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H. PEYTON YOUNG

Curriculum Vitae

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EDUCATION

B.A. 1966 Cum Laude in General Studies, Harvard University.

Ph.D. 1970 Mathematics, University of Michigan.

CURRENT POSITIONS

James Meade Professor of Economics, University of Oxford, and Professorial Fellow, Nuffield College

Research Professor in Economics, Johns Hopkins University

Senior Fellow in Economic Studies, Center on Social and Economic Dynamics, The Brookings Institution

PREVIOUS POSITIONS

1994-07 Scott and Barbara Black Professor of Economics, Johns Hopkins University

1982-94 Professor of Economics and Public Policy, School of Public Affairs, University of Maryland, College Park

1976-82 Research Scholar and Deputy Chairman, Systems and Decision Sciences, International Institute for Applied Systems Analysis, Austria.

1971-77 Associate Professor of Mathematics, Graduate School of the City University of New York.

OTHER PROFESSIONAL POSITIONS

2009- Co-Editor, *Handbook of Game Theory*

- 2006-08 President, The Game Theory Society
- 2009- Member of the Selection Committee, BBVA Frontiers of Knowledge Award in Economics, Finance, and Management (Chairman, 2010).
- 2004-06 Executive Vice President, The Game Theory Society
- 2001-05 Member, Science Steering Committee, The Santa Fe Institute
- 2004- International Advisory Board, *Journal of Institutional Economics*
- 1999- Associate Editor, *Games and Economic Behavior*
- 1999- Member, Faculty Budget Advisory Committee, The Johns Hopkins University (Chairman, 1999-01)

HONORS, AWARDS, FELLOWSHIPS, ETC.

- 2008 George Hallett Award, The American Political Science Association
- 2007 Fellow of the British Academy
- 2003 Fulbright Distinguished Chair in Economics, University of Siena
- 2002 Arne Ryde Lectures, University of Lund
- 1995 Fellow of the Econometric Society
- 1990 Erskine Fellow in Economics, University of Canterbury, New Zealand
- 1976 Lester R. Ford Award, Mathematical Association of America
- 1971 Sumner B. Myers Thesis Prize, University of Michigan

BOOKS

Strategic Learning and Its Limits. Oxford UK: Oxford University Press, 2004.

Fair Representation, 2nd edition (with M. L. Balinski). Washington, D. C.: The Brookings Institution, 2001.

Individual Strategy and Social Structure: An Evolutionary Theory of Institutions. Princeton, NJ: Princeton University Press, 1998.

Equity In Theory and Practice. Princeton NJ: Princeton University Press, 1994.

EDITED BOOKS

Social Dynamics (with Steven N. Durlauf), Cambridge, Mass: MIT Press, 2001.

Negotiation Analysis, Ann Arbor MI: University of Michigan Press, 1991.

Cost Allocation: Methods, Principles, Application, Amsterdam: North-Holland, 1985.

Fair Allocation. Proceedings of Symposia in Applied Mathematics, vol. 33, Providence RI: The American Mathematical Society, 1985.

WORKING PAPERS

“Fast Convergence in Population Games,” with Itai Arieli, University of Oxford Department of Economics Discussion Paper 570, September, 2011.

“Fast Convergence in Evolutionary Equilibrium Selection,” with Gabriel E. Kreindler, University of Oxford Department of Economics Discussion Paper 569, September 2011.

“A Strategy-Proof Test of Portfolio Returns,” with Dean P. Foster, Wharton Financial Institutions Center Working Paper 11-50, September 2011.

“A Markov Test for Alpha,” with Dean P. Foster and Robert Stine, Wharton Financial Institutions Center Working Paper 11-49, September, 2011.

“Achieving Pareto Optimality through Distributed Learning,” with Jason R. Marden and Lucy Y. Pao, University of Oxford Department of Economics Discussion Paper 557, July 2011.

“Learning Efficient Nash Equilibria in Distributed Systems,” with Bary S. M. Pradelski, University of Oxford Department of Economics Discussion Paper 480, February 2010.

PUBLICATIONS AND FORTHCOMING PAPERS

“The Dynamics of Social Innovation,” *Proceedings of the National Academy of Sciences*, December 2011.

“Social Norms,” (with Mary A. Burke), in the *Handbook of Social Economics*, vol. 1A, edited by Jess Benhabib, Alberto Bisin, and Matthew Jackson, Amsterdam: North

Holland, 2010.

- “Gaming Performance Fees by Portfolio Managers,” (with Dean P. Foster), *Quarterly Journal of Economics*, 125 (2010), 1435-1458.
- “Innovation Diffusion in Heterogeneous Populations: Contagion, Social Influence, and Social Learning,” *American Economic Review*, 99 (2009), 1899-1924.
- “Payoff-Based Dynamics in Multiplayer Weakly Acyclic Games,” (with Jason R. Marden, Gurdal Arslan, and Jeff Shamma), *SIAM Journal on Control and Optimization*, 48 (2009), 373-396.
- “Learning by Trial and Error,” *Games and Economic Behavior*, 65 (2009), 626-643.
- “Social Norms,” *The New Palgrave Dictionary of Economics, Second Edition*, Steven N. Durlauf and Lawrence E. Blume, eds. London: Macmillan, 2008.
- “Adaptive Heuristics,” *The New Palgrave Dictionary of Economics, Second Edition*, Steven N. Durlauf and Lawrence E. Blume, eds. London: Macmillan, 2008.
- “Stochastic Adaptive Dynamics,” *The New Palgrave Dictionary of Economics, Second Edition*, Steven N. Durlauf and Lawrence E. Blume, eds. London: Macmillan, 2008.
- “The Possible and the Impossible in Multi-Agent Learning,” *Artificial Intelligence*, 171 (2007), 429-433.
- “Regret-Testing: Learning to Play Nash Equilibrium without Knowing You Have an Opponent” (with Dean P. Foster), *Theoretical Economics*, 1, 341-367, 2006.
- “Social Dynamics: Theory and Applications,” in *Handbook of Computational Economics, vol. II*. Ken Judd and Leigh Tesfatsion, eds. Amsterdam: North Holland, 2006.
- “Customary Contracts,” in *Legal Orderings and Economic Institutions*, Fabrizio Cafaggi, Antonio Nicita, and Ugo Pagano, eds. Oxford: Routledge, 2005.
- “The Cultural and Genetic Evolution of Human Cooperation” (with J. Henrich et al.), in *Genetic and Cultural Evolution of Cooperation*, Peter Hammerstein, ed. Cambridge MA: MIT Press, 2003.
- “The Power of Norms,” in *Genetic and Cultural Evolution of Cooperation*, Peter Hammerstein, ed. Cambridge MA: MIT Press, 2003.
- “The Diffusion of Innovations in Social Networks” in *The Economy as a Complex Evolving System, vol. III*, Lawrence E. Blume and Steven N. Durlauf, eds. Oxford University Press, 2003.

- “Learning, Hypothesis Testing, and Nash Equilibrium,” (with Dean P. Foster), *Games and Economic Behavior*, 45 (2003), 73-96.
- “Equilibrium Selection in Bargaining Models,” (with K. Binmore and L. Samuelson), *Games and Economic Behavior*, 45 (2003), 296-328.
- “On the Limits to Rational Learning,” *European Economic Review*, 46 (2002) 791-99.
- “On the Impossibility of Predicting the Behavior of Rational Agents,” (with Dean P. Foster), *Proceedings of the National Academy of Sciences of the USA*, 98, no. 22 (2001), 12848-12853.
- “Competition and Custom in Economic Contracts: A Case Study of Illinois Agriculture,” (with Mary A. Burke), *American Economic Review*, 91 (2001), 559-573.
- “Adaptive Dynamics in Games Played by Heterogeneous Populations,” (with A. Kryazhimskii and Y. Kaniovski). *Games and Economic Behavior*, 31 (2000) 50-96.
- “Conventional Contracts,” *Review of Economic Studies*, 65 (1998), 776-792.
- “On the Nonconvergence of Fictitious Play in Coordination Games,” (with Dean P. Foster), *Games and Economic Behavior*, 25 (1998), 79-96.
- “Cost Allocation, Demand Revelation, and Core Implementation,” *Mathematical Social Sciences*, 36 (1998), 213-228.
- “Individual Learning and Social Rationality,” *European Economic Review*, 42 (1998), 651-663.
- “Social Norms and Economic Welfare,” *European Economic Review*, 42 (1998), 821-830.
- “Learning with Hazy Beliefs” (with Dean P. Foster) in *Game Theory, Experience, Rationality*, W. Leinfellner and E. Koehler, eds. Amsterdam: Kluwer, 1998.
- “The Economics of Convention,” *Journal of Economic Perspectives*, 10 (Spring, 1996), 105-122.
- “Dividing the Indivisible,” in *Wise Choices*, Ralph Keeney, James Sebenius, and Richard Zeckhauser, eds. Cambridge Mass: Harvard University Press, 1996.
- “Group Choice and Individual Judgment,” in *Perspectives on Public Choice*, Dennis Mueller, ed. New York: Cambridge University Press, 1996.
- “Learning Dynamics in Games with Stochastic Perturbations,” (with Yuri Kaniovski),

- Games and Economic Behavior*, 11 (1995), 330-363.
- “Dividing the Indivisible,” *American Behavioral Scientist*, 38 (1995), 904-909.
- “Optimal Voting Rules,” *Journal of Economic Perspectives*, 9 (Winter, 1995), 51-64.
- “Equilibrium Selection Through Adaptation and Experimentation,” in *Learning and Rationality in Economics*, Alan Kirman and Mark Salmon, eds. New York: Basil Blackwell, 1995.
- “Cost Allocation,” in *The Handbook of Game Theory, vol. II*, Robert J. Aumann and Sergiu Hart, eds. Amsterdam: North-Holland, 1994.
- “Apportionment” (with M. L. Balinski), in *Operations Research and the Public Sector. Handbooks in Operations Research and Management Science*, vol. 6, Steven M. Pollock, Michael H. Rothkopf, and Arnold Barnett, eds. Amsterdam: North-Holland, 1994.
- “The Evolution of Conventions,” *Econometrica*, 61 (1993), 57-84.
- “An Evolutionary Model of Bargaining,” *Journal of Economic Theory*, 59 (1993), 145-168.
- “Cooperation in the Short and in the Long Run,” (with Dean P. Foster), *Games and Economic Behavior*, 3 (1991), 145-156.
- “Stochastic Evolutionary Game Dynamics,” (with Dean P. Foster), *Theoretical Population Biology*, 38 (1990), 219-232.
- “Progressive Taxation and Equal Sacrifice,” *American Economic Review*, 80 (1990), 253-266.”
- “Distributive Justice in Taxation,” *Journal of Economic Theory*, 44 (1988), 321-335.
- “Condorcet's Theory of Voting,” *American Political Science Review*, 82 (1988), 1231-1244.
- “Measuring the Compactness of Legislative Districts,” *Legislative Studies Quarterly*, 13 (1988), 105-115.
- “Individual Contribution and Just Compensation” in *Essays in Honor of Lloyd Shapley*, Alvin J. Roth, ed. New York: Cambridge University Press, 1988.
- “Condorcet” (with H. Moulin), in *The New Palgrave*, John Eatwell, Murray Milgate, and Peter Newman, eds. New York: Stockton Press, 1987.
- “On Dividing an Amount According to Individual Claims or Liabilities,” *Mathematics of Operations Research*, 12 (1987), 398-414.

- “Progressive Taxation and the Equal Sacrifice Principle,” *Journal of Public Economics*, 32 (1987), 203-214.
- “Equal Sacrifice in Taxation” in *Measurement in Economics*, Wolfgang Eichhorn, ed. Heidelberg & Berlin: Physica-Verlag, 1987.
- “Optimal Ranking and Choice from Pairwise Comparisons” in *Information Pooling and Group Decision Making*, Bernard Grofman and Guillermo Owen, eds. Greenwich CT: JAI Press, 1986.
- “Monotonic Solutions of Cooperative Games,” *International Journal of Game Theory*, 14 (1985), 65-72.
- “Producer Incentives in Cost Allocation,” *Econometrica*, 53 (1985), 757-765.
- “Cost Allocation in Water Resources Development,” (with N. Okada and T. Hashimoto) *Water Resources Research*, 18 (1982), 361-373.
- “Fair Representation in the European Parliament,” (with M. L. Balinski), *Journal of Common Market Studies*, 2 (1982), 361-373.
- “Parliamentary Representation and the Amalgam Method,” (with M. L. Balinski), *Canadian Journal of Political Science*, 14 (1981), 797-812.
- “The Webster Method of Apportionment,” (with M. L. Balinski), *Proceedings of the National Academy of Sciences*, 77 (1980), 1-4.
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- “The Nucleolus as a Noncooperative Game Solution” (with Martin Shubik), in *Game Theory and Political Science*, Peter C. Ordeshook, ed. New York: New York University Press, 1978.
- “A Tactical Lobbying Game” in *Game Theory and Political Science*, Peter C. Ordeshook, ed. New York: New York University Press, 1978.
- “The Jefferson Method of Apportionment,” (with M. L. Balinski), *SIAM Review*, 20 (1978), 278-284.
- “Stability, Coalitions, and Schisms in Proportional Representation Systems,” (with M. L.

- Balinski), *American Political Science Review*, 72 (1978), 848-58.
- “Power, Prices, and Incomes in Voting Systems,” *Mathematical Programming*, 14 (1978), 129-148.
- “The Allocation of Funds in Lobbying and Campaigning,” *Behavioral Science*, 23 (1978), 21-31.
- “A Consistent Extension of Condorcet's Election Principle,” (with Arthur Levenglick), *SIAM Journal on Applied Mathematics*, Part C, 35 (1978), 285-300.
- “Matroid Designs of Prime Power Index,” (with Barbu Kestenband), *Journal of Combinatorial Theory*, Series A, 24 (1978), 211-234.
- “On Permutations and Permutation Polytopes,” *Polyhedral Combinatorics: Mathematical Programming Study* 8 (1978), 128-140.
- “On Huntington Methods of Apportionment,” (with M. L. Balinski) *SIAM Journal on Applied Mathematics*, Part C, 33 (1977), 607-618.
- “Apportionment Schemes and the Quota Method,” (with M. L. Balinski), *American Mathematical Monthly*, 84 (1977), 450-455.
- “The Quota Method of Apportionment,” (with M. L. Balinski), *American Mathematical Monthly*, 84 (1977), 701-730.
- “Extending Condorcet's Rule,” *Journal of Economic Theory*, 16 (1977), 335-353.
- “Environment, Energy, and Capital in the Fossil Fueled Electric Power Industry,” (with R. G. Thompson et al.), *Computers and Operations Research*, 3 (1976), 241-257.
- “Social Choice Scoring Functions,” *SIAM Journal on Applied Mathematics*, 28 (1975), 824-838.
- “A Note on Preference Aggregation,” *Econometrica*, 42 (1974), 1129-1131.
- “Interpreting von Neumann Model Prices as Marginal Values,” (with M. L. Balinski), *Journal of Economic Theory*, 9 (1974), 449-463.
- “A New Method for Congressional Apportionment,” (with M. L. Balinski), *Proceedings of the National Academy of Sciences of the USA*, 71 (1974), 4602-4606.
- “An Axiomatization of Borda's Rule,” *Journal of Economic Theory*, 9 (1974), 43-52.
- “Matroid Designs,” (with Jack Edmonds), *Journal of Research of the National Bureau of Standards*, 77B (1973), 15-44.
- “Affine Triple Systems and Matroid Designs,” *Mathematische Zeitschrift*, 132 (1973),

343-359.

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“Forecasting Water Use for Electric Power Generation,” (with R. G. Thompson et al.). *Water Resources Research*, 9 (1973), 800-807.

“Forecasting Water Use for Policy Making: A Review,” (with R. G. Thompson et al.). *Water Resources Research*, 9(1973), 729-299.

“A Quick Proof of Wagner's Equivalence Theorem,” *Journal of the London Mathematical Society*," 3 (1971), 661-664.