive Psychology (1999 & 2001)
- Introduction to Cognitive Modelling (1996, 1997, 1998, 1999 & 2000)
- Advanced Topics in Cognitive Modelling (1998 & 1999)

- Artificial Intelligence and Psychology / Linguistics Large Practical (1998 & 1999)

Undergraduate

- Aping: imitation and the development of control (2005)
- Philosophical Issues in Artificial Intelligence (1999)
- Advanced Prolog Programming (1997 & 1998)

ADMINISTRATION

2008	Departmental computer committee
2005-2007	Stanford Institutional Review Board for Human Participants (Non-Medical)
2002-2006	Graduate Admission committee
1997-2001	AI Syllabus & Teaching committees
1999-2001	Cognitive Science Syllabus & Teaching committees
1997-2001	Degree Programme Co-ordinator for the AI & Psychology Degree
2000-2001	Degree Programme Co-ordinator for the AI & Linguistics Degree
1997-1999	Course Organiser for 1st Year AI

ADVISING

Stanford

- PhD

Nick Davidenko (Graduated 2006), Daniel Yarlett (Graduated 2008), Asha Smith (Graduated 2009), Adam November, Hanna Muenke & Inbal Arnon

- Masters

Kevin Holmes, Alicia Dantzker, Jessica Whitten & Joseph Klein

- Honours

Michael Frank, Jamila Amarshi, Fiona O'Donnell-McCarthy & Christine Tran

- Undergraduate

Justine Kao, Ariel James, Linda Diane Ruiz, Robert Ryan, Edward Suh, Benjamin Hersh, Andrew Suciu, Cassidy Vuong, Roddy Lindsay

Edinburgh

- MSc

2002 – Mattijs Van der Meer,

Danielle Matthews (CogSci)

2001 – Malte Huebner (CogSci) – Recipient of Best Student Dissertation Prize

Annabel Harrison (CogSci)

2000 – Dermot Lynott (CogSci) – Recipient of Best Student Dissertation Prize

Louise Connell (CogSci)

1999 – Daniel Yarlett (AI) - Awarded Xerox Prize for Best Dissertation

Robert Ahrens (AI)

- Honours

Supervised 18 honours theses in AI, Cognitive Science and Psychology

REVIEWING

Cognitive Science

Cognitive Neuroscience

Cognition

Cognitive Psychology

Journal of Experimental Psychology: Learning Memory & Cognition

Language & Cognitive Processes

Psychonomic Bulletin and Review

Trends In Cognitive Sciences

Memory and Cognition

Quarterly Journal of Experimental Psychology

Design Studies

Annual Conference of the Cognitive Science Society

Annual Conference of the European Artificial Intelligence Society (ECAI)

Grant reviews for the National Science Foundation

Grant reviews for the Engineering and Physical Science Research Council (UK)