

# CURRICULUM VITA

## ANTHONY ALFRED JOHN MARLEY

### Personal

Citizen: United Kingdom/Canada

### Education

1958-61 B.Sc. (Mathematics), Birmingham University, England  
 1961-65 Ph.D. (Psychology), University of Pennsylvania, U.S.A.

### Academic Honors and Awards

1958-61 Devon County Scholarship at the University of Birmingham, England  
 1961 First Class Honors in Mathematics, University of Birmingham, England  
 1961 Fulbright Study Grant  
 1961-62 Woodrow Wilson Foundation Fellowship  
 1962-64 University Fellowship of the University of Pennsylvania  
 1964-65 Special Harrison Fellowship of the University of Pennsylvania  
 1965-67 Fellow of the Miller Institute for Basic Research in Science, University of California at Berkeley  
 1967-69 Killam Fellow, Center for Advanced Study in Theoretical Psychology, University of Alberta  
 1975-76 Canada Council Leave Fellowship  
 1994-95 President, Society for Mathematical Psychology  
 2001-02 Research Fellow of the Hanse-Wissenschaftskolleg (Hanse Institute for Advanced Study-HWK), Delmenhorst, Germany  
 2003-04 Visiting Researcher, Department of Economics, University of Groningen. Supported by NWO, the Netherlands Organization for Scientific Research  
 2004 Fellow of the American Psychological Society

### Professional

1967-69 Lecturer, Department of Psychology, University of Alberta  
 1969-72 Assistant Professor, Department of Psychology, McGill University  
 1972-83 Associate Professor, Department of Psychology, McGill University  
 1973 Spring Visiting Associate Professor, Department of Psychology, University of Washington  
 1975-76 Visiting Lecturer, Department of Psychology, University of Sydney, Australia  
 1983- Professor, Department of Psychology, McGill University  
 1992-2001 Chair, Department of Psychology, McGill University (Sabbatical 1997-98)  
 2002- Professor Emeritus, McGill University  
 2003- Adjunct Professor, Department of Psychology, University of Victoria  
 2003- Member, PIMS (Pacific Institute for the Mathematical Sciences)  
 2007-2010 Visiting Associate, Faculty of Business, University of Technology, Sydney  
 2008- Associate, Centre for the Study of Choice, University of Technology, Sydney

## Teaching Experience

### Undergraduate:

Introductory psychology	1967, University of Alberta
Psychological statistics	1969-71, McGill University
Mathematical psychology	1971-91, McGill University
Perception	1970-75, McGill University
Thinking, Cognition	1970-92, McGill University
Cognitive psychology	1973, University of Washington, Seattle
Pattern recognition	1976, McGill University
Knowledge and values	1979-1984
Formal models (including computational models)	1982-91, McGill University
Computer simulation of psychological processes	1988-91, McGill University

### Graduate:

Psychometrics	1968, University of Alberta
Behavioral decision theory	1973, University of Washington
	1977, 1983, McGill University
Pattern Recognition	1976, McGill University
Mathematical psychology	1975, University of Sydney, Australia
Computational models of psychological processes	1985, McGill University
Parallel distributed models of psychological processes	1987, McGill-UQAM (with R. Proulx)
Decision theory/Decision Support	1990, McGill University
Cognitive Psychology	1991, McGill University
Advanced Topics in Neural Computational Models	1992, McGill University, Computer Science (Team Taught)
Psychological Theory	1994-2001, McGill University

### Other:

McGill University, 1971. Helped organize, and initially teach, undergraduate course in Human Communication Disorders.

**University Activities****Department of Psychology, McGill**

Member, Curriculum Committee	1970-72, 1984-86
Chair, Curriculum Committee	1972-75
Member, Space Committee	1976-77
Chair, Space Committee	1977-81, 1990-92
Member, Executive Committee	1985-87, 1990-
Member, Graduate Program Committee	1985-87
Member, Equipment Committee	1985-89
Director, Graduate Program	1986-89
Chair	1992-97, 1998-2001

**McGill University**

Member, Academic Council, Faculty of Science	1972-75
Member, McConnell Fellowship Committee	1972-75
Member, Academic Policy Committee (and several of its subcommittees, e.g., on Statistics at McGill; Evaluation of Programs at McGill)	1976-81
Member, Mathematical Social Sciences Group	
Member, Cognitive Science Centre	
Member, Values Group	
Chair, Cyclical Review Committee (Geological Sciences)	1983
Library Coordinator for Psychology	1985-86
Member, Undergraduate and Graduate Planning Committees, Cognitive Science	1987
Member, McGill Centre for Medicine, Ethics and Law	1988-
Director, McGill Cognitive Science Centre	1990-93
Committee to select a Director for the School of Computer Science, McGill University	1995
Coordinator of the Development of "An Integrative Approach to E-Commerce Research." Proposal for BCE E-Commerce Chairs at McGill University.	2001

**Professional Organizations**

Member:	American Association for Artificial Intelligence
	American Mathematical Society
	Association for Psychological Science
	Society for Judgment and Decision Making
	Society for Mathematical Psychology

**Professional Services Outside University (in reverse temporal order)**

Editorial Advisory Board, *Journal of Mathematical Psychology*. 2008 (ongoing).  
 Program Committee (with M. E. J. Masson), 17<sup>th</sup> Annual Meeting of the Canadian Society for Brain, Behavior and Cognitive Science, University of Victoria, June 15-17, 2007.

## Professional Services Outside University (Cont'd)

- Reviewer for various granting agencies, especially Natural Science and Engineering Research Council (Canada), National Science Foundation (USA).
- Editorial Consultant for numerous journals including: Journal of Mathematical Psychology, Mathematical Social Sciences, Perception and Psychophysics, Psychological Review, Psychometrika, Theory and Decision.
- Organizer with R. D. Luce (UC Irvine) of *Empirical Tests of Contemporary Utility Theories*. Invited Symposium, XXIX International Congress of Psychology 2008 Berlin July 20-25, 2008.
- Organizer with Hans Colonius (Oldenburg) of Intensive Program 2002. XVIII European Seminar on Mathematical Psychology. *Psychological Models of Response Time and Choice*. Stade, January 21-25, 2002. Training Workshop for 40 (graduate) students from throughout Europe.
- Member, 2000-2003, of the 4-person Selection Committee for the \$100,000 David E. Rumelhart Prize for Contributions to the Formal Analysis of Human Cognition.
- Guest Editor, Mathematical Social Sciences, volume 43, July, 2002.
- Participant (Integrative Plenary Session) in Random Utility 2000. Conference and Workshop on Random Utility and Probabilistic Measurement Theory. Fuqua School of Business, Duke University, August 3-8, 2000.
- Organizer (with R. D. Luce, H. Moulin, B. Grofman) Workshop. Topics in Mathematical Models of Individual and Social Choice, University of California, Irvine, July 7-28, 2000. Supported by NSF, UCI.
- Organizer (with M. Regenwetter) Probabilistic Choice Models. Workshop in Mathematical Psychology, University of California, Irvine, July 6-25, 1997. Supported by NSF, UCI.
- Organizer (with J. Aczel), Session on Characterization in the Social Sciences. Winter Meeting, Canadian Mathematical Society, Simon Fraser University, Vancouver, December 9-11, 1995.
- Organizer, Symposium on mathematical models of reaction time, categorization, and decision. IV European Congress of Psychology. Athens, July 2-7, 1995.
- External Evaluator: Department of Psychology, Bishops University, February 1994; Proposed Ph.D. Program in Cognitive Science, Carleton University, May 1994.
- Organizer, Symposium on the Architecture of Response Time Processes, Annual Meeting of the Society for Mathematical Psychology, University of Washington, Seattle, August 11-14, 1994.
- President, Society for Mathematical Psychology, 1994-95.
- Organized panel on Random Variable Representations at the Workshop on the Mathematics of Measurement, Irvine Research Unit in Mathematical Behavioral Sciences, University of California, Irvine, July 31, 1992.
- Guest Editor, Mathematical Social Sciences, volume 23, February, April, June, 1992.
- Organizer, Workshop on Stochastic Models of Choice and Reaction Time, Irvine Research Unit in Mathematical Behavioral Sciences, University of California, Irvine, August 7-10, 1990.
- Book Review Editor, Journal of Mathematical Psychology, 1985-1997
- Canadian Editor, Human Judgment Section, Journal of Forecasting, 1985-1989
- Member, Natural Sciences and Engineering Research Council (NSERC) Grant Selection Committee (Psychology), 1986-89.
- Member, Committee to select Editor for the Journal of Mathematical Psychology, 1984, 1993.
- Editor, Journal of Mathematical Psychology, 1980-1985
- Member, Executive, Society for Mathematical Psychology, 1980-1984, 1993.
- Program Chair, 11th Annual Mathematical Psychology Meeting, Hamilton, Canada, August, 1978.
- Organized (with P. Cavanagh) the 6th Annual Mathematical Psychology Meeting, Montreal, 1973.

### Publications (Books)

Regenwetter, M., Grofman, A. B., Marley, A. A. J., & Tsetlin, I. *Behavioral Social Choice: Probabilistic Models, Statistical Inference, and Applications*. Cambridge University Press. 2006.

### Publications (Edited Books)

*Mathematics and Computer Sciences*. Approximately 1 volume of the 26 volumes. *International Encyclopedia of the Social and Behavioral Sciences*, Neil J. Smelser and Paul B. Baltes (Eds.). Elsevier Science. 2001.

*Choice, Decision, and Measurement: Essays in Honor of R. Duncan Luce*. Mahwah, NJ: Erlbaum. 1997.

### Publications (Edited Journals)

*Stochastic Models of Choice and Reaction Times*. Special Volume of *Mathematical Social Sciences*, 23, February, April, June, 1992.

*Random Utility Models and their Applications: Recent Developments*. Special Issue of *Mathematical Social Sciences*, 43, #3, July, 2002.

### Refereed Publications (in reverse temporal order)

Garcia-Lapresta, J. L., Marley, A. A. J., & Martinez-Panero, M. Characterizing best-worst voting systems in the voting context. *Social Choice and Welfare*, 2009 (In Press).

Marley, A. A. J. The best-worst method for the study of preferences: Theory and Applications. Proceedings of XXIX International Congress of Psychology. Psychology Press, 2009 (In Press).

Brown, S. D., Marley, A., Dodds, P., & Heathcote, A. Relative models do not provide a general account of absolute identification. *Psychonomic Bulletin & Review*, 2009, 16, 583-593.

Ng, C. T., Luce, R. D., & Marley, A. A.J. Utility of gambling under p(olynomial)-additive joint receipt and segregation or duplex decomposition. *Journal of Mathematical Psychology*, 2009, 53, 273-286.

Luce, R. D., Marley, A. A. J., & Ng, C. T. Entropy-related measures of the utility of gambling. In Steven J. Brams, William V. Gehrlein, & Fred S. Roberts (Eds). *The Mathematics of Preference, Choice and Order: Essays in Honor of Peter C. Fishburn*. Studies in Choice and Welfare, Berlin: Springer-Verlag, 2009, pp. 5-25.

Donkin, C., Brown, S. D., Heathcote, A., & Marley, A. A. J. Dissociating speed and accuracy in absolute identification. *Psychological Research*, 2009. 73, 308-316.

Ng, C. T., Luce, R. D., & Marley, A. A.J. Utility of gambling when events are valued: An application of inset entropy. *Theory and Decision*, 2009, 67, 23-63.

## Refereed Publications (Cont'd)

- Flynn, T. N., Louviere, J. J., Marley, A. A. J., Coast, J., & Peters., T. J. Rescaling quality of life tariffs from discrete choice experiments for use as QALYs: a cautionary tale. *Population Health Metrics*, 2008, 6:6.
- Louviere, J. J., Street, D., Burgess, L., Wasi, N., Islam, T., & Marley, A. A. J. Modeling the choices of individual decision-makers by combining efficient choice experiment designs with extra preference information. *Journal of Choice Modelling*, 2008, 1, 126-163.
- Marley, A. A. J., Flynn, T. N., & Louviere, J. J. Probabilistic models of set-dependent and attribute-level best-worst choice. *Journal of Mathematical Psychology*, 2008, 52, 281-296.
- Brown, S. D, Marley, A. A. J., Donkin, C., & Heathcote, A. J. An integrated, principled account of absolute identification. *Psychological Review*, 2008, 115, 396-425.
- Mignault, A., Marley, A. A. J. & Chaudhuri, A. Inverted-U Effects generalize to the judgment of subjective properties of faces. *Perception and Psychophysics*, 2008, 70, 1274-1288.
- Ng, C. T., Luce, R. D., & Marley, A. A. J. On the utility of gambling: Extending the approach of Megini (1976). *Aequationes Mathematicae*, 2008, 76, 281-304.
- Luce, R. D., Ng, C. T., Marley, A. A. J., & Aczel, J. Utility of gambling I: Entropy-modified linear weighted utility. *Economic Theory*, 2008, 36, 1-33.
- Luce, R. D., Ng, C. T., Marley, A. A. J., & Aczel, J. Utility of gambling II: Entropy-modified linear weighted utility. *Economic Theory*, 2008, 36, 165-187.
- Marley, A. A. J., Luce, R.D., & Koscis, I. A solution to a problem raised by Luce & Marley (2005). *Journal of Mathematical Psychology*, 2008, 52, 64-68.
- Brown, S. D., Marley, A. A. J., & Lacouture, Y. Is absolute identification always relative? *Psychological Review*, 2007, 114, 528-532.
- Marley, A. A. J., & Louviere, J. J. Some probabilistic models of best, worst, and best-worst choices. *Journal of Mathematical Psychology*, 2005, 49, 464-480.
- Marley, A. A. J., & Luce, R. D. Independence properties vis-à-vis several utility representations. *Theory and Decision*, 2005, 58, 77-143.
- Luce, R. D., & Marley, A. A. J. Utility representations of gambles: old, new, and needed results. *Journal of Risk and Uncertainty*, 2005, 30, 21-62.
- Lacouture, Y., & Marley, A. A. J. Choice and response time processes in the identification and categorization of unidimensional stimuli. *Perception and Psychophysics*, 2004, 66, 1206-1226.
- Regenwetter, M, Marley, A. A. J., & Grofman, B. General concepts of value restriction and preference majority. *Social Choice and Welfare*, 2003, 21, 149-173.

## Refereed Publications (Cont'd)

- Aczel, J. Luce, R. D., & Marley, A. A. J. A functional equation arising from simultaneous utility representations. *Results in Mathematics*, 2003, 43, 193-197.
- Marley, A.A.J. Random utility models and their applications: recent developments. Editorial *Mathematical Social Sciences*, 2002, 43, 289-302.
- Regenwetter, M., Grofman, B. & Marley, A.A.J. On the model dependence of majority preferences reconstructed from ballot or survey data. *Mathematical Social Sciences*, 2002, 43, 451-466.
- Regenwetter, M., Marley, A. A. J., & Grofman, B. A general concept of majority rule. *Mathematical Social Sciences*, 2002, 43, 405-428..
- Marley, A. A. J., & Luce, R.D. A simple axiomatization of binary rank-dependent expected utility of gains (losses). *Journal of Mathematical Psychology*, 2002, 46, 40-55.
- Louviere, J., Street, D., Carson, R, Ainslie, A., Deshazo, J., Cameron, R., Hensher, D., Kohn, R., & Marley, T. Dissecting the random component of utility. *Marketing Letters*, 2002, 13, 177-193.
- Marley, A. A. J., & Luce, R.D. Ranked weighted utilities and qualitative convolution. *The Journal of Risk and Uncertainty*, 2001, 23, 135-163.
- Regenwetter, M, & Marley, A. A. J. Random relations, random utilities, and random functions. *Journal of Mathematical Psychology*, 2001, 45, 864-912.
- Luce, R.D., & Marley, A. A. J. On elements of chance. *Theory and Decision*, 2000, 49, 97-126.
- Maksa, G., Marley, A. A. J., & Pales, Z. On a functional equation arising from joint-receipt utility models. *Aequationes Mathematicae*, 2000, 59, 273-286.
- Aczel, J., Gilanyi, G., Maksa, G., Marley, A. A. J. Consistent aggregation of simply scalable families choice probabilities. *Mathematical Social Sciences*, 2000, 39, 241-262.
- Leth-Steensen, C. & Marley, A. A. J. A model of response time effects in symbolic comparison. *Psychological Review*, 2000, 107, 62-100.
- Luce, R.D., & Marley, A. A. J. Separable and additive representations of binary gambles of gains. *Mathematical Social Sciences*, 1999, 40, 277-295.
- Regenwetter, M., Marley, A. A. J., & Joe, H. Random utility threshold models of subset choice. *Australian Journal of Psychology*, 1998, 50, 175-186.
- Lacouture, Y., Li, S.-C., & Marley, A. A. J. The roles of stimulus and response set size in the identification and categorization of one-dimensional stimuli. *Australian Journal of Psychology*, 1998, 50, 165-174.

## Refereed Publications (Cont'd)

- Patel, V., Kushniruk, A. W., & Marley, A. A. J. Small worlds and medical expertise: Implications for medical cognition and knowledge engineering. *International Journal of Medical Informatics*, 1998, 49, 255-271.
- Mignault, A., & Marley, A. A. J. A real-time neuronal model of classical conditioning. *Adaptive Behavior*, 1997, 6, 3-61.
- Probabilistic choice as a consequence of non-linear (sub) optimization. *Journal of Mathematical Psychology*, 1997, 41, 382-391.
- Aczel, J., Maksa, G., Marley, A.A.J., & Moszner, Z. Consistent aggregation of scale families of selection probabilities. *Mathematical Social Sciences*, 1997, 33, 227-250.
- Karpiuk, P., Lacouture, Y., & Marley, A.A.J. A limited capacity, wave equality, random walk model of absolute identification. In A.A.J. Marley (Ed.). *Choice, Decision, and Measurement: Essays in Honor of R. Duncan Luce*. (pp. 279-299). Mahwah, NJ: Erlbaum, 1997.
- Lacouture, Y., & Marley, A.A.J. A mapping model of bow effects in absolute identification. *Journal of Mathematical Psychology*, 1995, 39, 383-395.
- Combining probability densities or random variables underlying individual or social choice. In B. Bouchon-Meunier, L. Vardere, and R. R. Yager (Eds.). *Uncertainty in Intelligent Systems*. New York, NY: North-Holland, 1993. 441-451.
- Aggregation theorems and the combination of probabilistic rank orders. In D.E. Critchlow, M.A. Fligner, and J.S. Verducci (Eds.). *Probability Models and Data Analysis for Ranking Data*. Lecture Notes in Statistics. New York, NY: Springer Verlag, 1993, 216-240.
- Combining probability densities or random variables underlying individual or social choice. Extended Abstract. In *Proceedings of the International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems*, Mallorca, July 6-10, 1992. Palma, Spain: Universitat de Les Illes Balears, 1992, 741-742.
- Stochastic models of choice and reaction time: New developments. *Mathematical Social Sciences*. Special Volume on Stochastic Models of Choice and Reaction Time, 1992, 23, 1-3, 147-149, 251-253.
- A selective review of recent characterizations of stochastic choice models using distribution and functional equation techniques. *Mathematical Social Sciences*. Special Volume on Stochastic Models of Choice and Reaction Time, 1992, 23, 5-29.
- Developing and characterizing multidimensional Thurstone and Luce models for identification and preference. In F. G. Ashby (Ed.). *Multidimensional Models of Perception and Cognition*. Hillsdale, NJ: Erlbaum, 1992, 299-333.



### Refereed Publications (Cont'd)

- Marley, A.A.J., & Colonius, H. The "horse race" random utility model for choice probabilities and reaction times, and its competing risks interpretation. *Journal of Mathematical Psychology*, 1992, 36, 1-20.
- Lacouture, Y., & Marley, A.A.J. A connectionist model of choice and reaction time in absolute identification. *Connection Science*, 1991, 3, 401-433.
- Context dependent probabilistic choice models based on measure of binary advantage. *Mathematical Social Sciences*, 1991, 21, 201-231.
- Aggregation theorems and multidimensional stochastic choice models. *Theory and Decision*, 1991, 30, 245-272.
- A historical and contemporary perspective on random scale representations of choice probabilities and reaction times in the context of Cohen and Falmagne's (1990, *Journal of Mathematical Psychology*, 34) results. *Journal of Mathematical Psychology*, 1990, 34, 81-87.
- Addendum to Marley, A.A.J. (1989). A random utility family that includes many of the "classical" models and has closed form choice probabilities and choice reaction times. *British Journal of Mathematical and Statistical Psychology*, 1989, 42, 280.
- A random utility family that includes many of the "classical" models and has closed form choice probabilities and choice reaction times. *British Journal of Mathematical and Statistical Psychology*, 1989, 42, 13-36.
- Random utility models with binary tree decomposable rank orders satisfy Tversky's elimination by aspects model. *Journal of Mathematical Psychology*, 1988, 32, 436-448.
- Marley, A.A.J., & Cook, V.T. A limited capacity rehearsal model for psychophysical judgments applied to magnitude estimation. *Journal of Mathematical Psychology*, 1986, 30, 339-390.
- Marley, A.A.J., & Cook, V.T. A fixed rehearsal capacity interpretation of limits on absolute identification performance. *British Journal of Mathematical and Statistical Psychology*, 1984, 37, 136-151.
- Random utility models with all choice probabilities expressible as 'functions' of the binary choice probabilities. *Mathematical Social Sciences*, 1982, 3, 39-56.
- Multivariate stochastic processes compatible with 'aspect' models of similarity and choice. *Psychometrika*, 1981, 46, 421-428. (b)
- Joint independent random utility models where one of the choice models satisfies the strict utility model. *Journal of Mathematical Psychology*, 1981, 23, 257-272. (a)

### Refereed Publications (Cont'd)

- A procedural model for absolute identification. In J. A. Keats and W. D. Wallis (Eds.), *Spatial and Temporal Models of Behaviour*. University of Newcastle, NSW, Australia, 1976. Pp.50-74.
- A revision of the response ratio hypothesis for magnitude estimation. *Journal of Mathematical Psychology*, 1976, 14, 252-254.
- Corbin, R., & Marley, A.A.J. Random utility models with equality: An apparent, but not actual, generalization of random utility models. *Journal of Mathematical Psychology*, 1974, 11, 274-293.
- Holman, E.W., & Marley, A.A.J. Stimulus and response measurement. In E. C. Carterette and M. P. Friedman (Eds.), *Handbook of Perception*, Vol. 2. Academic Press, 1974, 173-212.
- Internal state models for magnitude estimation and related experiments. *Journal of Mathematical Psychology*, 1972, 9, 306-319.
- An observable property of a generalization of Kinchla's diffusion model of perceptual memory. *Journal of Mathematical Psychology*, 1971, 8, 481-488.
- Conditions for the representation of absolute judgment and pair comparison isosensitivity curves by cumulative distributions. *Journal of Mathematical Psychology*, 1971, 8, 554-590.
- Additive conjoint measurement with respect to a pair of orderings. *Philosophy of Science*, 1970, 37, 215-222.
- Luce, R.D., & Marley, A.A.J. Extensive measurement when concatenation is restricted and maximal elements may exist. In S. Morgenbesser, P. Suppes and M. G. White (Eds.), *Philosophy, Science and Method: Essays in Honor of Ernest Nagel*. New York: St. Martin's Press, 1969, pp. 235-249.
- An alternative "fundamental" axiomatization of multiplicative power relations among three variables. *Philosophy of Science*, 1968, 35, 185-186.
- Some probabilistic models of simple choice and ranking. *Journal of Mathematical Psychology*, 1968, 5, 311-332.
- Abstract one parameter families of commutative learning operators. *Journal of Mathematical Psychology*, 1967, 4, 414-429.
- The relation between the discard and regularity conditions for choice probabilities. *Journal of Mathematical Psychology*, 1965, 2, 242-253.

### Conference Proceedings

- Petrusic, W. M., Shaki, S., & Marley, A.A. J. Memory psychophysics of auditory frequency. In the *Proceedings of the Twentieth Annual Meeting of the International Society for Psychophysics*, Coimbra, October 18-22, 2004.

### Conference Proceedings (Cont'd)

- Lacouture, Y., & Marley, A.A.J. Full response time distributions in absolute identification modeled via leaky competing decision processes. In the *Proceedings of the Seventeenth Annual Meeting of the International Society for Psychophysics*, University Leipzig, October 20-23, 2001, pp. 136-141.
- Lacouture, Y., & Marley, A.A.J. Non-linear decision processes in absolute identification. In the *Proceedings of the Sixteenth Annual Meeting of the International Society for Psychophysics*, Université Lois Pasteur ENSPS CNRS, Strasbourg, 2000.
- Leth-Steensen, C., & Marley, A.A.J. A model of response time effects in symbolic comparison. Invited Presentation, In the *Proceedings of the Fourteenth Annual Meeting of the International Society for Psychophysics*. Université Laval, Quebec, August 15-18, 1998.
- Lacouture, Y., & Marley, A.A.J. Theories of the effects of stimulus and response set size in the identification and categorization of one-dimensional stimuli. In the *Proceedings of the Fourteenth Annual Meeting of the International Society for Psychophysics*. Université Laval, Quebec, August 15-18, 1998.
- Lacouture, Y. & Marley, A. A. J. Context effects in absolute identification: Are they "sensory", "cognitive", or "motor". In the *Proceedings of the Twelfth Anniversary Meeting of the Society for Psychophysics*, Padua, Italy, October 19-22, 1996.

### Book Reviews

- The logic of decisions: A review of P. C. Fishburn's Utility Theory for Decision Making. *Contemporary Psychology*, 1972, 17, 379-380.
- The purpose of life is living: A review of G. E. Pugh's The Biological Origin of Human Values *Contemporary Psychology*, 1978, 23, 734-735.
- Review of C. H. Coombs' Psychology and Mathematics. An Essay on Theory. *Journal of Mathematical Psychology*, 1984, 28, 118-119.
- Contemporary measurement theory applied to classical and modern psychophysics. Review of J. C. Falmagne's Elements of Psychophysical Theory. *Journal of Mathematical Psychology*, 1986, 30, 331-336.
- Are you sure that's what you really want to do? Review of P. C. Fishburn and I. H. Lavalley (Eds.). Choice under uncertainty. Basel, Switzerland: J. C. Balzer AG, 1989. *Journal of Mathematical Psychology*, 1991, 35, 131-148.
- The foundations of measurement are solid. Review of Foundations of Measurement, Vol. II (Suppes, Krantz, Luce & Tversky), and Vol. III (Luce, Krantz, Suppes & Tversky). San Diego, CA: Academic Press, 1989 (Vol.II), 1990 (Vol.III). *Contemporary Psychology*, 1992, 36, 1046-1048.

### Book Reviews (Cont'd)

Measurement, models and autonomous agents. Feature Review of Foundations of Measurement, Vol. 1 (Krantz, Luce, Suppes & Tversky), Vol. II (Suppes, Krantz, Luce & Tversky), and Vol. III (Luce, Krantz, Suppes & Tversky). San Diego, CA: Academic Press, 1971 (Vol. I), 1989 (Vol. II), 1990 (Vol. III). *Psychological Science*, 1992, 3, 93-96.

### Recent Theses Supervised

A. Mignault, Connectionist models of the perception of facial expressions of emotion. Department of Psychology, McGill University, 1999.

C. Leth-Steensen, A connectionist, evidence accrual model of response times in symbolic comparison. Ph. D. Thesis. Department of Psychology, McGill University, 1998.

A. Mignault, Mathematical models of classical conditioning: A critical review and extensions. M.Sc. Thesis. Department of Psychology, McGill University, 1993.

Y. Lacouture, Connectionist models of choice and reaction time in psychophysics and word recognition. Ph.D. Thesis. Department of Psychology, McGill University, 1990.

### Postdoctoral Fellows (in reverse temporal order)

2002-04	S. Shaki. Memory psychophysics of auditory stimuli
2000	Y.-F. Hsu. Functional Equations and absolute identification.
1995-97	M. Regenwetter. Probabilistic models of voting and choice.
1994-95	S.-C. Li. (with Y. Lacouture). Categorization and identification.
1993-94	P. Karpiuk. (with Y. Lacouture). Response time modeling.

### Grants (in reverse temporal order to 1990)

1972-2010	Natural Sciences and Engineering Research Council of Canada Operating (Discovery) Grant "Theories of perceptual motor coordination", "Random psychophysical and decision structures", "Stochastic psychophysical and decision structures", "Dynamic psychophysical and decision structures", "Adaptive context dependent psychophysics and preference."
2009-2012	Social Sciences & Humanities Research Council Standard Research Grant. Individual choice models over time, product categories and countries. With T. Islam, Guelph; J. Louviere and D. Pihlens, University of Technology, Sydney.
2005-2008	National Science Foundation, US. Algebraic and stochastic models of structures arising in utility theory and psychophysics. With R. D. Luce, University of California Irvine.
2003-2006	Australian Research Council Large Grant. Modeling the choices of individuals. With J. Louviere and D. Street, University of Technology, Sydney. Includes collaboration by Marley and Anderson.
2003-2006	Australian Research Council Linkage Grant. A unified theory of performance in absolute identification tasks. With D. Vickers, University of Adelaide (deceased). Includes collaboration by Marley (Victoria) and Lee (Adelaide); Smith (Melbourne); Heathcote (Newcastle); Brown (University of California, Irvine).

**Grants (Cont'd)**

- 2002-2005 National Science Foundation, US. Algebraic and stochastic models of structures arising in utility theory and psychophysics. With R. D. Luce, University of California Irvine.
- 2001-2007 Fonds pour formation de chercheurs et l'aide à la recherche. Infrastructure grant for a period of seven years to support a new Interuniversity Centre for research in quantitative economics. \$6,000,000/yr. (Approximately 40 participants).
- 1999-2004 GEOIDE (Geomatics of Informed Decisions) Network. National Centre of Excellence. Keith Thomson, Geoffrey Edwards, Université Laval (Co-PI=s). \$3,000,000/yr. (Over 100 participants). "Simulation of memory, mental imagery and mental models: Applications to spatial planning and electronic map use" (C.B. Moulin, Université Laval; J. Glasgow, Queens; A.A.J. Marley, McGill; S. Epstein, City University of New York; G. Ligozat, Université Paris-Sud).
- 1999-02 Fonds pour formation de chercheurs et l'aide à la recherche. Étude psychophysique et modélisation des jugements absolus et relatifs (Psychophysical experiments and models of absolute and relative judgments). With Y. Lacouture, Université Laval.
- 1999 Fonds pour formation de chercheurs et l'aide à la recherche (FCAR) Étude psychophysique et modélisation des jugements absolus et relatifs » (Psychophysical experiments and models of absolute and relative judgments). A.A.J. Marley (PI). With Y. Lacouture, Université Laval. Equipment.
- 1998-03 Natural Sciences and Engineering Research Council of Canada. Research Grant. Adaptive context dependent psychophysics and preference.
- 1998-99 Natural Sciences and Engineering Research Council of Canada. Equipment Grant to purchase simulation computer system.
- 1998-01 National Science Foundation, USA. Probabilistic Models of Social Choice. With B. Grofman, University of California Irvine and M. Regenwetter, Duke University.
- 1996-99 Fonds pour formation de chercheurs et l'aide à la recherche. Étude psychophysique et modélisation des jugements absolus et relatifs (Psychophysical experiments and models of absolute and relative judgments). With Y. Lacouture, Université Laval.
- 1995-96 Natural Sciences and Engineering Research Council of Canada. Equipment Grant to purchase simulation computer system.
- 1994-97 Natural Sciences and Engineering Research Council of Canada. Collaborative Project Grant (with J.S. Aczel, H. Joe, C. Genest, I.J. Myung, H. Colonius). Characterization problems in the mathematical social sciences using stochastic modelling and functional equation techniques.
- 1993-96 Fonds pour la formation de chercheurs et l'aide à la recherche. Psychophysique adaptative et contextuelle". (Adaptive and Contextual Psychophysics). With Y. Lacouture, Université Laval.
- 1993-96 Faculty of Graduate Studies, Université Laval. Salary support for postdoctoral fellows. With Y. Lacouture, Université Laval.
- 1993 Natural Sciences and Engineering Research Council of Canada: Grant for Research Abroad. Random variable representations in measurement theory. Collaborative research at the University of California, Irvine.
- 1992-95 Faculty of Science, McGill University. Salary support for postdoctoral fellows.
- 1992 Natural Sciences and Engineering Research Council of Canada: Equipment Grant to purchase laboratory and simulation computer systems.

**Selected Colloquia, Invited Addresses, Conference Participation  
(in reverse temporal order to 2000)**

- Pihlens, D., & Marley, A. A. J. Best-worst scaling : Case 3, best-worst choice among multiattribute options (profiles). University of Technology, Sydney, September 16, 2009.
- Louviere, J. J., & Marley, A. A. J. Recent developments in BWS Case 1. Special Session, Recent Progress in Best-Worst Scaling, 2009 Informs Marketing Science Conference, Anna Arbor, June 4-6, 2009.
- Marley, A. A. J. & Pihlens, D. Recent developments in BWS Case 3. Special Session, Recent Progress in Best-Worst Scaling, 2009 Informs Marketing Science Conference, Anna Arbor, June 4-6, 2009.
- Marley, A. A. J. The best-worst method for the study of preferences: Theory and Applications. Invited Address, XXIX International Congress of Psychology 2008 Berlin July 20-25, 2008.
- Louviere, J. J., & Marley, A. A. J. Best worst scaling: Method and theory. University of Technology, Sydney, September 18, 2007.
- Marley, A. A. J. Basic concepts of best-worst models for discrete choice. University of Victoria, January 19, 2007.
- Marley, A. A. J. A simple and complete model of absolute identification. Invited Address, University of Padua, Italy, October 19, 2006.
- Marley, A. A. J. The conceptual and practical basis of the best-worst method for studying preferences. Invited Address, University of Padua, Italy, October 19, 2006.
- Martinez-Panero, M., Garcia-Lapresta, J. L., & Marley, A. A. J., Best-worst voting rules: An axiomatization. Eighth International Meeting of the Society for Social Choice and Welfare, Istanbul, Turkey, July 13-17, 2006.
- Marley, A. A. J. An open problem: Characterizing random utility models of best-worst choice. Workshop on Polyhedral Combinatorics of Random Utility. DIMACS, Rutgers University, May 24-26, 2006.
- Marley, A. A. J. The basic concepts of best-worst models for discrete choice, possibly with some links to the evaluation of health states by time-trade-offs and standard gambles. University of Technology, Sydney, May 4, 2006. University of South Australia, April 28, 2006.
- Marley, A. A. J. Identifying variance components and attribute importance in discrete choice theories. University of Technology, Sydney, May 4, 2006. University of South Australia, April 28, 2006.
- Garcia-Lapresta, J. L., Marley, A. A. J., & Martinez-Panero, M. Characterizing best-worst voting systems in the voting context. European Public Choice Society, Turku, Finland, April 20-23, 2006.
- Brown, S., Marley, A. A. J., & Heathcote, A. H. How does stimulus and response history affect decision-making? 71<sup>st</sup> Annual Meeting of the Psychometric Society, Montreal, June 14-17, 2006.
- Brown, S., Ratcliff, R., Smith, P.L., Marley, A. A. J., & Heathcote, A. H. A ballistic accumulator for absolute identification, and problems with numerical integration of SDEs. Invited Workshop on Diffusion Models, Freiburg, Germany, February 17-19, 2006.
- Louviere, J. J. Burgess, L., Street, D. & Marley, A.A. J. Modeling the choices of single individuals by eliciting best-worst preferences in highly statistically efficient choice experiments. Joint ANZMAC-EMAC Symposium, Milan, May 27, 2005.
- Marley, A. A. J., & Louviere, J. J. Probabilistic models for best, worst, and best-worst choices. University of California, Irvine, March 3, 2005. University of Technology, Sydney, August 11, 2005.

### Selected Colloquia, etc. (Cont'd)

- Brown, S., Marley, A. A. J., & Heathcote, A. H. A simple and complete model of absolute identification. 30<sup>th</sup> Annual Interdisciplinary Conference, Jackson Hole, January 30-February 4, 2005.
- Petrusic, W. M., Shaki, S., & Marley, A.A. J. Memory psychophysics of auditory frequency. The Twentieth Annual Meeting of the International Society for Psychophysics, Coimbra, October 18-22, 2004.
- Lacouture, Y., & Marley, A. A. J. Absolute identification: Data and theory. Department of Psychology: University of Newcastle, Australia, September 2, 2004; University of Victoria, September 20, 2002; McGill University, October 24, 2002.
- Luce, R. D. & Marley, A. A. J. To honor L. J. Savage, but to avoid his formulation of the decision situation. 11<sup>th</sup> International Conference on the Foundations & Applications of Utility, Risk, and Decision Theory, Paris, June 30-July 3, 2004.
- Petrusic, W., Shaki, S., Marley, A. A. J. Long term memory for auditory frequency. Poster, BBCS/SCCC 14<sup>th</sup> Annual Meeting, St. John's, Newfoundland, June 12-14, 2004.
- Marley, A. A. J. & Louviere, J. J. A general class of models for best, worst, and simultaneous best worst choices. Winer Memorial Lectures, Purdue University, November 22-23, 2003. 11<sup>th</sup> Osnabrueck Seminar on Individual Decisions and Social Choice, Universitat Osnabrueck, May 27-29, 2004.
- Louviere, J. J. & Marley, A. A. J. Best-worst scaling. Theory and Example applications. University of South Australia; LaTrobe University; University of Auckland (various dates).
- Luce, R. D. & Marley, A. A. J. Utility representations of gambles: old, new, and needed. Workshop on Decision Making in Complex Environments. Individual Decision Making. Cornell University, Ithaca, April 5, 2003.
- Luce, R. D. & Marley, A. A. J. Utility representations of gambles: old, new, and needed. Economics Workshop on Individual Decision Making, University of California, Irvine. May 17, 2003.
- Marley, A. A. J. (Colonius, H., Universitat Oldenburg, and Marley, A. A. J.) Intensive Program 2002. XVIII European Seminar on Mathematical Psychology. *Psychological Models of Response Time and Choice*. Lectures by Marley on *Identification and Categorization*, and *Connectionist and neural network models* Stade, Germany, January 21-25, 2002. Training Workshop for 40 (graduate) students from throughout Europe.
- Marley, A. A. J. Absolute identification: Data and theory. Fellow Lecture, Hanse Wissenschaftskolleg (Hanse Institute for Advanced Study), Delmenhorst, Germany, March 13, 2002.
- Lacouture, Y. & Marley, A. A. J. Full response time distributions in absolute identification modelled via leaky competing decision processes. The Seventeenth Annual Meeting of the International Society for Psychophysics, Leipzig, October 19-23, 2001.
- Marley, A. A. J. Measurement of Sensation: The State of the Art. Roundtable Discussion, The Seventeenth Annual Meeting of the International Society for Psychophysics, Leipzig, October 19-23, 2001.
- Participant in 2001 UC Berkeley Invitational Choice Symposium, June 1-5, 2001.
- Marley, A. A. J. & Luce, R. D. Convolution of gambles and ranked weighted utility. International Conference on Ordinal and Symbolic Data Analysis, Brussels, Belgium, July 6-8, 2000.
- Luce, R. D. & Marley, A. A. J. Utility of gambling. Conference on Decision-Making and Cognitive Control Functions: An Exploration of the Neuropsychological/Economic Interface. University of Arizona, Tucson, AZ, February 9-11, 2001.
- Lacouture, Y., & Marley, A. A. J. Nonlinear decision processes in absolute identification. The Sixteenth Annual Meeting of the International Society for Psychophysics, Université Lois Pasteur ENSPS CNRS, Strasbourg, August 31-September 5, 2000.

## Current Research Interests

My current research interests are mathematical and computational models of perception and cognition and their empirical study. In particular: connectionist and random walk models of choice and response time in psychophysics and preference; characterization problems in the mathematical social sciences; behavioral decision theory; utility theory; discrete choice (theory and application).

## Current Research Support

NOTE: Canadian research grants cover direct costs only. In particular, the amounts do not cover (summer) salaries for PI's and co-PI's, or any indirect costs.

Islam, T., Louviere,  
Marley & Pihlens

SSSHRC Standard Research Grant. Individual choice models over time, product categories and countries. [\$104,843 over 3 years]

Marley, A.A.J.

Context Dependent Dynamic Processes in Psychophysics and Decision. NSERC Discovery Grant. 60hrs/month. [\$23,809/year for 5 years].

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