Dr. James B. Henderson   Curriculum Vitae

Idiap Research Institute   email: James.Henderson@idiap.ch
Centre du Parc, Rue Marconi 19, PO Box 592   url: http://cui.unige.ch/~hendersj/
CH-1920 Martigny, Switzerland
          and
Université de Genève, Département d'Informatique
7 route de Drize, Battelle bâtiment A
CH-1227 Carouge, Switzerland

Positions

Senior Researcher	**Sep'17 – present**

Idiap Research Institute, Martigny, Switzerland.
Head of the Natural Language Understanding group. Member of Research Committee.

Principal Scientist   **May'12 – Aug'17**

Xerox Research Centre Europe (XRCE), Grenoble, France
Scientific head of the Parsing and Semantics group.

Chargé de Cours   Aug'12 – present

Univ. Geneva, Department of Computer Science, Geneva, Switzerland
A permanent part-time teaching position with seniority similar to Associate Professor.

Chargé de Enseignement   Feb'12 – Jul'12

Univ. Neuchatel, Department of Computer Science, Neuchatel, Switzerland
A temporary part-time position to teach a course on natural language processing.

Maître d'Enseignement et de Recherche (MER)   **Mar'08 – Apr'12**

Univ. Geneva, Department of Computer Science, Geneva, Switzerland
A grant-funded research position with seniority similar to Associate Professor.

Research Fellow   **Apr'04 – Feb'08**

Univ. Edinburgh, School of Informatics, Edinburgh, UK

Maître-assistant   **Oct'00 – Mar'04**

Univ. Geneva, Department of Computer Science, Geneva, Switzerland
A senior research position.

Visiting Professor   Feb'01 – Oct'01

Swiss Federal Institute of Technology in Lausanne (EPFL), Department of Computer Science, Lausanne, Switzerland

Lecturer in Computer Science   **Nov'94 – Oct'01**

Univ. Exeter, Department of Computer Science, Exeter, United Kingdom

Visiting Researcher   Aug'99 – Jan'00

Swiss Federal Institute of Technology in Lausanne (EPFL), Artificial Intelligence Lab, Department of Computer Science, Lausanne, Switzerland

Qualifications

Ph.D.   1991 – 1994
    Univ. Pennsylvania, Department Computer and Information Science, Philadelphia, PA, USA

M.S.E. with major in Computational Linguistics   1987 – 1991
    Univ. Pennsylvania, Department Computer and Information Science, Philadelphia, PA, USA

B.Sc. in Computer Science   1983 – 1987
    Massachusetts Institute of Technology, Department Electrical Engineering and Computer Science, Cambridge, MA, USA

Grants

French ANRT CIFRE grant,   EUR 42,000.   Mar'15-Feb'18
    Opinion Summarisation with Textual Entailment Recognition.

Hasler Foundation grant,   CHF 41,182.   May'15-Dec'15
    Deep Neural Network Dependency Parser for Context-aware Representation Learning

Swiss CTI R&D Grant,   CHF 80,000.   Jul'13 – Apr'14
    Novel, Optimized Machine Learning Methods for Automated Analysis of Journalistic Content.

Submission for a Swiss National Centre of Competence in Research   2012
    Language Sciences: Complexity, Frequency and Variation in Language.

European Union STREP grant,   EUR 761,370   Nov'11 – Oct'14
    PARLANCE – Probabilistic Adaptive Real-Time Learning And Natural Conversational Engine. Total funding EUR 3,625,000.

Swiss NSF Grant,   CHF 110,000   Oct'11 – Sep'13
    Inducing Semantic Representations from Multiple Data Sources.

Swiss NSF Sinergia Grant,   CHF 869,019 ($843,400)   Mar'10 – Feb'13
    Improving the coherence of machine translation output by modeling intersentential relations.

Swiss NSF Grant,   CHF 98,380 ($95,500)   Oct'09 – Aug'11
    Sampling and Regularization for Latent Structure Models with Feature Induction.

European Union STREP grant,   EUR 638,000 ($943,000)   Mar'08 – Feb'11
    CLASSiC - Computational Learning in Adaptive Systems for Spoken Conversation. Total funding EUR 3,400,000 ($5,030,000).

British EPSRC grant,   GBP 266,907 ($522,000)   Jan'07 – Dec'08
    End-to-end Integrated Statistical Processing for Context-Aware Dialogue Systems.

Swiss NSF Grant,   CHF 97,300 ($76,800)   Oct'05 – Sep'07
    Kernel-Based Structure Processing for Natural Language Parsing.

Swiss NSF Grant,   CHF 83,920 ($65,400)   Apr'03 – Oct'05
    Neural Network Statistical Estimation for Very Broad Coverage Parsing.

Swiss NSF Grant,   CHF 247,934 ($180,000)   Oct'02 – Sep'04
    Combining Machine Learning and Natural Language Processing for Knowledge Discovery in Text.

Professional Recognition

Proposal reviewer for ERC grants   2017

Standing review committee of *TACL*   Mar'15–present

Editorial Board of *Computational Linguistics*   Jan'12–Dec'14

Conference chairs   2004 – 2013

Area Co-Chair for Syntax and Parsing, 51st Annual Meeting of the Association for Computational Linguistics (ACL 2013), Sofia, Bulgaria.

Area Co-Chair for Syntax, Tagging, Chunking and Parsing, 2013 Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2013), Atlanta, USA.

Program Co-Chair for 2012 Joint Conference on Empirical Methods in Natural Language Processing and Conference on Computational Natural Language Learning (EMNLP-CoNLL 2012), Jeju, Korea.

Area Chair for Parsing, 2006 Conference on Empirical Methods in Natural Language Processing (EMNLP 2006), Sydney, Australia

Area Chair for Parsing and Grammatical Formalism, 2nd International Joint Conference on Natural Language Processing (IJCNLP-05), Jeju Island, Korea

Co-Chair for Tutorials, COLING 2004, Geneva, Switzerland

Journal and Conference reviewer   1996 – present

Review regularly for top-tier international journals (TACL, CL, JMLR, etc.) and top-tier international conferences (ACL, ENMLP, NIPS, etc.).

Postgraduate Students

Primary supervisor to PhD candidates   1995 – present

Lesly Miculicich, at Idiap (current).

Diana Popa, at Xerox Research Centre Europe and Univ. Joseph Fourier (transferred Aug'17).

Nikhil Garg, at Univ Geneva (awarded Nov'15).

Andrea Gesmundo, at Univ Geneva (awarded Dec'13).

Jeevanthi Liyanapathirana, at Univ Geneva (moved Apr'13).

Ivan Titov, at Univ Geneva (awarded Jan'08).

Ivan Petroff, at Univ Geneva (withdrew 2014).

Tim Hodgson, at Univ Exeter (transferred Oct'01).

Peter Lane, at Univ Exeter (awarded Mar'00).

Courses Taught

At Univ of Geneva, Dept of Computer Science

    Artificial Intelligence (BSc equiv)   Aug'12 – present

At Univ of Neuchatel, Dept of Computer Science

    Natural Language Processing (MSc)   Feb'12 – Jul'12

ESSLLI, Malaga, Spain   2006

At Univ of Exeter, Dept of Computer Science (rated Excellent in teaching)   1994 – 2001

    Neural Computing (MSc), Natural Language Engineering (MSc), Computational Linguistics (BSc, final year), Connectionism (BSc, final and second year), Final Project Supervision (BSc, final year), Theory of Computing I (BSc, second year), Formal Foundations of Software Engineering (BSc, second year), Cognitive Science (BSc, second year), Artificial Intelligence I (BSc, first year), Introductory Seminars in Cognitive Science (BSc, first year)

Personal Details

Citizenship: United States of America

Work permits: C permit (permanent resident) for Switzerland

Languages: English (native), French, Italian comprehension

Publication List

Citation indices available at `http://scholar.google.com/citations?user=CSib0ooAAAAJ`.

Refereed Journal Articles

Henderson, J., Merlo, P., Titov, I., and Musillo, G. (2013). Joint Parsing of Syntactic and Semantic Dependencies with a Latent Variable Model. *Computational Linguistics*, 39(4):949-998.

Henderson, J., and Titov, I. (2010). Incremental Sigmoid Belief Networks for Grammar Learning. *Journal of Machine Learning Research*, 11(Dec):3541-3570. (ISI 2010 impact factor 3.0)

Georgila, K., Lemon, O., Henderson, J., and Moore, JD. (2009). Automatic annotation of context and speech acts for dialogue corpora. *Natural Language Engineering*, 15(03):315–353.

Henderson, J., Lemon, O., and Georgila, K. (2008). Hybrid Reinforcement/Supervised Learning of Dialogue Policies from Fixed Datasets. *Computational Linguistics* 34(4):487–511. (ISI 2010 impact factor 3.0)

Henderson, J. (2004). Estimating Probabilities for Unbounded Categorization Problems. *Neurocomputing*, 57:77–86. (ISI 2010 impact factor 1.4)

Lane, P. and Henderson, J. (2003). Towards Effective Parsing with Neural Networks: Inherent Generalisations and Bounded Resource Effects. *Applied Intelligence*, 19(1):83–99. (ISI 2010 impact factor 0.9)

Lane, P. and Henderson, J. (2001). Incremental Syntactic Parsing of Natural Language Corpora with Simple Synchrony Networks. *IEEE Transactions on Knowledge and Data Engineering*, 13(2):219–231. (ISI 2010 impact factor 1.9)

Henderson, J. (1994). Connectionist syntactic parsing using temporal variable binding. *Journal of Psycholinguistic Research*, 23(5):353–379.

Refereed Conference Papers

Moor, C., Merlo, P., Henderson, J. and Wang, H. (2017). CLCL (Geneva) DINN Parser: a Neural Network Dependency Parser Ten Years Later. In *Proc. CoNLL 2017 Shared Task: Multilingual Parsing from Raw Text to Universal Dependencies*, Vancouver, Canada.

Henderson, J., Popa, D.N. (2016). A Vector Space for Distributional Semantics for Entailment. In *Proc. 54th Annual Meeting of the Association for Computational Linguistics* (ACL 2016), Berlin, Germany.

Farahmand, M., Henderson, J. (2016). Modeling the Non-Substitutability of Multiword Expressions with Distributional Semantics and a Log-Linear Model. In *Proceedings of the 12th Workshop on Multiword Expressions* (MWE-ACL 2016), Berlin, Germany.

Yazdani, M., Farahmand, M., Henderson, J. (2015). Learning Semantic Composition to Detect Non-compositionality of Multiword Expressions. In *Proc. 2015 Conf. on Empirical Methods in Natural Language Processing* (EMNLP 2015), Lisbon, Portugal.

Yazdani, M., Henderson, J. (2015). A Model of Zero-Shot Learning of Spoken Language Understanding. In *Proc. 2015 Conf. on Empirical Methods in Natural Language Processing* (EMNLP 2015), Lisbon, Portugal.

Radford, W., Carreras, X., Henderson, J. (2015). Named entity recognition with document-specific KB tag gazetteers. In *Proc. 2015 Conf. on Empirical Methods in Natural Language Processing* (EMNLP 2015), Lisbon, Portugal.

Yazdani, Y., Henderson, J. (2015). Incremental Recurrent Neural Network Dependency Parser with Search-based Discriminative Training. In *Proc. 19th Conf. on Computational Natural Language Learning* (CoNLL 2015), Beijing, China.

Gesmundo, G., Henderson, J. (2014). Undirected Machine Translation with Discriminative Reinforcement Learning. In *Proc. 14th Conf. European Chapter of the Association for Computational Linguistics* (EACL 2014), Gothenburg, Sweden.

Lang, J., Henderson, J. (2013) Graph-Based Seed Set Expansion For Relation Extraction Using Random Walk Hitting Times. In *Proc. 2013 Conf. North American Chapter of the Association for Computational Linguistics: Human Language Technologies* (NAACL 2013), Atlanta, Georgia, USA.

Hastie, H., Aufaure, M.A., Alexopoulos, P., Cuayhuitl, H., Dethlefs, N., Gasic, M., Henderson, J., Lemon, O., Liu, X., Mika, P., Ben Mustapha, N. , Rieser, V., Thomson, B., Tsiakoulis, P., Vanrompay, Y., Villazon-Terrazas, B., Young, S., (2013) Demonstration of the Parlance system: a data-driven, incremental, spoken dialogue system for interactive search. In *Proc. SIGDIAL 2013*, Metz, France.

Garg, N., Henderson, J. (2012). Unsupervised Semantic Role Induction with Global Role Ordering. In *Proc. 50th Annual Meeting of the Association for Computational Linguistics* (ACL 2012), Jeju Island, Korea. (short paper)

Gesmundo, A., Satta, G., Henderson, J. (2012). Heuristic Cube Pruning in Linear Time. In *Proc. 50th Annual Meeting of the Association for Computational Linguistics* (ACL 2012), Jeju Island, Korea. (short paper)

Gesmundo, A., Henderson, J. (2011). Heuristic Search for Non-Bottom-Up Tree Structure Prediction. In *Proc. 2011 Conf. on Empirical Methods in Natural Language Processing* (EMNLP 2011), Edinburgh, UK. (23% acceptance rate)

Garg, N., Henderson, J. (2011). Temporal Restricted Boltzmann Machines for Dependency Parsing. In *Proc. 49th Annual Meeting of the Association for Computational Linguistics* (ACL 2011), Portland, Oregon, USA. (short paper)

van der Plas, L., Merlo, P., Henderson, J. (2011). Scaling up Cross-Lingual Semantic Annotation Transfer. In *Proc. 49th Annual Meeting of the Association for Computational Linguistics* (ACL 2011), Portland, Oregon, USA. (short paper)

Gesmundo, A., Henderson, J. (2010). Faster Cube Pruning. In *Proc. International Workshop on Spoken Language Translation* (IWSLT 2010), Paris, France.

Gesmundo, A., Henderson, J., Merlo, P., Titov, I. (2009) A Latent Variable Model of Synchronous Syntactic-Semantic Parsing for Multiple Languages. In *Proc. Thirteenth Conf. on Computational Natural Language Learning: Shared Task* (CoNLL-09), Boulder, Colorado, USA.

van der Plas, L., Henderson, J., Merlo, P. (2009) Domain Adaptation with Artificial Data for Semantic Parsing of Speech. In *Proc. 2009 Conf. North American Chapter of the Association for Computational Linguistics: Short Papers* (NAACL HLT 2009), Boulder, Colorado, USA.

Titov, I., Henderson, J., Merlo, P., and Musillo, G. (2009) Online Graph Planarisation for Synchronous Parsing of Semantic and Syntactic Dependencies. In *Proc. 2009 International Joint Conferences on Artificial Intelligence* (IJCAI-09). Pasadena, California, USA. (26% acceptance rate)

Henderson, J., Merlo, P., Musillo, G., and Titov, I. (2008) A Latent Variable Model of Synchronous Parsing for Syntactic and Semantic Dependencies. In *Proc. Twelfth Conf. on Computational Natural Language Learning: Shared Task* (CoNLL-08). Manchester, UK.

Henderson, J., and Lemon, O. (2008). Mixture model POMDPs for efficient handling of uncertainty in dialogue management. In *Proc. 46th Annual Meeting of the Association for Computational Linguistics* (ACL-08), Columbus, Ohio, USA. (short paper)

Titov, I. and Henderson, J. (2007). Incremental Bayesian Networks for Structure Prediction. In *Proc. 24th Int. Conf. on Machine Learning* (ICML-07). Corvallis, OR, USA. (29% acceptance rate)

Titov, I. and Henderson, J. (2007). Constituent Parsing with Incremental Sigmoid Belief Networks. In *Proc. 45th Meeting of Assoc. for Computational Linguistics* (ACL-07). Prague, Czech Republic. (22% acceptance rate)

Titov, I. and Henderson, J. (2007). Fast and Robust Multilingual Dependency Parsing with a Generative Latent Variable Model. In *Proc. CoNLL 2007 Shared Task. Joint Conf. on Empirical Methods in Natural Language Processing and Computational Natural Language Learning* (EMNLP-CoNLL-07). Prague, Czech Republic. (3rd result out of 23)

Titov, I. and Henderson, J. (2007). A Latent Variable Model for Generative Dependency Parsing. In *Proc. International Conference on Parsing Technologies* (IWPT-07). Prague, Czech Republic. (unofficial best paper)

Titov, I. and Henderson, J. (2006). Loss minimization in parse reranking. In *Proc. 2006 Conf. on Empirical Methods in Natural Language Processing* (EMNLP 2006), Sydney, Australia. (18% acceptance rate)

Titov, I. and Henderson, J. (2006). Porting statistical parsers with data-defined kernels. In *Proc Tenth Conf. on Computational Natural Language Learning* (CoNLL 2006), New York, NY, USA.

Lemon, O., Georgila, K., and Henderson, J. (2006). Evaluating Effectiveness and Portability of Reinforcement Learned Dialogue Strategies with real users: the TALK TownInfo Evaluation, In Proc. *IEEE/ACL Spoken Language Technology*.

Lemon, O., Georgila, K., Henderson, J., and Stuttle, M. (2006). An ISU dialogue system exhibiting reinforcement learning of dialogue policies: generic slot-filling in the TALK in-car system. In Proc. *Conf. of the European Chapter of the Association for Computational Linguistics* (EACL 2006), Trento, Italy.

Georgila, K., Henderson, J., and Lemon, O. (2006). User Simulation for Spoken Dialogue Systems: Learning and Evaluation. In Proc. *Interspeech 2006*.

Henderson, J. and Titov, I. (2005). Data-defined kernels for parse reranking derived from probabilistic models. In *Proc. 43rd Meeting of Association for Computational Linguistics* (ACL 2005), Ann Arbor, MI, USA. (18% acceptance rate)

Titov, I. and Henderson, J. (2005). Deriving kernels from MLP probability estimators for large categorization problems. In *Proc. 2005 International Joint Conf. on Neural Networks* (IJCNN 2005), Montreal, Quebec, Canada.

Henderson, J., Lemon, O., and Georgila, K. (2005). Hybrid reinforcement/supervised learning for dialogue policies from COMMUNICATOR data. In *Proc. IJCAI workshop on Knowledge and Reasoning in Practical Dialogue Systems*.

Georgila, K., Henderson, J., and Lemon, O. (2005). Learning User Simulations for Information State Update Dialogue Systems. In *Proc. 9th European Conf. on Speech Communication and Technology (INTERSPEECH - EUROSPEECH 2005)*.

Georgila, K., Lemon, O., and Henderson, J. (2005). Automatic annotation of COMMUNICATOR dialogue data for learning dialogue strategies and user simulations. In *Proc. Ninth Workshop on the Semantics and Pragmatics of Dialogue (SEMDIAL: DIALOR)*.

Henderson, J. (2004). Discriminative training of a neural network statistical parser. In *Proc. 42nd Meeting of Association for Computational Linguistics* (ACL 2004), Barcelona, Spain. (25% acceptance rate)

Henderson, J. (2004). Lookahead in deterministic left-corner parsing. In *Proc. Workshop on Incremental Parsing: Bringing Engineering and Cognition Together*, Barcelona, Spain.

Lemon, O. and Henderson, J. (2004). Machine learning and the Information State Update approach to dialogue management. In *Proc. Joint AMI-PASCAL-IM2-M4 workshop*.

Henderson, J. (2003). Structural Bias in Inducing Representations for Probabilistic Natural Language Parsing. In *Proc. of 13th Int. Conf. on Artificial Neural Networks* (ICANN/ICONIP 2003), Istanbul, Turkey.

Henderson, J. (2003). Inducing History Representations for Broad Coverage Statistical Parsing. In *Proc. of the Joint Meeting of the North American Chapter of the Association for Computational Linguistics and the Human Language Technology Conf.* (HLT-NAACL 2003), pages 103–110, Edmonton, Canada. (22% acceptance rate)

Henderson, J. (2003). Generative Versus Discriminative Models for Statistical Left-Corner Parsing. In *Proc. of 8th Int. Workshop on Parsing Technologies* (IWPT 2003), pages 115–126, Nancy, France, 2003.

Henderson, J. (2003). Neural Network Probability Estimation for Broad Coverage Parsing. In *Proc. of 10th Conf. of the European Chapter of the Association for Computational Linguistics* (EACL 2003), pages 131–138, Budapest, Hungary. (27% acceptance rate)

Henderson, J., Merlo, P., Petroff, I., and Schneider, G. (2002). Using Syntactic Analysis to Increase Efficiency in Visualizing Text Collections. In *Proc. of 19th Int. Conf. on Computational Linguistics* (COLING 2002), pages 335–341, Taipei, Taiwan.

Henderson, J., Merlo, P., Petroff, I., and Schneider, G. (2002). Using NLP to Efficiently Visualize Text Collections with SOMs. In *Proc. of 3rd Int. Workshop on Natural Language and Information Systems* (NLIS 2002), 5 pages, Aix-en-Provence, France.

Henderson, J. (2002). Estimating Probabilities for Unbounded Categorization Problems. In *Proc. of 10th European Symposium on Artificial Neural Networks* (ESANN 2002), pages 383–388, Bruges, Belgium.

Henderson, J. (2000). Estimating a Probabilistic Grammar Using a Neural Network. In *Proc. of 1st Workshop on Robust Methods in Analysis of Natural Language Data* (ROMAND 2000), 9 pages, Lausanne, Switzerland.

Henderson, J. (2000). Segmenting State into Entities and its Implication for Learning. In *Proc. of Int. Workshop on Current Computational Architectures Integrating Neural Networks and Neuroscience* (EmerNet), 10 pages, Durham, UK.

Henderson, J. (2000). A Neural Network Parser that Handles Sparse Data. In *Proc. of 6th Int. Workshop on Parsing Technologies* (IWPT 2000), pages 123–134, Trento, Italy.

Henderson, J. and Lane, P. (1998). A Connectionist Architecture for Learning to Parse. In *Proc. of 36th Annual Meeting of the Association for Computational Linguistics and 17th Int. Conf. on Computational Linguistics* (COLING-ACL 1998), pages 531–537, Montreal, Canada.

Lane, P. and Henderson, J. (1998). Simple Synchrony Networks: Learning to Parse Natural Language with Temporal Synchrony Variable Binding. In *Proc. of Int. Conf. on Artificial Neural Networks* (ICANN 1998), pages 615–620, Skövde, Sweden.

Henderson, J. (1996). A connectionist architecture with inherent systematicity. In *Proc. of 18th Conference of the Cognitive Science Society* (CogSci 1996), pages 574–579, La Jolla, CA.

Henderson, J. (1992). A Connectionist Parser for Structure Unification Grammar. In *Proc. of 30th Annual Meeting of the Association for Computational Linguistics* (ACL 1992), pages 144–151, Newark, DE.

Refereed Book Chapters

Henderson, J., Jurčíček, F. (2012). Data-Driven Methods for Spoken Language Understanding. In Oliver Lemon and Olivier Pietquin, editors, *Data-Driven Methods for Adaptive Spoken Dialogue Systems* (Springer).

Henderson, J. (2010). Artificial Neural Networks. In Alex Clark, Chris Fox, and Shalom Lappin, editors, *Handbook of Computational Linguistics and Natural Language Processing* (Blackwell). (by invitation)

Titov, I. and Henderson, J. (2010). A Latent Variable Model for Generative Dependency Parsing. In H. Bunt, P. Merlo and J. Nivre, editors, *Trends in Parsing Technology. Text, Speech and Language Technology Series* (Springer). (by invitation)

Henderson, J. (2004). A neural network parser that handles sparse data. In H. Bunt, J. Carroll, and G. Satta, editors, *New Developments in Parsing Technology*. Kluwer, Boston/Dordrecht/London.

Henderson, J. (2001). Segmenting State into Entities and its Implication for Learning. In Wermter, S., Austin, J., and Willshaw, D., editors, *Emergent Neural Computational Architectures based on Neuroscience*, pages 227–236. Springer-Verlag, Heidelberg.

Henderson, J. (2000). Constituency, context, and connectionism in syntactic parsing. In Crocker, M., Pickering, M., and Clifton, C., editors, *Architectures and Mechanisms for Language Processing*, pages 189–209. Cambridge University Press, Cambridge UK.

Unrefereed Publications

Henderson, J. (2017). Learning Word Embeddings for Hyponymy with Entailment-Based Distributional Semantics. ArXiv e-prints, arXiv:1710.02437 [cs.CL].

Popa, D. and Henderson, J. (2017). Bag-of-Vector Embeddings of Dependency Graphs for Semantic Induction. ArXiv e-prints, arXiv:1710.00205 [cs.CL].

Garg, N. and Henderson, J. (2016). A Bayesian Model of Multilingual Unsupervised Semantic Role Induction. ArXiv e-prints, arXiv:1603.01514 [cs.CL].

Henderson, J. (1994). *Description Based Parsing in a Connectionist Network*. PhD thesis, University of Pennsylvania, Philadelphia, PA. Technical Report MS-CIS-94-46.

Henderson, J. (1993). Review of *Connectionist Approaches to Natural Language Processing*, Reilly and Sharkey (eds) *Computational Linguistics*, 19(3):557–559.

Henderson, J. (1992). *A Structural Interpretation of Combinatory Categorial Grammar*. Technical Report MS-CIS-92-49, University of Pennsylvania, Philadelphia, PA.

Henderson, J. (1990). *Structure Unification Grammar: A Unifying Framework For Investigating Natural Language*. Masters thesis, University of Pennsylvania, Philadelphia, PA. Technical Report MS-CIS-90-94.