

Alan Nielsen

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Research Interests

Learning	Cognition	Communication
Language Acquisition	Synaesthesia	Language Evolution
Language Development	Crossmodal Perception	Animal Communication
Artificial Language Learning	Emotion	Comparative Psychology
Memory	Sound-symbolism	Writing Systems
		Language Use
		Signaling Games

Academic Positions

Visiting Researcher 2016
Language and Cognition Group
Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands
Supervisors: Dr. Stephen Levinson, Dr. Mark Dingemanse

Education

PhD. Linguistics (Language Evolution and Computation) 2016
Thesis: *Systematicity, motivatedness, and the structure of the lexicon*
Center for Language Evolution
School of Philosophy, Psychology, and Language Sciences, The University of Edinburgh
Supervisors: Dr. Kenny Smith, Prof. Simon Kirby, Dr. Julia Simner
Examiners: Dr. Mits Ota (University of Edinburgh), Dr. Padraic Monaghan (Lancaster)

MSc. Psychology (Evolution and Behaviour) 2011
Thesis: *Sound Symbolism and the Boubu-Kiki effect: Uniting function and mechanism in the search for language universals*
School of Psychology
The University of Lethbridge
Supervisors: Dr. Drew Rendall, Dr. John Vokey, Dr. Bryson Brown

BSc. Psychology 2009
School of Psychology
The University of Lethbridge
Supervisors: Dr. Drew Rendall, Dr. David Logue

Peer Reviewed Publications

Parsing the role of consonants versus vowels in the classic Takete-Maluma phenomenon 2013

Alan Nielsen & Drew Rendall

Canadian Journal of Experimental Psychology, 67, 153-163.

The source and magnitude of sound symbolic biases in processing artificial word material and their implications for language learning and transmission 2012

Alan Nielsen & Drew Rendall

Language and Cognition, 4, 115-126.

The sound of round: Evaluating the sound-symbolic role of consonants in the classic Takete-Maluma phenomenon 2011

Alan Nielsen & Drew Rendall

Canadian Journal of Experimental Psychology, 65, 115-124.

Book Chapters

Comparative perspectives on human and primate communication: Grounding meaning in broadly conserved processes of voice production, perception, affect, and cognition In Press

Alan Nielsen & Drew Rendall

The Oxford Handbook of Voice Perception

Eds: Sascha Fruholz & Pascal Belin

Manuscripts in Preparation, Review, and Revision

- Sound-symbolic words are easier to learn, but inhibit learning of conventional words In Revision
Alan Nielsen, Julia Simner, Simon Kirby, & Kenny Smith
Submitted to *Journal of Experimental Psychology: Learning, Memory, and Cognition*- XLM-2016-2739
- Functions of iconicity in word learning and beyond: A critical review Submitted
Alan Nielsen & Mark Dingemanse
- The arbitrariness of the sign revisited: The role of phonological similarity in an artificial language learning paradigm In Prep
Alan Nielsen, Dieuwke Hupkes, Simon Kirby, & Kenny Smith
- Modelling the typological realisation of cognitive biases In Prep
Alan Nielsen & Bill Thompson
- The influence of signal space saturation on artificial language learning: Implications for the Sound-Symbolic Bootstrapping hypothesis In Prep
Alan Nielsen, Simon Kirby, & Kenny Smith

Conference Papers, Talks, and Symposia

- Modelling the typological realization of cognitive biases 2017
Alan Nielsen
Talk presented at Minds, Mechanisms, and Interaction in the Evolution of Language Workshop
Nijmegen, The Netherlands
- Overbiased transmission: Latent biases and local optima in the distribution of sound symbolism 2017
Bill Thompson & **Alan Nielsen**
Talk presented at Inaugural Cultural Evolution Society Conference
Jena, Germany
- Iconicity vs. Systematicity in artificial language learning 2017
Alan Nielsen, Julia Simner, Simon Kirby, & Kenny Smith
Poster presented at the 39th Annual Meeting of the Cognitive Science Society
London, United Kingdom

- Systematicity, motivatedness, and language learning 2017
Alan Nielsen, Julia Simner, Simon Kirby, & Kenny Smith
 Poster presented at the 2017 CLS-MPI Iconicity Focus Group Workshop
 Nijmegen, The Netherlands
- Iconic categories are easier to learn, but inhibit the learning of conventional meanings 2017
Alan Nielsen
 Talk presented at 11th International Symposium on Iconicity in Language and Literature
 Brighton, United Kingdom
- Recasting the magic bullet: Testing the limits of the effectiveness of iconicity for language learning 2017
Alan Nielsen, Julia Simner, Simon Kirby, & Kenny Smith
 Talk presented at Sound Symbolism and Crossmodal Correspondences
 Paris, France
- Systematicity, motivatedness, and language learning 2017
Alan Nielsen
 Talk presented at Max Planck Institute for Psycholinguistics Colloquium series
 Nijmegen, The Netherlands
- Recasting the magic bullet: Testing the limits of the effectiveness of iconicity for language learning 2016
Alan Nielsen
 Talk presented at Iconicity Focus Group- Radboud University/Max Planck Institute for Psycholinguistics
 Nijmegen, The Netherlands
- The arbitrariness of the sign revisited: The role of phonological similarity in language learning 2016
Alan Nielsen, Dieuwke Hupkes, Simon Kirby, & Kenny Smith
 Paper accepted for Evolang XI
 New Orleans, USA
- Motivated vs. conventional systematicity: Implications for language learning and the structure of the lexicon 2014
Alan Nielsen, Dieuwke Hupkes, Simon Kirby, & Kenny Smith
 Paper presented at Evolang X
 Vienna University, Austria
- Sound symbolism and the Bouba-kiki effect 2012
Alan Nielsen & Drew Rendall
 Poster presented at the 2012 European Human Behaviour and Evolution Association annual meeting.
 Durham, UK.

- Transparency, rule construction, and the Bouba-kiki effect 2011
Alan Nielsen & Drew Rendall
Poster presented at the 30th Banff Annual Seminar in Cognitive Science
Banff, Canada
- The sound of round: Evidence for implicit sound symbolism 2010
Alan Nielsen & Drew Rendall
Poster presented at the 22nd annual Human Behaviour and Evolution Society
Eugene, Oregon, USA.
- The Bouba-Kiki effect: Testing an alternative hypothesis for a classic finding in Psychology 2009
Alan Nielsen & Drew Rendall
Talk presented at the Department of Psychology Undergraduate Research Symposium
Lethbridge, Canada.
- Individual recognition and aggression in *Gromphadorina portentosa* 2009
Alan Nielsen & David Logue
Talk presented at the Luke Stebbins Research Symposium
(winner of the inaugural Luke Stebbins award for best undergraduate research talk)
Lethbridge, Canada.

Current Research Projects

The crossmodality toolkit: An empirical catalogue of crossmodal correspondences

Alan Nielsen, Justin Sulik, Bill Thompson, Mark Dingemans, & Stephen Levinson

What crossmodal biases do human language learners possess, and how strong are they relative to each other? Are these biases shared strongly within groups? What about between groups (different cultures, different languages)? In this project we aim to develop a standardized set of metrics that can be distributed and tested widely, building up a database of cross-cultural and cross-linguistic crossmodal associations.

Global sound-symbolic patterns in the orthography of the world's languages

Alan Nielsen & Dieuwke Hupkes

Is there a relationship between the orthographic forms representing sounds and the acoustic or phonological features of those sounds? We are currently exploring this possibility using a number of computational and experimental approaches

The establishment and maintenance of non-arbitrary elements in the lexicon

Alan Nielsen & Bill Thompson

What is the temporal and structural patterning of the acquisition and deployment of non-arbitrary elements in natural languages? Using agent-based Bayesian models we suggest that structural and temporal isolation of motivated word-meaning associations allows for optimal learning.

Testing global sound-symbolism in the lab

Gary Lupyan, **Alan Nielsen**, & Damian Blasi

In this project, we test the psychological reality and strength of worldwide tendencies to associate certain phonemes with certain meanings. Is 'lengua' a good word for tongue because it contains preferred phonemes?

Conceptual Bootstrapping and the acquisition of language

Alan Nielsen, Katarina Stekic, & Vanja Kovic

What roles do systematicity and iconicity play in the acquisition of language? In this project we use experimental methods to explore the possibility that learning systematic and/or iconic labels can facilitate the acquisition of categories and concepts relevant for a communication system that might otherwise be more difficult to acquire.

The role of systematicity in Japanese ideophones

Alan Nielsen, Mark Dingemans, & Mits Ota

Why is reduplication so common in Japanese ideophones, but uncommon in the rest of the lexicon? We suggest that reduplication is a systematic cue that helps disambiguate the iconic content of ideophones.

Grants, Awards, & Fellowships

NSERC Postgraduate Scholarship- Doctorate	2013
Government of Alberta Graduate Student Scholarship	2010
School of Graduate Studies Entrance Award	2009
Jason Lang Memorial Scholarship	2009
Luke Stebbins Award for Undergraduate Research Achievement in Biology	2009
NSERC Summer Research Award	2008
University of Lethbridge Undergraduate Scholarship	2008
Alberta Heritage Scholarship	2007

Teaching

Teaching Priorities
Critical thinking
Evolutionary theory
The Scientific method
Experimental design
Communication and engagement
Research experience
Academic transparency

Topics and Proposed Courses
Introduction to Psychology
Comparative Communication: Animal and human signals
Evolution and Behaviour
Psycholinguistics
Sensation and Perception
Cognitive Psychology
Introductory Statistics
Statistics and Experimental Design
The Evolution of Language
Synesthesia and Crossmodal Perception
Language and Consciousness

Experience

Teaching Assistantships

Introduction to Psychology (University of Lethbridge, University of Edinburgh)

Introduction to Linguistics (University of Edinburgh)

Research Methods and Statistics I (University of Edinburgh)

Animal Behaviour (University of Lethbridge)

Sensation and Perception (University of Lethbridge)

Psycholinguistics (University of Lethbridge)

Origins and Evolution of Language (University of Edinburgh)

Supervision

Conceptual Bootstrapping Ongoing

Katarina Stekic

Bsc. Student

Department of Psychology, The University of Belgrade

Cross-cultural sound symbolism 2014

Amie Fairs

Bsc. (Hons) Dissertation

The Center for Language Evolution, The University of Edinburgh

The implications of sound-symbolism for character judgement: A naming study 2010

Rhys Hakstol

Undergraduate Independent Study

The University of Lethbridge

Professional Activities

Professional Society Memberships

Human Behaviour and Evolution Society

European Human Behaviour and Evolution Society

Cultural Evolution Society

Cognitive Science Society

Refereeing

Journal of Cognitive Psychology

Language and Cognition

Royal Society Open Science

PLoS One

Evolang 2014, 2016.2018

Cognitive Science

Cogsci 2015, 2016, 2017

Ammons Scientific

Language and Speech

Skills and Specialisations

Computer and Technical
Statistical Analysis- NCSS/SPSS/R
Programming- Livecode, Processing, Python
Data Collection- Crowdfunder, Mechanical Turk

Teaching and Outreach
CAETL Teaching Assistant Professional
Development Program
Science Communication

Referees

Prof Stephen Levinson Director
Language and Cognition Department
The Max Planck Institute for Psycholinguistics
Email: stephen.levinson@mpi.nl

Dr. Kenny Smith Reader in Language Evolution, PPLS Research Director
Center for Language Evolution
The University of Edinburgh
Email: kenny@ling.ed.ac.uk

Dr. Drew Rendall Professor of Behaviour and Evolution, Dean of Graduate Studies
Behaviour and Evolution Research Group
The University of New Brunswick
Email: d.rendall@unb.ca